Scientific, Technical and Economic Committee for Fisheries (STECF)

The 2018 Annual Economic Report on the EU Fishing Fleet (STECF 18-07)

Edited by

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Abstract

In 2016, the EU fishing fleet numbered 83 360 vessels with a combined gross tonnage (GT) of 1.56 million tonnes and engine power of 6.3 million kilowatts (kW). Based on data submitted by Member States under the EU Data Collection Framework (DCF), there were 65 400 active vessels in 2016, of which 75% were classed as small-scale coastal vessels, 24.6% as large-scale and remaining 0.4%, distant-water vessels. The EU inactive fleet, amounting to 17 962 vessels, represented 21.5% of the total fleet in number, 8% of the gross tonnage and 13% of the engine power. Direct employment generated by the fleet amounted to 152 331 fishers, corresponding to 114 776 FTEs; on average earning EUR 26 398 in wages annually. The EU fleet* spent 4.85 million days at sea and consumed 2.25 billion litres of fuel to land 4.9 million tonnes of seafood with a reported value of EUR 7.7 billion. Costs incurred by the fleet amounted to EUR 6.39 billion, 11% of which consisted of capital costs and 89% of operating costs. The latter mainly consisted of labour and fuel costs (38% and 14% of total costs, respectively). The Gross Value Added (GVA) and gross profit (all excl. subsidies) generated by the fleet was EUR 4.5 billion and EUR 2.1 billion, respectively. GVA as a proportion of revenue was estimated at 58% and gross profit margin at 27%. With a total net profit of EUR 1.3 billion in 2016, 17% of the revenue was retained as profit, up from 11% in 2015. This publication includes: 1) An structural and economic overview of the EU fishing fleet in 2016, with projections for 2017-2018, and trend analyses for the years 2008-2017/18; 2) A regional analysis of the EU fishing fleet by major sea basin: Baltic Sea, North Sea & Eastern Arctic, North East Atlantic, Mediterranean and Black seas, as well as, fleets operating in Other Fishing Regions, covering the EU Outermost Regions and fishing areas outside EU waters and in Areas Beyond National Jurisdiction, covered by Regional Fisheries Bodies; 3) A detailed structural and economic overview of each EU Member State fishing fleet, including qualitative economic performance assessments for 2016 and projections for 2017 and 2018. *Due to the incomplete coverage of the fishing activity and socio-economic data, Greece was excluded from all aggregated analyses

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1 INTRODUCTION

The 2018 Annual Economic Report (AER) on the European Union (EU) fishing fleet provides a comprehensive overview of the latest information available on the structure and economic performance of EU Member States (MS) fishing fleets.

This report covers a nine-year time period (2008-2016) and includes information on the EU fleet's fishing capacity, effort, employment, landings, income and costs for the years 2008 to 2016 and projected values for 2017 and nowcast estimates for 2018, where possible. All monetary values have been adjusted for inflation, to 2015 constant prices. The economic performance of the EU fishing fleet is also reported in terms of gross value added, profits, profit margins and productivity (labour and capital).

This publication includes:

1) A structural and economic overview of the EU fishing fleet for the reference year 2016, with trend analyses for the period 2008 to 2016, including projection estimates for 2017 and 2018;
2) A regional analysis of the EU fishing fleet by major sea basin: Baltic Sea, North Sea, North East Atlantic, Mediterranean & Black Sea, as well as fleets operating in Other Fishing Regions, including the Northwest Atlantic, Outermost regions and Other fishing regions;
3) A detailed structural and economic overview of each EU Member State fishing fleet, including qualitative economic performance assessments for the years 2008-2016 and projections for 2017 and 2018 forecasts.

The 2018 AER supersedes all previous AERs. Comparisons across AER reports should not be made.

Terms of Reference for STECF EWG-18-03 & 18-07

Background and general objectives provided by the Commission

The AER has become one of the main sources of economic and social data for scientific advice on the performance of the EU fleets. It is also increasingly used by scientific bodies, national administrations and international institutions.

Given the increasing number of scientific uses of the AER and its growing complexity, there is a greater need to guarantee robust and precise data and their analysis as well as streamline the content of the report. This will be mainly achieved through:

- dedicated data checking exercise: https://datacollection.jrc.ec.europa.eu/data-analysis
- more concise and less descriptive chapters, supplemented by the JRC online data dissemination tool https://datacollection.jrc.ec.europa.eu/da/fleet/
- the continued effort to provide more analytical outcomes, notably on drivers of profitability and trends at the EU and regional levels.

The trimming down of the AER is intended to achieve a more balanced effort/product exercise, concentrating on the core tasks of the AER on the one hand while freeing up some time and resources on the other so that EWG experts can focus on more applied economic analyses. Frequently asked questions following the publication of the AER include for example why a particular fleet segment has shown greater/lower profitability, what are the (possible/probable) underlining factors causing the increase/decrease in performance, etc.

In view of the above, the 2018 AER will provide a more in-depth look at the different factors driving the economic performance of the EU fleets with a special focus on the economic benefits of MSY (such as analysis of causality between stocks exploited sustainably and the improvement in the performance of the fleets), recovery of stocks and implementation of conservation measures. Other driver may include changes in first sale prices and operational costs, structural and marketing measures. The analysis will be done at EU, region (North Sea, Baltic Sea, etc.) and MS levels. The main socio-economic indicators, if possible and where relevant, should also be put into context with homologous figures at the EU and national levels, e.g., national average salaries, GDP, etc.

The 2018 AER will have specific section on the following fleet categories:

- a section on the EU small scale coastal. This section will investigate the factors behind the trends of the small scale coastal fleets, whether there are regional differences and the probable reasons for these differences.

- EU distant water fleets: this section will include an overview of the employment, profitability and salaries for the EU distant water fleets distinguishing main fishing areas (e.g. NAFO, ICCAT, IOTC).
- A section on the EU outermost regions. This section will include an overview of the employment, profitability and salaries across different outermost regions. It will also investigate the factors behind the trends identified.
- links between economic growth and resource use. This section will examine key drivers and indicators, in particular landings per unit of effort, gross value added by the different fleets, first sale prices, labour and capital productivity. It will examine for example trends in resource efficiency, i.e. fish landed per fishing day or day at sea, improvements in energy efficiency, etc.

Specific objectives

The specific objectives and priorities for the two working groups are:

• EWG 18-03: the first AER STECF meeting should lead to a data endorsement by the attending experts, detailed account of any data transmission issues (DTI) and the writing of concise national chapters. An economic forecast estimating performance for 2017 and beyond (if possible) should be attempted.

As a matter of priority, the EWG is requested to ensure that all unresolved data transmission (DT) issues and failures encountered prior to and during the EWG meeting are recorded in the Excel Template for data transmission feedback provided by the STECF Secretariat

https://datacollection.jrc.ec.europa.eu/guidelines

The template must be completed and provided electronically to the JRC focal point by the closure of the EWG meeting. The JRC will ensure that the completed template is provided to EWG 18-07.

• EWG 18-07: the second AER EWG meeting will focus on developing applied economic analysis based on the submitted data. In particular, experts will produce a synthesis on the trends and economic results of the EU fishing fleet by sea-basin and aggregated at EU level, and identify the main factors behind these trends.

As a matter of priority, the EWG is requested to review the Excel template for data transmission feedback arising from the EWG 18-03. Before the EWG disbands, the template should be amended to reflect any remaining or additional issues and failures identified during the EWG and provided electronically to the JRC focal point and to Venetia Kostopoulou and Oana Surdu, DG MARE Unit C3.

Outline of the AER

STECF is requested to provide the Annual Economic Report on EU fishing fleets for 2018 including the following sections:

STECF OBSERVATIONS

EXPERT WORKING GROUP REPORT

EU FLEET OVERVIEW

- Fleet structure
- Fishing activity and output
- Employment and average salaries
- Economic performance
- Resource productivity and efficiency
- Summary of the main drivers and trends
- EU small-scale coastal fleet segments (key socio-economic indicators)
- EU distant water and outermost region fleets (key socio-economic indicators)
- Assessment of the economic performance for 2017 and 2018

REGIONAL ANALYSIS

Baltic Sea, North Sea, North-east Atlantic, Mediterranean Sea, Black Sea, EU Outermost Regions ((distinguishing different outermost regions) and Other Fishing Regions (distinguishing main fishing areas such as NAFO, ICCAT, etc.).

NATIONAL CHAPTERS

- Including a brief section on small-scale coastal fleet segments (key socio-economic indicators) where relevant

- Including a brief section on EU distant water fleets (key socio-economic indicators) where relevant
- Including a brief section on socio-economic aspects where relevant including new social data and economic links with the main fishing communities.

ANNEX (METHODOLOGIES, GLOSSARY, ETC)

Relevant documents

All relevant documentation and data are available on the DCF_JRC or STCF websites or will be made available on a dedicated FTP:

- STECF (17-12). The Economic Performance of the EU Fishing Fleet (2017 AER)
  https://stecf.jrc.ec.europa.eu/reports/economic
- Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities
  https://stecf.jrc.ec.europa.eu/reports/balance
- Member States Annual Report on the National Data Collection Programmes
  http://datacollection.jrc.ec.europa.eu/ars/
- Data-handling procedure for STECF Expert Working Groups
  http://datacollection.jrc.ec.europa.eu/

Abbreviations

European Member States

BEL	BE	Belgium	**HRV**	HR	Croatia
BGR	BG	Bulgaria	**IRL**	IR	Ireland
CYP	CY	Cyprus	**ITA**	IT	Italy
DEU	DE	Germany	**LTU**	LT	Lithuania
DNK	DK	Denmark	**LVA**	LV	Latvia
ESP	ES	Spain	**MLT**	MT	Malta
EST	EE	Estonia	**NLD**	NL	Netherlands
EU	EU	European Union	**POL**	PL	Poland
FIN	FI	Finland	**PRT**	PT	Portugal
FRA	FR	France	**ROU**	RO	Romania
GBR	UK	United Kingdom	**SVN**	SV	Slovenia
GRC	EL	Greece	**SWE**	SE	Sweden

Fishing Technologies – DCF categories

DFN	Drift and/or fixed netters
DRB	Dredgers
DTS	Demersal trawlers and/or demersal seiners
FPO	Vessels using pots and/or traps
HOK	Vessels using hooks
MGO	Vessel using other active gears
MGP	Vessels using polyvalent active gears only
PG	Vessels using passive gears only for vessels < 12m
PGO	Vessels using other passive gears
PGP	Vessels using polyvalent passive gears only
PMP	Vessels using active and passive gears
PS	Purse seiners
TM	Pelagic trawlers
TBB	Beam trawlers

Fishing activity – scale of fishing operation

SSCF	Small-scale coastal
LSF	Large-scale fleet
DWF	Distant water fleet

Fishing regions

BS	Baltic Sea
BKS	Black Sea
MED	Mediterranean Sea
NA	North Atlantic
NS	North Sea & Eastern Arctic
OFR	Other fishing regions

Regional fisheries

RFB	Regional Fisheries Bodies
RFMO	Regional Fisheries Management Organisations
ABNJ	Areas Beyond National Jurisdiction
NAFO	Northwest Atlantic Fisheries Organization
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
NEAFC	North-East Atlantic Fisheries Commission
CECAF	Fishery Committee for the Eastern Central Atlantic
OMR	EU Outermost Regions
LDF	Long Distant Fisheries
SFPAs	EU Sustainable Fisheries Partnership Agreements

Food and Agriculture Organization of the United Nations (FAO) Major Fishing Areas

FAO area 18	Arctic Sea		**FAO area 57**	Indian Ocean, Eastern
FAO area 21	Atlantic, Northwest		**FAO area 58**	Indian Ocean, Antarctic
FAO area 27	Atlantic, Northeast		**FAO area 61**	Pacific, Northwest
FAO area 31	Atlantic, Western Central		**FAO area 67**	Pacific, Northeast
FAO area 34	Atlantic, Eastern Central		**FAO area 71**	Pacific, Western Central
FAO area 37	Mediterranean and Black Sea		**FAO area 77**	Pacific, Eastern Central
FAO area 41	Atlantic, Southwest		**FAO area 81**	Pacific, Southwest
FAO area 47	Atlantic, Southeast		**FAO area 87**	Pacific, Southeast
FAO area 48	Atlantic, Antarctic		**FAO area 88**	Pacific, Antarctic
FAO area 51	Indian Ocean, Western			

Source: http://www.fao.org/fishery/area/
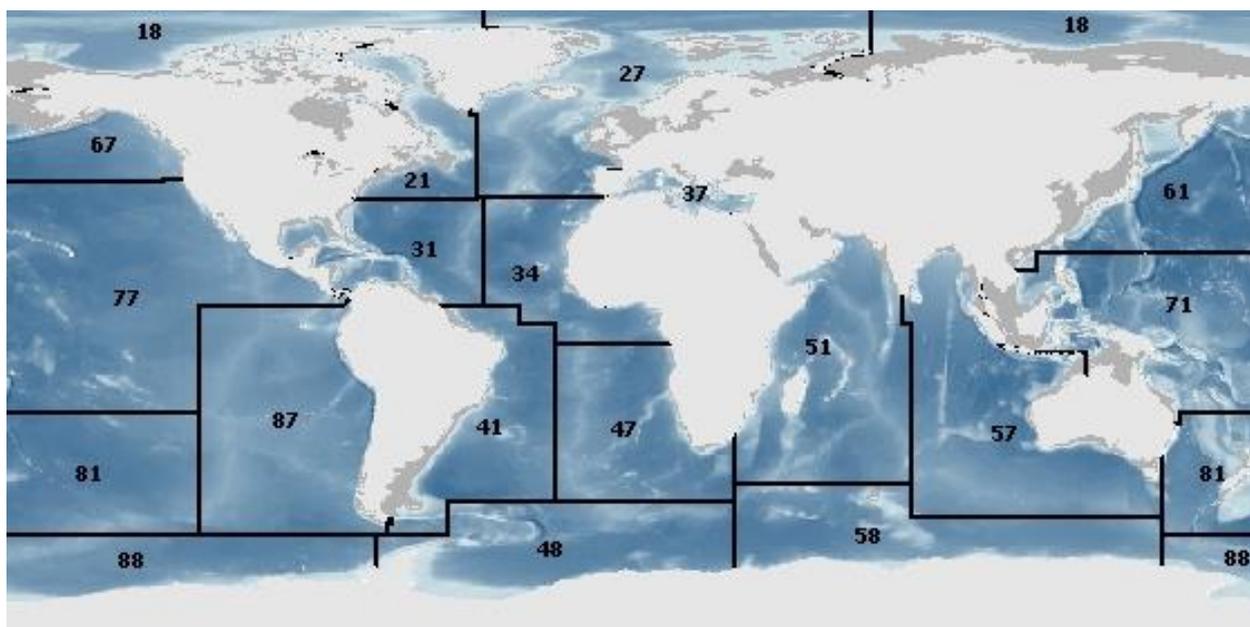
Data source and coverage

The data used to compile all the various analyses contained within the report were collected under the data collection framework (DCF), cf. Council regulation (European Commission (EC) No 199/2008 of 25th February 2008).

The 2018 call requested data for the years 2008 to 2017. Fleet capacity and recreational catch data were requested up to and including 2017, while fishing activity (effort and landings), employment and economic parameters were requested up to and including 2016. Additionally, income from landings and several effort and landings variables were requested (non-mandatory) for 2017 to allow for economic performance projections to be estimated at fleet segment and national level for 2017 and on which to base nowcasts for 2018.

This report includes data reported by national totals and by fleet segments (a combination of the main fishing technology used and vessel length group operating predominately in one supra-region). The data analysed covers transversal (capacity, landings and effort) and economic data (income, costs, employment, enterprises, capital value and investment).

For a full list of variables and reference years requested under the 2018 DCF call for economic data on the EU fishing fleet see Table 6.1 in the Section 6 – AER Report Methodology.

In terms of the completeness of the Member States data submissions, most countries submitted the majority of parameters requested under the call. In many cases missing data relates to fleet segments with low vessel numbers for which data may be sensitive or hard to obtain (logbooks are compulsory for vessels over 10 meters only). In terms of data quality, inevitably some 'abnormal' estimates for various parameters were detected by the JRC or experts and in many cases rectified by the Member States. However, some coverage and quality issues remain outstanding:

- Greece provided on partial data for some years. Due to the incomplete coverage of the fishing activity and socio-economic data, Greece was excluded from all aggregated analyses.
- This year's submissions from France and Spain improved but continue to be incomplete, in particular for effort and landings data for the years 2008-2010, and some issues remain for the Irish under 10m vessels;
- Furthermore, due to the reduced number of vessels and/or enterprises, several MS, including Germany and some of the Baltic States, do not deliver sensitive data on their distant water fleets, making coverage at the EU and regional levels incomplete.
- As a new Member State, Croatia is only required to provide data from 2012 onwards.
- Incomplete time series data due to either the non-submission of data, questionable data and/or new MS additions, make trend analysis over the entire period 2008-2015/2016 at the EU and regional levels impossible without excluding the MS fleets that are incomplete.

Section 7 – DCF Data Coverage and Quality and Annex 1, provide more information on outstanding issues.

2 EWGs AND LIST OF PARTICIPANTS

The 2018 Annual Economic Report on the EU fleet (AER) has been produced by two working groups of economic experts (EWG 18-03 and 18-07) convened under the Scientific, Technical and Economic Committee for Fisheries (STECF), which took place from the 9 to 13 of April in Ispra, Italy and from the 11 to 15 June 2018 in Dublin, Ireland

The groups consisted of independent experts from within the EU and experts from the European Commission's Research Centre (JRC).

The full list of participants at EWG 18-03 and 18-07 is presented in section 8.

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THE 2018 ANNUAL ECONOMIC REPORT ON THE EU FISHING FLEET (STECF 18-07)

THIS REPORT WAS REVIEWED BY THE STECF PLENARY (PLEN-18-02), 9-13 JULY 2018

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group meeting, evaluate the findings and make any appropriate comments and recommendations

STECF observations

The report was not completed by the time of the plenary; and STECF comments are based on a draft version made available on July 5th and further correspondence with the EWG chairs and JRC focal points.

STECF reviewed the 2018 Annual Economic Report on the EU Fishing fleet. STECF acknowledges the extensive work undertaken by all involved in the preparation of the 2018 AER by attendance at two EWGs (EWG18-03 and 18-07). The 2018 AER represents a comprehensive overview of the structure and economic performance of EU fishing fleets (at EU, regional and Member State level) and provides valuable statistics and analyses.

STECF observes that over time the AER has evolved in terms of structure and content. One part of the report, consisting of the National, Regional and EU wide statistical reports and analyses of trends and developments, has evolved into a standardised document. STECF observes that the report provides context to the trends and developments noted and hence provides a useful overview of developments of European fisheries.

STECF observes that the standard AER reporting on statistics of the economic performance of selected European fleets follows fixed structure and process, which is comprehensive. STECF observes that this process requires extensive input of expert time for both data processing and analysis.

STECF observes that for the 2018 issue of the AER the EWG 18-03 and 18-07 have been requested to, "by trimming down the AER, achieve a more balanced effort/product exercise, concentrating on the core tasks of the AER on the one hand while freeing up some time and resources on the other so that EWG experts can focus on more applied economic analyses". STECF observes that this request contains inherent contradictions as to what is the desired focus of the report. It would be helpful to have clear guidance on the desired output and to consider whether the analysis of specific topical issues should be included as a recurrent section of the AER, or would be more effective if considered as a separate action, perhaps part of a dedicated EWG or ad-hoc requests to STECF, producing a separate report.

STECF observes that the data provided in the AER relate to 2016, which ended 18 months ago. Transversal and economic data have thus a one or two-year time lag in relation to the publication date of the Annual Economic Report. This is a recurring issue, the data lag occurring because data are first produced by individual businesses, sometimes up to 10 months after the end of the year they relate to, then are collected, processed and quality checked in each MS before submission to the DCF. Data for a particular year, for example 2016, can only be collected at the end of the following year (e.g. 2017). STECF notes that the EWGs have addressed this time-lag issue by producing estimates of economic and transversal data for EU fleets for the current and previous years. These estimates can be useful but their accuracy needs to be assessed. This can be done by comparing projections made in previous AER reports with observed data the following year.

Concerning data issues, STECF observes that, as usual, some Member States did not provide data in time, or did not report for some of the years in the time series.

Regarding data consistency, STECF observes that in many cases, for a given fleet in a given year, the value given for "income from fishing" is quite different from the value given for "value of landing". Differences in the values between these two income items give an unclear picture to users of the report. STECF notes differences in values of these two income items are due to the values of these items being obtained from different data sources. However, STECF observes that the report would be clearer if Member States increase data consistency. The report would be clearer if any differences in values between these income items are explained as footnotes to the tables where they occur.

STECF conclusions

The 2018 Annual Economic Report (AER) on the European Union (EU) fishing fleet provides a comprehensive overview of the structure and economic performance of EU Member States' fishing fleets.

STECF concludes that it would be beneficial for the use and readability of the report to evaluate the process of producing the AER in terms of efficiency and effectiveness, including a discussion about the actual level of details needed in the text for each section.

Based on this evaluation it should be assessed whether additional applied economic analyses of framing and interpreting trends and developments in a wider context are to be part of the standard process of production of the AER or are best dealt with in a separate trajectory adjacent to this process. A further trimming of the standard AER analysis may well be considered in this process.

STECF considers also that there is scope for increased automatisation of the production of standard chapters (for example the possibility of using R markdown for some chapters could be explored); that would allow for quick update when data needs to be corrected.

STECF considers that the accuracy of the projection of economic and transversal estimates for the current and previous years needs to be assessed by comparing these projections with the actual observations in the following year.

Contact details of STECF members

[1] - Information on STECF members' affiliations is displayed for information only. In any case, Members of the STECF shall act independently. In the context of the STECF work, the committee members do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members also declare at each meeting of the STECF and of its Expert Working Groups any specific interest which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: http://stecf.jrc.ec.europa.eu/adm-declarations

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EXECUTIVE SUMMARY

The 2018 Annual Economic Report (AER) on the European Union (EU) fishing fleet provides a comprehensive overview of the latest information available on the structure and economic performance of the 23 coastal EU Member State fishing fleets.

Results indicate that the profitability of the EU fleet improved further in 2016, registering record-high net profits of EUR 1.35 billion, up from EUR 789 million in 2015. Continued improvements into 2016 were mainly a result of higher average fish prices (more value for less quantity landed) and continued low fuel prices, while improved status of some important stocks and technological advances also contributed. Forecasts for 2018 suggest that developments are slightly offset by higher fuel prices compared to 2017.

In 2016, the EU fishing fleet numbered 83 360 vessels with a combined gross tonnage (GT) of 1.56 million tonnes and engine power of 6.3 million kilowatts (kW) (or 68 178 vessels when excluding Greece). EU fleet capacity has continued to decrease steadily at an average rate of around 2% p.a. in terms of vessel numbers, kW and GT.

Based on DCF data, 65 398 of the registered vessels were active in 2016 (51 751 when excluding Greece) while the remaining 17 962 were inactive (16 427 when excluding Greece). Of the active vessels, 74.9% were small-scale coastal vessels, 24.6% were large-scale and the remaining 0.5% distant water vessels.

Direct employment generated by the sector, including Greece, amounted to 152 331 fishers, corresponding to 114 776 FTEs. Average annual wage per FTE was estimated at EUR 26.4 thousand, ranging from EUR 1.8 thousand for Cypriot fishers to EUR 131 thousand for Belgian fishers.

The EU fleet, excluding Greece, spent 4.85 million days at sea and consumed 2.25 billion litres of fuel, to land 4.9 million tonnes of seafood in 2016 with a reported landed value of EUR 7.7 billion.

In 2016, the EU fishing fleet had an estimated, depreciated replacement value (tangible asset value) of EUR 5.2 billion and in-year investments amounted to EUR 531 million.

The amount of Gross Value Added (GVA) and gross profit (all excl. subsidies) generated by the fleet (excl. Greece) in 2016 was EUR 4.5 billion and EUR 2.07 billion, respectively. GVA as a proportion of revenue was estimated at 58%, up from 53.6% in 2015 and gross profit margin at 26.7%, up from 22.4%. With a total net profit of EUR 1.35 billion, 17.4% of the revenue generated by the EU fleet was retained as net profit.

While overall the EU fleet was profitable, five out of the 22 MS fleets (excl. Greece) generated net losses in 2016. Results also varied by scale of operation and fishing region.

The EU **small-scale coastal fleet (SSCF)** totalled 49 029 vessels in 2016, employing 78 304 fishers or 46 647 in FTE (incl. Greece). As a whole, the EU SSCF was profitable in 2016: lower energy and capital costs in 2016 together with higher revenues fostered a 14% increase in GVA and 16% increase in gross profit. Net profit increased from EUR 96.8 million in 2015 to EUR 132 million in 2016, i.e., a 36% increase (excluding Greece). Projection results suggest that landings in weight decreased slightly in 2017, at around 254 thousand tonnes with a corresponding decrease in landed value, estimated at EUR 830 million; a 7% drop compared to 2016. Findings suggest that in 2017 the EU SSCF generated EUR 626 million in GVA, a decrease of 11% compared to 2016 results, while gross profit was estimated at EUR 222 million, a 9% decrease. Nonetheless, the performance indicators remained positive - GVA to revenue (67%) and gross profit margin (24%) and net profit margin (15%) in 2017. In 2018, the increase in energy costs are counterbalanced by increase in revenue and performance results improve slightly on 2017. The SSCF remains profitable with gross and net profit margins of 24% and 15%, respectively. While the EU SSCF as a whole was profitable over the time period analysed, results at the regional and member state level are mixed. By Member State, projected results suggest that six MS SSCFs suffered gross losses in 2017. Only the Polish SSCF is projected to recover in 2018.

The overall performance of EU fleets operating in the **North Sea & Eastern Arctic** region was positive in 2016, and improved further compared to previous years. The most profitable fleets were the large pelagic trawlers (>40 m LOA), with average gross profits estimated at around EUR 36 thousand per day at sea. Only the Lithuanian fleet operating in the region suffered small net losses in 2016, all other MS fleets generated net profits. The overall changes have been mostly driven by large-scale vessels, whereas trends for the SSCF are less clear. Whilst the consequences of Brexit are unknown, it is to be expected that it could have a large impact on the North Sea fleet. The UK holds a significant portion of the value of landings in the region (30%). Furthermore, there is a high dependency on UK waters for a number of MS in the region. Belgium, the Netherlands, Germany, Denmark, France, Ireland, Sweden and to a lesser overall extent Spain are expected to be affected.

Overall, the EU **Baltic Sea** fleet spent almost 415 thousand days at sea in 2016 to land approximately 652 thousand tonnes of seafood valued at EUR 228 million. While the weight landed has increased since 2012, both effort (days at sea, LSF down 5% and SSCF down 2%) and landed value declined (from EUR 246 to EUR 228 million) during the period. More recently, the landed value increased 8% between 2015 to 2016, and this, combined with significant reductions in operating costs, helped the overall situation of the Baltic Sea fleet move from a loss-making position in 2015 to post a modest net profit in 2016. GVA was estimated at EUR 119 million, up 3% compared to 2015. After accounting for operating costs, the fleet made an estimated EUR 56 million in gross profit, also a marked increase (13%) compared to 2015. These improvements were largely due to relatively stable revenues (-2%) combined with lower costs, in particular fuel (-19%) and labour (-6%) costs. Energy costs continue to be one of the main expenditure items for the large-scale fleet, especially demersal and pelagic trawlers. Consequently, the falling cost

of marine fuel to the first quarter of 2016, when it reached the lowest value since 2009, contributed significantly to lower production costs. This was maintained throughout 2016 and 2017 when fuel prices remained stable, but recent (2018) increases in oil prices are leading to increased fuel costs once again. Most pelagic fisheries in the region are exploited at MSY and the average price of cod recovered in 2017.

The major players in the **Northeast Atlantic** are the Spanish, French, British, Portuguese and Irish fleets. The most important species include Atlantic mackerel, horse mackerel, hake, Norway lobster and monkfish. The weight and value of landings generated by the NE Atlantic fleet amounted to approximately 1.4 million tonnes and EUR 2.48 billion respectively. In terms of production, the UK, French, Spanish, Portuguese and Irish fleets are the most important and collectively were responsible for 85% of the landed weight and 94% of the value landed in 2016. The overall performance of the fleet improved, with the majority of Member State fleets generating gross and net profits in 2016. GVA was estimated at EUR 1.57 billion and after accounting for operating costs, the fleet made EUR 620 million in gross profit. GVA increased by 12% and gross profit increased by 29%. Net profit was estimated at EUR 417 million, an 84% increase on 2015. The SSCF generated EUR 298 million in GVA and EUR 103 million in gross profits. The large-scale fleet generated over EUR 1.28 billion in GVA and EUR 518 million in gross profit. In 2016, fuel price decreased and remained low in 2017, while most fish prices remained stable or increased compared to 2016. Therefore, it is expected that economic performance will further improve as revenues are likely to increase and costs to decrease. Overall, performance is mostly driven by the large-scale fleets.

Overall, the economic situation of EU fleets operating in the **Mediterranean Sea** improved with increased gross profit and net profit even if high variation across MS are observed; the positive trend was mainly driven by the Italian fleet. Revenues benefited from an increase in landings and higher average fish prices. In particular, the SSCF sold at higher prices compared to the large-scale fleet, mainly directed to the local market through very short supply-chains (either direct to consumers or to restaurants in tourist areas). There are some examples of fisheries where stocks are being exploited at rates consistent with achieving MSY and fleets are showing positive trends, particularly in landings. The overall level of overfishing, however, remains generally too high. A number of specific actions have been taken for the Mediterranean towards tackling overfishing by improving control and enforcement and aligning the Mediterranean strategy with the CFP, both within EU waters and with its international partners. This has already had an effect with the review and update of five national management plans in line with STECF advice. The process is expected to accelerate in 2018 and beyond. Better enforcement and control is a priority in this sea basin. In 2017, the Commission extended the scope of the specific control and inspection programme (SCIP) including an international joint inspection and surveillance scheme outside the waters under national jurisdiction of the Strait of Sicily. The number of joint campaigns coordinated by the European Fisheries Agency has also substantially increased.

After the visible improvement in the **Black Sea** EU fleet's economic performance in 2015, with an increase in both gross and net profit, there was a slight decrease in 2016. The Black Sea fishery is highly dependent on very few species and several commercially important stocks continue to be exploited above FMSY. The fishery resources of the Black Sea are shared by Bulgaria, Georgia, Romania, the Russia Federation, Ukraine and Turkey. Only two of these are EU Member States - Romania and Bulgaria. Both operate exclusively in the Black Sea waters and are fully dependent on the region. The main target species include sea snails, sprat, turbot, red mullet, picked dogfish and anchovy. The main fishing gears used are set gillnets, pelagic trawls, purse and beach seine, pots and traps. The overall economic situation in the region is rather unstable. While revenue increased gradually over the period 2008-2016, peaking in 2015 and subsequently falling 19% in 2016. GVA as a proportion of revenue was estimated at 65% for 2016, which means that the Black Sea fishing fleet transformed more than half its total revenue into capital, salaries and profits, thereby having a positive impact on the economies of the region and their fishing communities.

Although the main fishing grounds for the EU fishing fleet are located in FAO 27 (Northeast Atlantic, Baltic and North seas) and FAO 37 (Mediterranean and Black seas), part of the EU fleet operates in fishing areas much further afield. These areas are collectively termed **Other Fishing Regions** (OFR) and this year, these regions were analysed in two main parts: (1) **EU Outermost Region** (OMR) fleet operating in the EEZs of the Canary Islands (Spain); the Azores and Madeira (Portugal); and the French overseas regions and departments of Guyana, Antilles (Martinique and Guadeloupe), Reunion and Mayotte and, (2) the EU **long distant fisheries** (LDF) in Other Regions, which includes all fishing areas outside EU waters and in Areas Beyond National Jurisdiction (ABNJ), covered by Regional Fisheries Bodies (RFBs), such as, the Northwest Atlantic Fisheries Organization (NAFO), the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Indian Ocean Tuna Commission (IOTC), the North-East Atlantic Fisheries Commission (NEAFC) and the Fishery Committee for the Eastern Central Atlantic (CECAF); as well as, fishing areas within the EEZ of third countries regulated under the framework of EU sustainable fisheries partnership agreements (SFPAs).

EU fishing activity in OFR accounts for roughly 18% of the landed weight (839 thousand tonnes) and 19% in value (EUR 1.4 billion) of the total EU landings (excluding Greece). The share is slightly higher when the OFR regions in FAO 27 (i.e., non-EU waters and the Azores OMR, are considered).

The most important region for the EU LDFs is the Eastern Central Atlantic (FAO 34), which accounts for 42% of the landed weight and 33% of the value, followed by the Western Indian Ocean (FAO 51) with 23% of the landed weight and 32% of the value, the Southwest Atlantic (FAO 41), with 14% of the weight and 12% of the value and then the Southeast Atlantic (FAO 47), with 9% of the weight and 8% of the value.

Fishing activity in the Eastern Central Atlantic (FAO 34) is mixed, with the small pelagic and tuna fisheries prevailing. The main fleet segments include the Lithuanian pelagic trawlers (small pelagics), the French and Spanish purse seiners (tuna fishery) and the Spanish demersal trawlers (demersal and deep-sea fishery). The tuna fishery predominates in the Western Indian Ocean (FAO 51), where the main players are the Spanish and French purse seiners over 40m LOA, targeting tropical tuna and similar. In the Southwest Pacific (FAO 41), the Spanish demersal

trawlers over 40m take almost all the catch, mostly comprised of Argentine hake. In terms of value, Patagonian squid and swordfish are also important catch components. Fishing activity in Southeast Atlantic (FAO 47) is also dominated by the tuna fisheries, with some activity from the Spanish demersal trawlers targeting hake and shrimp. Most of the landed value in the Southeast Pacific (FAO 87) comes from swordfish, while Chilean jack mackerel is an important catch component in terms of landed weight. The main fleet segments operating in this region are the German and Spanish pelagic trawlers.

Currently, due to data limitations it is not possible to provide a complete and accurate economic performance analysis of the EU fleets operating in OFR. Estimates are provided for the main OMR fleets and for selected MS fleets operating in the five main Regional Fisheries Bodies for the EU. Results suggest that the majority of the fleet segments were profitable in 2016.

At large, the economic performance of the **OMR fleets** improved in 2016 but given the lack of OMR data submitted by Spain and France it was not possible to provide a comprehensive outlook for these fleets. However, considering current trends in fish prices and fuel costs, it is expected that these fleets will continue to be profitable on the whole in the coming year.

For the EU fleet operating in the **NAFO** Regulator Area (RA), the overall performance of the vessels covered (30 vessels from six MS fleets) was positive, jointly generating around EUR 105 million in revenue, EUR 69 million in GVA and EUR 41 million in gross profits. In relative terms, the fleet achieved an estimated GVA to revenue of 66% and a 39% gross profit margin. All MS fleets analysed generated gross profits in 2016. Overall, the Portuguese vessels generated more than half the total revenue, GVA and gross profit (EUR 22.3 million, 54% of the total) and obtained the highest GVA to revenue (67%) and profit margin (41%). Low, stable fuel prices and higher average market prices have positively contributed to the overall performance, in particular, the demersal trawlers operating in the region. Yet, the 2018 benchmark review of the cod (3M) HCR will be a major challenge; the potentially lower catch levels (TACs) could have a socio-economic impact in the mid/long-term, in particular, for the Spanish and Portuguese demersal trawlers targeting this stock.

The Spanish fleet dominates the **tuna fisheries in the Atlantic (ICCAT)** with over 55% of the landings in weight and 62% of the value. Overall, the Spanish fleets generated around EUR 151 million in revenue, EUR 77 million in GVA and EUR 32 million in gross profits in 2016. In other words, 66% of the total profits. The most important target species include: blue shark, skipjack and yellowfin tuna, albacore, swordfish and bigeye tuna. The overall performance of the selected fleets (with more than 60% of their landed value from tuna and tuna-like species in FAO 27) was positive in 2016, jointly generating almost EUR 123 million in GVA and EUR 49 million in gross profits. In relative terms, the combined fleet produced a GVA to revenue of 49% and gross profit margin of 20%. All MS fleet segments analysed generated gross profits in 2016. Due to the relatively poor situation of the bigeye stock, it is possible that the tropical tuna TAC might be reduced or ICCAT may adopt management measures for all three tropical species (skipjack, yellowfin and bigeye). Such measures could have economic consequences in the medium-term. They may also bring about unintended shifts in fishing pattern and, potentially, displace fishing effort towards the Indian and Pacific oceans.

The Spanish fleet also dominates the **tuna fisheries in the Indian Ocean (IOTC)**, with 65% of the landings in weight and 75% of the value. Purse seiners make up the largest component of the fleet, with 57% of the vessels in number and combined, this segment generated EUR 147 million in GVA (94% of the total) and almost EUR 93 million in gross profit, a GVA to revenue of 44% and a profit margin of 26%. The longline fishery was also profitable, generating EUR 9.9 million in GVA and EUR 5.6 million in gross profit (with a 21% profit margin). Spain also possess the largest longliner fleet in the region with 14 vessels, employing 79% of the FTE and landing 81% of the weight and 75% of the value. The most profitable fleet was the Spanish purse seine fleet (over 40 metres LOA), with average gross profits estimated at around EUR 4.7 million per vessel or just over EUR 25 000 per fishing day. All MS fleets analysed generated gross profits in 2016. The overall performance of the fleets covered was positive and collectively generated EUR 158 million in GVA and EUR 93 million in gross profits. GVA to revenue was estimated at 43% while the gross profit margin was 25%. The relatively poor status of the yellowfin tuna stock along with reduced TACs, if continued, may impact the socio-economic status of the fleets operating in the region and, indirectly, coastal communities in the region (revenue, employment and raw material for the local canning industries). If the situation deteriorates, it may also displace effort from the Indian Ocean to the Pacific and Atlantic oceans.

According to the data provided by the **North-East Atlantic Fisheries Commission (NEAFC)**, the EU fleet caught around 1.23 million tonnes in 2015 (most recent year available), 93% of which was taken from EU waters, 3% from NEAFC RA, 3% in Norwegian waters, 1% in Faroese waters and 0.2% in Greenland waters. The EU fleet mainly targets small pelagic species, which represent 96% of the catch composition in weight. The main species include: Atlantic mackerel (523.4 thousand tonnes), herring (429 thousand tonnes) and blue whiting (221 thousand tonnes). Due to spatial data limitations it is not possible to accurately determine the dependency of these fleets on activity in the NEAFC and CECAF regulatory areas.

According to statistics provided by the **Fishery Committee for the Eastern Central Atlantic** (CECAF), there were ten Member States fleets operating in the region in 2015 (latest available data): France, Germany, Greece, Latvia, Lithuania, Netherlands, Poland, Portugal, Spain and the UK. DCF data shows that Italy was active in the region in 2015 (and 2016), after two years of no activity. In 2015, total EU catches in CECAF RA amounted to 264.5 thousand tonnes, a 58% decreased when compared to 2010 (626.6 thousand tonnes) (excludes Italy). This section aimed to report on the activity of fleets operating in the region targeting mainly small pelagic and demersal species, i.e., not the tuna fishery, which is covered in the ICCAT section. Large part of these fisheries occur within the framework of Sustainable Fisheries Partner Agreements (SFPAs). According to DCF data, nine Member States reported activity in the region in 2016: France, Germany, Italy, Latvia, Lithuania, Poland, Portugal, the Netherlands and Spain. Total

landings reported from FAO 34 in 2016, including tuna and tuna-like species, amounted to 390 thousand tonnes, valued at approximately EUR 477 million. When excluding tuna and tuna-like species, landings amounted to 229 thousand tonnes, valued at EUR 187 million. The main fishing nations targeting these species are Lithuania, Latvia, Spain and Poland. Spain targets mostly demersal species with higher commercial value, while Lithuania and Latvia target mostly small pelagics. All the fleet segments analysed, apart from the Italian demersal trawler segment over 40m, generated profits in 2016. Yet, many of these fleets operate in other fishing areas and the performance results are a combined account of their total activity, i.e., it cannot be determined whether the activity limited to the CECAF area was profitable or not.

Preliminary results for 2017 indicate a 6% increase in landed weight with a 3% decrease in value. Projections suggest that the 2016 results are slightly offset in 2017 as the gain from a 3% decrease in total costs is cancelled out by the loss in revenue (-3%); thus, some deterioration in economic performance results in 2017: GVA (-5%), gross profit (-7%) and net profit (-5%). Results indicate that the EU fleet operated at a profit in 2017, with an estimated net profit margin of 17%. Positive economic results can also be seen in the performance indicators - GVA to revenue (56%) and gross profit margin (25%). In 2018, a modest increase in revenue (+1%) is counteracted by a 2% increase in total costs. As wages are projected to increase 3% in 2018, GVA is estimated to increase 1% compared to 2017. With fuel costs also increasing in 2018 (+11%) the fleet remains profitable with gross and net profit margins of 25% and 16%, respectively.

This publication includes: 1) An structural and economic overview of the EU fishing fleet in 2016, with projections for 2017 and 2018, and trend analyses for the years 2008-2017/18; 2) A regional analysis of the EU fishing fleet by major sea basin: Baltic Sea, North Sea & Eastern Arctic, North East Atlantic, Mediterranean Sea, Black Sea, as well as Other Fishing Regions, including the EU Outermost regions and the EU long distant fisheries in Other Regions; 3) A detailed structural and economic overview of each EU Member State fishing fleet, including qualitative economic performance assessments for 2016 and projections for 2017 and forecasted results for 2018.

The data used to compile all the various analyses contained within the report were collected under the framework of the data collection framework (DCF), cf. Council regulation (European Commission (EC) No 199/2008 of 25th February 2008).

The 2018 AER supersedes all previous AERs. Comparisons across AER reports should not be made. This is mainly due to the inclusion of more MS fleets and greater coverage of the data this year. Again, Greece was the only MS to be excluded from the economic performance estimates in the current report. Moreover, MS may have provided revised data submitted in previous calls, which is expected to have increased the coverage and quality of the data reported under the 2018 DCF.

EU MEMBER STATE FLEET SUMMARY REPORTS

A brief summary of each EU Member States' national fleet, including the main issues affecting the economic performance in 2016 and 2017 are provided below:

Belgium

Even though the number of vessels in the Belgian fleet is still decreasing every year, its economic performance has improved substantially. After years of being in a loss making position, net profit was positive in 2015 and in 2016. Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 54.0 million, EUR 23.8 million and EUR 16.8 million, respectively. GVA increased by 25%, gross profit and net profit increased by 64% and by 150%, respectively. Gross and net profit margins increased by 47% and 125%. Although the Belgian fleet was still in a net loss making position in 2014, its economic performance had already improved compared to previous years. Revenue and income from landings increased in 2016 compared to 2015, while total operating costs remained comparable to those made in 2015. Energy costs decreased by 17% compared to 2015 and represented only 35% of what they were in 2008 (EUR 13.4 million). Crew costs increased by 6%, repair and maintenance costs increased by 34%. Total number of crew on board was estimated around 320 in 2016, without taking into account rotation, corresponding to a total employment of 230 FTEs.

The three major fleet segments were all profitable in 2016. The larger beam trawlers (TBB VL2440) performed better than the smaller ones (TBB VL1824) in terms of GVA, revenue and profit. However, profit margins were comparable. The demersal trawlers (DTS VL2440) also had lower profits than the larger beam trawlers, but their profit margins were higher. This fleet segment seems to be relatively performing the best.

In 2016, 26.9 thousand tonnes of seafood were landed by the fleet, with a value of EUR 91.9 million. Sole remained the dominant species, generating the highest landed value (EUR 28 million) and representing about 30% of the total landings value. In terms of weight, European plaice remained the top landed species (9.4 thousand tonnes or 35% of the total landed weight) and generated the second highest landed value (EUR 15 million). There are indications of an overall improved efficiency since 2008. Landings per unit of effort has been increasing, while the energy consumption per landed tonne has been decreasing. Furthermore, the energy consumption per day at sea seems to be on a decreasing trend: it decreased between 2008 and 2013, slightly increased again in 2014 and 2015 (as a result of lower fuel prices) and decreased again in 2016. Labour productivity increased sharply between 2014 and 2016.

Belgium		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	101	101	90	89	87	82	79	78	76	73	65		-3%	-14%
	LSF	98	94	88	86	81	76	76	73	68	67	65		-7%	-19%
Vessel tonnage	(thousand GT)	19.2	19.4	16.0	15.7	15.7	15.0	14.5	14.5	14.0	14.0			-3%	-14%
	LSF	18.8	18.3	15.7	15.0	14.9	14.4	14.2	14.1	13.3	13.4			-5%	-15%
Engine power	(thousand kW)	61.9	62.9	52.1	51.1	50.8	47.4	46.3	47.4	46.2	47.1			-3%	-12%
	LSF	60.6	59.0	51.0	48.7	47.1	45.6	44.8	45.3	42.8	44.2			-5%	-15%
Total employed	(person)	472	421	394	382	376	345	345	336	318	316.0	308.8		-5%	-17%
	LSF	472	421	394	382	376	345	345	336	318	316	309		-5%	-17%
FTE	(#)	353	305	317	312	312	228	293	255	231	221	233		-9%	-22%
	LSF	353	305	317	312	312	228	293	255	231	221	233		-9%	-22%
Days at sea	(thousand day)	18.7	18.2	16.9	16.0	15.4	15.0	15.1	14.1	14.3	13.7	14.4		2%	-11%
	LSF	18.7	18.2	16.9	16.0	15.4	15.0	15.1	14.1	14.3	13.7	14.4		2%	-11%
Fishing days	(thousand day)	19.6	19.6	18.7	17.6	17.2	17.0	16.9	15.7	15.8	14.9			0%	-11%
	LSF	19.6	19.6	18.7	17.6	17.2	17.0	16.9	15.7	15.8	14.9			0%	-11%
Live weight of landings	(thousand tonne)	21.8	19.4	21.7	22.2	24.2	25.2	26.2	24.5	26.9	24.1	25.8		10%	16%
	LSF	21.8	19.4	21.7	22.2	24.2	25.2	26.2	24.5	26.9	24.1	25.8		10%	16%
Value of landings	(million €)	84.3	71.8	82.8	83.3	78.0	74.0	81.5	82.0	91.9	84.2	95.4		12%	15%
	LSF	84.3	71.8	82.8	83.3	78.0	74.0	81.5	82.0	91.9	84.2	95.4		12%	15%
Revenue	(million €)	87.0	76.6	86.3	87.1	82.4	77.7	85.4	85.2	94.8	88.0	98.3		11%	14%
	LSF	87.0	76.6	86.3	87.1	82.4	77.7	85.4	85.2	94.8	88.0	98.3		11%	14%
Gross Value Added	(million €)	23.6	29.9	37.5	37.8	30.4	28.7	36.6	43.1	54.0	46.9	54.1		25%	62%
	LSF	23.6	29.9	37.5	37.8	30.4	28.7	36.6	43.1	54.0	46.9	54.1		25%	62%
Gross profit	(million €)	- 7.8	1.9	7.3	9.1	2.6	2.3	7.4	14.5	23.8	17.8	22.6		64%	407%
	LSF	- 7.8	1.9	7.3	9.1	2.6	2.3	7.4	14.5	23.8	17.8	22.6		64%	407%
Net profit	(million €)	- 18.9	- 11.0	3.1	0.5	- 7.2	- 7.3	- 2.9	6.7	16.8	10.7	15.5		150%	404%
	LSF	- 18.9	- 11.0	3.1	0.5	- 7.2	- 7.3	- 2.9	6.7	16.8	10.7	15.5		150%	404%
Return on fixed tangible assets	(%)	- 31.7	- 9.1	- 3.0	- 0.0	- 11.7	- 10.5	- 3.9	12.9	51.7	32.3	49.3		301%	824%
	LSF	- 31.7	- 9.1	- 3.0	- 0.0	- 11.7	- 10.5	- 3.9	12.9	51.7	32.3	49.3		301%	824%
GVA per FTE	(thousand €)	66.9	98.1	118.1	121.4	97.4	126.0	124.9	169.3	234.3	211.9	232.2		38%	103%
	LSF	66.9	98.1	118.1	121.4	97.4	126.0	124.9	169.3	234.3	211.9	232.2		38%	103%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Lower fuel costs together with higher average fish prices were the main driving forces behind the overall improvement in the profitability of the fleet in 2015 and 2016. Profitability is expected to remain positive in 2017. However, major challenges lie ahead. With the complete implementation of the landing obligation, it is likely that costs will increase (e.g. crew costs, storage costs, extra steaming costs). Revenue will remain the same or even decrease (more low value and unmarketable fish). Crew members are currently well remunerated for their hard work, but a lower value of landings will have an impact on crew wages (a percentage of the gross value of landings), potentially making the profession less attractive (again). Another concern is related to choke species, i.e., losing catches of species where quotas are still available. Therefore, to continue fishing throughout the year, it will be vital to have either enough quota available or adapt fishing strategies. Consequences of Brexit are still very uncertain. Therefore, it remains to be seen whether the still economically fragile Belgian fleet will be resilient enough to overcome these challenges.

Bulgaria

In 2017, the Bulgarian fleet consisted of 1 897 registered vessels, of which 1 295 were active and the remaining 602 vessels were inactive. The active fleet had a combined gross tonnage (GT) of 5 thousand tonnes, engine power of 41.2 thousand kilowatts (kW) and an average age of 25 years.

Total employment in 2016 was estimated at 1 603 jobs, corresponding to 580 FTEs with an average of 0.5 FTE per active vessel. The level of employment decreased between 2015 and 2016 with 7%, and the total employed for 2016 increased by 18%, compared to the average total employed for the period 2008-2015.

The Bulgarian fleet spent over 25.9 thousand days at sea in 2016, a 14% increase compared to 2015 and 38% increase over the period 2008-2016. While the days at sea remained steady in the period 2013-2015, data for 2016 indicate a 19% increase compared to the period, and in 2017 the increase is 10% compared to same period but decrease by 3% compared to 2016.

Bulgaria			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)		2,548	2,207	2,344	2,345	2,387	2,066	2,011	1,979	1,918	1,897	1,263		-3%	-14%
		SCF	502	803	922	910	1,074	1,100	999	1,080	1,086	1,190	1,190		1%	18%
		LSF	89	95	106	98	115	104	111	124	120	73	73		-3%	14%
Vessel tonnage	(thousand GT)		8.3	7.6	7.9	7.5	7.4	6.9	6.4	6.4	6.3	6.3			-1%	-14%
		SCF	1.1	1.5	1.7	1.9	1.9	2.0	1.7	1.8	1.8	1.9			1%	8%
		LSF	3.0	3.2	3.5	3.1	3.2	3.0	3.1	3.2	3.2	2.5			1%	2%
Engine power	(thousand kW)		65.9	60.4	63.5	62.1	62.9	59.1	56.6	56.0	56.0	57.0			0%	-8%
		SCF	11.8	16.7	19.4	20.5	23.0	24.0	20.8	22.8	23.3	24.8			2%	18%
		LSF	11.9	12.8	14.9	13.2	14.5	14.8	15.6	16.9	17.3	11.7			3%	21%
Total employed	(person)		811	1,195	1,368	1,344	1,541	1,331	1,517	1,728	1,603	1,491	1,491		-7%	18%
		SCF	598	961	1,096	1,094	1,263	1,147	1,196	1,429	1,330	1,330	1,330		-7%	21%
		LSF	213	234	272	250	278	184	321	299	273	161	161		-9%	6%
FTE	(#)		319	441	504	501	544	496	532	608	580	499	499		-5%	18%
		SCF	179	283	322	327	362	370	343	382	373	373	373		-2%	16%
		LSF	140	158	183	173	182	127	189	225	207	126	126		-8%	20%
Days at sea	(thousand day)		9.1	14.5	21.8	18.6	20.6	21.6	21.3	22.7	25.9	25.1	22.8		14%	38%
		SCF	5.8	9.3	15.5	12.2	13.6	14.3	13.3	13.8	16.6	17.0	17.0		21%	36%
		LSF	3.3	5.2	6.4	6.5	7.0	7.3	8.0	8.9	9.3	5.8	5.8		4%	41%
Fishing days	(thousand day)		9.1	14.5	21.8	18.6	20.6	21.6	21.3	22.7	25.9	25.1			14%	38%
		SCF	5.8	9.3	15.5	12.2	13.6	14.3	13.3	13.8	16.6	17.0			21%	36%
		LSF	3.3	5.2	6.4	6.5	7.0	7.3	8.0	8.9	9.3	5.8			4%	41%
Live weight of landings	(thousand tonne)		7.5	7.1	9.3	7.8	7.2	9.2	7.9	8.3	7.0	7.5	6.5		-16%	-13%
		SCF	2.6	1.8	2.9	2.3	1.9	2.2	2.1	1.8	2.0	1.9	1.9		11%	-11%
		LSF	4.9	5.3	6.4	5.5	5.4	7.0	5.8	6.5	5.0	4.5	4.5		-24%	-15%
Value of landings	(million €)		4.9	4.4	4.2	4.5	4.9	4.4	4.3	3.8	4.6	4.8	4.0		23%	5%
		SCF	1.7	1.1	1.2	1.1	1.3	1.2	1.2	0.7	1.2	1.2	1.2		68%	-1%
		LSF	3.2	3.3	3.0	3.4	3.6	3.2	3.1	3.1	3.4	2.9	2.8		12%	7%
Revenue	(million €)		6.2	6.3	6.2	6.4	7.2	6.7	5.5	7.1	5.4	4.8	4.7		-24%	-16%
		SCF	2.7	2.6	2.8	2.5	3.2	3.0	2.8	3.7	1.8	1.9	1.9		-50%	-37%
		LSF	3.5	3.7	3.4	3.8	4.0	3.8	2.7	3.4	3.6	2.9	2.8		4%	1%
Gross Value Added	(million €)		4.1	3.7	3.0	2.9	3.6	3.6	2.7	4.7	3.1	2.7	2.9		-33%	-11%
		SCF	2.1	1.8	1.8	1.5	2.1	2.0	1.9	2.9	1.1	1.1	1.1		-64%	-47%
		LSF	2.0	1.9	1.1	1.4	1.5	1.6	0.8	1.7	2.1	1.6	1.9		17%	36%
Gross profit	(million €)		2.3	1.3	0.3	0.3	0.9	0.6	-0.0	2.3	1.4	1.0	1.3		-38%	44%
		SCF	1.0	0.2	0.1	-0.3	0.3	-0.2	0.0	1.5	0.2	0.1	0.1		-88%	-42%
		LSF	1.3	1.1	0.3	0.6	0.7	0.9	-0.1	0.8	1.3	0.9	1.2		53%	85%
Net profit	(million €)		3.4	0.2	-0.8	0.5	0.0	0.4	1.8	1.2	0.2	0.7	1.1		-81%	98%
		SCF	1.1	0.2	-0.2	0.6	0.1	0.6	0.5	1.1	0.2	0.1	0.0		-116%	-1369%
		LSF	1.6	0.4	-0.3	0.2	0.2	0.4	-1.1	0.2	0.5	0.8	1.1		207%	171%
Return on fixed tangible assets	(%)		8.2	3.7	-0.4	-0.5	2.1	1.1	-3.9	9.4	4.8	6.1	8.4		-49%	97%
		SCF	33.9	0.0	-2.0	10.0	0.9	9.5	-4.7	25.1	0.1	-1.1	-1.1		-100%	-98%
		LSF	11.2	8.4	0.0	3.5	3.9	6.6	-5.2	5.1	8.2	11.6	15.4		60%	96%
GVA per FTE	(thousand €)		12.7	8.4	5.9	5.7	6.6	7.3	5.0	7.7	5.4	5.5	5.9		-30%	-27%
		SCF	11.7	6.3	5.7	4.5	5.7	5.4	5.5	7.7	2.9	2.9	2.8		-63%	-56%
		LSF	14.0	12.0	6.2	7.9	8.2	12.6	4.3	7.8	9.9	13.1	15.0		27%	8%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

The total landed weight in 2016 was 6.96 thousand tonnes of seafood, with a landed value of EUR 4.63 million. Compared to the period analysed (2008-2015) the total weight of landings decreased by 13% while the value increased by 5%. Regarding the top species in terms of value, the average first sale price for 2017 for European sprat increase slightly compared to 2014-2016 and remain stable compared to the period 2008-2016. The price of sea snails for 2017 increased by 4% compared to 2016 and compared to the period 2008-2016, increase by 15%. The price of turbot has decreased since 2012, and in 2016 achieved an average price of 5.0 EUR /kg while in 2017 increase by 19% compared to 2016 and achieved an average price of 5.9 EUR /kg. The price of European anchovy, Mediterranean horse mackerel, and Picked dogfish for 2017 is increased by 38%, 60%, and 37% respectively while the price of red mullet decrease by 9% over the period 2008-2016. The main landed species as a percentage of over the total are sea snails with 39% in value and 49% in weight, European sprat with 20% in value and 33% in weight and red mullet with 24% in value and 13% in weight.

The amount of income from landings generated in 2016 was EUR 5.27 million while non-fishing income amounted to a further EUR 0.14, and the total amount of income EUR 5.41 million. In 2016 the income from landings increased by 7% from 2015 but the non-fishing income decreased by 93%.

Costs decreased 13% between 2015 and 2016, except 'other non-variable costs' and 'annual depreciation costs. The 'wages and salaries of crew' in 2016 decreased by 22% compared to 2015 and also to the period 2008-2014. The operating costs in 2016 amounted to EUR 3.97 million. Crew cost and energy costs were the two major cost items (EUR 1.68 million and EUR 1.27 million, respectively). However, EUR 0.14 million of crew cost were estimated for the unpaid labour which remained in the hands of the fishers as working capital. Between 2015 and 2016, operating costs decreased by 17%.

In terms of economic performance, the total amount of Gross Value Added (GVA), gross profit and net profit in 2015 were estimated at EUR 3 million, EUR 1 million and EUR 0.2 million, respectively. Although in the past, the economic performance is constantly negative, the economic situation for 2015 has improved but in 2016 it is look like is going down again.

Small-scale fleet: The majority of the vessels in 2016 (1 086 from 1 206 active vessels) are with a total length under 12 meters, using only passive gears and are carrying out mainly small-scale coastal, seasonal fishing. Their preferred fishing gear is gillnet (anchored) and for catching of sea snail they use the diving manual method. The total employees were 1 330, which is 7% less than the employees in 2015. For the majority of people involved in this type of fishing, this is a seasonal activity closer to a hobby than a business or it is small family business. Most of the small-scale fishers use the catches for private consumption for themselves and their families or they sell it in their own restaurant. The live weight of landings is 1.96 thousand tonnes, increased by 11% compared to 2015 but decreased by 11% from the period 2008-2015. The value of the landings increased by 68% to 2015 and it is almost on the same level to the average for the 2008-2015. The net profit and net profit margin remained negative with a high decrease compared to 2015 and over the period 2008-2015.

Large-scale: The Bulgarian large-scale fleet consisted of 120 vessels in 2016: 34 of these were under 12 metres, but with active gears; 19 of them were between 0-6m using beach seines, 6 were between 6-12m using beach seines, 6 were between 6-12m using mid-water trawls and 3 vessels between 6-12m were with beam trawls. 207 FTEs (represented 273 total employed) were employed in LSF segment. This LSF had 5 thousand tonnes landings, which is 71.8% of the landings of the whole fleet and value of the landings EUR 3.44 million, which represents 74.3% of the value of all landings. The income from landings increased 7% but the other income decreased vastly. In 2016, wages and salaries of crew decreased 13% compared to 2015 which is reasonable when the value of salaries decrease. Costs generally decreased, except the repair & maintenance costs which remained stable, other non-variable costs which increased by 7%, and annual depreciation costs which increased by more than 50% compared to 2015 and to the period 2008-2015 also.

Croatia

Croatian national fleet, which operates solely in the Adriatic Sea, in 2016 consisted of 7 746 vessels with a combined gross tonnage (GT) of 49 thousand tonnes and engine power of 387.6 thousand kilowatts (kW). In 2016, the active fleet increased to 5 280 vessels out of 7 746 in total due to an ongoing process of issuing licenses for small costal fishery for personal needs. Total number of crew on board was estimated at 7 377 in 2016, corresponding to 3 761 FTEs. The level of employment is steadily increasing since 2012 to 2016, and compared to 2015 employment increased by 46%, mostly due to the inclusion of 3 500 small scale vessels in 2015.

Slight decrease in the volume of products landed in 2016 (-1%) resulted in a 7% decrease in the value of landings, mostly due to effort limitations of the large scale fishery. Due to effort limitations, the total number of days at sea significantly decreased in 2016 by 13%. Total landings amounted to 72 thousand tonnes while landed value was EUR 60.92 million, similar to 2013 when it was EUR 56.95 million. Total revenue in 2016 was estimated EUR 76 million, while GVA further decreased to EUR 25 million. Landings in 2016 included 114 species with a combined weight of 72 thousand tonnes. Quantities landed have been quite stable over time. Small pelagic species targeted in purse seine fisheries, such as sardine and anchovy, by far dominate the overall catch composition. Small pelagic species also constituted the most important species in terms of value, accounting for 50% of the total landing value.

Small-scale coastal fleet - SSCF is widely spread for the entire Croatian coastline and islands, using mostly exclusively passive gears (mainly fixes nets, pots and traps, hooks and longlines) and targeting a lot of different species such as common sole, gilthead seabream, red scorpionfish, common octopus, hake, as well as bluefin tuna swordfish etc. The Croatian SSCF with 4 292 active vessels cover almost 81% of active vessels in 2016 and 1,6%

of landings in 2016. In 2016, the SSCF production was EUR 6.85 million accounting for 12% of the Croatian landings value and with a slight decrease to 2015. Although the number of active vessels in the SSCF significantly increased in 2016 due to a licensing process of vessels used in special category of coastal fisheries for personal needs, this increase did not have a significant effect on total landing. The largest number of active vessels was in the fixed net segment (DFN, fixed nets: gill nets and trammel net) with vessel length 6 to 12 metres which accounts for 12% of all active vessels. GVA and gross profit evidently significantly decreased compared to previous years in 2016, however this is mostly due to the inclusion of a large amount of low activity vessels during 2015 and 2016. The Croatian SSCF is characterized by high average prices as products are mostly sold on the local market directly to consumers or restaurants.

Croatia			2012	2013	2014	2015	2016	2017	2018	Trend 2012-2018	Δ 2016 to 2015	Δ 2016 to avg. 12-15
Total number of vessels	(#)		4,211	4,358	4,385	7,849	7,746	8,349	5,966		-1%	49%
		SCF	1,707	1,726	1,665	1,771	4,339	4,865	5,064		145%	153%
		LSF	1,101	1,081	1,051	1,052	985	903	901		-6%	-8%
Vessel tonnage	(thousand GT)		45	46	46	54	49	49			-9%	3%
		SCF	5.0	5.1	5.0	4.9	7.8	6.1			57%	54%
		LSF	28.1	27.3	27.2	27.8	26.4	21.5			-5%	-4%
Engine power	(thousand kW)		329.7	346.2	347.9	429.7	387.6	386.8			-10%	7%
		SCF	90.3	95.7	94.2	93.9	114.6	77.7			22%	23%
		LSF	152.1	150.8	149.7	152.2	145.8	100.1			-4%	-4%
Total employed	(person)		4,904	4,962	4,800	4,728	7,227	7,994	8,312		53%	49%
		SCF	2,177	2,163	2,079	1,860	4,622	5,408	5,730		148%	123%
		LSF	2,727	2,799	2,721	2,868	2,605	2,586	2,583		-9%	-6%
FTE	(#)		2,467	2,448	2,151	2,591	2,611	2,436	2,391		1%	8%
		SCF	779	701	537	660	805	694	674		22%	20%
		LSF	1,688	1,747	1,614	1,931	1,806	1,742	1,718		-6%	3%
Days at sea	(thousand day)		235.5	240.4	241.2	242.0	234.8	233.4	198.6		-3%	-2%
		SCF	135.2	135.7	134.9	136.1	134.2	112.4	108.6		-1%	-1%
		LSF	100.3	104.7	106.3	105.9	100.6	91.1	90.0		-5%	-3%
Fishing days	(thousand day)		201.1	204.0	206.1	206.7	204.3	201.7			-1%	0%
		SCF	115.2	114.2	115.0	116.5	114.5	64.0			-2%	-1%
		LSF	85.9	89.8	91.1	90.2	89.8	58.4			0%	1%
Live weight of landings	(thousand tonne)		63.1	74.9	79.4	72.9	72.3	68.8	66.8		-1%	0%
		SCF	1.2	1.2	1.3	1.4	1.4	1.0	1.0		1%	9%
		LSF	62.0	73.7	78.1	71.5	70.9	67.0	65.9		-1%	-1%
Value of landings	(million €)		48.9	60.6	61.5	61.0	58.4	55.6	51.5		-4%	1%
		SCF	6.1	7.1	7.0	8.0	8.1	6.0	5.6		2%	15%
		LSF	42.8	53.5	54.5	53.0	50.3	46.9	45.9		-5%	-1%
Revenue	(million €)		54.4	73.0	77.2	67.5	66.2	62.2	57.9		-2%	-3%
		SCF	8.3	12.0	15.6	10.6	11.7	8.6	7.9		10%	0%
		LSF	46.1	60.9	61.6	56.9	54.5	51.0	49.9		-4%	-3%
Gross Value Added	(million €)		12.0	30.8	37.3	27.4	30.8	29.3	23.9		13%	15%
		SCF	0.4	5.0	10.0	5.2	5.1	3.3	2.9		-2%	-1%
		LSF	11.6	25.8	27.3	22.1	25.7	23.4	21.0		16%	18%
Gross profit	(million €)		- 7.0	10.3	14.5	- 2.6	5.4	6.4	1.7		308%	42%
		SCF	- 3.4	0.6	4.9	- 1.2	0.4	- 0.0	- 0.1		135%	68%
		LSF	- 3.6	9.7	9.6	- 1.4	5.2	4.3	2.3		465%	47%
Net profit	(million €)		- 31.3	- 11.0	- 14.8	- 29.3	- 22.7	- 8.7	- 11.9		23%	-5%
		SCF	- 6.5	- 2.3	1.2	- 4.9	- 4.9	- 3.0	- 2.7		1%	-55%
		LSF	- 22.1	- 6.2	- 11.4	- 18.6	- 12.7	- 7.5	- 8.4		32%	13%
Return on fixed tangible assets	(%)		- 5.7	- 0.7	0.1	- 3.2	- 1.9	- 1.9	- 3.7		41%	20%
		SCF	- 13.1	- 3.5	6.5	- 7.1	- 6.6	- 7.6	- 7.8		6%	-55%
		LSF	- 6.8	- 0.6	1.1	- 4.4	- 1.8	- 2.3	- 3.3		60%	44%
GVA per FTE	(thousand €)		4.9	12.6	17.3	10.6	11.8	12.0	10.0		12%	4%
		SCF	0.5	7.1	18.7	7.9	6.3	4.7	4.3		-20%	-26%
		LSF	6.9	14.7	16.9	11.5	14.2	13.4	12.2		24%	14%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Large-scale fleet - Large-scale fleet segments cover almost 13% of total vessels in 2016. The large-scale fleet is mainly made up of vessels using active gears, especially demersal trawlers and purse seiners (almost 59% of the total vessels of the LSF segments). Mostly due to implementation of EMFF measures the number of vessels in the Croatian LSF has been reduced in 2016 compared to 2015 to 988 active vessels in 2016 (-6%), corresponding to a decrease in capacity by 4% and engine power by 3%, while further reduction is indicated in 2017. As in previous years, most important fleet segment was the purse seines with vessel length 24 to 40 metres. This segment counts

70 vessels but contribute to 57% of total landings. Overall, purse seine segments with 91% of landings form the backbone of Croatian fisheries. These fleet segments target sardines and anchovies, and fall under the provisions of the multiannual management plan for small pelagic in GSA 17 as adopted under the GFCM. The effect of the measures foreseen by the GFCM management plan is an overall decrease in the landing of small pelagic species by around 9% in 2016 compared to 2014 which has reflected on the overall performance of the sector.

Cyprus

Capacity of the Cypriot national fleet, which operates solely in the Mediterranean Sea, continued the declining trend in 2016, since it decreased compared to the last year by 7% with a total of 838 vessels in 2016, a combined gross tonnage (GT) of 3.4 thousand tonnes and a total engine power of 36.4 thousand kilowatts (kW). On average there was a reduction of 20% in the number of vessels of the period 2008-2015 compared to 2016. Consequently, GT and KW decreased due to the reduction in the number of vessels. Most of the vessels which ceased their fishing activities were scrapped in 2013 and of 2015 through structural aid within the framework of the EFF 2007-2013 and EMFF 2014 -2020. However, the reduction in the number of vessels was only for the small-scale fleet. The Large-scale fleet increased slightly by 6% compared to last year.

Employment was estimated at 1 117 jobs in 2016, a 13% decrease from the 1 285 jobs in 2015. In 2016, these jobs corresponded to 668 FTEs, a reduction of 16% compared to 2015, or about an average of 2 fishers per vessel or 1 FTE per vessel in 2016.

An estimated 58.3 thousand days were spent at sea in 2016, a significant decrease of 11% compared to 2015. The amount of energy consumed decreased as well by 20% compared to previous year to 2.26 million litres. This is mainly due to the decrease in the number of vessels and the days spent at sea both for small-scale and large-scale vessels. Unsurprisingly, energy cost also decreased significantly, by 34% to EUR 1.32 million.

Landings went slightly down by 2% to 1.46 thousand tonnes of seafood, with a value of EUR 7.72 million in 2016 representing a small increase of 2% compared to 2015.

Cyprus			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		1,197	1,177	1,013	1,079	1,082	1,001	951	905	838	817	739		-7%	-20%
		SCF	497	880	882	931	880	907	827	807	733	743	700		-9%	-11%
		LSF	34	31	27	26	27	26	27	33	35	37	40		6%	21%
Vessel tonnage	(thousand GT)		6.2	5.1	4.4	4.1	4.0	3.4	3.5	3.6	3.4	3.5			-6%	-21%
		SCF	1.6	2.2	2.2	2.2	2.1	2.1	1.9	1.9	1.7	1.7			-11%	-18%
		LSF	1.8	1.6	1.7	1.2	1.2	1.1	1.1	1.5	1.5				4%	10%
Engine power	(thousand kW)		52.8	49.5	44.4	45.9	45.9	41.5	41.1	41.2	36.4	37.7			-12%	-20%
		SCF	20.8	33.6	34.0	35.5	33.2	34.1	31.9	31.8	26.9	28.8			-16%	-16%
		LSF	8.2	6.6	6.3	5.3	5.3	4.7	4.8	6.4	6.6				3%	11%
Total employed	(person)		1,085	909	1,329	1,344	1,301	1,347	1,219	1,285	1,117	1,160	1,109		-13%	-9%
		SCF	895	761	1,181	1,245	1,192	1,246	1,106	1,126	967	1,002	943		-14%	-12%
		LSF	190	148	148	99	109	101	113	159	150	158	166		-6%	12%
FTE	(#)		875	777	871	839	810	830	729	794	668	695	670		-16%	-18%
		SCF	697	629	723	740	701	729	616	635	518	537	504		-18%	-24%
		LSF	178	148	148	99	109	101	113	159	150	158	166		-6%	14%
Days at sea	(thousand day)		100.2	81.3	75.6	66.4	85.1	80.7	65.6	65.2	58.3	60.4	57.1		-11%	-25%
		SCF	96.7	78.6	72.9	63.9	82.8	77.8	63.2	62.4	55.7	57.7	54.2		-11%	-26%
		LSF	3.5	2.7	2.7	2.5	2.3	2.9	2.4	2.7	2.6	2.7	2.8		-5%	-5%
Fishing days	(thousand day)		100.2	81.3	75.6	66.4	85.1	80.2	65.6	65.2	58.3				-11%	-25%
		SCF	96.7	78.6	72.9	63.9	82.8	77.8	63.2	62.4	99.0				59%	32%
		LSF	3.5	2.7	2.7	2.5	2.3	2.4	2.4	2.7	2.6				-5%	-3%
Live weight of landings	(thousand tonne)		2.0	1.4	1.4	1.1	1.0	1.1	1.3	1.5	1.5	1.5	1.5		-2%	7%
		SCF	1.1	0.8	0.9	0.7	0.5	0.5	0.6	0.7	0.6	0.6	0.6		-15%	-19%
		LSF	0.8	0.6	0.5	0.4	0.5	0.6	0.7	0.8	0.9	0.9	1.0		10%	38%
Value of landings	(million €)		13.7	9.8	10.7	8.1	6.6	7.5	7.5	7.6	7.7	8.2	8.0		2%	-14%
		SCF	9.3	6.8	7.4	6.2	4.3	4.2	4.4	4.6	4.2	4.5	4.1		-7%	-28%
		LSF	4.5	2.9	3.3	1.9	2.3	3.3	3.1	3.0	3.5	3.8	3.9		17%	15%
Revenue	(million €)		13.7	9.8	10.7	8.1	6.6	7.5	7.5	7.6	7.7	8.2	8.0		2%	-13%
		SCF	9.3	6.8	7.4	6.2	4.3	4.2	4.4	4.6	4.2	4.5	4.2		-7%	-28%
		LSF	4.5	2.9	3.3	1.9	2.3	3.2	3.1	3.0	3.5	3.8	3.9		17%	15%
Gross Value Added	(million €)		4.7	-0.7	-4.3	0.5	-2.6	0.2	1.0	1.1	2.6	2.9	2.6		137%	2258%
		SCF	4.3	-0.1	-2.1	0.7	-0.5	0.8	0.2	0.8	1.3	1.4	1.2		56%	385%
		LSF	0.5	-0.5	0.5	-0.4	0.1	0.9	1.2	0.3	1.3	1.5	1.4		396%	619%
Gross profit	(million €)		3.2	-1.9	-5.6	-1.4	-3.5	-0.6	0.2	0.0	1.4	1.6	1.3		4975%	217%
		SCF	3.8	0.5	-2.5	0.4	-0.8	-1.1	-0.4	0.5	1.1	1.2	0.9		97%	1892%
		LSF	-0.7	-1.4	-1.5	-0.9	-0.4	0.4	0.6	-0.6	0.4	0.4	0.3		161%	164%
Net profit	(million €)		-1.5	-8.8	-10.5	-7.7	-12.6	-6.1	-5.8	-6.6	-3.6	-2.0	-2.6		47%	52%
		SCF	1.8	-4.2	-4.6	-2.0	-4.5	-4.7	-4.7	-3.6	-1.5	-0.7	-1.0		57%	53%
		LSF	-3.3	-4.3	-4.2	-3.5	-4.7	-1.5	-1.1	-2.9	-2.0	-1.3	-1.6		32%	38%
Return on fixed tangible assets	(%)		-2.5	-10.0	-25.1	-8.7	-17.6	-7.7	-5.0	-5.4	-2.6	-2.3	-3.0		51%	74%
		SCF	5.5	-5.9	-16.1	-2.7	-10.0	-9.7	-6.8	-4.0	-1.2	-0.9	-1.6		70%	81%
		LSF	-18.7	-25.5	-33.9	-23.7	-36.7	-4.5	-1.2	-8.4	-4.4	-4.1	-4.6		47%	77%
GVA per FTE	(thousand €)		5.4	-0.9	-4.9	0.7	-3.2	0.3	1.4	1.4	3.9	4.2	3.8		182%	2910%
		SCF	6.1	-0.2	-3.3	1.1	-0.7	1.1	0.2	1.3	2.5	2.7	2.3		92%	581%
		LSF	2.6	-3.6	-3.6	4.1	0.6	9.2	10.5	1.6	8.6	9.2	8.4		426%	419%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

The fleet remained in a net loss making position in 2016 but its economic performance was significantly improved compared to the previous year 2015. Despite the fact that the total revenue in 2016 was slightly reduced at EUR 7.81 million compared to the last year's (EUR 7.84 million in 2015) the income from landings increased by 2% compared to 2015. The reduction in total revenue was due to the significant reduction in direct subsidies by 69%. Gross Value Added (GVA) improved in 2016 estimated at EUR 2.61 million. Gross profit and net profit in 2016 were estimated at EUR 1.4 million and -EUR 3.5 million, respectively, showing a significant improvement in the economic performance compared to the previous year 2015. The reduction in most important costs for the fleet (other variable costs, annual depreciation, energy (fuel) costs and repair & maintenance) is one of the main reasons for the positive economic performance in 2016.

The fleet is mainly managed through effort limitations and technical measures. A limited number of licenses are provided for each segment annually. Furthermore, closed seasons, restriction measures on the use of gears and minimum landing sizes are employed, in accordance to national and European regulations. It is noted that for the trawlers fishing in territorial waters an extended closed season (from 1 June to 7 November) is used.

Small-scale fleet: vessels using *Polyvalent passive gears with length 0-< 6m and 6-< 12m* compose the small scale inshore fleet, targeting demersal species, and represent the large majority of the fishing vessels (95%). The most important SSCF segment is the *Polyvalent 'passive' gears with length 6-12m.* The value of landings amounted to EUR 3.61 million. Despite the decrease in revenue, there is an improvement of the economic performance of this fleet segment. The fleet segment is in a net loss making position of EUR 0.25 million but improved in comparison to last year when the segment faced EUR 2.1 million losses. Furthermore, the Gross Profit shows an important increase reaching the EUR 1.43 million. Although there was a reduction in the overall days at sea of the segment since the vessels spent 48 027 days at sea in 2015 but only 39 633 days in 2016, in reality the days spent by each vessel increased in 2016 to 137 compared to 133 in 2015. The reason of this difference is the significant reduction in the number of vessels in 2016. It is worth mentioning that there was no scrapping scheme in 2016 in contrast to 2015 when 66 vessels of A' and B' category were scrapped with public aid within the framework of the Scheme of Permanent Cessation, co-funded by the European Maritime and Fisheries Fund 2014-2020. The GVA reached EUR 1.626 million in 2016 a significant improvement of nearly 65% compared to 2015 (EUR 0.988 million). Also the GVA to revenue increased from 25.4% in 2015 to 45% in 2016. In 2016, the FTEs have decreased to 397 from 508 in 2015. Overall, the main economic indicators improved during 2016, but still the economic performance is in net loss position showing low productivity.

Denmark

In 2016, the Danish fishing fleet consisted of 1 793 registered vessels, with a combined vessel tonnage of 66 thousand gross tonnages (GT) and engine power (kW) of 205 thousand kW. The 1 793 vessels represent production units, which may be active or inactive. In 2016, there were 1 374 active and 419 inactive units. Some of the 1 374 active production units include more than one vessel. Total employed in 2016 was estimated at 1 331 jobs, corresponding to 1 657 FTEs.

The number of registered fishing vessels decreased by 3% between 2015 and 2016, whereas vessel tonnage did not change and engine power decreased by 2%. The majority of the fishing vessels have for more than 10 years been managed through property rights systems. This has facilitated a restructuring of the fleet and its capacity. However, the general expectation is that the adjustments will continue in the future but at a slower pace.

Around two-thirds of the active part of the fleet continues to consist of vessels below 10 meters in 2016. These made up an even larger part of the fleet when including inactive vessels. The vessels between 24-40 meters and above 40 meters corresponded each to 2% of the total number of active vessels in 2016, but accounted for 15% and 45% of the total landings value, respectively. The largest landings in value and weight continues to be made by the pelagic trawlers above 40 meters, catching species for human consumption (Atlantic herring and mackerel) and for fish meal and fish oil production (sprat, sandeel, blue whiting, etc.).

In 2016, the total weight landed by the Danish fleet was 670 thousand tonnes of seafood with a landing value of EUR 476 million. The total weight of landings decreased from 2015 to 2016 by 23%, while the value of landings increased by 8%. The two species driving the decrease in total weight landed were sandeel and sprat, while the landings weight of herring increased.

The total income generated by the Danish fleet in 2016 was EUR 505 million, corresponding to an increase of 7% compared to 2015. The total income consisted of EUR 475 million in income from landings value, EUR 7 million in non-fishing income and EUR 23 million from leasing fishing rights. The three major variable costs consist of labour (excl. the value of unpaid labour), energy, and repair & maintenance.

In terms of economic fleet performance, the total amount of gross value added (GVA), gross profit, and net profit generated by the Danish national fleet in 2016 were EUR 340 million, EUR 213 million and EUR 131 million, respectively. This corresponded to increases of 8%, 7% and 23%, compared to 2015. These increases in economic indicators despite the decrease in total landings due to increased prices of fish resulting in an increase of landing values, while the variable costs increased, but not with the same amount as the value of landings.

The large-scale fleet primarily drives this gain. Conversely, the SSCF is experiencing a minor loss. However, the profitability of the SSCF has improved during 2008-2016 being very close to zero. Explaining this positive development in the fleets is complicated and influenced by many different factors, such as development in fish prices, available quota, costs (especially labour costs), etc.

Forecasts for 2017 and 2018 suggest improved economic performance compared to 2016.

Denmark			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		2,813	2,786	2,682	2,663	2,052	2,048	1,956	1,851	1,793	1,312	1,267		-3%	-24%
		SCF	1,228	1,203	1,118	1,102	1,075	1,025	1,004	973	977	940	906		0%	-10%
		LSF	582	566	521	501	462	456	434	419	397	372	361		-5%	-19%
Vessel tonnage	(thousand GT)		79	74	68	68	62	65	68	66	66				0%	-3%
		SCF	4.4	4.3	4.2	4.2	4.1	3.9	3.8	3.8	3.7				-1%	-9%
		LSF	59	60	59	59	56	58	63	61	62				0%	3%
Engine power	(thousand kW)		283	269	247	239	213	215	211	208	205				-2%	-13%
		SCF	45	44	44	44	43	41	41	41	41				0%	-5%
		LSF	181	178	171	167	154	156	157	156	153				-2%	-7%
Total employed	(person)		1,801	1,694	1,528	1,460	1,472	1,489	1,405	1,330	1,331	1,258	1,298		0%	-13%
		SCF	420	378	333	342	345	362	307	326	314	297	300		-4%	-11%
		LSF	1,380	1,317	1,195	1,119	1,127	1,127	1,099	1,004	1,018	962	998		1%	-13%
FTE	(#)		2,061	1,854	1,804	1,661	1,558	1,652	1,619	1,570	1,657	1,937	1,836		6%	-4%
		SCF	379	319	281	276	252	239	225	219	229	207	197		5%	-16%
		LSF	1,682	1,535	1,523	1,385	1,307	1,413	1,394	1,351	1,428	1,730	1,639		6%	-1%
Days at sea	(thousand day)		129.2	127.5	119.4	116.0	109.4	106.2	103.8	96.8	95.5	101.6	96.6		-1%	-16%
		SCF					45.6	43.6	42.6	39.5	38.8	35.3	33.6		-2%	-9%
		LSF					63.8	62.6	61.1	57.3	56.7	66.2	62.9		-1%	-7%
Fishing days	(thousand day)		122.5	120.6	112.5	108.5	103.1	102.0	99.2	91.5	88.7				-3%	-17%
		SCF					45.3	43.4	42.4	39.5	38.5				-3%	-10%
		LSF					57.8	58.6	56.8	51.9	50.2				-3%	-11%
Live weight of landings	(thousand tonne)		690.5	773.0	822.3	711.0	499.3	665.0	741.9	865.9	670.0	950.2	946.8		-23%	-7%
		SCF	12.9	11.8	11.2	12.3	11.8	11.2	11.1	10.2	9.9	8.0	7.3		-3%	-15%
		LSF	677.5	761.2	811.1	698.7	487.5	653.8	730.8	855.7	657.0	942.2	939.6		-23%	-7%
Value of landings	(million €)		366.8	310.3	408.3	427.4	382.8	395.3	380.0	440.3	475.5	532.3	520.0		8%	22%
		SCF	32.0	24.8	24.6	26.9	24.9	23.3	21.6	22.2	24.7	21.9	21.9		11%	-1%
		LSF	334.7	285.5	383.7	400.3	358.0	372.0	358.3	418.1	450.7	510.4	498.1		8%	24%
Revenue	(million €)		376.5	317.8	430.0	408.4	390.0	402.3	385.6	450.9	481.7	538.3	526.1		7%	22%
		SCF	32.8	25.1	26.3	25.8	27.2	26.0	23.1	23.3	25.4	22.5	22.5		9%	-3%
		LSF	343.7	292.7	403.7	382.7	362.8	376.3	362.5	427.7	456.4	515.8	503.6		7%	24%
Gross Value Added	(million €)		219.8	187.4	283.8	257.5	245.2	252.3	238.4	313.5	339.7	381.1	368.0		8%	36%
		SCF	16.6	12.3	14.0	12.8	13.1	12.7	10.9	12.1	12.0	10.2	10.5		0%	-8%
		LSF	203.2	175.1	269.7	244.7	232.1	239.6	227.4	301.4	327.7	370.9	357.5		9%	38%
Gross profit	(million €)		86.5	70.9	156.7	138.8	138.5	142.1	131.3	199.2	213.1	241.6	231.8		7%	60%
		SCF	- 4.1	- 5.0	1.4	- 1.9	0.9	1.2	2.4	0.9	1.4	1.8	1.4		-59%	39%
		LSF	90.6	75.9	158.2	140.7	139.4	143.3	133.7	200.1	214.4	243.4	233.2		7%	59%
Net profit	(million €)		- 13.9	30.1	62.6	47.0	50.9	46.1	37.1	106.1	130.6	168.0	152.6		23%	242%
		SCF	- 11.4	- 11.6	6.3	- 6.2	5.2	- 5.8	7.2	4.4	4.7	4.6	- 4.3		-7%	36%
		LSF	- 2.5	18.5	68.9	53.2	56.1	52.0	44.3	110.4	135.2	172.6	156.9		22%	197%
Return on fixed tangible assets	(%)		- 2.3	4.1	14.0	11.2	8.8	9.7	7.5	17.9	20.3	26.2	24.2		13%	159%
		SCF	26.4	31.3	- 18.9	21.5	- 14.9	11.9	- 17.0	12.7	- 14.2	15.9	- 14.9		-12%	26%
		LSF	0.1	- 1.9	16.5	13.6	10.6	11.7	9.3	19.7	22.1	28.3	26.1		12%	122%
GVA per FTE	(thousand €)		106.7	101.1	157.3	155.0	157.4	152.8	147.3	199.7	205.0	196.7	200.5		3%	39%
		SCF	44.0	38.7	50.0	46.3	51.9	53.1	48.6	55.1	52.6	49.0	53.4		-4%	9%
		LSF	120.8	114.1	177.1	176.6	177.7	169.6	163.2	223.1	229.4	214.4	218.2		3%	39%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2017 and 2018 include active vessels only.

Estonia

In 2017, the Estonian Baltic Sea fishing fleet consisted of 1 589 registered vessels, with a combined gross tonnage of 5.7 thousand GT and engine power of 31.3 thousand kW. Total number of vessels continued to increase compared to previous years. If the number of open sea trawlers increased by one vessel, then 40 boats were added to the SSCF fleet.

Employment was estimated at 2 107 jobs, corresponding to 457 FTEs in 2016. The number of total employed decreased 6%. The big difference between numbers of total employed and FTE refers that there are many persons in sector for whom fishing is not the only source of income. It mainly concerns the small scale fishery. The average age of employees is around 50 years.

The live weight landed by the fleet in 2016 was 60.5 thousand tonnes of seafood, with a landed value of EUR 14.6 million. The total weight of landings and the total value of landings remained rather stable in 2016 compared to 2015.

The fleet as a whole was profitable in 2016, despite of low first sales prices for key species as herring and sprat. Revenue, estimated at EUR 14.8 million in 2016, remained stable. The decrease in the number of days at sea led to the reduction in energy costs and in repair & maintenance costs, 22% and 10%, respectively. Also wages and salaries costs of crew decreased 10%.

Gross Value Added (GVA), gross profit and net profit were estimated at EUR 9.9 million, EUR 4.5 million and EUR 2.9 million, respectively. Compared to 2015, these indicators increased 6%, 24% and 68%, respectively, showing improvement in the economic performance.

According to the preliminary data the economic performance is rather stable in 2017 compared to 2016. Although the total weight of landings increased by 7% in 2017, the total value of landings remains stable. The main reason of this is the fall in the first-sale prices for herring and sprat. This reflects ongoing difficulties selling fish caused in part by the Russian embargo on EU food products. Total operating costs make a slight rise due to the increase in fuel price.

Estonia			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		954	955	939	928	917	1,343	1,514	1,534	1,552	1,589	1,641		1%	37%
		SCF	880	884	881	876	872	1,300	1,475	1,498	1,517	1,557	1,614		1%	40%
		LSF	64	53	48	42	36	36	38	34	31	30	27		-9%	-29%
Vessel tonnage	(thousand GT)		7.6	7.6	7.0	6.4	6.0	6.1	6.0	5.9	5.8	5.7			-2%	-12%
		SCF	1.8	1.8	1.8	1.7	1.7	2.0	2.2	2.2	2.2	2.2			0%	17%
		LSF	5.6	5.4	5.0	4.4	4.0	4.0	3.8	3.7	3.5	3.5			-4%	-21%
Engine power	(thousand kW)		30.3	30.4	28.7	26.9	26.1	30.6	32.1	31.8	31.5	31.3			-1%	6%
		SCF	14.6	14.6	14.5	14.4	14.6	19.6	22.2	22.2	22.1	22.3			0%	30%
		LSF	15.0	13.7	12.9	11.2	10.3	10.1	9.8	9.4	9.0	8.8			-5%	-22%
Total employed	(person)		3,002	1,899	1,948	1,993	2,046	2,046	2,070	2,242	2,107	2,135	2,146		-6%	-2%
		SCF	2,727	1,646	1,721	1,777	1,858	1,865	1,895	2,075	1,952	1,982	2,003		-6%	0%
		LSF	275	253	227	216	188	181	175	167	155	153	144		-7%	-26%
FTE	(#)		699	541	521	524	540	514	497	485	457	444	447		-6%	-15%
		SCF	444	301	309	320	362	339	333	351	335	300	301		-5%	-3%
		LSF	255	240	212	204	178	175	164	134	122	143	146		-9%	-38%
Days at sea	(thousand day)		88.5	93.6	80.3	66.8	63.9	86.8	94.5	84.8	72.0	63.3	63.5		-15%	-13%
		SCF	81.2	87.5	75.1	62.1	59.7	83.5	91.1	81.0	68.8	59.7	59.9		-15%	-11%
		LSF	7.3	6.1	5.2	4.7	4.2	3.3	3.4	3.9	3.1	3.6	3.7		-19%	-34%
Fishing days	(thousand day)		135.7	147.5	125.5	104.2	100.2	143.0	162.9	151.6	148.2	119.5			-2%	11%
		SCF	128.8	141.9	120.7	100.1	96.1	139.8	159.7	148.0	145.3	116.1			-2%	12%
		LSF	6.9	5.6	4.8	4.2	4.0	3.2	3.2	3.6	2.9	3.4			-20%	-35%
Live weight of landings	(thousand tonne)		83.5	83.5	79.6	63.4	53.3	54.6	54.8	59.3	60.5	64.5	74.4		2%	-9%
		SCF	12.6	14.0	11.2	10.4	8.7	9.6	10.4	12.0	11.6	10.8	11.4		-4%	4%
		LSF	70.9	69.5	68.3	53.0	44.5	44.9	44.4	47.3	48.9	53.6	62.9		3%	-12%
Value of landings	(million €)		18.4	16.9	14.7	15.1	14.6	15.5	14.5	14.5	14.6	14.5	15.7		1%	-6%
		SCF	4.1	4.1	3.9	4.2	4.8	5.6	5.1	5.4	5.6	5.3	5.7		4%	21%
		LSF	14.3	12.8	10.8	10.9	9.7	9.8	9.5	9.1	9.0	9.2	10.0		-2%	-17%
Revenue	(million €)		18.5	17.0	14.8	15.2	14.7	15.6	14.7	14.7	14.8	15.4	15.9		0%	-6%
		SCF	4.1	4.2	3.9	4.3	4.9	5.8	5.2	5.6	5.8	5.7	5.9		4%	22%
		LSF	14.4	12.9	10.9	11.0	9.8	9.8	9.5	9.2	9.0	9.7	10.0		-2%	-18%
Gross Value Added	(million €)		11.4	10.6	8.3	8.3	8.2	9.2	9.3	9.4	9.9	10.3	10.6		6%	6%
		SCF	2.4	2.5	2.1	2.4	3.1	3.4	2.8	3.1	3.4	3.4	3.6		12%	26%
		LSF	9.0	8.1	6.2	5.8	5.0	5.8	6.5	6.3	6.5	6.8	7.1		3%	-2%
Gross profit	(million €)		5.2	5.0	3.0	3.3	3.0	4.2	3.9	3.7	4.5	4.7	4.9		24%	16%
		SCF	0.9	1.2	0.9	1.2	1.7	1.8	1.1	1.2	1.4	1.5	1.5		21%	16%
		LSF	4.4	3.7	2.1	2.2	1.3	2.4	2.8	2.5	3.1	3.2	3.3		26%	17%
Net profit	(million €)		4.1	1.6	0.5	1.6	1.5	2.2	1.6	1.7	2.9	3.5	3.7		68%	55%
		SCF	0.7	0.2	0.3	0.8	1.3	1.3	0.5	0.7	1.0	1.2	1.2		46%	40%
		LSF	3.5	1.5	0.2	0.9	0.3	1.0	1.1	1.0	1.9	2.3	2.4		83%	63%
Return on fixed tangible assets	(%)		19.4	16.1	5.4	9.0	9.4	12.6	10.8	9.4	15.3	15.8	17.5		62%	33%
		SCF	5.8	10.6	7.2	11.1	19.8	18.1	9.2	9.2	11.8	11.8	12.3		28%	3%
		LSF	30.5	21.1	4.5	8.0	3.1	9.1	11.7	9.6	18.1	18.9	22.0		88%	48%
GVA per FTE	(thousand €)		16.3	19.6	15.9	15.8	15.1	17.9	18.7	19.3	21.7	23.1	23.8		12%	25%
		SCF	5.4	8.3	6.9	7.6	8.6	9.9	8.4	8.8	10.3	11.5	11.8		17%	28%
		LSF	35.3	33.8	29.0	28.7	28.3	33.4	39.7	46.8	53.0	47.6	48.6		13%	54%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Finland

The Finnish fishing fleet consisted of 3 092 registered vessels of which 1 499 were inactive in 2016; the active fleet consisted of 1 593 vessels, with a combined gross tonnage of 12.8 thousand GT and a total power of 100 thousand kW. The number and capacity of active fleet remained reasonably stable in recent years.

Total employment in 2016 was estimated at 1 524 jobs. The majority of the jobs are created by the Small-scale coastal fleet that is a seasonal fishery. Therefore, the employment in that sector is usually only part-time and in terms of full time equivalent the total fleet added up to 300 FTEs. The number of fishers has been decreasing in the long term and the average age of fishers is high.

The total weight landed in 2016 amounted 157 thousand tonnes of seafood with value of EUR 40 million. The bulk of this catch consisted of Baltic herring and sprat caught by the trawler fleet. Baltic herring accounted for the highest landed value (EUR 28.6 million), followed by European sprat (EUR 3.1 million). The Russian embargo on EU food stuff as a countermeasure to EU sanctions due to the Ukraine crisis led to a loss of the most important market for pelagic fish that resulted in drop in pelagic fish prices.

Catches of these pelagic species have been increasing during the past years due to strong herring stocks especially in the most important fishing grounds for Finnish fleet in northern Baltic Sea; herring catch reached record high in 2016 for the third consecutive year in a row. The landed value of LSF has increased during the past years with the catches. At the same time the development in SCF has been the opposite.

The amount of income generated by the Finnish fleet in 2016 was EUR 35.6 million; 7% drop from the previous year. However, the profitability improved slightly; gross value added was EUR 17 million, 15% higher than the year before. Gross profit increased also to EUR 11 million but was not high enough to cover the estimated capital costs of the fleet resulting in a negative net profit (-EUR 4.2 million).

Finland			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		3,240	3,240	3,270	3,365	3,359	3,241	3,144	2,717	3,092	3,217	1,525		14%	-3%
		SCF	1,486	1,465	1,559	1,589	1,895	1,674	1,699	1,513	1,530	1,406	1,470		1%	-5%
		LSF	67	66	60	60	57	59	65	64	63	56	55		-2%	1%
Vessel tonnage	(thousand GT)		16.4	16.9	16.7	18.1	17.0	16.5	16.8	15.8	16.2	16.4			2%	-4%
		SCF	4.1	3.8	4.1	4.2	4.1	3.9	5.5	3.6	3.4	3.1			-4%	-18%
		LSF	7.1	7.5	7.6	9.2	8.5	8.3	9.0	9.2	9.4	8.8			2%	13%
Engine power	(thousand kW)		173.4	174.8	175.4	181.6	178.2	172.6	173.0	155.7	168.5	173.5			8%	-3%
		SCF	71.9	68.8	74.9	75.8	77.5	75.6	77.9	70.1	67.1	61.6			-4%	-9%
		LSF	27.2	27.6	27.1	31.3	29.3	28.8	32.1	32.5	32.6	30.4			0%	10%
Total employed	(person)		1,428	1,447	1,512	1,490	1,437	1,418	1,461	1,412	1,524	1,399	1,583		8%	5%
		SCF	1,301	1,306	1,372	1,357	1,296	1,273	1,310	1,257	1,369	1,257	1,431		9%	5%
		LSF	127	141	140	133	141	145	151	155	155	141	152		0%	9%
FTE	(#)		264	229	274	338	354	377	355	358	300	263	232		-16%	-6%
		SCF	178	135	181	230	246	274	251	251	176	155	154		-30%	-19%
		LSF	86	94	93	108	108	103	104	107	124	108	78		16%	24%
Days at sea	(thousand day)		129.5	143.0	149.7	148.2	137.6	137.8	126.4	106.0	109.9	96.2	94.4		4%	-18%
		SCF	124.0	138.0	145.1	142.8	131.8	131.8	120.1	99.0	102.3	89.8	89.5		3%	-21%
		LSF	5.6	5.0	4.6	5.4	5.8	6.1	6.3	7.1	7.7	6.5	4.9		8%	34%
Fishing days	(thousand day)		128.7	142.4	148.9	147.3	136.8	137.0	125.8	106.0	109.7	96.1			4%	-18%
		SCF	123.9	137.8	144.8	142.5	131.4	131.5	119.8	98.9	102.1	89.7			3%	-21%
		LSF	4.8	4.6	4.1	4.8	5.3	5.4	6.0	7.1	7.6	6.5			7%	44%
Live weight of landings	(thousand tonne)		111.6	117.5	122.1	119.7	132.9	138.4	148.2	148.1	157.3	154.5	141.5		6%	21%
		SCF	8.4	9.4	10.2	10.1	13.2	17.9	14.3	11.1	9.3	8.7	8.4		-17%	-22%
		LSF	103.1	108.1	111.9	109.6	119.7	120.5	134.0	137.0	148.1	145.8	133.1		8%	25%
Value of landings	(million €)		26.3	26.7	29.3	34.8	36.8	47.1	40.4	33.6	39.5	37.4	33.5		17%	15%
		SCF	8.4	9.2	9.9	11.4	10.9	12.5	11.5	8.9	8.6	7.6	8.7		-3%	-16%
		LSF	17.9	17.5	19.4	23.4	26.0	34.5	28.8	24.7	30.9	29.8	24.8		25%	29%
Revenue	(million €)		29.7	31.0	32.4	38.7	44.7	44.1	39.3	36.1	35.6	34.1	30.2		-1%	-4%
		SCF	12.1	13.1	12.9	13.7	15.2	13.2	13.1	9.6	8.9	8.0	9.0		-7%	-31%
		LSF	17.6	17.9	19.5	25.0	29.5	30.9	26.2	26.5	26.7	26.1	21.3		1%	11%
Gross Value Added	(million €)		12.3	14.3	13.6	15.0	19.8	18.3	15.5	14.9	17.2	17.0	15.3		15%	11%
		SCF	5.9	8.0	6.4	6.7	8.1	6.9	6.6	4.7	4.9	4.4	5.2		5%	-26%
		LSF	6.4	6.3	7.1	8.2	11.7	11.4	8.9	10.2	12.2	12.6	10.1		20%	39%
Gross profit	(million €)		5.5	7.5	5.8	5.4	9.3	9.4	8.1	7.8	10.8	11.0	9.6		39%	47%
		SCF	2.7	4.6	2.2	2.0	2.7	3.6	4.2	3.0	3.2	2.9	3.4		9%	3%
		LSF	2.8	2.9	3.6	3.3	6.5	5.8	3.9	4.8	7.6	8.2	6.2		57%	80%
Net profit	(million €)		- 7.0	8.3	- 11.0	10.0	- 2.6	2.8	- 6.9	8.2	4.2	- 2.6	4.1		49%	41%
		SCF	- 4.8	2.7	- 6.1	5.0	- 3.7	3.0	- 3.3	4.1	- 2.7	2.5	2.2		33%	33%
		LSF	- 2.1	5.0	- 4.5	5.1	0.8	0.1	- 3.6	3.9	1.5	0.1	1.9		63%	50%
Return on fixed tangible assets	(%)		- 10.6	9.3	- 12.8	13.8	- 5.5	5.2	- 10.5	11.0	6.8	- 6.7	10.3		38%	31%
		SCF	- 20.1	10.4	- 23.2	22.6	- 18.6	14.5	- 13.9	18.4	14.6	- 14.8	12.4		21%	18%
		LSF	- 14.1	21.6	- 19.5	21.7	3.3	0.2	- 17.2	15.5	- 5.9	0.7	8.7		62%	56%
GVA per FTE	(thousand €)		46.7	62.5	49.5	44.2	55.9	48.5	43.6	41.5	57.2	64.7	65.9		38%	17%
		SCF	33.1	59.2	35.6	29.1	33.0	25.1	26.1	18.7	28.1	28.6	33.6		50%	-14%
		LSF	75.0	67.1	76.7	76.4	108.3	110.8	85.9	95.1	98.7	116.3	130.0		4%	14%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Small-scale coastal fleet: The fleet is dominated by small-scale coastal vessels: 1 530 out of 1 592 (96%) active vessels were operating in small-scale coastal fisheries. However, the segment account only one fourth of the national total value of landings that is dominated by the pelagic trawler fleet. At the same time the segment employs almost two thirds of total number of fishers in terms of FTE. Therefore, the segment is especially important from the social point of view.

Catches of coastal fisheries continued to decline for third year in a road after peaking in 2013. In 2016, landed weight of the segment decreased by 17% and the revenues decreased to EUR 8.9 million. The segment generated EUR 4.9 million of gross value added and furthermore gross profit of EUR 3.2 million with remarkable 55% gross profit margin. However, there are a large number of low activity vessels and accounting for the opportunity cost of capital of all these vessels turned the segment net profit negative.

Large-scale fleet: Pelagic trawler fleet is economically the most important part of the Finnish fleet. These 63 trawlers targeting Baltic herring and sprat accounted for 94% of the total landed volume and 78% of the total value landed by the Finnish fleet in 2016. Catches of these pelagic species have been increasing during the past years due to strong herring stocks especially in the most important fishing grounds for Finnish fleet in Bothnian Sea; herring catch reached record high in 2016 for the third consecutive year in a row. The landed value of LSF increased with the catches until Russian embargo on EU food products in 2014. This led to a loss of the most important market for Finnish pelagic fish that resulted in a drop in pelagic fish prices.

In 2016, the revenues of LSF remained at the same level as year before. However, the profitability of the fleet improved: gross value added increased by 20% to EUR 12.2 million and gross profit went up by 25% to EUR 7.6 million. Gross profit margin was remarkable high 28% but not high enough to cover the estimated opportunity cost of capital invested indicating that the fleet is not economically sustainable in the long term.

From the beginning of 2017 ITQ regime was introduced in the Finnish pelagic fisheries. The new management regime will most definitely have a major impact to the trawler fleet structure and performance. Landings of pelagic trawlers in 2017 remained at same level as the year before. Provisional figures for 2017 indicate that the economic performance will continue to improve. Despite the record high catches of herring for recent years the TAC in Bothnian Sea has not been fully utilised. However, for 2018 there was a cut in the herring TAC in the Bothnian Sea that imply limiting quota in the future.

France

In 2016, as in previous years, the French fishing fleet continued to decline. It consisted of 6 835 vessels in 2016 (76 fewer than the previous year) of which 5 683 were active. The number of inactive vessels that had increased every year since 2009 decreased in 2015 and 2016, especially in French West Indies. Conversely, capacity has stabilized with 174 thousand GTs and 1 004 thousand kW in 2016. This is a slight increased since 2014, due to the introduction of 5 large purse seiners based in Mayotte Island.

The French active fleet included 97 segments in 2016, of which 57 were aggregated to form 24 clusters. It consisted of 5 683 vessels: 2 690 based in North East Atlantic and North Sea, 1 259 in the Mediterranean Sea and 1 734 in the French overseas territories.

The small-scale fleet (SSF) represents 73% of total active vessels in 2016 with 4 124 vessels, based in all regions.

The large-scale fleet (LSF) consisted of 1 537 vessels (27 % of total active vessels). Most of them are based in NE Atlantic and North Sea and there is a majority of demersal trawlers and dredgers. They represent 61% of total GT and 38% of total kW.

The distant-water fleet (DWF) has 22 vessels which are purse seiners catching tuna in South Atlantic and Indian Ocean. They represent 26.5% of total GT and 7.5% of total kW.

The employment was estimated at 13 536 jobs in 2016, 51% in the SSF, 44% in the LSF, 5% in the DWF and about 7 138 FTE. In 2016, employment increased little (0.7%).

The live weight landed by the French fleet increased in 2016: 540 thousand tons against 518 in 2015. More than 45 thousand tonnes were landed for three species: yellowfin tuna (56 thousand tonnes), skipjack tuna (53 thousand tonnes), European hake (45 thousand tonnes).

The landed value, EUR 1.2 billion increased by 6% in 2016 because of fish price increase. The landed value was greater than EUR 90 million for each of three species: European hake (EUR 126 million), monkfish (EUR 100 million) and yellowfin tuna (EUR 90 million).

The landings income and consequently the total revenue of the French fleet increased by 10.7% in 2016 (1 338 million including 36 million of new data from French Guiana and Guadeloupe). But the operating costs increased too (+8% for crew wages, +7% for repair and maintenance costs, +11% for variable costs, with new data from 2 Overseas Departments). Energy costs continued to decrease (-17%).

Consequently, the gross value added (GVA) (EUR 758 million, +16%), gross profit (EUR 257 million, +33%) and net profit (EUR 160 million, +65%) increased significantly: at constant field, the economic situation of French fishing sector improved in 2016.

France			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		7,919	7,290	7,234	7,211	7,144	7,125	7,069	6,911	6,835	6,835	5,657		-1%	-6%
		SCF	4,589	4,629	4,371	4,480	4,382	4,332	4,198	4,178	4,124	4,124	4,099		-1%	-6%
		LSF	2,011	1,826	1,889	1,687	1,612	1,559	1,538	1,526	1,537	1,537	1,535		1%	-10%
		DWF	5	20	21	17	18	17	22	21	22	22	23		5%	25%
Vessel tonnage	(thousand GT)		197.2	185.3	174.2	171.0	168.3	164.2	175.6	171.9	173.5	173.5			1%	-1%
		SCF	16.1	16.2	15.4	16.2	16.0	15.7	15.6	15.5	15.4	15.4			-1%	-3%
		LSF	168.9	126.5	118.9	113.5	109.5	108.0	105.7	106.9	106.3	106.3			-1%	-11%
		DWF	3.2	33.6	30.6	28.1	32.7	32.4	45.0	42.9	46.0	46.0			7%	48%
Engine power	(thousand kW)		1,076.0	1,007.7	994.9	1,001.5	999.3	999.9	1,016.6	999.4	1,003.7	1,003.7			0%	-1%
		SCF	405.8	418.0	410.4	432.8	428.8	427.6	419.9	414.5	418.4	418.4			1%	0%
		LSF	547.9	453.6	440.4	410.4	398.6	393.8	386.4	387.7	385.1	385.1			-1%	-10%
		DWF	4.6	57.8	53.0	49.5	55.4	54.4	73.8	70.1	75.7	75.7			8%	45%
Total employed	(person)		16,103	15,807	15,166	14,631	14,140	13,691	13,547	13,442	13,536	13,463	13,474		1%	-7%
		SCF	7,997	7,881	7,553	7,755	7,538	7,250	6,983	7,003	6,949	6,890	6,856		-1%	-7%
		LSF	7,978	7,382	7,174	6,433	6,189	6,028	5,986	5,885	5,984	5,971	5,994		2%	-10%
		DWF	127	543	439	443	413	413	578	553	603	603	625		9%	37%
FTE	(#)		8,629	7,644	7,819	7,464	7,196	6,900	7,026	6,569	7,138	7,587	7,406		9%	-4%
		SCF	2,518	2,045	2,230	2,424	2,360	2,235	2,165	2,152	2,208	2,194	2,172		3%	-3%
		LSF	6,045	5,059	5,166	4,601	4,423	4,252	4,283	4,152	4,327	4,790	4,609		4%	-9%
		DWF	66	540	423	439	413	413	578	264	603	603	625		128%	54%
Days at sea	(thousand day)		583.3	434.1			494.8	470.6	465.3	454.7	476.5	494.7	484.4		5%	-2%
		SCF	242.2	170.8			226.9	225.8	221.1	208.0	225.7	224.3	221.2		8%	5%
		LSF	340.8	257.8			267.8	244.8	243.8	242.6	246.5	266.1	258.8		2%	-7%
		DWF	0.4	5.6			0.1		0.4	4.0	4.3	4.3	4.4		6%	105%
Fishing days	(thousand day)		486.1	404.1			452.0	437.3	431.8	418.3	446.1				7%	2%
		SCF	205.3	168.6			223.3	224.0	219.3	205.6	222.1				8%	7%
		LSF	280.4	235.3			228.7	213.3	212.3	211.0	221.9				5%	-4%
		DWF	0.4	0.1			0.0		0.2	1.7	2.1				24%	346%
Live weight of landings	(thousand tonne)		433.9	431.4	447.4	463.7	505.4	514.0	526.9	518.3	540.2	431.9	429.1		4%	13%
		SCF			50.8	65.3	56.9	66.4	61.8	81.8	65.3	59.7	59.4		-20%	2%
		LSF			311.2	316.4	125.2	132.6	128.2	343.8	360.2	372.2	369.7		5%	59%
		DWF				85.4	82.0	78.5	79.3	100.0	92.8	114.7			24%	33%
Value of landings	(million €)		978.8	948.0	982.8	1,092.2	1,079.0	1,112.1	1,101.1	1,147.7	1,221.1	1,054.7	983.5		6%	16%
		SCF			166.0	201.3	108.1	107.1	100.9	183.5	202.8	166.6	163.5		11%	40%
		LSF			715.1	772.5	416.1	248.7	165.0	855.8	869.9	888.1	820.0		2%	64%
		DWF				101.6	118.4	150.6	138.1	143.9	108.4	148.5			37%	17%
Revenue	(million €)		1,035.7	1,109.7	1,104.2	1,197.0	1,098.8	1,150.1	1,166.1	1,194.8	1,327.0	1,143.9	1,070.9		11%	17%
		SCF	255.6	259.5	254.3	270.6	216.4	221.3	222.5	223.2	282.1	200.8	197.3		26%	17%
		LSF	780.1	759.8	753.4	799.8	729.4	788.6	805.8	859.2	896.3	935.4	866.0		4%	14%
		DWF			90.4	95.2	126.6	152.5	140.2	137.8	112.3	148.5			32%	22%
Gross Value Added	(million €)		523.5	538.7	560.3	603.2	541.7	577.7	574.1	650.7	758.1	556.7	480.0		17%	33%
		SCF	164.8	172.7	165.7	175.4	136.1	139.2	137.0	143.6	185.8	128.5	124.7		29%	20%
		LSF	358.8	364.6	356.7	369.6	333.4	373.1	386.2	473.6	505.0	535.1	464.2		7%	34%
		DWF			1.4	36.6	58.2	72.2	65.4	50.9	33.5	67.3			101%	48%
Gross profit	(million €)		121.5	102.6	149.7	177.1	157.5	178.6	144.7	193.0	256.7	129.9	78.8		33%	68%
		SCF	38.4	51.6	52.5	56.9	40.0	42.5	37.2	43.6	58.2	41.2	38.9		33%	28%
		LSF	83.1	79.1	88.7	99.1	86.9	111.1	100.2	154.6	176.4	195.6	148.8		14%	76%
		DWF	-	28.1	7.3	21.1	30.7	25.0	7.2	5.3	22.1				519%	166%
Net profit	(million €)					81.4	59.6	76.7	50.1	97.1	160.4	36.9	- 12.4		65%	120%
		SCF				33.6	19.4	22.2	18.4	24.8	36.1	26.0	24.0		46%	52%
		LSF				20.7	0.4	20.4	12.7	58.0	83.2	105.7	62.6		43%	271%
Return on fixed tangible assets	(%)					16.1	10.5	14.3	10.2	18.5	28.7	6.2	- 2.9		55%	106%
		SCF				25.7	15.7	20.0	17.8	23.3	27.5	27.9	25.5		18%	34%
		LSF				6.1	0.4	5.6	4.0	14.0	19.5	27.7	15.8		39%	224%
GVA per FTE	(thousand €)		60.7	70.5	71.7	80.8	75.3	83.7	81.7	99.1	106.2	73.4	64.8		7%	36%
		SCF	80.7	118.3	94.2	94.9	73.6	77.4	77.7	88.8	85.5	96.2	94.5		-4%	-3%
		LSF	73.2	74.7	72.3	81.6	76.3	88.3	91.2	115.4	117.7	121.1	109.4		2%	40%
		DWF			3.0	88.1	132.9	174.8	158.4	88.0	126.8	111.6			-12%	1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Germany

The German fishing fleet comprised 1 398 vessels in 2017, a decline of 32 compared to the previous year. The gross tonnage remained stable at about 61 thousand tonnes. Since 2008, the number of vessels declined 25%. 386 vessels reported no landings in 2017 and are thus considered inactive.

In 2017, the German large-scale fishing fleet (>12 metres LOA) consisted of 278 vessels (20%), with the remaining 1 120 vessels (80%) classified as small (<12 metres LOA) scale. However, the large scale fleet accounts for 95% of the total GT of the German fleet. Eight large-scale vessels are assigned to the high seas fleet.

German small-scale vessels operate almost exclusively in the Baltic Sea, whereas cutters (<500 GT) above 12m fish in the North Sea and in the Baltic Sea. German high seas trawlers operate mainly in the North Atlantic and Eastern Arctic area, but to some extent also in African and Southern Pacific waters.

The German pelagic trawler fleet was excluded from the current analysis except for capacity and weight and value of landings data as practically the entire segment is owned by one parent company. For confidentiality reasons the

data cannot be published. Vessels which target blue mussels are not included in the analysis because they are defined as operating in the aquaculture sector.

Landings (by weight) have increased slightly since 2012 and consisted of 253 thousand tonnes in 2017. The main species are herring, cod, common shrimp, saithe, and Greenland halibut. By weight, herring is by far the dominant species, whereas the highest revenue is generated through brown shrimp.

An estimated 94 thousand days were spent at sea in 2017, a 10% decrease from 2016. The energy consumed in 2016 amounted to an estimated 41 million litres and was thus slightly higher than in 2015. Due to lower fuel prices the energy costs decreased considerably from EUR 18.1 million in 2015 to EUR 14.6 million in 2016.

Employment in the non-pelagic fleet was estimated at 1 539 jobs in 2016, corresponding to 1 204 FTEs. About half of the total jobs and 37% of the FTEs are assigned to the SSCF. The number of people employed in fisheries has varied over time, but shows a slightly declining trend. Economic performance indicators for the non-pelagic fleet show a stable or increasing trend, particularly for recent years.

Germany			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		1,861.0	1,817.0	1,757.0	1,664.0	1,564.0	1,537.0	1,516.0	1,478.0	1,430	1,398	974.0		-3%	-13%
		SCF	961.0	939.0	903.0	883.0	852.0	832.0	817.0	787.0	776	736	706.6		-1%	-11%
		LSF	375.0	372.0	357.0	334.0	301.0	310.0	302.0	287.0	283	276	267.4		-1%	-14%
		DWF	12.0			10.0										-100%
Vessel tonnage	(thousand GT)		66.6	67.9	65.9	64.6	62.1	62.2	58.2	56.5	60.7	60.6			7%	-4%
		SCF	2.6	2.6	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.1			-1%	-9%
		LSF	32.7	60.9	60.1	31.6	56.8	54.2	54.4	52.6	56.5	56.3			7%	12%
		DWF	28.5			28.0										
Engine power	(thousand kW)		154.7	158.3	155.8	151.4	142.2	142.1	135.4	130.1	132.9	132.3			2%	-9%
		SCF	23.8	23.9	23.4	22.6	22.7	22.2	22.4	22.1	22.2	21.3			0%	-3%
		LSF	95.7	119.5	117.9	89.2	105.5	103.0	103.8	98.8	101.7	99.1			3%	-2%
		DWF	23.1			25.6										
Total employed	(person)		2,068	1,529	1,744	1,639	1,752	1,647	1,605	1,532	1,539	1,492	1,475		0%	-9%
		SCF	1,031	559	847	869	876	777	798	747	741	702	711		-1%	-9%
		LSF	1,037	970	897	770	876	870	807	785	798	790	763		2%	-9%
		DWF														
FTE	(#)		1,615	1,238	1,365	1,258	1,372	1,281	1,253	1,202	1,204	1,109	1,042		0%	-9%
		SCF	790	464	654	664	668	597	608	570	568	488	418		0%	-9%
		LSF	825	774	711	594	704	684	645	632	636	622	624		1%	-9%
		DWF														
Days at sea	(thousand day)		139.8	129.0	115.9	109.8	119.4	108.0	111.1	106.1	104.1	93.6	85.4		-2%	-11%
		SCF	88.8	79.5	71.1	73.7	76.0	66.9	70.1	66.6	65.3	56.0	47.9		-2%	-12%
		LSF	51.0	49.5	44.8	36.1	43.4	41.0	41.0	39.4	38.8	37.6	37.6		-2%	-10%
		DWF														
Fishing days	(thousand day)		142.7	132.9	118.5	112.5	123.4	111.8	114.4	110.7	106.4				-4%	-12%
		SCF	93.6	84.4	74.6	77.9	81.1	71.2	74.2	71.5	67.3				-6%	-14%
		LSF	49.2	48.5	44.0	34.6	42.3	40.6	40.2	39.3	39.1				0%	-8%
		DWF														
Live weight of landings	(thousand tonne)		258.0	228.5	220.6	207.8	198.5	219.0	226.9	238.5	228.2	252.8	245.6		-4%	2%
		SCF	12.2	9.6	7.9	6.5	8.0	8.1	7.2	7.7	7.9	7.1	5.1		2%	-6%
		LSF	98.1	218.9	212.8	71.6	190.5	210.9	219.7	230.8	220.4	245.7	240.6		-5%	21%
		DWF	147.8			129.7										-100%
Value of landings	(million €)		231.5	190.9	209.5	199.1	209.4	209.3	205.3	215.8	233.9	232.3	232.1		8%	12%
		SCF	11.8	8.4	8.3	7.8	9.0	8.8	8.1	8.3	8.4	8.2	5.9		1%	-5%
		LSF	155.6	182.5	201.2	123.6	200.4	200.5	197.2	207.5	225.5	224.0	226.2		9%	23%
		DWF	64.0			67.7										
Revenue	(million €)		165.8	136.4	150.3	133.5	154.6	147.1	134.6	147.2	161.6	157.7	163.3		10%	11%
		SCF	12.1	9.0	9.1	8.0	9.9	9.1	8.6	8.6	8.9	8.9	6.4		4%	-5%
		LSF	153.7	127.4	141.2	125.6	144.7	138.0	126.0	138.6	152.6	148.9	157.0		10%	11%
Gross Value Added	(million €)		66.2328	65.0774	79.5484	58.276	75.7399	81.2556	71.0149	82.1458	98.3167	95.473	100.477		20%	36%
		SCF	4.9	2.5	3.9	2.0	3.5	2.8	3.8	3.6	4.3	4.7	2.4		20%	27%
		LSF	61.3	62.6	75.7	56.3	72.2	78.4	67.0	78.6	93.9	90.8	98.0		20%	36%
Gross profit	(million €)		20.5863	16.5953	30.7492	13.2495	25.2521	34.3507	23.7468	32.0912	46.0114	44.4631	47.5328		43%	87%
		SCF	1.7	- 1.1	1.5	- 0.8	0.5	0.3	1.4	1.0	1.6	2.1	0.6		57%	228%
		LSF	18.9	17.7	29.3	14.0	24.7	34.7	22.0	31.1	44.3	42.3	46.9		43%	84%
Net profit	(million €)		-8.20522	-12.4317	4.60301	-8.90213	6.15691	13.3339	6.40972	7.09615	25.992	25.7488	29.2171		266%	2480%
		SCF	- 0.2	3.1	- 0.6	2.5	1.0	1.8	- 0.0	0.6	0.2	0.8	0.7		128%	114%
		LSF	- 8.0	8.9	5.3	6.4	7.1	15.1	6.2	7.7	25.7	25.0	29.9		232%	1028%
Return on fixed tangible assets	(%)		- 5.7	7.4	5.8	8.6	6.2	13.3	8.1	6.3	23.9	24.4	29.9		280%	956%
		SCF	0.8	34.6	- 6.1	32.6	- 14.2	26.7	0.3	8.7	2.5	11.7	12.9		128%	116%
		LSF	- 6.4	6.0	7.3	7.1	8.5	18.1	8.9	7.6	26.7	25.2	32.6		253%	594%
GVA per FTE	(thousand €)		41.0	52.6	58.3	46.3	55.2	63.4	56.7	68.3	81.7	86.1	96.4		19%	48%
		SCF	6.2	5.3	5.9	3.0	5.3	4.8	6.2	6.3	7.6	9.5	5.8		21%	41%
		LSF	74.3	80.9	106.4	94.7	102.6	114.6	103.8	124.3	147.7	146.1	157.2		19%	47%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Greece

In 2017, the Greek fishing fleet consisted of 14 985 registered vessels. These had a combined capacity of 71 thousand GT and 426 thousand kW. The average age of the vessels is 31 years. The number of vessels, gross tonnage and total power of the Greek fishing fleet continues to decline steadily.

The majority of vessels 12 687 (93%) are small-scale with a combined capacity of 25 thousand GT and 238 thousand kW. There are 960 large scale vessels with a combined capacity of 42 thousand GT and 156 thousand kW.

Total employment in the sector is estimated at 24 975 jobs corresponding to 23 040 FTEs in 2016. The average wage per FTE and employed is very low. The small-scale fleet employs a total of 17 799 FTEs, thus contributing 77% of the total national employment in the sector.

The small-scale fleet mainly exploits the extensive Greek coastline, using polyvalent passive gears (mostly nets, longlines, pots, and traps). The vessels in this segment are primarily family-owned and are characterized by low invested capital. On the other hand, the large-scale fleet comprises both bottom trawlers and purse seiners. The bottom trawl segment includes around 2% of the active Greek fishing fleet (250 vessels) and employs 7.5% of the FTEs. The purse seiner segment comprises 246 vessels equal to 1.8% of the active Greek fishing fleet and employs 12.3% of the FTEs.

The Greek fishing fleet spent an estimated 2 million days at sea in 2016; an average of 150 days per vessel. The small-scale fleet contributed 1.9 million days (an average of 152 days per vessel), while the large-scale fleet contributed 111 thousand days (an average of 117 days per vessel). The Greek fishing fleet consumed approximately 105 million litres of fuel.

The main cost items are energy costs and wages as well as the imputed value of unpaid labour. For small-scale vessels, the main cost item is the imputed value of unpaid labour, followed by energy costs. Moreover, small-scale vessels do not have the opportunity to benefit from the reduced price of fuel due to cash flow limitations that prevent them from buying fuel in advance. On the other hand, the essential cost items of the large-scale vessels are other variable costs, wages and salaries and energy costs.

Estimation of the Greek fishing fleet's economic performance is limited for this year because landings referred to a nine-month period for the small-scale fleet segments. However, data indicate that the activity yields a positive income for fishers since the value of landings covers all expenses. In 2016, it was the first year with a positive value for the indicator of net profit for the sector. Non-efficient SCF vessels with poor economic performance exit from the sector or stay inactive. This option gives room for the remaining vessels to improve their economic sustainability.

For the small-scale segment, landings are generally sold at higher prices and are mainly directed to the market through very short supply-chains. Even though these vessels are small, they are crucial to local economies and usually offer income and employment in poor and isolated areas with very few alternative economic activities. Therefore, the sector contributes significantly to the maintenance of the social and economic sustainability of the coastal communities.

Key findings for Greece

Number of vessels has a decreasing trend, and it is expected to have further decreased due to the application of EMFF Measure 6.1.10 under the Union Priority 1 for permanent cessation.

Improved economic results regarding the previous years. Inefficient SCF vessels with poor economic performance exit from the sector or stay inactive. This option gives room for the remaining vessels to improve their economic sustainability.

Netters (DFN) the most critical segment of the Greek fishing fleet regarding the number of vessels, landings, and employment contribution but with weak profitability.

Energy costs and consumption decreased, so there is better fuel productivity. There is a significant decrease in average energy cost and average fuel price.

The cost of wages and salaries increased. There is an increase in the average wage. This trend will continue, especially considering the ongoing reform of the social security contributions.

			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		17,248	17,168	17,047	16,542	16,063	15,954	14,755	15,624	15,182	14,985	14,778		-2.8%	-6.9%
		SCF	15,834	15,761	15,635	15,268	13,439	13,671	12,762	13,567	12,687	13,940	13,748		-6.5%	-12.5%
		LSF	1,414	1,407	1,412	1,274	1,093	1,081	838	847	960	1,045	1,030		13.3%	-18.0%
Vessel tonnage	(thousand GT)		83.4	83.1	83.0	79.9	76.2	75.6	72.8	74.7	71.8	71.1			-3.9%	-8.7%
		SCF	30.9	30.8	30.8	29.9	26.0	26.5	24.8	26.5	25.2	27.9			-4.9%	-10.9%
		LSF	52.5	52.3	52.3	50.1	46.5	46.0	44.1	44.2	42.2	43.2			-4.5%	-13.0%
Engine power	(thousand kW)		497.2	494.7	493.9	473.8	455.6	454.6	431.2	446.2	430.8	426.7			-3.5%	-8.0%
		SCF	290.6	289.4	288.1	280.5	247.6	252.4	238.3	252.2	237.9	263.2			-5.7%	-11.0%
		LSF	206.6	205.3	205.8	193.2	175.6	176.0	158.5	159.0	156.4	163.5			-1.6%	-15.5%
Total employed	(person)						27,559	24,486	23,232	25,407	24,975	24,743	24,424		-1.7%	-0.8%
		SCF					21,780	19,263	18,222	20,420	19,613	19,399	19,143		-4.0%	-1.5%
		LSF					5,778	5,223	5,010	4,987	5,362	5,344	5,281		7.5%	2.1%
FTE	(#)						23,945	22,546	20,780	23,431	23,040	22,843	22,572		-1.7%	1.6%
		SCF					19,396	17,440	15,782	18,490	17,799	17,619	17,409		-3.7%	0.1%
		LSF					4,548	5,106	4,998	4,942	5,242	5,224	5,163		6.1%	7.0%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Ireland

The overall economic performance of the Irish fleet improved in 2016. Revenue (EUR 306 million) down 22%, GVA (EUR 114.4 million) up 23%, Gross profit (EUR 70.9 million) up 107%; and Net profit (EUR 35.8 million). The value of landings in 2016 (EUR 265.6 million) was 10% higher than the previous year. Included improved estimated for income for the less than 10m fleets and correcting for price errors in the pelagic sector resulted in a total Revenue of EUR 305 million an increase of 23% from 2015.

Provisional figures for 2016 indicate that total landings will be 252.7 thousand tonnes with an associated value of EUR 271 million. However, the total value is predicted to be higher once revised estimated for the less than 10 metres segments can be made next year.

Production trends are highly influenced by quota changes for pelagic species, particularly mackerel. Indeed, many of the historical fluctuations in the value and weight of landings have been driven by mackerel. The 2014 mackerel quota, 104 thousand tonnes, included an increase of 46.56 thousand tonnes worth an estimated EUR 59 million. The 2015 mackerel quota, 89 thousand tonnes, resulted in landings of 88.7 thousand tonnes worth an estimated EUR 49 million. In 2016, the quota was further reduced to 75 thousand tonnes worth an estimated EUR 47 million.

Nephrops remained the top landed species by value in 2016 worth EUR 62.2 million with associated landings of 9.5 thousand tonnes.

Ireland			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		1,939	1,977	2,038	2,074	2,106	2,140	2,095	2,048	2,044	1,953	1,237		0%	0%
		SCF	1,030	806	750	786	879	862	898	901	908	773	730		1%	5%
		LSF	400	450	393	429	430	438	445	466	532	529	508		14%	23%
Vessel tonnage	(thousand GT)		74	67	66	67	60	60	60	59	60	61			2%	-7%
		SCF	3.8	3.2	2.4	2.5	2.7	2.6	2.7	2.7	2.8	2.4			1%	-2%
		LSF	63.1	56.0	55.4	50.3	50.4	51.0	51.1	51.4	53.7	55.3			5%	0%
Engine power	(thousand kW)		205.2	186.0	184.1	189.2	184.2	183.9	181.6	179.2	182.8	180.7			2%	-2%
		SCF	31.1	25.5	22.6	23.3	24.9	24.0	24.9	25.2	25.2	21.9			0%	0%
		LSF	140.8	122.9	120.5	120.2	124.1	125.2	126.5	127.9	136.0	137.4			6%	8%
Total employed	(person)		4,485	4,889	4,423	3,243	3,121	3,087	3,154	3,451	3,461	3,252	3,362		0%	-7%
		SCF	2,425	2,705	2,460	1,372	1,278	1,282	1,140	1,360	1,385	1,176	1,315		2%	-21%
		LSF	2,060	2,184	1,962	1,872	1,844	1,805	2,014	2,091	2,076	2,080	2,053		-1%	5%
FTE	(#)		3,404	3,692	3,479	2,688	2,709	2,717	2,395	2,522	2,672	2,660	2,663		6%	-9%
		SCF	1,667	1,958	1,859	1,067	1,077	1,142	763	953	856	895	893		-10%	-35%
		LSF	1,738	1,734	1,621	1,622	1,632	1,575	1,632	1,569	1,816	1,768	1,772		16%	11%
Days at sea	(thousand day)		48.8	48.5	52.9	48.8	53.6	53.6	54.4	72.6	77.2	81.4	79.1		6%	43%
		SCF	6.9	8.0	8.6	7.6	8.4	7.5	7.3	25.2	26.6	27.3	27.2		6%	168%
		LSF	41.8	40.6	44.2	41.2	45.2	45.9	46.9	47.4	53.2	51.7	52.0		12%	20%
Fishing days	(thousand day)		40.0	40.0	44.0	40.6	43.3	42.8	43.5	62.0	67.7	66.7			9%	52%
		SCF	6.3	7.5	8.2	7.2	7.9	6.9	6.7	24.6	25.9	26.6			5%	175%
		LSF	33.7	32.5	35.8	33.5	35.4	35.8	36.7	37.4	41.8	40.2			12%	19%
Live weight of landings	(thousand tonne)		195.5	250.5	274.3	199.4	262.2	244.2	276.4	240.9	239.3	252.9	249.3		-1%	-1%
		SCF	3.1	4.1	4.8	4.6	5.1	10.6	10.5	15.2	14.5	12.1	14.7		-5%	100%
		LSF	192.4	246.3	269.5	194.8	257.1	233.6	265.9	225.7	224.8	240.8	234.8		0%	-5%
Value of landings	(million €)		223.9	167.7	172.2	209.5	243.2	258.9	293.1	237.4	265.6	271.8	276.1		12%	18%
		SCF	7.2	6.3	7.0	6.9	5.8	13.4	16.4	19.7	25.0	25.1	25.5		27%	142%
		LSF	216.7	161.3	165.2	202.5	237.4	245.5	276.8	217.7	240.5	246.9	250.8		10%	12%
Revenue	(million €)		245.6	182.0	193.9	239.7	275.2	280.0	320.6	248.9	305.7	314.7	317.6		23%	23%
		SCF	12.9	14.8	23.6	29.6	26.2	31.7	29.2	26.4	39.0	38.3	39.3		48%	60%
		LSF	223.1	156.6	170.2	207.1	240.5	241.9	290.5	212.4	266.6	275.0	278.0		26%	22%
Gross Value Added	(million €)		132.9	69.7	67.7	105.1	142.7	134.8	168.1	114.8	164.5	174.0	173.1		43%	41%
		SCF	9.1	8.9	17.8	11.6	16.4	20.8	19.0	15.8	23.2	23.5	24.4		47%	56%
		LSF	115.7	54.9	49.8	90.4	117.8	107.7	148.2	88.8	141.1	149.1	148.5		59%	46%
Gross profit	(million €)		93.2	23.5	10.5	41.9	50.2	69.4	86.5	34.2	70.9	78.0	76.0		107%	39%
		SCF	4.1	5.5	17.1	13.4	4.2	16.5	12.9	6.3	9.5	10.0	10.6		52%	-5%
		LSF	76.7	10.7	- 7.0	31.4	34.9	45.7	72.5	17.9	61.2	66.6	65.1		243%	73%
Net profit	(million €)		52.9	- 49.4	- 60.6	- 35.1	0.7	33.9	49.4	- 5.3	35.8	45.4	43.0		775%	2223%
		SCF	3.8			- 2.3	- 3.2	13.1	10.4	5.8	7.6	8.5	9.1		32%	42%
		LSF	38.5	- 56.9	- 70.2	- 35.6	- 16.7	11.6	30.0	- 19.5	28.1	35.5	33.6		244%	289%
Return on fixed tangible assets	(%)		11.5	- 1.4	- 2.4	2.6	4.3	10.7	11.6	0.1	7.9	9.3	8.9		10761%	70%
		SCF	80.9			35.6	- 44.6	326.7	315.9	160.2	38.6	49.6	56.2		-76%	-74%
		LSF	10.0	- 4.0	- 6.4	0.7	0.7	6.2	8.3	- 3.0	6.6	7.6	7.3		319%	322%
GVA per FTE	(thousand €)		39.1	18.9	19.5	39.1	52.7	49.6	70.2	45.5	61.6	65.4	65.0		35%	47%
		SCF	6.2	5.2	9.7	10.9	15.2	18.2	25.2	16.6	27.4	26.4	27.5		65%	104%
		LSF	76.7	36.1	31.7	57.1	76.7	70.2	91.8	61.0	78.2	85.6	85.0		28%	25%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

It should be noted that the Irish fleet profitability is strongly influenced by data from the larger pelagic vessels (TM VL2440), in particular the value assigned to their landings income, depreciation and capital costs. When raised to the fleet level, large within year depreciation charges against even one or a small number of large pelagic vessels can introduce bias in the subsequent point estimate of overall fleet net profit. This is particularly the case when an owner charges a large percentage of the lifetime depreciation of a vessel to a single year. This overestimation coupled with a reduction in landings, influenced strongly by the reduction on pelagic TACs, has influenced this exaggerated decline in net profit in 2015.

Fleet employment in 2016 was estimated at 3 461 jobs. This corresponds to 2 672 FTEs and an average of 3 and 1.5 FTE per vessel for the large and small-scale fleets respectively Indicative figures from the national annual employment survey suggest that 23% of active fishers were aged 50 years and over in 2016, an increase from 20% in 2015. The majority, 48% of fishers are aged 30-44 years old. Younger fishers make up a small percentage of the total with 11% aged less than 25 years. Attracting young people to the industry remains a challenge.

There are concerns about the landings obligations and Brexit which have the capacity to greatly affect the Irish fishing industry. Regarding the landing obligation there is concern over choke species, a situation where a lack of quota for one particular species may prevent fishers from going to sea or they run the risk of exhausting this quota and ceasing fishing. Therefore, to continue fishing throughout the year, it will be vital to have either enough quota available or adapting fishing strategies (technical conservation methods). Ireland is committed to investing, through EMFF funding, in gear technological research to assist fishers to develop more selective gears. Brexit also presents a major challenge in itself, but is also likely to interact with consequences of the landing obligation in terms of available quota and possibilities to adapt fishing strategies such as changing effort allocation.

Italy

In 2016, the national fleet consisted of 12 311 vessels, with a combined vessel tonnage (GT) of 158 thousand gross tonnes and engine power of 994 thousand kilowatts (kW). Total number of crew on board was estimated at 25 933, corresponding to a total employment of 21 349 FTEs.

The volume of products landed in 2016 remains unchanged while the value of landings increased slightly, by 1.6%, thanks to the good performance of the large scale fishery (+ 2%). In 2016, the average price saw a slight increase (+2%); some of the most important target species (European hake, common cuttlefish, Norway lobster) show a positive trend while average price of European anchovy, deep-water rose shrimp, giant red shrimp and red mullet remained relatively comparable to 2015.

The weak recovery in the Italian fisheries sector, which had begun in 2014, continued in 2016.

Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 577 million, EUR 286 million and EUR 123 million, respectively and all increased from 2015 to 2016. Lower fuel costs together with higher average fish prices were the main driving forces behind the overall improvement in the profitability of the fleet.

Energy costs represent the most important operational costs. The average fuel price in 2016 was lower than in 2015. The decreasing trend of the fuel price had a direct impact on energy costs, further improving profitability in some typical fuel intensive fleet segments as demersal trawlers.

The recovery in the level of income, related to a reduction of operational costs, has permitted increases in wages and salaries of crew.

Small-scale coastal fleet - The Italian SSCF is mainly concentrated in length class 06-12m (70% of SSCF). Between 2008 and 2016 SSCF declined by 5% in terms of number of vessels and by 7% and 8% in terms of GT and kW, respectively.

SSCF is widely spread for the entire Italian coastline, using mostly exclusively passive gears (mainly fixes nets, pots traps and longlines) and targeting a lot of different species such as cuttlefish, hake, swordfish, common octopus, mullets, common lobster.

In 2016, the SSCF production accounted for a 24% of the Italian landings value and for a 14% of the landings weight with a slight increase to 2015. GVA and gross profit increased by 3% mainly as a consequence of the stability in operating costs and 2% rise of the fishing price; the Italian SSCF is characterized by high average prices (an average of 8.0 EUR /kg).

The indicator of the Labour productivity (GVA/FTE) increased by 6% between 2015 and 2016 mainly as a consequence of the decrease of 3% in FTE.

Large-scale fleet - Large-scale fleet segments, with 3 940 active vessels cover almost 35% of total vessels in 2016. The large-scale fleet is mainly made up of vessels using active gears, especially demersal trawlers and beam trawlers (57% of the total vessels of the segments).

Demersal trawlers mainly operate in the Adriatic Sea and in the Strait of Sicily (60%), while the pelagic fleet is prevalent in the North Adriatic (pelagic trawlers) and in the Tyrrhenian Sea (purse seiners). The large-scale fleet decreased by 12% from 2008 to 2016. The major factor causing the fleet decrease was the increasing trend of operating costs (in particular the fuel crisis in the period 208-2010) and the concomitant deterioration of the landings per unit of fishing effort (kg per day at sea).

Efforts have been made since the fuel crisis to reduce effort in terms of days at sea and change of the fishing area with those closed to the coastline. The fuel consumption per day at sea steeply decreased between 2008 and 2013 (616 litres per days at to 488 litres per days at sea) and increased again in 2014, 2015 and 2016 as a consequence of a lower fuel prices.

In the 2015 and 2016, positive trends have been observed both in terms of productivity and profitability. The value of landings of the large-scale fleet increased from 2014 to 2015 and again in 2016. Gross Value Added (GVA), gross profit and net profit increased in 2016.

Italy			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2,018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		13,518	13,359	13,348	13,285	12,942	12,746	12,689	12,426	12,310	12,270	11,200		-0.9%	-5.6%
		SCF	7,885	7,846	7,837	7,866	7,689	7,638	7,611	7,430	7,321	7,321	7,304		-1.5%	-5.2%
		LSF	4,452	4,386	4,351	4,286	4,099	3,894	3,944	3,895	3,940	3,901	3,888		1.2%	-5.4%
		DWF	18	18	7	7	5			9	8	8	8		-11.1%	-25.0%
Vessel tonnage	(thousand GT)		197.5	193.0	191.8	179.2	171.2	164.6	163.9	163.6	157.7	157.2			-3.6%	-11.5%
		SCF	14.9	14.8	14.9	15.3	14.8	14.7	14.7	13.9	13.6	13.6			-2.2%	-7.9%
		LSF	164.4	161.1	155.2	149.4	142.2	135.0	135.5	135.5	130.0	130.3			-4.1%	-11.7%
		DWF	10.5	10.5	3.6	3.6	2.7			6.2	6.0	2.1			-3.8%	-3.1%
Engine power	(thousand kW)		1,147.3	1,122.9	1,121.2	1,088.1	1,047.4	1,023.9	1,023.8	1,013.5	993.7	983.0			-2.0%	-7.4%
		SCF	219.9	220.1	223.2	228.3	221.1	219.6	219.6	210.4	205.3	197.9			-2.4%	-6.8%
		LSF	848.1	831.7	807.6	790.5	753.2	723.2	731.8	732.0	722.1	723.6			-1.3%	-7.1%
		DWF	21.8	21.8	7.4	7.4	5.3			13.1	12.7	3.7			-2.5%	-0.5%
Total employed	(person)		29,604	29,222	29,222	28,964	28,292	26,758	26,932	25,787	25,933	25,768	25,709		0.6%	-7.7%
		SCF	13,722	13,698	14,094	14,050	13,856	13,275	13,114	12,559	12,684	12,619	12,599		1.0%	-6.4%
		LSF	15,627	15,269	14,888	14,675	14,361	13,483	13,819	13,208	13,179	13,079	13,040		-0.2%	-8.6%
		DWF	255	255	240	240	75			20	70	70	70		250.0%	-61.3%
FTE	(#)		21,456	21,414	21,169	20,740	20,693	19,749	20,694	21,459	21,349	21,190	21,144		-0.5%	2.0%
		SCF	9,384	9,757	9,865	10,036	9,779	9,706	9,379	9,858	9,554	9,493	9,480		-3.1%	-1.7%
		LSF	11,923	11,559	11,242	10,638	10,890	10,043	11,315	11,581	11,750	11,653	11,620		1.5%	5.4%
		DWF	148	97	63	66	25			20	44	44	44		125.5%	-36.2%
Days at sea	(thousand day)		1,590.8	1,782.9	1,668.7	1,749.3	1,556.3	1,493.7	1,432.6	1,438.2	1,463.7	1,457.9	1,454.3		1.8%	-7.9%
		SCF	988.8	1,151.7	1,070.0	1,177.9	1,033.0	985.9	930.5	953.8	952.1	949.9	948.0		-0.2%	-8.1%
		LSF	599.7	629.9	597.8	570.5	523.0	507.8	502.1	483.9	510.9	507.2	505.6		5.6%	-7.4%
		DWF	2.3	1.4	0.8	0.9	0.4			0.5	0.7	0.7	0.7		58.6%	-28.3%
Fishing days	(thousand day)		1,532.2	1,752.8	1,647.0	1,716.1	1,538.9	1,581.1	1,530.4	1,527.3	1,625.3				6.4%	1.4%
		SCF	967.1	1,151.6	1,069.9	1,167.1	1,033.0	1,078.1	1,028.5	1,032.7	1,109.1				7.4%	4.0%
		LSF	563.0	599.9	576.4	548.2	505.5	503.0	501.9	494.2	530.8				7.4%	-1.1%
		DWF	2.1	1.3	0.8	0.8	0.4			0.4	0.7				54.1%	-29.7%
Live weight of landings	(thousand tonne)		227.0	242.4	224.8	212.4	196.8	172.6	176.8	192.2	192.4	191.5	191.0		0.1%	-6.5%
		SCF	32.8	38.6	33.7	36.7	31.1	27.2	28.2	27.5	27.0	26.8	26.7		-1.6%	-15.5%
		LSF	183.7	195.5	189.3	173.6	164.7	145.4	148.6	161.3	161.0	160.4	159.9		-0.2%	-5.4%
		DWF	10.4	8.4	1.8	2.0	0.9			3.5	4.3	4.3	4.3		25.3%	-3.6%
Value of landings	(million €)		1,223.1	1,319.4	1,204.0	1,155.3	944.6	834.1	813.3	894.0	908.2	905.9	924.1		1.6%	-13.4%
		SCF	285.9	333.4	298.6	311.9	246.0	196.1	203.3	213.3	214.9	214.6	219.1		0.7%	-17.7%
		LSF	911.3	960.7	892.3	832.2	694.1	637.9	610.0	676.6	689.8	687.9	701.5		1.9%	-11.2%
		DWF	25.9	25.3	13.1	11.2	4.5			4.1	3.5	3.5	3.6		-15.3%	-75.2%
Revenue	(million €)		1,235.4	1,329.8	1,213.1	1,164.0	953.5	841.6	822.1	899.1	917.7	915.8	931.4		2.1%	-13.2%
		SCF	290.2	338.5	303.4	317.0	250.2	199.8	207.3	215.6	218.1	217.2	221.0		1.1%	-17.8%
		LSF	919.3	966.0	896.6	835.8	698.8	641.8	614.8	679.4	696.2	695.1	706.8		2.5%	-10.9%
		DWF	16.6	20.3	13.1	11.2	4.5			4.1	3.5	3.5	3.6		-15.3%	-70.2%
Gross Value Added	(million €)		653.6	847.9	714.2	619.2	486.7	435.8	458.9	552.2	577.2	568.1	564.5		4.5%	-3.2%
		SCF	188.2	242.6	206.5	199.7	153.9	101.4	146.0	158.4	163.0	161.6	163.3		2.9%	-6.7%
		LSF	447.2	584.2	497.6	411.7	329.7	334.4	312.9	392.6	413.8	406.1	401.0		5.4%	0.0%
		DWF	8.9	16.1	10.1	7.8	3.2			1.2	0.4	0.4	0.2		-63.3%	-94.3%
Gross profit	(million €)		359.6	452.0	371.4	325.7	254.9	197.2	223.9	274.1	285.6	276.1	267.0		4.2%	-7.1%
		SCF	105.2	133.2	112.7	111.8	88.1	34.9	65.4	69.7	72.1	70.8	70.7		3.5%	-20.0%
		LSF	238.1	299.1	249.5	207.0	163.9	162.2	158.5	204.0	213.7	205.6	196.7		4.7%	1.6%
		DWF	7.1	14.7	9.2	6.9	2.9			0.4	- 0.1	0.2	- 0.4		-138.5%	-102.1%
Net profit	(million €)		148.9	211.4	144.9	105.1	68.1	27.6	53.5	106.4	122.5	121.3	111.5		15.2%	13.2%
		SCF	68.5	92.0	67.3	66.2	47.2	- 3.2	28.5	33.7	36.2	36.5	36.2		7.4%	-27.7%
		LSF	69.9	108.3	77.2	38.2	21.7	33.1	26.9	73.4	91.0	88.8	79.5		24.1%	62.3%
		DWF	1.9	8.0	3.3	2.0	0.3			- 0.1	- 4.0	- 3.9	- 4.1		-4364.4%	-255.6%
Return on fixed tangible assets	(%)		16.7	25.2	17.1	14.1	10.8	6.9	10.3	17.1	20.1	20.6	19.5		17.3%	35.9%
		SCF	51.6	68.6	43.7	43.0	33.8	0.6	24.3	27.2	29.2	29.1	29.4		7.3%	-20.3%
		LSF	10.9	18.2	13.8	8.2	5.9	9.6	8.1	16.0	20.7	19.8	18.3		29.6%	82.8%
		DWF	5.8	22.2	15.2	12.1	5.1			- 0.6	25.1	- 25.8	26.8		-3792.1%	-352.2%
GVA per FTE	(thousand €)		30.5	39.6	33.7	29.9	23.5	22.1	22.2	25.7	27.0	26.8	26.7		5.1%	-4.8%
		SCF	20.1	24.9	20.9	19.9	15.7	10.4	15.6	16.1	17.1	17.0	17.2		6.2%	-5.0%
		LSF	37.5	50.5	44.3	38.7	30.3	33.3	27.7	33.9	35.2	34.8	34.5		3.9%	-4.9%
		DWF	59.8	165.2	161.2	118.7	128.5			61.5	10.0	8.0	4.8		-83.7%	-91.4%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Latvia

In 2016, the Latvian Baltic Sea fishing fleet consisted of 332 registered vessels including 67 inactive vessels, with a combined gross tonnage of 7.3 thousand tonnes, a total engine power of 20.9 thousand kilowatts and an average age of 30 years. The gross tonnage declined by 22% whiles the total engines power of the fleet declined by 18% during the analysed period from 2008 to 2016. The reason for the changes was related to the vessels scrapping according to the multi-annual management plan aimed at achieving a better balance between fishing capacity and the available resources.

Latvian fleet is divided into several segments by the length, fishing gears and different operating areas: the Baltic Sea fleet (segment trawlers VL2440 metres), fleet operating predominantly in the Gulf of Riga (segment trawlers VL1218 metres), the SSCF operating in the coastal zone (segment with polyvalent fishing gears VL0010 metres) and a distant water fleet (segment trawlers VL40XX metres) operating in the Atlantic NEAFC Barents Sea (area 27) and CECAF Morocco and Mauritania (area 34) areas.

Latvia			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)		858	814	771	407	356	351	365	329	332	323	250		1%	-38%
		SCF	736	708	687	245	207	202	221	210	206	196	196		-2%	-49%
		LSF	122	106	84	74	72	65	57	60	59	55	54		-2%	-26%
Vessel tonnage	(thousand GT)		12.9	12.4	9.8	10.1	8.4	7.8	7.0	7.4	7.3	6.8			0%	-22%
		SCF	1.2	1.1	1.0	0.5	0.4	0.3	0.4	0.4	0.4	0.4			2%	-36%
		LSF	11.6	11.3	8.7	8.0	8.0	7.3	6.5	6.9	6.8	6.2			-1%	-20%
Engine power	(thousand kW)		34.2	32.7	26.7	26.7	22.8	21.3	19.8	20.9	20.9	20.3			0%	-18%
		SCF	7.2	6.5	5.9	2.8	2.2	2.2	2.6	2.8	2.7	2.5			-3%	-32%
		LSF	27.0	26.2	20.8	19.5	19.8	18.5	16.6	17.4	17.5	16.9			0%	-16%
Total employed	(person)		1,621	1,666	1,619	712	643	678	607	702	647	607	639		-8%	-37%
		SCF	992	1,110	1,175	321	258	325	301	315	256	244	256		-19%	-57%
		LSF	629	556	444	391	385	353	306	387	391	363	383		1%	-9%
FTE	(#)		664	548	521	378	353	414	362	347	318	304	311		-8%	-29%
		SCF	373	329	329	202	154	228	214	120	106	99	100		-12%	-56%
		LSF	291	219	192	176	199	186	148	227	212	206	210		-7%	4%
Days at sea	(thousand day)		44.2	48.0	43.6	19.6	19.5	19.4	19.2	18.3	18.1	17.2	17.6		-1%	-38%
		SCF	30.4	37.3	34.2	10.8	10.9	11.3	12.8	10.6	10.8	10.1	10.2		2%	-45%
		LSF	13.8	10.7	9.4	8.8	8.6	8.0	6.4	7.6	7.3	7.2	7.3		-5%	-21%
Fishing days	(thousand day)		35.9	38.2	35.6	17.4	17.3	17.2	17.1	16.3	19.6	18.1			20%	-20%
		SCF	23.7	28.6	27.0	9.4	9.4	9.7	10.9	9.0	12.8	11.3			42%	-20%
		LSF	12.2	9.6	8.5	8.1	8.0	7.5	6.3	7.3	6.7	6.8			-7%	-20%
Live weight of landings	(thousand tonne)		86.5	78.5	74.0	63.1	57.5	60.9	59.2	62.1	60.0	67.0	70.0		-3%	-11%
		SCF	2.8	2.7	2.6	3.3	2.8	3.6	4.5	2.6	3.8	3.4	3.6		48%	22%
		LSF	83.6	75.8	71.5	59.8	54.6	57.3	54.7	59.5	56.2	63.5	66.4		-6%	-13%
Value of landings	(million €)		25.4	18.9	22.8	22.3	23.6	22.3	19.5	19.8	15.8	16.9	16.4		-20%	-28%
		SCF	0.9	0.8	1.3	1.3	1.5	1.3	1.7	1.4	1.1	0.9	1.1		-26%	-17%
		LSF	24.5	18.1	21.4	21.1	22.1	20.9	17.8	18.3	14.7	15.9	15.3		-20%	-28%
Revenue	(million €)		26.9	21.8	23.7	23.2	25.0	23.9	20.3	20.7	17.6	18.6	18.1		-15%	-24%
		SCF	0.9	0.9	1.4	1.3	1.5	1.3	1.7	1.5	1.1	0.9	1.1		-29%	-18%
		LSF	26.0	20.9	22.3	21.9	23.5	22.6	18.6	19.2	16.5	17.6	17.0		-14%	-25%
Gross Value Added	(million €)		15.6	12.0	12.3	10.9	8.5	8.2	7.2	11.4	7.2	8.7	8.0		-37%	-33%
		SCF	0.7	0.7	1.2	1.2	1.3	1.3	1.7	1.3	1.0	0.9	1.0		-27%	-17%
		LSF	14.9	11.3	11.1	9.7	7.2	6.9	5.5	10.0	6.2	7.8	7.0		-38%	-35%
Gross profit	(million €)		11.0	8.5	8.8	7.5	4.6	3.9	4.1	7.5	4.2	5.4	5.0		-44%	-40%
		SCF	0.5	0.6	1.1	1.1	1.2	1.2	1.6	1.0	0.8	0.7	0.8		-24%	-27%
		LSF	10.5	7.9	7.7	6.4	3.4	2.7	2.5	6.5	3.4	4.8	4.2		-48%	-43%
Net profit	(million €)		14.7	2.0	1.6	6.2	3.0	1.7	2.4	5.8	3.1	4.6	4.1		-47%	-34%
		SCF	1.4	-0.6	-0.4	1.1	1.2	1.2	1.5	1.0	0.7	0.6	0.8		-24%	-9%
		LSF	13.2	2.6	2.0	5.2	1.9	0.5	0.8	4.9	2.3	4.0	3.3		-52%	-40%
Return on fixed tangible assets	(%)		14.0	12.2	15.0	48.2	30.5	20.7	28.2	54.3	28.3	42.6	39.0		-48%	1%
		SCF	3.7	4.2	8.8	832	622	2,690	2,320	1,490	860	775.4	935.1		-42%	-14%
		LSF	16.4	14.5	17.1	54.7	20.0	8.7	11.1	45.8	21.9	36.8	31.8		-52%	-7%
GVA per FTE	(thousand €)		23.4	21.9	23.6	28.8	24.1	19.7	19.9	32.7	22.5	28.6	25.9		-31%	-7%
		SCF	1.9	2.3	3.6	6.0	8.5	5.6	7.8	11.2	9.3	8.7	10.1		-17%	58%
		LSF	51.1	51.5	57.9	55.0	36.3	36.9	37.3	44.1	29.1	38.1	33.4		-34%	-37%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

The employment of the Baltic Sea fleet was estimated around 647 jobs; corresponding 318 FTEs in 2016. The total employment and the FTE decreased by 37% and 29% respectively between 2008 and 2016 while the average wage per FTE increased by 7% during the same period.

The Baltic Sea fishing fleet spent a total of around 18.1 thousand days at sea in 2016 but total number of fishing days calculated for each gear were 19.6 thousand.

The total weight landed by the Baltic Sea fleet in 2016 was 60.0 thousand tonnes of fish with a landed value of EUR 15.8 million. The total weight of landings decreased by 3% between 2015 and 2016 while the landed value decreased significantly by 20% during the same period. Significant decrease in landed value was caused by sharp decline in price for the target species in 2016.

The average first market price for the European sprat, Atlantic herring and Atlantic cod decreased by 20%, 8% and 4% respectively from 2015 to 2016. In 2016 in terms of landings composition European sprat was the most common species landed in terms of weight 28.1 thousand tonnes, followed by Atlantic herring 26.1 thousand tonnes and Atlantic cod around 2.3 thousand tonnes. The European sprat also achieved the highest landed value EUR 6.7 million for the national fleet followed by Atlantic herring EUR 6.0 million and then Atlantic cod EUR 2.1 million in 2016. European sprat, Atlantic herring and Atlantic cod accounted for 44%, 38% and 13% respectively of the total landings value in 2016 and contributed to 47%, 44% and 4% to the total landed weight.

The Latvian fishing fleet economic efficiency largely dependent on the quota received for the target species. Latvia fulfils the European sprat and Baltic herring fishing quotas assigned thereto almost completely.

The Baltic Sea fleet remained in a Net profit-making position in 2016 with the estimated Net profit of EUR 3.1 million and a Net profit margin of 18%. The amount of revenue generated by the Latvian national fleet in 2016 was EUR 17.6 million including EUR 15.8 million in income from fish sales and EUR 1.8 million in non-fishing income.

In terms of profitability the total amount of Gross Value Added (GVA) and gross profit generated by the national fleet in 2016 were EUR 7.2 and EUR 4.2 million respectively. However, the GVA, gross profit and net profit decline by 37%, 44% and 47% respectively between 2015 and 2016.

Lithuania

In 2016, Lithuanian fishing fleet consisted of 154 registered vessels and compare to 2015 it increased by 2% following with decline in 2017 to 150 vessels. The total combined gross tonnage and engine power in 2016 was 46.9 thousand GT and 53.9 thousand kW with annual decrease of 12.4% and 5.5%, respectively.

The fleet is represented by small-scale vessels fishing in coastal area of Baltic Sea (65.3% of number of active vessels, in terms of GT – 0.29%), large-scale fleet, operating in Baltic Sea (25.5% of number of active vessels, in terms of GT – 9.9%) and distant water fisheries fleet (9.2% of number of active vessels and in terms of GT 89.8%).

Employment figures for 2016 shows further decline in number of employees and FTE. Number of persons, employed by fishing fleet, decreased by 5.2%, compare to 2015. Total employment in 2016 was consisted from 607 jobs corresponding to 421 FTEs. Regarding fishing effort of national fleet, in 2016 number of days at sea declined by 8.6% compare to 2015, whereas number of fishing days slightly increased by 5.2%.

Economic indicators for this small-scale fleet are characterised by high annual volatility and strongly depends on the vessels larger than 12 metres. In 2016, GVA increased by 39% to EUR 0.41 million, but 19% increase in crew wages and significantly increased annual depreciation costs had a negative impact on gross and net profit. Fleet employed 147 persons corresponding to 41 FTE. Number of persons employed and FTE declined 14% and 20% respectively, compare to 2015.

In 2016, large scale fleet operating in Baltic Sea, generated EUR 1 million of gross profit and EUR 0.4 million net profit with 7.4% net profit margin. Economic performance for overall large-scale fleet significantly improved compare to previous two years. However, positive returns from large-scale fisheries was achieved only in pelagic trawler segment, whereas demersal trawler segment is further declining in terms of profitability. In 2018, cod landings declined to record low levels and it indicates critical situation in demersal trawler fisheries.

In 2016, long distance fleet generated EUR 5 million gross profit and -EUR 2.1 net loss. In 2016, economic efficiency in terms of GVA to revenue recovered to 20.1%, GVA/FTE increased to EUR 51 thousand and was slightly lower compare to 2013 when the highest level reaching EUR 54 thousand was achieved. Employment figures had a tendency to decline from 2014 and in 2016 reached the lowest level since 2008 corresponding to 274 total employees and 253 FTE.

Lithuania

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	250	219	193	171	151	152	143	151	154	150	90		2%	-14%
	SCF	89	91	74	69	69	65	64	71	66	63	62		-7%	-11%
	LSF	24	22	22	24	25	25	24	23	23	22	23		0%	-3%
	DWF	12	11	8	10	10	7	9	11	9	6	5		-18%	-8%
Vessel tonnage	(thousand GT)	61.0	50.5	49.3	46.0	45.0	44.0	48.5	53.6	47.0	41.3			-12%	-6%
	SCF	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.3	0.3	0.3			-7%	-12%
	LSF	3.5	3.3	3.2	3.4	3.5	3.8	3.7	3.6	3.7	3.9			3%	5%
	DWF	39.5	38.7	36.5	39.7	38.8	30.9	42.2	47.9	35.3	29.4			-26%	-10%
Engine power	(thousand kW)	68.9	59.8	56.4	54.4	54.2	52.4	49.0	57.0	53.9	49.0			-6%	-5%
	SCF	2.6	2.7	2.2	2.0	1.7	1.7	1.8	2.2	2.1	1.9			-5%	-2%
	LSF	7.5	7.0	6.5	6.9	7.1	7.6	7.4	7.2	7.7	8.1			7%	8%
	DWF	40.6	39.0	35.2	40.0	40.3	31.3	35.7	43.8	34.3	26.3			-22%	-10%
Total employed	(person)	1,046	712	706	768	732	763	750	691	607	591	585		-12%	-21%
	SCF	370	158	152	154	149	140	142	171	147	137	142		-14%	-18%
	LSF	132	240	228	231	228	265	195	185	186	179	194		1%	-13%
	DWF	544	314	326	383	355	358	413	335	274	274	249		-18%	-28%
FTE	(#)	617	544	512	574	566	491	573	463	421	399	400		-9%	-22%
	SCF	208	55	49	37	49	39	46	51	41	34	37		-20%	-39%
	LSF	87	175	155	169	162	156	114	113	127	112	133		12%	-10%
	DWF	322.0	314.0	307.6	368.0	355.5	296.1	413.0	298.2	253.0	253.0	230.0		-15%	-24%
Days at sea	(thousand day)	9.8	9.7	9.0	10.0	11.0	9.8	8.4	9.2	8.4	7.1	7.5		-9%	-12%
	SCF	4.7	4.9	4.8	4.3	5.6	5.7	5.9	4.6	4.1	3.6	3.9		-10%	-18%
	LSF	1.9	1.8	2.5	2.7	3.0	2.8	1.7	2.7	2.2	1.9	2.3		-19%	-9%
	DWF	3.2	3.0	1.7	3.0	2.4	1.3	0.8	2.0	2.1	1.5	1.4		8%	-1%
Fishing days	(thousand day)	7.7	7.9	7.5	8.1	8.8	8.7	6.8	7.2	7.6	6.2			5%	-4%
	SCF	4.5	4.8	4.6	4.2	5.6	5.6	4.7	3.9	4.0	3.5			1%	-16%
	LSF	1.5	1.5	1.6	2.3	2.0	1.9	1.5	1.8	1.7	1.4			-8%	-5%
	DWF	1.7	1.7	1.3	1.6	1.2	1.2	0.7	1.4	1.9	1.3			32%	40%
Live weight of landings	(thousand tonne)	180.8	209.1	108.1	114.5	58.0	89.7	146.4	82.2	102.4	88.7	86.4		24%	-17%
	SCF	0.6	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.8	0.7	0.8		52%	35%
	LSF	27.8	28.4	15.4	17.7	16.3	16.4	13.3	17.4	18.3	18.2	22.2		5%	-4%
	DWF	152.5	180.0	92.0	96.2	41.2	72.7	132.6	64.3	83.3	69.8	63.5		29%	-20%
Value of landings	(million €)	96.1	156.8	77.0	76.7	40.6	64.3	95.3	62.4	89.4	58.7	53.3		43%	7%
	SCF	0.8	0.8	0.8	0.6	0.6	0.6	0.5	0.5	0.6	0.7	0.6		18%	-3%
	LSF	7.0	6.7	5.9	6.2	6.6	6.6	3.7	4.4	5.1	4.4	4.5		15%	-14%
	DWF	88.4	149.3	70.2	69.8	33.5	57.2	91.1	57.5	83.7	53.6	48.1		46%	9%
Revenue	(million €)	92.2	61.2	46.0	48.8	43.7	66.4	100.3	58.8	69.9	59.6	53.9		19%	8%
	SCF	0.8	0.9	0.8	0.6	0.7	0.6	0.5	0.6	0.7	0.8	0.7		11%	-1%
	LSF	7.1	7.6	7.0	7.7	6.9	6.7	4.0	4.6	5.2	4.7	4.6		12%	-20%
	DWF	84.3	52.8	38.2	40.5	36.2	59.1	95.8	53.6	64.0	54.1	48.6		19%	11%
Gross Value Added	(million €)	19.4	14.7	5.1	13.4	13.0	18.0	14.4	- 6.3	15.6	6.8	5.0		346%	36%
	SCF	0.3	0.5	0.4	0.3	0.4	0.4	0.3	0.3	0.4	0.5	0.4		39%	16%
	LSF	1.8	2.5	2.0	2.7	2.7	1.7	0.3	1.6	2.3	2.1	1.6		43%	22%
	DWF	17.3	11.7	2.8	10.4	10.0	15.9	13.9	- 8.2	12.9	4.2	2.9		256%	39%
Gross profit	(million €)	10.1	8.8	0.3	7.8	8.6	12.1	5.2	- 13.3	6.4	0.4	- 0.9		148%	30%
	SCF	0.1	0.4	0.2	0.1	0.2	0.2	0.1	0.0	0.1	0.2	0.1		886%	-61%
	LSF	0.2	1.3	0.9	1.6	1.6	0.4	- 0.7	0.5	0.9	0.8	0.3		82%	21%
	DWF	9.8	7.1	- 0.8	6.1	6.8	11.5	5.8	- 13.8	5.5	- 0.5	1.3		140%	34%
Net profit	(million €)	11.1	1.5	- 4.5	4.8	5.5	9.3	- 2.0	- 23.9	- 1.8	- 3.6	5.3		93%	-869%
	SCF	0.1	0.3	0.1	0.0	0.1	0.2	0.1	- 0.0	- 0.0	0.1	0.0		91%	-103%
	LSF	0.2	0.4	0.4	1.2	1.2	- 0.1	- 1.0	0.1	0.4	0.5	0.0		208%	27%
	DWF	9.9	1.8	- 4.8	3.6	4.2	9.3	- 0.9	- 23.9	- 2.1	- 4.3	5.4		91%	-2087%
Return on fixed tangible assets	(%)	12.9	12.0	- 3.9	9.7	12.3	24.0	0.5	- 15.8	- 1.3	- 6.7	8.1		92%	-119%
	SCF	5.3	57.2	21.2	5.1	30.6	57.2	25.3	6.1	- 0.5	27.2	10.0		91%	-102%
	LSF	- 1.6	15.7	10.4	20.0	20.6	1.5	- 17.7	4.7	5.9	5.5	2.3		25%	-13%
	DWF	22.6	14.0	- 6.6	9.1	11.8	34.6	1.5	- 17.1	- 1.8	- 7.5	8.6		89%	-121%
GVA per FTE	(thousand €)	31.4	27.1	10.0	23.3	23.0	36.6	25.2	13.7	37.0	17.1	12.4		371%	82%
	SCF	1.6	9.4	7.3	8.0	7.5	9.5	5.7	5.7	9.9	15.1	11.6		73%	45%
	LSF	20.2	14.0	12.6	16.0	16.4	10.8	2.5	14.2	18.2	18.5	11.8		28%	36%
	DWF	53.7	37.4	9.0	28.2	28.1	53.8	33.6	27.6	50.8	16.7	12.8		284%	88%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Malta

The majority of the Maltese fishing fleet consists of small-scale fishing vessels. The number of vessels continued to fall steadily from 1 316 in 2008 to 935 in 2017. The level of employment increased between 2008 and 2016 from 1 019 jobs to 1 262 jobs. The latter corresponds to 774 FTEs or an average of 1.1 FTE per vessel. 78% of the total jobs were employed on the small-scale fishing vessels. Days at sea and fishing days have decreased by 42% and 46% respectively between 2008 and 2016. The value of landings showed a decrease of 11% between 2008 and

2017. The main exploited species include swordfish, common dolphinfish, Atlantic bluefin tuna and a number of additional species, some of which although caught in smaller quantities have a high commercial value such as red shrimps. The national fleet remained in a net loss making position in 2016 and its overall economic performance has shown signs of deterioration when compared to previous years. The trend is expected to improve in 2017, as fuel prices continued to remain low and the average landed prices of the key species remained relatively high. The Maltese national fleet consisted of 21 active (DCF) fleet segments in 2015 and 5 inactive fleet segments consisting of 244 vessels. These vessels are classed as inactive if they did not land any catch in 2016. Out of eleven large-scale fishing segments, five generated a net profit during 2016. On the other hand, out of ten small-scale fishing segments, only one segment made a net profit in 2016. This means that six of the active fleet segments made a net profit in 2016 while fourteen suffered losses. This shows that the economic performance of all the active fleet segments of the small-scale fishery (except for one segment) is very weak.

Malta		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,316	1,111	1,112	1,087	1,060	1,040	1,045	1,039	1,014	935	689		-2%	-8%
	SCF	622	679	760	533	708	707	648	721	663	624	626		-8%	-1%
	LSF	81	93	82	101	74	67	61	60	68	62	64		13%	-12%
Vessel tonnage	(thousand GT)	7.5	8.3	12.3	12.1	8.0	7.8	7.7	7.5	7.2	6.4			-4%	-19%
	SCF	1.6	1.7	1.8	1.4	1.7	1.7	1.5	1.7	1.5	1.5			-8%	-5%
	LSF	3.5	4.0	4.7	5.1	4.4	4.5	3.6	3.4	3.7	3.3			7%	-12%
Engine power	(thousand kW)	87.5	82.2	85.5	83.4	77.9	76.1	75.5	76.1	73.9	69.9			-3%	-8%
	SCF	35.9	38.3	43.3	30.6	40.4	41.3	36.2	41.4	37.8	36.2			-9%	-2%
	LSF	18.8	20.4	21.2	24.6	20.3	18.8	16.7	16.3	17.6	15.7			8%	-10%
Total employed	(person)	1,019	1,172	1,222	988	1,234	1,201	1,418	1,463	1,262	1,146	1,155		-14%	4%
	SCF	850	863	925	670	956	911	1,098	1,138	986	897	900		-13%	6%
	LSF	169	309	297	318	278	290	320	325	276	249	255		-15%	-4%
FTE	(#)	830	884	887	734	410	784	1,116	872	774	702	710		-11%	-5%
	SCF	696	713	765	594	289	648	804	567	514	468	471		-9%	-19%
	LSF	134	171	122	139	121	135	312	305	259	234	239		-15%	44%
Days at sea	(thousand day)	47.0	48.3	63.5	41.2	33.7	28.4	31.3	25.0	23.3	22.3	22.5		-7%	-42%
	SCF	43.1	43.6	59.9	35.9	28.3	22.6	26.6	20.4	18.5	18.3	18.3		-9%	-47%
	LSF	3.9	4.7	3.6	5.3	5.4	5.8	4.7	4.6	4.8	4.1	4.1		5%	1%
Fishing days	(thousand day)	47.0	48.2	63.5	39.6	32.3	25.3	28.6	23.3	20.9	19.6			-10%	-46%
	SCF	43.1	43.6	59.9	35.7	28.0	21.4	26.1	19.9	17.8	17.1			-11%	-49%
	LSF	3.9	4.6	3.6	3.9	4.3	3.8	2.4	3.4	3.1	2.5			-8%	-16%
Live weight of landings	(thousand tonne)	1.3	1.6	1.8	1.9	2.2	2.4	2.4	2.4	2.3	2.3	2.3		-6%	15%
	SCF	0.4	0.3	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6		-11%	-10%
	LSF	0.9	1.2	1.1	1.1	1.5	1.7	1.8	1.8	1.7	1.7	1.7		-4%	26%
Value of landings	(million €)	8.8	9.3	10.5	12.1	13.0	12.5	10.5	11.6	9.8	10.9	11.2		-15%	-11%
	SCF	2.8	2.2	4.4	4.6	4.5	3.8	3.7	4.0	3.6	3.7	3.7		-10%	-5%
	LSF	6.0	7.1	6.0	7.5	8.6	8.7	6.8	7.6	6.2	7.2	7.5		-18%	-15%
Revenue	(million €)	9.1	10.0	10.5	14.3	13.5	15.0	11.7	12.5	10.4	11.5	11.8		-17%	-14%
	SCF	2.8	2.2	4.4	4.6	4.6	5.2	3.7	4.1	3.6	3.8	3.8		-11%	-8%
	LSF	6.3	7.8	6.0	9.2	9.0	9.3	8.0	8.4	6.7	6.3	6.3		-20%	-16%
Gross Value Added	(million €)	- 0.1	2.6	2.3	6.6	5.7	7.7	5.3	5.9	4.2	5.7	5.6		-29%	-6%
	SCF	- 0.1	0.9	1.0	2.2	1.3	2.9	1.2	1.4	1.3	1.6	1.5		-8%	14%
	LSF	- 0.1	3.5	1.2	4.0	4.4	4.5	4.0	4.5	2.9	2.7	2.5		-35%	-10%
Gross profit	(million €)	- 4.1	- 9.2	8.5	- 2.1	1.5	5.0	- 0.8	2.1	- 0.2	1.0	0.8		-109%	90%
	SCF	- 2.4	8.5	5.6	- 3.3	0.6	2.0	- 2.7	0.6	- 1.6	1.7	1.8		-153%	42%
	LSF	- 1.6	- 0.7	2.9	0.8	2.2	2.6	1.8	2.8	1.3	1.3	1.1		-54%	103%
Net profit	(million €)	- 7.6	- 16.1	15.9	- 9.3	- 4.0	- 0.7	5.1	0.9	- 2.6	- 1.2	- 1.4		-201%	65%
	SCF	- 3.7	10.3	7.7	- 4.6	- 2.2	- 0.4	3.9	- 1.7	- 2.3	- 2.3	- 2.4		-32%	46%
	LSF	- 3.9	4.9	8.0	- 3.6	- 1.5	- 0.9	0.8	0.9	- 0.4	- 0.2	- 0.5		-139%	87%
Return on fixed tangible assets	(%)	- 9.3	14.9	15.4	- 5.0	3.1	1.4	- 5.3	1.0	- 5.2	3.9	4.4		-416%	21%
	SCF	- 21.3	53.5	31.4	28.5	10.1	4.8	26.5	11.0	- 22.7	25.7	27.2		-106%	-2%
	LSF	- 10.5	8.1	11.7	- 4.9	1.9	0.2	- 0.4	3.3	1.6	1.1	2.1		-147%	63%
GVA per FTE	(thousand €)	- 0.1	3.0	2.6	9.0	13.9	9.9	4.7	6.8	5.5	8.1	7.9		-20%	-12%
	SCF	- 0.2	1.2	1.4	3.7	4.4	4.5	1.5	2.5	2.5	3.4	3.1		2%	21%
	LSF	0.5	20.5	10.1	28.6	36.5	33.9	13.0	14.8	10.9	11.6	10.6		-27%	-45%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Small-scale coastal fleet: The SCF (defined as vessels below 12 meters using non-towed gears), represented more than 91% of the active vessels or 67% of the whole Maltese fishing fleet. 44% of the small-scale fishing vessels work on a full time basis in the fishing industry whilst 56% fish on a part time basis. The small-scale fishing sector has an overall increasing trend in jobs for the period analysed (+6% from 2008). The landings value of the small-scale fishery decreased by 1% from 2015 to 2016 but increased again by 3% in 2017 when compared to the previous year. The landings value of the small-scale fishery in 2016 was the lowest since 2010 (EUR 3.6 million). In terms of profitability, in 2016, the economic performance has decline since it registered a gross loss of - EUR 1.6 million in 2016 from a gross loss of - EUR 0.6 million in 2015. Same trend was followed for the net profit as it registered a net loss of - EUR 2.3 million in 2016 from a net loss of EUR 1.7 million in 2015.

Large-scale fleet: The number of large-scale fishing vessels that were active during 2016 amounted to 62. This represents 9% of the active Maltese fleet. All large-scale fishing vessels work on a full time basis in the fishing industry. In 2016, 22% of the total jobs (276 employees) worked with the large-scale fishing vessels, corresponding to 259 FTEs. In 2016, there was a decrease of 15% in the total jobs of the large-scale fishing vessels. The large-scale fishing sector recorded the lowest level of employment since 2008. The landings value decreased by 18% between 2015 and 2016 but increased again by 18% in 2018. The revenue of this segment contributes to 68% to total revenue. In 2016, the large-scale fishery reported a net loss of EUR 0.4 million. In terms of profitability, Gross Value Added (GVA) and gross profit decreased by 35% and 54% respectively between 2015 and 2016. These results indicate that the economic performance of the large-scale fishery took a hit when compared to the improvements recorded in 2015 as LSF in 2016 have recorded lower revenues and gross profits and net losses.

In 2016, the economic performance, in terms of profitability, of the SCF vessels (-EUR 2.3 millions) was worse than the large-scale fishing vessels who reported a net loss of - EUR 0.4 million, although it must be noted that marginally the LSF vessels' profitability deteriorated more than the SCF fleet, as LSF's net profit decreased by 139% when compared to the 32% increase in net loss for SSF. Furthermore, the LSF had a gross profit of EUR 1.0 million while the SCF vessels recorded a gross loss of - EUR 1.6 million. The GVA of SCF was EUR 1.4 million while for LSF it was EUR 2.9 million.

Netherlands

Within the last 10 years the size of the Dutch fishing fleet fluctuated between 712 and 736 vessels. The last years the Dutch fishing fleet improved its economic performance substantially. In particular, the net profit of the large-scale demersal fleet targeting flatfish, shrimps and round fish/*Nephrops* improved. Gross Value Added (GVA), gross profit and net profit generated by the Dutch national fleet in 2016 were estimated at EUR 284 million, EUR 132 million and EUR 96 million, respectively. GVA increased by 54%, gross profit and net profit increased 91% and 82%. These results indicate a highly improved economic situation compared to previous years. All indicators are expected to decrease a bit in 2017, but will stay at high levels. The major factors causing the improvement in economic performance include higher landings of more valuable species, higher fish prices and lower costs mainly because of decreasing fuel prices and fuel saving (e.g. pulse) techniques in the flatfish fleet.

Crew costs increased by 28% compared to the previous year and represented 29% of the value of landings in 2016. Total employment increased slightly by 3% (relative to 2016) in 2017 and was estimated around 2 000 jobs, corresponding to around 1 700 FTEs. Around 20% of the jobs come from the small coastal fleet, whereas the rest comes from the large-scale fleet (60% from cutter fleet and 20% from the trawler fleet). The number of jobs slightly increased in the active cutter fisheries and trawler fleet. If expressed in FTE, the contribution of the small coastal fleet is much lower: about 6% of the total.

The total weight of fish and shellfish landed by the Dutch fleet in 2017 was 382.7 thousand tonnes, with a value of EUR 434 million. Compared to 2016, the total landings weight increased by 4% and landings value decreased by 7%. The increase in weight is mainly caused by the increased landings weight of pelagic fish species. The total landings of pelagic fish fluctuate from year to year. Due to decreased volume of common shrimps (-4.7 thousand tonnes; -25%) there was a great decrease in landings value of this species in 2017 (-EUR 33 million; -28%).

Decreased fish prices for sole (-1% to EUR 10.32 per kg) and common shrimp -5% to EUR 5.97 per kg) are projected in 2017, together with decreased landing volumes for plaice (-9% to 30.5 thousand tonnes), sole (-3% to 9.4 thousand tonnes) and common shrimp (-25% to 14 thousand tonnes) will decrease the landings income for the demersal flatfish and shrimp fisheries. Increased fish prices for plaice (+11% to EUR 1.78 per kg) and increased landing volumes for blue whiting (+40% to 81.6 thousand tonnes) will inhibit the decrease in landings income a bit. These changes in income, together with the increased fuel prices (+7% to EUR 0.34 per litre), let the economic performances across fleet types and for the Dutch demersal fishery overall decrease a bit.

It is expected that profitability in 2017 will not as historical as 2016 but still very high. Projections for 2017 show an overall increase of 4% in landed weight and a 7% decrease in landed value. Together with an increase in most notably fuel costs (-+12%) and decrease of wages and salaries of crew (-7%), gross profits and net profits are expected to decrease up to 6% and 8%, respectively. Gains are expected in 2018 if fish and fuel prices do not fluctuate too much in the 2nd half of the year and quota are optimally used. However, there are different future drivers that could influence the performance of the fisheries. Dutch fisheries are highly dependent on the UK waters. It is still very unclear what the UK exit will imply, however, the most important fleet segments are getting up to 60% of their landings value from fishing areas in UK waters. Therefor it is not unreasonable to expect that Brexit may potentially have large negative consequences on the current Dutch fishing fleet.

Besides Brexit, it is still not clear if fishing with pulse technique will be permitted in the future. The 2nd half of 2018 a decision will be made by the European Commission, - Parliament and Council of Ministers about maintaining, extending or banning pulse fishery in the European waters. If (a part of) the fleet needs to fall back on the traditional way of fishing (conventional beam trawl fisheries), these vessels fuel consumption (and amount of unwanted bycatch) shall increase again (up to 60%) and will influence the fleet performance especially in years with high fuel prices.

Another important driver that could influence the performance of Dutch fisheries is the landing obligation. The implementation of this new regulation could have an impact on costs (increased crew costs, storage costs, etc.) and revenues (losing catches of species where quota is still available due to choke species).

Finally, it is unclear to what extend the impact of closed fishing areas will have because of planned windmill parks etc. at the North Sea.

In 2017, the Dutch fleet spent a total of 51.1 thousand days at sea, a decrease of 2% from 2016 (52.4 thousand days at sea). Compared with 2008-2016 average the effort increased by 1% in 2017. The quantity of fuel consumed in 2017 is estimated around 170 million litres, an increase of 6% from 2016 but a decrease of 10% compared with the 2008-2016 average. The increase in fuel consumption in 2017 (+6%) can be linked to the increased days spent at sea by the large scale vessels in this year including the pelagic trawler fleet (+13%), TBB40XX fleet (+7%) and DTS2440 fleet (+19%). The major factors causing the overall decrease in fuel consumption over years include the results of innovation programmes (introduction of new technics in fishing gear) that commenced in 2008 and the decrease of effort in kW-days. Transition to sustainable fisheries is an ongoing process.

The average Landings per unit of Effort (LpuE) for the Dutch large-scale fisheries estimated around 8.02 tonne per DaS in 2017, an increase of 7% compared to 2016. The reason of this increase can be found in the increased landings of pelagic fish by the pelagic trawler fleet. The average LpuE for the trawler fleet amounted 145.8 tonne per DaS. Without the trawler fleet, the large-scale LpuE amounted 1.8 tonne per DaS. The small-scale coastal fleet amounted 0.10 tonnes per DaS.

			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		712	725	737	736	740	735	719	717	733	736	530		2%	1%
		SCF	180	182	180	176	184	191	184	182	181	179	182		-1%	-1%
		LSF	390	404	398	385	364	360	361	344	346	346	348		1%	-8%
Vessel tonnage	(thousand GT)		138.8	137.2	130.5	135.5	128.8	134.1	126.1	110.2	114.7	116.4			4%	-12%
		SCF	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4			-5%	-9%
		LSF	132.5	130.8	123.5	129.5	122.3	128.3	119.8	104.4	106.0	110.8			2%	-14%
Engine power	(thousand kW)		295.9	294.0	288.8	288.1	276.3	280.1	266.7	247.2	254.7	259.0			3%	-9%
		SCF	11.6	13.1	14.1	15.6	18.1	18.0	18.4	19.8	17.9	18.8			-9%	11%
		LSF	264.7	260.9	251.4	250.5	235.1	239.3	224.0	205.6	210.2	216.8			2%	-13%
Total employed	(person)		2,205	2,087	2,095	2,050	2,040	2,087	2,014	1,970	1,972	2,038.9	2,004.7		0%	-5%
		SCF	352.1	301.8	323.8	301.9	335.3	383.1	320.6	361.9	328.7	325.2	334.2		-9%	-2%
		LSF	1,853	1,785	1,771	1,748	1,705	1,704	1,693	1,608	1,644	1,714	1,670		2%	-5%
FTE	(#)		1,883	1,964	1,795	1,707	1,720	1,729	1,684	1,623	1,648	1,681	1,670		2%	-7%
		SCF	135	235	125	76	109	104	88	98	87	83	81		-11%	-28%
		LSF	1,748	1,729	1,670	1,631	1,611	1,625	1,596	1,525	1,561	1,598	1,589		2%	-5%
Days at sea	(thousand day)		50.9	54.3	51.3	47.0	51.8	50.7	48.7	49.0	52.4	51.1	51.2		7%	4%
		SCF	2.5	2.6	2.7	2.4	2.9	2.8	2.9	3.0	3.6	3.4	3.4		19%	32%
		LSF	48.4	51.7	48.6	44.6	48.9	47.9	45.7	46.0	48.8	47.7	47.9		6%	2%
Fishing days	(thousand day)		44.6	47.7	45.0	41.1	45.6	44.6	42.9	43.2	46.2	45.0			7%	4%
		SCF	2.4	2.4	2.5	2.2	2.7	2.6	2.7	2.8	3.4	3.2			19%	32%
		LSF	42.2	45.3	42.5	38.9	42.9	42.0	40.1	40.4	42.8	41.8			6%	3%
Live weight of landings	(thousand tonne)		416.0	355.8	386.8	353.3	343.7	345.1	382.4	330.5	367.5	382.7	448.4		11%	1%
		SCF	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.5		-10%	-8%
		LSF	415.5	355.3	386.2	352.8	343.2	344.6	382.0	330.0	367.1	382.4	447.9		11%	1%
Value of landings	(million €)		421.2	365.4	378.8	360.4	368.4	368.6	373.0	371.3	466.5	434.1	475.4		26%	24%
		SCF	3.4	3.1	3.6	3.7	3.9	3.3	3.1	3.2	3.4	2.6	3.2		4%	-1%
		LSF	417.9	362.3	375.3	356.7	364.5	365.3	370.0	368.0	463.1	431.6	472.1		26%	24%
Revenue	(million €)		431.8	372.1	387.1	368.7	372.6	371.4	384.5	378.5	471.8	445.9	480.7		25%	23%
		SCF	9.1	5.6	4.8	4.7	6.1	5.0	4.3	4.6	3.5	2.9	3.2		-24%	-36%
		LSF	422.7	366.5	382.3	364.0	366.5	366.4	380.2	373.9	468.3	443.0	477.5		25%	24%
Gross Value Added	(million €)		163.7	152.2	151.2	114.7	131.8	150.8	182.6	184.4	283.8	245.2	270.3		54%	84%
		SCF	5.5	3.7	2.2	3.0	3.9	2.6	2.7	3.3	2.3	1.7	2.0		-28%	-30%
		LSF	158.2	148.5	149.0	111.7	127.9	148.2	179.9	181.1	281.5	243.5	268.3		55%	87%
Gross profit	(million €)		54.1	50.5	52.1	21.3	32.8	48.4	75.7	68.9	132.0	104.5	116.1		92%	161%
		SCF	2.8	2.3	1.3	2.1	2.1	1.4	1.6	2.5	1.8	1.2	1.5		-31%	-13%
		LSF	51.3	48.2	50.8	19.2	30.6	47.0	74.1	66.3	130.2	103.3	114.7		96%	169%
Net profit	(million €)		- 7.7	- 5.6	- 5.0	- 34.1	- 10.5	- 5.3	31.5	33.8	96.1	68.3	78.2		185%	27686%
		SCF	0.6	1.0	0.4	1.1	1.2	0.5	0.8	1.8	1.1	0.7	0.9		-37%	37%
		LSF	- 8.1	- 5.9	- 3.8	- 35.0	- 11.9	- 5.9	31.1	32.1	95.0	67.6	77.3		196%	10370%
Return on fixed tangible assets	(%)		0.3	1.5	1.0	- 7.8	4.0	- 2.6	11.2	12.7	35.5	25.4	28.9		179%	2197%
		SCF	4.6	10.7	0.9	9.3	8.9	4.1	9.2	17.9	12.0	6.4	8.7		-33%	50%
		LSF	0.1	1.4	1.2	- 9.0	- 4.8	- 3.1	12.3	13.4	40.9	26.2	29.6		206%	2753%
GVA per FTE	(thousand €)		86.9	77.5	84.2	67.2	76.6	87.2	108.4	113.6	172.2	145.8	161.8		52%	96%
		SCF	40.4	15.9	17.6	39.9	35.3	25.5	30.6	33.3	26.9	20.2	24.5		-19%	-10%
		LSF	90.5	85.9	89.2	68.5	79.4	91.2	112.7	118.7	180.3	152.4	168.8		52%	96%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Poland

In 2017, the Polish fishing fleet consisted of 843 vessels, having a combined gross tonnage (GT) of 34.9 thousand tonnes and engine power of 83.2 thousand kilowatts (kW). The total number of vessels slightly decreased (-4%) however gross tonnage and engine power increased by 2%. 56 vessels reported no landings in 2016 and are thus considered inactive.

In 2017, 617 vessels were assigned to the small-scale fleet according to the European definition (vessels under 12m using passive gears). 167 active vessels were assigned to the large-scale fleet. There were 5 distant water trawlers in the fleet in 2017 (three vessels operating in North Atlantic and two vessels in African waters).

Polish small scale vessels operate exclusively in the Baltic Sea and two brackish water lagoons, targeting mainly herring, cod, flounder and various kinds of freshwater species. Large scale fleet (vessels under 40 metres length) operated in the Baltic Sea.

Poland			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		864	832	806	793	790	798	838	873	875	843	774		0%	6%
		SCF	563	509	517	518	545	553	595	611	617	617	612		1%	12%
		LSF	259	211	187	188	205	200	199	192	193	167	160		1%	-6%
		DWF	1	3	3	3	2	2	2	2	2	3	2		0%	-11%
Vessel tonnage	(thousand GT)		30.0	41.0	38.2	37.3	33.4	33.4	33.9	34.0	34.2	34.9			1%	-3%
		SCF	2.7	2.3	2.3	2.4	2.6	2.6	2.7	2.7	2.7	2.7			1%	6%
		LSF	22.8	16.5	14.1	13.8	14.6	14.8	15.4	15.0	15.2	14.4			1%	-5%
		DWF	3.9	19.4	19.5	19.5	15.6	15.6	15.4	15.4	15.4	16.9			0%	-1%
Engine power	(thousand kW)		96.6	99.0	90.7	86.9	82.9	81.9	81.4	81.5	81.5	83.2			0%	-7%
		SCF	23.8	20.3	19.8	19.7	21.1	20.9	21.3	21.0	21.2	21.5			1%	1%
		LSF	67.0	53.7	46.5	44.7	47.5	46.6	46.8	45.2	45.5	42.0			1%	-9%
		DWF	3.2	14.4	15.0	15.0	11.8	11.8	11.2	11.2	11.2	16.6			0%	-4%
Total employed	(person)		3,026	2,699	2,590	2,548	2,601	2,515	2,703	2,491	2,481	2,432	2,424		0%	-6%
		SCF	1,379	1,313	1,264	1,301	1,372	1,389	1,519	1,417	1,394	1,402	1,381		-2%	2%
		LSF	1,377	1,116	1,056	977	1,049	946	1,003	899	896	791	852		0%	-15%
		DWF	270	270	270	270	180	180	180	175	191	239	191		9%	-15%
FTE	(#)		2,822	2,552	2,433	2,400	2,487	2,361	2,550	2,280	2,276	1,928	1,886		0%	-8%
		SCF	1,201	1,202	1,121	1,163	1,271	1,290	1,420	1,267	1,208	961	960		-5%	-3%
		LSF	1,351	1,093	1,043	966	1,036	934	990	866	877	728	736		1%	-15%
		DWF	270.0	258.0	270.0	270.0	180.0	137.0	140.0	147.0	191.0	238.8	191.0		30%	-9%
Days at sea	(thousand day)		66.4	62.1	58.1	58.7	67.2	71.3	74.6	71.8	75.2	60.1	60.0		5%	13%
		SCF	45.6	42.8	39.5	40.0	43.5	48.1	51.2	49.4	52.8	41.8	41.5		7%	17%
		LSF	20.3	18.4	17.8	17.9	23.3	22.7	22.8	22.0	21.8	17.8	18.1		-1%	6%
		DWF	0.5	0.9	0.9	0.8	0.5	0.5	0.5	0.4	0.7	0.5	0.4		77%	7%
Fishing days	(thousand day)		62.5	59.8	55.5	56.8	64.1	68.1	71.2	68.7	71.3	56.8			4%	13%
		SCF	45.0	42.4	38.7	39.5	42.6	47.4	50.5	48.8	52.1	41.0			7%	17%
		LSF	17.3	16.8	16.3	16.7	21.1	20.3	20.3	19.6	18.7	15.4			-4%	1%
		DWF	0.3	0.7	0.5	0.6	0.4	0.5	0.4	0.3	0.5	0.4			80%	14%
Live weight of landings	(thousand tonne)		126.2	212.1	170.8	179.5	179.2	195.0	171.3	187.9	198.5	208.7	198.9		6%	12%
		SCF	9.9	11.5	11.0	11.4	12.6	13.0	12.8	12.7	12.5	10.4	11.2		-2%	5%
		LSF	90.2	124.1	104.5	104.2	112.8	127.9	113.3	129.3	133.0	147.7	147.2		3%	17%
		DWF	26.1	76.5	55.4	63.9	53.8	54.1	45.3	45.9	53.1	50.7	40.5		16%	1%
Value of landings	(million €)		40.0	41.3	43.1	47.4	55.4	56.5	47.9	48.7	51.4	47.5	47.3		5%	8%
		SCF	10.4	10.7	10.4	11.3	12.0	12.0	11.1	10.0	11.4	10.4	10.4		14%	4%
		LSF	29.6	30.6	32.7	36.1	43.4	44.6	36.8	38.7	39.9	37.1	36.9		3%	9%
		DWF														
Revenue	(million €)		40.9	41.8	43.3	47.8	55.6	56.6	48.1	49.6	51.6	47.6	47.5		4%	8%
		SCF	10.7	10.8	10.5	11.4	12.0	12.0	11.2	10.3	11.5	6.9	10.5		11%	3%
		LSF	30.2	30.9	32.8	36.4	43.6	44.6	36.9	39.3	40.1	40.7	37.0		2%	9%
Gross Value Added	(million €)		15.1	23.8	24.0	23.0	27.3	28.3	23.5	28.0	31.2	28.7	27.8		12%	29%
		SCF	6.4	7.6	7.3	7.5	7.8	7.3	6.9	6.0	7.9	3.7	7.1		32%	11%
		LSF	8.7	16.2	16.7	15.5	19.6	21.0	16.7	22.0	23.4	25.0	20.7		6%	37%
Gross profit	(million €)		3.9	13.6	11.8	8.4	9.6	9.2	7.9	13.5	16.6	15.0	14.5		23%	71%
		SCF	0.5	5.1	3.7	1.1	0.7	- 0.8	- 0.3	- 1.1	1.6	- 0.7	1.4		240%	41%
		LSF	- 1.5	8.5	8.1	7.2	8.9	10.0	8.2	14.6	15.1	15.7	13.1		3%	89%
Net profit	(million €)		- 0.1	9.1	6.7	4.3	4.9	2.3	0.9	5.6	7.7	8.5	7.4		38%	82%
		SCF	0.2	4.1	2.5	0.3	0.0	- 2.1	- 1.6	- 2.5	0.0	- 1.7	0.2		101%	-83%
		LSF	4.7	5.4	4.7	4.2	5.0	4.4	2.6	8.1	7.7	10.2	7.2		-6%	107%
Return on fixed tangible assets	(%)		1.7	8.3	9.3	6.5	6.2	5.5	4.3	9.4	9.4	8.9	8.6		1%	47%
		SCF	4.5	14.6	12.9	3.2	1.3	- 4.3	2.1	5.5	3.3	2.7	2.8		160%	8%
		LSF	- 3.7	7.9	10.1	9.0	8.6	9.9	7.2	15.7	15.1	14.5	11.4		-23%	49%
GVA per FTE	(thousand €)		5.4	9.3	9.9	9.6	11.0	12.0	9.2	12.3	13.7	14.9	14.8		12%	40%
		SCF	5.4	6.3	6.5	6.5	6.1	5.7	4.8	4.7	6.5	3.8	7.4		38%	13%
		LSF	6.8	15.4	16.7	16.7	19.6	23.4	17.5	26.4	27.7	35.5	29.1		5%	56%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only

The 2016 and 2017 quotas allocated to Poland on the Baltic Sea amounted to about 120 and 138 thousand tonnes respectively and 145 thousand tonnes in 2018. The 2018 cod quotas were again reduced – for Eastern Baltic by as much as -8% and unchanged for the Western Baltic. Quotas for small pelagic were increased again by 20% for Central herring and 1% for sprat.

The 2017 total landings weight 208.7 thousand tonnes (198 thousand tonnes in 2016) increased by 5%. Value landed EUR 47.5 million (EUR 51 million in 2016 - only Baltic Sea landings) decreased by 8%. The main species in the Baltic are European sprat, Atlantic herring, Atlantic cod, and European flounder. In terms of weight sprat is by far the dominant species (71.9 thousand tonnes), whereas the highest revenue was generated by Atlantic herring in 2017 (EUR 14.9 million and 43 thousand tonnes) following by sprat (EUR 13.6 million).

An estimated 75.2 thousand days were spent at sea in 2016, a slight increase (5%) on 2015, while the amount of energy consumed decreased by 3%. Energy consumption decreased for 12-18 metres DTS, 18-24 metres TM as well as for vessels belonging to 12-18 metres DFN segment.

Employment was estimated at 2 481 jobs, corresponding to 2 276 FTEs or an average of 2.6 FTE per vessel in 2016.

Gross Value Added (GVA), gross profit in 2016 were estimated at EUR 31 million, EUR 17 million respectively, compared to 2015 (EUR 28 million, EUR 13.5 million) GVA increased 11%, gross profit increased by 23%. These results indicate a continued improved economic situation compared to previous years mainly due to higher volume and value of fish landed and lower energy costs and labour costs.

In 2016 and 2017, 617 vessels were assigned to the small-scale fleet according to the European definition (vessels under 12m using passive gears). GVA of the fleet amounted to EUR 8 million, 32% more than in 2015. According to forecast it expected to decline in 2017 to EUR 3 million. The sector maintained gross profit of EUR 2 million and 2.5 million and close to "0" net profit in 2016. The number of people working in the fleet change insignificantly in 2016 and amounted to 1394 total jobs or 1 208 FTE.

In 2016, 192 active vessels and in 2017 167 active vessels were assigned to the large-scale fleet. The fleet generated GVA EUR 23 million, produced EUR 15 million gross and EUR 7.7 million net profit. Economic parameters of the fleet didn't change remarkably. The number of people employed in the large-scale fleet change insignificantly.

Portugal

The national fleet consisted of 53 fleet segments totalling 3 818 fishing active vessels in a total of 8 100 vessels of national capacity. The total revenue generated in 2016 was estimated at EUR 397.1 million, contradicts the historical declining trend with a positive variation of EUR 41 million compared with 2015. Total costs incurred by the fleet in 2016 decreased, including the two main costs - Crew costs and energy costs – from 2012 to 2016 energy costs decreased 28%. When including capital costs, total costs amounted to EUR 309 million, representing 11% reduction compared to 2012. Overall, the cost structure has remained relatively constant over the years, with a slight increase in labour costs and decrease in the energy cost.

Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 268 million, EUR 122 million and EUR 76.8 million, respectively. Economic indicators, has in 2015, has still improving due to better fish prices and decreasing costs, result of an improved efficiency.

Small-scale coastal fleet

In 2016, the small scale costal fleet was composed by 3 004 active vessels corresponding to 79% of the total active fleet and generated 7 851 jobs, representing 51% of total fleet employment. The total amount of Gross Value Added (GVA), gross profit and net profit generated by the SSF in 2016 were EUR 78.6 million, EUR 34 million and EUR 28.7 million, respectively. The performance of the fleet improved consistently since 2012. Furthermore, this part of the national fleet contributes significantly to the economic and social sustainability of local fishing communities. Projections for 2017 and 2018, suggest that small scale fleet continued to decrease in capacity (number, GT and kW) but in terms of economic performance, maintenance of actual conditions is expected. The cost structure of the fleet remained stable over the period 2008-16 with, a slightly drop in 2015 of Wages and salaries of the crew being the major cost and highly linked to the income from landings.

Large-scale fleet

The large scale fleet comprised 789 vessels and it represents 21% of the active Portuguese fleet. The majority of large scale fleet use mobile gears (purse seine, demersal trawl and dredges) and in 2016 generated 7 303 jobs, representing 47% of total fleet employment. In 2016, the activity of this fleet decreased in days at sea (-3%) and in fishing days (-1%) with a correspondent decrease of landings in weight (-6%) achievement a position between 2014 and 2015 values. Albeit the decrease of the landings in weight, the value of landings is still increasing (+11%). Economic performance of Large-scale fleet is stable.

Distant-water fleet

The distant water fleet comprised 25 vessels surfaces longliners. In 2016, this fleet generated 358 jobs. In terms of economic performance, the fleet showed an estimated Gross Value Added (GVA), gross profit and net profit of EUR 13 million, EUR 9 million and EUR 5.7 million, respectively. Economic performance of Distance-water fleet has improved when compared with 2015.

Projections for 2017

Preliminary results for 2017 forecast a 7% decrease in landed weight. The landings in fresh fish in national ports, which represents 68% of the overall landings, decreased 5% in weight, but the overall value increase 1%. According to the Portuguese National Statistics (Estatísticas da Pesca, 2017) the average fish price increases EUR 0.13 per kg.

Portugal			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2017	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		8,770	8,731	8,655	8,507	8,399	8,311	8,256	8,205	8,100	8,022	3,602		-1%	-4%
		SCF	3,792	3,665	3,540	3,338	3,230	3,185	3,097	3,044	3,004	2,948	2,821		-2%	-11%
		LSF	922	923	898	874	819	812	822	807	789	775	760		-2%	-7%
		DWF	40	38	39	35	34	27	26	20	25	24	21		-23%	-41%
Vessel tonnage	(thousand GT)		107.2	107.7	104.4	102.2	101.1	100.1	100.4	100.3	94.9	93.7			0%	-3%
		SCF	7.9	7.8	7.7	7.5	7.5	7.4	7.4	7.2	7.3	7.1			-2%	-5%
		LSF	63.8	65.6	63.2	63.0	60.9	61.7	61.3	55.8	57.2	54.9			-9%	-11%
		DWF	13.5	12.0	12.7	11.5	11.1	9.1	8.9	6.7	7.8	8.4			-25%	-41%
Engine power	(thousand kW)		389.2	393.2	383.6	374.9	371.2	368.0	368.1	367.7	359.9	357.0			0%	-3%
		SCF	107.9	108.1	107.2	103.7	102.9	101.0	99.9	98.1	99.5	98.7			-2%	-6%
		LSF	177.8	179.4	171.6	169.7	164.1	166.1	165.5	158.2	159.4	155.2			-4%	-7%
		DWF	26.5	24.4	25.0	22.5	21.8	18.0	17.2	12.5	15.0	15.1			-27%	-44%
Total employed	(person)		17,239	17,860	16,583	18,258	16,754	17,867	16,992	16,086	15,396	14,916.8	14,602.9		-5%	-7%
		SCF	9,397.0	9,321.0	8,523.0	10,075.0	8,862.0	9,857.0	8,957.0	8,522.0	7,735.0	7,537.5	7,224.8		-5%	-8%
		LSF	7,431	8,124	7,651	7,751	7,478	7,668	7,653	7,234	7,303	7,130	7,159		-5%	-6%
		DWF	411.0	415.0	410.0	433.0	416.0	345.0	381.0	327.0	358.0	249.5	218.6		-14%	-19%
FTE	(#)		9,155	9,260	9,155	9,614	9,241	9,748	8,515	8,130	8,230	8,157	7,935		-5%	-12%
		SCF	3,246.0	3,063.0	2,827.0	3,370.0	3,022.0	3,413.0	2,967.0	2,923.0	2,578.0	2,526.7	2,520.3		-1%	-7%
		LSF	5,537	5,835	5,949	5,835	5,825	6,037	5,199	4,928	5,352	5,405	5,219		-5%	-14%
		DWF	371.0	362.0	381.0	410.0	396.0	301.0	348.0	278.0	300.0	225.6	196.2		-20%	-24%
Days at sea	(thousand day)		441.1	425.0	402.3	390.9	385.4	368.8	335.6	352.5	339.5	339.0	336.4		5%	-10%
		SCF	285.1	272.0	253.6	245.8	248.5	236.4	213.8	225.6	215.4	214.0	213.4		6%	-10%
		LSF	146.5	144.5	138.9	136.4	130.2	126.7	116.4	122.4	119.1	120.9	119.4		5%	-9%
		DWF	9.4	8.4	9.8	8.7	6.7	5.6	5.4	4.5	5.0	4.1	3.6		-17%	-42%
Fishing days	(thousand day)		399.6	383.7	362.1	351.9	348.9	331.5	321.5	338.2	325.1				5%	-5%
		SCF	264.8	253.7	236.2	228.4	231.2	218.8	212.1	225.3	212.9				6%	-4%
		LSF	127.8	123.7	118.9	116.7	111.5	107.5	104.5	108.8	107.8				4%	-6%
		DWF	7.0	6.3	7.1	6.8	6.2	5.2	4.9	4.1	4.5				-18%	-35%
Live weight of landings	(thousand tonne)		193.9	171.6	194.7	197.7	189.1	196.0	163.4	183.4	173.2	175.3	160.4		12%	-2%
		SCF	22.0	19.4	21.9	17.8	20.5	22.1	20.2	20.5	18.2	18.2	18.1		1%	-1%
		LSF	162.5	142.7	160.4	168.3	155.7	166.3	134.5	156.4	146.8	149.9	136.0		16%	0%
		DWF	9.5	9.5	12.4	11.6	11.5	7.5	8.7	6.5	8.2	7.2	6.3		-25%	-35%
Value of landings	(million €)		400.8	361.0	399.2	408.9	386.8	367.7	353.4	351.9	390.1	402.6	366.9		0%	-8%
		SCF	95.8	76.6	79.6	76.6	76.7	76.1	82.3	81.6	86.8	87.8	86.4		-1%	1%
		LSF	277.5	253.5	278.3	295.4	273.7	265.4	249.2	252.4	279.2	291.2	259.3		1%	-7%
		DWF	27.5	30.9	41.3	36.9	30.5	25.8	21.9	18.0	24.2	23.6	21.2		-18%	-41%
Revenue	(million €)		404.2	368.1	406.0	416.5	386.0	364.7	364.9	356.7	395.3	406.6	371.7		-2%	-8%
		SCF	97.6	79.2	80.6	76.9	76.9	75.8	83.0	81.7	87.2	88.2	86.8		-2%	0%
		LSF	279.0	256.2	281.7	300.3	280.1	259.6	256.4	254.3	283.0	295.0	263.9		-1%	-7%
		DWF	27.5	32.7	43.7	39.2	29.0	29.4	25.5	20.6	25.1	23.4	21.0		-19%	-36%
Gross Value Added	(million €)		249.8	225.3	251.4	261.9	231.6	219.0	232.9	249.1	268.0	278.2	241.4		7%	4%
		SCF	77.0	60.7	61.3	58.1	57.8	57.2	64.9	64.0	68.5	69.6	67.5		-1%	3%
		LSF	166.7	150.7	171.7	186.0	163.4	149.5	155.7	174.6	186.6	196.7	163.3		12%	7%
		DWF	6.1	13.8	18.4	17.8	10.4	12.3	12.2	10.4	12.8	11.9	10.7		-15%	-20%
Gross profit	(million €)		92.4	84.6	100.6	104.1	78.2	83.1	96.9	115.9	122.3	129.7	103.8		20%	27%
		SCF	35.2	25.9	26.5	23.8	19.8	24.1	29.1	31.5	34.5	35.3	33.7		8%	20%
		LSF	56.3	49.7	62.7	69.3	52.9	52.2	60.6	76.8	78.9	86.0	62.6		27%	33%
		DWF	0.9	9.0	11.4	11.0	5.5	6.8	7.3	7.6	8.9	8.4	7.6		5%	2%
Net profit	(million €)		38.3	4.6	29.7	26.7	- 3.7	14.5	37.3	71.4	76.8	91.3	67.1		91%	239%
		SCF	25.2	12.1	13.8	10.1	5.1	10.8	17.6	21.8	25.0	26.6	25.5		24%	61%
		LSF	20.5	- 2.3	16.8	20.9	2.1	9.6	21.7	47.7	48.6	58.5	35.9		119%	274%
		DWF	- 5.4	1.3	3.8	2.8	- 2.5	0.6	2.6	4.4	5.7	6.1	5.5		70%	860%
Return on fixed tangible assets	(%)		9.9	6.0	9.9	11.9	6.8	9.0	12.1	17.7	22.6	35.5	26.9		46%	89%
		SCF	36.4	20.3	21.5	20.2	14.5	20.9	29.7	35.6	44.5	47.0	46.7		20%	52%
		LSF	10.4	4.3	10.4	14.5	8.4	9.7	12.8	22.5	27.0	31.9	20.0		75%	124%
		DWF	- 10.4	8.2	12.4	12.7	1.6	7.7	13.0	22.8	28.6	36.0	37.6		75%	252%
GVA per FTE	(thousand €)		27.3	24.3	27.5	27.2	25.1	22.5	27.4	30.6	32.6	34.1	30.4		12%	18%
		SCF	23.7	19.8	21.7	17.2	19.1	16.8	21.9	21.9	26.6	27.6	26.8		0%	9%
		LSF	30.1	25.8	28.9	31.9	28.0	24.8	30.0	35.4	34.9	36.4	31.3		18%	24%
		DWF	16.5	38.2	48.3	43.5	26.1	40.8	35.1	37.5	42.7	52.5	54.3		7%	6%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Romania

Not available

Romania			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		441	440	429	488	261	196	158	151	147	155	165		-3%	-54%
		SCF	395	153	205	197	179	106	111	113	104	111	131		-8%	-43%
		LSF	10	7	1	3	4	6	12	14	17	24	33		21%	139%
Vessel tonnage	(thousand GT)		2.3	2.3	1.0	1.0	0.7	0.6	0.8	0.9	1.1	1.4			27%	-8%
		SCF	0.4	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2			-1%	-15%
		LSF	0.8	0.5	0.1	0.4	0.3	0.4	0.5	0.7	0.8	1.2			26%	83%
Engine power	(thousand kW)		8.7	8.2	5.4	7.0	5.9	6.2	6.1	6.0	5.8	6.2			-3%	-13%
		SCF	3.1	1.2	1.7	3.4	3.5	3.2	2.4	2.1	1.5	1.3			-32%	-44%
		LSF	2.4	1.6	0.3	1.1	1.2	2.1	3.2	3.7	3.9	4.8			6%	99%
Total employed	(person)		875	289	444	454	471	304	330	331	345	757	926		4%	-21%
		SCF	790	242	436	434	445	278	279	271	266	599	709		-2%	-33%
		LSF	85	47	8	20	26	26	51	60	79	158	217		32%	96%
FTE	(#)		42	31	38	28	39	37	41	42	48	97	126		14%	28%
		SCF	31	28	38	26	35	27	26	19	17	38	45		-13%	-42%
		LSF	11	4	0	3	4	10	15	23	31	60	82		36%	259%
Days at sea	(thousand day)		3.7	4.1	4.3	2.6	3.3	2.8	2.8	4.0	4.1	4.9	6.0		1%	18%
		SCF	3.4	3.9	4.3	2.6	3.2	2.5	2.2	3.1	2.9	3.3	3.9		-7%	-8%
		LSF	0.3	0.1	0.0	0.1	0.1	0.4	0.6	0.9	1.2	1.5	2.1		29%	291%
Fishing days	(thousand day)		3.7	3.9	4.1	2.5	3.3	2.7	2.7	3.7	3.7	4.8			2%	13%
		SCF	3.4	3.8	4.1	2.5	3.2	2.4	2.2	2.8	2.6	3.3			-8%	-15%
		LSF	0.2	0.1	0.0	0.1	0.1	0.3	0.6	0.9	1.2	1.5			34%	314%
Live weight of landings	(thousand tonne)		0.4	0.3	0.2	0.5	0.8	1.6	2.2	4.8	6.8	9.6	12.6		41%	399%
		SCF	0.1	0.2	0.2	0.4	0.7	1.0	1.0	1.6	1.6	2.7	3.2		1%	142%
		LSF	0.3	0.1	0.0	0.1	0.1	0.6	1.2	3.2	5.2	6.8	9.4		61%	646%
Value of landings	(million €)		0.9	0.7	0.6	1.5	1.0	1.5	2.5	4.3	3.9	4.5	5.8		-9%	141%
		SCF	0.4	0.6	0.6	1.4	0.9	1.0	1.2	1.6	1.2	1.6	1.9		-23%	30%
		LSF	0.5	0.1	0.0	0.1	0.1	0.5	1.3	2.7	2.6	2.9	4.0		-1%	300%
Revenue	(million €)		0.9	0.7	0.6	1.5	1.0	1.5	2.5	4.3	3.9	4.5	5.8		-9%	141%
		SCF	0.4	0.6	0.6	1.4	0.9	1.0	1.2	1.6	1.2	1.6	1.9		-23%	30%
		LSF	0.5	0.1	0.0	0.1	0.1	0.5	1.3	2.7	2.6	2.9	3.9		-1%	300%
Gross Value Added	(million €)		0.6	0.6	0.2	0.9	0.6	0.8	1.5	3.5	2.9	3.1	3.2		-16%	170%
		SCF	0.3	0.5	0.2	0.9	0.6	0.6	0.7	1.2	0.8	0.9	0.7		-34%	32%
		LSF	0.3	0.1	-0.0	0.0	0.0	0.3	0.8	2.3	2.1	2.2	2.5		-7%	352%
Gross profit	(million €)		-0.0	0.3	0.0	0.4	0.3	0.3	0.4	3.0	2.3	2.3	2.2		-24%	288%
		SCF	-0.1	0.3	0.0	0.4	0.3	0.2	0.2	1.0	0.5	0.5	0.3		-47%	90%
		LSF	0.1	0.0	-0.0	0.0	0.0	0.1	0.2	2.0	1.7	1.8	1.9		-12%	464%
Net profit	(million €)		-0.1	-0.0	-0.1	0.2	0.1	0.1	0.1	2.6	1.7	1.5	1.6		-34%	361%
		SCF	-0.1	0.3	-0.0	0.3	0.2	0.1	0.1	0.9	0.4	0.3	0.2		-53%	110%
		LSF	0.1	-0.1	-0.0	-0.0	-0.0	0.0	0.0	1.7	1.3	1.1	1.4		-22%	535%
Return on fixed tangible assets	(%)		-0.7	3.4	-0.4	7.0	5.4	5.1	7.3	46.7	25.9	12.9	8.9		-44%	181%
		SCF	-8.8	42.7	-1.2	31.0	19.7	14.7	37.7	108.3	43.4	16.7	6.7		-60%	42%
		LSF	2.5	0.3	-0.5	0.1	0.2	2.6	4.4	36.8	24.7	12.1	9.3		-33%	325%
GVA per FTE	(thousand €)		14.2	18.1	6.4	31.6	15.4	22.5	36.4	84.0	61.8	31.8	25.4		-26%	117%
		SCF	8.9	18.2	6.4	32.8	15.8	21.5	28.1	65.0	49.4	23.6	16.6		-24%	101%
		LSF	28.7	17.1	-1.3	18.5	11.1	25.2	50.4	100.0	68.6	36.9	30.1		-31%	120%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Slovenia

In 2017, the Slovenian fishing fleet consisted of 172 registered vessels, with a combined gross tonnage of 605.07 GT, a total power of 8.8 thousand kW and an average age of 39.3 years. The average length of the fishing vessels was 6.99 metres in the same year. The size of the fleet decreased between 2008 and 2017; the number of vessels by 4% and GT and kW by 38% and 18%, respectively. The major factors causing the fleet to decrease include the scrapping of vessels, including two of the largest vessels in Slovenian fishing fleet.

The Slovenian fishing flees nationally divided into a small-fleet segment (86% of all active vessels in 2017) with an engine power of 3.1 thousand kW and a large-fleet segment (14% of all active vessels in 2017) with an engine power of 1.7 thousand kW. The number of vessels in the SSCF increase for 7% from 2008-2017, while the number of large-scale vessels decrease for 44% in the same period. Scrapping is the major factor for decreased large-scale fleet. On the other hand, those fishers who lost their jobs because of scrapping, starts to fish on their own, which results in a higher, number of small-scale vessels.

Total employment in 2016 was estimated at 110 jobs, corresponding to 70 FTEs. The level of employment decreased between 2008 and 2016, with total employed decreasing by 4%, whiles the number of FTEs decreased by 10 %.

The total weight of seafood landed in 2016 was around 150 tonnes, with a landed value of EUR 0,97 million. The total weight and value of landings decreased by 70% and 45%, respectively, over the period analysed. In 2009, the national fleet generated the highest landed value (EUR 2.4 million), followed by 2008 (EUR 2.3 million). In terms of landings weight, in 2009 the fleet landed around 866 tonnes, 2010 (764 tonnes) and 2011 (719 tonnes). The major factor causing the decrease in landed weight and value, especially for European anchovy and sardine, include scrapping of fishing vessels. In the last quarter of 2011, Slovenia sent the two largest ships to be scrapped (pelagic trawlers 24-40m); those vessels targeted mainly sardine and anchovy and represented around 50% of the Slovenian landed weight.

The amount of income generated by the Slovenian national fleet in 2016 was EUR 2.35 million. This consisted of EUR 0.97 million in landings value, EUR 1.25 million in non-fishing income and EUR 0.14 in subsidies. The Slovenian fleet's landings income decreased 58% between 2008 and 2016, while other income increased almost 80% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

Slovenia		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels		181	185	185	186	181	171	170	169	171	172	81		1%	-4%
	SCF	60.0	62.0	67.0	62.0	67.0	69.0	77.0	76.0	72.0	69.0	70.1		-5%	7%
	LSF	25	25	24	22	22	14	14	12	11	11	11		-8%	-44%
Vessel tonnage		1.0	1.0	1.0	1.0	0.8	0.6	0.6	0.6	0.6	0.6			-1%	-29%
	SCF	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2			-3%	6%
	LSF	0.6	0.6	0.6	0.6	0.5	0.2	0.2	0.2	0.2	0.2			-11%	-61%
Engine power		10.7	11.0	11.0	10.9	10.1	8.5	8.5	8.5	8.5	8.8			0%	-14%
	SCF	2.5	2.5	3.0	2.5	2.7	4.0	4.3	3.8	3.0	3.1			-20%	-4%
	LSF	4.6	4.4	4.4	4.1	3.6	1.9	1.9	1.8	1.5	1.7			-14%	-54%
Total employed		109	117	116	114	107	107	126	119	110	110.7	111.9		-8%	-4%
	SCF	67.0	64.0	72.0	62.0	68.0	71.0	89.0	90.0	87.0	89.5	90.6		-3%	19%
	LSF	42	53	44	52	39	36	37	29	23	21	21		-21%	-45%
FTE		77	82	81	77	63	75	80	84	70	70	71		-17%	-10%
	SCF	47.7	45.0	48.8	41.6	43.9	50.4	60.0	65.9	56.6	58.2	58.9		-14%	12%
	LSF	29	37	32	35	19	25	20	18	13	12	12		-27%	-52%
Days at sea		6.8	6.9	7.7	7.7	7.6	7.6	8.6	8.7	7.9	7.3	7.4		-9%	3%
	SCF	4.8	4.7	5.4	5.7	6.2	6.4	7.4	7.6	6.9	6.6	6.7		-10%	14%
	LSF	2.0	2.2	2.4	2.0	1.4	1.3	1.2	1.1	1.0	0.8	0.8		-7%	-40%
Fishing days		6.8	6.9	7.7	7.7	7.6	7.6	8.6	8.7	7.9	7.3			-9%	3%
	SCF	4.8	4.7	5.4	5.7	6.2	6.4	7.4	7.6	6.9	6.6			-10%	14%
	LSF	2.0	2.2	2.4	2.0	1.4	1.3	1.2	1.1	1.0	0.8			-7%	-40%
Live weight of landings		0.7	0.9	0.8	0.7	0.3	0.2	0.3	0.2	0.2	0.1	0.1		-22%	-70%
	SCF	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		-22%	8%
	LSF	0.6	0.8	0.7	0.7	0.3	0.2	0.2	0.1	0.1	0.1	0.1		-23%	-80%
Value of landings		2.3	2.4	2.1	2.1	1.5	1.2	1.3	1.3	1.0	0.9	0.9		-24%	-45%
	SCF	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.5	0.6	0.6		-29%	0%
	LSF	1.9	1.9	1.6	1.6	1.0	0.7	0.7	0.5	0.4	0.3	0.3		-17%	-65%
Revenue		3.0	2.9	3.5	3.6	2.4	2.6	2.7	2.0	2.2	2.1	2.1		9%	-22%
	SCF	0.6	0.7	1.3	1.4	0.9	1.2	1.5	1.1	1.5	1.6	1.6		30%	34%
	LSF	2.5	2.1	2.1	2.2	1.5	1.4	1.3	0.9	0.7	0.6	0.6		-18%	-58%
Gross Value Added		1.7	1.7	1.9	2.6	1.8	2.0	2.3	1.6	1.8	1.7	1.8		18%	-6%
	SCF	0.2	0.4	0.9	1.2	0.6	1.0	1.2	0.9	1.3	1.3	1.4		49%	58%
	LSF	1.5	1.3	1.0	1.4	1.2	1.0	1.0	0.7	0.6	0.4	0.4		-20%	-51%
Gross profit		0.8	0.5	0.7	1.4	0.8	1.1	1.3	0.6	1.1	1.0	1.0		80%	19%
	SCF	- 0.1	0.1	0.5	0.8	0.2	0.4	0.7	0.3	0.8	0.8	0.8		193%	124%
	LSF	0.9	0.4	0.2	0.6	0.7	0.7	0.6	0.3	0.3	0.2	0.2		-13%	-48%
Net profit		0.7	0.1	0.4	1.1	0.6	0.7	1.0	0.2	0.9	0.9	0.9		279%	54%
	SCF	- 0.1	0.0	0.4	0.7	0.1	0.2	0.5	0.0	0.7	0.7	0.7		6040%	213%
	LSF	0.8	0.2	0.0	0.5	0.5	0.6	0.5	0.3	0.3	0.2	0.2		-7%	-40%
Return on fixed tangible assets		14.0	6.2	9.4	21.7	15.1	19.9	27.6	8.1	29.8	39.9	40.3		269%	96%
	SCF	- 12.0	6.6	33.6	62.0	8.6	14.3	35.8	3.2	45.3	44.4	44.8		1307%	138%
	LSF	27.1	10.3	2.8	17.3	36.6	55.7	43.3	23.9	36.3	29.1	29.4		52%	34%
GVA per FTE		22.7	20.4	23.3	34.3	28.5	26.4	28.2	18.6	26.4	24.7	24.8		42%	4%
	SCF	5.1	9.6	19.2	28.8	14.3	19.2	20.2	13.1	22.6	23.1	23.1		73%	40%
	LSF	51.4	33.5	29.6	40.8	61.9	41.0	51.6	39.3	42.6	32.6	32.9		9%	-2%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only. Number of vessels in 2018 includes active vessels only.

In terms of economic performance, the amount of Gross Value Added (GVA), gross profit and net profit generated by the Slovenian fleet in 2016 were EUR 1.84 million, EUR 1 million and EUR 0.9 million, respectively. Between 2008 and 2016, GVA, gross profit and net profit increased 5%, 39% and 43% respectively. Although the Slovenian fishing fleet was in a poor economic condition because of old and poorly equipped fleet and reduced catches, still records positive trend of economic indicators. The reason for the positive trend is primarily because of higher revenues from other sources.

Small-scale fleet: In 2016, there were 83 active vessels of which around 72 (87% of all active vessels) are classified as small-scale (an increase for 20% from 2008). The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian SSCF in 2016 was EUR 1.54 million. This consisted of EUR 0.53 million in landings value, EUR 0.96 million in non-fishing income and EUR 0.06 million in direct subsidies. Landings income increased 36% between 2008 and 2016, while other income increased for more than 400% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

In terms of economic performance, the amount of Gross Value Added (GVA), gross profit and net profit generated by the SSCF in 2016 were EUR 1.28 million, EUR 0.79 million and EUR 0.68 million, respectively. Between 2008 and 2016, GVA, gross profit and net profit following the positive trend although the substantial fall was recorded in 2015. The major factors causing the improvement in economic performance in period analysed included increases in landing income and income from other sources while, on the other hand, operation costs remain relative stabile during the period analysed. In 2016, the SSCF had an estimated (depreciated) replacement value of EUR 1.56 million. Investments by the fleet amounted to EUR 0.08 million in 2016.

Large-scale fleet: 11 vessels (13% of all active vessels) represents Slovenian large-scale sector in 2016. The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian large-scale fleet in 2016 was EUR 0.81 million. This consisted of EUR 0.44 million in landings value, EUR 0.08 million in direct subsidies and EUR 0.29 million in non-fishing income. Landings income decreased 77% between 2008 and 2016. The major factor for decreased value of landing income is scrapping of some vessels and in the last few years a crisis in PS segment, which is deeper from year to year.

In terms of economic performance, the amount of Gross Value Added (GVA), gross profit and net profit generated by the large-scale fleet in 2016 were EUR 0.55 million, EUR 0.28 million and EUR 0.25 million, respectively. Between 2008 and 2016, GVA, gross profit and net profit decreased 63%, 68% and 67% respectively. The major factor causing for decreasing in economic performance is lover income from landings of PS sector and scrapping of some vessels. In 2016, the large-scale fleet had an estimated (depreciated) replacement value of EUR 0.73 million. Investments by the fleet amounted to EUR 0.02 million in 2016.

Spain

The total number of vessels of the Spanish fleet continues with his decrease trend year after year, in order to adapt the fleet to the resources. In 2017, the total number of vessels was 9 146 (8 295 active during 2017), 3 958 vessels belong to the small-scale fleet segment (SSF), 4 115 to the large scale fleet (LSF) (according to the European definition, which is not the same that Spanish definition) and 222 vessels are part of the Distance Water fleet (DWF).

In 2016, the Spanish fleet spent 1 083 thousand days at sea, (no big changes from 2015), with 1 037 thousand fishing days.

The quantity of fuel consumed in 2016 was 709 million litres, which shows a decrease of 18% from 2015. All the fleet has decrease the energy consumption, The SSF has decreased the energy consumption, from 30.2 million of litres to 21 million (30%) For the LSF segment, the consumption has decreased (22% less than in 2015) due to the better efficiency of this fleet segment, the Distant Water Fleet shows a decrease of the energy consumption of 30%.

In terms of vessel tonnage, 344 thousand GT is the combined gross tonnage of the total Spanish fleet; 11.6 thousand GT belongs to the SSF, 163.3 thousand GT to the LSF and 150.6 thousand GT to DWF. In order to achieve the balance between the capacity of the Spanish fleet and the fishing opportunities, the vessel tonnage, as seen with the number of vessel has a decrease trend, this trend is also reflected on the engine power of the Spanish Fleet, with 802.8 thousand kW for the total fleet, 111 kW thousand SSF, 435 thousand kW LSF, and 207 thousand kW DWF, over the last years, there is a decrease of 14% of the engine power for the Spanish fleet.

In terms of employment, the estimated total number of people employed during 2016 was 31 597, with 8 869 persons employed by the SSF, 18 425 employed by the LSF, and 4 303 persons employed by the DWF.

The Full Time Equivalent (FTE) results for 2016 are 29 399 for the total fleet, which shows a decrease from the previous year. This decrease is mainly due to the DWF that had a decrease of 12%. The LSF had also a decrease of the 2%, and only de SSF had an increase of 10%

In terms of Live weight and value at landings, the main species caught by the Spanish fleet are: highly migratory stocks (skipjack tuna, yellowfin tuna, big eye tuna) landed by 22 freezer Purse seiners that belong to the DWF, and European hake by LSF trawlers and seiners, small pelagic species (European anchovy) which are mainly fished by purse seiners of Spanish waters fishing grounds of north Atlantic and Mediterranean.

In terms of economic performance, the amount of revenue reaches the EUR 1.99 billion, no major changes for the total fleet refereed to the year before, but if we have a look to DWF, the revenue decrease 6%, this trend of decrease started on 2014. SSCF, and LDF had an increase on the revenue of 4% and 5%, reaching EUR 157.7 million, and EUR 1 billion, respectively.

The total Amount of Gross Value Added generated by the Spanish fleet was for 2016 EUR 1 088 million, EUR 118 million belongs to SSF, EUR 645 million to LSF, and EUR 325 million to the DWF, the GVA for the Spanish fleet, shows an increase of 12%.

Spain			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		13,115	11,501	11,209	10,900	10,544	10,167	9,921	9,686	9,459	9,356	8,086		-2%	-13%
		SCF	6,420	6,315	7,102	4,214	4,188	4,215	4,156	4,129	4,123	3,988	3,884		0%	-19%
		LSF	3,089	3,101	2,956	4,622	4,486	4,340	4,307	4,150	4,023	4,075	3,993		-3%	4%
		DWF	294	267	297	280	264	240	230	222	208	211	210		-6%	-21%
Vessel tonnage	(thousand GT)		470.1	459.5	439.7	415.4	400.1	384.9	379.4	366.7	343.9	341.0			-6%	-17%
		SCF	14.4	14.1	15.1	13.1	11.6	11.5	11.5	11.5	11.6	9.6			1%	-10%
		LSF	268.0	262.8	237.2	202.9	189.7	185.3	178.0	172.5	163.3	142.5			-5%	-23%
		DWF	176.6	173.4	179.4	169.3	174.0	162.7	163.6	161.7	150.6	78.0			-7%	-11%
Engine power	(thousand kW)		1,067.9	1,027.3	983.2	937.7	903.6	873.9	867.0	842.1	802.8	799.7			-5%	-14%
		SCF	139.0	135.5	146.9	115.2	109.0	109.8	110.5	110.9	111.1	93.9			0%	-9%
		LSF	624.5	609.6	556.7	513.4	487.7	472.3	465.2	453.2	435.1	413.6			-4%	-17%
		DWF	252.4	245.9	255.3	237.6	240.5	225.5	228.8	225.0	207.4	100.3			-8%	-13%
Total employed	(person)		36,765	38,045	39,281	35,808	34,399	33,129	33,121	32,059	31,597	30,930	30,499		-1%	-11%
		SCF	11,878	11,797	12,697	8,803	8,601	9,484	8,251	7,902	8,869	8,634	8,593		12%	-11%
		LSF	19,982	20,714	19,524	21,545	21,085	18,991	19,809	19,151	18,425	18,049	17,687		-4%	-8%
		DWF	4,905	5,534	7,060	5,460	4,713	4,654	5,061	5,007	4,303	4,248	4,219		-14%	-19%
FTE	(#)		34,921	35,844	33,678	33,210	30,302	28,782	28,629	30,015	29,399	29,206	32,035		-2%	-8%
		SCF	7,059	7,261	8,222	6,695	5,378	7,317	5,546	5,662	6,208	6,132	6,322		10%	-7%
		LSF	21,266	21,266	17,140	19,802	19,033	16,110	17,179	17,693	17,356	17,314	19,991		-2%	-7%
		DWF	6,596	7,317	8,316	6,713	5,891	5,355	5,905	6,661	5,835	5,760	5,722		-12%	-12%
Days at sea	(thousand day)		1,105.0	1,122.3	1,208.9	1,150.7	1,149.1	1,096.1	1,117.7	1,078.0	1,083.3	1,070.7	1,125.3		0%	-4%
		SCF	515.1	532.2	624.3	393.1	392.2	391.1	406.7	402.0	417.0	411.9	420.0		4%	-9%
		LSF	514.0	516.5	504.8	680.0	684.9	640.5	647.3	613.0	605.7	598.9	646.0		-1%	1%
		DWF	75.9	73.7	79.8	77.6	72.0	65.3	63.7	63.0	60.6	59.8	59.3		-4%	-15%
Fishing days	(thousand day)		1,049.9	1,068.0	1,153.6	1,100.0	1,102.3	1,049.0	1,073.4	1,030.8	1,037.8				1%	-4%
		SCF	515.1	532.1	624.2	392.7	392.2	390.9	406.5	401.8	416.8				4%	-9%
		LSF	469.9	473.0	460.7	639.7	647.6	600.9	610.7	574.7	568.8				-1%	2%
		DWF	64.9	62.9	68.7	67.6	62.6	57.1	56.1	54.3	52.1				-4%	-16%
Live weight of landings	(thousand tonne)		775.9	798.9	873.4	861.0	871.1	898.1	932.7	922.2	897.7	918.8	959.0		-3%	4%
		SCF	25.9	25.3	28.1	25.5	28.5	26.0	29.6	20.9	30.8	30.8	30.6		47%	17%
		LSF	431.5	477.6	442.3	400.3	394.7	390.0	409.5	365.5	405.0	431.7	473.4		11%	-2%
		DWF	318.5	296.0	403.0	435.0	447.8	482.2	493.6	482.1	461.9	456.3	455.0		-4%	10%
Value of landings	(million €)		1,864.4	1,907.0	1,885.0	1,861.6	1,942.4	1,970.0	2,074.8	1,861.1	2,086.1	2,109.3	2,303.9		12%	9%
		SCF	129.9	128.2	137.9	112.2	100.9	94.7	104.4	67.4	122.0	120.5	128.9		81%	11%
		LSF	1,075.8	1,158.8	1,048.4	947.2	895.6	855.1	869.4	849.6	958.9	980.8	1,151.0		13%	0%
		DWF	658.7	620.1	698.7	799.4	945.9	1,020.2	1,100.9	826.5	1,005.3	1,008.1	1,024.0		22%	21%
Revenue	(million €)		1,526.3	1,988.2	1,884.9	2,081.5	1,921.0	1,897.5	2,020.9	1,976.5	1,986.1	1,997.8	2,199.1		0%	4%
		SCF	121.1	195.6	199.9	130.1	113.2	158.9	126.2	151.2	157.7	155.6	167.1		4%	5%
		LSF	915.0	1,200.8	930.0	1,089.6	980.2	883.1	941.5	956.0	1,007.1	1,017.1	1,192.5		5%	2%
		DWF	490.3	591.7	754.9	861.8	827.6	855.4	953.3	869.3	821.3	825.1	839.4		-6%	6%
Gross Value Added	(million €)		585.8	884.4	849.9	910.7	883.2	879.0	1,059.6	970.4	1,087.8	1,110.1	1,275.7		12%	24%
		SCF	75.7	128.1	123.5	81.4	71.4	99.9	86.7	107.9	118.0	116.3	126.2		9%	22%
		LSF	375.1	599.6	476.4	508.8	510.0	434.1	526.6	568.1	645.2	657.2	804.1		14%	29%
		DWF	135.0	156.7	250.0	320.5	301.8	345.0	446.3	294.4	324.7	336.6	345.4		10%	15%
Gross profit	(million €)		35.9	86.0	178.2	259.4	302.1	285.7	444.8	355.3	465.1	483.1	558.3		31%	91%
		SCF	7.5	14.0	1.2	21.2	0.5	14.9	4.4	32.2	28.1	27.4	30.7		-13%	901%
		LSF	9.1	74.9	89.7	111.9	136.1	89.2	125.0	178.8	249.6	257.7	323.1		40%	145%
		DWF	34.3	25.1	90.0	168.0	165.5	208.6	321.5	144.3	187.3	197.9	204.5		30%	29%
Net profit	(million €)		- 155.4	- 168.9	22.5	112.4	157.9	166.5	332.6	217.5	384.2	414.4	487.3		77%	349%
		SCF	- 14.9	- 25.2	4.6	- 29.9	1.0	20.7	- 12.2	26.1	19.7	19.8	21.9		-24%	296%
		LSF	- 112.6	- 91.0	8.7	22.2	50.1	30.5	63.9	115.6	217.3	231.4	294.3		88%	1892%
		DWF	- 28.6	- 51.7	30.5	119.9	114.2	154.3	276.3	74.0	137.7	153.8	159.6		86%	60%
Return on fixed tangible assets	(%)		- 15.6	- 15.5	5.6	23.3	33.8	36.3	70.7	45.7	86.1	96.9	116.9		88%	274%
		SCF	- 30.4	- 45.5	7.2	- 92.7	7.1	66.3	- 38.3	87.1	116.4	116.3	135.2		34%	600%
		LSF	- 18.1	- 13.9	4.7	10.1	23.2	14.5	31.0	54.9	105.8	112.5	147.0		93%	695%
		DWF	- 9.5	- 14.2	15.5	66.1	63.2	92.5	145.4	36.6	75.1	84.2	89.3		105%	52%
GVA per FTE	(thousand €)		16.8	24.7	25.2	27.4	29.1	30.5	37.0	32.3	37.0	38.0	39.8		14%	33%
		SCF	10.7	17.6	15.0	12.2	13.3	13.7	15.6	19.1	19.0	19.0	20.0		0%	30%
		LSF	17.6	28.2	27.8	25.7	26.8	26.9	30.7	32.1	37.2	38.0	40.2		16%	38%
		DWF	20.5	21.4	30.1	47.7	51.2	64.4	75.6	44.2	55.7	58.4	60.4		26%	25%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

Sweden

The national fleet consisted of 1 211 vessels, including 300 inactive vessels in 2017. An estimated 67.2 thousand days were spent at sea during 2017, a 9% decrease compared to 2016, while the live weight of landings increased by 12%. The total weight landed in 2016 was 198 thousand tonnes of seafood (222 thousand tonnes in 2017), with a landed value of EUR 125 million (EUR 128 million in 2017). The fleet targets both pelagic and demersal species, with herring remaining the dominant species, generating the highest landed value with EUR 45 million and representing about 36% of the total landings value in 2016. The Swedish fleet continued the positive trend and increased the net profit with EUR 13.2 million, due to both higher income and lower costs. The positive trend is expected to continue into 2017 and 2018, since landings remained high and some fish prices increased, and as costs remained low or even decreased.

The Swedish fleet's income is dominated by trawlers, both pelagic and demersal. As trawling is typically fuel intensive, fluctuations in fuel prices are therefore a key driver of the fleet's profitability. The increased landings had a positive impact on profitability in 2016. Preliminary results for 2017 and 2018 suggest high landed values due to a stable high level of landed weight, together with higher fish prices. Projections suggest that decreases in fuel consumption translated in part to a decrease in operating costs, together with a reduction in capital costs, will make 2017 and 2018 to better years compared to 2016.

Small-scale coastal fleet

The number of small-scale vessels decreased from 819 in 2008 to 738 in 2016 (680 in 2017), a decrease of 10%, following the general trend of the Swedish fleet but a relatively lower yearly percentage decrease compared to large-scale vessels. Close to half of the decrease in number of vessel between 2008 and 2017 stems from vessels with main income from fishing European eel. The Swedish authorities, through different management actions, such as permits, have tried to diminish effort in the threatened European eel fishery.

The numbers employed in the small-scale fisheries follows the same decreasing trend as the fleet in general over the period 2008-2016, with FTE decreasing more rapidly. Although the decrease between 2015 and 2016 is very small, indicating that the decreasing trend have stagnated. Vessel tonnage as well as engine power has decreased slightly during 2016, the former with a larger increase, 3.3% compared to 0.9%.

Overall, the SSCF is not profitable, generating a net loss of EUR 5.1 million in 2016. Gross value added is positive but relatively low per FTE at EUR 29.9 thousand. As tangible assets are probably, in most cases, paid off, these vessels can afford to continue to fish. Low GVA estimates signal that there are other reasons for fishing than just profit, such as part-time employment or a way of life. Fishers whom do not have profit as main reason for fishing raises the competition on the market, which makes it harder for new firms/individuals to enter the market.

Additionally, increased seal populations along the Swedish coastline are still heavily affecting both income, by taking and eating fish directly from the gears, and costs, by destroying gears as well as creating extra work.

Large-scale fleet

For the large-scale fleet, the number of vessels decreased from 329 in 2008 to 237 in 2016 (231 in 2017), a decrease of 28%. More than half of this decrease stems from vessels with main income from the Norwegian lobster fishery. The Swedish authorities have promoted fishing lobster with passive gears and as cod populations are in bad conditions, mixed fisheries with cod and lobster are no longer a profitable option. Vessels fishing for cod as main source of income have also decreased. Some of these vessels also fished pelagic species and after the introduction of fishing-rights in the pelagic fishery they sold their rights and left the fishery.

The numbers employed in the large-scale fisheries follows the same decreasing trend as the fleet in general, while FTE is increasing, indicating a decreasing portion of part-time fishers, meaning more fishers doing just fishing. Vessel tonnage and power has decreased heavily but seems to have stabilised the last three years in the period.

The weight and value of landings for the large-scale vessels from 2008 to 2017 is more dependent on the quotas than the same measure for the small-scale. The landings weight decreased substantially in the first half of the period. Although, with recent increase in quotas the landings weight is higher and almost back at the same level as in 2008. The landing values follows the same trend but with more variation due to changes in fish prices. Despite, the large-scale fleet seems to perform fairly well but the variation is large. Vessels fishing pelagic species and those that fish in the north Baltic for vendance rom are performing very well while those fishing for cod are performing poorly.

The large-scale fleet has slightly decreased their operational costs, mainly due to lower energy costs and other variable costs. Increasing total incomes together with decreasing costs result in substantially higher net profits in 2016 compared to 2015. Overall, the large-scale fleet is profitable, generating a net profit of EUR 28.9 million in 2016. Gross value added per FTE is relatively high at EUR 136 thousand. Even higher net profits can be expected for 2017 and 2018 since landing values has increased due to better prices and higher landing weights.

| Sweden		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,507	1,471	1,415	1,359	1,322	1,299	1,266	1,298	1,255	1,211	876		-3.3%	-8.2%
	SCF	819.0	818.0	776.0	754.0	754.0	729.0	731.0	758.0	738.0	680.0	654.9		-2.6%	-3.8%
	LSF	329	314	288	277	265	255	247	244	237	231	222		-2.9%	-14.6%
Vessel tonnage	(thousand GT)	43.0	41.7	38.6	32.9	29.5	30.5	29.0	30.8	31.9	28.2			3.4%	-7.7%
	SCF	3.8	3.8	3.6	3.5	3.6	3.5	3.3	3.3	3.2	3.0			-3.3%	-8.8%
	LSF	33.7	32.4	29.5	26.6	24.8	25.4	23.6	24.8	23.8	23.1			-3.8%	-13.7%
Engine power	(thousand kW)	211.8	207.9	196.4	178.1	169.1	170.7	163.9	167.9	170.6	159.4			1.6%	-6.9%
	SCF	53.7	53.9	51.8	51.6	53.3	52.7	51.8	52.4	51.9	48.8			-0.9%	-1.4%
	LSF	128.9	125.1	113.0	104.6	98.5	98.0	92.5	94.8	92.2	91.0			-2.8%	-13.8%
Total employed	(person)	1,980	1,758	1,765	1,679	1,663	1,577	1,568	1,487	1,485	1,384.8	1,423.4		-0.1%	-11.8%
	SCF	1,073.1	929.5	951.2	924.8	919.7	902.0	913.9	890.9	888.8	818.2	856.5		-0.2%	-5.3%
	LSF	907	829	813	754	743	675	655	596	596	567	567		0.0%	-20.1%
FTE	(#)	1,133	1,019	990	974	942	886	845	792	798	755	661		0.8%	-15.8%
	SCF	470.1	382.6	383.7	367.3	340.1	320.9	331.7	306.7	304.9	271.8	257.9		-0.6%	-16.0%
	LSF	663	636	606	606	602	565	513	485	493	483	403		1.7%	-15.6%
Days at sea	(thousand day)	102.7	96.6	85.1	83.7	78.9	77.7	77.7	73.4	73.6	67.2	61.4		0.3%	-12.9%
	SCF	66.5	63.4	56.2	53.6	49.3	48.1	50.4	48.0	48.0	42.8	40.8		-0.1%	-11.9%
	LSF	36.3	33.2	28.9	30.1	29.6	29.6	27.3	25.3	25.6	24.4	20.6		1.2%	-14.7%
Fishing days	(thousand day)	102.7	96.6	85.1	83.7	78.9	77.7	77.7	73.4	73.6	67.2			0.3%	-12.9%
	SCF	66.5	63.4	56.2	53.6	49.3	48.1	50.4	48.0	48.0	42.8			-0.1%	-11.9%
	LSF	36.3	33.2	28.9	30.1	29.6	29.6	27.3	25.3	25.6	24.4			1.2%	-14.7%
Live weight of landings	(thousand tonne)	213.2	199.3	204.4	173.3	136.5	177.6	166.1	202.7	197.7	221.7	210.4		-2.5%	7.4%
	SCF	6.6	6.6	5.4	5.1	5.2	4.5	4.7	4.4	4.5	3.5	3.2		0.5%	-16.0%
	LSF	206.6	192.7	199.0	168.2	131.3	173.1	161.4	198.2	193.2	218.2	207.2		-2.5%	8.0%
Value of landings	(million €)	120.4	101.7	113.0	125.6	122.4	126.4	106.7	116.0	125.1	127.5	99.1		7.9%	7.3%
	SCF	17.2	14.2	14.0	14.7	16.0	14.9	14.3	15.0	14.9	12.8	12.4		-0.5%	-0.8%
	LSF	103.2	87.5	99.0	110.9	106.4	111.6	92.3	101.0	110.2	114.8	86.7		9.1%	8.5%
Revenue	(million €)	125.7	119.7	152.1	134.4	128.1	143.9	112.0	129.4	135.7	127.5	108.6		4.9%	3.9%
	SCF	21.2	16.8	17.0	20.7	19.0	17.6	16.2	17.9	18.3	15.9	15.5		2.2%	0.0%
	LSF	104.5	102.9	135.2	113.7	109.1	126.3	95.8	111.5	117.4	121.5	93.1		5.4%	4.5%
Gross Value Added	(million €)	61.3	51.8	79.9	62.1	53.8	71.5	53.9	67.9	76.3	69.2	54.0		12.3%	21.5%
	SCF	12.1	8.3	7.9	9.4	8.5	7.7	7.0	8.4	9.1	7.5	7.1		8.0%	5.1%
	LSF	49.2	43.4	72.0	52.7	45.3	63.8	46.9	59.5	67.1	71.6	46.9		12.9%	24.1%
Gross profit	(million €)	31.1	25.6	50.9	32.8	23.1	38.0	21.4	38.0	46.5	39.2	30.0		22.2%	42.5%
	SCF	1.3	- 0.3	- 1.8	- 0.6	- 1.3	- 2.2	- 4.0	1.6	- 0.8	- 1.5	- 1.5		50.2%	38.0%
	LSF	29.8	25.8	52.8	33.3	24.4	40.2	25.4	39.7	47.3	50.6	31.4		19.2%	39.4%
Net profit	(million €)	- 5.9	- 8.4	20.7	1.5	0.2	10.3	0.8	10.7	23.9	19.0	10.6		123.3%	587.1%
	SCF	- 7.5	- 8.6	7.3	- 5.8	- 4.9	- 6.4	- 8.0	- 6.6	- 5.1	- 5.3	- 5.2		22.5%	25.5%
	LSF	1.6	0.4	28.0	7.4	4.7	16.8	7.3	17.3	28.9	34.2	15.8		67.3%	177.4%
Return on fixed tangible assets	(%)	- 2.8	- 3.7	13.6	2.1	0.5	8.7	0.8	6.5	15.5	13.7	8.0		137.3%	381.5%
	SCF	- 17.8	- 20.4	- 27.1	- 21.4	- 25.8	- 29.6	- 39.7	- 27.1	- 22.2	- 25.6	- 25.6		17.9%	14.8%
	LSF	1.9	1.7	22.8	6.7	5.1	15.6	9.3	13.2	24.8	31.3	15.2		88.5%	160.4%
GVA per FTE	(thousand €)	54.1	50.8	80.8	63.8	57.1	80.7	63.8	85.8	95.5	91.7	81.8		11.4%	42.4%
	SCF	25.8	21.8	20.6	25.7	25.0	24.1	21.1	27.5	29.9	27.5	27.6		8.7%	25.0%
	LSF	74.1	68.2	118.9	86.8	75.3	112.9	91.4	122.6	136.1	148.2	116.4		11.0%	45.1%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

United Kingdom

The number of vessels continues to fall steadily from 6 706 in 2008 to 6 304 in 2016, for active vessels there was a fall of 5% between these years. The fall in FTEs from 9 549 in 2009 – there was a decommissioning scheme in 2008 which distorts the impression for that year - to 8 888 in 2016 suggests that the cost of labour is continuing to cause substitution of capital for labour but the magnitude of the trend is not unduly strong. Total engine power and gross tonnage of the UK fleet decreased slightly with minimal changes in the overall make-up of the fleet.

When adjusted for inflation, the value of landings of the UK fleet has increased by 16% from 2008 to 2016. This is largely due to a large increase in mackerel landings over the time period as a result of increased quota and is in spite of a small decrease in average landed price for the species. In 2016, increased value of landings compared to 2015 was driven by higher prices for a number of key species and is despite a slight decrease in the overall weight of landings. Preliminary data for 2017 indicates a 2% increase in weight of landings and a 10% increase in value of landings driven mainly by an increase in the price received for Atlantic mackerel.

While overall the fleet is profitable, with 30% of income being retained as net profit, there are considerable variations within the fleet segments. The large pelagic trawlers (Pelagic trawl > 40m) generated more than 25% of this profit in 2016 as they benefitted from improved prices. Gross value added (GVA) increased by 16% up to EUR 651 million and GVA as a percentage of revenue increased from 50% to 56%.

The UK's decision to leave the EU and how its relationship is now redefined will have a significant impact on the economic performance of the UK fishing fleet as well as the rest of the UK fishing industry. In 2016, UK vessels

landed 255 thousand tonnes of fish abroad. Of this, 123 thousand tonnes of mostly mackerel and herring were landed into Norway. Sixty-seven thousand tonnes were landed by UK vessels into the Netherlands and 33 thousand tonnes into Denmark. A small sector of the UK registered fishing fleet is in Dutch economic ownership; landings by these vessels contribute to the large quantities of fish landed into the Netherlands. Seventy-eight per cent of fish landed abroad by UK vessels were pelagic and 19% were demersal. In 2016, 53 thousand tonnes of fish were landed into the UK by foreign vessels, 16% up on 2015, a result of increases in herring and mackerel landings. French and Danish registered vessels landed the largest quantity of fish into the UK in 2016 (18 thousand tonnes and 12 thousand tonnes respectively). Three fifths of all fish landed into the UK are demersal with the large majority of the remainder being pelagic.

United Kingdom			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)		6,706	6,681	6,531	6,467	6,435	6,376	6,338	6,307	6,304	6,263	4,630		0%	-3%
		SCF	3,271	3,256	3,277	3,338	3,320	3,205	3,149	3,164	3,257	3,300	3,281		3%	0%
		LSF	1,628	1,582	1,497	1,460	1,442	1,425	1,416	1,420	1,380	1,366	1,348		-3%	-7%
Vessel tonnage	(thousand GT)		215.9	209.9	216.8	204.0	202.7	202.1	198.3	195.8	193.5	200.5			-1%	-6%
		SCF	13.6	13.3	13.3	13.5	13.2	13.0	13.5	13.1	13.4	13.6			3%	1%
		LSF	185.3	180.9	191.1	177.0	177.9	172.7	170.2	169.9	168.2	173.8			-1%	-6%
Engine power	(thousand kW)		868.6	849.4	847.9	816.3	810.4	808.2	799.1	794.2	790.9	798.4			0%	-4%
		SCF	195.1	195.0	194.3	200.2	198.8	197.6	196.5	194.7	203.6	207.5			5%	4%
		LSF	554.9	536.8	547.6	515.1	514.2	505.1	499.5	495.2	487.6	493.6			-2%	-6%
Total employed	(person)		12,614	12,212	12,703	12,405	12,445	12,235	11,845	12,107	11,757	11,774	11,617		-3%	-5%
		SCF	5,429	5,617	5,958	6,092	5,797	5,910	5,738	5,743	5,422	5,467	5,386		-6%	-6%
		LSF	7,185	6,595	6,745	6,313	6,648	6,325	6,107	6,364	6,335	6,307	6,231		0%	-3%
FTE	(#)		8,699	9,549	9,245	9,034	8,563	7,870	7,769	8,223	8,888	8,395	8,481		8%	3%
		SCF	1,823	2,021	2,053	2,130	1,848	1,837	2,037	2,103	2,106	1,755	1,708		0%	6%
		LSF	6,875	7,528	7,192	6,904	6,715	6,033	5,732	6,120	6,782	6,640	6,773		11%	2%
Days at sea	(thousand day)		456.2	433.3	429.2	420.0	411.6	401.3	428.2	431.7	431.0	379.6	379.5		0%	1%
		SCF	239.4	221.0	224.8	228.3	221.2	215.6	238.8	244.9	238.3	195.5	190.6		-3%	4%
		LSF	216.8	212.4	204.4	191.7	190.4	185.7	189.4	186.7	192.8	184.0	188.9		3%	-2%
Fishing days	(thousand day)		377.5	348.4	343.2	337.3	337.2	323.4	325.1	304.1	321.0	324.6			6%	-5%
		SCF	183.3	158.0	159.8	166.1	169.6	160.9	163.3	147.3	157.2	167.6			7%	-4%
		LSF	194.2	190.4	183.5	171.2	167.6	162.5	161.8	156.8	163.8	157.0			4%	-6%
Live weight of landings	(thousand tonne)		575.0	582.8	608.4	603.7	634.4	628.5	758.9	709.0	700.6	715.2	702.2		-1%	10%
		SCF	40.1	39.2	42.7	44.6	48.9	50.7	50.3	44.5	50.3	45.9	40.5		13%	11%
		LSF	534.9	543.7	565.7	559.2	585.5	577.7	708.5	664.5	650.3	669.2	661.7		-2%	10%
Value of landings	(million €)		932.7	880.3	938.7	1,026.8	1,010.6	887.8	1,072.1	1,070.6	1,130.1	1,053.1	1,082.2		6%	16%
		SCF	133.7	110.3	119.5	123.4	128.1	116.3	129.2	132.7	143.6	127.4	132.9		8%	16%
		LSF	799.0	769.9	819.2	903.4	882.5	771.6	943.0	937.9	986.5	925.7	949.3		5%	16%
Revenue	(million €)		965.4	908.6	970.2	1,055.7	1,064.2	936.6	1,119.6	1,112.5	1,172.6	1,132.0	1,123.9		5%	15%
		SCF	139.6	112.9	123.8	129.0	135.3	123.2	135.9	136.3	150.7	138.8	140.0		11%	16%
		LSF	825.8	795.7	846.4	926.7	928.9	813.4	983.7	976.2	1,021.9	993.1	983.9		5%	15%
Gross Value Added	(million €)		398.6	442.0	431.6	467.5	479.0	412.0	584.5	561.3	650.9	610.1	599.0		16%	38%
		SCF	75.3	63.8	64.8	60.3	64.6	59.4	68.7	70.3	85.8	80.3	81.8		22%	30%
		LSF	323.3	378.3	366.9	407.2	414.5	352.6	515.8	491.0	565.1	529.8	517.2		15%	39%
Gross profit	(million €)		144.1	200.1	203.2	225.1	226.5	198.4	318.5	277.2	351.3	321.1	311.3		27%	57%
		SCF	19.6	20.4	19.7	16.8	18.4	16.8	20.9	20.8	33.1	32.2	32.9		59%	72%
		LSF	124.5	179.7	183.5	208.3	208.1	181.6	297.6	256.3	318.3	288.9	278.3		24%	55%
Net profit	(million €)		57.3	119.8	129.3	161.8	162.6	133.9	243.2	189.3	292.3	273.4	262.8		54%	95%
		SCF	5.5	8.8	11.0	9.5	8.5	6.5	9.0	7.7	24.5	25.4	25.8		219%	195%
		LSF	52.4	111.5	118.3	151.7	153.7	127.3	234.4	182.3	268.1	248.0	237.1		47%	90%
Return on fixed tangible assets	(%)		9.1	21.1	20.5	27.7	32.0	27.1	39.4	26.2	50.2	48.8	49.3		92%	98%
		SCF	6.8	12.2	13.6	10.7	9.6	6.5	10.6	9.9	28.3	27.3	28.4		187%	184%
		LSF	10.6	24.7	23.2	33.2	40.7	34.8	47.5	30.2	59.5	53.0	53.5		97%	95%
GVA per FTE	(thousand €)		45.8	46.3	46.7	51.7	55.9	52.4	75.2	68.3	73.2	72.7	70.6		7%	32%
		SCF	41.3	31.5	31.5	28.3	34.9	32.3	33.7	33.4	40.7	45.8	47.9		22%	22%
		LSF	47.0	50.2	51.0	59.0	61.7	58.5	90.0	80.2	83.3	79.8	76.4		4%	34%

Data source: MS data submissions under the DCF 2016 Fleet Economic (MARE/A3/AC(2016)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.

REPORT TO THE STECF

EXPERT WORKING GROUP OF THE 2018 ANNUAL ECONOMIC REPORT ON THE EU FISHING FLEET

EWG-18-03 & 18-07

ISPRA, ITALY 9-13 APRIL & DUBLIN, IRELAND, 11-15 JUNE 2018

3 EU FLEET OVERVIEW

Due to incomplete data from member states, the EU Fleet Overview (chapter 3) and Regional Analysis (chapter 4) omit Greece from a number of tables, figures and overall indicators (unless otherwise indicated). In addition, to ensure confidentiality, data on some fleet segments have not been provided by some member states and these too have been omitted.

Fleet Capacity

- In 2016, the EU fishing fleet numbered around 83 360 vessels with a combined gross tonnage (GT) of 1.56 million tonnes and engine power of 6.3 million kilowatts (kW).
- There were 17 962 inactive vessels (21.5% of the total number of vessels), bringing the number of active vessels to 65 398. Of the active vessels, 75% were small-scale coastal vessels, 24.6% large-scale and 0.4% distant-water vessels.
- EU fleet capacity has continued to decrease steadily, with an average annual decrease of 2% in terms of vessel numbers and kW and 3% in terms of GT.
- Excluding Greece, the EU fleet numbered 68 178 vessels of which 51 751 vessels were active and 16 427 were inactive.

*Employment and wages**

- The EU fleet, including Greece, directly employed circa 152 331 fishers, corresponding to 114 776 FTE.
- Excluding Greece, these figures amounted to 127 356 fishers and 91 735 FTE.
- Average annual wage (including crew wages and unpaid labour) per FTE was estimated at EUR 26.4 thousand, ranging from EUR 131.3 thousand for Belgian fishers to EUR 1.8 thousand for Cypriot fishers.

*Effort and landings**

- The EU fleet spent 4.8 million days at sea and consumed 2.2 billion litres of fuel; less 3% compared to 2015.
- Landings reported amounted to 4.9 million tonnes (-3%) of seafood in 2016, amounting to a reported value of EUR 7.7 billion (+9%).
- Landings per day at sea (LPUE), for the EU fleet as a whole, was estimated at 1.1 tonnes per day in 2016 (-2%).

*Economic performance**

- Total revenue (income from landings + other income) earned by the EU fleet in 2016 was estimated at EUR 7.7 billion (+7%).
- The amount of GVA, gross profit and net profit (all excl. subsidies and fishing rights) generated by the fleet in 2016 was EUR 4.5 billion (+15%), EUR 2.07 billion (+27%) and EUR 1.35 billion (+71%), respectively.
- GVA to revenue was estimated at 58% (up from 54% in 2015); gross profit margin at 26.7% (up from 22.4% in 2015), and 17.4% of the revenue was retained as net profit (up from 11% in 2015).
- While overall the EU was profitable, five out of the 22 MS evaluated generated net losses in 2016 (six in 2015), namely: Croatia, Cyprus, Finland, Malta and Lithuania. Only Malta suffered gross losses.
- In 2016, the fleet had an estimated replacement value of EUR 5.2 billion (-6%) and in-year investments amounted to EUR 531 million (+1%).

*EU Small-scale coastal fleet (SSCF)**

- Including Greece, the EU SSCF comprised 49 029 vessels with a combined gross tonnage of 121 thousand GT and engine power of 1.7 million kW, covered 72% of the number of vessels, 8% of the gross tonnage and 30% of the engine power.
- When excluding Greece, the EU SSCF numbered 36 342 vessels and covered 6.4% of the gross tonnage and 26% of the engine power.

- Employed 78 304 fishers or 46 647 FTEs with Greece (51% and 41% of the EU total, respectively). Excluding Greece, these values amounted to 58 691 fishers and 28 848 FTEs (46% and 31% of the EU total, respectively), with an average annual wage per FTE of EUR 16 100 (+12%).
- Contributed 5.6% of the weight landed (273 thousand tonnes) and produced 11.6% of the landed value (EUR 893 million).
- Generated EUR 701 million in GVA (+14%), EUR 245 million in gross profit (+16%) and EUR 132 million in net profit (+36%).
- In relative terms, this amounted to 67% GVA to revenue (+3%), 24% gross profit margin (+5%) and 13.6% net profit margin (+30%).

EU Large-scale fleet (LSF)*

- Comprised 16 097 vessels and covered 73% of the gross tonnage and 62% of the engine power, when including Greece.
- Employed 68 228 fishers or 60 903 FTEs (45% and 53% of the total, respectively). When excluding Greece, these figures amounted to 62 866 fishers and 55 661 FTEs, with an average annual wage per FTE of EUR 31 800 (+3.8%).
- Contributed 79.6% to landings in weight and 72% to landings in value.
- Generated EUR 3.4 billion in GVA (+15%), EUR 1.6 billion (+26%) in gross profit and EUR 1 036 million in net profit (+66%)
- In relative terms, this amounted to 60% GVA to revenue (+7%), 28% gross profit margin (+17%) and 19% net profit margin (+55%).

EU Distant-water fleet (DWF)*

- Comprised 274 vessels and covered 18% of the total gross tonnage and 7% of the engine power.
- Employed 5 799 fishers or 7 226 FTEs (4% and 6% of the total, respectively), with an average annual wage per FTE of EUR 27 700 (+5%).
- Contributed 14.8% to landings in weight and 16.5% to landings in value.
- Generated EUR 418 million in GVA (+26%), EUR 224 million in gross profit (+68%) and EUR 137 million in net profit (+152%).
- In relative terms, this amounted to 39% GVA to revenue (+26%), 21% gross profit margin (+68%) and 15% net profit margin (+152%).

The table below provides a summary of the main results for the EU fleet (all figures exclude Greece) for the period 2010-2016 and nowcast results for 2017 and 2018.

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	%Δ 2016-2015	%Δ 2016-2010	%Δ 2016-2008
Total number of vessels	(#)	70,810	67,619	66,758	65,804	68,090	67,283	66,628	68,701	68,178	67,876	66,972	-0.8%	2.1%	-3.7%
Number of Inactive vessels	(#)	19,371	16,641	15,697	16,996	16,902	16,764	16,562	19,100	16,427	15,875	15,664	-14.0%	4.6%	-15.2%
Engine power	(thousand kW)	6,390	6,187	6,043	5,901	6,064	6,010	5,970	5,961	5,868	5,644		-1.6%	-2.9%	-8.2%
Vessel tonnage	(thousand GT)	1,761	1,715	1,659	1,599	1,578	1,556	1,550	1,525	1,489	1,418		-2.3%	-10.3%	-15.4%
Total employed	(person)	139,357	137,629	137,758	132,276	133,472	130,584	129,530	126,779	127,356	126,416	126,256	0.5%	-7.6%	-8.6%
Full-time equivalent (FTE)	(#)	100,517	100,410	97,459	95,054	93,240	90,369	89,710	91,283	91,735	90,736	92,849	0.5%	-5.9%	-8.7%
Days at sea	(thousand day)	5,172	5,183	4,664	4,572	5,111	4,949	4,884	4,825	4,849	4,748	4,725	0.5%	4.0%	-6.2%
Fishing days	(thousand day)	4,855	4,965	4,475	4,378	4,868	4,834	4,794	4,695	4,831			2.9%	7.9%	-0.5%
Energy consumption	(million litre)	2,473	2,648	2,531	2,354	2,255	2,262	2,202	2,314	2,245	2,293	2,285	-3.0%	-11.3%	-9.2%
Live weight of landings	tonne)	4,601	4,766	4,847	4,558	4,417	4,713	5,052	5,058	4,902	5,190	5,229	-3.1%	1.1%	6.5%
Value of landings	(million €)	7,085	6,911	6,989	7,175	7,015	6,898	7,159	7,057	7,690	7,468	7,606	9.0%	10.0%	8.5%
Income from landings	(million €)	6,727	6,992	6,999	7,351	6,980	6,776	7,091	7,118	7,602	7,416	7,519	6.8%	8.6%	13.0%
Other income	(million €)	114	119	171	143	115	150	155	143	133	121	128	-6.7%	-22.3%	17.2%
Direct income subsidies	(million €)	180	143	94.0	80.9	80.5	59.2	68.8	56.6	40.9	-		-27.7%	-56.4%	-77.3%
Income from leasing fishing rights	(million €)	3	8	8.4	12.0	16.1	40.8	41.3	43.6	33.6	-		-23.0%	300.8%	1083.7%
Revenue	*(million €)*	*6,841*	*7,111.5*	*7,170*	*7,494*	*7,095*	*6,926*	*7,246*	*7,261*	*7,735*	*7,537*	*7,648*	*6.5%*	*7.9%*	*13.1%*
Wages and salaries of crew	(million €)	1,831	2,097	1,960	1,947	1,841	1,783	1,904	2,031	2,161	2,086	2,143	6.4%	10.3%	18.0%
Unpaid labour value	(million €)	263	332	286	255	239	254	257	233	257	251	260	10.3%	-10.1%	-2.4%
Energy costs	(million €)	1,613	1,227	1,381	1,613	1,610	1,487	1,351	1,103	916	961	1,064	-17.0%	-33.7%	-43.2%
Repair & maintenance costs	(million €)	549	613	583	618	566	548	596	647	684	674	665	5.7%	17.4%	24.7%
Other variable costs	(million €)	904	1,065	1,004	1,073	941	964	986	1,081	1,103	1,108	1,094	2.0%	9.8%	22.1%
Other non-variable costs	(million €)	612	629	628	609	577	557	532	538	548	542	537	1.7%	-12.8%	-10.5%
Rights costs	(million €)	47	54	59.1	69.4	68.5	75.3	84.4	112.1	101.9			-9.1%	72.3%	117.4%
Annual depreciation costs	(million €)	871	879	728	806	773	718	701	751	659	647	640	-12.2%	-9.4%	-24.4%
Opportunity cost of capital	(million €)	42	202	138.3	125.7	96.7	109.4	111.4	87.0	61.1			-29.7%	-55.8%	44.8%
Capital costs	*(million €)*	*843*	*1,015*	*866*	*931*	*870*	*827*	*813*	*838*	*720*	*640*	*646*	*-14.1%*	*-16.8%*	*-14.5%*
Gross Value Added	(million €)	3,164	3,578	3,573	3,581	3,400	3,370	3,781	3,891	4,485	4,252	4,287	15.3%	25.5%	41.8%
GVA to revenue	(%)	46	50	49.8	47.8	47.9	48.7	52.2	53.6	58.0	56.4	56.1	8.2%	16.3%	25.4%
Gross profit	(million €)	1,069	1,149	1,328	1,379	1,320	1,333	1,620	1,627	2,067	1,916	1,884	27.1%	55.7%	93.3%
Gross profit margin	(%)	16	16	18.5	18.4	18.6	19.2	22.4	22.4	26.7	25.4	24.6	19.3%	44.3%	71.0%
Net profit	(million €)	105	31	312	448	450	506	807	789	1,347	1,276	1,239	70.7%	331.4%	1180.6%
Net profit margin	(%)	1.8	0.5	5.1	6.0	6.3	7.3	11.1	10.9	17.4	16.9	16.2	60.3%	238.3%	861.0%
Tangible asset value (replacement)	(million €)	5,426	5,412	5,172	5,292	5,315	5,056	5,321	5,548	5,220	4,736	4,675	-5.9%	0.9%	-3.8%
Investments	(million €)	417	419	527	374	694	433	420	526	531			1.0%	0.7%	27.4%
Fishing rights	(million €)	1,739	2,339	2,241	2,382	2,627	2,446	2,925	3,509	3,505			-0.1%	56.4%	101.6%
GVA per FTE (labour productivity)	(thousand €)	31	36	36.7	37.7	36.5	37.3	42.1	42.6	48.9	46.9	46.2	14.7%	33.3%	55.3%
Return on fixed tangible assets	(%)	2.7	4.3	8.7	10.8	10.3	12.2	17.3	15.8	27.0	26.8	26.6	70.9%	209.7%	892.9%
Average wage per FTE	(thousand €)	20.8	24.2	23.0	23.2	22.3	22.5	24.1	24.8	26.4	25.7	25.9	6.3%	14.4%	26.5%
Fuel efficiency	(%)	76.0	82.5	80.3	78.1	76.9	78.1	80.9	84.5	88.0	87.0	85.8	4.1%	9.6%	15.7%
Energy consumed per landed tonne	(litre/tonne)	537	556	522	516	511	480	436	458	458	442	437	0.1%	-12.3%	-14.8%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018. Tangible asset value for 2017 and 2018 exclude inactive vessels.

Background

The EU overview chapter provides a summary of the structure and economic performance of the EU fishing fleet in 2016 and highlights some key trends over the period 2008-2017, based on data submitted by MS under the 2018 DCF fleet economic data call. All monetary values have been adjusted for inflation to 2015 constant prices and therefore data prior to 2015 and for 2016 may not necessarily equate to the data submitted by MS.

Due to incomplete data submissions from several Member States, it is not possible to produce a complete overview of the entire EU fleet as well as trend analyses on the economic performance for the EU fleet over the period 2008-2018.

Croatia officially joined the EU in 2013 and, hence, only able to provide DCF data from the year 2012 onwards. Greece provided only partial landings, effort and economic data for the years 2014 to 2016. More details on data availability are included in the chapter on quality and checking procedures (Section 7 and annex 3).

For analyses at the EU and MS levels, national level datasets were used, whereas fleet segment level data were used to compile results by main type of fishing activity (i.e. small-scale, large scale and distant-water fleets). Results for 2016 at the EU and fishing activity levels include all Member States fleets with the exclusion of Greece or unless otherwise stated.

While in theory, both the national and fleet segment datasets submitted by each Member State should be internally consistent, this is not always the case. Discrepancies can arise for several reasons including missing or incomplete datasets at the fleet segment level. In some cases, such discrepancies occur due to commercial confidentiality issues. To avoid issues of commercial confidentiality, Member State may combine such fleet segments into "clusters" and provide data at a more aggregated level. In other cases, commercially-sensitive data are not provided at the fleet segment level, but are included at the national total level, resulting in inconsistencies between the two datasets.

Normalised trends in indicator values at the EU level for the period 2008-2018 are presented relative to 2008 (based on 2008=100) and unless otherwise stated, exclude Greece and Croatia and should not be considered as a complete EU overview.

To provide the most reliable, complete and up-to-date information as possible, this chapter includes:

- A snapshot of the EU fishing fleet in 2016, by Member State and main type of fishing activity, i.e. small scale, large scale and distant water fleets (also see data summary tables);
- A section with projected figures for 2017 and forecast results for 2018 (nowcasts) on the economic performance of MS fleets where possible (based on fleet segment level data);
- A short description of the main drivers and trends that may have contributed to the economic performance of the EU fleet over recent years;
- Summary data tables by MS and main fishing activity with percentage change relative to 2015 (and shown in brackets after the 2016 figure in the text).

The three main types of fishing activity used in the AER are defined as:

- Small-scale coastal fleet (SSCF) - includes all vessels under 12 meters using static gears. According to the DCF gear definitions these include: 'drift and/or fixed netters', 'pots and/or traps', 'hooks', 'passive gears only', 'other passive gears', 'polyvalent passive gears only', 'active and passive gears'.
- Large-scale fleet (LSF) - segment includes all vessels over 12 meters using static gears and all vessels using towed gears operating predominately in EU waters. According to the DCF gear definitions these include: 'dredgers', 'demersal trawlers and/or demersal seiners', 'other active gears', 'polyvalent active gears only', 'purse seiners', 'beam trawlers', 'pelagic trawlers'.
- Distant-water fleet (DWF) - includes EU registered vessels over 24 metres operating in 'other fishing regions' including EU outermost regions.

3.1 Overview of the EU Fishing Fleet in 2016

Fleet Capacity and structure

The EU fleet numbered 83 360 vessels (-1%) in 2016, with a combined gross tonnage (GT) of 1.56 million tonnes (-2.4%) and engine power of 6.30 million kilowatts (-1.7%). Of the total number of vessels, 65 398 were active (+2%) and 17 962 were inactive (-12%) in 2016 (Figure 3.1 and Figure 3.2).

For the purpose of comparison, when the national fleet of Greece is excluded, the remaining EU fleet consisted of 68 178 vessels, 1.49 million gross tonnes and 5.87 million kW (Figure 3.3, Table 3.11). Of these, 16 427 vessels were inactive in 2016, representing 24% of the EU fleet.
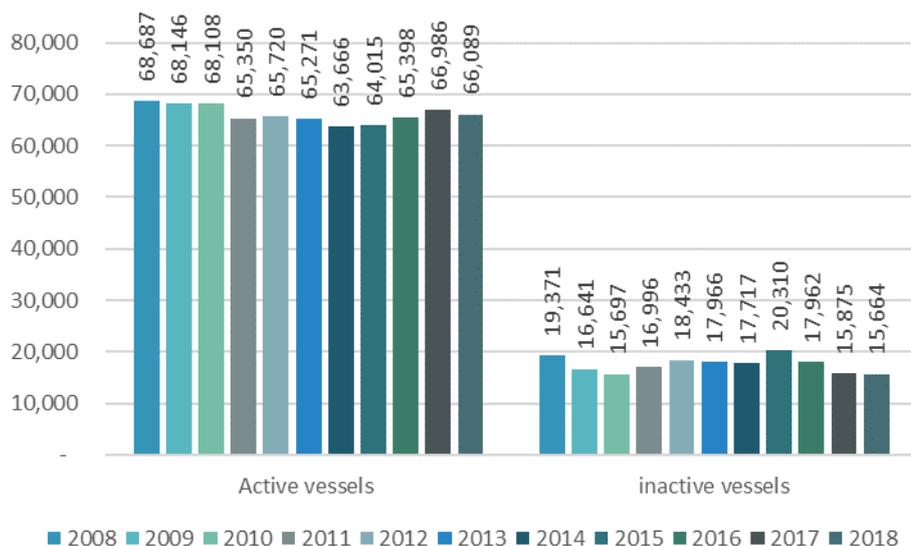
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 3.1 EU fleet capacity by number of active and inactive vessels (include Greece and Croatia)
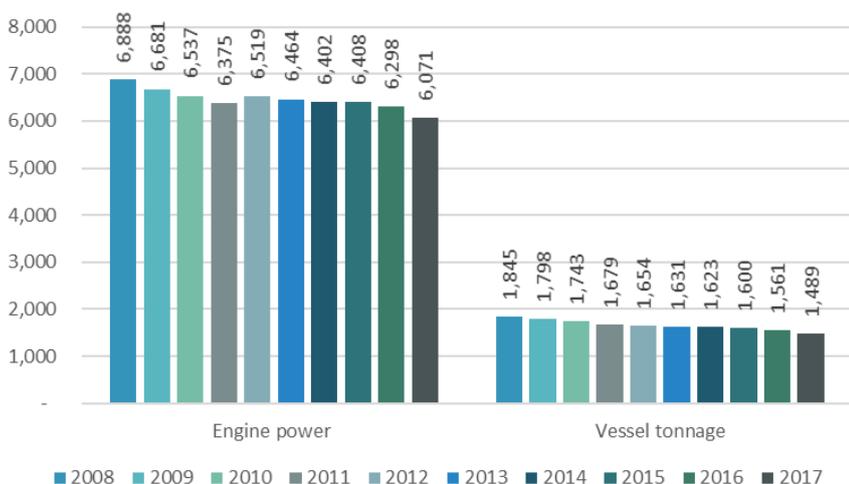
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 3.2 Trends in EU total fleet capacity in engine power (kW) and gross tonnage (include Greece and Croatia)

The EU inactive fleet represented 21.5% of the total EU fleet in number but only 8% of the gross tonnage and 13% of the engine power, indicating that most of the inactive capacity is small-scale in nature (Table 3.14). In fact, 95% of the inactive vessels are under 12m in length while vessels between 12 and 24m account for 4% and vessels over 24m, 1% of the inactive fleet (Figure 3.4).
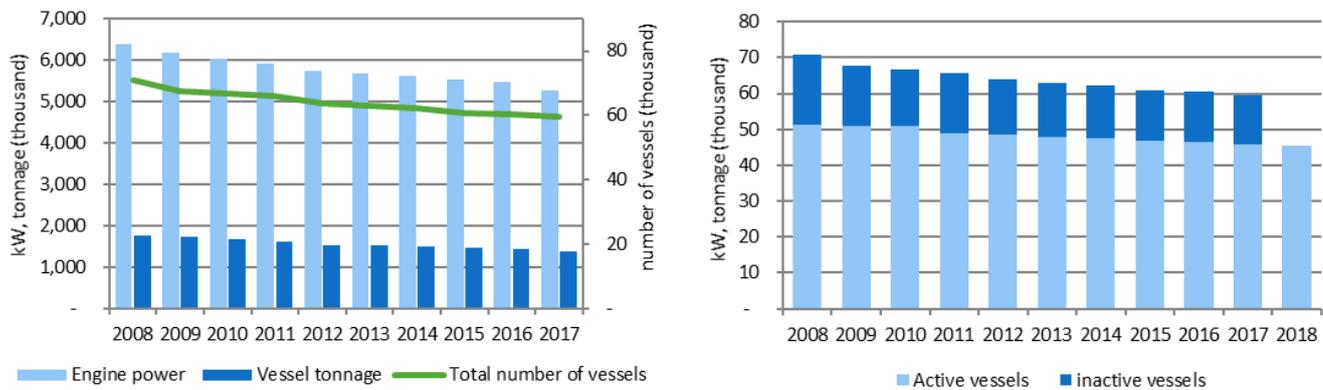
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 3.3 Left: Trends in EU fleet capacity in number, engine power (kW) and gross tonnage; Right: fleet capacity by number of active and inactive vessels (exclude Greece and Croatia)
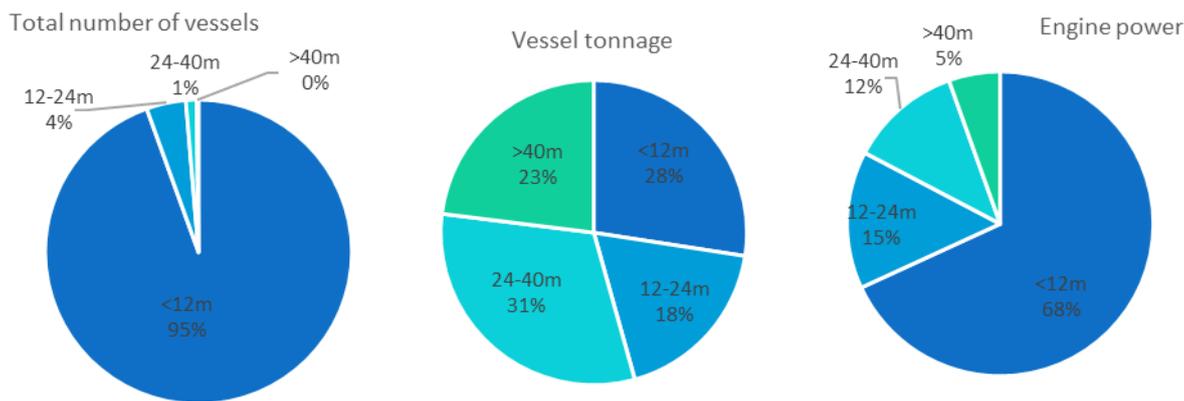
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 3.4 EU inactive fleet capacity by vessel length group, 2016

Greece maintains the largest fleet within the EU (by vessel number) with 15 182 vessels, equivalent to 18.2% of the total. Thereafter, Italy with 12 310 vessels (14.8%), Spain with 9 459 vessels (11.3%) and Portugal with 8 100 vessels (9.7%) are the largest fleets by member state (Figure 3.5). Belgium, with 76 vessels (8 of which were inactive) operated the smallest fleet by number (Table 3.11).

The Spanish fishing fleet was the largest in terms of tonnage (344 thousand GT, 22% of the EU total), followed by the UK (194 thousand GT, 12.4%), French (173 thousand GT, 11%) and Italian (158 thousand GT, 10%) fleets. Slovenia, with 171 registered vessels, operated the smallest fleet by gross tonnage (600 GT) (Table 3.11).

In terms of engine power, the French fleet, with just over 1 million kW, contributed 15.9% of the total, followed by Italy (15.8%) and Spain (12.7%). Romania, with 147 vessels, operated the smallest fleet by engine power (5.8 thousand kW) (Table 3.11).

Portugal, with 4 282 inactive vessels, accounted for almost a quarter of the EU inactive fleet in 2016 (24% of the national fleet, by number of vessels). With 2 422 inactive vessels, Croatia possessed the second largest latent capacity (13.5% of the EU inactive fleet and some 31% of the national fleet by number of vessels), followed by the UK with 1 667 vessels (9% of the EU inactive fleet in number) (Table 3.11).

In terms of gross tonnage, the Portuguese fleet possessed the largest inactive GT (18.4% of the EU inactive fleet), followed by Spain and Croatia (15% and 12.2% respectively of the inactive GT) (Table 3.11).

In terms of engine power Croatia held the most inactive engine power (15.9% of the inactive kW), closely followed by followed by France (15.6%) and the UK (12.5%) (Table 3.11).
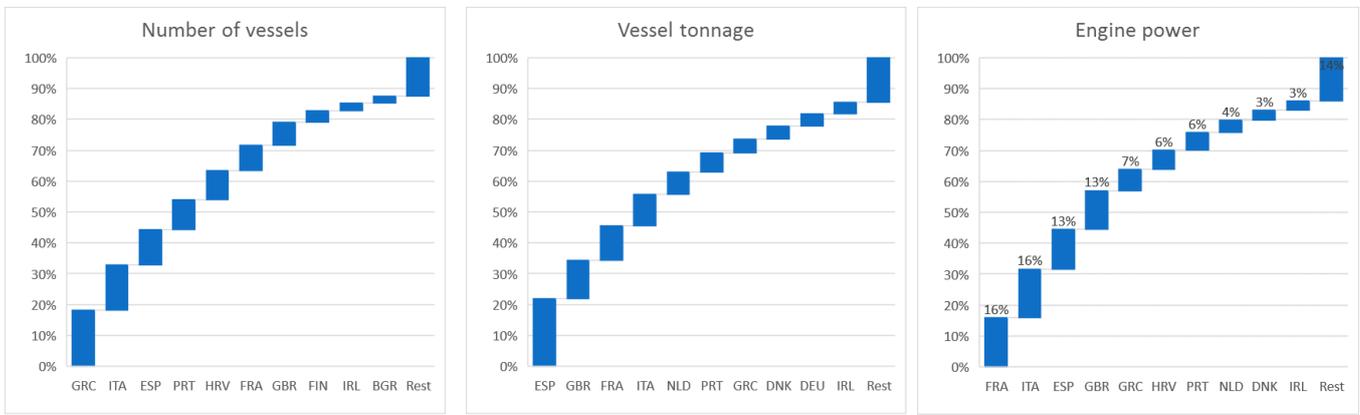
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 3.5 Share of EU fleet capacity by MS, 2016

Overall, the capacity of the EU fleet[1] decreased gradually from 2008; on average 1.7% p.a. in number and engine power (kW) and 2.2% in tonnage (GT). Since 2008, the EU fleet declined 14% in number, 14% in kW and 18% in GT. On average, the number of inactive vessels decreased 3% p.a. and 26% since 2008 (Figure 3.6).
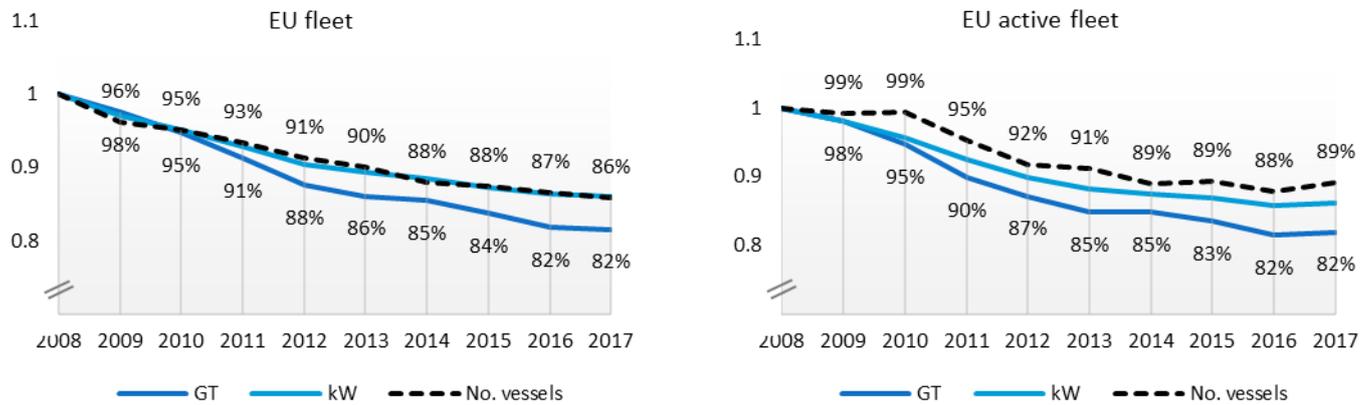
Data source: Member State data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)). Note: Due to incomplete time series, variations exclude Croatia (2008-2011) and Denmark (2016)

Figure 3.6 Variations in EU total fleet capacity (based on 2008 = 100)

Figure 3.7 provides variation in capacity over the period 2008-2017 for the active EU fleet by vessel length groups and shows a general decrease in capacity for all segments. For the segments 12-24m and 24-40m, trends reveal a proportional decrease for all capacity variables, i.e., the reduction in vessel number corresponds to similar reductions in both GT and engine power (kW).

For vessels under 12m and over 40m, trends differ somewhat between the capacity variables, with the number of vessels decreasing more than engine power (for under 12m) and significantly more than GT and kW for the over 40m segment, indicating that on average, smaller older SSCF vessels are leaving the fleet and the few, larger, vessels are more powerful with higher fishing capacity.

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[1] Variations exclude Greece, Croatia and Denmark for time-series consistency

Active vessels <12 m

Active vessels 12-24 m

Active vessels 24-40 m
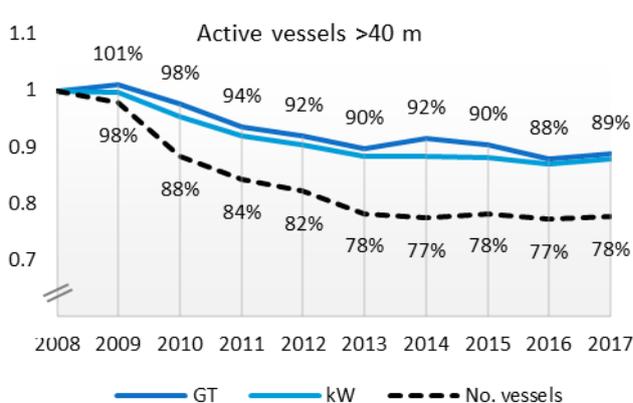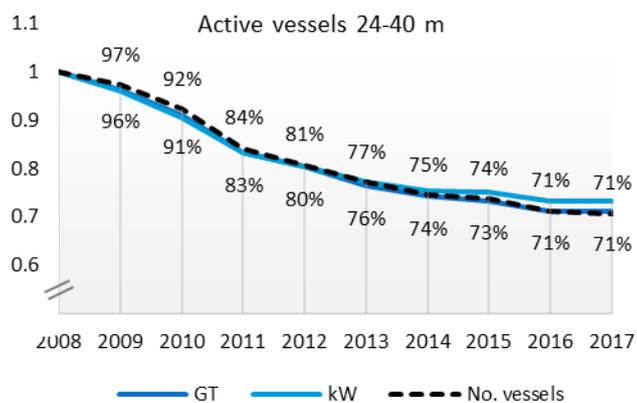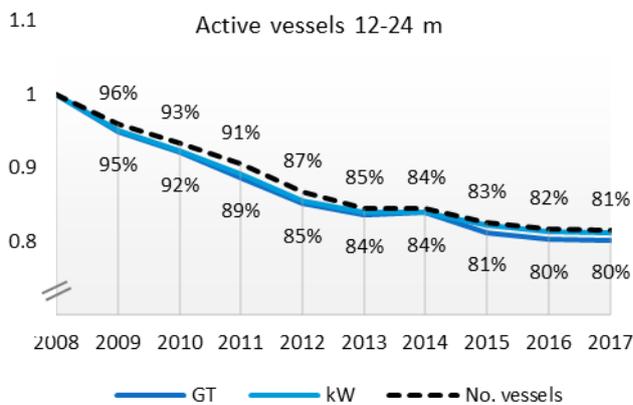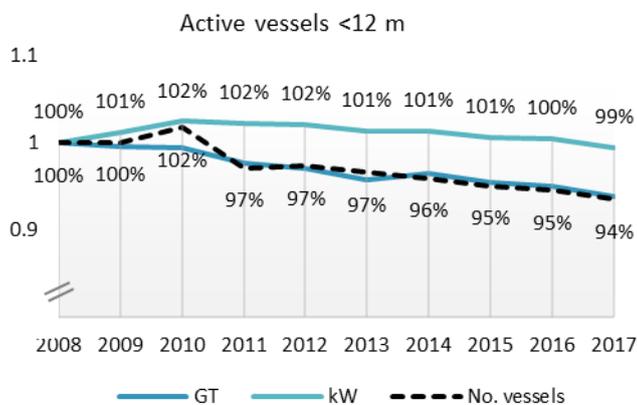
Active vessels >40 m

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)) . Note: exclude Greece, Croatia and Denmark for time series consistency

Figure 3.7 Variation in fleet capacity for active vessels by length groups (based on 2008 = 100)

Capacity and structure by scale of fishing activity

A comparison of the active fleet (including Greece) by main fishing activity indicates that the small-scale coastal fleet (SSCF) comprised 49 029 vessels, 75% of the total EU fleet in number, 8% in gross tonnage (121 thousand GT) and 32% in engine power (1.8 million kW) (Figure 3.8).

The distant-water fleet (DWF), although comprising only 0.4% of the total number of vessels (274), represented 18% of the total gross tonnage (261 thousand GT) and 6.5% of the engine power (356 thousand kW).

The large-scale fleet (LSF) represented the remaining 24.6% of the fleet in number (16 097), 73% of the gross tonnage (1.1 million GT) and 61.6% of the engine power (3.4 million kW).
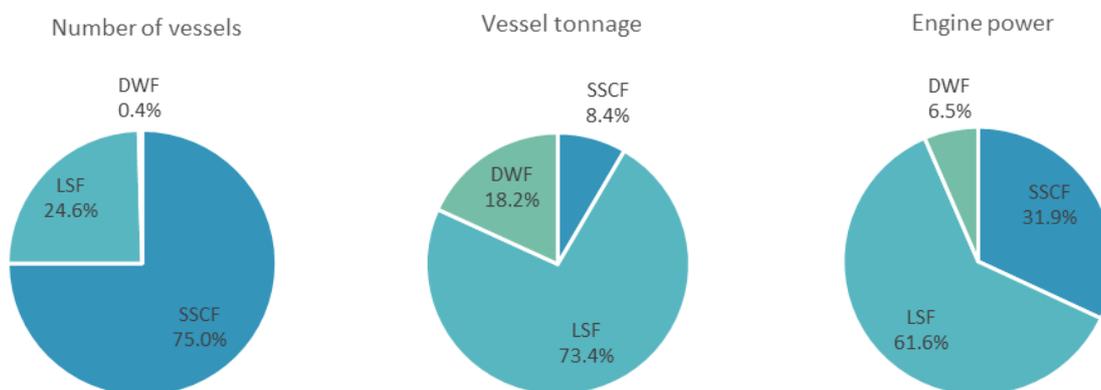
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 3.8 EU fleet capacity by main type of fishing activity as a percentage of the EU fleet, 2016

Composition of the EU fleet by main fishing activity has remained relatively stable over the period 2008-2016 (Figure 3.9).
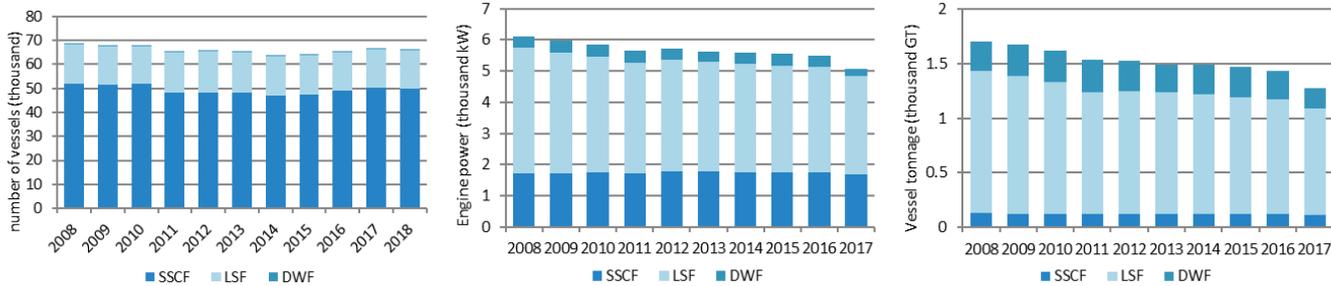
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)). Nowcast values for 2017 and 2018

Figure 3.9 Trends on the EU fishing fleet capacity by main type of fishing activity

Employment and average wage

In 2016, 152 331 fishers were directly employed in the EU fishing fleet (including Greece), corresponding to 114 776 FTEs. Six MS fleets employed 81% of the EU total, with the Spanish fleet employing 21% of the total, followed by the Italian (17%), Greek (16.4%), Portuguese (10%), French (9%) and UK (8%) fleets (Table 3.11).

In terms of FTEs, the same six MS fleets employed 85% of the EU total, with the Greek fleet surpassing the Italian fleet, indicating more part-time fishers in Italy (Table 3.11).

Total employed and employment in FTE (excluding Greece and Croatia) decreased 0.5% compared to 2015.

On the other hand, average wage per FTE (excluding Greece), estimated at EUR 26.4 thousand in 2016, increased 6.3% compared to 2015, and an overall increase of 27% compared to 2008 (Figure 3.10).

At EUR 131.3 thousand, Belgian (FTE) fishers earned the highest annual wages on average, followed by Dutch (EUR 92.1 thousand) and Danish (EUR 76.4 thousand) fishers. Cypriot fishers received the lowest average wage (EUR 1.8 thousand), followed by Bulgarian (EUR 2.9 thousand), Maltese (EUR 5.7 thousand) and Polish (EUR 6.4 thousand) fishers (Table 3.12).
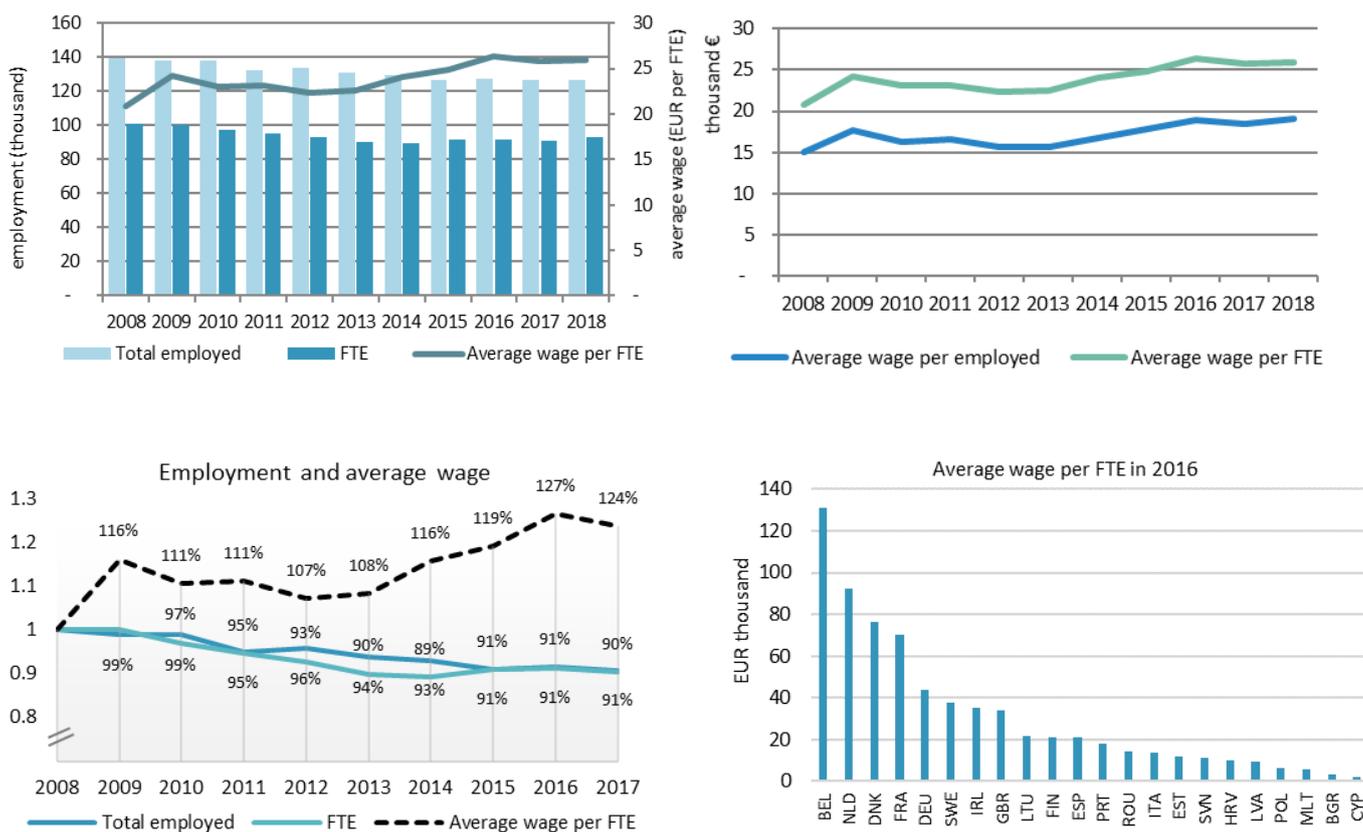
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)). Nowcast values for 2017 and 2018

Figure 3.10 EU fleet employment (in total employed and FTE) and average wage per FTE; variation in employment and average wage per FTE (based on 2008=100)

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Employment and average age by scale of fishing activity

In 2016, the SSCF (including Greece) employed 78 304 fishers (51% of the total), corresponding to 46 647 FTEs (41% of the total). The large-scale fleet employed 68 228 fishers (45%), corresponding to 60 903 FTEs (53%), while the distant-water fleet employed 5 799 fishers (4%), corresponding to 7 226 FTEs (6%) (Figure 3.11).
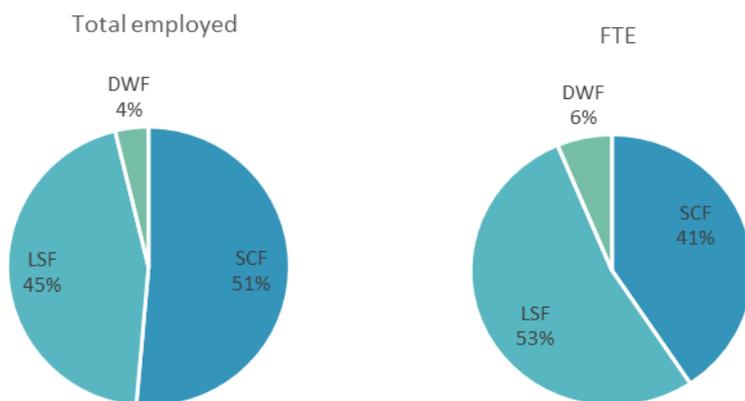
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 3.11 Employment by fishing activity as a percentage of the EU fleet, 2016

Average wage per FTE has increased for the three types of fishing activity analysed when compared to 2008; growth being more pronounced for the DWF (Figure 3.12).

Average wage per FTE (excluding Greece) in 2016 in the SSCF was estimated at EUR 16 100, an increase of 11.8% compared to 2015. The highest earners were French SSCF fishers (EUR 58 700), closely followed by Danish fishers (EUR 58 500) and then Swedish fishers (EUR 32 600) (Table 3.15).

Average wage per FTE (excluding Greece) in 2016 in the large-scale fleet was EUR 31 800, an increase of 3.8% compared to 2015. The highest earners were Belgian LSF fishers (EUR 131 300) followed by Dutch (EUR 96 900), Danish (EUR 79 300) and German fishers (EUR 78 000) (Table 3.18).

Average wage per FTE in the EU distant-water fleet was EUR 27 700, an increase of 5% compared to 2015. The highest earners were French DWF fishers, earning on average EUR 75 100 (Table 3.21).
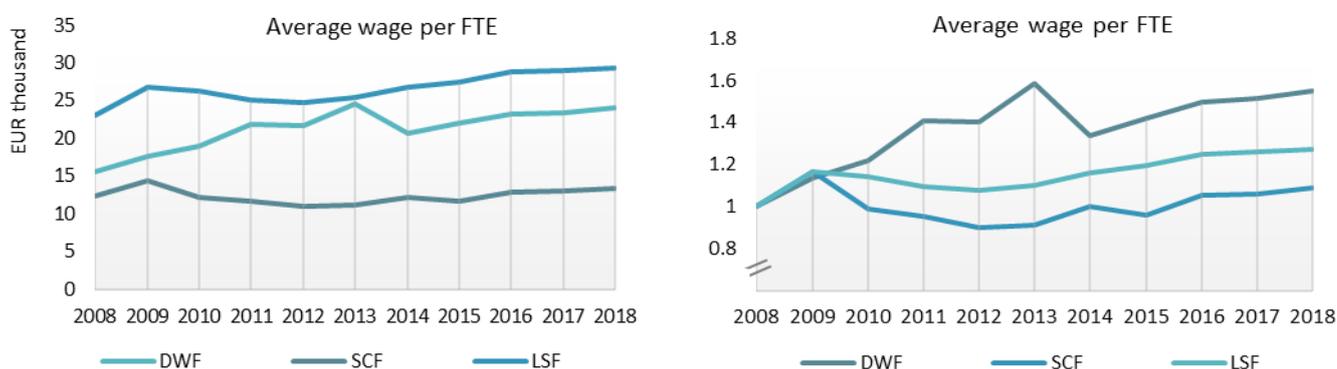
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.12 Left: average wage per FTE by main fishing activity and Right: variation in average wage per FTE (based on 2008=100)

Fishing effort and fuel consumption

In 2016 the EU fleet (excluding Greece) spent almost 4.85 million days at sea and consumed 2.25 billion litres of fuel, a 3% decrease on the previous year (Figure 3.13 and 3.14; Table 3.11).

Italy reported by far the highest number of sea days (1.5 million or 34% of the total), followed by Spain (1.1 million days), France (477 thousand days) and the UK (431 thousand days) (Figure 3.13). Together, these four MS accounted for 71% of the total registered days at sea in 2015 (Table 3.11).

The Spanish fleet consumed the most fuel (582 million litres or 26% of total), followed by the Italian (374 million litres) and French (314 million litres) (Figure 3.14; Table 3.11).
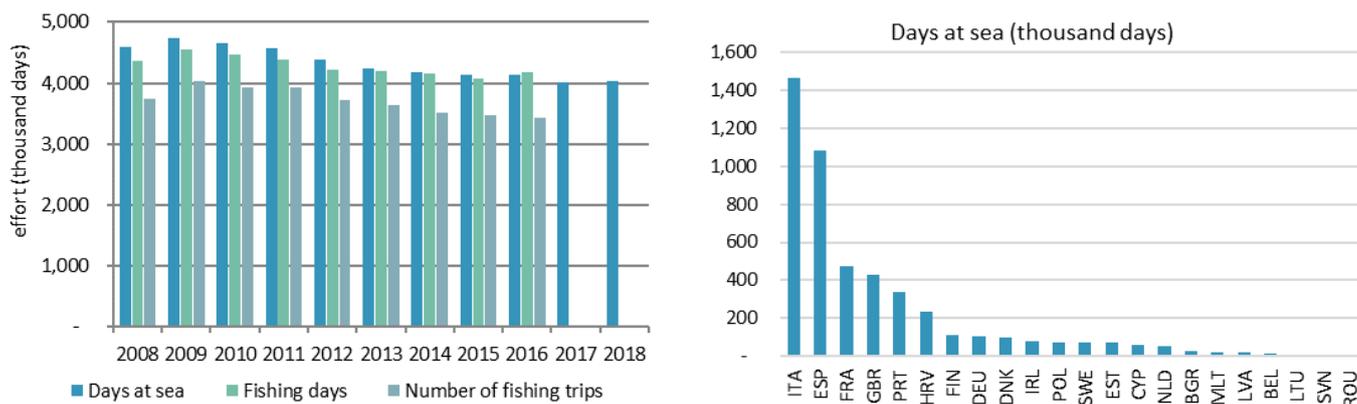
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)). Nowcast values for 2017 and 2018.

Figure 3.13 Left: Trends on fishing effort of the EU fleet; Right: Days at sea by MS fleet, 2016
Note: Trends exclude Croatia, Greece and France due to incomplete time-series data
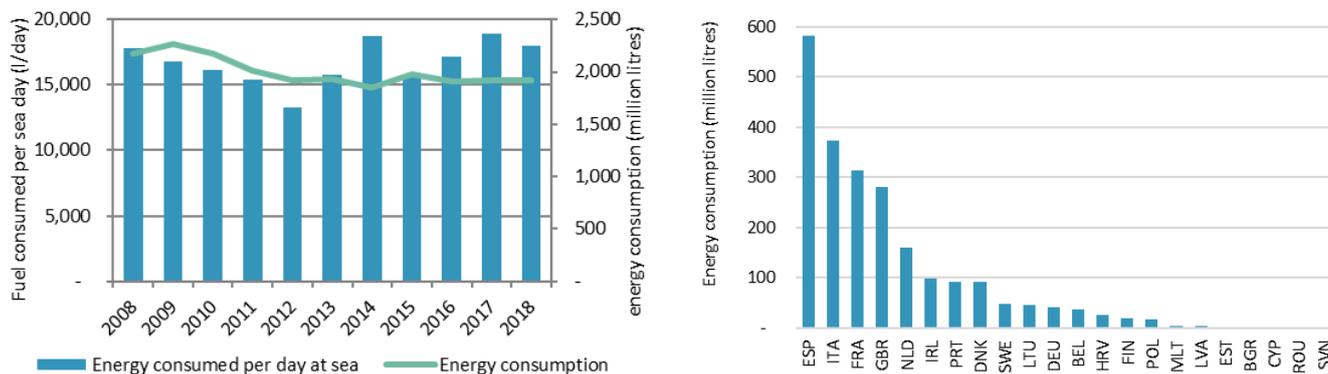
Data source: MS submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018.

Figure 3.14 Left: Trends on energy consumption and average fuel consumed per day at sea; Right: energy consumption by MS fleet, 2016
Note: Trends exclude Croatia, Greece and France due to incomplete time-series data

The total effort (days at sea) deployed by EU fishing fleets has declined each year since 2009 (-1.4% p.a. or -9.7% when compared to 2008). Energy consumption too decreased through much of the period but increased in 2015. Energy costs show a more complex pattern reflecting significant changes in the average price of fuel over the period. On average, energy costs in 2016 were 46% lower compared to 2008 (Figure 3.15).
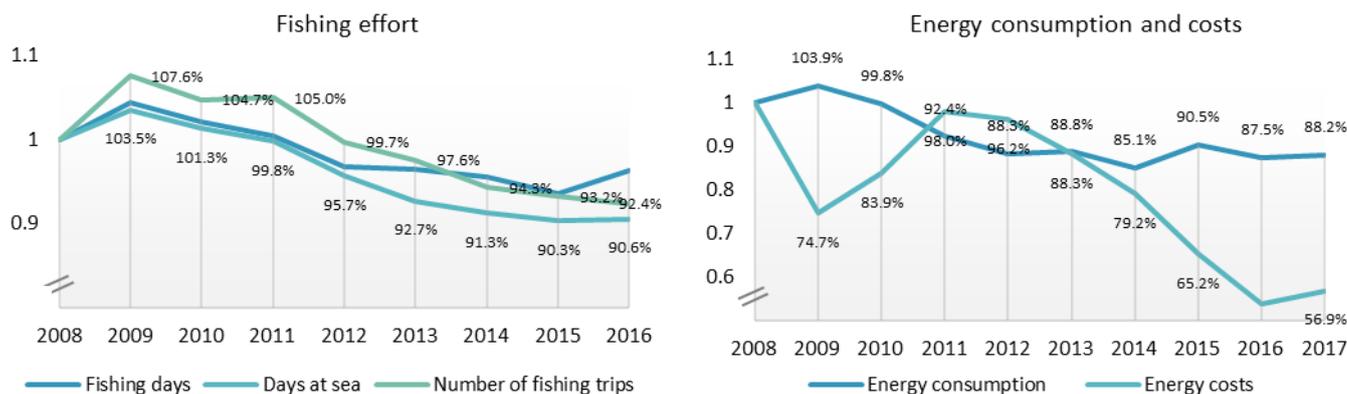
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.15 Variation in fishing effort, fuel consumption and fuel costs (based on 2008=100)

Fishing effort and fuel consumption by scale of fishing activity

In 2016 the small-scale coastal fleet, excluding Greece, accounted for more than half of the total fishing effort deployed while consuming just 6% of the fuel. The large-scale fleet on the other hand accounted for less than half of the days at sea and consumed more than three-fourths of the fuel consumed while the distant-water fleet deployed less than 2% of days at sea and 20% of the fuel consumed (Figure 3.16).
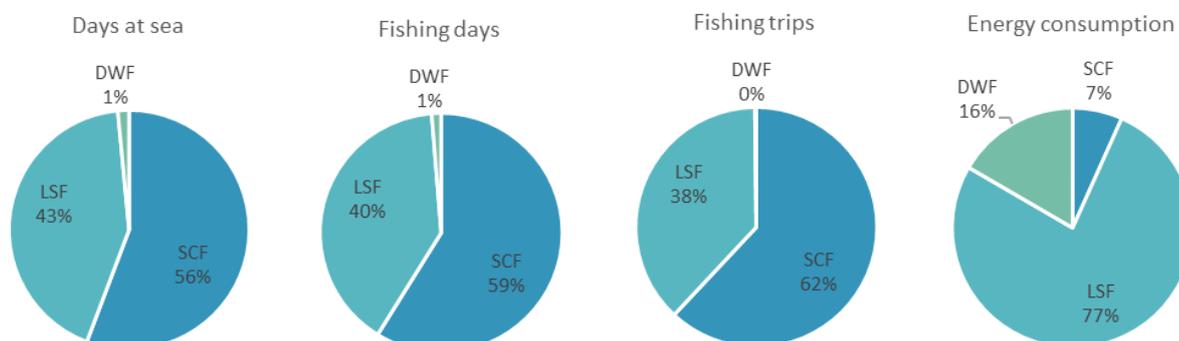
Data source: EU Fleet register and Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 3.16 Effort by fishing activity as a percentage of the EU fleet, 2016

Landings

Excluding Greece, the EU fleet landed almost 4.9 million tonnes of seafood in 2016 (-2%) valued at more than EUR 7.7 billion (+9%) (Figure 3.17). While landings have, on average, grown since 2012 and are now some 8.6% (in value) greater than 2008, these figures now include Croatia and are not directly comparable, even if Croatia has contributed less than 1% of the landed value and 1.6% of the landed weight since 2012.

Despite changes in the landed weight between 2008 and 2015 their total value varied less. This is reflected in the average fish price over the period, with some periods of increased landings associated with lower average price and vice-versa, noticeably in 2016 (Figure 3.17).

Landings by member state are shown in figure 3.18. The Spanish fleet accounted for 25.6% of the total value landed during the year (18% by weight), followed by France (15% by value, 11% by weight), the United Kingdom (14% by value and weight), Italy (11% by value, 4% by weight) and Denmark (5.8% by value, 13.5% by weight) (Figure 3.18).
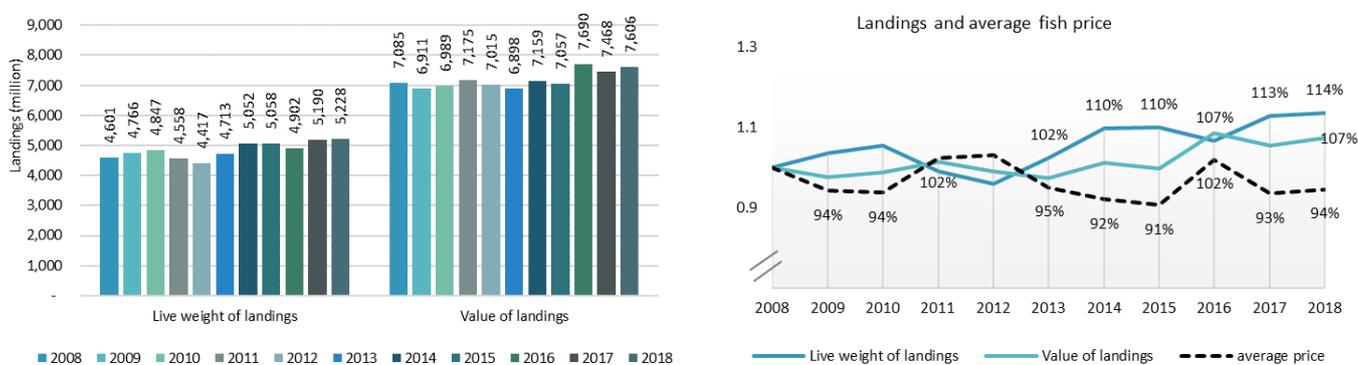
Data source: data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.17 Left: Trends on landings weight and value by the EU fleet; Right: variation in landings and average price (based on 2008=100)
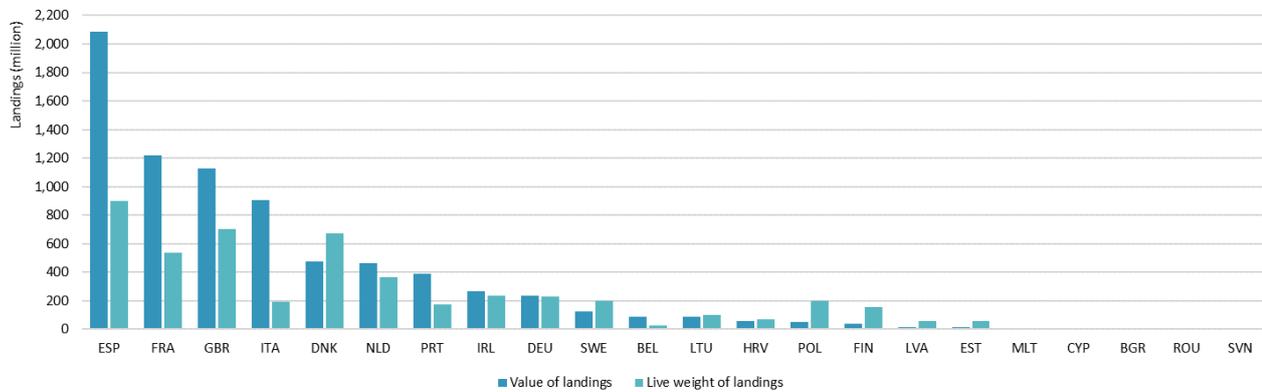
Data source: data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 3.18 Landings in weight and value by Member State fleet, 2016

Top species and average landed prices

At 839 thousand tonnes, Atlantic herring was the most important species (by weight) landed in 2016, followed by Atlantic mackerel (460 thousand tonnes), European sprat (451 thousand tonnes) and European pilchard (242 thousand tonnes) (Figure 3.19).

At EUR 463 million, landings of European hake generated the most value, followed by yellowfin tuna (EUR 462 million), Atlantic mackerel (EUR 424 million), Norway lobster (EUR 364 million) and Atlantic herring (EUR 360 million) (Figure 3.19).

Landings in weight of Atlantic herring increased 11.8% while Atlantic mackerel decreased 12.3% compared to 2015. Landed weight of European sprat (-14.7%) and Atlantic cod (-6%) also decreased in 2016 compared to 2015.

On the other hand, landed weight of European pilchard increased 34% after seeing a decrease of 26% in 2015, from 181 thousand tonnes in 2015 to 242 thousand tonnes in 2016. Landed weight of skipjack tuna also increased in 2016 (+9%) and after a decrease in 2015 (-10%), returning to similar 2014 figures. European hake increased a further 8% in 2016, after a 46% increase in 2015 when compared to 2014.

In terms of landed value, all of the top ten landed species saw increases in 2016 compared to 2015 with the exception of Atlantic cod, which decreased almost 5%. The landed value of European hake increased 10.5%, following a 41% increase in 2015, largely owing to increased landed weight. Landings of yellowfin tuna also increase again in 2016 (+24%) after a 25% increase in 2015.

At EUR 11.3 per kg, common sole achieved by far the highest average first-sale price of the top ten species in 2016, followed by Norway lobster (EUR 6.4 per kg), swordfish (EUR 6.1 per kg), European hake (EUR 3.7 per kg), yellowfin tuna (EUR 3.1 per kg) and Atlantic cod (EUR 2.1 per kg) (Figure 3.20).

The average landed price obtained for most of the key species targeted by the EU fleet increased in 2016 compared to 2015, for example: skipjack tuna (+150%), yellowfin tuna (+21%), Atlantic herring (+19.3%), European anchovy (+17%), Atlantic mackerel (+15.7%), swordfish (+9%), European pilchard (+6%) and common sole (+5.6%).

Conversely, the average landed price of Norway lobster (-3%) and blue whiting (-2.3%) decreased in 2016 (Figure 3.21).

Compared to the average over the period 2008-2015, the landed price of several top species saw significant increases: yellowfin tuna (+60%), Norway lobster (+13%), Atlantic herring (+11.5%), Atlantic cod (+10%), European sprat (+9.4%) and European pilchard (+7.5%) all recorded increases in 2016.

Conversely, the average landed price of blue whiting (-40%), Atlantic horse mackerel (-26%) and Atlantic mackerel (-11%) all decreased in 2016 compared to the average price over the period 2008-2015 (Figure 3.21).
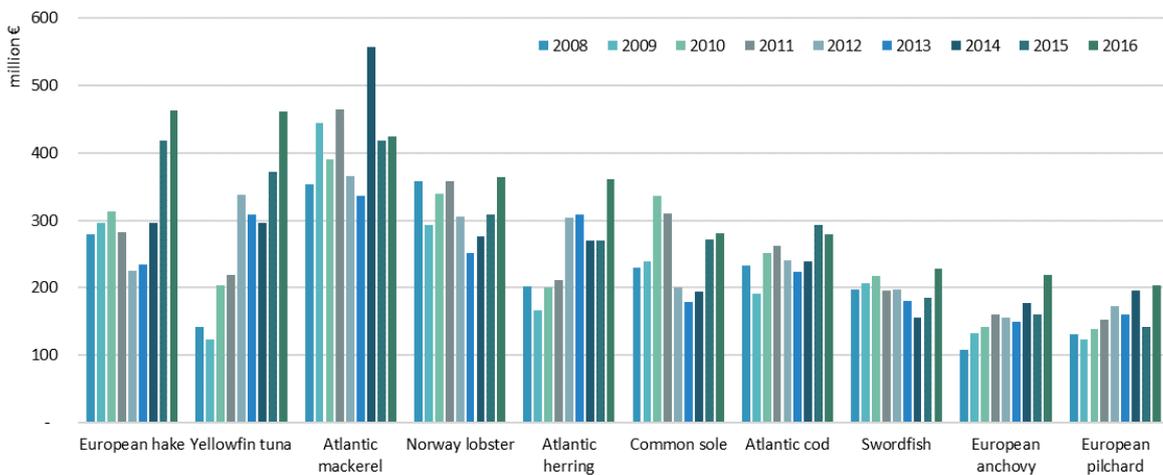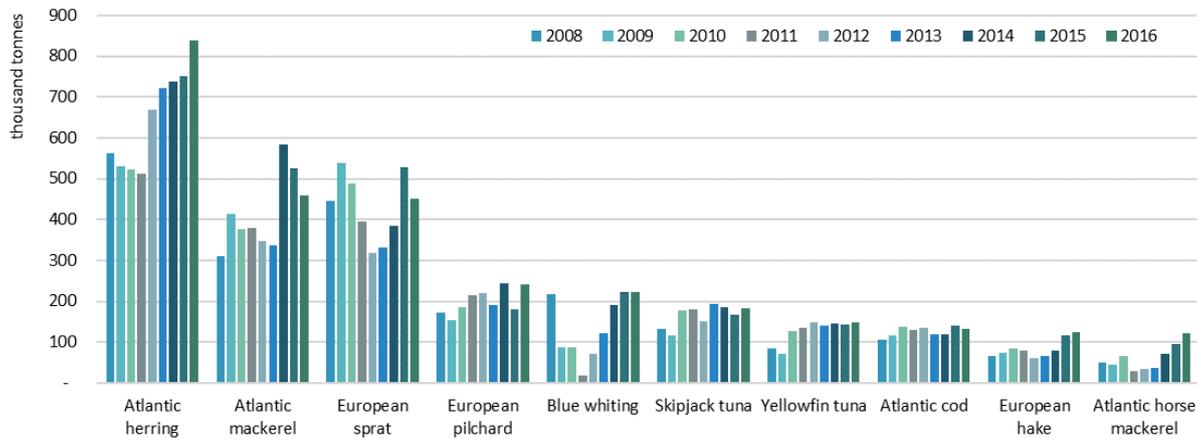
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 3.19 Trends on top ten species landed by the EU fleet in weight (top) and value (bottom)
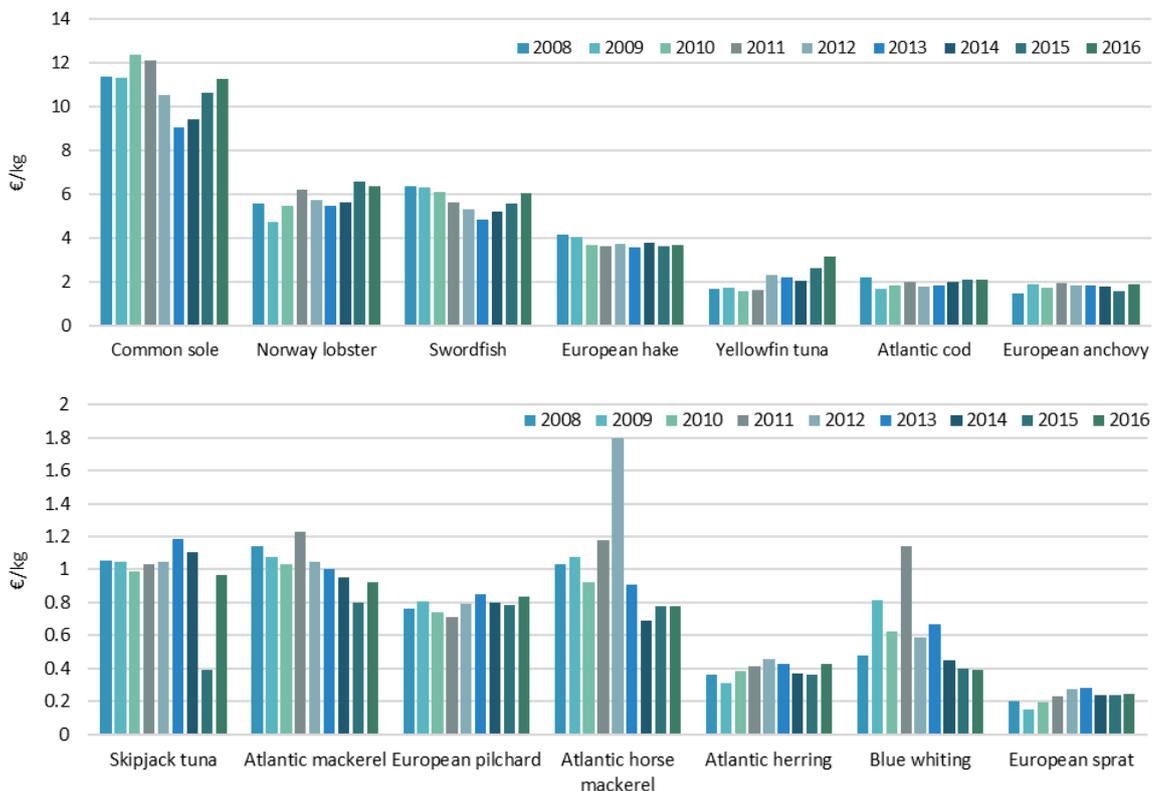
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 3.20 Average real price of the top species landed in terms of weight and/or value
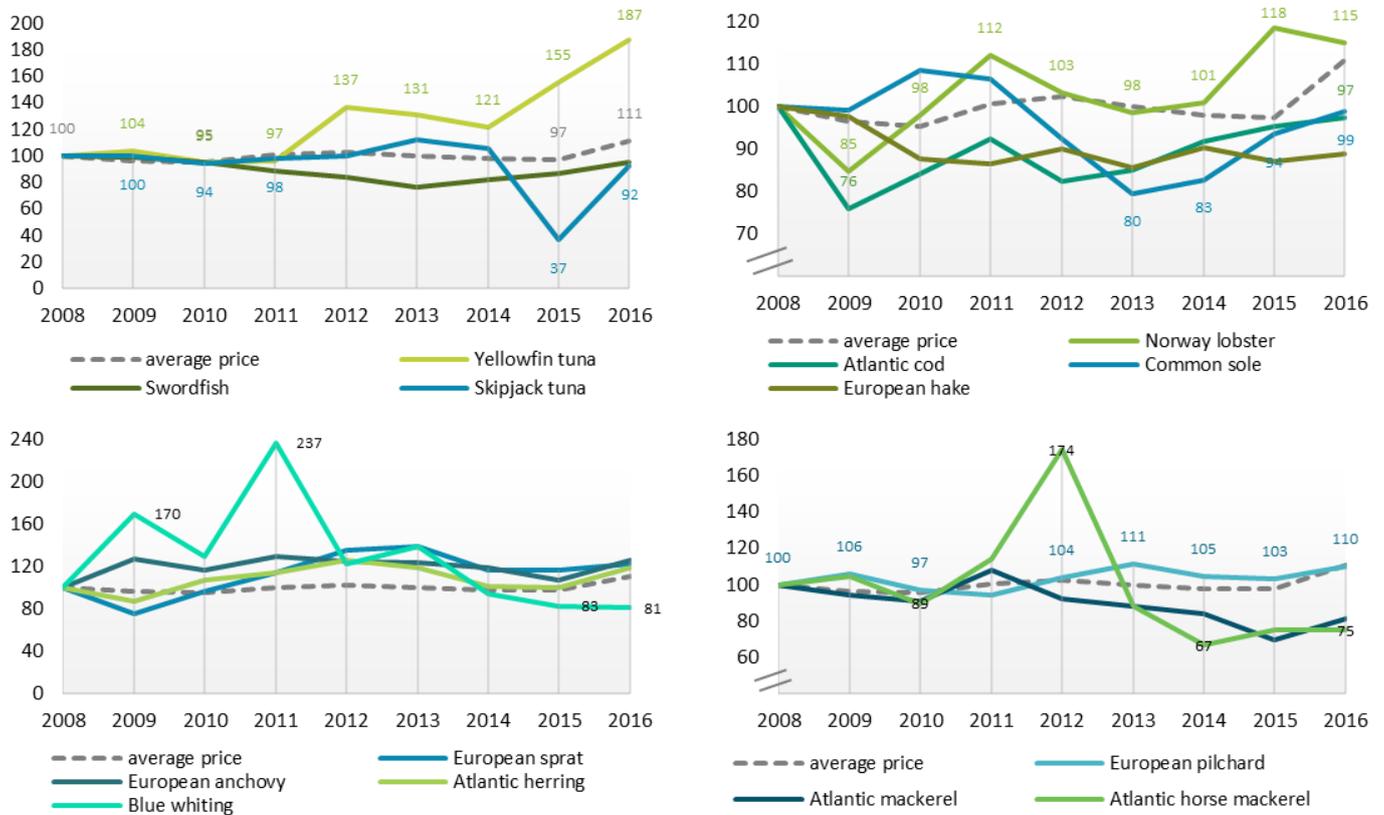
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 3.21 Variation in average price of the top species landed in terms of weight and/or value (based on 2008=100)

Landings by scale of fishing activity

The large-scale fleet contributed 80% to landings in weight and 72% to landings in value. The distant water fleet contributed to 15% in landed weight and 16% to landed value. The SSCF landed 6% of the weight and produced 12% of the landed value, indicating that when compared to its larger counterparts, the SSCF on average obtains higher first sale prices (Figure 3.22).
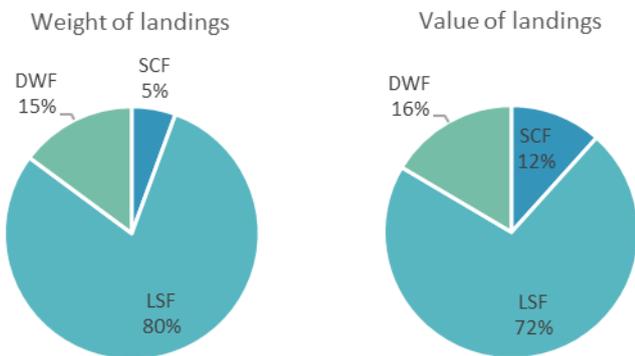
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 3.22 Landings by fishing activity as a percentage of the EU fleet, 2016

Landings per unit of effort

Landing per day at sea, for the EU fleet as a whole, was estimated at 1 011 kg and EUR 1 416 per in 2016. Compared to 2008, the average LPUE was 14% and VPUE 16% higher in 2016 for the EU fleet as a whole in 2016. After a decrease in 2011 and 2012, average LPUE followed an increasing trend until 2016. Projections suggest that LPUE increased again 2017 (Figure 3.23).

Landings per day at sea (LPUE) for the SSCF was estimated at 100 kg per day in 2016. For the LSF, LPUE was estimated at 1.8 tonnes per day while for the DWF, LPUE was estimated at 9.9 tonnes. While

increases in LPUE for the SSCF and DWF were reported in 2016, these were not enough to counterbalance the decrease reported for the LSF (Figure 3.24).
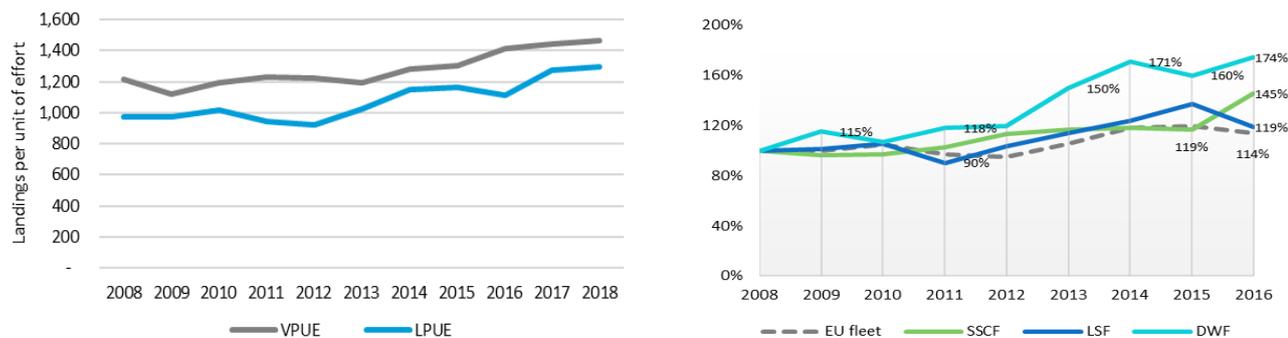
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); Nowcast values for 2017 and 2018

Figure 3.23 Left: Trends on landings per unit of effort (days at sea) by weight (LPUE) and value (VPUE) for the EU fleet; Right: Variation in LPUE for the EU fleet on average and by fishing activity (based on 2008=100)
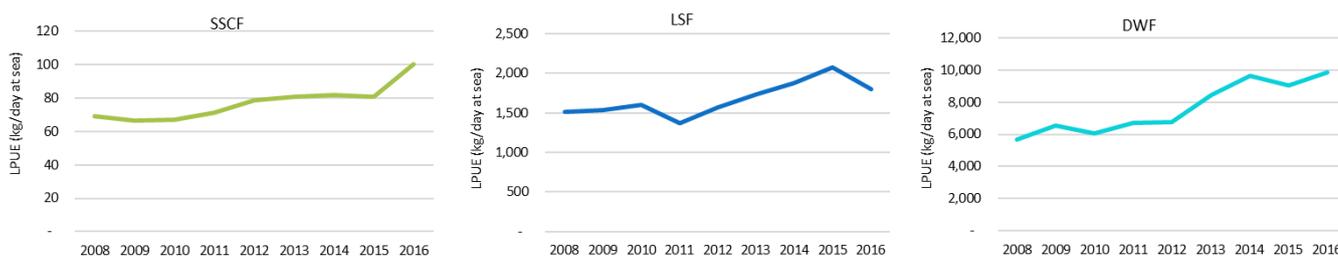
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 3.24 Trends on landings per unit of effort (LPUE) by main fishing activity

Revenue and Costs

In 2016 the total revenue(income form fishing and other income)[2] generated by the EU fishing fleet (excluding Greece) was EUR 7.7 billion (Table 3.12) of which EUR 7.6 billion was generated by the sale of fish and EUR 133 million from non-fishing income (Figure 3.25).

Costs incurred by the EU fishing fleet in 2016 amounted to EUR 6.39 billion[3], 11% of which consisted of capital costs (EUR 659 million in annual depreciation and EUR 61 million in opportunity costs of capital) and 89% of operating costs[4]. The latter mainly consisted of labour costs (38% of total costs: EUR 2.2 billion in crew wages and EUR 257 million in unpaid labour) and fuel costs (EUR 915.5 million, 14.3% of total costs).

Other costs linked to production amounted to EUR 1.1 billion; while other non-variable (or fixed) costs and repair costs amounted to EUR 548 million and EUR 684 million, respectively. Total costs amounted to almost 84% of the revenue generated by the fleet in 2016 (Table 3.12, Figure 3.26).

While revenue has varied little over the period, it has shown an overall increase over the period 2008 – 2016, increasing 6.5% in 2016 compared to 2015 and 13% when compared to 2008. Total costs[5] have followed a similar but opposite pattern, in general decreasing over the period analysed; decreasing 1.3% compared to 2015 and 4.4% when compared to 2008 (Figure 3.27).

At EUR 1.986 billion, Spain generated 26% of the EU fleet revenue, followed by France (EUR 1.3 billion, 17%), the UK (EUR 1.2 billion, 15%) and then Italy (EUR 918 million, 12%). These four MS fleets accounted for around 70% of the revenue generated by the EU fleet in 2016 and 72% of the labour costs and energy costs (Table 3.12).

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2 Direct income subsidies and income from leasing out fishing rights excluded from the economic analyses.

3 Fishing rights costs excluded for methodological reasons.

4 Total operating costs include: crew wage costs, unpaid labour, energy costs, other variable costs, repair costs, other non-variable costs

5 Total costs include crew wage costs, unpaid labour, energy costs, repair costs, other variable costs, other non-variable costs, annual depreciation and opportunity cost of capital (capital costs).
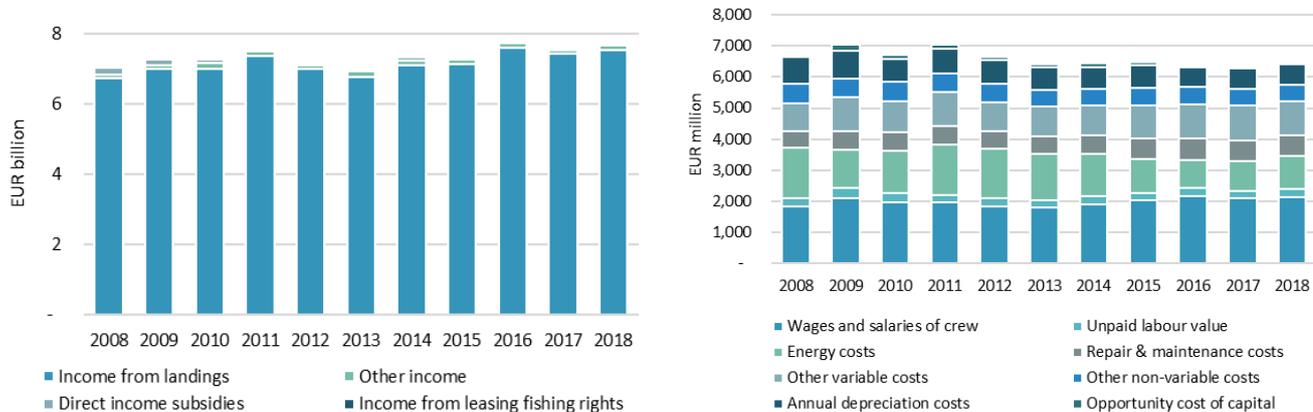
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); Nowcast values for 2017 and 2018

Figure 3.25 Trends on income (left) and costs (right) generated by the EU fleet
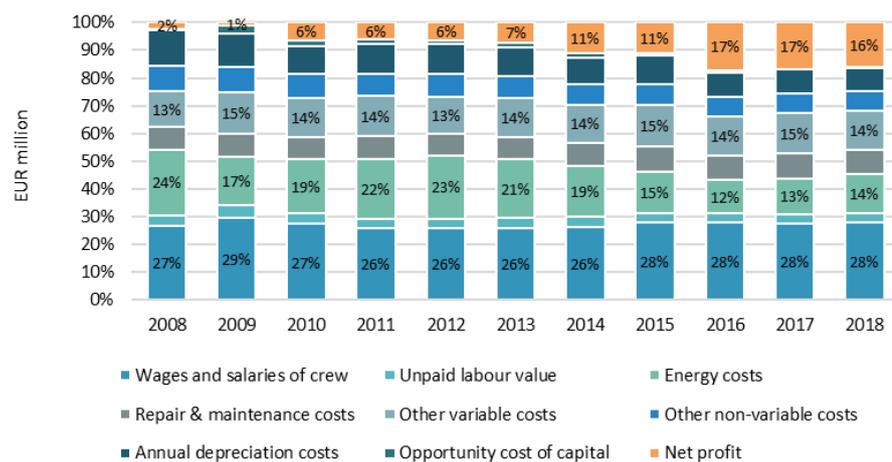
Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.26 Trends on costs as a % of revenue for the EU fleet
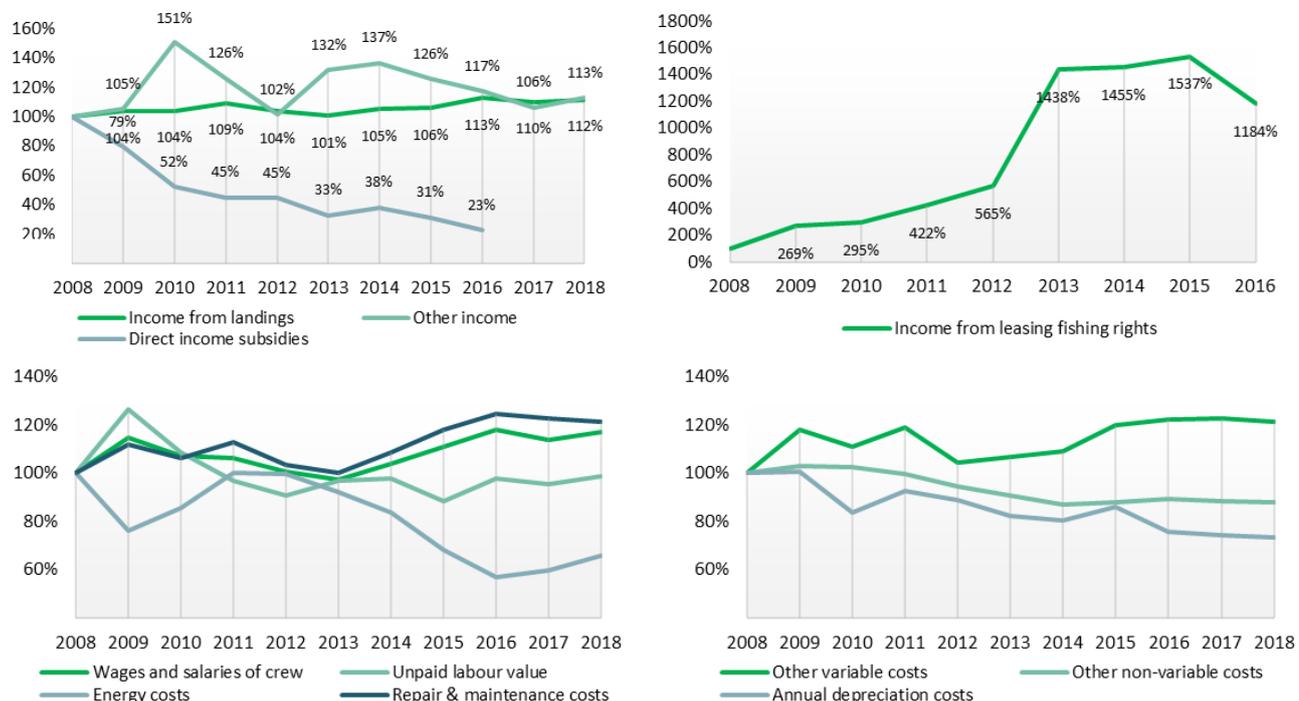
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.27 Left: Variations in income and costs for the EU fleet (based on 2008=100)

Figure 3.28 shows the average price of marine fuel for the period 2008-2017. While average prices remained relatively low during 2009 and early 2010, they increased steadily throughout late 2010 and remained so until mid-2014, decreasing again in 2015. These fluctuations in fuel prices had a significant impact on the performance of the fleet. The data suggest that as international fuel prices fluctuated throughout the period so too did the consequential energy costs of the fishing fleet. Thus, energy costs in 2016 (15% of revenue) are significantly lower than those recorded in 2008 and over the period 2011-2013 (between 21% and 24%).
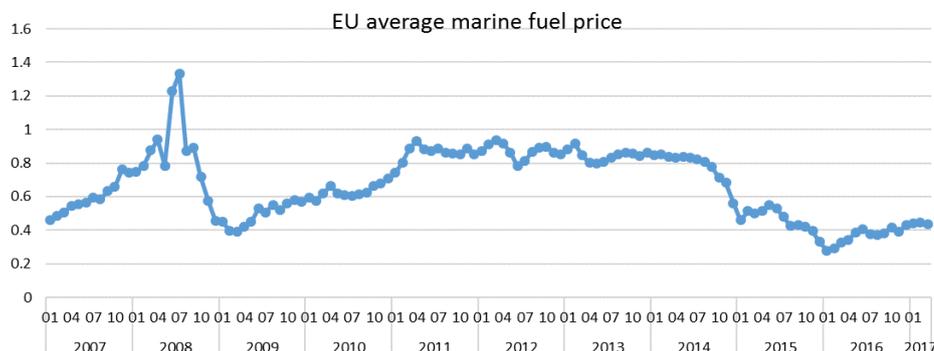
Data source: adapted/corrected from EUMOFA

Figure 3.28 Average EU marine fuel price (EUR /litre)

Income and costs by scale of fishing activity

Revenue and costs by fishing activity are shown in figure 3.29 as proportions of the EU totals in 2016 and trends in figure 3.30. The large-scale fleet generated 73% of the total EU fleet revenue and accounted for 73% of the labour costs and 76% of the energy costs whereas the SSCF generated 13% of the revenue and accounted for 19% of the labour costs and 9% of the energy costs. The distant water fleet generated the remaining 14% of the revenue and contributed 8% to labour and 15% to energy costs (Figure 3.29).
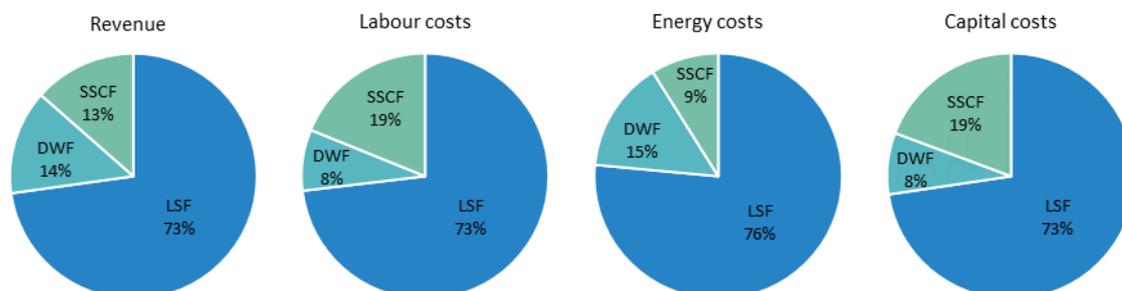
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 3.29 Cost items by fishing activity as a percentage of the EU fleet, 2016

Over the period 2010-2015 the revenue generated by the SSCF showed an overall negative trend, rebounding in 2016 (an 11% increase compared to 2015) to a level similar to 2008 and almost the (maximum) level generated in 2009. Total costs to revenue ranged from 86% in 2016 to 99.4% in 2013 (Figure 3.30).

Revenue generated by the LSF followed an oscillating trend between 2008 and 2011, a downward trend between 2011 and 2013 and then increased each year from 2014 onwards. In 2016 revenue increased 7% compared to 2015 and 9% when compared to 2008. Over the same period average total costs generally decreased, with total costs to revenue ranging from 99.5% in 2009 to 81% in 2016 (Figure 3.31).

The DWF suffered a 12.6% drop in revenue in 2015. In 2016, revenue increased only 0.2% while costs decreased 11%; with total costs to revenue moving from 94% in 2015 to 85% in 2016.
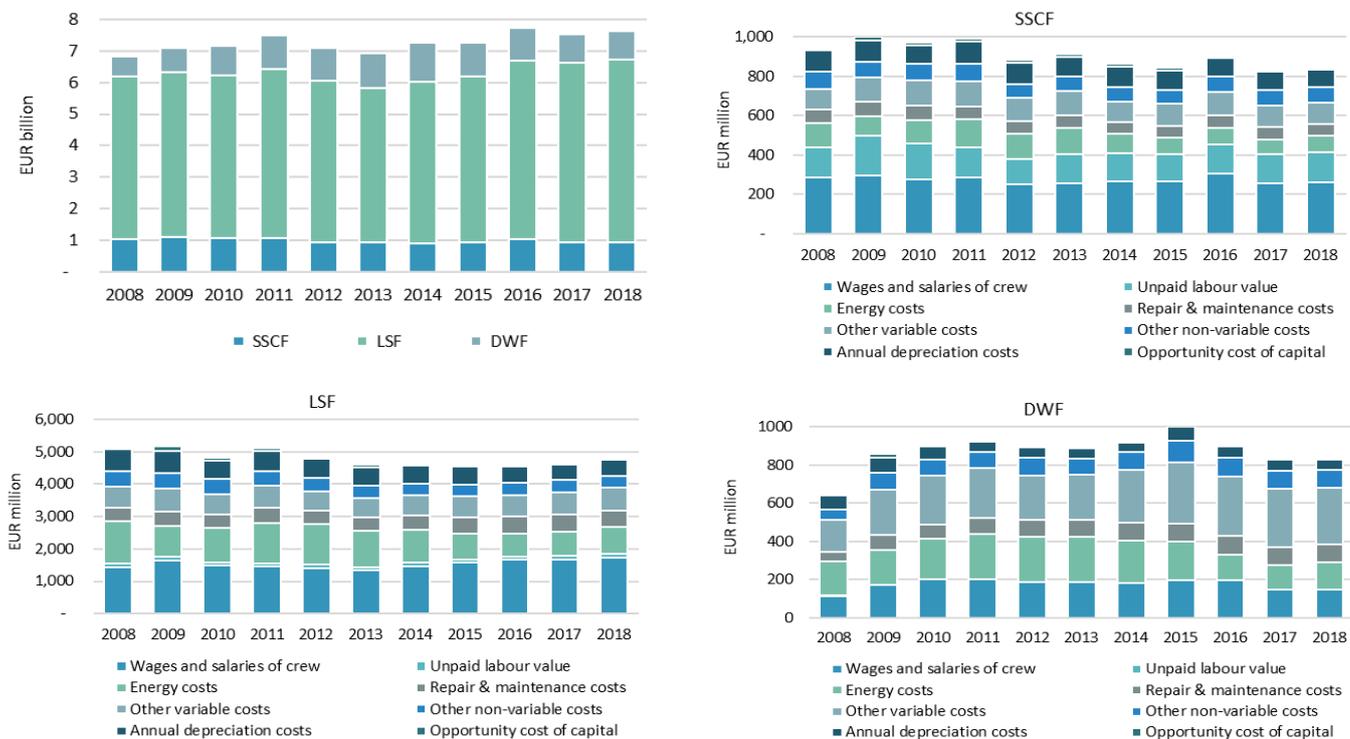
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.30 Trends on revenue (top) and cost structure by main type of fishing activity
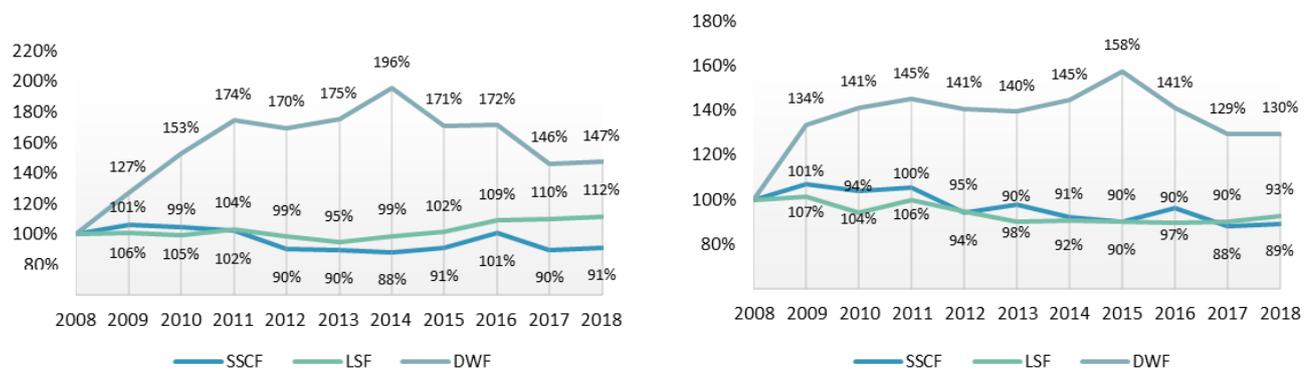
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.31 Variations in revenue (left) and costs (right) by main type of fishing activity

3.2 Economic Performance indicators

Situation in 2016

Economic performance indicators are listed by MS and for the EU fleet as a whole in Table 3.12 and 3.13. The amount of Gross Value Added (GVA), gross profit and net profit (excluding subsidies) generated by the EU fishing fleet (excluding Greece) in 2016 was EUR 4.5 billion (15% increase on 2015), EUR 2.1 billion (+27%) and EUR 1.3 billion (+71%), respectively (Figure 3.32).

In relative terms, and once again excluding Greece, GVA to revenue was 58%, 27% of revenue was retained as gross profit and, after deducting capital costs, 17% of revenue was retained as net profit (Table 3.13). As depictured in figures 3.32 and 3.33, results have improved significantly in recent years.
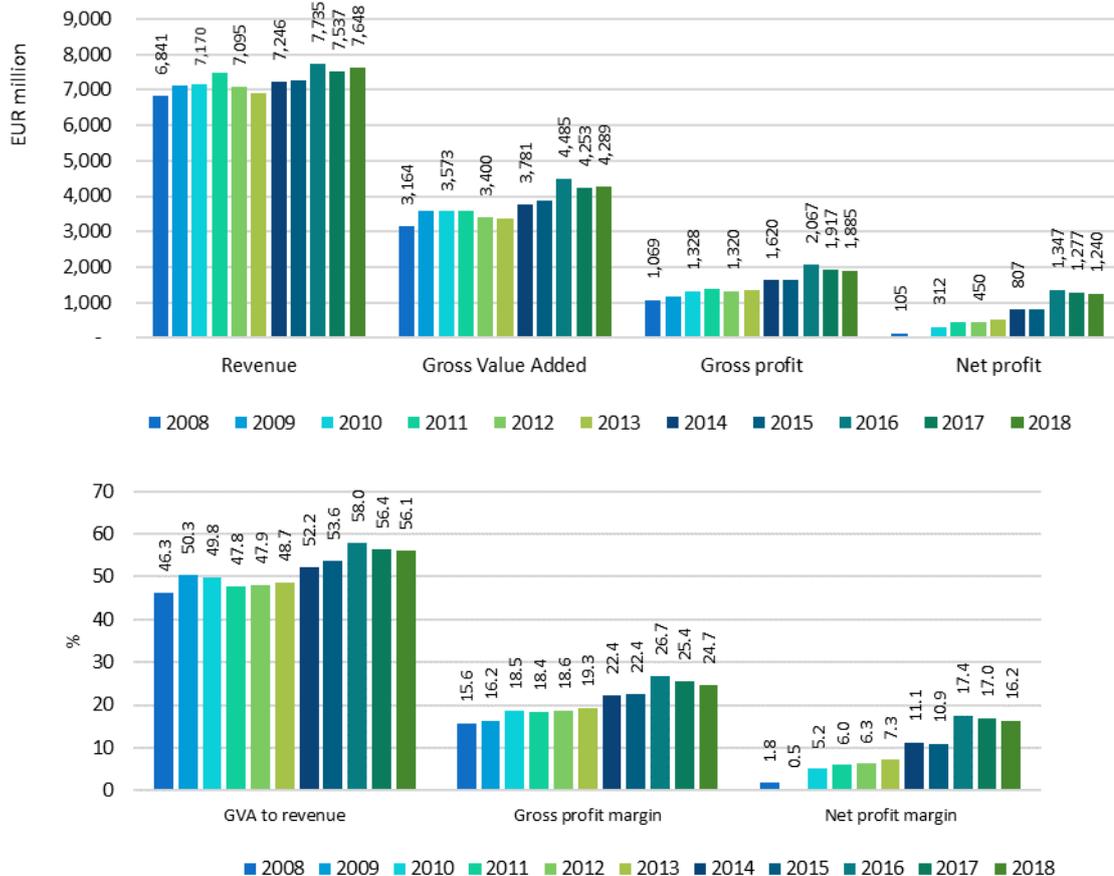
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.32 Trends on EU fleet economic performance indicators
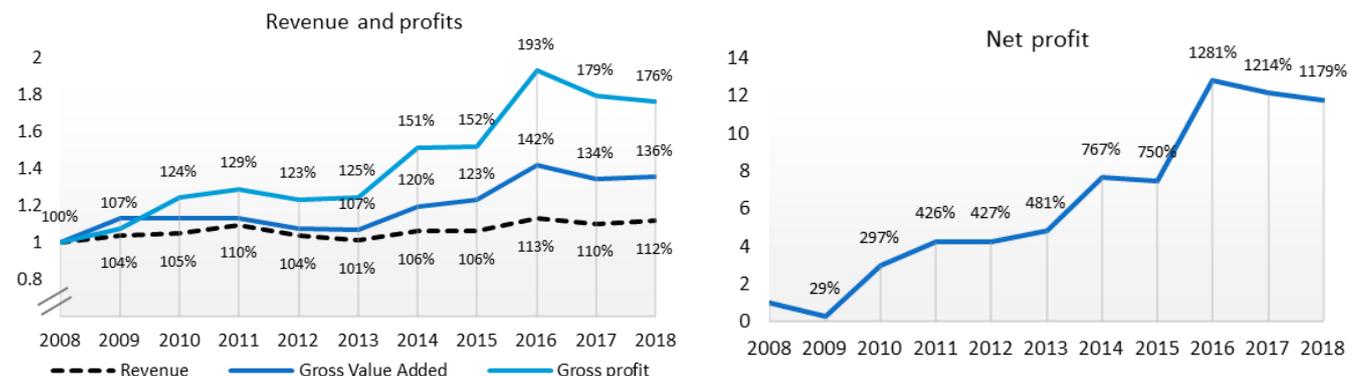
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.33 Variations in EU fleet economic performance indicators (based on 2008=100)

An analysis of the 2016 economic performance by member state revealed a mixed picture. The data suggest that one MS (Malta) out of the 22 MS fleets (Greece excluded) suffered gross losses while five generated net losses (Croatia, Cyprus, Finland and Lithuania, in addition to Malta).

Results indicate that the Spanish fleet generated by far the highest revenue (EUR 2 billion), GVA (EUR 1.1 billion), gross profit (EUR 465) and net profit (EUR 384 million).

The French fleet generated over EUR 1.3 billion in revenue and EUR 758 in GVA, followed by the UK fleet, with EUR 1.2 billion in revenue and EUR 651 million in GVA.

The UK fleet was more efficient than the French fleet at converting revenue into profit, generating EUR 351 million in gross profit and EUR 292 million in net profit compared to EUR 257 in gross profit and EUR 160 million in net profit for the French.

In relative terms, the Slovenian fleet generated the highest level of GVA relative to revenue (83%), followed by Romania (76%), Denmark (71%) and Portugal (68%).

The Romanian fleet generated the highest gross profit margin (58%), followed by Slovenia (49%) and Denmark (44%).

Finally, the Romanian fleet also generated the highest net profit margin (44%), followed by Slovenia (42%), Denmark (27%), the UK (25%) and the Netherlands (20.4%).

Economic performance by scale of fishing activity

The data indicate that in 2016, the SSCF generated net profits of EUR 132 million, a significant improvement on 2015 (+36%). Yet, this fleet component generated net losses in seven MS in 2016 (Table 3.15).

The large-scale fleet accounted for 75% of the total GVA generated by the EU fleet, 77% of the gross profits and 79% of net profits (Figure 3.34; Table 3.18). On the whole, all member state LSF generated gross profits in 2016 while 3 MS fleets out of 22 reported net losses (Cyprus, Croatia and Malta) (Table 3.18). Overall, net profits generated by this part of the fleet amounted to just over EUR 1 billion in 2016, up from EUR 624 million in 2015.

The distant water fleet contributed 9% to GVA and 11% to both gross and net profit, generating an overall net profit of EUR 137 million, a substantial increase from the EUR 54 million reported in 2015 (Table 3.21). Note, due to data confidentiality results for this segment are undervalued.
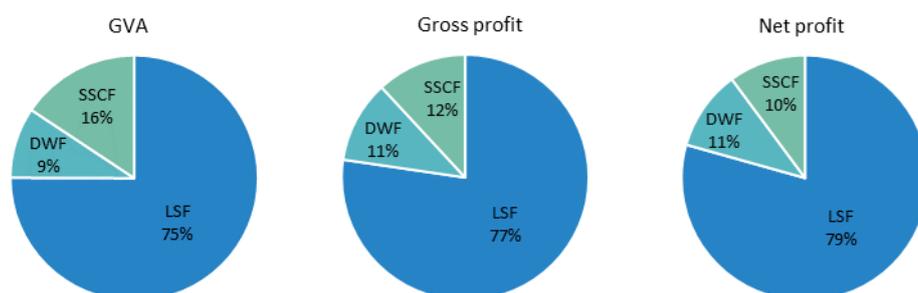
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 3.34 Economic performance by fishing activity as a proportion of the EU fleet, 2016

In relative terms, the small-scale coastal fleet generated the highest GVA as a percentage of revenue (67%), followed by the large-scale fleet (60%) and then the distant water fleet (39%) (Table 3.16, Table 3.19 and Table 3.22).

The large-scale fleet generated the highest gross profit margin (28%), followed by the small-scale coastal fleet (23.5%) and the distant water fleet (21%).

The large-scale fleet generated the highest net profit margin (18.7%), followed by the distant water fleet (15%) and then the small-scale coastal fleet (13.6%).

Trends in the main economic performance indicators for the SSCF, LSF and DWF are shown in figures 3.35 to 3.37.

For the EU small-scale coastal fleet, all indicators show a decline in performance over the period 2009-2013, with improvements from 2014 onwards, finally surpassing 2009 results in 2016.

For the EU large-scale fleet, all indicators show an improved performance since 2013. Net profit in 2016 was estimated EUR 1 billion, a record high over the period analysed.

Conversely, the DWF suffered general deterioration in 2015, after years of improved performance. Overall improvements were seen in 2016, yet results remain well below the 2014 record high figures.

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.35 Trends on fleet economic performance indicators for the EU SSCF
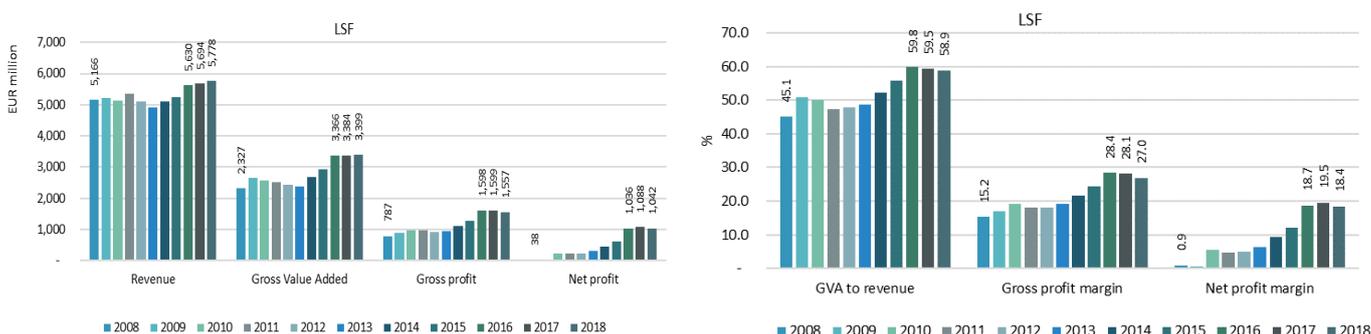
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.36 Trends on fleet economic performance indicators for the EU LSF

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.37 Trends on fleet economic performance indicators for the EU DWF

Capital value and investments

In 2016, the EU fleet (excluding Greece) had an estimated (depreciated) replacement value of EUR 5.2 billion. In-year investments amounted to EUR 531 million; an increase of 1% compared to 2015. The Italian fleet was reported to have the highest (depreciated) replacement value amounting to some EUR 663 million, followed by those of Denmark (EUR 653 million) and the UK (EUR 588 million).

In terms of investment, the Danish fleet invested EUR 110 million in 2016, followed by those of the UK (EUR 107 million) and Ireland (EUR 76 million) (Table 3.12).

Capital value and investment by scale of fishing activity

The EU small-scale coastal fleet had a depreciated replacement value of EUR 706 million in 2016 (13.5% of the EU fleet). Also, excluding the Greek SSCF, in-year investment in the small-scale coastal segment amounted to EUR 57 million (10.8% of the EU total).

The highest depreciated replacement value and in-year investments corresponded to the large-scale fleet (72% and 84% of the total, respectively).

The (depreciated) replacement value of the EU distant water fleet amounted to EUR 329 million; however, this figure is under-estimated as it excludes several MS high seas vessels due to data confidentiality.

The amount of in-year investment in the EU distant water fleet, again under-reported for the reasons stated above, was EUR 27 million in 2016.

The remaining EUR 426 million in tangible asset value (replacement) was reported for inactive vessels, along with EUR 3 000 in investments (these figures are also under-reported as not all MS provide capital values for their inactive vessels).

Labour and Capital Productivity

Labour productivity, defined as gross value added per FTE (GVA/FTE), gives an indication of growth in the sector, while capital productivity measures profit per unit of capital invested. Apart from a small decline between 2011 and 2012, both the labour and capital productivity of the EU fishing fleet has generally increased since 2008 (Figure 3.38).

In 2016, labour productivity was estimated at EUR 48.9 thousand, a 14.7% increase on 2015 with the Belgian fleet reporting the highest level (EUR 234 thousand), followed by the Danish fleet (EUR 205 thousand) and the Netherlands (EUR 172 thousand). Capital productivity, measured as the return on fixed tangible assets (RoFTA), was estimated at 27%, a 71% increase compared to 2015.

Labour and capital productivity by scale of fishing activity

Figure 3.38 shows that labour productivity is lowest in the SSCF, at around EUR 24.3 thousand per FTE, and decreased after 2009 until 2013 before rebounding in 2014 and levelling out at levels similar to 2009. Capital productivity followed a similar trend but achieved better results from 2015 onwards.

Labour and capital productivity for the LSF and DWF show generally increasing trends over the entire period, with that of the DWF being more pronounced albeit with a significant drop in 2015.

Energy use – fuel efficiency and intensity

The quantity of fuel used by the EU fishing fleet is influenced by a number of factors, in particular the type of fishing operation and gear used. In this report fuel usage is measured as in two ways: 1) fuel intensity, i.e. the quantity of fuel consumed per quantity of fish landed (litre per tonne), and, 2) fuel efficiency, the ratio between fuel costs and revenue, expressed as a percentage (%). For the latter, the lower the value the more fuel efficient the vessel (i.e. less income is used to cover fuel costs), however it should be noted that this measure depends both on the quantity used and the price of fuel.

Based on the data submitted by MS, the results indicate that overall the EU fleet has become more fuel efficient, with fuel costs as a proportion of revenue estimated at 12% in 2016, down from 15.5% in 2015, and much lower than the 24% reported in 2008. Improvement in fleet performance in 2015 and 2016 can largely be attributed to lower fuel prices. However, it is noteworthy that fuel intensity – the amount of fuel consumed per landed tonne - has also steadily declined since 2009, reaching a record low in 2014, and stabilising since (Figure 3.39).

Fuel use and efficiency by scale of fishing activity

Results show that small-scale coastal vessels are more fuel intensive, consuming on average 552 litres per tonne landed in 2015, compared to 463 litres for the LSF. On the other hand, at 8% in 2016, the SSCF has the lowest fuel cost to revenue ratio and improved compared to 2015, where it was estimated at 9.3%. On average, around 13% of the revenue generated by large-scale vessels was spent on fuel in 2016. This segment also improved compared to 2015, by 3 percentage points. As for the DWF, the improvement was greater (6 percentage points), moving from 19% in 2015 to 13% in 2016 (Figure 3.39).
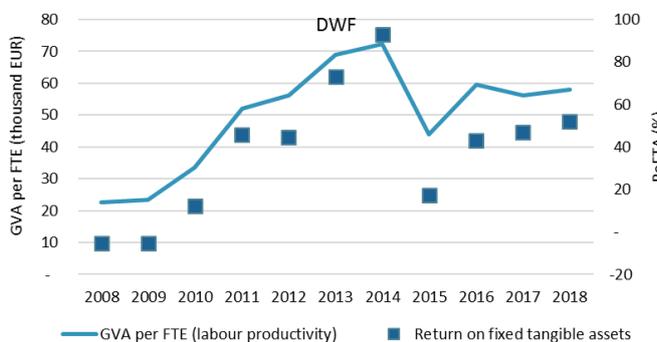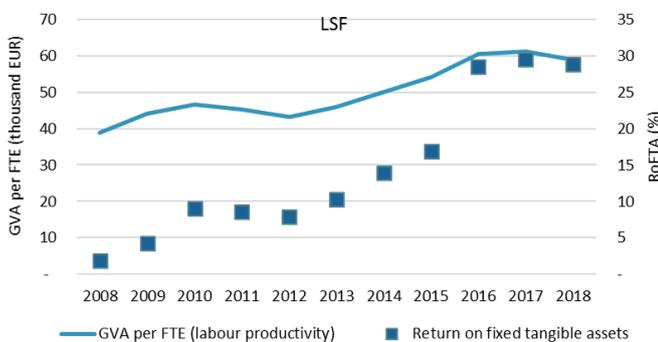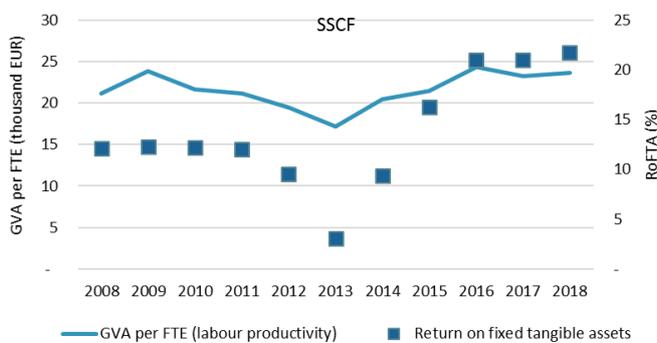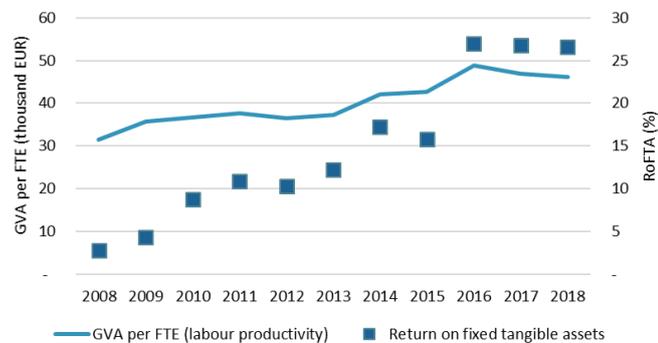
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.38 Trends on labour (GVA per FTE) and capital productivity (RoFTA) for the EU fleet and by fishing activity
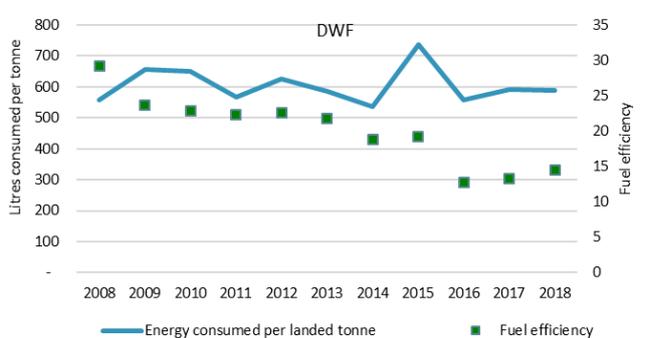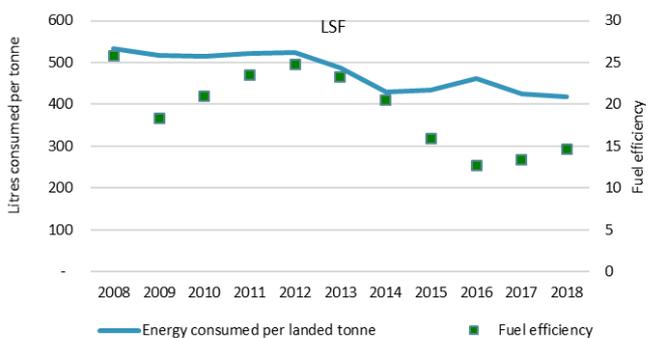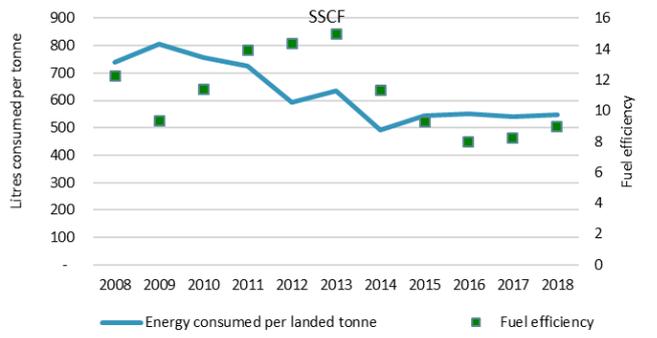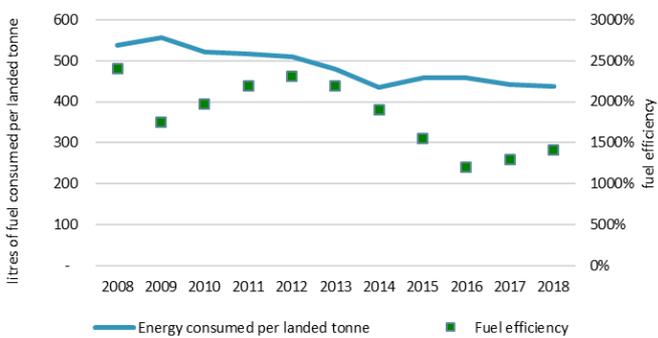
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Figure 3.39 Trends on fuel use, measured as fuel costs to income from landings (fuel efficiency) and litres of fuel consumed per tonne landed (fuel intensity) for the EU fleet and by main fishing activity

3.3 Assessment for 2017 and 2018

The 2018 call for economic data on the EU fishing fleet requested transversal data (effort, landings and capacity) from MS up to 2017 and economic data up to 2016. Hence, the submitted data has a one-year (transversal) to two-year (economic) time lag in relation to the publication date of the Annual Economic Report. This lag occurs because data is collected, processed, and quality checked at the MS level before submission to the DCF. In order to have data for a particular year, for example 2016, it is necessary to wait until the end of the year (e.g. 2017) to collect it. Yet, in order to properly inform the management of EU fisheries, the most recent information on the EU fishing fleet is required. The lag in data processing thus presents a major challenge. To address this issue, the economic performance of the EU fishing fleet for t+1 (2017) and t+2 (2018) were estimated using 'nowcasting' techniques.

This approach has been used in several editions of the AER. To further develop the methodology used in previous editions, different transversal variables (e.g. number of vessels, days at sea, and value of landings) were investigated by a modelling sub-group for their explanatory power of other, generally 'economic' variables that are reported (e.g. employment, income and cost items). Where no 2017 or 2018 data were reported by MS, those explanatory variables that provided the most robust estimates were used to generate nowcasts.

For most variables, the same nowcasting methodology was used for the Northeast Atlantic (A27), the Mediterranean and Black Sea (A37) and Other Fishing Regions (OFR). However, for some variables (e.g. landings weight, energy cost, other variable costs, FTE employment) different relationships were used for the A27 fleet segments to those in A37 and OFR. The reason for this divergence in methodology is that total allowable catches (TACs), a key driver for fishing behaviour in the Northeast Atlantic, are reported for both t+1 and t+2. This extra information, as well as biomass estimates for t+1 for TAC species, are used to improve the nowcasting capacities for the Northeast Atlantic. Where there was no significant difference in explanatory power then a consistent methodology was used across the regions.

This report marks the second year that the nowcasting methodology used in the different regions has been joined-up. See section 6.7 for more details on the methodology used to produce the nowcasts for the 2018 AER.

Projected results for 2017 and 2018 for all the main analyses are provided throughout each of the chapters.

This section reports a summary of the nowcast results on the economic performance of the EU fleet for 2017 and 2018 (all excluding Greece) (summarised in Tables 3.1 to 3.4):

- Preliminary results forecast a 6% increase in landed weight, with a 3% decrease in landed value for 2017.

- The 2016 results are slightly offset in 2017 as projections suggest that the gain from a 3% decrease in total costs is cancelled out by the loss in revenue (-3%); thus, some deterioration in economic performance results in 2017: GVA (-5%), gross profit (-7%) and net profit (-5%).

- Results suggest that the EU fleet operated at a profit in 2017, with an estimated net profit margin of 17%. Positive economic results can also be seen in the performance indicators - GVA to revenue (56%) and gross profit margin (25%).

- In 2018, a modest increase in revenue (+1%) is counteracted by a 2% increase in total costs. As wages are projected to increase 3% in 2018, GVA is estimated to increase 1% compared to 2017.

- With fuel costs also increasing in 2018 (+11%) the fleet remains profitable with gross and net profit margins of 25% and 16%, respectively.

- By member state, projected results for 2017 indicate that all fleets analysed generated gross profits while in 2018 Lithuania is forecasted to suffer gross losses.

- With the exception of Croatia, Cyprus, Finland, Lithuania and Malta, all member state fleets generated net profits in 2017.

Table 3.1 Revenue and total costs for 2016 and nowcasts for 2017 and 2018 by Member State

	Revenue					Total costs				
	2016	2017	Δ 2017-2016	2018	Δ 2018-2017	2016	2017	Δ 2017-2016	2018	Δ 2018-2017
BEL	94.8	88.0	-7%	98.3	12%	78.0	77.2	-1%	82.8	7%
BGR	5.4	4.8	-11%	4.7	-2%	5.2	4.1	-20%	3.6	-12%
CYP	7.7	8.2	7%	8.0	-2%	11.3	10.2	-9%	10.6	4%
DEU	161.6	157.7	-2%	163.3	4%	135.6	132.0	-3%	134.1	2%
DNK	481.7	538.3	12%	526.1	-2%	380.8	370.3	-3%	373.5	1%
ESP	1986.1	1997.8	1%	2199.1	10%	1,609.6	1,586.4	-1%	1,714.8	8%
EST	14.8	15.4	4%	15.9	4%	12.0	11.9	-1%	12.3	3%
FIN	35.6	34.1	-4%	30.2	-11%	40.0	36.8	-8%	34.4	-6%
FRA	1327.0	1143.9	-14%	1070.9	-6%	1,166.6	1,107.0	-5%	1,083.3	-2%
GBR	1172.6	1132.0	-3%	1123.9	-1%	926.7	858.6	-7%	861.1	0%
HRV	66.2	62.2	-6%	57.9	-7%	89.4	71.4	-20%	70.2	-2%
IRL	305.7	314.7	3%	317.6	1%	269.9	269.3	0%	274.6	2%
ITA	917.7	915.8	0%	931.4	2%	795.2	794.5	0%	819.9	3%
LTU	69.9	59.6	-15%	53.9	-10%	71.7	63.3	-12%	59.2	-6%
LVA	17.6	18.6	6%	18.1	-2%	14.5	13.9	-4%	14.0	0%
MLT	10.4	11.5	11%	11.8	3%	14.1	13.8	-2%	14.5	4%
NLD	471.8	445.9	-6%	480.7	8%	392.0	377.6	-4%	402.6	7%
POL	51.6	47.6	-8%	47.5	0%	43.9	39.2	-11%	40.0	2%
PRT	395.3	406.6	3%	371.7	-9%	318.5	315.3	-1%	304.5	-3%
ROU	3.9	4.5	16%	5.8	29%	2.2	3.2	43%	4.4	39%
SVN	2.2	2.1	-5%	2.1	1%	1.3	1.2	-7%	1.2	3%
SWE	135.7	127.5	-6%	108.6	-15%	111.9	107.1	-4%	96.8	-10%
EU total	7735.4	7536.8	-3%	7647.6	1%	6,490.3	6,264.3	-3%	6,412.5	2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Table 3.2 Profit indicator results for 2016 and nowcasts for 2017 and 2018 by Member State

	Gross Value Added					Gross profit					Net profit				
	2016	2017	Δ % 2017-2016	2018	Δ% 2018-2017	2016	2017	Δ % 2017-2016	2018	Δ% 2018-2017	2016	2017	Δ % 2017-2016	2018	Δ% 2018-2017
BEL	54.0	46.9	-13%	54.1	15%	23.8	17.8	-25%	22.6	27%	16.8	10.7	-36%	15.5	44%
BGR	3.1	2.7	-13%	2.9	8%	1.4	1.0	-28%	1.3	25%	0.2	0.7	207%	1.1	56%
CYP	2.6	2.9	11%	2.6	-11%	1.4	1.6	13%	1.3	-21%	- 3.6	- 2.0	-44%	- 2.6	29%
DEU	98.3	95.5	-3%	100.5	5%	46.0	44.5	-3%	47.5	7%	26.0	25.7	-1%	29.2	13%
DNK	339.7	381.1	12%	368.0	-3%	213.1	241.6	13%	231.8	-4%	130.6	168.0	29%	152.6	-9%
ESP	1,087.8	1,110.1	2%	1,275.7	15%	465.1	483.1	4%	558.3	16%	384.2	414.4	8%	487.3	18%
EST	9.9	10.3	4%	10.6	4%	4.5	4.7	3%	4.9	4%	2.9	3.5	20%	3.7	5%
FIN	17.2	16.9	-2%	15.2	-10%	10.8	10.9	1%	9.5	-13%	- 4.2	- 2.7	-35%	- 4.2	56%
FRA	758.1	556.7	-27%	480.0	-14%	256.7	129.9	-49%	78.8	-39%	160.4	36.9	-77%	- 12.4	-134%
GBR	650.9	610.1	-6%	599.0	-2%	351.3	321.1	-9%	311.3	-3%	292.3	273.4	-6%	262.8	-4%
HRV	30.8	29.3	-5%	23.9	-18%	5.4	6.4	19%	1.7	-74%	- 22.7	- 8.7	-62%	- 11.9	36%
IRL	164.5	174.0	6%	173.1	-1%	70.9	78.0	10%	76.0	-3%	35.8	45.4	27%	43.0	-5%
ITA	577.2	568.1	-2%	564.5	-1%	285.6	276.1	-3%	267.0	-3%	122.5	121.3	-1%	111.5	-8%
LTU	15.6	6.8	-56%	5.0	-27%	6.4	0.4	-93%	- 0.9	-306%	- 1.8	- 3.6	105%	- 5.3	45%
LVA	7.2	8.7	22%	8.0	-7%	4.2	5.4	29%	5.0	-8%	3.1	4.6	50%	4.1	-11%
MLT	4.2	5.7	35%	5.6	-2%	- 0.2	1.0	-598%	0.8	-16%	- 2.6	- 1.2	-52%	- 1.4	15%
NLD	283.8	245.2	-14%	270.3	10%	132.0	104.5	-21%	116.1	11%	96.1	68.3	-29%	78.2	14%
POL	31.2	28.7	-8%	27.8	-3%	16.6	15.0	-10%	14.5	-4%	7.7	8.5	10%	7.4	-12%
PRT	268.0	278.2	4%	241.4	-13%	122.3	129.7	6%	103.8	-20%	76.8	91.3	19%	67.1	-26%
ROU	2.9	3.1	5%	3.2	4%	2.3	2.3	0%	2.2	-5%	1.7	1.5	-14%	1.6	8%
SVN	1.8	1.7	-5%	1.8	1%	1.1	1.0	-7%	1.0	-1%	0.9	0.9	-2%	0.9	-1%
SWE	76.3	70.6	-7%	55.3	-22%	46.5	40.6	-13%	31.2	-23%	23.9	20.4	-14%	11.8	-42%
EU total	4,485.3	4,253.1	-5%	4,288.5	1%	2,067.2	1,916.8	-7%	1,885.5	-2%	1,347.0	1,277.3	-5%	1,240.0	-3%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Table 3.3 Variation in cost items by Member state projected for 2017 and 2018

	Wages and salaries of crew		Unpaid labour value		Energy costs		Repair & maintenance costs		Other variable costs		Other non-variable costs		Annual depreciation costs	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
BEL	-4%	8%	-5%	6%	2%	22%	1%	-3%	-2%	5%	2%	-3%	1%	-3%
BGR	0%	-3%	7%	-3%	5%	-23%	-29%	-2%	-26%	-2%	-25%	-2%	-43%	-2%
CYP	8%	4%	6%	-7%	8%	11%	2%	-2%	4%	-1%	3%	4%	3%	-1%
DEU	-3%	6%	1%	-6%	-3%	15%	-2%	-5%	0%	0%	-1%	-4%	-1%	-5%
DNK	13%	-2%	4%	-2%	31%	8%	-4%	0%	20%	-6%	-5%	-1%	-4%	1%
ESP	1%	15%	-2%	9%	5%	16%	-3%	-2%	-3%	1%	-3%	-1%	-3%	-1%
EST	7%	3%	-4%	6%	10%	13%	2%	0%	3%	1%	1%	-4%	1%	-3%
FIN	-5%	-9%	-9%	6%	-4%	-20%	-9%	1%	-10%	-22%	-8%	-2%	-8%	0%
FRA	-15%	-6%			3%	5%	0%	1%	9%	-3%	0%	1%	0%	0%
GBR	-3%	-1%	-7%	1%	2%	9%	0%	-4%	-1%	-1%	0%	-2%	0%	-4%
HRV	-9%	-2%	-22%	-5%	-8%	13%	-8%	-3%	-6%	-2%	-7%	-3%	-9%	-4%
IRL	3%	1%	-3%	5%	1%	13%	-1%	-1%	-2%	0%	-1%	-1%	-1%	-1%
ITA	0%	2%	0%	2%	6%	11%	-2%	-1%	-2%	-1%	-2%	-1%	-2%	-1%
LTU	-30%	-8%	21%	-16%	1%	5%	-4%	-10%	-4%	-11%	-4%	-11%	-4%	-11%
LVA	12%	-7%	-10%	14%	-1%	15%	-6%	-2%	-4%	2%	-7%	-2%	-4%	-1%
MLT	23%	1%	-2%	1%	-3%	17%	-9%	1%	-7%	0%	-6%	2%	-7%	2%
NLD	-6%	8%	-18%	22%	10%	13%	6%	2%	5%	-1%	6%	2%	8%	2%
POL	3%	-11%	-26%	23%	-5%	11%	-6%	-1%	-12%	-1%	-4%	-1%	-9%	0%
PRT	2%	-8%	2%	-2%	4%	10%	-4%	-2%	2%	-6%	-4%	-3%	-4%	-2%
ROU	19%	27%	23%	24%	8%	179%	104%	22%	115%	21%	116%	17%	100%	28%
SVN	-4%	4%	-3%	4%	0%	4%	-2%	-1%	-4%	-1%	-1%	-1%	-1%	-1%
SWE	5%	-25%	-6%	-11%	-1%	-5%	-6%	-5%	-6%	-15%	-6%	-5%	-7%	-6%
EU total	-3%	3%	-2%	4%	5%	11%	-1%	-1%	0%	-1%	-1%	-1%	-2%	-1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

Table 3.4 Main performance indicators by Member State in 2016 and projection results for 2017 and 2018

	GVA to revenue					Gross profit margin					Net profit margin				
	2016	2017	Δ% 2017-2016	2018	Δ% 2018-2017	2016	2017	Δ% 2017-2016	2018	Δ% 2018-2017	2016	2017	Δ% 2017-2016	2018	Δ% 2018-2017
BEL	57.0	53.3	-6%	55.0	3%	25.06	20.22	-19%	22.94	13%	17.68	12.21	-31%	15.76	29%
BGR	57.7	56.7	-2%	62.6	10%	26.61	21.57	-19%	27.53	28%	4.06	14.05	246%	22.44	60%
CYP	33.8	35.1	4%	32.0	-9%	18.51	19.66	6%	15.96	-19%	-45.98	-24.25	-47%	-32.11	32%
DEU	60.8	60.5	-1%	61.5	2%	28.47	28.19	-1%	29.1	3%	16.08	16.32	1%	17.89	10%
DNK	70.5	70.8	0%	69.9	-1%	44.23	44.88	1%	44.05	-2%	27.1	31.21	15%	29	-7%
ESP	54.8	55.6	1%	58.0	4%	23.42	24.18	3%	25.39	5%	19.34	20.75	7%	22.16	7%
EST	67.0	66.8	0%	66.8	0%	30.72	30.37	-1%	30.46	0%	19.63	22.7	16%	23	1%
FIN	48.3	49.6	3%	50.2	1%	30.33	32	6%	31.46	-2%	-11.72	-7.92	-32%	-13.9	76%
FRA	57.1	48.7	-15%	44.8	-8%	19.34	11.36	-41%	7.36	-35%	12.09	3.22	-73%	-1.16	-136%
GBR	55.5	53.9	-3%	53.3	-1%	29.96	28.36	-5%	27.69	-2%	24.93	24.15	-3%	23.38	-3%
HRV	46.5	47.1	1%	41.4	-12%	8.14	10.32	27%	2.87	-72%	-34.3	-14.02	-59%	-20.56	47%
IRL	53.8	55.3	3%	54.5	-1%	23.19	24.8	7%	23.92	-4%	11.71	14.43	23%	13.53	-6%
ITA	62.9	62.0	-1%	60.6	-2%	31.12	30.15	-3%	28.67	-5%	13.35	13.24	-1%	11.97	-10%
LTU	22.3	11.5	-49%	9.2	-20%	9.16	0.75	-92%	-1.72	-329%	-2.54	-6.12	141%	-9.83	61%
LVA	40.8	46.9	15%	44.5	-5%	23.82	29.17	22%	27.42	-6%	17.52	24.82	42%	22.57	-9%
MLT	40.6	49.6	22%	47.3	-5%	-1.92	8.64	-550%	7.11	-18%	-25.09	-10.81	-57%	-12.17	13%
NLD	60.2	55.0	-9%	56.2	2%	27.97	23.44	-16%	24.16	3%	20.36	15.32	-25%	16.26	6%
POL	60.6	60.2	-1%	58.6	-3%	32.28	31.59	-2%	30.53	-3%	14.89	17.77	19%	15.68	-12%
PRT	67.8	68.4	1%	64.9	-5%	30.94	31.9	3%	27.93	-12%	19.43	22.46	16%	18.06	-20%
ROU	75.9	68.3	-10%	55.0	-20%	58.3	50.23	-14%	37.2	-26%	44.38	32.87	-26%	27.44	-17%
SVN	83.0	82.4	-1%	82.4	0%	48.68	47.62	-2%	46.77	-2%	41.96	43.27	3%	42.48	-2%
SWE	56.2	55.4	-1%	50.9	-8%	34.23	31.85	-7%	28.76	-10%	17.59	16.01	-9%	10.89	-32%
EU total	58.0	56.4	-3%	56.1	-1%	26.7	25.4	-5%	24.7	-3%	17.4	17.0	-3%	16.2	-4%

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

3.4 EU small-scale coastal fleet

Findings for the EU small-scale coastal fleet (SSCF) are provided throughout each chapter, including nowcast results for 2017 and 2018.

This section provides a summary of the main findings for the EU SSCF (summarised in Tables 3.5 and 3.6):

- The number of active small-scale coastal vessels (including Greece) totalled 49 029 in 2016, employing 78 304 fishers or 46 647 in FTE.

- When excluding Greece due to incomplete time-series data, FTE in the SSCF in 2016 decreased 1% compared to 2012, effort in days at sea by -4%, energy consumption by -11% and energy costs by -38%.

- Landings in weight increased by 5% and value of landings by 16% over the same period.

- In 2016, the EU SSCF saw revenues increase by 11% compared to 2015.

- With lower total costs (-2%) and higher revenue in 2016, the SSCF saw a 26% increase in GVA, a 41% increase in gross profit compared to 2012. Furthermore, with lower capital costs, in part due to reduced capacity, the SSCF saw a 144% increase in net profit.

- Net profit increased from EUR 54 million in 2012 to EUR 132 million in 2016; moving from a 6% profit margin to a 14% margin in 2016.

- In 2016, the number of SSCF vessels increased (+7%) mainly a result of a significant increase in licenced Croatian SSCF vessels, while FTE decreased by 1%, when compared to 2015.

- Effort, in days at sea, remained the same in 2016; while energy consumption decreased 2% compared to 2015.

- Landed weight is projected to have decreased slightly in 2017, at around 254 thousand tonnes with a corresponding decrease in landed value, estimated at EUR 830 million; a 7% drop compared to 2016.

- These findings suggest that in 2017 the EU SSCF generated EUR 626 million in GVA, a decrease of 11% compared to 2016 results.

- Gross profit was estimated at EUR 222 million in 2017, a 9% decrease on 2016.

- Nonetheless, the performance indicators remained positive - GVA to revenue (67%) and gross profit margin (24%) and net profit margin (15%) in 2017.

- In 2018, the increase in energy costs are counterbalance by increase in revenue and performance results improve slightly on 2017. The SSCF remains profitable with gross and net profit margins of 24% and 15%, respectively.

- While the EU SSCF as a whole was profitable over the time period analysed, results at the regional and member state level are mixed.

- The Danish, Maltese and Swedish SSCF fleets suffered gross losses in 2016. An additional five MS SSCFs (not considering Greece) suffered net losses in 2016, namely Bulgaria, Croatia, Cyprus, Finland and Lithuania.

- The Danish, Maltese and Swedish SSCF fleets, along with the Croatian, Finnish and Polish fleets are projected to have suffered gross losses in 2017.

- Only the Polish SSCF is projected to recover in 2018.

Table 3.5 Main indicators for the EU small-scale coastal fleet 2008-2016 and projections for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018
Total number of vessels	(#)	36,005	35,893	36,409	32,867	34,756	34,623	34,226	34,017	36,342	36,429	36,304	
FTE	(#)	31,526	31,224	32,384	30,786	29,124	31,607	28,759	29,214	28,848	27,762	27,727	
Total employed	(person)	63,694	61,612	63,135	58,999	59,441	60,291	57,537	56,564	58,691	58,811	59,091	
Days at sea	(thousand day)	2,875	2,952	2,768	2,563	2,825	2,763	2,713	2,705	2,704	2,457	2,429	
Energy consumption	(million litre)	174	194	189	193	168	186	144	153	150	140	139	
Live weight of landings	(thousand tonne)	195	197	247	259	260	278	272	278	273	254	249	
Value of landings	(million €)	756	742	900	928	767	704	731	793	893	830	843	
Revenue	(million €)	1,037	1,100	1,089	1,060	937	928	917	942	1,043	933	948	
Total costs	(million €)	938	1,002	976	992	885	917	865	846	906	826	837	
Gross Value Added	(million €)	652	725	687	638	554	534	580	615	701	626	636	
GVA to revenue	(%)	62.9	65.9	63.1	60.2	59.1	57.5	63.2	65.3	67.2	67.1	67.1	
GVA per FTE	(thousand €)	21	24	22	21	19	17	20	21	24	23	24	
Gross profit	(million €)	204	222	230	204	174	125	167	211	245	222	224	
Gross profit margin	(%)	19.9	20.3	21.2	19.2	18.6	13.6	18.3	22.4	23.5	23.8	23.6	
Net profit	(million €)	66	52	57	69	54	6	47	97	132	127	128	
Net profit margin	(%)	8.7	6.4	7.1	6.7	6.0	0.7	5.3	10.5	13.6	14.8	14.8	

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018. Includes Croatia, excludes Greece

Table 3.6 Main profitability indicators for the small-scale coastal fleet by Member State in 2016 and projections for 2017 and 2018

	Revenue (million €)			Gross Value Added (million €)			GVA to revenue (%)			Gross profit (million €)			Gross profit margin (%)			Net profit (million €)		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
BGR	1.8	1.9	1.9	1.1	1.1	1.1	58.4	56.8	56.7	0.2	0.1	0.1	10.3	6.7	6.8	- 0.2	- 0.1	- 0.0
CYP	4.2	4.5	4.2	1.3	1.4	1.2	31.1	32.1	28.4	1.1	1.2	0.9	25.5	26.5	22.8	- 1.5	- 0.7	- 1.0
DEU	8.9	8.9	6.4	4.3	4.7	2.4	48.4	52.4	38.3	1.6	2.1	0.6	18.3	23.9	9.5	0.2	0.8	0.7
DNK	25.4	22.5	22.5	12.0	10.2	10.5	47.5	45.1	46.7	- 1.4	- 1.8	- 1.4	- 5.4	- 7.9	- 6.3	4.7	4.6	4.3
ESP	157.7	155.6	167.1	118.0	116.3	126.2	74.8	74.7	75.5	28.1	27.4	30.7	17.8	17.6	18.4	19.7	19.8	21.9
EST	5.8	5.7	5.9	3.4	3.4	3.6	59.3	60.3	60.1	1.4	1.5	1.5	25.0	25.6	25.8	1.0	1.2	1.2
FIN	8.9	8.0	9.0	4.9	4.4	5.2	55.3	55.1	57.7	3.2	2.9	3.4	36.0	35.8	38.3	- 2.7	- 2.5	- 2.2
FRA	282.1	200.8	197.3	185.8	128.5	124.7	65.9	64.0	63.2	58.2	41.2	38.9	20.6	20.5	19.7	36.1	26.0	24.0
GBR	150.7	138.8	140.0	85.8	80.3	81.8	56.9	57.9	58.4	33.1	32.2	32.9	21.9	23.2	23.5	24.5	25.4	25.8
GRC	234.4	226.8	220.8	142.2	134.3	122.5	60.7	59.2	55.5	13.4	10.4	2.2	5.7	4.6	1.0	- 4.0	- 4.9	- 12.3
HRV	11.7	8.6	7.9	5.1	3.3	2.9	43.6	37.8	36.6	0.4	- 0.0	- 0.1	3.5	- 0.6	- 1.7	4.9	- 3.0	- 2.7
IRL	39.0	38.3	39.3	23.2	23.5	24.4	59.6	61.3	62.0	9.5	10.0	10.6	24.4	26.2	26.8	7.6	8.5	9.1
ITA	218.1	217.2	221.0	163.0	161.6	163.3	74.7	74.4	73.9	72.1	70.8	70.7	33.1	32.6	32.0	36.2	36.5	36.2
LTU	0.7	0.8	0.7	0.4	0.5	0.4	59.1	68.7	62.5	0.1	0.2	0.1	8.1	19.9	11.5	- 0.0	0.1	0.0
LVA	1.1	0.9	1.1	1.0	0.9	1.0	91.7	91.1	92.0	0.8	0.7	0.8	70.7	69.5	71.1	0.7	0.6	0.8
MLT	3.6	3.8	3.8	1.3	1.6	1.5	35.1	41.9	38.7	- 1.6	- 1.7	- 1.8	- 43.6	- 44.8	- 47.9	- 2.3	- 2.3	- 2.4
NLD	3.5	2.9	3.2	2.3	1.7	2.0	66.1	58.6	61.6	1.8	1.2	1.5	49.6	42.4	45.3	1.1	0.7	0.9
POL	11.5	6.9	10.5	7.9	3.7	7.1	68.6	53.0	68.0	1.6	- 0.7	1.4	13.7	- 10.1	13.2	0.0	- 1.7	0.2
PRT	87.2	88.2	86.8	68.5	69.6	67.5	78.6	79.0	77.7	34.5	35.3	33.7	39.5	40.0	38.8	25.0	26.6	25.5
ROU	1.2	1.6	1.9	0.8	0.9	0.7	66.4	55.4	39.4	0.5	0.5	0.3	41.9	30.8	14.9	0.4	0.3	0.2
SVN	1.5	1.6	1.6	1.3	1.3	1.4	86.2	86.4	86.4	0.8	0.8	0.8	53.3	50.9	50.0	0.7	0.7	0.7
SWE	18.3	15.9	15.5	9.1	7.5	7.1	49.8	46.8	46.1	- 0.8	- 1.5	- 1.5	- 4.5	- 9.4	- 9.4	- 5.1	- 5.3	- 5.2

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2017 and 2018

3.5 Main drivers and trends affecting the economic performance of the EU fleet

The overall economic performance of the EU fleet improved significantly in 2016, and is expected to broadly maintain this position in 2017 and 2018. Once again the improved situation is, at least partly, a result of lower operating costs, particularly the continued low cost of fuel. Broadly, the fleet fished more days during the year (+2.9%), used less fuel (-3%), and while it landed slightly less fish (-3.1%) than the previous year, these obtained greater value (+9%).

All but one (Malta, -0.2%) of the 22 Member State fleets analysed (Greece excluded) recorded gross profits during the year with the fleet as a whole generating a gross profit of EUR 2.067 billion; a 27% increases on the 2015 position. Net profit continued to elude 5 Member States but overall the fleet made (a net profit of) EUR 1.347 billion, an increase of more than 70% on 2015.

For the small-scale coastal fleet, all indicators show a decline in performance over the period 2009-2013, with improvements from 2014 onwards; finally surpassing 2009 results in 2016.

For the EU large-scale fleet, all indicators show an improved performance since 2013. Net profit in 2016 was estimated EUR 1 billion, a record high over the period analysed.

The DWF suffered a general deterioration in 2015 after years of improved performance. Overall improvements were seen in 2016, yet results remain well below the 2014 record high figures.

With a fleet as diverse as the EU fishing fleet, operating in fishing areas across the globe, it is difficult to define main drivers of economic performance as different factors will have varying levels of impact on different fleets. However, several stand out as the main driving forces behind the overall improvement in profitability in 2016: the continued (relatively) low fuel prices leading to lower fuel costs, increased fishing opportunities and higher average prices for some important fish stocks.

More specifically, other factors that may have contributed to improved economic performance, include, but are not limited to the following (in no specific order):

- Increases in the TAC for a number of species such as Atlantic herring, European plaice, Atlantic cod, haddock, and Norway lobster. The witch flounder (NAFO: 3NO) stock reopened to activity in 2015, following many years with no directed fishery (NDF). The EU quota for bluefin tuna increased from 7 938.65 tonnes in 2014 to 13 451.36 tonnes in 2017 and this impacted positively the profitability of purse seiners and longliners involved in tuna fisheries.
- Higher average prices for some of the main species, including Atlantic herring and Atlantic mackerel, common shrimp, common sole and European plaice. The average market price of swordfish and blue shark, important to vessels operating the ICCAT RA remained high.
- Policy management instruments, specifically quota allocation and ITQs (introduced in some countries) may have helped to improve the economic performance of certain fleets.
- Increased fishing opportunities leading to higher landings in weight and value for some MS fleets, e.g. North Sea common sole, European plaice, Atlantic herring, haddock, saithe stocks have all reached levels that are capable of delivering MSY.
- Recovery of some stocks, including Baltic sprat and herring, North Sea plaice, European hake, bluefin tuna, monkfishes, Atlantic mackerel and blue whiting leading to increased TACs and quotas. The biomass of most herring stocks have increased and the Northern hake stock continues to follow a positive trend.
- An increase in the turbot quota for both Bulgaria and Romania in 2018 and 2019 together with fixed quotas for third countries fishing in the Black Sea.
- Small pelagic species in the Baltic (sprat, herring) were in sound condition, and, combined with good market prices, created good economic conditions for fleets targeting these species.
- The economic performance of most OMR fleets improved in 2016 (even if these vessels do not seem very dependent on fuel prices and recorded relatively low fuel consumption). OMR fleets mostly supply local markets with fresh fish. The exceptions are tunas and other large pelagics that are often processed (canned or frozen) and exported to the EU mainland. It is noteworthy that the price obtained for these species is very dependent on the international market price while landings depend on the status of stocks.
- The impact of capacity reduction schemes (decommissioning) has played an important role in improving the economic performance of several MS fleets, e.g. Ireland, Latvia, and Estonia.

- Energy costs continue to be one of the main expenditure items for the large-scale fleet, especially demersal and pelagic trawlers. Consequently, the falling cost of marine fuel to the first quarter of 2016 (when it reached the lowest value since 2009) contributed significantly to lower production costs. This was maintained throughout 2016 and 2017 when fuel prices remained stable, but recent (2018) increases in oil prices are leading to increased fuel costs once again.
- The implementation of certification schemes and the growing demand for certified products. MSC certification for cod, saithe, haddock and herring fisheries in the North Sea and in Norwegian waters may be extended or re-approved. North Sea and Atlanto-Scandian herring as well as blue whiting fisheries are now certified. Due to the dispute between the EU, Norway, Iceland and Faroes, MSC certification of mackerel was suspended and re-issued only in 2016.
- Research and innovation projects (more selective fishing gears) funded by the European Fishing Fund and national support.

Conversely, factors that may have contributed to poor economic performance include, but are not limited to the following (in no specific order):

- Whilst the consequences of Brexit are unknown, it could have a large impact on the North Sea fisheries. The UK holds a significant portion of the value of landings in the region (30%). Furthermore, there is a high dependency on UK waters for a number of MS in the region. Belgium, the Netherlands, Germany, Denmark, France, Ireland, Sweden and to a lesser overall extent Spain are expected to be affected.
- After the Brexit vote the pound fell in value affecting UK prices in 2016 and 2017.
- Reduced TACs and quotas in 2017 for stocks including haddock, Northern prawn, Atlantic herring and European sprat.
- The cod quota in the Baltic Sea has fallen each year since 2014 and, based on ICES advice, will likely be further reduced in 2019.
- In the Baltic lower average prices for commercially important species including sprat, herring, and cod. The Russian embargo and higher landings of low value (reduction) species has seen a fall in the price of sprat. There was also a fall in the price of cod from 2011 to 2016 reflecting poor quality (market size) and low CPUE.
- In the Baltic, aging vessels, obsolete equipment and insufficient investment are lead to increased maintenance costs and lower profitability.
- Overfishing and poor status of many fish stocks in the Mediterranean Sea. In the Mediterranean very few stocks are currently being exploited at rates consistent with achieving MSY (around 13% of the stocks assessed are not overfished). The marine resources and ecosystems of this region have come under increasing pressure in recent years, driven by diversification and intensification of marine and maritime activities. While the fishing capacity has been frozen or reduced in EU countries since the mid '90s, the trend in non-EU countries is probably following a different pattern, and an increase in effort and capacity is likely to still occur in some areas.
- In some areas, competition between professional and recreational fishers.
- New management measures, in particular, the introduction of a TAC for swordfish and for pelagic fisheries in the Adriatic Sea. Fishers are concerned that these TACs will have a negative impact on their profits in the future.
- The landing obligation entered into force in 2014, but is being applied progressively across different stocks and fisheries. Fishers will face logistic problems (storing on board and bringing to land) as well as additional costs due to a significant increase in sorting time.
- The inability, of many fleets, to attract new entrants to the sector is of growing concern. Jobs on board fishing vessels are not particularly attractive for younger people due to the low wages and relatively poor working conditions although there are some exceptions; the Maltese fishing fleet is benefiting from a number of young people who voluntarily help their family whilst at sea, on a seasonal basis. Additionally, extra hands are sometimes recruited for the bluefin tuna and common dolphinfish seasons.
- Lower average first sale prices for some commercially important species, e.g. cod in the Baltic, plaice in the Netherlands, some important stocks for the UK.
- Low abundance and/or low quality of some species. The poor condition of Baltic cod (skinny fish) has been negatively influencing the performance of demersal fleets targeting cod. The situation did not

improve in 2016. Small-scale fisheries were additionally affected by low abundances of cod in coastal waters.

- Damage to fishing gears caused by marine mammals and other protected species, such as, seals, dolphins, sea turtles, and seabirds for a number of fleets, in particular, in the Baltic, Celtic and Mediterranean seas. These damages increase repair and maintenance costs and negatively affect their overall economic performance, bearing in mind that fishers do not receive compensation for their losses.
- Severe weather conditions and increase of areas that prohibit or limit specific fishing access/activity due to established restrictions for energy production or temporary closures of areas for stock recovery and nature conservation.
- Competition with an increasing number of recreational fishers, who usually fish in coastal areas and often illegally sell their catch at low prices.
- Delays and/or non-renewals of EU fishery partnership bilateral agreements with third countries as well as decreasing quotas.
- Decreased inflow of transfers and direct subsidies to the fishing sector, significantly affecting direct incomes in some MS (e.g. Poland) as well as funds usually available for repairs and investments. The new EMFF program has not been lunched yet so in 2015 and 2016 most of the funds were not available.

Status of stocks: MSY

Fish stocks in the ICES area (Northeast Atlantic, FAO area 27), are reported to be recovering, with most assessed stocks not subject to overfishing (Figure 3.40); however, in the Mediterranean and Black Sea, the majority (87% of assessed stocks) are overfished (STECF, 2018).

In the ICES area, the percentage of stocks known to be outside safe biological limits (i.e., where F>Fpa or B< Bpa) has decreased from 57% in 2008 to 44% in 2016. Likewise, the percentage of stocks that are overexploited (i.e., for which fishing mortality exceeded FMSY, F>FMSY), has decreased from 70% in 2003 (72% in 2008) to 31% in 2016 (Table 3.7).

Managing these stocks with the objective of MSY has resulted in the total biomass at sea in being increased substantially over a relatively short timeframe. In 2016, ICES area biomass was 54% higher than in 2008, when biomass was at its lowest level in recent time.
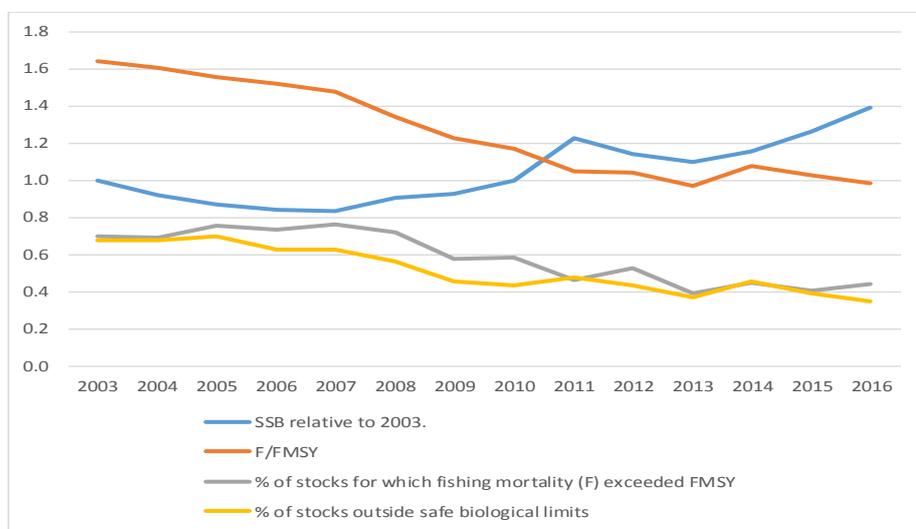
Figure 3.40 Trends in stocks status in the ICES area: SSB relative to 2003, F>FMSY, the proportion of stocks outside safe biological limits (F>Fpa or B< Bpa), proportion of overexploited stocks (F>FMSY) between 2003-2016

Table 3.7 Trends in stocks status in the ICES area: SSB relative to 2003, F>FMSY, the proportion of stocks outside safe biological limits (F>Fpa or B< Bpa), proportion of overexploited stocks (F>FMSY) between 2003-2016

	2003	2004	2005	2006	2007	2008	2009
SSB relative to 2003.	1	0.92	0.87	0.84	0.84	0.9	0.92
F/FMSY	1.64	1.61	1.55	1.52	1.48	1.34	1.23
% of stocks where F > FMSY	0.7	0.69	0.76	0.73	0.76	0.72	0.57
% outside safe biological limits	0.67	0.67	0.7	0.63	0.63	0.57	0.46

	2010	2011	2012	2013	2014	2015	2016
SSB relative to 2003.	1	1.23	1.14	1.1	1.16	1.26	1.39
F/FMSY	1.17	1.05	1.04	0.97	1.07	1.03	0.98
% of stocks where F > FMSY	0.58	0.46	0.53	0.39	0.45	0.41	0.44
% outside safe biological limits	0.43	0.48	0.43	0.37	0.46	0.39	0.35

When considered at a finer spatial scale it can be seen that the percentage of stocks that were overexploited or outside biological limits in 2016 varied across the ICES ecoregions (Table 3.8 and Table 3.9). However, the information required to determine the status of every stock with respect to exploitation and biological status is not available in all cases so the number of stocks reported varies depending on the criteria.

Table 3.8 Percentage of overexploited stocks (for which fishing mortality exceeded FMSY) in 2016 by ecoregion

Eco-Region	Percentage	Number of stocks assessed
Baltic Sea	50.0	8
Biscay & Iberia	55.6	9
Celtic Seas	39.1	23
Greater North Sea	40.9	22
Northeast Atlantic	50.0	4
ALL	43.9	66

Table 3.9 Percentage of stocks outside biological limits in 2016 by ecoregion

Eco-Region	Percentage	Number of stocks assessed
Baltic Sea	37.5	8
Biscay & Iberia	0.0	7
Celtic Seas	60.0	15
Greater North Sea	27.3	11
Northeast Atlantic	20.0	5
ALL	34.8	46

In the Mediterranean and Black Sea, the majority of assessed stocks were reported to be overfished in 2014-5, with around 13% of assessed stocks (6 out of 47) not overfished (Red mullet in the Black Sea - GSA 29; Deep-water rose shrimp in GSA 1; Deep-water rose shrimp in GSA 09, 10, 11; Striped red mullet in GSA 9; Giant red shrimp in GSA 9; Blue and red shrimp in GSA 9).

The spawning stock biomass is has decreased from 2003, but improved from 2008; while the exploitation rate has slightly increased from 2003 and 2008 (Table 3.10).

Table 3.10 Trends in stocks status in the Mediterranean: SSB relative to 2003, F>FMSY between 2003-2016

	2003	2004	2005	2006	2007	2008	2009	2010
SSB relative to 2003.	1.01	0.95	0.94	1.07	1	0.91	0.96	0.97
F/FMSY	2.17	2.23	2.34	2.37	2.18	2.19	2.19	2.22

	2011	2012	2013	2014	2015
SSB relative to 2003.	0.93	0.87	0.89	0.96	0.97
F/FMSY	2.49	2.28	2.27	2.15	2.25

3.6 Outlook for 2019 and beyond

Production

Global seafood production has grown rapidly in the last decades. While capture fisheries production has been relatively stable at an average of about 90 million tonnes per annum, this increase in overall production is mainly due to aquaculture production growth.

Aquaculture production growth is likely to continue but at a lower rate and despite becoming less dependent on fishmeal and oil from capture fisheries than in the past (Liu and Sumalia, 2008; Asche et al., 2013; Guillen et al., 2018). According to OECD–FAO (2013) forecasts, global aquaculture production will grow at an annual rate of 2.5% up to 2022. This lower forecasted growth rate will mainly be caused by water scarcity, less optimal production location availability and high feed costs (OECD-FAO, 2013). However, these forecasts have been qualified as somewhat pessimistic (Lem et al., 2014).

Low aquaculture production growth will not be able to fully satisfy the increasing global demand for food products, and seafood in particular, driven by an increasing world population6 (Duarte et al. 2009; Godfray et al. 2010; Garcia and Rosenberg 2010; Béné et al. 2015) and increases in income and purchasing power in emerging economies (e.g. China and Brazil) (Gerbens-Leenes et al. 2010). This will lead to increases in seafood prices, both from capture fisheries and aquaculture.

In general terms, it is expected that aquaculture production will affect the prices of seafood products, since capture fisheries production is not expected to change significantly. Thus, the lower the aquaculture production increase, the higher will be the increase in seafood prices.

According to OECD–FAO (2013), capture production is expected to increase to 95 million tonnes. This slight increase is attributed to increases in sustainability and the recovery of fish stocks as a result from improved resource management. Other factors behind this growth are reduced discards, waste and losses, improved fishing technologies, and decreases in illegal, unreported and unregulated (IUU) fishing, increased efficiency of small-scale fisheries. However, high seafood prices may incentivise overfishing and consequently endanger the long-term benefits of sustainability.

According to the China Agricultural Outlook (2015-26), in the next 10 years, the Chinese government will introduce major reforms to improve the fisheries sustainability, including control of fishing vessels, improvement of the moratorium and the quota systems, and reduced quotas for some species. Thus, Chinese capture fisheries production is expected to decrease, at least in the short to medium term. Aquaculture is also expected to go through a process of restructuration.

Production of fishmeal is expected to increase, partly due to the increase in the use of by-products for fishmeal production. Aquaculture production will be less dependent on fishmeal and oil from capture fisheries thanks to improved efficiency in the use of fishmeal, substitution to other types of feed and expansion of farmed species that require no or little fishmeal as inputs.

EU fisheries and aquaculture sectors, in particular, are going to be affected by the United Kingdom leaving the EU (i.e., Brexit), the landing obligation and the results from trying to exploit all fish stocks at MSY level. Demographic changes related to family size, population ageing and consumer trends (e.g. concerns for healthy eating and sustainable production) will lead to changes in demand and its composition. While, continued increases in income and urbanisation in developing countries, may lead to higher seafood prices and changes in traditional trade relations between countries, worsening the seafood trade balance of the EU.

In the long-term, also climate change and ocean acidification may impact fisheries and aquaculture. However, their impact on productivity rates are uncertain and may vary significantly by region.

GDP, inflation and employment

The European Central Bank (ECB)'s macroeconomic projections for the euro area forecast a decrease in real Gross Domestic Product (GDP) growth. ECB estimates a real GDP increase of 2.1% in 2018, 1.9% in 2019 and 1.7% in the 2020.

- Inflation (HICP) is estimated to increase at about 1.7% per year between 2018 and 2020, slightly higher than the 1.5% registered in 2017.

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6 According to the UN, today's world population of more than 7 billion will rise to approximately 9 billion by 2030 and to 10 billion by 2050 (Gerland et al. 2014).

- Employment will continue to increase in the euro area, reducing unemployment. ECB estimates of the unemployment rate will decrease from 8.4% in 2018 to 7.3% in 2020. However, significant differences by country will prevail.

- Labour costs are expected to continue to increase at about 1.5% per year between 2018 and 2020, while labour productivity will continue to increase at about 0.8% annually.

Fuel prices

While major changes in fuel prices are not expected in 2018 and 2019 (worldwide crude oil price forecast to average $63 a barrel in both years EIA, 2018) high levels of variability and uncertainty are expected. The main reasons underpinning these forecast are:

- U.S. production of shale oil and alternative fuels, such as ethanol, began increasing in 2015;

- 2018 forecast for total non-OPEC supply increases;

- OPEC (Organization of the Petroleum Exporting Countries) may reduce production to avoid significant price decreases;

- Global demand has grown more slowly than anticipated.

Table 3.11 Main capacity, employment, effort and landings variables by Member State, 2016

	Total no. of vessels (#)	as % of EU Total	No. of Inactive vessels (#)	as % of EU Total	% of inactive vessels MS fleet	Vessel tonnage (thousand GT)	as % of EU Total	Engine power (thousand kW)	as % of EU Total	Total employed (person)	as % of EU Total	FTE (#)	as % of EU Total	Days at sea (thousand day)	as % of EU Total	Fishing days (thousand day)	as % of EU Total	Energy consumed (million litre)	as % of EU Total	Landed weight (thousand tonne)	as % of EU Total	Landed value (million €)	as % of EU Total
BEL	76	0.1%	8	0.0%	11%	14.0	0.9%	46.2	0.7%	318	0.2%	231	0.2%	14.3	0.3%	15.8	0.3%	37.5	1.6%	26.9	0.5%	91.9	1.1%
BGR	1,918	2.3%	712	4.0%	37%	6.3	0.4%	56.0	0.9%	1,603	1.1%	580	0.5%	25.9	0.5%	25.9	0.5%	2.6	0.1%	7.0	0.1%	4.6	0.1%
CYP	838	1.0%	70	0.4%	8%	3.4	0.2%	36.4	0.6%	1,117	0.7%	668	0.6%	58.3	1.2%	58.3	1.2%	2.3	0.1%	1.5	0.0%	7.7	0.1%
DEU	1,430	1.7%	371	2.1%	26%	60.7	3.9%	132.9	2.1%	1,539	1.0%	1,204	1.0%	104.1	2.1%	106.4	2.2%	41.1	1.8%	228.2	4.6%	233.9	2.9%
DNK	1,793	2.2%	419	2.3%	23%	66.5	4.3%	204.8	3.3%	1,331	0.9%	1,657	1.4%	95.5	2.0%	88.7	1.8%	92.3	4.1%	670.0	13.5%	475.5	5.8%
ESP	9,459	11.3%	1,105	6.2%	12%	343.9	22.0%	802.8	12.7%	31,597	20.7%	29,399	25.6%	1,083.3	22.3%	1,037.8	21.5%	582.2	25.9%	897.7	18.0%	2,086.1	25.6%
EST	1,552	1.9%	4	0.0%	0%	5.8	0.4%	31.5	0.5%	2,107	1.4%	457	0.4%	72.0	1.5%	148.2	3.1%	2.8	0.1%	60.5	1.2%	14.6	0.2%
FIN	3,092	3.7%	1,501	8.4%	49%	16.2	1.0%	168.5	2.7%	1,524	1.0%	300	0.3%	109.9	2.3%	109.7	2.3%	20.3	0.9%	157.3	3.2%	39.5	0.5%
FRA	6,835	8.2%	1,152	6.4%	17%	173.5	11.1%	1,003.7	15.9%	13,536	8.9%	7,138	6.2%	476.5	9.8%	446.1	9.2%	314.4	14.0%	540.2	10.9%	1,221.1	15.0%
GBR	6,304	7.6%	1,667	9.3%	26%	193.5	12.4%	790.9	12.6%	11,757	7.7%	8,888	7.7%	431.0	8.9%	321.0	6.6%	281.7	12.5%	700.6	14.1%	1,130.1	13.9%
GRC	15,182	18.2%	1,535	8.5%	10%	71.8	4.6%	430.8	6.8%	24,975	16.4%	23,040	20.1%			2,040.8	42.2%	104.9	4.7%	74.9	1.5%	463.6	5.7%
HRV	7,746	9.3%	2,422	13.5%	31%	49.2	3.1%	387.6	6.2%	7,227	4.7%	2,611	2.3%	234.8	4.8%	204.3	4.2%	24.9	1.1%	72.3	1.5%	58.4	0.7%
IRL	2,044	2.5%	604	3.4%	30%	59.9	3.8%	182.8	2.9%	3,461	2.3%	2,672	2.3%	77.2	1.6%	67.7	1.4%	97.9	4.4%	239.3	4.8%	265.6	3.3%
ITA	12,310	14.8%	1,041	5.8%	8%	157.7	10.1%	993.7	15.8%	25,933	17.0%	21,349	18.6%	1,463.7	30.2%	1,625.3	33.6%	373.5	16.6%	192.4	3.9%	908.2	11.1%
LTU	154	0.2%	56	0.3%	36%	47.0	3.0%	53.9	0.9%	607	0.4%	421	0.4%	8.4	0.2%	7.6	0.2%	44.7	2.0%	102.4	2.1%	89.4	1.1%
LVA	332	0.4%	67	0.4%	20%	7.3	0.5%	20.9	0.3%	647	0.4%	318	0.3%	18.1	0.4%	19.6	0.4%	3.5	0.2%	60.0	1.2%	15.8	0.2%
MLT	1,014	1.2%	283	1.6%	28%	7.2	0.5%	73.9	1.2%	1,262	0.8%	774	0.7%	23.3	0.5%	20.9	0.4%	4.2	0.2%	2.3	0.0%	9.8	0.1%
NLD	733	0.9%	206	1.1%	28%	114.7	7.3%	254.7	4.0%	1,972	1.3%	1,648	1.4%	52.4	1.1%	46.2	1.0%	160.1	7.1%	367.5	7.4%	466.5	5.7%
POL	875	1.0%	63	0.4%	7%	34.2	2.2%	81.5	1.3%	2,481	1.6%	2,276	2.0%	75.2	1.6%	71.3	1.5%	17.0	0.8%	198.5	4.0%	51.4	0.6%
PRT	8,100	9.7%	4,282	23.8%	53%	94.9	6.1%	359.9	5.7%	15,396	10.1%	8,230	7.2%	339.5	7.0%	325.1	6.7%	92.8	4.1%	173.2	3.5%	390.1	4.8%
ROU	147	0.2%	26	0.1%	18%	1.1	0.1%	5.8	0.1%	345	0.2%	48	0.0%	4.1	0.1%	3.7	0.1%	0.7	0.0%	6.8	0.1%	3.9	0.0%
SVN	171	0.2%	88	0.5%	51%	0.6	0.0%	8.5	0.1%	110	0.1%	70	0.1%	7.9	0.2%	7.9	0.2%	0.2	0.0%	0.2	0.0%	1.0	0.0%
SWE	1,255	1.5%	280	1.6%	22%	31.9	2.0%	170.6	2.7%	1,485	1.0%	798	0.7%	73.6	1.5%	73.6	1.5%	48.6	2.2%	197.7	4.0%	125.1	1.5%
EU total	**83,360**		**17,962**		**21.5%**	**1,561**		**6,298**		**152,331**		**114,776**				**6,872**		**2,350**		**4,977**		**8,154**	
% Δ to 2015	-1.1%		-11.6%			-2.4%		-1.7%		0.1%		0.1%				28.4%		-2.9%		-2.0%		13.5%	
EU excl. GRC	**68,178**		**16,427**		**24.1%**	**1,489**		**5,868**		**127,356**		**91,735**		**4,849**		**4,831**		**2,245**		**4,902**		**7,690**	
% Δ to 2015	-0.8%		-14.0%			-2.3%		-1.6%		0.5%		0.5%		0.5%		2.9%		-3.0%		-3.1%		9.0%	

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.12 Main economic variables by Member State, 2016

|	Revenue (million €)	as % of EU Total	Wages and salaries of crew (million €)	as % of EU Total	Unpaid labour value (million €)	as % of EU Total	Energy costs (million €)	as % of EU Total	Repair costs (million €)	as % of EU Total	Other variable costs (million €)	as % of EU Total	Other non-variable costs (million €)	as % of EU Total	Annual depreciation costs (million €)	as % of EU Total	Gross Value Added (million €)	as % of EU Total	Gross profit (million €)	as % of EU Total	Net profit (million €)	as % of EU Total	Tangible asset value (million €)	as % of EU Total	Investments (million €)	as % of EU Total
BEL	94.8	1.2%	28.4	1.3%	1.8	0.7%	13.4	1.5%	8.8	1.3%	11.8	1.1%	6.8	1.2%	7.4	1.1%	54.0	1.2%	23.8	1.15%	16.8	1.2%	31.7	0.6%	61.0	11.5%
BGR	5.4	0.1%	1.5	0.1%	0.1	0.1%	1.3	0.1%	0.5	0.1%	0.2	0.0%	0.3	0.1%	0.5	0.1%	3.1	0.1%	1.4	0.07%	0.2	0.0%	18.5	0.4%	0.5	0.1%
CYP	7.7	0.1%	0.9	0.0%	0.2	0.1%	1.3	0.1%	0.8	0.1%	2.8	0.3%	0.2	0.0%	2.6	0.4%	2.6	0.1%	1.43	0.07%	- 3.6	-0.3%	46.3	0.9%	0.0	0.0%
DEU	161.6	2.1%	42.0	1.9%	10.3	4.0%	14.6	1.6%	18.9	2.8%	12.9	1.2%	16.9	3.1%	20.4	3.1%	98.3	2.2%	46.0	2.23%	26.0	1.9%	107.4	2.1%	19.7	3.7%
DNK	481.7	6.2%	88.0	4.1%	38.7	15.1%	36.1	3.9%	48.9	7.1%	35.8	3.2%	21.2	3.9%	80.4	12.2%	339.7	7.6%	213.1	10.31%	130.6	9.7%	653.1	12.5%	110.1	20.7%
ESP	1,986.1	25.7%	545.1	25.2%	77.6	30.2%	215.2	23.5%	143.5	21.0%	425.3	38.6%	114.2	20.9%	73.0	11.1%	1,087.8	24.3%	465.1	22.50%	384.2	28.5%	455.4	8.7%	30.9	5.8%
EST	14.8	0.2%	4.2	0.2%	1.1	0.4%	1.4	0.2%	1.5	0.2%	1.5	0.1%	0.5	0.1%	1.7	0.3%	9.9	0.2%	4.5	0.22%	2.9	0.2%	18.5	0.4%	1.8	0.3%
FIN	35.6	0.5%	4.6	0.2%	1.7	0.7%	8.4	0.9%	3.7	0.5%	2.2	0.2%	4.1	0.8%	15.0	2.3%	17.2	0.4%	10.8	0.52%	- 4.2	-0.3%	61.7	1.2%	13.4	2.5%
FRA	1,327.0	17.2%	501.5	23.2%	-	0.0%	137.7	15.0%	123.7	18.1%	156.6	14.2%	150.8	27.5%	95.4	14.5%	758.1	16.9%	256.7	12.42%	160.4	11.9%	562.4	10.8%	34.4	6.5%
GBR	1,172.6	15.2%	285.2	13.2%	14.3	5.6%	114.6	12.5%	121.9	17.8%	219.7	19.9%	65.6	12.0%	56.0	8.5%	650.9	14.5%	351.3	17.00%	292.3	21.7%	588.2	11.3%	107.0	20.2%
HRV	66.2	0.9%	23.0	1.1%	2.4	0.9%	13.2	1.4%	7.6	1.1%	8.0	0.7%	6.7	1.2%	12.5	1.9%	30.8	0.7%	5.4	0.26%	- 22.7	-1.7%	375.7	7.2%	9.7	1.8%
IRL	305.7	4.0%	88.5	4.1%	5.1	2.0%	33.4	3.6%	43.6	6.4%	34.6	3.1%	29.6	5.4%	30.2	4.6%	164.5	3.7%	70.9	3.43%	35.8	2.7%	517.7	9.9%	76.2	14.4%
ITA	917.7	11.9%	228.8	10.6%	62.8	24.5%	179.9	19.7%	46.1	6.7%	76.5	6.9%	38.0	6.9%	152.6	23.1%	577.2	12.9%	285.6	13.82%	122.5	9.1%	663.1	12.7%	23.1	4.4%
LTU	69.9	0.9%	9.2	0.4%	0.0	0.0%	11.6	1.3%	6.1	0.9%	25.7	2.3%	10.9	2.0%	7.9	1.2%	15.6	0.3%	6.4	0.31%	- 1.8	-0.1%	120.5	2.3%	2.0	0.4%
LVA	17.6	0.2%	2.8	0.1%	0.1	0.1%	1.7	0.2%	1.0	0.1%	2.4	0.2%	5.3	1.0%	1.1	0.2%	7.2	0.2%	4.2	0.20%	3.1	0.2%	11.0	0.2%	0.4	0.1%
MLT	10.4	0.1%	1.4	0.1%	3.0	1.2%	2.4	0.3%	1.8	0.3%	1.8	0.2%	0.2	0.0%	2.4	0.4%	4.2	0.1%	- 0.2	-0.01%	- 2.6	-0.2%	50.0	1.0%	0.9	0.2%
NLD	471.8	6.1%	136.6	6.3%	15.2	5.9%	51.4	5.6%	55.0	8.0%	31.0	2.8%	50.5	9.2%	35.4	5.4%	283.8	6.3%	132.0	6.38%	96.1	7.1%	271.9	5.2%	15.1	2.9%
POL	51.6	0.7%	9.9	0.5%	4.7	1.8%	7.7	0.8%	3.6	0.5%	4.5	0.4%	4.6	0.8%	4.9	0.7%	31.2	0.7%	16.6	0.81%	7.7	0.6%	124.5	2.4%	1.4	0.3%
PRT	395.3	5.1%	140.5	6.5%	5.2	2.0%	49.1	5.4%	25.1	3.7%	40.4	3.7%	12.7	2.3%	35.9	5.4%	268.0	6.0%	122.3	5.92%	76.8	5.7%	382.3	7.3%	15.8	3.0%
ROU	3.9	0.1%	0.6	0.0%	0.1	0.0%	0.5	0.1%	0.2	0.0%	0.1	0.0%	0.1	0.0%	0.2	0.0%	2.9	0.1%	2.3	0.11%	1.7	0.1%	8.0	0.2%	0.7	0.1%
SVN	2.2	0.0%	0.5	0.0%	0.2	0.1%	0.2	0.0%	0.1	0.0%	0.0	0.0%	0.0	0.0%	0.1	0.0%	1.8	0.0%	1.1	0.05%	0.9	0.1%	3.3	0.1%	0.1	0.0%
SWE	135.7	1.8%	17.9	0.8%	11.9	4.6%	20.5	2.2%	21.6	3.2%	9.1	0.8%	8.3	1.5%	23.5	3.6%	76.3	1.7%	46.5	2.25%	23.9	1.8%	148.6	2.8%	6.7	1.3%
EU total	**7,735**		**2,161**		**257**		**916**		**684**		**1,103**		**548**		**659**		**4,485**		**2,067**		**1,347**		**5,220**		**531**	
% Δ 2015	6.5%		6.4%		10.3%		-17.0%		5.7%		2.0%		1.7%		-12.2%		15.3%		27.1%		70.7%		-5.9%		1.0%	

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.13 Main socio-economic performance indicators by Member State, 2016

	GVA to revenue	Gross profit margin	Net profit margin	GVA per FTE	Net Value Added per FTE	Return on fixed tangible assets	Energy consumed per landed tonne	Fuel efficiency	Average wage per FTE
	(%)	(%)	(%)	(thousand €)	(thousand €)	(%)	(litre/tonne)	(f%)	(thousand €)
BEL	57.0	25.1	17.7	234.3	203.9	51.7	1,393.4	14.7	131.3
BGR	57.7	26.6	4.1	5.4	3.3	4.8	368.0	24.1	2.9
CYP	33.8	18.5	46.0	3.9	3.6	2.6	1,549.4	17.1	1.8
DEU	60.8	28.5	16.1	81.7	65.0	23.9	180.2	9.2	43.4
DNK	70.5	44.2	27.1	205.0	155.2	20.3	137.7	7.6	76.4
ESP	54.8	23.4	19.3	37.0	34.3	86.1	648.6	10.9	21.2
EST	67.0	30.7	19.6	21.7	18.1	15.3	45.8	9.5	11.7
FIN	48.3	30.3	11.7	57.2	7.4	6.8	128.9	24.8	21.3
FRA	57.1	19.3	12.1	106.2	92.7	28.7	582.0	10.6	70.3
GBR	55.5	30.0	24.9	73.2	66.6	50.2	402.1	10.1	33.7
HRV	46.5	8.1	34.3	11.8	1.0	1.9	344.2	22.5	9.7
IRL	53.8	23.2	11.7	61.6	48.4	7.9	409.0	11.0	35.0
ITA	62.9	31.1	13.4	27.0	19.4	20.1	1,941.5	19.8	13.7
LTU	22.3	9.2	2.5	37.0	17.6	1.3	436.4	17.1	21.8
LVA	40.7	23.8	17.5	22.5	19.0	28.3	58.0	10.8	9.3
MLT	40.6	1.9	25.1	5.5	2.3	5.2	1,829.1	24.3	5.7
NLD	60.2	28.0	20.4	172.2	150.4	35.5	435.6	11.0	92.1
POL	60.6	32.3	14.9	13.7	9.8	9.4	85.9	15.0	6.4
PRT	67.8	30.9	19.4	32.6	27.0	22.6	536.0	12.5	17.7
ROU	75.9	58.3	44.4	61.8	50.5	25.9	108.8	13.5	14.3
SVN	83.0	48.7	42.0	26.4	24.2	29.8	1,485.2	18.8	10.9
SWE	56.2	34.2	17.6	95.5	67.2	15.5	245.7	16.4	37.3
EU excl. GRC	**58.0**	**26.7**	**17.4**	**48.9**	**41.7**	**27.0**	**458.0**	**12.0**	**26.4**
% Δ 2015	8.2%	19.3%	60.3%	14.7%	21.3%	70.9%	0.1%	-22.3%	6.3%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.14 Main capacity, effort and landings variables for the EU small-scale coastal fleet by MS, 2016

Small Scale Fleet (SSCF)	Number of active vessels (#)	as % of EU SSF	Vessel tonnage (thousand GT)	as % of EU SSF	Engine power (thousand kW)	as % of EU SSF	Total employed (person)	as % of EU SSF	FTE (#)	as % of EU SSF	Days at sea (thousand day)	as % of EU SSF	Fishing days (thousand day)	as % of EU SSF	Energy consumed (million litre)	as % of EU SSF	Live weight of landings (thousand tonne)	as % of EU SSF	Value of landings (million €)	as % of EU SSF
BGR	1,086	2.2%	1.8	1.5%	23	1.3%	1,330	1.7%	373	0.8%	17	0.6%	17	0.6%	0.5	0.3%	2.0	0.7%	1.2	0.1%
CYP	733	1.5%	1.7	1.4%	27	1.5%	967	1.2%	518	1.1%	56	2.1%	99	3.4%	1.3	0.9%	0.6	0.2%	4.2	0.5%
DEU	776	1.6%	2.2	1.8%	22	1.3%	741	0.9%	568	1.2%	65	2.4%	67	2.3%	0.8	0.5%	7.9	2.9%	8.4	0.9%
DNK	977	2.0%	3.7	3.1%	41	2.3%	314	0.4%	229	0.5%	39	1.4%	38	1.3%	2.3	1.6%	9.9	3.6%	24.7	2.8%
ESP	4,123	8.4%	11.6	9.6%	111	6.3%	8,869	11.3%	6,208	13.3%	417	15.4%	417	14.5%	21.0	14.0%	30.8	11.3%	122.0	13.7%
EST	1,517	3.1%	2.2	1.8%	22	1.3%	1,952	2.5%	335	0.7%	69	2.5%	145	5.1%	0.7	0.4%	11.6	4.2%	5.6	0.6%
FIN	1,530	3.1%	3.4	2.8%	67	3.8%	1,369	1.7%	176	0.4%	102	3.8%	102	3.6%	1.5	1.0%	9.3	3.4%	8.6	1.0%
FRA	4,124	8.4%	15.4	12.8%	418	23.8%	6,949	8.9%	2,208	4.7%	226	8.3%	222	7.7%	26.1	17.4%	65.3	23.9%	202.8	22.7%
GBR	3,257	6.6%	13.4	11.1%	204	11.6%	5,422	6.9%	2,106	4.5%	238	8.8%	157	5.5%	30.6	20.4%	50.3	18.4%	143.6	16.1%
GRC	12,687	25.9%	25.2	20.8%	238	13.5%	19,613	25.0%	17,799	38.2%		0.0%		0.0%		0.0%		0.0%		0.0%
HRV	4,339	8.8%	7.8	6.4%	115	6.5%	4,622	5.9%	805	1.7%	134	5.0%	115	4.0%	2.8	1.9%	1.4	0.5%	8.1	0.9%
IRL	908	1.9%	2.8	2.3%	25	1.4%	1,385	1.8%	856	1.8%	27	1.0%	26	0.9%	9.6	6.4%	14.5	5.3%	25.0	2.8%
ITA	7,321	14.9%	13.6	11.2%	205	11.7%	12,684	16.2%	9,554	20.5%	952	35.2%	1,109	38.6%	35.8	23.9%	27.0	9.9%	214.9	24.1%
LTU	66	0.1%	0.3	0.2%	2	0.1%	147	0.2%	41	0.1%	4	0.2%	4	0.1%	0.2	0.1%	0.8	0.3%	0.6	0.1%
LVA	206	0.4%	0.4	0.4%	3	0.2%	256	0.3%	106	0.2%	11	0.4%	13	0.4%	0.0	0.0%	3.8	1.4%	1.1	0.1%
MLT	663	1.4%	1.5	1.3%	38	2.2%	986	1.3%	514	1.1%	18	0.7%	18	0.6%	1.6	1.1%	0.6	0.2%	3.6	0.4%
NLD	181	0.4%	0.5	0.4%	18	1.0%	329	0.4%	87	0.2%	4	0.1%	3	0.1%	0.4	0.3%	0.4	0.2%	3.4	0.4%
POL	617	1.3%	2.7	2.2%	21	1.2%	1,394	1.8%	1,208	2.6%	53	2.0%	52	1.8%	1.8	1.2%	12.5	4.6%	11.4	1.3%
PRT	3,004	6.1%	7.3	6.0%	100	5.7%	7,735	9.9%	2,578	5.5%	215	8.0%	213	7.4%	8.1	5.4%	18.2	6.7%	86.8	9.7%
ROU	104	0.2%	0.2	0.2%	1	0.1%	266	0.3%	17	0.0%	3	0.1%	3	0.1%	0.2	0.2%	1.6	0.6%	1.2	0.1%
SVN	72	0.1%	0.2	0.2%	3	0.2%	87	0.1%	57	0.1%	7	0.3%	7	0.2%	0.1	0.0%	0.1	0.0%	0.5	0.1%
SWE	738	1.5%	3.2	2.7%	52	3.0%	889	1.1%	305	0.7%	48	1.8%	48	1.7%	4.4	2.9%	4.5	1.6%	14.9	1.7%
EU SSF	**49,029**		**121.1**		**1,756**		**78,304**		**46,647**											
% Δ 2015	44.1%		29.4%		16.9%		38.4%		59.7%											
EU SSCF excluding GRC	**36,342**		**95.9**		**1,518**		**58,691**		**28,848**		**2,704**		**2,875**		**149.9**		**273**		**893**	
% Δ 2015	6.8%		2.5%		1.0%		3.8%		-1.3%		-0.01%		5.3%		-2.1%		-1.9%		12.6%	
SSCF as % of EU total*	53.3%		6.4%		25.9%		46.1%		31.4%		55.7%		58.8%		6.7%		5.6%		11.6%	

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.15 Main economic variables and indicators for the EU small-scale coastal fleet by MS, 2016

Small Scale Fleet (SSCF)	Revenue (million €)	as % of EU SSF	Wages and salaries of (million €)	as % of EU SSF	Unpaid labour value (million €)	as % of EU SSF	Energy costs (million €)	as % of EU SSF	Repair costs (million €)	as % of EU SSF	Other variable costs (million €)	as % of EU SSF	Other non-variable costs (million €)	as % of EU SSF	Annual depreciation costs (million €)	as % of EU SSF	Opportunity cost of capital (million €)	as % of EU SSF	Gross Value Added (million €)	Gross profit (million €)	Net profit (million €)
BGR	1.83	0.2%	0.8	0.3%	0.1	0.1%	0.3	0.4%	0.2	0.3%	0.1	0.1%	0.2	0.2%	0.2	0.2%	0.2	1.8%	1.1	0.2	-0.2
CYP	4.22	0.4%	0.0	0.0%	0.2	0.2%	0.8	0.9%	0.5	0.7%	1.7	1.4%	0.0	0.0%	1.4	1.4%	1.3	12.3%	1.3	1.1	-1.5
DEU	8.87	0.9%	1.3	0.4%	1.4	0.9%	0.5	0.6%	0.9	1.4%	1.0	0.9%	2.1	2.7%	1.5	1.5%	0.0	-0.2%	4.3	1.6	0.2
DNK	25.36	2.4%	2.7	0.9%	10.7	7.1%	1.4	1.7%	5.0	7.7%	4.2	3.6%	2.7	3.4%	3.2	3.3%	0.1	1.0%	12.0	-1.4	-4.7
ESP	157.68	15.1%	48.3	15.9%	41.5	27.5%	10.8	13.3%	7.7	11.9%	16.1	13.8%	5.1	6.4%	0.3	0.4%	0.6	6.0%	118.0	28.1	19.7
EST	5.80	0.6%	0.8	0.3%	1.1	0.8%	0.5	0.7%	1.0	1.5%	0.8	0.7%	0.1	0.1%	0.5	0.5%	-0.04	-0.3%	3.4	1.4	1.0
FIN	8.93	0.9%	0.6	0.2%	1.2	0.8%	0.9	1.1%	1.2	1.9%	0.7	0.6%	1.2	1.5%	5.9	6.2%	0.0	0.0%	4.9	3.2	-2.7
FRA	282.13	27.1%	127.6	41.9%	0.0	0.0%	15.7	19.4%	15.2	23.3%	29.3	25.2%	36.1	45.4%	21.9	22.8%	0.2	2.1%	185.8	58.2	36.1
GBR	150.68	14.4%	39.6	13.0%	13.1	8.7%	12.5	15.5%	8.3	12.8%	31.9	27.4%	12.1	15.2%	8.1	8.4%	0.5	4.5%	85.8	33.1	24.5
HRV	11.69	1.1%	3.5	1.1%	1.5	1.0%	1.3	1.6%	2.0	3.0%	1.7	1.4%	1.7	2.1%	3.4	3.6%	2.5	24.5%	5.1	0.4	-4.9
IRL	38.99	3.7%	10.9	3.6%	2.8	1.9%	3.3	4.0%	4.2	6.5%	5.6	4.8%	2.6	3.3%	1.7	1.8%	0.2	1.9%	23.2	9.5	7.6
ITA	218.07	20.9%	32.4	10.6%	58.5	38.7%	21.0	25.9%	10.6	16.3%	13.3	11.4%	10.2	12.8%	33.8	35.2%	2.1	20.4%	163.0	72.1	36.2
LTU	0.69	0.1%	0.3	0.1%	0.0	0.0%	0.1	0.1%	0.0	0.1%	0.1	0.1%	0.1	0.1%	0.1	0.1%	0.00	0.0%	0.4	0.1	0.0
LVA	1.07	0.1%	0.1	0.0%	0.1	0.1%	0.0	0.0%	0.0	0.0%	0.1	0.0%	0.0	0.0%	0.0	0.0%	0.00	0.0%	1.0	0.8	0.7
MLT	3.64	0.3%	0.6	0.2%	2.3	1.5%	0.9	1.2%	0.8	1.2%	0.6	0.5%	0.1	0.1%	0.7	0.7%	0.00	0.0%	1.3	-1.6	-2.3
NLD	3.54	0.3%	0.2	0.1%	0.4	0.3%	0.4	0.4%	0.4	0.6%	0.2	0.1%	0.3	0.4%	0.6	0.7%	0.02	0.2%	2.3	1.8	1.1
POL	11.49	1.1%	3.2	1.0%	3.1	2.1%	1.1	1.3%	0.5	0.7%	1.2	1.0%	0.9	1.1%	0.3	0.3%	1.2	12.0%	7.9	1.6	0.02
PRT	87.16	8.4%	29.7	9.7%	4.4	2.9%	7.2	8.9%	3.1	4.7%	6.3	5.4%	2.1	2.6%	8.0	8.3%	1.5	14.6%	68.5	34.5	25.0
ROU	1.24	0.1%	0.3	0.1%	0.0	0.0%	0.2	0.2%	0.1	0.2%	0.0	0.0%	0.1	0.1%	0.0	0.0%	0.05	0.5%	0.8	0.5	0.4
SVN	1.49	0.1%	0.3	0.1%	0.1	0.1%	0.1	0.1%	0.1	0.2%	0.0	0.0%	0.0	0.0%	0.1	0.1%	0.02	0.2%	1.3	0.8	0.7
SWE	18.31	1.8%	1.5	0.5%	8.4	5.6%	2.3	2.8%	3.3	5.1%	1.6	1.4%	2.0	2.5%	4.4	4.6%	-0.14	-1.4%	9.1	-0.8	-5.1
EU SSF	**1,042.9**		**304.7**		**151.1**	**1.0**	**81.2**	**1.0**	**65.1**	**1.0**	**116.4**	**1.0**	**79.6**	**1.0**	**96.2**	**1.0**	**10.2**	**1.0**	**700.6**	**245.1**	**131.9**
% Δ 2015	10.7%		15.1%		8.1%		-5.0%		10.8%		5.2%		10.3%		-3.7%		-20.7%		13.9%	16.3%	36%
SSF as % of EU total	13.5%		14.1%		58.8%		8.9%		9.5%		10.6%		14.5%		14.6%		16.6%		15.6%	11.9%	10.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.16 Main economic performance indicators for the EU small-scale coastal fleet by MS, 2016

Small Scale Fleet (SSF)	Tangible asset value (million €)	as % of EU SSF	Invest-ments (million €)	as % of EU SSF	GVA to revenue (%)	Gross profit margin	Net profit margin (%)	GVA per FTE (labour productivity)	Net Value Added per FTE (thousand €)	Return on fixed tangible assets	Energy consumed per landed (litre/tonne)	Fuel efficiency (%)	Average wage per FTE (thousand €)
BGR	5.0	0.7%	0.2	0.4%	58.4	10.3	-9.7	2.9	2.4	0.1	243	19.5	2.4
CYP	24.8	3.5%	0.0	0.0%	31.1	25.5	-36.7	2.5	-0.1	-1.2	2,215	18.1	
DEU	6.3	0.9%	1.9	3.2%	48.4	18.3	2.0	7.6	5.0	2.5	104	5.8	4.7
DNK	32.0	4.5%	-4.3	-7.4%	47.5	-5.4	-18.4	52.6	38.6	-14.2	236	5.5	58.5
ESP	35.5	5.0%	0.1	0.1%	74.8	17.8	24.0	19.0	18.9	116.4	682	6.9	14.5
EST	8.2	1.2%	1.0	1.8%	59.3	25.0	17.1	10.3	8.8	11.8	58	9.5	6.0
FIN	18.7	2.7%	4.4	7.6%	55.3	36.0	-30.5	28.1	-5.7	-14.6	157	11.1	9.8
FRA	132.1	18.7%	14.4	25.1%	65.9	20.6	12.8	85.5	75.4	27.5	407	5.7	58.7
GBR	88.0	12.5%	16.5	28.8%	56.9	21.9	16.2	40.7	36.9	28.3	609	8.7	25.0
HRV	60.4	8.6%	4.9	8.5%	43.6	3.5	-41.9	6.3	2.1	-6.6	2,018	15.9	6.2
IRL	20.2	2.9%	6.3	11.0%	59.6	24.4	19.5	27.4	25.3	38.6	665	8.6	16.1
ITA	131.2	18.6%	7.9	13.7%	74.7	33.1	16.6	17.1	13.5	29.2	1,327	9.8	9.5
LTU	0.5	0.1%	0.0	0.0%	59.1	8.1	-0.5	9.9	8.5	-0.5	192	12.4	8.6
LVA	0.1	0.0%	0.0	0.0%	91.7	70.7	68.2	9.3	9.0	860	12	2.1	2.1
MLT	10.0	1.4%	0.6	1.1%	35.1	-43.6	-62.0	2.5	1.2	-22.7	2,788	26.4	5.6
NLD	9.3	1.3%	0.4	0.8%	66.1	49.6	31.2	26.9	19.6	12.0	969	11.0	6.7
POL	37.7	5.3%	0.3	0.5%	68.6	13.7	0.2	6.5	6.3	3.3	148	9.2	5.2
PRT	59.5	8.4%	1.2	2.1%	78.6	39.5	28.7	26.6	23.5	44.5	443	8.3	13.2
ROU	1.1	0.2%	0.1	0.3%	66.4	41.9	35.1	49.4	47.2	43.4	153	13.6	18.2
SVN	1.6	0.2%	0.1	0.1%	86.2	53.3	46.2	22.6	21.1	45.3	1,135	15.4	8.6
SWE	23.6	3.3%	1.3	2.3%	49.8	-4.5	-27.9	29.9	15.4	-22.2	985	15.1	32.6
EU SSF	**705.8**		**57.4**		**67.2**	**23.5**	**13.6**	**24.3**	**21.0**	**21.0**	**551.7**	**8.0**	**16.1**
% Δ 2015	2.4%		-6.6%		2.9%	5.1%	30.2%	13.4%	16.8%	29.0%	1.7%	-13.8%	11.8%
SSF as % of EU total	13.5%		10.8%										

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.17 Main capacity, effort and landings variables for the EU large-scale fleet by MS, 2016

Large Scale Fleet (LSF)	Total no. of vessels (#)	as % of EU LSF	Vessel tonnage (thousand GT)	as % of EU LSF	Engine power (thousand kW)	as % of EU LSF	Total employed (person)	as % of EU LSF	FTE (#)	as % of EU LSF	Days at sea (thousand day)	as % of EU LSF	Fishing days (thousand day)	as % of EU LSF	Energy consumed (million litre)	as % of EU LSF	Live weight of landings (thousand tonne)	as % of EU LSF	Value of landings (million €)	as % of EU LSF
BEL	68	0.4%	13	1.3%	43	1.3%	318	0.5%	231	0.4%	14	0.7%	16	0.8%	38	2.2%	27	0.7%	92	1.7%
BGR	120	0.7%	3	0.3%	17	0.5%	273	0.4%	207	0.3%	9	0.4%	9	0.5%	2	0.1%	5	0.1%	3	0.1%
CYP	35	0.2%	2	0.1%	7	0.2%	150	0.2%	150	0.2%	3	0.1%	3	0.1%	1	0.1%	1	0.0%	4	0.1%
DEU	283	1.8%	56	5.3%	102	3.0%	798	1.2%	636	1.0%	39	1.9%	39	2.0%	40	2.3%	220	5.6%	226	4.1%
DNK	397	2.5%	62	5.8%	153	4.5%	1,018	1.5%	1,428	2.3%	57	2.7%	50	2.6%	90	5.2%	657	16.8%	451	8.1%
ESP	4,023	25.0%	163	15.5%	435	12.8%	18,425	27.0%	17,356	28.5%	606	29.2%	569	29.1%	296	17.2%	405	10.4%	959	17.3%
EST	31	0.2%	4	0.3%	9	0.3%	155	0.2%	122	0.2%	3	0.2%	3	0.1%	2	0.1%	49	1.3%	9	0.2%
FIN	63	0.4%	9	0.9%	33	1.0%	155	0.2%	124	0.2%	8	0.4%	8	0.4%	19	1.1%	148	3.8%	31	0.6%
FRA	1,537	9.5%	106	10.1%	385	11.4%	5,984	8.8%	4,327	7.1%	247	11.9%	222	11.4%	234	13.6%	360	9.2%	870	15.7%
GBR	1,380	8.6%	168	15.9%	488	14.4%	6,335	9.3%	6,782	11.1%	193	9.3%	164	8.4%	251	14.6%	650	16.7%	987	17.8%
GRC	960	6.0%	42	4.0%	156	4.6%	5,362	7.9%	5,242	8.6%										
HRV	985	6.1%	26	2.5%	146	4.3%	2,605	3.8%	1,806	3.0%	101	4.9%	90	4.6%	22	1.3%	71	1.8%	50	0.9%
IRL	532	3.3%	54	5.1%	136	4.0%	2,076	3.0%	1,816	3.0%	53	2.6%	42	2.1%	88	5.1%	225	5.8%	241	4.3%
ITA	3,940	24.5%	130	12.3%	722	21.3%	13,179	19.3%	11,750	19.3%	511	24.6%	531	27.2%	334	19.3%	161	4.1%	690	12.5%
LTU	23	0.1%	4	0.3%	8	0.2%	186	0.3%	127	0.2%	2	0.1%	2	0.1%	2	0.1%	18	0.5%	5	0.1%
LVA	59	0.4%	7	0.6%	17	0.5%	391	0.6%	212	0.3%	7	0.4%	7	0.3%	3	0.2%	56	1.4%	15	0.3%
MLT	68	0.4%	4	0.3%	18	0.5%	276	0.4%	259	0.4%	5	0.2%	3	0.2%	3	0.2%	2	0.0%	6	0.1%
NLD	346	2.1%	106	10.0%	210	6.2%	1,644	2.4%	1,561	2.6%	49	2.4%	43	2.2%	163	9.4%	367	9.4%	463	8.4%
POL	193	1.2%	15	1.4%	46	1.3%	896	1.3%	877	1.4%	22	1.1%	19	1.0%	15	0.9%	133	3.4%	40	0.7%
PRT	789	4.9%	57	5.4%	159	4.7%	7,303	10.7%	5,352	8.8%	119	5.7%	108	5.5%	77	4.4%	147	3.8%	279	5.0%
ROU	17	0.1%	1	0.1%	4	0.1%	79	0.1%	31	0.1%	1	0.1%	1	0.1%	0	0.0%	5	0.1%	3	0.0%
SVN	11	0.1%	0	0.0%	2	0.0%	23	0.0%	13	0.0%	1	0.0%	1	0.1%	0	0.0%	0	0.0%	0	0.0%
SWE	237	1.5%	24	2.3%	92	2.7%	596	0.9%	493	0.8%	26	1.2%	26	1.3%	44	2.6%	193	5.0%	110	2.0%
EU LSF	**16,097**		**1,056**		**3,387**		**68,228**		**60,903**											
% Δ 2015	-0.3%		-1.1%		-1.0%		-0.8%		2.6%											
EU LSF excl. GRC	**15,137**		**1,014**		**3,230**		**62,866**		**55,661**		**2,074**		**1,953**		**1,725**		**3,901**		**5,532**	
% Δ 2015	-1.1%		-1.0%		-1.0%		-1.5%		2.3%		1.4%		2.7%		2.5%		-3.2%		7.8%	
As % of EU total	24.6%		73.4%		61.6%		44.8%		53.1%											
As % of EU excl. GRC	**22.2%**		**68.1%**		**55.0%**		**49.4%**		**60.7%**		**42.7%**		**39.9%**		**76.7%**		**79.6%**		**71.9%**	

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.18 Main economic variables and indicators for the EU large-scale fleet by MS, 2016

Large Scale Fleet (LSF)	Revenue (million €)	as % of EU LSF	Wages and salaries of (million €)	as % of EU LSF	Unpaid labour value (million €)	as % of EU LSF	Energy costs (million €)	as % of EU LSF	Repair & maintenance costs (million €)	as % of EU LSF	Other variable costs (million €)	as % of EU LSF	Other non-variable costs (million €)	as % of EU LSF	Annual deprecia-tion costs (million €)	as % of EU LSF	Opportu-nity cost of capital (million €)	as % of EU LSF	Gross Value Added (million €)	Gross profit (million €)	Net profit (million €)
BEL	94.8	1.7%	28.4	1.7%	1.8	1.7%	13.4	1.9%	8.8	1.7%	11.8	1.7%	6.8	1.8%	7.4	1.5%	- 0.4	-1.0%	54.0	23.8	16.8
BGR	3.6	0.1%	0.8	0.0%	0.0	0.0%	0.9	0.1%	0.4	0.1%	0.1	0.0%	0.1	0.0%	0.4	0.1%	0.4	1.0%	2.1	1.3	0.5
CYP	3.5	0.1%	0.9	0.1%	-	0.0%	0.6	0.1%	0.3	0.1%	1.1	0.2%	0.2	0.1%	1.3	0.3%	1.0	2.7%	1.3	0.4	-2.0
DEU	152.6	2.7%	40.7	2.4%	8.9	8.5%	14.1	2.0%	18.0	3.4%	11.9	1.8%	14.8	4.0%	18.9	3.8%	- 0.3	-0.8%	93.9	44.3	25.7
DNK	456.4	8.1%	85.2	5.1%	28.0	26.6%	34.7	5.0%	43.9	8.4%	31.6	4.7%	18.5	5.0%	77.2	15.4%	2.0	5.2%	327.7	214.4	135.2
ESP	1,007.1	17.9%	360.0	21.7%	35.5	33.7%	107.0	15.3%	76.7	14.7%	131.8	19.6%	46.6	12.6%	26.2	5.2%	3.7	9.7%	645.2	249.6	217.3
EST	9.0	0.2%	3.4	0.2%	-	0.0%	0.9	0.1%	0.6	0.1%	0.7	0.1%	0.4	0.1%	1.2	0.2%	- 0.0	-0.1%	6.5	3.1	1.9
FIN	26.7	0.5%	4.1	0.2%	0.6	0.5%	7.5	1.1%	2.4	0.5%	1.5	0.2%	3.0	0.8%	9.0	1.8%	- 0.0	0.0%	12.2	7.6	-1.5
FRA	896.3	15.9%	328.6	19.8%	-	0.0%	101.9	14.6%	77.4	14.9%	121.0	18.0%	91.0	24.6%	73.4	14.6%	0.7	1.8%	505.0	176.4	83.2
GBR	1,021.9	18.2%	245.6	14.8%	1.2	1.1%	102.0	14.6%	113.6	21.8%	187.8	27.9%	53.5	14.4%	47.9	9.5%	2.4	6.1%	565.1	318.3	268.1
HRV	54.5	1.0%	19.5	1.2%	1.0	0.9%	11.9	1.7%	5.6	1.1%	6.3	0.9%	5.0	1.4%	9.1	1.8%	8.9	23.0%	25.7	5.2	-12.7
IRL	266.6	4.7%	77.6	4.7%	2.3	2.2%	30.1	4.3%	39.4	7.6%	29.0	4.3%	27.0	7.3%	28.5	5.7%	4.7	12.2%	141.1	61.2	28.1
ITA	696.2	12.4%	195.8	11.8%	4.3	4.1%	157.1	22.4%	35.2	6.8%	62.5	9.3%	27.6	7.5%	115.1	22.9%	7.6	19.7%	413.8	213.7	91.0
LTU	5.2	0.1%	1.4	0.1%	-	0.0%	1.0	0.1%	0.6	0.1%	0.6	0.1%	0.7	0.2%	0.5	0.1%	0.0	0.0%	2.3	0.9	0.4
LVA	16.5	0.3%	2.7	0.2%	-	0.0%	1.7	0.2%	1.0	0.2%	2.4	0.4%	5.3	1.4%	1.0	0.2%	0.0	0.1%	6.2	3.4	2.3
MLT	6.7	0.1%	0.8	0.0%	0.8	0.7%	1.4	0.2%	1.0	0.2%	1.2	0.2%	0.1	0.0%	1.7	0.3%	- 0.0	0.0%	2.9	1.3	-0.4
NLD	468.3	8.3%	136.4	8.2%	14.8	14.1%	51.1	7.3%	54.6	10.5%	30.9	4.6%	50.2	13.6%	34.8	6.9%	0.4	1.1%	281.5	130.2	95.0
POL	40.1	0.7%	6.8	0.4%	1.5	1.4%	6.6	0.9%	3.1	0.6%	3.3	0.5%	3.7	1.0%	4.6	0.9%	2.8	7.3%	23.4	15.1	7.7
PRT	283.0	5.0%	106.8	6.4%	0.8	0.8%	37.7	5.4%	20.2	3.9%	29.0	4.3%	9.6	2.6%	25.3	5.0%	5.0	12.9%	186.6	78.9	48.6
ROU	2.6	0.0%	0.4	0.0%	0.02	0.0%	0.4	0.1%	0.11	0.0%	0.02	0.0%	0.03	0.0%	0.1	0.0%	0.3	0.7%	2.1	1.7	1.3
SVN	0.7	0.0%	0.2	0.0%	0.1	0.1%	0.1	0.0%	0.1	0.0%	0.02	0.0%	0.001	0.0%	0.0	0.0%	0.01	0.0%	0.6	0.3	0.3
SWE	117.4	2.1%	16.4	1.0%	3.5	3.3%	18.2	2.6%	18.2	3.5%	7.5	1.1%	6.3	1.7%	19.0	3.8%	- 0.7	-1.7%	67.1	47.3	28.9
EU LSF	5,629.8		1,662.6		105.2		700.2		521.2		671.9		370.3		502.8		38.5		3,366.3	1,598.4	1,035.7
% Δ 2015	7.3%		6.0%		13.2%		-14.2%		5.1%		3.6%		4.8%		-12.6%		-30.8%		14.7%	25.6%	66.1%
As % of EU total	72.8%		76.9%		41.0%		76.5%		76.2%		60.9%		67.6%		76.3%		62.5%		75.1%	77.3%	79.4%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.19 Main economic performance indicators for the EU large-scale fleet by MS, 2016

Large Scale Fleet (LSF)	Tangible asset value (million €)	as % of EU LSF	Invest-ments (million €)	as % of EU LSF	GVA to revenue (%)	Gross profit margin (%)	Net profit margin (%)	GVA per FTE (labour productivi (thousand €)	Net Value Added per FTE (thousand €)	Return on fixed tangible (%)	Energy consumed per landed (litre/tonne)	Fuel efficiency (%)	Average wage per FTE (thousand €)
BEL	31.7	0.8%	61.0	13.7%	57.0	25.1	17.7	234.3	202.2	51.7	1,393.4	14.7	131.3
BGR	10.9	0.3%	0.2	0.1%	57.3	34.9	13.8	9.9	8.2	8.2	417.2	26.3	3.9
CYP	20.8	0.5%	0.0	0.0%	37.0	10.1	- 56.1	8.6	0.2	- 4.4	1,097.2	15.9	6.3
DEU	95.0	2.5%	17.9	4.0%	61.5	29.0	16.8	147.7	118.0	26.7	766.7	9.4	78.0
DNK	621.1	16.4%	114.3	25.6%	71.8	47.0	29.6	229.4	175.3	22.1	136.9	7.7	79.3
ESP	213.7	5.7%	6.2	1.4%	64.1	24.8	21.9	37.2	35.7	105.8	731.1	10.7	22.8
EST	10.3	0.3%	0.8	0.2%	71.9	34.4	21.2	53.0	42.9	18.1	42.9	9.5	27.6
FIN	24.9	0.7%	9.0	2.0%	45.9	28.4	- 5.5	98.7	25.8	- 5.9	127.2	29.0	37.5
FRA	430.3	11.4%	20.0	4.5%	56.3	19.7	10.2	117.7	100.6	19.5	650.1	11.6	76.6
GBR	454.4	12.0%	90.4	20.3%	55.3	31.1	26.2	83.3	76.3	59.5	386.1	10.3	36.4
HRV	213.5	5.6%	4.8	1.1%	47.1	9.6	- 23.3	14.2	9.2	- 1.8	311.6	23.6	11.3
IRL	497.5	13.2%	69.9	15.7%	52.9	23.0	10.5	78.2	62.4	6.6	393.6	11.4	44.3
ITA	476.2	12.6%	15.2	3.4%	59.4	30.7	13.1	35.2	25.4	20.7	2,071.7	22.8	17.0
LTU	6.8	0.2%	0.2	0.1%	44.4	16.9	7.4	18.2	14.4	5.9	132.2	18.5	11.3
LVA	10.9	0.3%	0.1	0.0%	37.4	20.8	14.2	29.1	24.3	21.9	61.1	11.4	13.0
MLT	24.5	0.6%	0.3	0.1%	43.6	19.5	- 5.5	10.9	4.6	- 1.6	1,914.3	23.1	6.2
NLD	233.4	6.2%	14.7	3.3%	60.1	27.8	20.3	180.3	158.0	40.9	443.5	11.0	96.9
POL	86.8	2.3%	1.1	0.3%	58.3	37.6	19.1	27.7	22.3	12.1	119.9	16.6	9.8
PRT	198.2	5.2%	14.3	3.2%	65.9	27.9	17.2	34.9	30.1	27.0	521.4	13.3	20.1
ROU	6.5	0.2%	0.5	0.1%	80.3	66.0	49.5	68.6	63.8	24.7	95.0	13.5	12.2
SVN	0.7	0.0%	0.0	0.0%	76.4	39.2	35.0	42.6	41.0	36.3	1,745.5	22.8	20.8
SWE	113.8	3.0%	5.4	1.2%	57.2	40.3	24.6	136.1	97.5	24.8	228.6	16.5	40.2
EU LSF	**3,782**		**446.4**		**59.8**	**28.4**	**18.7**	**60.6**	**51.5**	**28.4**	**462.9**	**12.7**	**31.8**
% Δ 2015	-6.2%		20.6%		7.0%	17.1%	55.1%	11.9%	18.3%	68.8%	6.6%	-20.3%	3.8%
As % of EU total	72.1%		84.2%										

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.20 Main Capacity, effort and landings variables for the EU distant water fleet by MS, 2016

Distant water Fleet (DWF)	Total number of vessels (#)	as % of EU DWF	Vessel tonnage (thousand GT)	as % of EU DWF	Engine power (thousand kW)	as % of EU DWF	Total employed (person)	as % of EU DWF	Full-time equivalent (national) (#)	as % of EU DWF	Days at sea (thousand day)	as % of EU DWF	Fishing days (thousand day)	as % of EU DWF	Energy consumed (million litre)	as % of EU DWF	Live weight of landings (thousand tonne)	as % of EU DWF	Value of landings (million €)	as % of EU DWF
ESP	208	75.9%	150.6	57.7%	207.4	58.2%	4,303	74.2%	5,835	80.7%	60.6	82.6%	52.1	84.3%	264.6	70.9%	461.9	63.7%	1,005.3	79.5%
FRA	22	8.0%	46.0	17.6%	75.7	21.2%	603	10.4%	603	8.3%	4.3	5.8%	2.1	3.4%	54.0	14.5%	114.7	15.8%	148.5	11.7%
ITA	8	2.9%	6.0	2.3%	12.7	3.6%	70	1.2%	44	0.6%	0.7	1.0%	0.7		4.1	1.1%	4.3	0.6%	3.5	0.3%
LTU	9	3.3%	35.3	13.5%	34.3	9.6%	274	4.7%	253	3.5%	2.1	2.9%	1.9	3.1%	42.1	11.3%	83.3	11.5%	83.7	6.6%
POL	2	0.7%	15.4	5.9%	11.2	3.1%	191	3.3%	191	2.6%	0.7	0.9%	0.5	0.8%			53.1	7.3%		
PRT	25	9.1%	7.8	3.0%	15.0	4.2%	358	6.2%	300	4.2%	5.0	6.8%	4.5	7.2%	8.2	2.2%	8.2	1.1%	24.2	1.9%
EU DWF	**274**		**261.1**		**356.4**		**5,799**		**7,226**		**73.4**		**61.8**		**373.0**		**725.4**		**1,265**	
% Δ 2015	-3.9%		-7.0%		-5.1%		-9.6%		-5.8%		-1.3%		-0.7%		-22.1%		4.4%		24.7%	
As % of EU total	0.4%		18.2%		6.5%		3.8%		6.3%		1.5%		1.3%		16.6%		14.8%		16.5%	

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.21 Main economic variables and indicators for the EU distant water fleet by MS, 2016

Distant water Fleet (DWF)	Revenue (million €)	as % of EU DWF	Wages and salaries of (million €)	as % of EU DWF	Unpaid labour value (million €)	as % of EU DWF	Energy costs (million €)	as % of EU DWF	Repair & maintenance costs (million €)	as % of EU DWF	Other variable costs (million €)	as % of EU DWF	Other non-variable costs (million €)	as % of EU DWF	Annual depreciation costs (million €)	as % of EU DWF	Opportunity cost of capital (million €)	as % of EU DWF	Gross Value Added (million €)	Gross profit (million €)	Net profit (million €)
ESP	821.3	77.3%	136.8	70.5%	0.6	99.8%	97.4	72.6%	59.1	60.5%	277.5	88.2%	62.6	64.0%	46.4	77.3%	3.3	76.2%	324.7	187.3	137.7
FRA	148.5	14.0%	45.3	23.3%	-	0.0%	20.1	15.0%	31.0	31.8%	6.2	2.0%	23.8	24.3%					67.3	22.1	
ITA	3.5	0.3%	0.6	0.3%	-	0.0%	1.9	1.4%	0.2	0.2%	0.8	0.2%	0.1	0.1%	3.6	6.1%	0.2	5.6%	0.4	- 0.1	- 4.0
LTU	64.0	6.0%	7.4	3.8%	-	0.0%	10.6	7.9%	5.4	5.6%	25.0	7.9%	10.2	10.4%	7.4	12.3%	0.2	5.4%	12.9	5.5	- 2.1
POL																					
PRT	25.1	2.4%	3.9	2.0%	0	0.2%	4.2	3.2%	1.9	1.9%	5.1	1.6%	1.1	1.1%	2.6	4.4%	0.6	12.9%	12.8	8.9	5.7
EU DWF	**1,062.4**		**194.0**		**0.6**		**134.2**	**1.0**	**97.7**		**314.6**		**97.7**		**60.0**		**4.3**		**418.2**	**223.6**	**137.2**
% Δ 2015	0.2%		-2.0%		244.1%		-33.2%		5.8%		-2.4%		-13.4%		-20.8%		-47.5%		26.2%	67.9%	152%
As % of EU total	13.7%		9.0%		0.2%		14.7%		14.3%		28.5%		17.8%		9.1%		7.0%		9.3%	10.8%	10.5%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 3.22 Main economic performance indicators for the EU distant water fleet by MS, 2016

Distant water Fleet (DWF)	Tangible asset value (million €)	as % of EU DWF	Invest-ments (million €)	as % of EU DWF	GVA to revenue (%)	Gross profit margin (%)	Net profit margin (%)	GVA per FTE (labour productivity) (thousand €)	Net Value Added per FTE (thousand €)	Return on fixed tangible (%)	Energy consumed per landed (litre/tonne)	Fuel efficiency (%)	Average wage per FTE (thousand €)
ESP	187.7	57.1%	24.6	92.1%	39.5	22.8	16.8	55.7	47.7	75.1	572.8	12.0	23.5
FRA			-		45.3	14.9		111.6	111.6		471.1	13.6	75.1
ITA	15.1	4.6%	-	0.0%	12.8	- 4.1	- 116.0	10.0	- 72.0	- 25.1	10,938.1	53.8	13.2
LTU	104.2	31.7%	1.8	6.7%	20.1	8.5	- 3.3	50.8	21.7	- 1.8	505.6	17.0	29.2
POL													
PRT	22.0	6.7%	0.3	1.3%	51.0	35.4	22.8	42.7	34.0	28.6	1,007.5	17.0	13.1
EU DWF	**329.0**	**1.0**	**26.7**	**1.0**	**39.4**	**21.0**	**15.0**	**59.4**	**50.9**	**43.0**	**558.0**	**12.8**	**27.7**
% Δ 2015	-10.3%		-27.4%		25.9%	67.5%	161.4%	35.0%	49.9%	152.0%	-24.3%	-33.6%	5.0%
As % of EU total	6.8%		5.0%										

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

4 EU Regional Analysis

At a glance

The main fishing grounds for the EU fishing fleet are located FAO fishing areas 27 (Northeast Atlantic, Baltic and North seas) and FAO 37 (Mediterranean and Black seas). Part of the EU fleet also operates in fishing areas much further afield. These areas, including EU outermost regions, are collectively termed "*Other Fishing Regions*" or OFR.

In terms of landed weight, the North Sea & Eastern Arctic fishing areas account for 32% of the total landings by the EU fleet. In terms of value, the Northeast Atlantic ranks first, accounting for 33% of the total landed value. The Mediterranean Sea accounts for only 7% of the total landed weight, but 18% of the value. Conversely, the Baltic Sea provides 13% of the landings in weight but only 3% of the value.
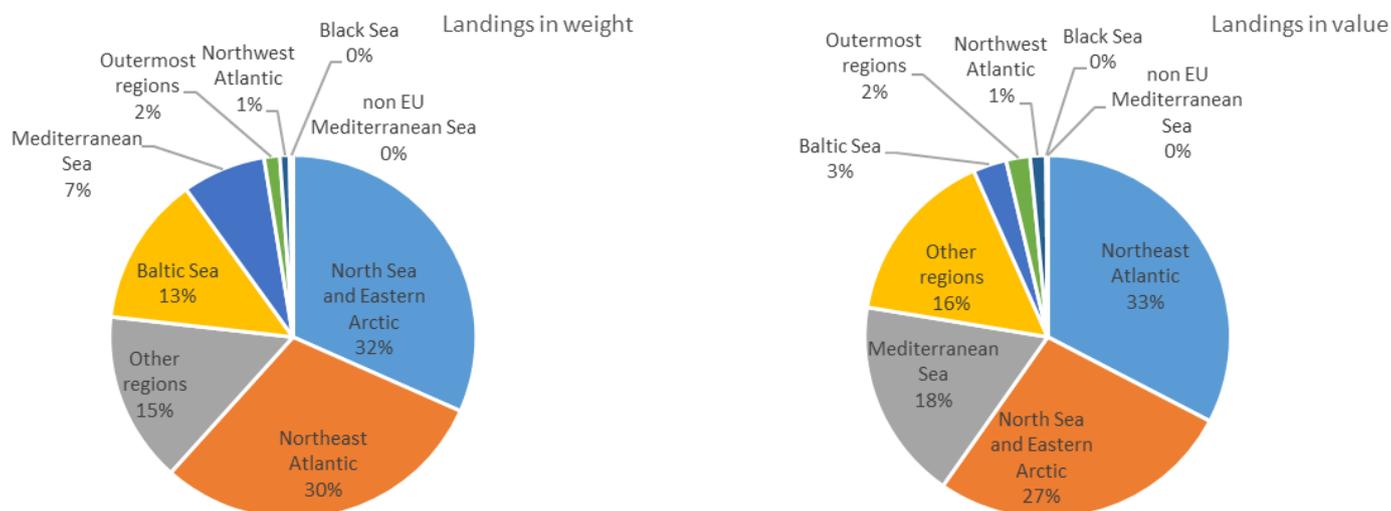
North Sea & Eastern Arctic

- The North Sea & Eastern Arctic fleet spent almost 480 thousand days at sea, to land approximately 1.47 million tonnes of seafood valued at EUR 2 billion.
- While effort remained stable, landings increased steadily since 2011.
- GVA was estimated at over EUR 1.3 billion in 2016, representing an overall increase of 24% compared to the GVA generated in 2015. GVA estimates improved for all MS with the exception of the Spanish fleet (-26%).
- After accounting for operating costs the fleet made almost EUR 716 million in gross profit, a 32% increase on 2015. Net profit was estimated at EUR 522.5 million, up 66% from the 2015 result of EUR 315 million.
- Gross profit margin increased from 29% in 2015 to 34% in 2016 while net profit margin went from 17.4% to 25.3%.
- Increased landings income and lower operating costs (e.g. -14% in fuel costs), have helped the overall performance of the North Sea & Eastern Arctic fleet to improve over the last few years. In fact, all performance indicators have followed an increasing trend over the period 2010 to 2016.
- Revenue (income from landings and other income) generated in 2016 was estimated at almost EUR 2.1 billion, increasing by 13.3% compared to 2015.
- Fuel price further decreased in 2016 and remained low in 2017, while most fish prices remained stable or increased compared to 2015 (including common sole, European plaice, common shrimp, Atlantic herring and Atlantic mackerel). Therefore, it can be expected that economic performance will further improve as revenues are likely to increase and costs to decrease.

Baltic Sea

- In terms of employment and effort, the Baltic small-scale coastal fleets provided 68% of all employment and were responsible for 85% of days at sea.
- The LSF fisheries dominate the Baltic Sea fisheries, accounting for 92% of landed weight and 77% of the landing value.
- Overall, the fleet saw declines in landed weight over the period 2009-2012, with a slight increase in 2013, while landed value increased steadily since 2009 but suffered a significant drop by 14% from 2013 to 2016. Herring, sprat and cod remain the most important species.
- Revenue generated by the Baltic Sea fleet was estimated at around EUR 228 million, with the Swedish, Polish, Danish and Finnish fleets together contributing 76%.
- GVA was estimated at EUR 119 million, up 3% compared to 2015. After accounting for operating costs, the fleet made an estimated EUR 56 million in gross profit, also a marked increase (13%) compared to 2015. These improvements were largely due to relatively stable revenues (-2%) combined with lower costs, in particular fuel (-19%) and labour (-6%) costs.
- There were 40 segments represented 93% of the landed weight (629 thousand tonnes) and 88% of the revenue (EUR 220 million) generated by the Baltic Sea fleet in 2016. Of the top 40 fleet segments, 31 made positive gross profits.
- There were 28 MS fleet segments that operated 80% or more in the Baltic Sea in 2016, accounting for 83% of the number of vessels, 83% of the days at sea deployed, 90% of the landed weight and 69% of the landed value.
- Both pelagic and demersal fleets made gross profits: pelagic fisheries generated EUR 29 million in gross profit and demersal fisheries EUR 25 million.

Northeast Atlantic region

- Revenue generated by the NE Atlantic fleet was estimated at EUR 2.66 billion of which 95% was produced by five MS fleets: France (EUR 799 million), Spain (EUR 691 million), UK (EUR 525 million), Ireland (EUR 265 million) and Portugal (EUR 254 million). This is an increase of 8% from 2015.
- GVA was estimated at EUR 1.57 billion and after accounting for operating costs, the fleet made EUR 620 million in gross profit. GVA increased by 12% and gross profit increased by 29%.
- The net profit estimated at EUR 417 million, an 84% increase on 2015.
- The SSCF generated EUR 298 million in GVA and EUR 103 million in gross profits. The large-scale fleet generated over EUR 1.28 billion in GVA and EUR 518 million in gross profit.
- In 2016, fuel price decreased and remained low in 2017, while most fish prices remained stable or increased compared to 2016. Therefore, it is expected that economic performance will further improve as revenues are likely to increase and costs to decrease. Overall, performance is mostly driven by the large-scale fleets.

Mediterranean Sea

- Most of the nine Mediterranean Sea Member States fleets (Croatia, Cyprus, France, Greece, Italy, Malta, Portugal – one vessel, Spain, Slovenia) are wholly dependent on the region. The exceptions were Portugal, Spain and France which also have major parts of their fleets operating in the Atlantic and other fishing regions.
- The main species fished in the region include anchovy, sardine, and hake.
- While the overall economic situation in the region shows an overall net profit for the regional fleet, three Member State fleets (Croatia, Cyprus, and Malta), when excluding Greece, suffered net losses in 2016.
- GVA as a proportion of revenue was estimated at 62%. The Mediterranean fishing fleet transformed more than half its total revenue into capital, salaries, and profits, thereby having a positive impact on the economies of the region and their fishing communities.
- As for the socioeconomics, the total FTE has remained stable in 2016 despite an increase in the number of vessels as a consequence of the fact that the Croatian small-scale vessels increased. In Greece, on the contrary, no efficient SCF vessels with poor economic performance stay inactive or

exit from the sector. This option gives room for the remaining vessels to improve their economic results mainly in the Greek case.

- In Italy, a total of about 220 vessels will be scrapped in 2018 with public aid (mainly demersal trawlers 18-24) and a further 766 vessels will be scrapped by Greece. Furthermore, the full impact EMFF supported permanent cessation may become clearer in the coming years.
- The average labour wage for both LSF and SSCF had been on a decreasing trend since 2010 but shows a slight improvement in 2016 compared to the last two years. This improvement can be linked to the positive trend in revenues and the negative one in operational costs as, in most countries, labour costs are directly related to revenues and variable costs as the tradition-based income sharing system between the ship-owner and the crew is the most prevalent. The productivity (GVA/FTE) was more or less stable in the period 2010-2014 and recovered in 2015 and 2016.
- Effort (in days at sea) deployed by MS fleets operating in the region increased in 2016. Live weight of landings shows a slight increase during the same period, but the value of landings presented a significant increase in 2016.
- Increased landings income and lower operating costs (e.g., -11% in fuel costs), have helped the overall performance of the Mediterranean fleet to improve over the last few years. In fact, all performance indicators have followed an increasing trend over the period 2014 to 2016. Revenue (income from landings and other income) generated in 2016 was estimated at almost EUR 1.35 billion, an increase of 4% compared to 2014.

Black Sea

- The fishery resources of the Black Sea are shared by Bulgaria, Georgia, Romania, the Russia Federation, Ukraine and Turkey. Only two of these are EU Member States - Romania and Bulgaria. Both operate exclusively in the Black Sea waters, and are fully dependent on the region.
- The main species fished include sea snails, sprat, turbot, red mullet, picked dogfish and anchovy.
- The main fishing gears used were set gillnets, pelagic trawls, purse and beach seine, pots and traps.
- The overall economic situation in the region is rather unstable. While revenue has increased gradually over the period 2008-2016, it peaked in 2015 but fell 19% in 2016.
- GVA as a proportion of revenue was estimated at 65% for 2016, which means that the Black Sea fishing fleet transformed much more than half its total revenue into capital, salaries and profits, thereby having a positive impact on the economies of the region and their fishing communities.
- The most profitable year over the period analysed was 2015.
- While the total number of vessels remained stable over the period 2012-2016, total and full-time employment have varied considerably (total employment varied between 1 635 to 2 059 workers while the number of FTEs fluctuated between 533 and 649). Further, while wages for the large scale fleet (LSF) have remained stable for the past two years, wages in the small scale coastal fleet (SSCF) have declined gradually every year.
- Effort (days at sea) deployed by MS fleets operating in the Black Sea region was stable between 2012 and 2014, but increased in both 2015 and 2016 as did landings (by weight and value).

EU Outermost Regions

- The OMR fleet numbered 3 687 vessels in 2016: France 2 244 vessels (65% of the total number of vessels reported), Spain and Portugal 601 vessels each (17%).
- Martinique, with 991 vessels, was the largest OMR fleet (in number), followed by Guadeloupe (938), the Canary Islands (601), the Azores (536), La Reunion (227), Mayotte (145), French Guiana (143), and Madeira (85).
- Around 91% of the vessels in the EU OMR belong to the small-scale coastal fleet (SSCF).
- The OMR fleet spent 125 thousand days at sea in 2016, to land approximately 20 thousand tonnes of seafood valued in EUR 89 million (NB data for Martinique and Mayotte are not included in these totals).
- Tuna and other large pelagic species represent a significant part of the landings with skipjack, bigeye, yellowfin, and albacore tuna the largest components by weight.

- The Canary fleet was the most important, representing 66% of the total weight and 56% of the total value landed, generating an income of EUR 34 million, followed by the French (EUR 19.6 million) and Portuguese (EUR 18.5 million) fleets.
- GVA was estimated at EUR 82 million in 2016 (excludes Mayotte and Martinique), representing an overall increase of 39% compared to 2015, and a GVA to revenue of 45%.
- Overall, the OMR fleet generated a gross profit of EUR 26 million and a net profit of just over EUR 18 million.
- The Azores fleet saw an 11% reduction in revenue compared to 2015, the best year recorded over the period analysed.
- In 2016, only one OMR fleet recorded an overall gross and net loss (based on the available information).
- The Reunion fleet recorded EUR 1.9 million in GVA but suffered a gross loss of - EUR 160 thousand and a net loss of - EUR 993 thousand.

Long Distant Fisheries

Northwest Atlantic (NAFO) FAO Area 21

- In 2016, the EU NAFO fleet (excluding France and Estonia) spent over 3 000 days at sea, to land 36.6 thousand tonnes valued at over EUR 106 million.
- In terms of value, the most important species include Atlantic redfish (EUR 35.3 million), Greenland halibut (EUR 29 million) and Atlantic cod (EUR 20.3 million).
- The overall performance of the fleet analysed was positive in 2016, jointly generating around EUR 104.6 million in revenue, EUR 69 million in GVA and EUR 41 million in gross profits.
- In relative terms, the selected fleet achieved an estimated 66% GVA to revenue and a 39% gross profit margin. All MS fleets analysed generated gross profits in 2016.
- Overall, Portuguese vessels with EUR 55 million, generated more than half the total revenue, GVA (EUR 37 million, 53.5% of the total) and gross profits (EUR 22.3 million, 54% of the total). This MS fleet also obtained the highest GVA to revenue (67%) and profit margin (41%).
- Low, stable fuel prices and higher average market prices have contributed positively to the overall performance of the EU demersal trawlers operating in the region.
- The witch flounder 3NO stock was reopened to activity in 2015. A low TAC may generate a discarding problem due to by-catches for those vessels not having quota, i.e., the majority of the EU vessels operating in NAFO except for the Baltic States namely Estonia and Lithuania.
- The new Management Strategy Evaluation for Greenland halibut, adopted at the NAFO Annual Meeting in September 2017, was implemented in 2018 with a starting TAC of 17 500 tonnes.
- The 2018 benchmark review of the cod (3M) HCR will be a major challenge for the EU NAFO fleet. Changes to the assessment models and, potentially, lower TACs could have a socio-economic impact in the mid/long-term, in particular, for the Spanish and Portuguese demersal trawler fleets targeting this stock.
- Apart from proposals to potentially close certain fishing areas, the NAFO regulatory area will also likely be affected by other activities that impact the seabed; these include oil and gas drilling and deep-sea mineral mining. Indeed, any licence to prospect or commercially extract known deposits might have an adverse effect on the fishing activities of EU fleets operating in the area.
- An industry-science partnership, particularly around improved gear selectivity for cod trawlers operating in Subdivision 3M, could contribute to more efficient fishing seasons, lower energy consumption, and overall cost optimisation in the medium to long term.

Atlantic Ocean: ICCAT Convention Area

- According to official statistics, total ICCAT catches, excluding Mediterranean stocks, amounted to 549 100 tonnes in 2016.
- Spain was the largest producer with 26.5% of the global catch (145 640 tonnes), followed by Ghana (12.9%) and France (9.6%). Portugal, with 3.4%, ranked 9th and Ireland, with 0.4%, ranked 21st.
- Nine EU MS reported catches in 2016, amounting to a total of 220.5 thousand tonnes.
- Spain deployed the largest EU fleet in the RA with around 127 active vessels, including surface longliners and pole and line vessels (Spanish purse seiners active in the region are not included).

- France reported 10 purse seiners operating in the ICCAT RA, while 50 vessels were identified for Portugal, including surface longliners and vessels using pole and line with live bait.
- In 2016, these selected fleets spent an estimated 38 000 days at sea, of which 35 500 where fishing days, to land around 132 thousand tonnes in weight valued at over EUR 247 million.
- The most important species landed in terms of weight were blue shark, skipjack and yellowfin tuna, followed by albacore, swordfish and bigeye tuna. In terms of value, the top species were swordfish and blue shark, followed by yellowfin, albacore, skipjack and bigeye tuna.
- The overall performance of the selected fleets was positive in 2016, jointly generating almost EUR 123 million in GVA and EUR 49 million in gross profits.
- In relative terms, the combined EU ICCAT fleet produced a GVA to revenue of 49% and gross profit margin of 20%. All MS fleets analysed generated gross profits in 2016.
- The Spanish fleet dominated this fishery with over 55% of the landings in weight and 62% of the value. Overall, the Spanish fleets generated around EUR 151 million in revenue, EUR 77 million in GVA and EUR 32 million in gross profits in 2016.
- The French fleet accounted for 37% of the landings in weight and 26% in value. They generated revenue of EUR 64 million, EUR 28 million in GVA and almost EUR 8 million in gross profit.
- Portugal took 7% of the landed weight, 12% of the value and, collectively, generated almost EUR 33 million in revenue, EUR 18 million in GVA, and EUR 9 million in gross profits.
- In relative terms, Portugal achieved the highest GVA to revenue (56%) and the highest profit margin (28%), suggesting that this fleet is more efficient in transforming inputs into profits, for both crew and vessels owners. Spain achieved a GVA to revenue of 48% and 21% profit margin, while France, with its more fuel intensive purse seiner fleet, obtained the lowest margins (GVA to revenue of 43% and a 12% profit margin).
- Due to the relatively poor situation of the bigeye stock, it is possible that the tropical tuna combined TAC may be reduced or ICCAT may adopt management measures for all three tropical species (skipjack, yellowfin and bigeye). Such measures could have economic consequences in the medium-term.

Indian Ocean: IOTC Convention Area

- In 2016, the EU IOTC fleet (excluding Italy and the UK) spent around 10 000 days at sea to land 220 thousand tonnes valued at over EUR 365 million.
- The most important species (by value) for MS fleets operating in the region were yellowfin, skipjack and bigeye tuna, swordfish and blue shark.
- The overall performance of fleets covered was positive, collectively reporting EUR 158 million in GVA and EUR 93 million in gross profits.
- GVA to revenue was estimated at 43% while the gross profit margin was 25%. All MS fleets analysed generated gross profits in 2016.
- The Spanish fleet dominates this fishery with 65% of the landings in weight and 75% of the value. Overall, they generated around EUR 274 million in revenue, EUR 115 million in GVA, EUR 77 million in gross profits with a gross profit margin of 28% (the highest recorded).
- Purse seiners make up the largest component of the fleet, with 57% of the vessels in number, 87% of the GT and kW and employing 77% of the FTEs. This fleet segment reported 51% of all days at sea and 45% of the fishing days, to land 96% of the weight and around 93% of the value. Overall, it generated EUR 147 million in GVA (94% of the total) and almost EUR 93 million in gross profit, a GVA to revenue of 44% and a profit margin of 26%.
- The Spanish purse seiner fleet is the largest: with 16 vessels (57% of the total), it employs 72% of the FTE and produces 75% of the landed weight and value.
- The longline fishery was also profitable in 2016, generating EUR 9.9 million in GVA and EUR 5.6 million in gross profit (a 21% profit margin). Spain also possess the largest longliner fleet in the region with 14 vessels, employing 79% of the FTE and landing 81% of the weight and 75% of the value.
- The most profitable fleet was the Spanish purse seine fleet (over 40 metres LOA), with average gross profits estimated at around EUR 4.7 million per vessel or just over EUR 25 000 per fishing day.
- Low, stable fuel prices and average market prices have contributed positively to the overall performance of the EU fleet, in particular, the more fuel intensive purse seiners.

- Recently the IOTC adopted management measures including catch and effort limits for purse seine and other fisheries. For tropical tunas, the measures adopted include Harvest Control Rules for skipjack tuna; catch limits for yellowfin tuna; and measures to limit fishing effort for purse seiners as a whole. In addition, the IOTC adopted measures to ban the use of lights to attract fish and the use of manned or unmanned aircraft to assist in the search of tuna schools.
- The relatively poor status of the yellowfin tuna stock along with reduced TACs, if continued, will impact the socio-economic status of the fleets operating in the region and, indirectly, coastal communities in the Indian Ocean (revenue, employment and raw material for the local canning industries). If the situation deteriorates, it may also displace effort from the Indian Ocean to the neighbouring Pacific and Atlantic oceans.

Other Regions

- Due to spatial data limitations it is not possible to accurately determine the dependency of these fleets on activity in the NEAFC and CECAF regulatory areas.
- According to the data provided by **NEAFC**, the EU fleet caught around 1.23 million tonnes in 2015 (most recent year available), 93% of which was taken from EU waters, 3% from NEAFC RA, 3% in Norwegian waters, 1% in Faroese waters and 0.2% in Greenland waters.
- The EU fleet mainly targets small pelagic species, which represent 96% of the catch composition in weight. The main species include: Atlantic mackerel (523.4 thousand tonnes), herring (429 thousand tonnes) and blue whiting (221 thousand tonnes).
- According to statistics provided by **CECAF**, there were ten MS fleets operating in the region in 2015 (latest available data): France, Germany, Greece, Latvia, Lithuania, Netherlands, Poland, Portugal, Spain and the UK. DCF data shows that Italy was active in the region in 2015 (and 2016), after two years of no activity.
- In 2015, total EU catches in CECAF RA amounted to 264.5 thousand tonnes, a 58% decreased when compared to 2010 (626.6 thousand tonnes) (excludes Italy).
- Large part of these fisheries occur within the framework of Sustainable Fisheries Partner Agreements (SFPAs).
- According to DCF data, nine Member States reported activity in the region in 2016: France, Germany, Italy, Latvia, Lithuania, Poland, Portugal, the Netherlands and Spain.
- Total landings reported from FAO 34 in 2016, including tuna and tuna-like species, amounted to 390 thousand tonnes, valued at approximately EUR 477 million.
- When excluding tuna and tuna-like species, landings amounted to 229 thousand tonnes, valued at EUR 187 million.
- The main fishing nations targeting these species are Lithuania, Latvia, Spain and Poland. Spain targets mostly demersal species with higher commercial value, while Lithuania and Latvia target mostly small pelagics.
- All the fleet segments analysed, apart from the Italian demersal trawler segment over 40m, generated profits in 2016.
- Yet, many of these fleets operate in other fishing areas and the performance results are a combined account of their total activity, i.e., it cannot be determined whether the activity limited to the CECAF area was profitable or not.

4.1 North Sea & Eastern Arctic

At a glance

The main nations operating in the North Sea and Eastern Arctic fishing regions were Belgium, Denmark, France, the Netherlands, Germany, Sweden and the United Kingdom. In terms of value the most important species for fleets operating in the region included Atlantic herring (12.5%), Atlantic mackerel (10%), Atlantic cod (10%), common shrimp (10%), common sole (8%) and European plaice (7.5%).

The main players in the region are UK, Danish, Dutch and French fleets. Together these fleets accounted for 83% of the value of landings of Atlantic herring and 83% of Atlantic mackerel. When considering the important demersal species, these fleets collectively accounted for 63% of the value of landings for Atlantic cod, 66% of common shrimp, 70% of common sole and 85% of European plaice. Furthermore, Germany is also an important contributor to the value of landings of common shrimp and Atlantic cod.

The overall performance of fleets operating in the North Sea was positive in 2016 and improved further compared to previous years. The most profitable fleets were the large pelagic trawlers (>40 m), with average gross profits estimated at around EUR 36 thousand per day at sea. Only the Lithuanian fleet operating in the region suffered small net losses in 2016, all other MS fleets generated net profits.

2016 Summary Results:

- The North Sea & Eastern Arctic fleet spent almost 480 thousand days at sea, to land approximately 1.47 million tonnes of seafood valued at EUR 2 billion (Figure 4.1).
- While effort remained stable, landings increased steadily since 2011.
- GVA was estimated at over EUR 1.3 billion in 2016, representing an overall increase of 24% compared to the GVA generated in 2015. GVA estimates improved for all MS with the exception of the Spanish fleet (-26%) (Figure 4.2).
- After accounting for operating costs the fleet made almost EUR 716 million in gross profit, a 32% increase on 2015. Net profit was estimated at EUR 522.5 million, up 66% from the 2015 result of EUR 315 million.
- Gross profit margin increased from 29% in 2015 to 34% in 2016 while net profit margin went from 17.4% to 25.3% (Figure 4.3).
- Increased landings income and lower operating costs (e.g. -14% in fuel costs), have helped the overall performance of the North Sea & Eastern Arctic fleet to improve over the last few years. In fact, all performance indicators have followed an increasing trend over the period 2010 to 2016.
- Revenue (income from landings and other income) generated in 2016 was estimated at almost EUR 2.1 billion, increasing by 13.3% compared to 2015.
- Fuel price further decreased in 2016 and remained low in 2017, while most fish prices remained stable or increased compared to 2015 (including common sole, European plaice, common shrimp, Atlantic herring and Atlantic mackerel). Therefore, it can be expected that economic performance will further improve as revenues are likely to increase and costs to decrease.

Main drivers affecting fleet performance in the region

The overall changes have been mostly driven by the large-scale fleets, whereas the trends for the SSCF in the North Sea & Eastern Arctic are less clear. Factors that may have contributed to the positive situation include:

- Recovery of certain stocks, e.g. North Sea common sole, European plaice, Atlantic herring, haddock, saithe stocks have all reached levels that are capable of delivering MSY.
- Increase in the TAC for a number of species such as Atlantic herring, European plaice, Atlantic cod, haddock, and Norway lobster.
- Higher average prices for some of the main species, such as Atlantic herring and Atlantic mackerel, common shrimp, common sole and European plaice.
- Decreasing fuel prices resulting in lower energy costs.

Factors that may drive/hamper economic performance in the future include:

- Increased TACs and quotas for several key stocks in 2017, such as common sole, Atlantic cod, Norway lobster, European plaice, Atlantic mackerel and sandeel.

- Reduced TACs and quotas in 2017 for stocks, such as haddock, Northern prawn, Atlantic herring and European sprat.
- The price of common shrimp may be too high from a market perspective pushing consumers to search for alternatives.
- Large scale fleets in Denmark and the Netherlands are investing in new vessels and fishing techniques.
- More vertical integration is being observed leading to shifts in ownership
- Whilst the consequences of Brexit are unknown, it is to be expected that it could have a large impact on the North Sea. The UK holds a significant portion of the value of landings in the region (30%). Furthermore, there is a high dependency on UK waters for a number of MS in the region. Belgium, the Netherlands, Germany, Denmark, France, Ireland, Sweden and to a lesser overall extent Spain are expected to be affected.
- After the Brexit vote, the pound dropped. Therefore, the exchange rate considerably affected the UK prices in 2016 and 2017.

Socio-economic trends

In terms of socio-economic variables, the fleet operating in the North Sea region displayed the following trends:

- **Employment**

Over the past years, employment measured in terms of Full Time Equivalents (FTE) showed a decreasing trend between 2010 and 2016 (-4%) from an estimated 9 807 to 9 453 FTE. In 2016 there was an increase (+5%) in employment compared to 2015. The main contributor to this increase came from the UK, Denmark and the Netherlands, where FTEs went up by 7%, 4% and 7% respectively in 2016 compared to 2015.

It seems that the overall declining trend in employment has temporarily halted, mainly due to the LSF. FTEs in the SSCF were much lower and remained relatively stable over time.
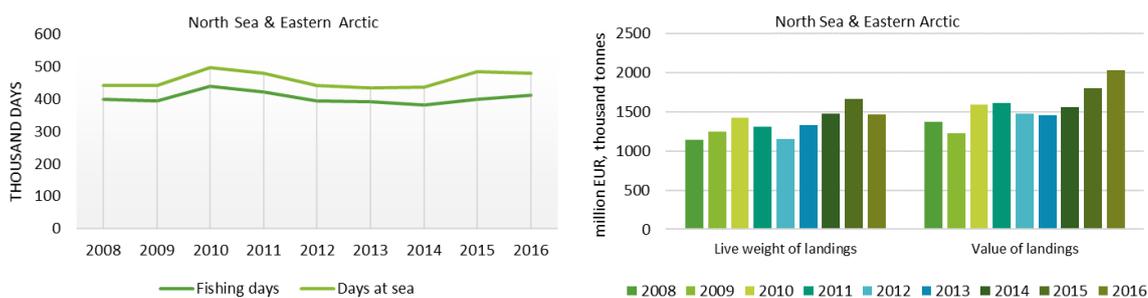
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.1 Trends on effort and landings for MS fleets operating in the North Sea & Eastern Arctic region

- **Wages and Salaries**

The value of landings increased by 28% between 2010 and 2016. For a number of important North Sea fish species prices were higher while landings in weight were lower. This was particularly striking for common shrimp. The total landings in weight decreased by 11% in 2016 compared to 2015. Furthermore, the fuel prices were relatively low with an average price of EUR 0.34 per litre. Fuel is an important operational cost and therefore an important driver for higher revenues in 2016.

Wages per FTE increased by 10% in the large-scale fleet from 2015 to 2016. There was a trend between 2010 and 2016 where the wages per FTE increased by 55%. In 2016, the average wage in the LSF was estimated at EUR 71 600. In the SSCF such a trend was less clear, but there was still an overall increase of 12% between 2010 and 2016. Between 2015 and 2016 the average wage per FTE for the SSCF increased by 5%, fluctuating around EUR 33 000.

- **Labour productivity**

The productivity (GVA/FTE) of the large-scale fleet increased considerably between 2010 and 2016 (+84%). This coincided with a decrease in employment. However, since 2014, the impact on the number of jobs ceased. It even slightly increased for 2016. For the SSCF, labour productivity also increased, albeit less dramatically (+35%).
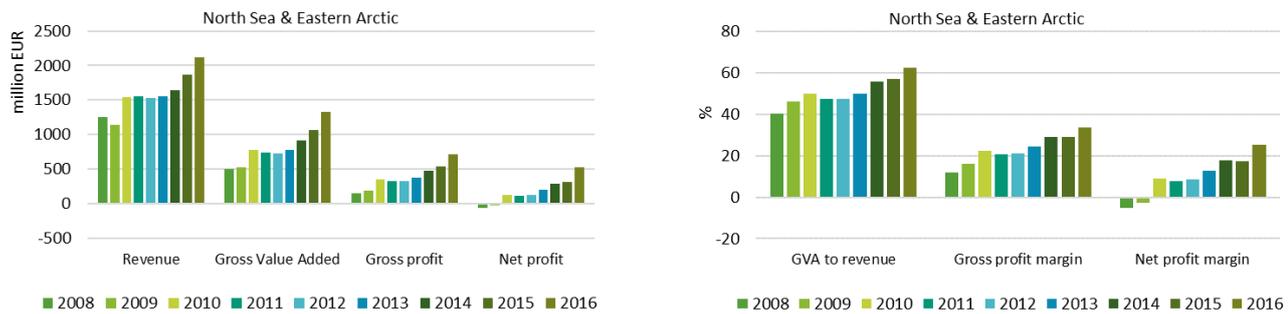
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.2 Trends on revenue and profits for MS fleets operating in the North Sea & Eastern Arctic region

Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.3 Trends on average wage per FTE and labour productivity (GVA per FTE) by fishing activity for MS fleets operating in the North Sea & Eastern Arctic region

Regional Details

The North Sea & Eastern Arctic region, as defined for this report, comprises ICES areas I, II, IIIa, IV, and VIId. French data were incomplete and are only included in the analysis from 2010 onwards. In addition, where insufficient data were provided for fleet segments these may have been excluded from all or some of the analyses. For example, as no data on fishing effort were provided for the German pelagic trawler segment (for confidentiality reasons), this segment is not included in the analysis. Trends and absolute regional figures should therefore be interpreted and considered with care.

MS fleet activity in the North Sea & Eastern Arctic region: situation in 2016 and recent trends

The analysis includes reported landings from 11 MS fleets: Belgium, Denmark, Germany, France, Ireland, Lithuania, the Netherlands, Portugal, Spain, Sweden and the UK. These MS fleets target high value species including common sole (Netherlands, Belgium, Germany and France), common shrimp (Netherlands, Germany, Denmark and Belgium) and Norway lobster (Denmark, Netherlands, Germany, Sweden and to some extent Belgium). Other important demersal species include Atlantic cod (UK, France, Spain and Denmark) and European plaice (Netherlands, UK, Denmark and Belgium). Furthermore, a number of these MS also target pelagic species such as Atlantic mackerel and Atlantic herring (Denmark, UK, the Netherlands, Germany and Sweden).

Table 4.1 to 4.5 contain a summary of the economic performance of the North Sea & Eastern Arctic fleet by Member State, main type of fishing activity and fleet segment.

Based on the value of landings, the Netherlands (91%), Denmark (86%), Belgium (75%), Germany (71%), Sweden (62%) and Great Britain/United Kingdom (54%) are considerably dependent on the North Sea & Eastern Arctic region (see red dots in Figure 4.4).

In terms of landed weight, Denmark caught 83% of their landings in the North Sea & Eastern Arctic, followed by Belgium (79%), the Netherlands (71%) and then Germany (55%) and the UK (54% of the weight). The pelagic fisheries influence these ratios to a large extent: The Netherlands target a significant part of their small pelagic species outside the North Sea & Eastern Arctic, which lowers the percentage of landed weight from the North Sea & Eastern Arctic compared to the proportion of effort (days at sea).

While the UK fleet was only 54% dependent on its landings from the region, it was the most important fleet in terms of landed value (EUR 613 million). The Danish fleet was the most important in terms of landed weight (554 thousand tonnes).
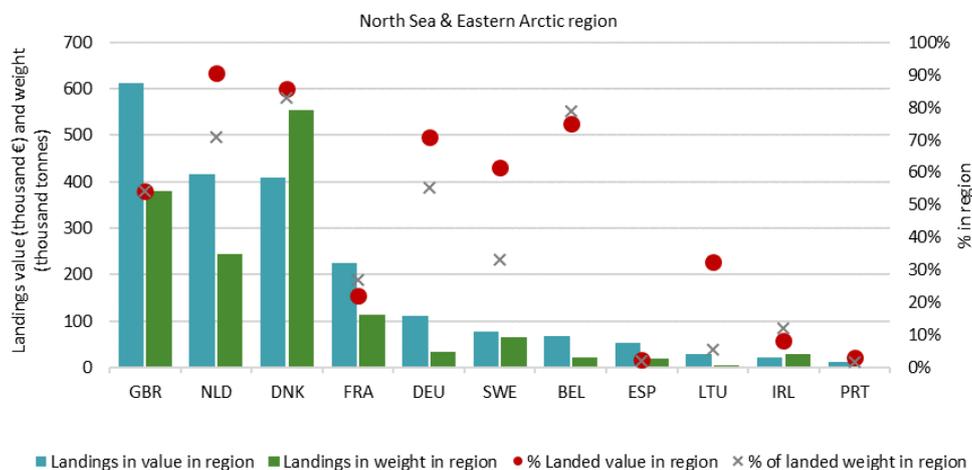
Figure 4.4 Importance of the North Sea & Eastern Arctic regions for Member States' fisheries in terms of landings in weight and value, 2016
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Fleet capacity and employment

Member State fleets operating in the North Sea region in 2016 numbered 4 835 vessels. The UK North Sea fleet comprised the largest in number (2 193 vessels), accounting for 45% of the total reported for the region and 47% of their national fleet (Figure 4.5).

Overall the number of vessels operating in the North Sea & Eastern Arctic has followed a decreasing trend between 2010 and 2014, with an increase in 2015, mainly due to more UK vessels. In 2016 there was a slight decrease in the number of vessels, from an estimated 4 970 in 2015 to 4 835 vessels. The employment, measured in terms of Full Time Equivalents (FTE), also showed a decreasing trend between 2010 and 2014, and increased in 2015 and 2016, in line with the number of vessels (Figure 4.6). In terms of employment, the SSCF generated 3 976 - mostly part time - jobs (1 642 FTE) while the LSF generated 7 810 jobs (7 704 FTE).
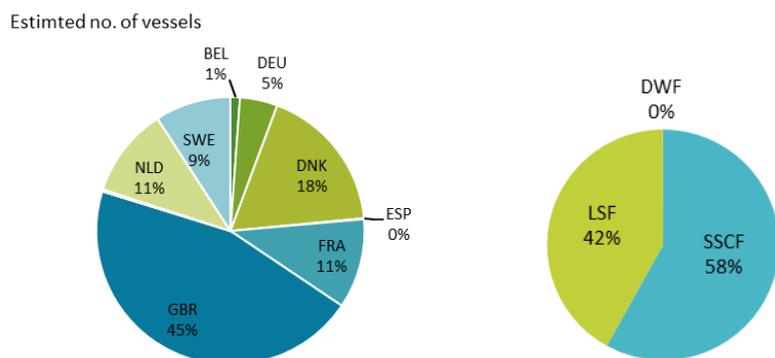
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.5 Share of North Sea & Eastern Arctic fleet capacity by MS and fishing activity, 2016

Figure 4.6 Trends on number of vessels and employment (in FTE) for MS fleets operating in the North Sea & Eastern Arctic region

Fishing effort

The pie charts presented in Figure 4.7 indicate the proportion of days at sea attributable to each MS in 2016. The UK (42%), France (16%), Denmark (15%) and the Netherlands (11%) together accounted for around 84% of the total days at sea (mostly generated by large-scale fisheries).

Around 40% of the days at sea were undertaken by small-scale coastal vessels using passive gears. The UK, France and Denmark accounted for 88% of this effort. Large-scale fisheries (LSF) accounted for 60% of the days at sea, of which most were undertaken by the demersal fleet.

Effort, more or less, followed the fleet capacity reduction, with an increase in 2014 and 2015 largely attributed to the UK fleet. Fuel consumption decreased significantly from 2010 to 2011, continuing on a steady decreasing trend until 2014 (Figure 4.8). In 2015, fuel consumption slightly increased, in line with the increased number of vessels and relatively low fuel prices and further increased in 2016.
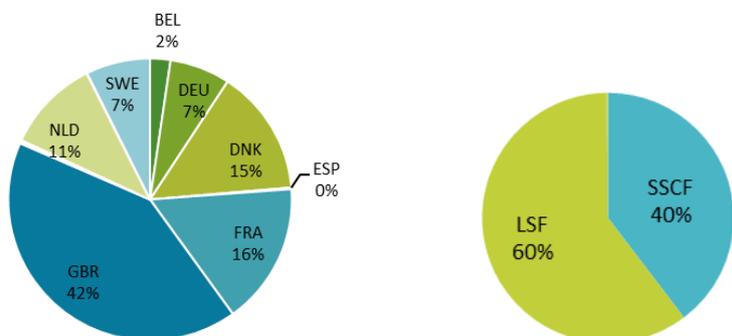
Figure 4.7 Share of the effort deployed by the North Sea & Eastern Arctic fleet by MS and fishing activity, 2016
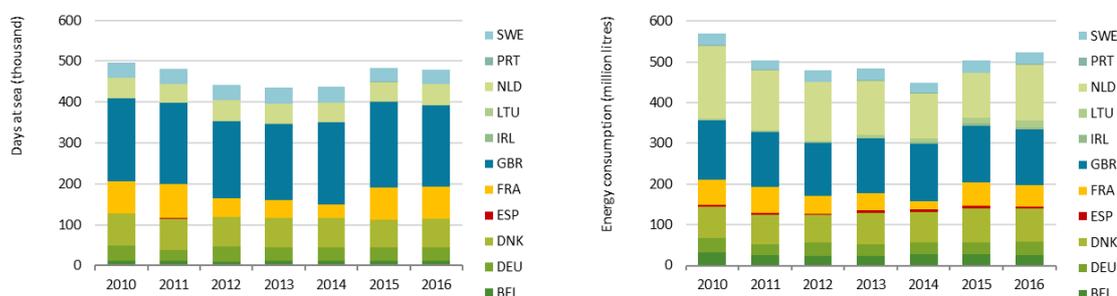
Figure 4.8 Trends on fishing effort (in days at sea) and fuel consumption for MS fleets operating in the North Sea & Eastern Arctic region

Landings and top species

The weight and value of landings generated by the fleet amounted to approximately 1.47 billion tonnes and EUR 2.0 billion, respectively in 2016. Despite less landings in weight compared to 2015 (1.66 million tonnes) there was a higher total value of the landings (EUR 1.8 billion in 2015) due to higher fish prices. The large scale fleet (LSF) in the North Sea & Eastern Arctic landed 97% of the total weight and 92% of

the total value (Figure 4.9). There were 4 large players that contributed to landings in the North Sea and Eastern Artic (both in weight and value): the UK, Denmark, the Netherlands and France.

Landings in weight decreased sharply between 2010 and 2012, mainly due to lower catches made by the Danish fleet. It increased steadily from 2013 onwards, again due to the contribution of the Danish fleet, as well as the contribution of the UK fleet. Landings in value remained rather stable over the period 2010 to 2013, increasing in 2014, 2015 and even more in 2016 (Figure 4.10). Despite lower landings in terms of weight, there was a strong increase in value in 2016.

In 2016 Atlantic herring (456 thousand tonnes) was the most important species in terms of weight, a growth of 18% compared to herring landings in 2015. Landings of European sprat (225 thousand tonnes), Atlantic mackerel (202 thousand tonnes) and European plaice (94 thousand tonnes) were the next most important species in terms of weight (Figure 4.11 and Figure 4.12). Compared to 2015 the landings of these species changed by -23%, -23% and +7% respectively. Remarkably, the landings of sandeel dropped in weight by 85% to 33 thousand tonnes compared to 2015 due to a radically lower TAC.

In terms of value, the most important species in 2016 were: Atlantic herring (EUR 255 million) followed by Atlantic mackerel (EUR 211 million), Atlantic cod (EUR 202 million), common shrimp (EUR 198 million), common sole (EUR 165 million), European plaice (EUR 152 million), and Norway lobster (EUR 120 million) (Figure 4.11 and 4.12). Especially, the increase in landed value of common shrimp (+82%), Atlantic herring (+45%), Norway lobster (+37%) and common sole (+16%) were noteworthy in 2016.
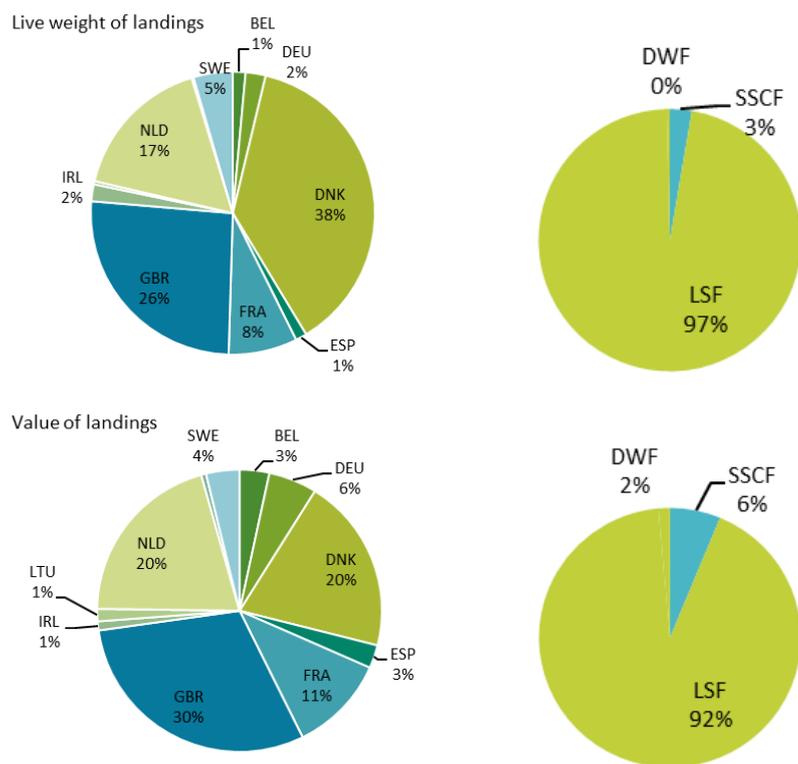
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)). MS fleets with less than 1% share may not be shown

Figure 4.9 Share of landings from the North Sea & Eastern Arctic region by MS and fishing activity, 2016
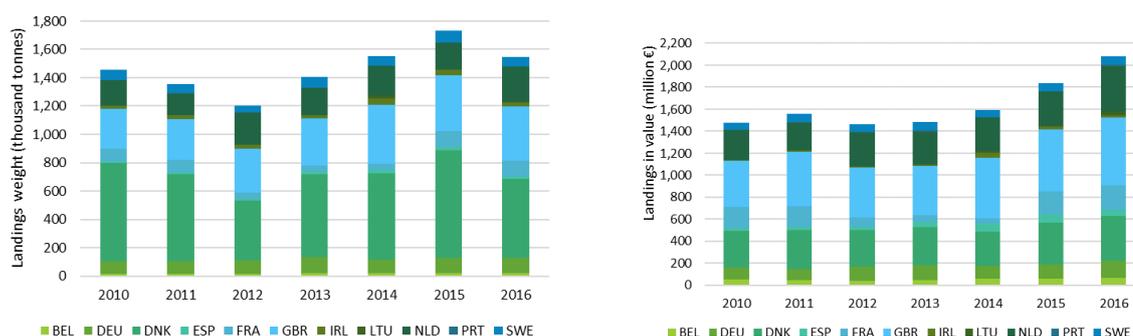
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.10 Trends on landings in weight and value for MS fleets operating in the North Sea & Eastern Arctic region
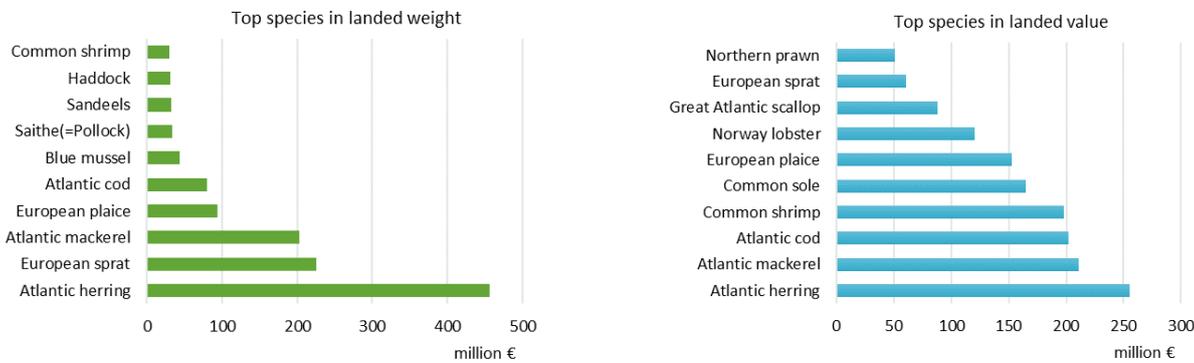
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.11 List of the top 10 species in terms of landed weight and value by MS fleets operating in the North Sea & Eastern Arctic in 2016
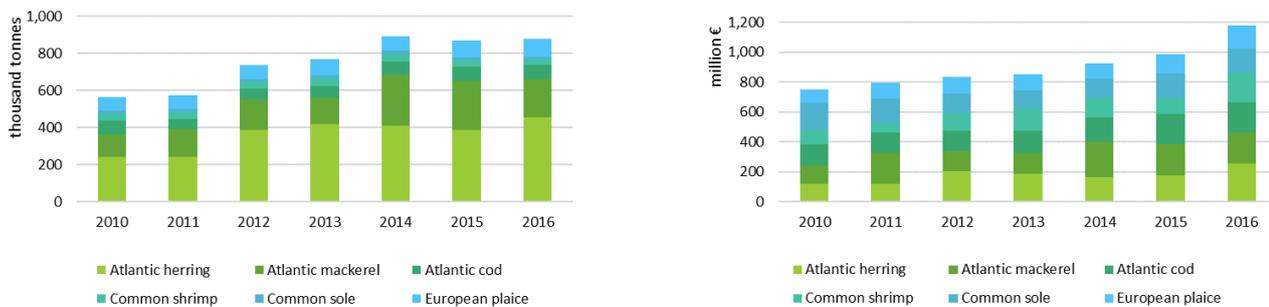
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.12 Trends on landings of the top six species in terms of landed value for MS fleets operating in the North Sea & Eastern Arctic

Socio-Economic performance

The revenue (income from landings and other income) generated by the North Sea & Eastern Arctic fleet in 2016 was estimated at almost EUR 2.1 billion, 82% of which was provided by 4 Member States: UK (EUR 643 million), the Netherlands (EUR 422 million), Denmark (EUR 414 million) and France (EUR 236 million) (Figure 4.13).

Revenue increased in 2016 by 12% compared to 2015: only Spain suffered a decrease (-21%) compared to 2015, where the other Member States have seen revenues grow. In particular, the Netherlands has seen an increase of +33% in 2016 compared to the previous year.

GVA produced by the North Sea & Eastern Arctic fleet covered in the analysis was estimated at over EUR 1.3 billion in 2016. This represented an overall increase of 24% compared to the GVA generated in 2015, as the GVA of the Netherlands (+52%), Belgium (+39%), the UK (+24%), Germany (+23%) and Sweden (+19%), all increased. On the other hand, the Spanish fleet in the region saw a GVA drop (-20%) compared to 2015. After accounting for operating costs, the fleets operating in the region made almost EUR 713 million in gross profit, an estimated 32% increase compared to 2015 (Figure 4.13).

By fishing activity, the North Sea & Eastern Arctic SSCF generated EUR 140 million in revenue, a 19% decrease relatively to 2015 results, while the LSF generated EUR 2 billion in revenue, an estimated 18% increase compared to 2015.

Seven MS operated small scale coastal fisheries (SSCF) in the North Sea & Eastern Arctic region. Of these, the UK fleet, consisting of 1 594 vessels and employing 1 038 FTEs, generated the highest revenue (EUR 68.7 million) and net profit (EUR 8.1 million). The French SSCF, with 229 vessels generated revenue of EUR 40 million and had a net profit of EUR 4.5 million. Overall the SSCF segment was profitable in 2016, posting a net profit margin of 11.2%; 6 of the 7 MS small-scale coastal fleets made gross profits, totalling EUR 27 million. Two MS SSCFs (Germany and Ireland) suffered net losses.

The North Sea large scale fleet (LSF) of the UK, consisting of 599 vessels, generated the highest revenue (EUR 574 million), followed by the Dutch (EUR 435 million) and the Danish (EUR 398 million) LSF. All North Sea Member States LSF generated gross profits in 2016.
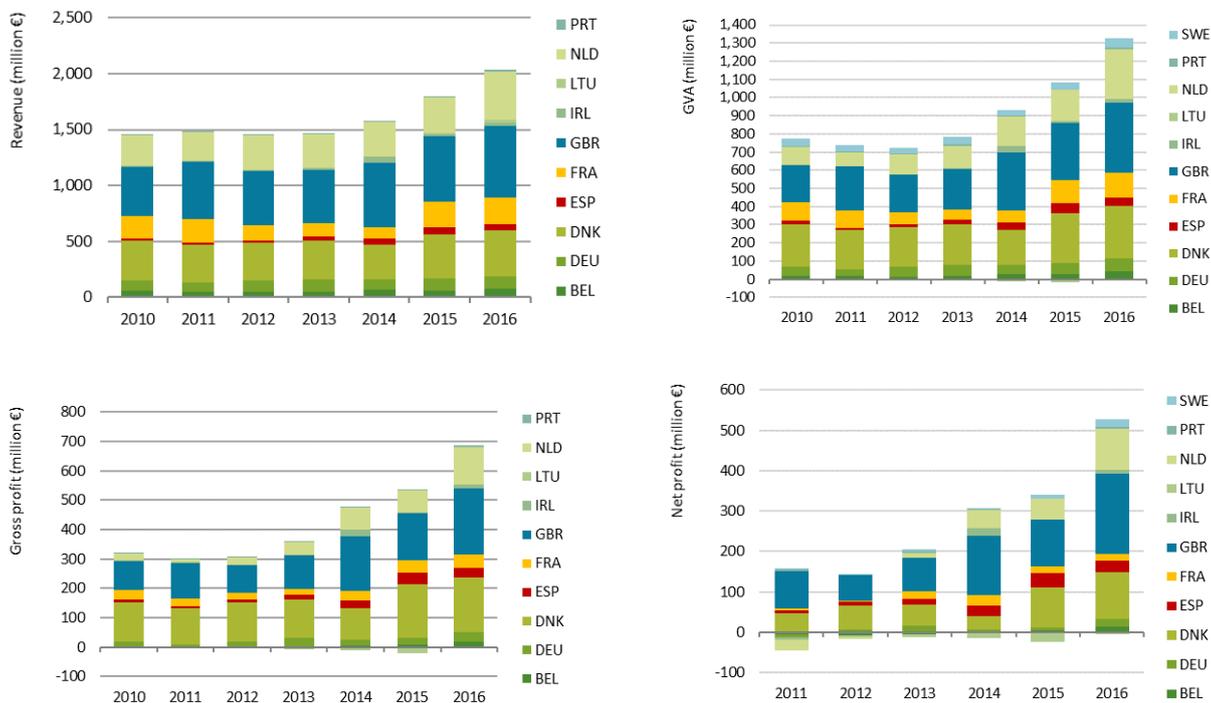
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.13 Trends on revenue (landings income + other income) and profit (GVA, gross profit and net profit) for MS fleets operating in the North Sea & Eastern Arctic region

Productivity

On average, 356 litres of fuel per tonne of landed fish was used in North Sea and Eastern Arctic fisheries in 2016 (Figure 4.14). This was an increase compared to the previous year (303 litres of fuel per tonne of landed fish), mainly due to an increase for towed gears. Significant differences between fisheries were observed. Pelagic fisheries were the most fuel efficient, consuming 101 litres of fuel per landed tonne while the flatfish fisheries, using beam trawlers, consumed the most fuel per landed catch (e.g. 1 310 litres/tonne for TBB VL1824). Differences in energy consumption per landed tonne were also observed between MS. This was mainly due to different fleet compositions (e.g. a higher proportion of pelagic mid-water trawlers versus more fuel intensive demersal beam trawlers) and target species (e.g. depending on quota availability) within MS.
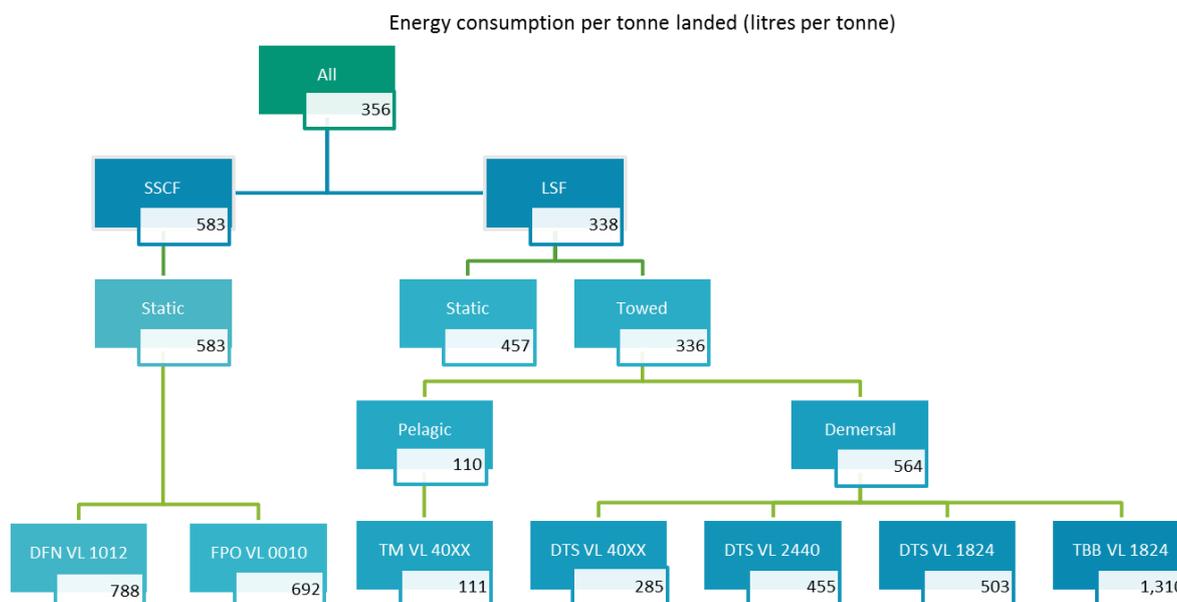
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.14 Schematic representation of the amount of fuel consumed per landed weight (litre/tonne) by the various MS fleet components operating in the North Sea & Eastern Arctic, including some important segments

Fuel costs made up around 10% of the landed value in the North Sea and Eastern Arctic in 2016. In total around EUR 523 million were spent on fuel to catch 1.47 million tonnes of fish. In particular, the demersal segments spent higher amounts of their landed value on fuel. As trawling is typically fuel intensive, fluctuations in fuel consumption and fuel prices are therefore key drivers of the profitability of these segments. Innovations in new and lighter fishing gears (to reduce consumption) together with the decreased fuel prices and higher fish prices for the most important target species helped to reduce the ratio of fuel cost versus revenue in the last years (Figure 4.15). Overall values were lower for all categories compared to 2015.
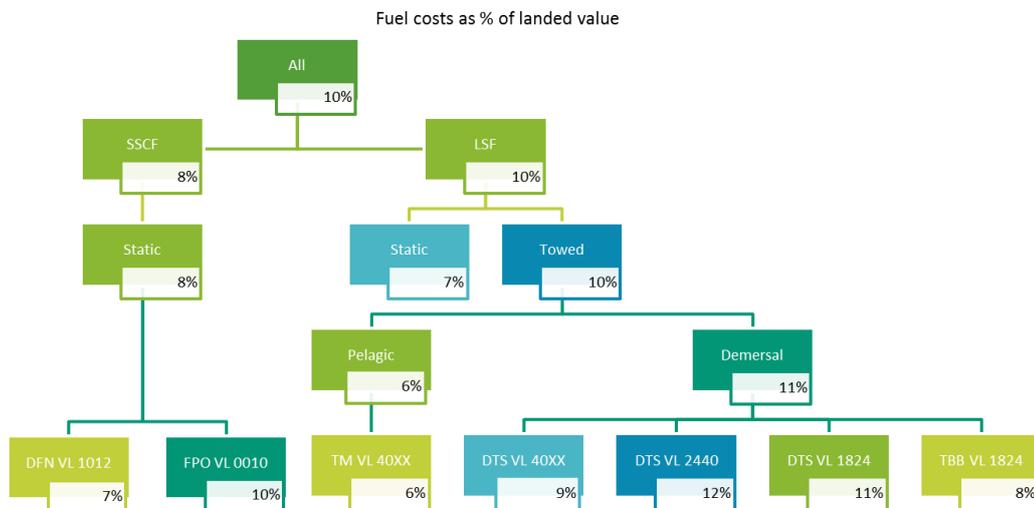
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.15 Schematic representation of the ratio fuel costs to landed value (%) for the various MS fleet components operating in the North Sea & Eastern Arctic, including some important segments

On average MS fleets operating in the North Sea & Eastern Arctic generated around EUR 1 493 in gross profit per day at sea, with the LSF producing significantly higher profits than the SSCF. Large-scale fisheries' gross profits were almost 17 times higher.

Within the LSF, towed gears were also more productive, with pelagic fisheries generating approximately EUR 36 thousand in gross profit per day at sea. Pelagic trawlers over 40 m made an average of EUR 44.1 thousand in gross profit per day at sea (Figure 4.16). UK and Denmark had the highest gross profit per day at sea for the latter fleet segment (TM VL40XX). Another segment with high gross profits was DTS VL40XX in Denmark and Spain (the Spanish cod fishery in the Arctic with a TAC of some 15 800 tonnes in I and II in 2016)
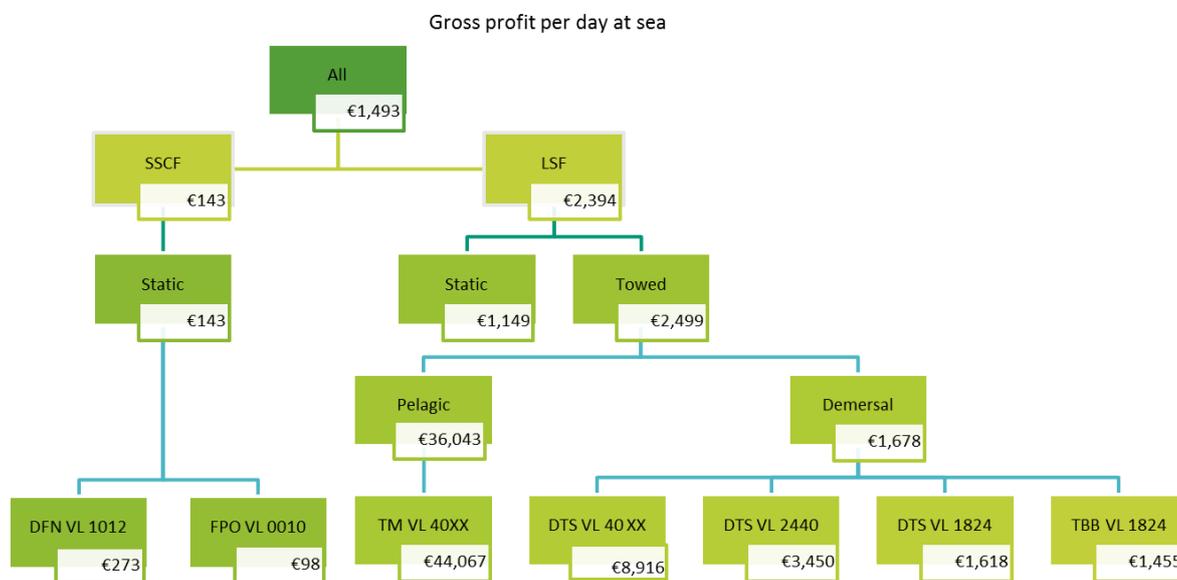
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.16 Schematic representation of the gross profit per day at sea generated by the various MS fleet components operating in the North Sea & Eastern Arctic, including some important segments

Regulation, fisheries management and stocks status in the region

The management plans in force in 2016 that impacted on the North Sea included:

- Long-term plan for cod stocks and the fisheries exploiting those stocks (Council Regulation (EC) No 1342/2008). The effort controls of the cod recovery zone were repealed in November 2016 by EU Parliament and Council Regulation No 2016/2094. This will not have a significant impact on 2016 results.
- Multiannual plans for fisheries exploiting stocks of European plaice and common sole in the North Sea (Council Regulation (EC) No 676/2007).
- Recovery plan for the Northern hake stock covering the areas Kattegat, Skagerrak, North Sea, the Channel, West of Scotland, all around Ireland and the Bay of Biscay (Council Regulation (EC) No 811/2004).
- Fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union vessels, in certain non-Union waters (Council Regulation (EU) 2015/104 of 19 January, 2015).
- Fishing opportunities available in EU waters and, to EU vessels, in certain non- EU waters (Council Regulation (EU) No 40/2013 of Jan 21, 2013), including European Union and Norway bilateral fisheries arrangements.
- Other management measures that may affect economic performance of the fleets operating in the North Sea include marine protected areas and other national legislation.

TAC development of main species

Figure 4.17 shows the EU TACs for 2008 to 2017 for some pelagic and demersal species (2018 when available). It should be noted that in some cases the TAC areas are not limited to the North Sea and include adjacent waters. The TAC for some of these key species show a gradual increasing trend such as plaice, cod, Norway lobster, sole and herring.

Between 2008 and 2014 the TAC for Atlantic mackerel shows an increasing trend. In 2014 the TAC for Atlantic mackerel increased significantly compared to 2013 (+77%), but decreased in 2015 and 2016. This is seen as an important driver of the economic performance of the UK fleet. In 2016, the weight of landings decreased, however in this instance the value of landings increased due to a significant price increase.

The TAC for sandeels, an important species for the Danish fleet, is more unpredictable. It decreased considerably in 2014 compared to 2013, but increased again in 2015. It drastically dropped again in 2016. Furthermore, the TAC for sprat decreased considerably in 2016.

Areas included for each species:

- Cod: 1 and 2b; 4; Union waters of 2a; that part of 3a not covered by the Skagerrak and Kattegat; 7d; Kattegat; Norwegian waters of 1 and 2; Norwegian waters south of 62° N; Skagerrak
- Common sole: 3a; Union waters of Subdivisions 22-24; 7d; Union waters of 2a and 4
- Haddock: 3a; 4; Union waters of 2a; Norwegian waters of 1 and 2; Norwegian waters south of 62° N
- Northern prawn: 3a; Norwegian waters south of 62° N; Union waters of 2a and 4
- Norway lobster: 3a; Norwegian waters of 4; Union waters of 2a and 4
- Plaice: 4; Union waters of 2a; that part of 3a not covered by the Skagerrak and the Kattegat; 7d and 7e; Kattegat; Skagerrak
- Saithe: 3a and 4; Union waters of 2a; International waters of 1 and 2; Norwegian waters of 1 and 2; Norwegian waters south of 62° N
- Whiting: 3a; 4; Union waters of 2a; Norwegian waters south of 62° N
- Herring: 3a; 3a (by-catches); 4, 7d and Union waters of 2a (by-catches); 4c, 7d (by-catches); Norwegian waters south of 62° N; Union and Norwegian waters of 4 north of 53° 30' N; Union, Faroese, Norwegian and international waters of 1 and 2
- Mackerel: 3a and 4; Union waters of 2a, 3b, 3c and Subdivisions 22-32; Norwegian waters of 2a and 4a
- Sandeel: Norwegian waters of 4; Union waters of 2a, 3a and 4 - Sprat: 3a; 7d and 7e; Union waters of 2a and 4
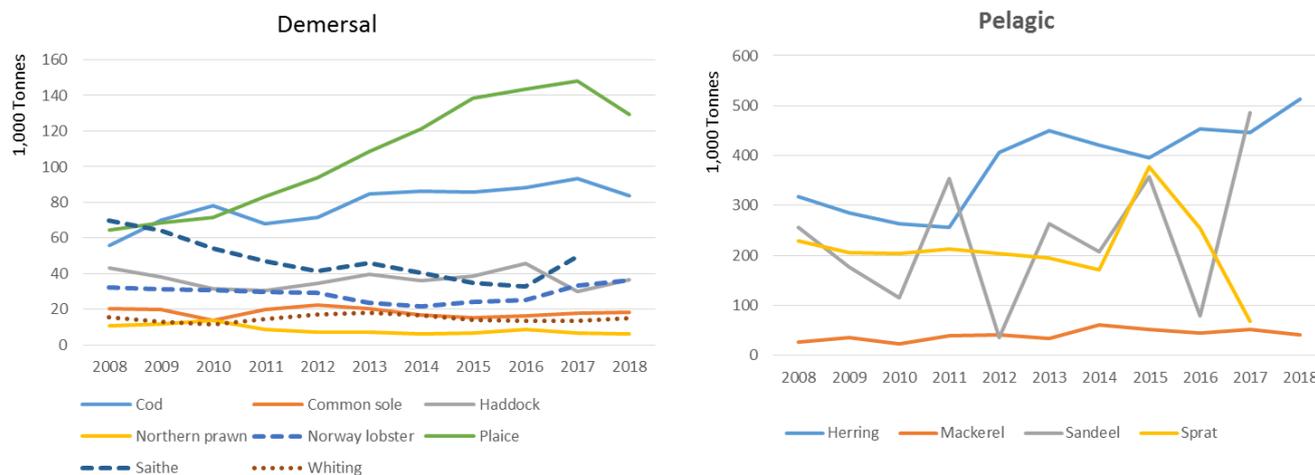
Source: Calculated based on TAC Council Regulations

Figure 4.17 TACs pre-uplift for demersal species (left) and major pelagic species (right)

Status of important stocks

Atlantic herring, common sole, European plaice, haddock, saithe and Norway lobster in the North Sea are all managed at MSY.

Contrary to earlier predicaments, the fishing mortality of North Sea cod is still above FMSY, and the recovery did not occur as quickly as expected. The spawning stock biomass was estimated to be slightly above MSY Btrigger in the assessment of 2017 with high uncertainty. Further effort may be needed to recover the stock to levels which can produce MSY. In July 2017 North Sea Cod was certified as sustainable by the Marine Stewardship Council (MSC 2017).

Haddock & saithe: 2016 TACs are again in accordance with MSY. This allowed for a 30% increase for haddock, but required a 6% reduction for saithe.

Nephrops: TAC in the Skagerrak, Fladen grounds, Firth of Forth and Moray Firth will be fished in accordance with MSY. The other stocks are either fished above Fmsy or lack an Fmsy assessment.

Herring: The herring stock in the North Sea (I, II, V, IVa, XIVa) was exploited below sustainable mortality levels (Fmsy) in 2016. The spawning stock biomass has been above the conservation limit (Blim), however the stock is declining and was estimated close to MSY Btrigger in 2016.

Common sole: The sole stock in the North Sea (IV and VIId) was exploited below sustainable mortality levels (Fmsy) in 2015. Its spawning stock biomass has been above the conservation limit (Blim) and even above MSY Btrigger since 2012 and increased in 2013 and 2014. Recruitment in 2012 and 2013 however were among the lowest of the time series.

Plaice: The plaice stock has developed favourably under the current management plan. For the stock in VIId, fishing mortality has declined over time and is presently among the lowest in the time-series and spawning–stock biomass has increased since 2008. A similar situation was observed for the plaice stock in subarea IV and division IIIa. The only consequence of the management plan for the fishing activity was the limitation of quota increase to an annual 15%.

Cod: In spite of the cod management plan being effective for several years, the spawning stock biomass is still below MSY Btrigger. However, it was predicted that cod would be fished in accordance with MSY in 2016 for the first time, allowing a 15% increase of the TAC. However, the fishing mortality of North Sea cod was still above FMSY, and the recovery did not occur as quickly as expected. The Kattegat cod remains at a low level but the biomass has increased since 2009.

Brown shrimp: Another economically important species is brown shrimp (*Crangon crangon*). This species is currently not under a TAC regime. While a full assessment is not yet available, fishing mortality is considered to be above Fmsy. However, there have been initiatives from the fishing industry to move towards implementing harvest control rules and in 2016 measures were taken to regulate the weekly fishing effort. This was one of the requirements to qualify for an MSC certificate. The fishery was certified in 2017.

Landing obligation

The highest profile regulation is the landing obligation which is being phased in over a number of years. In general, no obvious economic impact was observed in the first two years of implementation (2015-2016). More specifically, the pelagic fishery is not expected to be affected too much, as in many cases fish is not sorted at sea and is usually landed directly to processing plants where sorting takes place.

The saithe fisheries traditionally have had low bycatch rates. However, more challenges are to be expected for demersal (mixed) fisheries. Fishers fear that the landing obligation will have a large impact on their profitability, mainly due to increased costs. Another concern is related to potential choke species. Particularly in a mixed fishery this could be an issue as many species are caught at the same time and multiple choke species may occur. Ray, plaice, dab, turbot and brill are potential choke species candidates in mixed demersal fisheries (Batsleer, 2016). Therefore, to continue fishing throughout the year, it will be vital to have either enough quota available or adapt fishing strategies (optimal solution has not been discovered thus far).

For demersal fisheries the landing obligation is being implemented in several phases (2015-2019) and should be entirely implemented by January 2019. As Dab no longer has a TAC (2018) it does not fall under the landing obligation. Furthermore, an exception for plaice was introduced in 2018 in a joint recommendation of the Scheveningen Group and Northern Sea Atlantic Group (NSAC). The NSAC has advised rescheduling the introduction of the landing obligation to January 2019 to allow additional time to complete research, conduct trials to test gears and other measures that contribute to an improved selectivity and reduced discarding, and to finalise additional on-going projects aiming to estimate the survival rates of discarded plaice (Scheveningen Group, 2017). Recently (June, 2018) the NSAC and the Scheveningen Group have asked the European Commission to extend this exception (for plaice) for three more years as further research on these topics is necessary. Furthermore, the fishing industry in the North Sea would need more time to adapt to a landing obligation for plaice. The European Commission will make a decision in September 2018 regarding this recommendation.

Description of relevant fisheries in the region

Table 4.4 provides results for the top 40 MS fleet segments in terms of revenue while Table 4.5 provides results for fleet segments that operated 80% or more in the North Sea & Eastern Arctic in 2016.

At the fleet segment level, the most important large-scale segments were the UK pelagic trawlers over 40m (EUR 192 million) based on income from landings, followed by the Danish pelagic trawlers over 40m (EUR 145 million), the Dutch beam trawlers over 40m (EUR 133 million) and the UK demersal trawlers 24-40m (EUR 126 million). The most important fleets in terms of GVA were again the Danish and UK pelagic trawlers over 40m.

For the small-scale fisheries the most important fleet segments in terms of income from landings were the UK pots and trap vessels under 10 metres (EUR 36.6 million) and the French drift netters of 10-12 meters (EUR 17.7 million).

The fleet segments in Table 4.4 accounted for 24% of the number of vessels and 30% of the days at sea deployed in the region; 34% of the FTE; and 45% of the landed weight, estimated at 44% of the landed value. Collectively, these highly 'resident' fleets contributed 46% of the GVA, 45% of the gross profit, and 43% of the net profit.

Small-scale coastal fishery

Small-scale coastal fleets from seven member states operate in the North Sea & Eastern Arctic. In terms of vessel numbers, the UK and Denmark have the highest number of active SSCF vessels with 1 594 and 524 respectively. The UK, Sweden, France and Denmark accounted for 93% of this SSCF effort.

Overall the SSCF in the North Sea & Eastern Arctic was profitable in 2016, generating EUR 81.3 million in GVA, EUR 27.1 million in gross profit and EUR 15.6 million net profit. The most profitable in terms of gross and net profit was the UK with EUR 12.3 million and EUR 8.1 million, respectively. All MS in the North Sea and Eastern Arctic demonstrated a lower FTE figure in comparison with total employed indicating that a large majority of those employed in the SSCF are part-time or casual workers. Total employment for the SSCF is highest for the UK and France totalling 2,663 and 483 respectively reflecting the number of active vessels in these MS.

The most important SSCF segment was pots and traps <10m in the UK (FPO VL0010), representing 39% of total SSCF employment for all MS in the North Sea and Eastern Arctic and 31% of total value of landings.
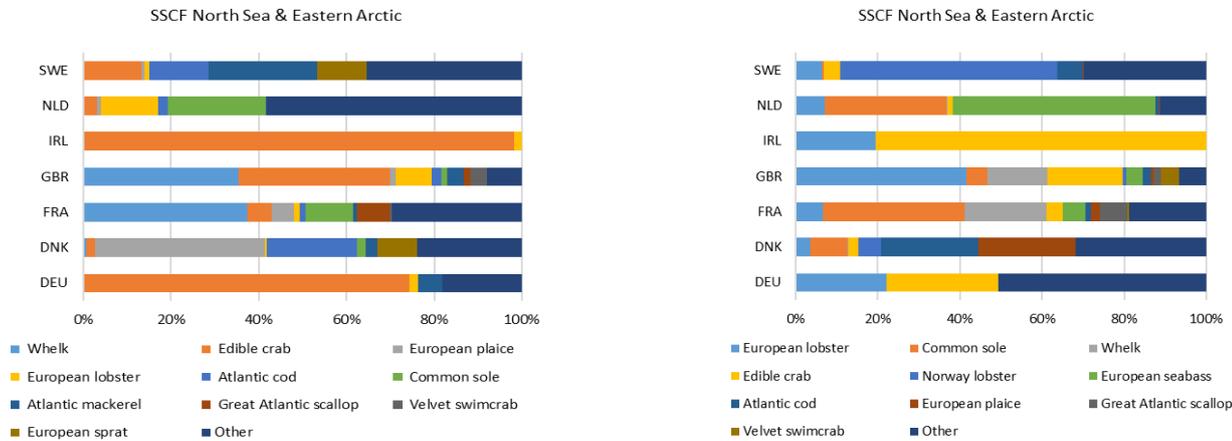
Figure 4.18 Top 10 species (and others) landed in terms of weight (left) and value (right) as a proportion of the total landings in the region by MS small-scale fleets operating in the North Sea & Eastern Arctic, 2016

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Landings from the North Sea were valued at EUR 127.3 million in 2016 with five MS responsible for close to 100% of the total value of landings: the UK (51%), France (27%), Denmark (12%), Sweden (8%) and the Netherlands (3%) (Figure 4.17 and Figure 4.18).

- High dependency on one or two main species accounting for at least 50% of total value of landings was observed for the UK (European lobster and edible crab), for France (common sole and whelk), Sweden (Norway lobster) and for the Netherlands (European seabass and common sole);
- Low dependency due to a greater diversity of species was observed for Denmark with Atlantic cod and European plaice as the most important species.

Large-scale fishery

There were 9 member states operating important large-scale fleets in the North Sea and Eastern Arctic totalling 2 024 active vessels. The UK, the Netherlands, Denmark, and France had the largest number of active vessels in the region with numbers of 599, 342, 337 and 295, respectively.
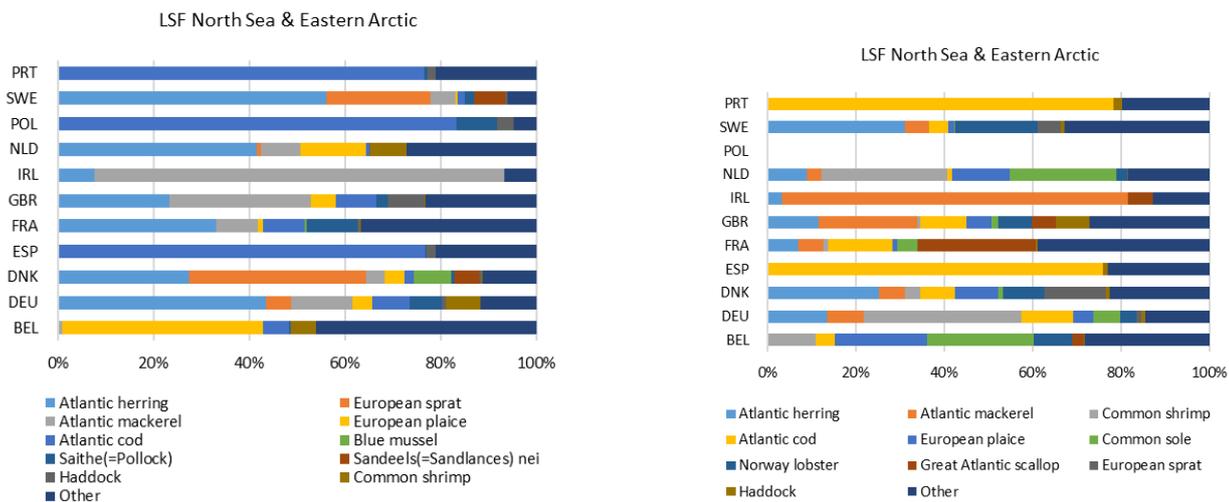
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.19 Top 10 species (and others) landed in terms of weight (left) and value (right) as a proportion of the total landings in the region by MS large-scale fleets operating in the North Sea & Eastern Arctic, 2016

Overall the LSF was profitable in 2016, generating EUR 1.24 billion in GVA and EUR 691 million in gross profit. The UK generated the highest GVA, EUR 349 million. All North Sea and Eastern Arctic MS large-scale fleets generated gross and net profits in 2016. The most profitable MS in terms of gross and net profit were the UK with EUR 212 million and EUR 188 million, Denmark with EUR 183 million and EUR 114 million, and the Netherlands with EUR 126 million and EUR 101 respectively. The UK large-scale fleet generated the highest revenue (EUR 574 million), followed by the Dutch (EUR 435 million) and the Danish (EUR 398 million) large-scale fleets.

Total employment for the LSF is highest for the UK and the Netherlands totalling 2 828 and 1 457 respectively reflecting the high number of active vessels in these MS. While the SSCF demonstrates a dramatic difference between the total number employed and total FTE for all MS, the LSF figures for total employed and FTE are closer in value indicating the high level of full time employment in this segment.

MS can be classed into different categories according to their species dependency which is representative of their large-scale fleet landings composition.

North Sea and Eastern Arctic (total LSF landings EUR 1.88 billion in 2016) (Figure 4.19):

- High dependency on one or two main species accounting for at least 50% of total value of landings: for pelagic species for Ireland (Atlantic mackerel) and for both Spain and Portugal (Atlantic cod);
- Moderate dependency on four species representing 50% of total value of landings: pelagic and demersal species for the Netherlands (common sole, common shrimp, plaice, Atlantic herring), Denmark (sprat, Atlantic herring, plaice, Atlantic mackerel), France (Atlantic scallops, Atlantic herring, Atlantic mackerel, common sole), Sweden (Atlantic herring, Norway lobster, cod, sprat);

The UK was the most important MS fishing in the North Sea in terms of value of landings (29%), followed by the Netherlands (22%), Denmark (21%) and France (10%) in 2016.

For the Eastern Arctic the following species were important: pelagic species for Sweden, the Netherlands and Denmark (Atlantic mackerel, Atlantic herring) and demersal species for France, Ireland, UK and Germany (cod) and Spain (cod, queen crab).

Pelagic fishery

The pelagic fishery operates both in the North Sea, the Eastern Arctic as well as in the North East Atlantic. MS involved are, in order of importance, Denmark, UK, the Netherlands, Germany, Sweden, France and Ireland. A distinction can be made between industrial and non-industrial fisheries. In generally, a large share of the Danish and Swedish landed volume consist of sandeels and European sprat, which are used for industrial purposes (e.g. fishmeal and fish oil). Important target species for human consumption are Atlantic mackerel, Atlantic herring and horse mackerel.

The Danish pelagic fishery in the North Sea mainly targets mackerel, herring, sandeel and sprat. The latter two species are used for industrial purposes (fishmeal and fish oil). All these species are under an ITQ regime. The fishery is executed mainly by large pelagic trawlers, but also by vessels from the demersal segment, which switch gears seasonally.

The UK pelagic fishery is mainly carried out by vessels using pelagic trawls targeting herring, mackerel and jack mackerel in the northern North Sea and are prosecuted mostly by Scottish large pelagic trawlers (>50m).

The Dutch pelagic fleet in the North Sea consists of large trawlers (from 60 to over 100m). These vessels target herring, horse mackerel and mackerel. There is no fishery directed for industrial purposes.

The German pelagic fishery is performed by large freezer trawlers and medium sized trawlers targeting Atlantic herring and Atlantic mackerel. Pelagic trawlers of about 30m perform a seasonal fishery on sandeels.

The Swedish pelagic fishery is performed by vessels that seasonally switch to demersal fisheries. All industrial catches are landed in Denmark. Major amounts of herring and mackerel are also fished and are more important in terms of value of landings.

Demersal roundfish and *Nephrops* (Norway lobster) fishery

The main actors in the demersal roundfish and *Nephrops* (Norway lobster) fishery in 2016 were the UK, Spain, Denmark, France, Germany, the Netherlands, Sweden and Belgium. Important target species were cod, Norway lobster, haddock, saithe and hake. Most of these round fish species were fished below Fmsy. The cod recovery plan in the North Sea may have contributed to improved stock status over the past years. Overall the performance of most demersal roundfish and *Nephrops* fleets seemed positive in 2016.

The UK fishery is the most important demersal roundfish fishery in the North Sea. UK vessels (over 40m) took the bulk of the quota of haddock; this is caught in the northwest and central North Sea and landed almost entirely in the UK. The same vessels exploit a major part of saithe, mainly in the northern North Sea. A great deal of saithe is landed fresh in Denmark as the market in the UK is limited. UK vessels catch the largest *Nephrops* and Atlantic cod share in the North Sea (excluding the Eastern Arctic).

The Spanish fleet was mainly active in the Eastern Arctic with TAC for Atlantic cod (EU and Norway waters I, IIb).

The Danish demersal roundfish fishery targets considerable amounts of cod, hake, haddock and saithe. A broad range of vessel segments are involved in that fishery. Moreover, the Danish fleet is second according to the value of landings in the *Nephrops* fishery in the North Sea.

The French fleet also participates in the cod, saithe and fishery in IVa.

The main species for German demersal trawlers in the North Sea is saithe in Iva, involving vessels between 30 and 41 metres in length. These vessels also catch some cod and minor amounts of haddock. The fish is landed in Denmark or Germany and is destined for the fresh market, but also for processing. While the *Nephrops* fishery has gained importance for some vessels it remains of minor importance overall.

The Dutch demersal roundfish fishery targets cod and *Nephrops*, but these fisheries are of minor importance in the national context.

While Swedish vessels catch large amounts of *Nephrops*, cod, saithe and haddock, overall these fisheries are not of major importance.

Belgium has very small demersal fishery for roundfish and *Nephrops*.

Flatfish fishery (plaice and sole)

The main actors in the flatfish fishery in 2016 were the Netherlands, Denmark, UK, Belgium, France and Germany. Important target species were common sole and European plaice, but also included brill and turbot. Management plans are in place and the status of the stocks has evolved favourably. Sole and plaice were fished below Fmsy in 2016 and the TAC increased. Overall the performance of most flatfish beam trawl fleets seemed positive in 2016.

The Netherlands exert by far the most activity in the flatfish fishery, carried out mainly by large beam trawlers in the southern North Sea (IVc). In 2016 almost all EU permitted 'pulse fisheries' were operating in Dutch fleets resulting in considerable fuel savings. Common sole is very important due to high prices. As a result, this fishery is profitable.

While the plaice stock is at an all-time high the fishery was only partly profitable as prices decreased prior to 2014 and, as a result, the quota was not fully exploited. In 2016 plaice prices went up and fuel prices dropped further which made the plaice fisheries more attractive. While it is expected that there will be increased effort leading to higher quota uptake (and profitability) in the coming years, concerns have been expressed about the catchability of this stock.

The Danish fleet targets flatfish mainly using otter trawls in both IIIa and IV. The ratio of sole catches to plaice catches is rather low compared to other MS. Plaice is a target species in some fisheries, but constitutes a bycatch in the cod and *Nephrops* fisheries.

UK beam trawlers targeting flatfish are owned by Dutch fishers: this is a fishery which is comparable with the traditional Dutch beam trawl flatfish fishery (as opposed to flatfish pulse fishing). The catch is mainly landed in the Netherlands (Urk). Moreover, shares of the quota are being swapped. Flatfish is of relatively minor importance for the UK market as a whole, but remains of local importance, particularly in the east and south of England.

Flatfish is a major species for Belgian beam trawlers in the southern North Sea. As opposed to the Dutch vessels, the Belgian beam trawlers still use more traditional gear, although they have made a number of technical adjustments in order to reduce fuel consumption. Even so, beam trawlers impose a high towing resistance and this, in combination with dispersed fishing grounds, results in high fuel consumption. Therefore, the fuel crisis in 2008 had a large impact on the profitability of the Belgian fleet.

French vessels target plaice and sole in the Channel area (VIId). Sole catches are considerably higher than plaice catches.

The German flatfish fishery is operated by a small number of (Dutch owned) beam trawlers. These vessels fish in a manner very similar to the Dutch fleet.

Brown Shrimp Fishery

The main actors in the shrimp fishery in 2016 were the Netherlands, Germany, Denmark, and Belgium. Overall the performance of most of these fleets was positive in 2016. Considerable catches are being

made in coastal areas of the southern North Sea. The fishery is carried out by smaller beam trawlers (mainly below 24m). Dutch and German catches account for about 77% of the total catch. In particular, the Dutch fleet caught about 60% of the total brown shrimp catch (in landed value). The Danish and the Belgian fleets also contribute to the total while France and the UK report only negligible amounts. Some German vessels operate under Dutch ownership. Some Dutch vessels switch between flatfish and shrimp fishery.

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Table 4.1 Structure and economic performance estimates by MS fleet operating in the North Sea & Eastern Arctic region, 2016

|	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Belgium	55	81%	9,506	30,354	242	173	11,156	78%	12,586	80%	21,186	79%	68,820	75%	69,860	72,218	23,259	9,427	43,101	59.7	19,842	27.5	14,835	20.5	783	248.6
Denmark	861	63%	56,546	155,176	1,051	1,387	69,195	72%	63,127	71%	553,977	83%	408,541	86%	407,885	413,916	107,569	31,663	293,006	70.8	185,437	44.8	114,481	27.7	340	211.2
France	524	9%	26,879	107,515	1,645	1,149	77,933	17%	73,355	17%	114,979	27%	225,586	22%	232,382	235,755	87,350	23,565	135,359	57.4	48,009	20.4	18,158	10.0	259	117.8
Germany	219	21%	20,532	59,512	605	486	33,073	32%	34,057	32%	33,473	55%	112,163	71%	112,612	115,126	37,298	11,355	70,183	61.0	32,884	28.6	19,314	16.8	320	144.4
Ireland	8	0.7%	3,576	7,340	58	55	948	1%	568	1%	28,506	12%	20,966	8%	26,706	26,755	7,632	1,223	20,382	76.2	12,750	47.7	10,217	38.2	2,574	369.6
Lithuania	4	3.8%	14,796	14,388	115	106	898	11%	824	11%	5,521	5%	28,996	32%	21,686	22,468	2,578	4,427	1,017	4.5	-1,560	-7.0	-4,751	-21.2	270	9.6
Netherlands	523	99%	77,905	198,919	1,786	1,462	51,367	98%	45,370	99%	245,050	71%	415,908	91%	418,965	438,714	147,759	45,810	275,354	62.8	127,614	29.1	101,625	23.2	527	188.4
Portugal	1	0.0%	2,389	2,702	43	39	262	0.1%	247	0%	3,061	2%	11,444	3%	11,150	11,151	2,959	900	8,556	76.7	5,597	50.2	4,849	43.5	6,433	219.1
Spain	5	0.1%	5,909	6,311	136	152	831	0.1%	831	0%	18,797	2%	54,107	3%	53,988	54,369	13,848	1,673	44,104	81.1	30,256	55.7	28,254	52.0	8,531	290.1
Sweden	442	45%	15,619	79,348	728	433	35,138	48%	35,138	48%	65,845	33%	77,141	62%	78,020	83,443	17,004	12,034	48,295	57.9	31,291	37.5	18,628	22.3	109	111.5
United Kingdom	2,193	47%	91,554	333,843	5,491	4,010	198,928	46%	146,521	46%	380,526	54%	612,550	54%	619,462	642,576	161,229	55,704	385,424	60.0	224,195	34.9	196,923	30.7	176	96.1

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.2 Structure and economic performance estimates by main type of fishing activity operating in the North Sea & Eastern Arctic region, 2016

	Estimated no. of vessels	% of Fishing Activity vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
SSCF	2,808	8%	11,928	186,387	3,976	1,642	190,342	7%	149,339	5%	39,493	15%	127,261	14%	133,698	139,819	54,216	10,195	81,349	58.2	27,134	19.4	15,632	11.2	29	49.5
LSF	2,024	14%	298,485	794,631	7,810	7,704	288,489	15%	262,460	14%	1,425,903	39%	1,879,963	35%	1,897,328	1,954,201	551,691	183,158	1,242,437	63.6	690,745	35.4	511,655	26.9	614	161.3
DWF	4	1%	14,798	14,389	115	106	899	2%	825	2%	5,524	1%	28,998	2.6%	21,688	22,471	2,578	4,428	1,015	4.5	-1,563	-7.0	-4,754	-21.2	270	9.6

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.3 Structure and economic performance estimates by main type of fishing activity and MS operating in the North Sea & Eastern Arctic region, 2016

|		Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
		(#)	(%)	(GT)	(kW)	(person)	(#)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
SSCF	DEU	3	0%	12	114	3	2	275	0.4%	263	0.4%	21	0.3%	37	0.4%	37	39	14	3	14	35.8	0.1	0.3	-7.8	-19.8	4.4	6.0
SSCF	DNK	524	54%	1,931	21,469	162	116	20,146	52%	20,007	52%	5,829	59%	15,671	64%	15,733	16,012	7,158	698	9,225	57.6	2,067	12.9	381	2.4	18	79.6
SSCF	FRA	229	6%	1,677	26,333	483	282	29,221	13%	28,897	13%	9,066	14%	33,838	17%	39,799	40,453	17,746	1,983	25,491	63.0	7,288	19.2	4,527	11.2	112	90.4
SSCF	GBR	1,594	49%	6,531	99,947	2,663	1,038	119,041	50%	78,749	50%	22,630	45%	64,618	45%	65,082	68,651	24,529	6,262	36,818	53.6	12,289	17.9	8,056	11.7	23	35.5
SSCF	NLD	181	100%	456	17,879	329	87	3,606	100%	3,370	100%	438	100%	3,371	100%	3,210	3,544	584	352	2,344	66.2	1,760	49.7	1,109	31.3	13	27.0
SSCF	SWE	276	37%	1,320	20,631	336	117	18,039	38%	18,039	38%	1,501	34%	9,716	65%	9,827	11,108	4,180	896	7,453	67.1	3,274	29.5	1,568	14.1	27	63.9
LSF	BEL	55	81%	9,506	30,354	242	173	11,156	78%	12,586	80%	21,186	79%	68,820	75%	69,860	72,218	23,259	9,427	43,101	59.7	19,842	27.5	14,835	20.5	783	248.6
LSF	DEU	216	80%	20,520	59,398	602	484	32,798	85%	33,794	86%	33,451	64%	112,126	75%	112,575	115,087	37,284	11,353	70,168	61.0	32,884	28.6	19,322	16.8	325	145.1
LSF	DNK	337	85%	54,615	133,706	889	1,271	49,049	87%	43,121	86%	548,148	83%	392,870	87%	392,152	397,904	100,411	30,965	283,781	71.3	183,370	46.1	114,100	28.7	842	223.2
LSF	ESP	5	0%	5,908	6,309	136	152	830	0%	830	0%	18,793	5%	54,105	6%	53,985	54,367	13,848	1,672	44,106	81.1	30,258	55.7	28,257	52.0	8,531	290.3
LSF	FRA	295	20%	25,203	81,182	1,162	867	48,712	20%	44,457	21%	105,913	30%	191,748	24%	192,583	195,301	69,604	21,582	109,868	56.3	40,264	20.6	13,631	9.6	372	126.7
LSF	GBR	599	43%	85,023	233,896	2,828	2,972	79,887	41%	67,773	41%	357,895	55%	547,932	56%	554,380	573,925	136,701	49,442	348,606	60.7	211,905	36.9	188,867	32.9	582	117.3
LSF	IRL	8	2%	3,574	7,326	58	55	934	2%	554	1%	28,498	13%	20,956	9%	26,696	26,747	7,627	1,221	20,379	76.2	12,752	47.7	10,219	38.2	2,626	371.2
LSF	NLD	342	99%	77,449	181,041	1,457	1,375	47,761	98%	42,000	98%	244,612	71%	412,537	91%	415,754	435,170	147,175	45,458	273,029	62.7	125,855	28.9	100,516	23.1	799	198.6
LSF	PRT	1	0.2%	2,389	2,702	43	39	262	0.2%	247	0.2%	3,061	2.1%	11,444	4.2%	11,150	11,151	2,959	900	8,556	76.7	5,597	50.2	4,849	43.5	6,433	219.1
LSF	SWE	166	70%	14,299	58,717	392	317	17,099	67%	17,099	67%	64,344	33%	67,424	61%	68,193	72,335	12,825	11,138	40,842	56.5	28,018	38.7	17,059	23.6	246	129.0
DWF	LTU	4	42%	14,796	14,388	115	106	898	42%	824	43%	5,521	7%	28,996	35%	21,686	22,468	2,578	4,427	1,017	4.5	-1,560	-7.0	-4,751	-21.2	270	9.6

(Left grouping label: North Sea & Eastern Arctic)

Table 4.4 Structure and economic performance estimates for the top 40 fleet segments (in terms of landed value) operating in the North Sea & Eastern Arctic region, 2016

|	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)	(person)	(#)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
GBR A27 TM40XX °	14	52%	29,261	67,985	173	53	986	52%	547	59%	193,694	55%	188,108	62%	192,026	192,876	40,979	8,550	137,832	71.5	96,853	50.2	87,145	45.2	9,519	2,596.7
DNK A27 TM40XX	19	85%	23,511	44,524	112	167	2,796	85%	1,616	87%	278,160	77%	145,453	79%	145,061	149,189	22,473	9,383	119,351	80.0	96,877	64.9	59,217	39.7	6,400	713.1
NLD A27 TBB40XX °	55	100%	26,416	77,562	398	398	11,449	100%	9,732	100%	37,409	100%	133,104	100%	133,258	133,555	37,946	17,936	80,124	60.0	42,177	31.6	38,177	28.6	1,457	201.3
GBR A27 DTS2440	58	67%	16,071	34,831	527	736	12,107	67%	10,404	68%	60,190	75%	125,327	71%	126,207	131,945	31,593	12,867	80,193	60.8	48,600	36.8	44,969	34.1	1,376	108.9
NLD A27 TBB1824 °	155	100%	10,430	32,358	434	428	22,758	100%	20,472	100%	21,028	100%	123,176	100%	123,028	123,292	46,785	8,875	89,151	72.3	42,367	34.4	36,970	30.0	575	208.5
GBR A27 DTS1824	88	53%	12,191	34,315	533	623	15,554	53%	12,927	53%	28,650	66%	73,024	64%	73,535	76,414	19,436	7,977	46,572	61.0	27,136	35.5	24,187	31.7	527	74.8
DNK A27 DTS2440	33	96%	9,754	20,351	135	290	7,955	96%	6,588	96%	48,288	96%	71,069	97%	71,069	71,529	21,321	7,694	47,665	66.6	26,344	36.8	16,192	22.6	1,466	164.4
NLD A27 TM40XX °	3	54%	25,169	25,641	163	163	858	54%	686	54%	153,067	60%	60,504	59%	60,500	60,550	15,537	6,298	34,378	56.8	18,841	31.1	10,126	16.7	10,449	211.5
ESP A27 DTS40XX °	5	30%	5,907	6,308	136	152	829	30%	829	30%	18,788	52%	54,100	56%	53,980	54,362	13,846	1,672	44,103	81.1	30,257	55.7	28,256	52.0	8,531	290.4
FRA A27 DTS40XX	6	64%	6,845	12,148	118	118	1,895	64%	1,411	61%	22,881	71%	50,076	71%	38,701	38,701	11,452	3,939	21,567	55.7	10,115	26.1			3,386	182.9
DNK A27 DTS1824	45	92%	4,840	13,787	138	217	7,966	92%	7,145	92%	42,876	90%	46,099	94%	46,108	46,108	15,380	3,531	29,657	64.3	14,277	31.0	7,811	16.9	658	136.6
BEL A27 TBB2440	17	61%	5,560	18,136	106	82	4,434	61%	4,447	61%	13,493	72%	39,916	66%	40,513	41,710	12,736	6,007	24,666	59.1	11,931	28.6	9,021	21.6	1,433	302.2
GBR A27 FPO0010	938	52%	3,362	57,563	1,559	639	83,235	52%	47,187	53%	13,485	48%	39,695	46%	39,974	42,668	16,186	4,296	22,829	53.5	6,643	15.6	4,145	9.7	24	35.8
SWE A27 DTS2440 °	20	55%	8,488	24,754	119	119	3,554	55%	3,554	55%	59,060	35%	38,673	57%	39,114	41,102	5,257	6,409	25,744	62.6	20,487	49.8	12,971	31.6	1,261	215.6
NLD A27 TBB2440 °	28	100%	5,660	19,040	134	133	4,928	100%	4,306	100%	9,776	100%	38,294	100%	38,213	38,297	11,870	4,498	23,834	62.2	11,964	31.2	10,522	27.5	852	178.7
DNK A27 DTS1218	91	79%	3,476	17,441	175	196	11,720	79%	11,283	79%	14,164	72%	33,825	86%	33,818	33,818	12,425	2,730	21,407	63.3	8,982	26.6	5,172	15.3	234	109.2
FRA A27 DRB1218 °	78	84%	4,194	20,455	316	199	11,979	84%	9,660	83%	9,576	58%	32,648	84%	35,562	36,418	15,166	3,895	20,021	55.0	4,855	13.3	1,082	3.0	256	100.7
GBR A27 DTS40XX °	8	86%	10,261	17,445	118	157	1,778	86%	1,463	89%	22,563	82%	32,345	70%	32,571	40,290	9,113	5,371	11,536	28.6	2,423	6.0	1,773	4.4	1,483	73.6
NLD A27 DTS2440 °	23	98%	5,637	12,132	132	132	3,945	98%	3,391	98%	13,077	99%	31,222	98%	34,566	34,862	10,874	3,292	19,740	56.6	8,866	25.4	6,564	18.8	876	149.7
DNK A27 DTS40XX	10	99%	6,148	13,120	46	63	1,540	99%	1,068	99%	84,372	98%	29,667	96%	29,332	30,047	5,629	3,166	20,045	66.7	14,416	48.0	11,110	37.0	2,031	316.7
LTU OFR TM40XX °	4	42%	14,796	14,388	115	106	898	42%	824	43%	5,521	7%	28,996	35%	21,686	22,468	2,578	4,427	1,017	4.5	- 1,560	- 7.0	- 4,751	- 21.2	270	9.6
FRA A27 DTS1824 °	22	17%	2,939	9,562	115	109	5,884	17%	4,848	17%	13,345	26%	27,201	18%	27,904	28,360	9,879	3,951	15,676	55.3	5,797	20.4	3,441	12.1	698	144.1
DEU A27 TBB1824	63	100%	3,851	13,803	160	132	10,511	100%	11,182	100%	4,087	99%	27,029	100%	27,137	28,661	9,174	2,701	18,369	64.1	9,194	32.1	6,711	23.4	292	139.5
DEU A27 TBB1218	111	100%	3,476	21,649	176	146	14,907	100%	15,999	100%	3,851	100%	26,524	100%	26,630	27,363	10,050	2,380	17,650	64.5	7,600	27.8	5,316	19.4	159	121.0
GBR A27 TBB2440 °	10	31%	2,566	8,570	76	121	2,240	31%	1,987	32%	10,811	63%	24,802	52%	24,976	24,978	7,126	3,434	17,290	69.2	10,164	40.7	9,348	37.4	1,664	142.6
DEU A27 DTS40XX	4	60%	7,740	9,436	113	88	965	60%	792	61%	11,976	53%	18,971	41%	19,047	19,205	6,157	2,209	8,147	42.4	1,990	10.4	- 2,703	- 14.1	1,940	92.3
DNK A27 PMP1824	11	100%	2,007	4,231	49	85	2,560	100%	1,850	100%	6,232	100%	16,527	100%	16,534	16,652	5,931	1,142	11,329	68.0	5,397	32.4	3,232	19.4	1,030	133.3
DEU A27 DTS2440 °	8	87%	2,042	3,726	43	32	1,718	87%	1,495	87%	7,105	90%	16,447	96%	16,513	16,520	5,699	1,698	10,664	64.6	4,965	30.1	3,478	21.1	1,360	330.7
GBR A27 DTS1218 °	51	25%	2,503	10,447	205	213	8,026	25%	7,007	26%	5,227	25%	15,824	27%	15,937	16,439	4,384	1,962	8,921	54.3	4,537	27.6	3,751	22.8	176	41.9
FRA A27 DTS2440 °	8	14%	1,977	5,152	59	58	2,352	14%	1,928	14%	9,252	24%	15,732	15%	15,707	15,789	4,801	2,759	7,774	49.2	2,972	18.8	1,262	8.0	947	134.5
IRL A27 TM40XX	3	13%	2,976	5,865	27	27	198	13%	53	9%	23,953	19%	15,568	28%	21,190	21,236	6,167	901	16,424	77.3	10,257	48.3	8,165	38.5	6,245	599.4
GBR A27 DRB2440 °	16	54%	3,489	10,044	115	149	3,239	54%	2,901	55%	5,686	42%	15,343	59%	15,450	15,468	4,814	1,806	7,491	48.4	2,676	17.3	1,812	11.7	464	50.4
FRA A27 DFN1012 °	67	37%	853	11,024	214	138	10,462	37%	10,458	38%	2,975	28%	15,335	32%	17,874	18,364	8,464	980	10,808	58.9	2,344	12.8	663	3.6	161	78.2
GBR A27 FPO1218	35	44%	1,335	7,468	176	213	5,962	44%	5,457	46%	7,175	43%	15,263	46%	15,370	15,732	4,741	1,490	8,479	53.9	3,738	23.8	3,039	19.3	242	39.7
BEL A27 DTS2440 °	10	87%	1,729	5,453	50	33	2,104	87%	1,986	87%	4,113	90%	14,059	89%	14,299	14,650	4,904	1,448	9,060	61.8	4,157	28.4	3,273	22.3	867	272.8
GBR A27 FPO1012	85	48%	1,368	11,714	256	200	12,771	48%	11,005	48%	5,697	50%	13,558	47%	13,654	14,158	3,410	809	8,063	57.0	4,653	32.9	4,015	28.4	95	40.3
SWE A27 DTS1824 °	25	65%	2,978	9,884	76	77	4,037	65%	4,037	65%	3,440	24%	13,482	73%	13,636	15,563	3,229	1,932	8,981	57.7	5,752	37.0	4,694	30.2	355	116.2
BEL A27 TBB1824 °	24	100%	1,745	5,169	73	52	4,105	100%	5,655	100%	3,214	100%	13,399	99%	13,588	14,326	5,106	1,793	8,618	60.2	3,512	24.5	2,509	17.5	360	166.2
DEU A27 TBB2440 °	9	100%	2,139	7,338	52	41	1,853	100%	1,756	100%	3,446	100%	13,049	100%	13,101	13,101	3,709	1,788	7,665	58.5	3,956	30.2	2,386	18.2	852	187.0
FRA A27 TM40XX	2	59%	4,605	5,025	66	66	297	59%	240	62%	31,681	65%	12,420	54%	15,189	15,189	4,259	1,606	7,665	50.5	3,406	22.4			4,355	115.9

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.5 Structure and economic performance estimates for fleet segments operating 80% or more in the North Sea & Eastern Arctic region, 2016

	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)	(person)	(#)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
NLD A27 TBB40XX °	55	100%	26,416	77,562	398	398	11,449	100%	9,732	100%	37,409	100%	133,104	100%	133,258	133,555	37,946	17,936	80,124	60.0	42,177	31.6	38,177	28.6	1,457	201.3
DNK A27 PMP1824	11	100%	2,007	4,231	49	85	2,560	100%	1,850	100%	6,232	100%	16,527	100%	16,534	16,652	5,931	1,142	11,329	68.0	5,397	32.4	3,232	19.4	1,030	133.3
DEU A27 TBB2440 °	9	100%	2,139	7,338	52	41	1,853	100%	1,756	100%	3,446	100%	13,049	100%	13,101	13,101	3,709	1,788	7,665	58.5	3,956	30.2	2,386	18.2	852	187.0
NLD A27 DRB2440 °	8	100%	2,033	5,402	23	12	657	100%	560	100%	6,782	100%	11,863	100%	11,875	29,084	18,297	3,211	17,388	59.8	- 909	- 3.1	- 2,094	- 7.2	2,173	1,504.1
DNK A27 TBB1824	15	100%	1,016	2,665	41	54	2,638	100%	2,568	100%	1,512	100%	9,464	100%	9,464	9,521	3,185	889	6,426	67.5	3,241	34.0	2,320	24.4	428	118.7
NLD A27 DTS1824 °	9	100%	1,084	2,159	53	53	1,563	100%	1,400	100%	2,455	100%	9,366	100%	9,610	9,692	3,023	914	4,860	50.2	1,837	19.0	923	9.5	540	92.3
DNK A27 DRB1218	26	100%	1,104	3,980	36	26	1,678	100%	1,674	100%	40,078	100%	8,941	100%	8,941	9,051	2,450	335	6,951	76.8	4,502	49.7	3,543	39.2	267	266.6
DNK A27 TBB1218	10	100%	489	1,994	24	32	1,691	100%	1,661	100%	658	100%	5,201	100%	5,201	5,241	1,978	524	3,561	68.0	1,583	30.2	996	19.0	356	111.8
DNK A27 DRB1012	9	100%	158	947	14	11	489	100%	489	100%	9,458	100%	3,494	100%	3,494	3,510	835	107	2,780	79.2	1,945	55.4	1,574	44.8	309	260.1
NLD A27 PG0010 °	162	100%	312	14,996	295	78	3,146	100%	2,960	100%	311	100%	2,438	100%	2,882	3,182	525	316	2,105	66.2	1,580	49.7	996	31.3	13	27.0
NLD A27 PG1012 °	19	100%	144	2,883	34	9	460	100%	410	100%	127	100%	933	100%	328	362	60	36	239	66.2	180	49.7	113	31.3	13	27.0
DEU A27 TBB1012 °	10	100%	81	821	6	5	749	100%	706	100%	62	100%	458	100%	460	460	122	54	218	47.3	96	20.8	29	6.2	22	43.5
NLD A27 TBB0010 °	15	100%	71	866	26	8	193	100%	182	100%	101	100%	416	100%	289	664	498	43	492	74.1	- 7	- 1.0	- 248	- 37.4	33	58.7
NLD A27 DFN1824 °	7	100%	305	1,081	18	7	236	100%	213	100%	110	100%	410	100%	335	800	540	75	277	34.6	- 263	- 32.8	- 709	- 88.6	40	39.3
NLD A27 DFN1218 °	8	100%	128	1,069	14	4	115	100%	103	100%	81	100%	267	100%	138	152	25	15	101	66.2	76	49.7	48	31.3	13	27.0
NLD A27 DTS0010 °	12	100%	42	1,066	21	7	65	100%	62	100%	60	100%	118	100%	118	272	204	18	177	65.2	- 27	- 9.9	- 220	- 80.9	15	26.5
NLD A27 TBB1824 °	155	100%	10,430	32,358	434	428	22,758	100%	20,472	100%	21,028	100%	123,176	100%	123,028	123,292	46,785	8,875	89,151	72.3	42,367	34.4	36,970	30.0	575	208.5
NLD A27 TBB1218 °	19	100%	474	2,665	42	31	994	100%	895	100%	665	100%	3,799	100%	3,823	3,948	1,575	283	2,508	63.5	933	23.6	457	11.6	132	80.3
NLD A27 TBB2440 °	28	100%	5,660	19,040	134	133	4,928	100%	4,306	100%	9,776	100%	38,294	100%	38,213	38,297	11,870	4,498	23,834	62.2	11,964	31.2	10,522	27.5	852	178.7
DEU A27 TBB1218	111	100%	3,476	21,649	176	146	14,907	100%	15,999	100%	3,851	100%	26,524	100%	26,630	27,363	10,050	2,380	17,650	64.5	7,600	27.8	5,316	19.4	159	121.0
DEU A27 TBB1824	63	100%	3,851	13,803	160	132	10,511	100%	11,182	100%	4,087	99%	27,029	100%	27,137	28,661	9,174	2,701	18,369	64.1	9,194	32.1	6,711	23.4	292	139.5
BEL A27 TBB1824 °	24	100%	1,745	5,169	73	52	4,105	100%	5,655	100%	3,214	100%	13,399	99%	13,588	14,326	5,106	1,793	8,618	60.2	3,512	24.5	2,509	17.5	360	166.2
DNK A27 DTS40XX	10	99%	6,148	13,120	46	63	1,540	99%	1,068	99%	84,372	98%	29,667	96%	29,332	30,047	5,629	3,166	20,045	66.7	14,416	48.0	11,110	37.0	2,031	316.7
NLD A27 DTS2440 °	23	98%	5,637	12,132	132	132	3,945	98%	3,391	98%	13,077	99%	31,222	98%	34,566	34,862	10,874	3,292	19,740	56.6	8,866	25.4	6,564	18.8	876	149.7
DNK A27 DTS2440	33	96%	9,754	20,351	135	290	7,955	96%	6,588	96%	48,288	96%	71,069	97%	71,069	71,529	21,321	7,694	47,665	66.6	26,344	36.8	16,192	22.6	1,466	164.4
DNK A27 DTS1824	45	92%	4,840	13,787	138	217	7,966	92%	7,145	92%	42,876	90%	46,099	94%	46,108	46,108	15,380	3,531	29,657	64.3	14,277	31.0	7,811	16.9	658	136.6
DNK A27 PGP1218	24	89%	782	3,671	49	62	3,222	89%	2,644	87%	3,197	92%	8,560	93%	8,560	8,604	3,763	320	5,326	61.9	1,562	18.2	498	5.8	222	85.3
GBR A27 TBB1218	21	88%	612	4,380	67	49	2,197	88%	1,624	86%	949	87%	3,287	82%	3,310	3,537	691	888	912	25.8	220	6.2	76	2.2	43	18.5
DEU A27 DTS2440	8	87%	2,042	3,726	43	32	1,718	87%	1,495	87%	7,105	90%	16,447	96%	16,513	16,520	5,699	1,698	10,664	64.6	4,965	30.1	3,478	21.1	1,360	330.7
BEL A27 DTS2440 °	10	87%	1,729	5,453	50	33	2,104	87%	1,986	87%	4,113	90%	14,059	89%	14,299	14,650	4,904	1,448	9,060	61.8	4,157	28.4	3,273	22.3	867	272.8
BEL A27 PMP1824 °	3	87%	472	1,596	13	7	514	87%	498	87%	366	74%	1,445	83%	1,460	1,532	513	179	756	49.4	243	15.9	32	2.1	218	113.2
GBR A27 DTS40XX °	8	86%	10,261	17,445	118	157	1,778	86%	1,463	89%	22,563	82%	32,345	70%	32,571	40,290	9,113	5,371	11,536	28.6	2,423	6.0	1,773	4.4	1,483	73.6
GBR A27 TBB0010 °	27	86%	280	2,718	55	13	806	86%	709	84%	349	96%	1,291	93%	1,300	1,377	292	189	595	43.2	303	22.0	243	17.7	22	44.9
DNK A27 TM40XX	19	85%	23,511	44,524	112	167	2,796	85%	1,616	87%	278,160	77%	145,453	79%	145,061	149,189	22,473	9,383	119,351	80.0	96,877	64.9	59,217	39.7	6,400	713.1
FRA A27 DRB1218 °	78	84%	4,194	20,455	316	199	11,979	84%	9,660	83%	9,576	58%	32,648	84%	35,562	36,418	15,166	3,895	20,021	55.0	4,855	13.3	1,082	3.0	256	100.7
SWE A27 DTS1218 °	58	80%	2,048	14,139	111	79	5,586	80%	5,586	80%	1,309	18%	10,868	68%	10,992	10,992	3,068	2,024	3,984	36.2	916	8.3	- 433	- 3.9	68	50.3

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

4.2 Baltic Sea

At a glance

The latest official DCF data suggests that the EU Baltic Sea fleet spent almost 415 thousand days at sea in 2016 to land approximately 652 thousand tonnes of seafood valued at EUR 228 million. While the weight landed increased since 2012, both effort (days at sea, LSF down 5% and SSCF down 2%) and landed value declined (from EUR 246 to EUR 228 million) during the period (Figure 4.20).

More recently, the landed value increased 8% between 2015 to 2016, and this, combined with significant reductions in operating costs (e.g. -19% in fuel costs), helped the overall situation of the Baltic Sea fleet move from a loss-making position in 2014 to post a modest net profit in 2016 (Figure 4.21).

Table 4.7 to Table 4.11 contain a summary of the economic performance of the Baltic Sea fleet by Member State, main type of fishing activity, and fleet segment.

In summary:

- In terms of employment and effort, the small-scale coastal fleets provided 68% of all employment and were responsible for 85% of days at sea.
- The LSF fisheries dominate the Baltic Sea fisheries, accounting for 92% of landed weight and 77% of the landing value.
- Overall, the fleet saw declines in landed weight over the period 2009-2012, with a slight increase in 2013, while landed value increased steadily since 2009 but suffered a significant drop by 14% from 2013 to 2016. Herring, sprat and cod remain the most important species.
- Revenue generated by the Baltic Sea fleet was estimated at around EUR 228 million, with the Swedish, Polish, Danish and Finnish fleets together contributing 76%.
- GVA was estimated at EUR 119 million, up 3% compared to 2015. After accounting for operating costs, the fleet made an estimated EUR 56 million in gross profit, also a marked increase (13%) compared to 2015. These improvements were largely due to relatively stable revenues (-2%) combined with lower costs, in particular fuel (-19%) and labour (-6%) costs.
- There were 40 segments represented 93% of the landed weight (629 thousand tonnes) and 88% of the revenue (EUR 220 million) generated by the Baltic Sea fleet in 2016. Of the top 40 fleet segments, 31 made positive gross profits.
- There were 28 MS fleet segments that operated 80% or more in the Baltic Sea in 2016, accounting for 83% of the number of vessels, 83% of the days at sea deployed, 90% of the landed weight and 69% of the landed value.
- Both pelagic and demersal fleets made gross profits: pelagic fisheries generated EUR 29 million in gross profit and demersal fisheries EUR 25 million.

Main drivers affecting fleet performance in the region

The major factors that may have contributed to the positive situation:

- Energy costs continue to be one of the main expenditure items for the large-scale fleet, especially demersal and pelagic trawlers. Consequently, the falling cost of marine fuel to the first quarter of 2016, when it reached the lowest value since 2009, contributed significantly to lower production costs. This was maintained throughout 2016 and 2017 when fuel prices remained stable, but recent (2018) increases in oil prices are leading to increased fuel costs once again.
- Policy management instruments, specifically quota allocation and ITQs (introduced in some countries) may have significantly helped to improve the economic performance of certain fleets.
- Most pelagic fisheries in the region are exploited at MSY.
- The EMFF has provided measures to improve profitability including increased added value (for the small-scale coastal fleet) and utilisation of by-catch arising from the landing obligations (for the LSF). Measures are already applicable in some MS fishing in the Baltic region.
- From 2017, the average price of cod recovered.

The major factors that may have negatively influenced economic performance:

- Lower average prices for commercially important species such as sprat, herring, and cod. The Russian embargo and higher landings of low value (reduction) species has seen a fall in the price of sprat.
- There was also a fall in the price of cod from 2011 to 2016 reflecting poor quality (market size) and low CPUE.
- Reduced TACs and quotas. The cod quota in Baltic Sea has fallen each year since 2014 and, based on ICES advice, will likely be further reduced in 2019.
- Fishing performance, especially in the small-scale coastal fleet, is very weather dependent. Even with favourable economic conditions it can be a limiting factor for fleet performance, especially for seasonal fisheries.
- While aging vessels, obsolete equipment and insufficient investment all lead to increased maintenance costs and reduce the profitability of the fleet, the EMFF does provide the possibility of engine replacement if the fishing capacity is proven to be in balance with exploitation. Some MS have already introduced such schemes.

Socio-economic Trends

- **Wages and Salaries**

For the small scale coastal fleet (SSCF), the overall average wage per FTE decreased by 6.5% in 2016 fluctuating around EUR 15.28 thousand per year (Figure 4.22). The highest average salaries were found in the Danish (EUR 55 200) and Swedish (EUR 30 700) fleets. Average wages per FTE in the LSF declined by 15.5% between 2015 and 2016 and was estimated at around EUR 30.3 thousand per year. The highest average salaries are found in the Danish (EUR 56 900) and German (EUR 45 400) fleets.

- **Labour productivity**

The overall labour productivity (GVA/FTE) for the SSCF increased 8.1% to reach an estimated EUR 13 300 GVA/FTE in 2016 with the largest productivity observed in the fleets of Finland (EUR 28 200) and Denmark (EUR 24 900). The overall labour productivity (GVA/FTE) for the LSF increased 2.3% to reach an estimated EUR 65 500 GVA/FTE in 2016 with the largest productivity observed in the fleets of Sweden (EUR 155 800) and Finland (EUR 99 500) (Figure 4.22).
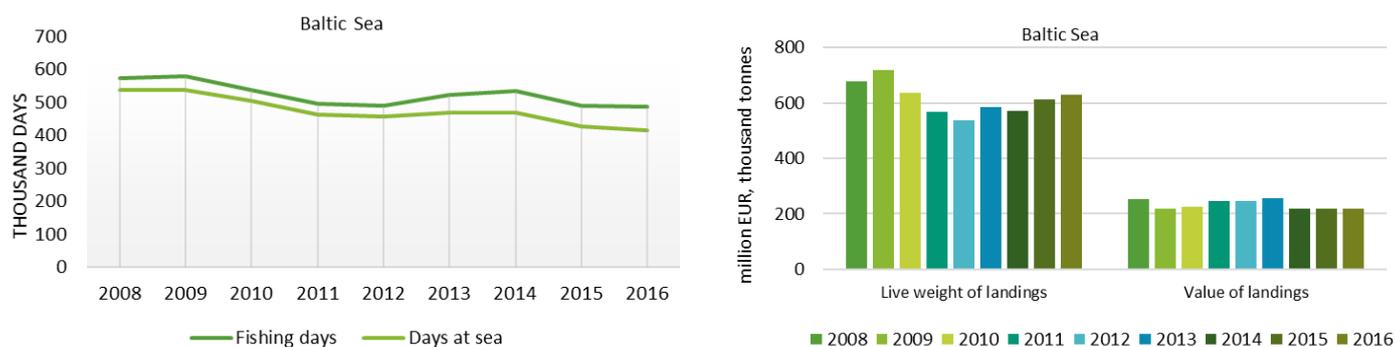
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.20 Trends on effort and landings for MS fleets operating in the Baltic Sea region
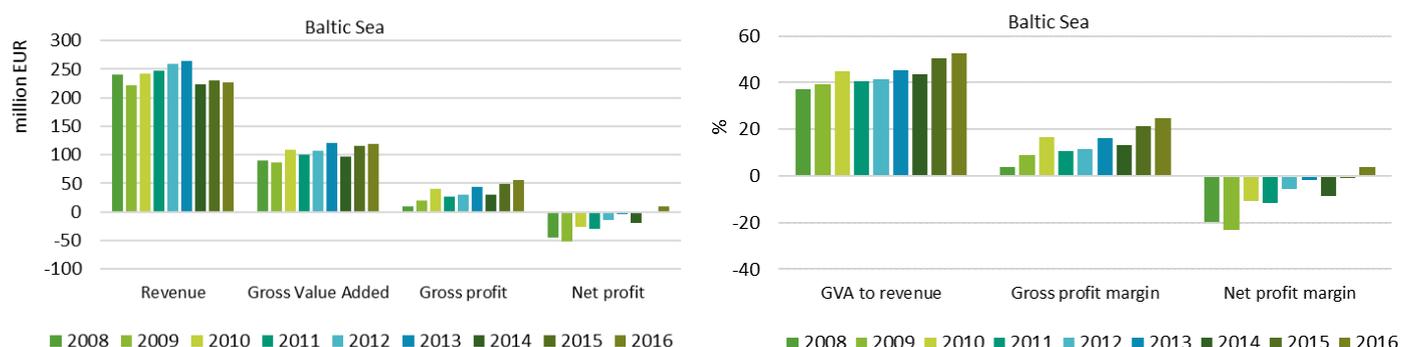
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.21 Trends on revenue and profits for MS fleets operating in the Baltic Sea
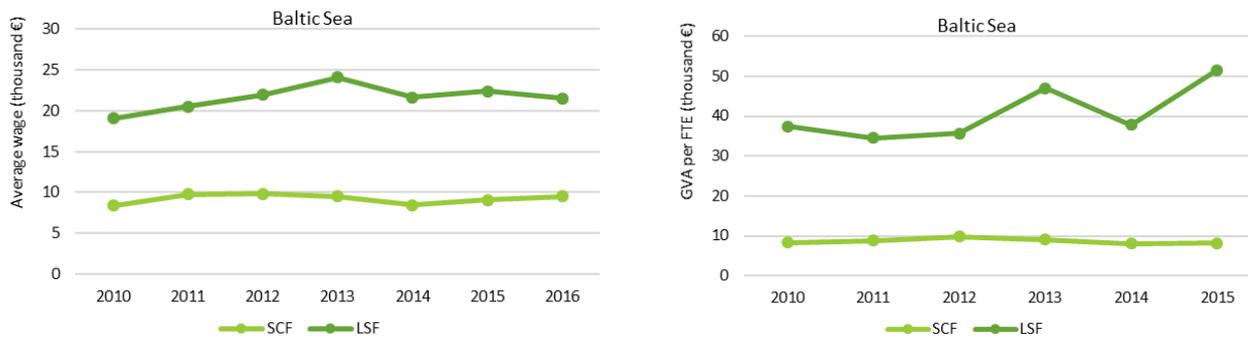
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.22 Trends on average wage and labour productivity (GVA per FTE) by fishing activity for MS fleets operating in the Baltic Sea region

Regional Details

The Baltic Sea covers ICES areas IIIb, IIIc and IIId and is bounded by the Swedish part of the Scandinavian Peninsula, mainland Europe and the Danish islands. The central part of the Baltic Sea is bordered on its northern edge by the Gulf of Bothnia, in the north-east by the Gulf of Finland, and in the east by the Gulf of Riga. For simplicity, hereafter the EU vessels operating in the aforementioned ICES areas are referred to as the EU Baltic Sea fleet or fisheries.

Nine EU Member States were involved in Baltic Sea fisheries in 2016: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden (Figure 4.23). Due to its low activity the Dutch fleet is generally excluded from further analyses. Socio-economic results exclude the German pelagic trawl segment due to insufficient data/reasons of confidentiality.

MS fleet activity: situation in 2016 and recent trends

Most of the Member States bordering the Baltic Sea are highly dependent on the region, where the main species targeted include herring, sprat and cod.

In terms of landings, and based on the DCF data available, the Estonian, Finnish, Latvian and Polish fisheries are fully dependent on the Baltic Sea region. However, it should be noted that Estonian, Latvian and Polish vessels operating in the High Seas (distant water fleets) are not included in the analysis due to insufficient data or for reasons of confidentiality. On the other hand, the Lithuanian low dependency rate is due to the distant water fleet operating in other areas. Most German, Danish and Swedish vessels operate in both the Baltic and North Sea fishing regions.

The Polish fleet was the most important fleet in terms of landed value (EUR 51 million), while the Finnish fleet was the most important in terms of landed weight (157 thousand tonnes).
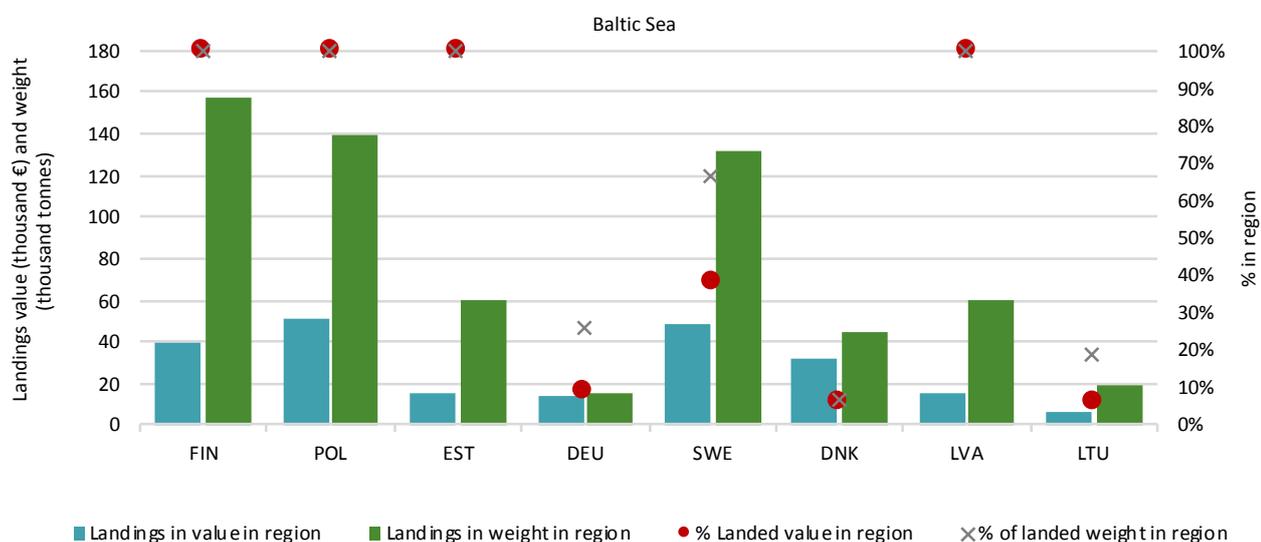
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.23 Importance of the Baltic Sea region for Member States' fisheries in terms of landings in weight and value, 2016

Fleet capacity and employment

Member State fleets operating in the Baltic Sea collectively numbered around 6 166 active vessels in 2016. The Finnish fleet was the largest with 1 593 active vessels some 26% of the total. The number of vessels decreased steadily between 2008 and 2011, mainly as a result of capacity reductions in the Latvian and Polish fleets, but rose again with the entry of Finnish and Estonian vessels in 2013 and 2014. In 2016 the number of vessels decreased by 0.7%.

Total capacity declined by 1.34% during the year, falling to 67 thousand GT with the largest share made up of Polish (15.8 thousand GT) and Finish (12.8 thousand) vessels. Capacity reductions resulted mainly from decommissioning programmes implemented in Latvia (after EU accession) and Poland, the introduction of an ITQ system in Swedish pelagic fisheries in 2009, and the introduction of entry restrictions to the Swedish eel fishery.

While the SSCF had 91% of the vessels (5 624 vessels) in 2016, total employment in the sector only amounted to 2 733 FTE or 60% of the total reflecting the predominantly part-time nature of employment in this fleet segment (Figure 4.24 and Figure 4.25). Employment, measured in terms of Full Time Equivalents (FTE), showed a decreasing trend over the period, apart from a small increase in 2012. Overall FTE decreased 4% in 2016.
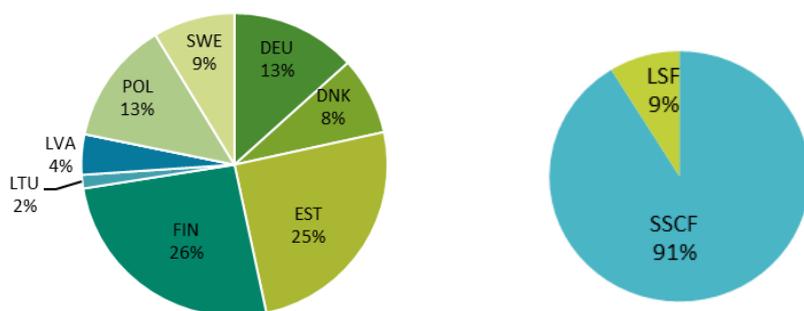
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.24 Share of the Baltic Sea fleet capacity (number of vessels) by MS and by fishing activity, 2016
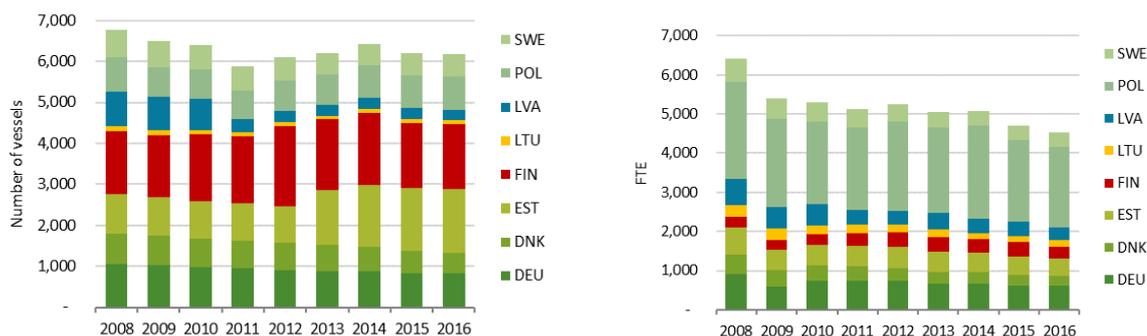
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.25 Trends on the number of vessels and employment in FTE for MS fleets operating in the Baltic Sea

Fishing effort

The EU Baltic Sea fleets spent 415 thousand days at sea in 2016 (3% less than in 2015) with vessels from Finland and Poland accounting for some 45% of the total. Most (85%) of the effort resulted from the SSCF (Figure 4.26). Within the large-scale fleet, most of the effort was deployed by active, demersal, gears.

Effort trends in the region more or less reflect similar trends in fleet capacity and in 2016 the total number of days at sea was 23% less than that in 2008. The biggest reductions were seen in the Latvian, Danish and Swedish fleets (Figure 4.27).

Days at sea
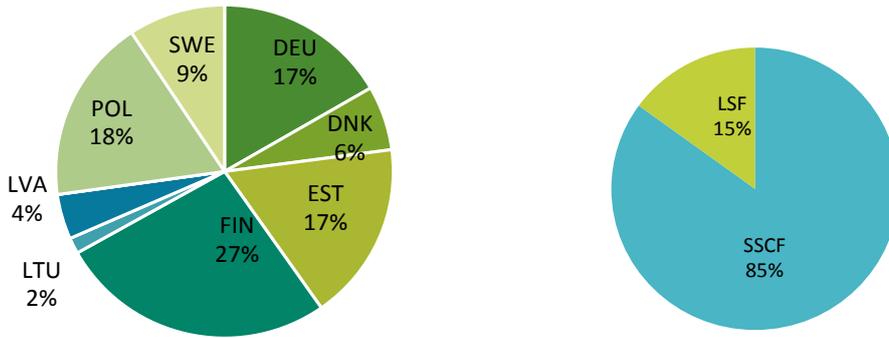
Figure 4.26 Share of the effort deployed by the Baltic Sea fleet by MS and fishing activity, 2016
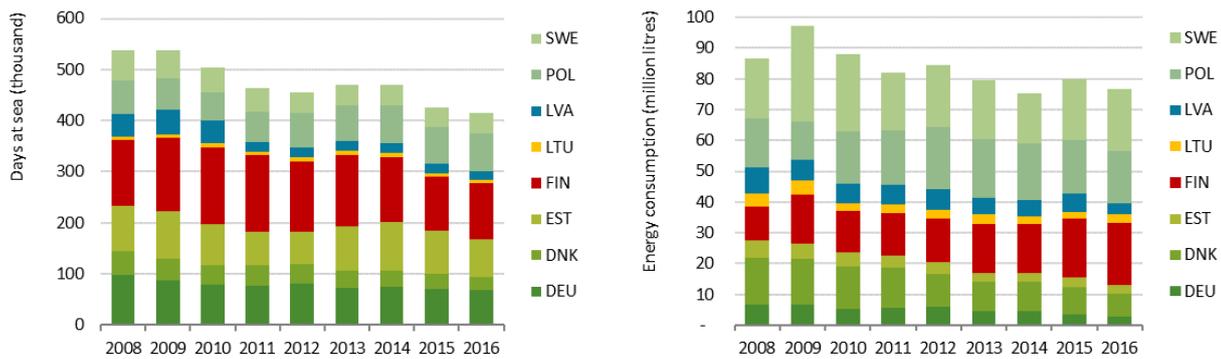
Figure 4.27 Trends on effort (in days at sea) and energy consumption for MS fleets operating in the Baltic Sea

Landings and top species

The weight and value of landings was approximately 652 thousand tonnes and EUR 228 million. The LSF landed 92% of the total weight and 77% of the total value (Figure 4.28).
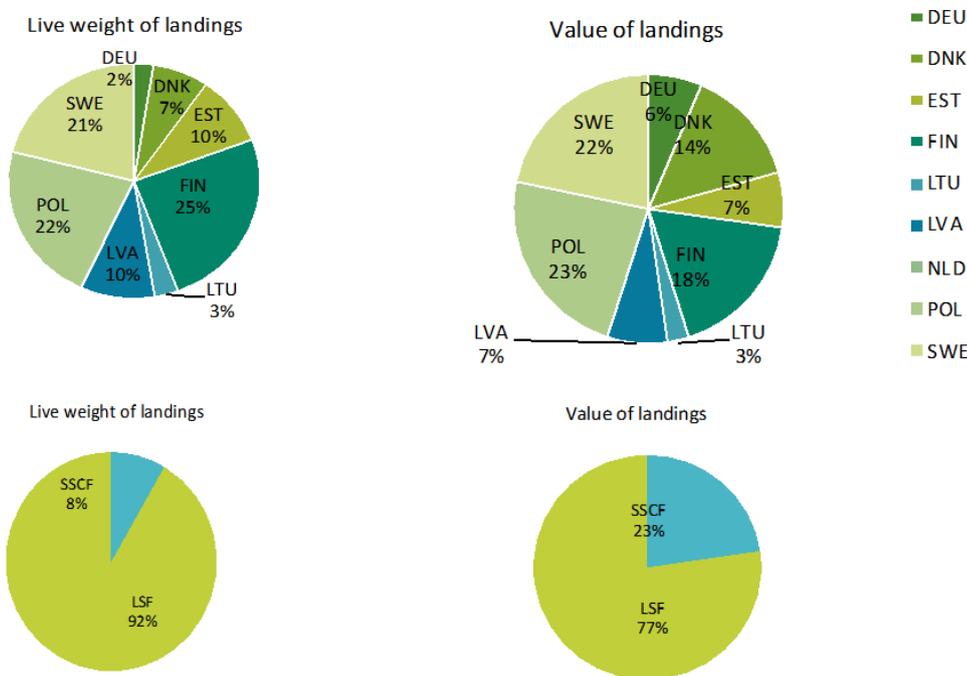
Figure 4.28 Share of landings from the Baltic Sea region by MS and main type of fishing activity, 2016

Landings (by weight) from the Baltic declined between 2010 and 2012, followed by a slight increase in 2013 and further increase in 2015 and 2016. Conversely, landings by value increased steadily from 2009 to 2013, decreased significantly in 2014 (due to slump in the price for small pelagic) and did not entirely recover until 2016 (Figure 4.29).

In terms of landed weight, Finland (157 thousand tonnes), Poland (139 thousand tonnes) and Sweden (131 thousand tonnes) were the leading MS: Poland (EUR 51 million), Sweden (EUR 48 million), Finland (EUR 39 million) and Denmark (EUR 32 million) collectively accounted for around 75% of the total value of landings in 2016.
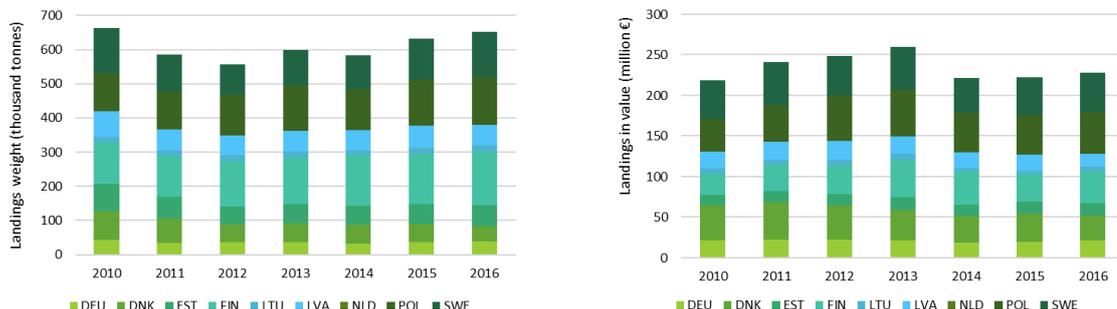
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.29 Trends on landings in weight and value for MS fleets operating in the Baltic Sea

In 2016, the most important species (by volume) were herring (355 thousand tonnes, 54% of the landed weight), sprat (212 thousand tonnes), followed by cod (36 thousand tonnes) and flounder (19 thousand tonnes) (Figure 4.30).

Herring generated the highest value (EUR 91 million, representing 40% of the landed value), followed by sprat (EUR 48 million, 21% of the landed value) and cod (EUR 41 million, 18% of the landed value).
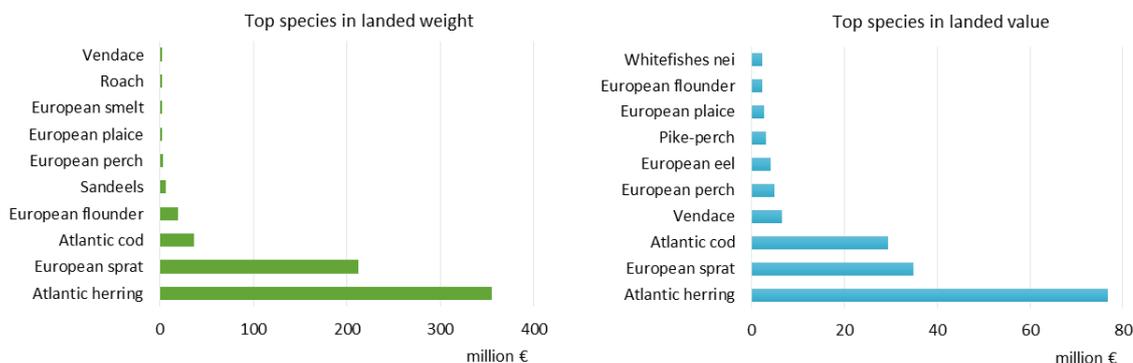
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.30 List of top 10 species in terms of landed weight and value by MS fleets operating in the Baltic Sea, 2016

Sprat landings, by weight and value, decreased 1-2% in 2016 compared to 2015. The total landed weight of Baltic herring increased 11% between 2015 and 2016, while the value increased as much as 20%. Cod landings decreased both in terms of weight and value (22% and 19%, respectively) between 2015 and 2016 (Figure 4.31).
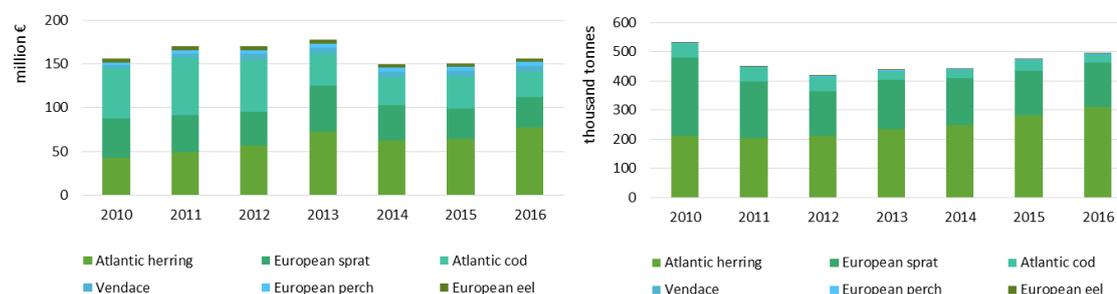
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.31 Trends on landings of the top six species in terms of landed value for MS fleets operating in the Baltic Sea

Economic performance

Overall the Baltic fleet was profitable in 2016, with all MS fleets generating gross profits. Three MS fleets – Denmark, Finland and Germany - suffered net losses in 2016 (Figure 4.32).

The revenue (income from landings and other income) generated in 2016 was estimated at EUR 228 million, a decline of 2% from the previous year. Four Member States accounted for 76% of all revenues: Sweden (EUR 54 million), Poland (EUR 52 million), Finland (EUR 36 million) and Denmark (EUR 32 million).

GVA was estimated at over EUR 119 million, representing an overall increase of 3% on 2015. After accounting for operating costs, the fleet made almost EUR 56 million in gross profit (+12%) and EUR 9 million in net profit.

Overall the gross profit margin of the region increased from 22% in 2015 to 25% in 2016 with the Polish fleet the most profitable (32% profit margin), followed by Estonia (31%), Sweden (30%), Finland (30%) and Latvian (23%). While the Danish, Finnish and German fleets all experienced positive gross profits these were insufficient to cover the estimated capital costs and these countries all experienced net losses in 2016.
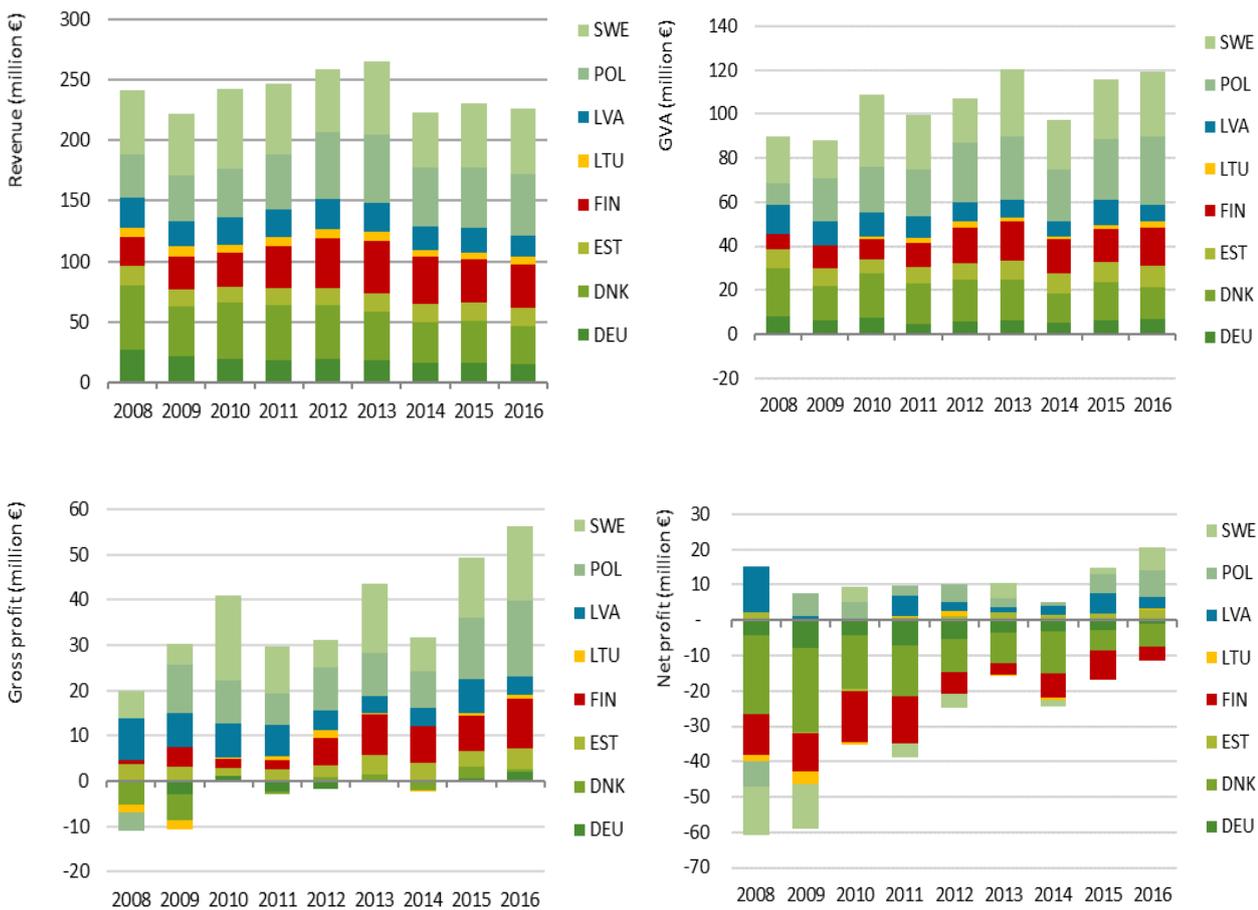
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.32 Trends on revenue (landings income + other income) and profits (GVA, gross profit and net profit) for MS fleets operating in the Baltic Sea region

Productivity

On average the fleet operating in the region consumed 122 litres of fuel per landed tonne, a significantly lower value than the average (356 litres/tonne landed) recorded by vessels operating in the North Sea fisheries. However, differences between fisheries/fleets are also apparent (Figure 4.33).
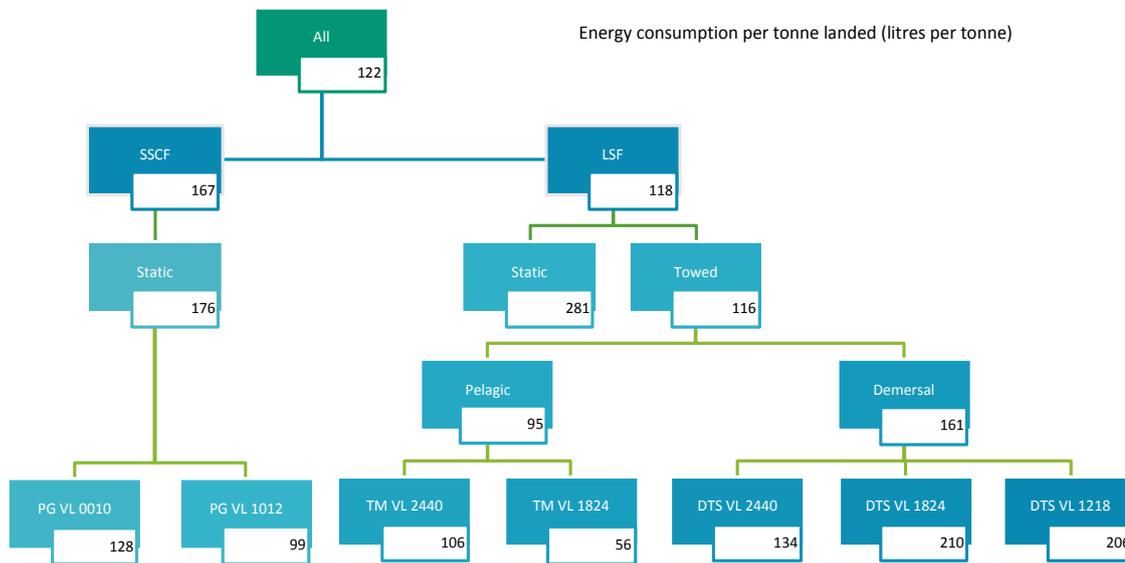
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.33 Schematic representation of the amount of fuel consumed per landed weight (litre/tonne) by the various MS fleet components operating in the Baltic Sea, including some of the most important segments

An estimated 15.1% of the value of fish landed from the Baltic Sea went to pay for fuel costs in 2016 (Figure 4.34). In total around EUR 33 million was spent on fuel to catch 629 thousand tonnes of fish with a landings value of EUR 220 million. Pelagic vessels spent the highest relative amounts on fuel (16.4% of their landed value), rising to 19.2% for the larger (24 – 40 m) pelagic trawlers. Those segments also benefited from the recent decrease in fuel prices, a key driver for trawler profitability in recent times.
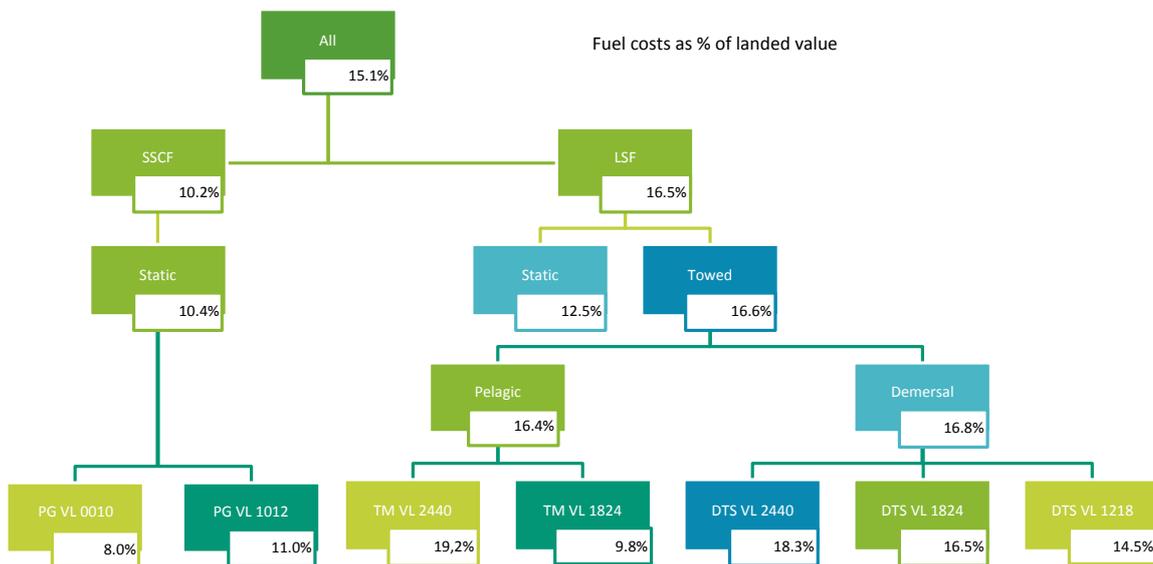
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.34 Schematic representation of the ratio fuel costs to landed value (%) for the various MS fleet components operating in the Baltic Sea, including some important segments

The average gross profit per day at sea was around EUR 136 in 2016, which is only 9% of that recorded in North Sea fisheries (EUR 1 493) (Figure 4.35). On average small-scale coastal fleets recorded small gross profits per day at sea (EUR 4) while pelagic fisheries were generally more profitable (EUR 894) and 24 – 40 m demersal trawlers were the most profitable, generating on average EUR 3 117 in gross profit per day at sea. However, it should be noted that these results do not represent only demersal fisheries as many MS merge the demersal and pelagic trawlers when reporting.
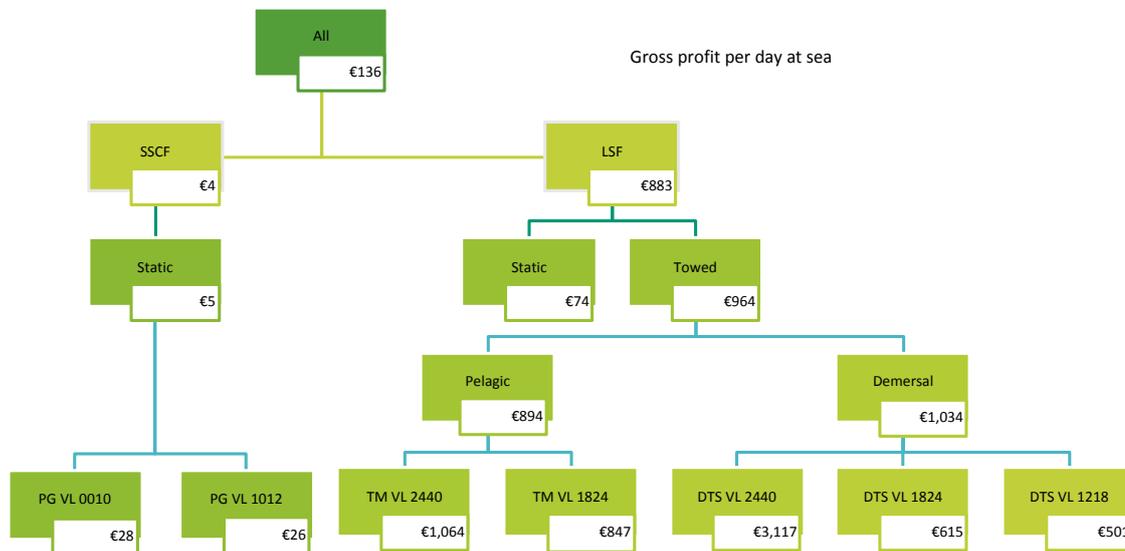
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.35 Schematic representation of the gross profit per day at sea generated by the various MS fleet components operating in the Baltic Sea, including some important segments

Fisheries management and stock status in the region

To incorporate the ecosystem approach in the fisheries management a multiannual management plan for the Baltic Sea fisheries have been developed. In March 2016 representatives of the Council, Parliament and Commission reached provisional agreement on this plan. Furthermore, The EU fisheries management includes input from the Regional Baltic Sea Fisheries Forum (BALTFISH) and the Baltic Sea Advisory Council.

While coastal fisheries are managed nationally fisheries advice is provided by the International Council for the Exploration of the Sea (ICES) and STECF. The key species in Baltic Sea are cod, herring, sprat, salmon, and plaice and these fisheries are all managed using TACs.

The European eel Recovery plan also affects several Baltic States. Within this plan, MS are required to allow 40% of adult eels to escape from inland waters to the sea where they can spawn. EU regulations also include technical conservation measures, including mesh size, minimum landing size, by-catch limitations as well as periods and areas closed to fishing. A ban on driftnet fisheries was introduced after a three-year transitional period in 2008. The Baltic Sea coastal and inland fisheries are mainly regulated by each MS in the region through their national legislation.

A salmon management plan was proposed by the Commission in August 2011 (COM(2011) 470 final). This established an F(fishing mortality rate)-based harvest control rule with each MS's setting annual fishing limits in rivers at the appropriate MSY level. It also sets targets for salmon management in rivers: 75% of smolt (juvenile salmon) production to be reached in 5 or 10 years, depending on the status of rivers. However, the Council and the European Parliament have not yet reached an agreement on the Commission's proposal.

The landings obligation has been in force since 1 January 2015 for pelagic and demersal fisheries in the Baltic Sea.

TAC development of main species

The European Commission (EC) prepares proposals for measures and instruments for resource conservation including fishing quotas and fishing effort limitations[7] after a consultative process. TACs and quotas are set annually for five commercially important fish stocks: cod, herring, sprat, Atlantic salmon and plaice. Each year, ICES provides separate advice for two stocks of cod, four stocks of herring and one stock of sprat.

Figure 4.36 provides the development of TACs for the main species in the Baltic Sea. TACs are defined based on the status of stock, assessed by ICES, and the cod management plan.

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7 Fishing effort limitations were abolished from 2016.

The landing obligation has been in force since 1 January 2015 for pelagic and demersal fisheries in the Baltic Sea. The exploitation of the available TACs by MS, provided in the Table 4.6 suggests that in several cases, e.g. Finland, the available sprat quota could be a limiting factor (choke specie) in the mixed pelagic fishery. On the other hand, available cod fishing opportunities were not fully utilised by most MS in the Baltic Sea.
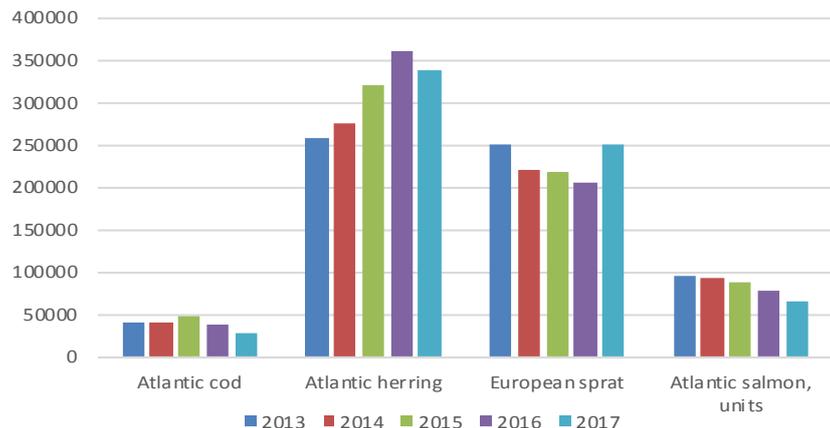
Source: EU Catch reporting system (FIDES3)

Figure 4.36 Reported catches for the four most important TACs species in the Baltic Sea region, 2013-2017

Table 4.6 TAC use for some of the most important stocks in the Baltic Sea region, 2013-2017

		Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden
Atlantic cod	2013	48%	52%	15%	32%	40%	38%	60%	36%
	2014	45%	55%	10%	24%	24%	31%	55%	30%
	2015	60%	82%	12%	36%	46%	55%	75%	43%
	2016	55%	74%	0%	9%	55%	63%	72%	48%
	2017	52%	78%	0%	28%	70%	77%	60%	56%
Atlantic herring	2013	92%	101%	89%	96%	68%	87%	79%	88%
	2014	92%	94%	85%	87%	57%	92%	78%	79%
	2015	98%	46%	87%	74%	85%	98%	87%	70%
	2016	98%	89%	86%	82%	75%	97%	79%	89%
	2017	90%	87%	90%	77%	62%	100%	79%	71%
European sprat	2013	100%	91%	100%	97%	100%	100%	106%	100%
	2014	92%	88%	95%	93%	92%	94%	94%	97%
	2015	98%	95%	89%	100%	96%	97%	97%	100%
	2016	99%	96%	93%	100%	95%	100%	98%	99%
	2017	99%	90%	90%	100%	98%	98%	92%	98%
Atlantic salmon	2013	86%	93%	45%	73%	7%	18%	104%	92%
	2014	44%	95%	41%	83%	9%	13%	48%	95%
	2015	99%	78%	46%	87%	8%	22%	62%	100%
	2016	85%	44%	47%	76%	6%	16%	48%	108%
	2017	46%	13%	50%	74%	3%	18%	48%	83%
European plaice	2013	77%	80%		68%			12%	43%
	2014	67%	63%		6%			28%	33%
	2015	99%	59%		1%			46%	35%
	2016	91%	52%		0%			36%	46%
	2017	87%	30%		0%			42%	6%

Source: EU Catch reporting system (FIDES3)

Status of important stocks

Based on ICES advice in 2017 and 2018, sprat stocks were exploited below MSY. In central Baltic, the Gulf of Riga and the Gulf of Bothnia, herring were also exploited below MSY, while in the western Baltic, Skagerrak and Kattegat exploitation was above MSY. Cod is currently exploited above MSY and has seen recent reductions in the TAC. The Gulf of Finland salmon has a precautionary TAC. The TAC for the main basin salmon is kept stable at a low level, with the aim of contributing further to improve the stock status in the weakest salmon rivers.

Cod is the only fish species for which a multi-annual plan exists (Council Regulation (EC) No 1098/2007). The plan defines targets for stock recovery (in terms of cod mortality for Eastern and Western cod stocks) and also maximum fishing effort and includes a licensing system for vessels fishing cod in the Baltic. Until 2012 the Eastern cod stock was considered to be sustainably exploited and the Eastern cod TAC (68-81% of the cod TAC in the Baltic between 2008 and 2016) was increasing. However, after good recruitment years and increases in the stock population in 2012-2013, the mean weight of larger cod in the Eastern Baltic declined and ICES changed the status of the Eastern cod stock in 2014 from sustainably exploited to unknown. Since 2014 the Eastern cod stock has experienced constant decline and according to the 2018 ICES advice, catches in 2019 should be no more than 16.7 thousand tonnes. In comparison

the recommended catch in 2017 was 27.0 thousand tonnes. The Western cod status was above Fmsy and below MSY Btrigger over the period analysed. The TAC for western cod, which was reduced for a number of years, was decreased again in 2016 by 20%. This stock continues to give cause for concern.

Description of relevant fisheries in the region

Small-scale coastal fishery (SSCF)

Small-scale coastal fishery (SSCF) in the Baltic Sea are very important from a socio-economic point of view. They dominate the Baltic Sea fishing in terms of vessels (91%) and employment (76% of total employed and 60% of FTE). However, it only accounts for 8% of landed weight and 23% of revenue. Revenue generated by the SSCF in 2016 was estimated at EUR 53.6 million; a marginal EUR 1 million increase on 2015.

In 2016, the SSCF generated EUR 26.7 million in GVA, corresponding to 50% of its revenue. The profitability of the SSCF also improved, from gross loss of EUR 2.7 million in 2015 to just positive in 2016. The overall economic performance of the Baltic SSCF can be explained, in part, by its small average economic size with average vessel revenue only EUR 8 800 and GVA EUR 4 700. Labour productivity (GVA/FTE) amounted to EUR 9 800 in 2016.

Despite the overall poor performance of the SSCF, individual MS fare differently. The German, Estonian, Finnish and Latvian small scale coastal fleets made reasonable gross profits while the others had either low profitability or suffered losses. After taking account of estimated capital costs, only the German, Latvian and Estonian fleets were still making net profits and generating resource rent in their fisheries.

Large-scale fishery (LSF)

Revenue generated by the Baltic Sea large-scale fleet (LSF) in 2016 was estimated at EUR 172 million; a slight decrease from the year before. However, the economic performance improved during the year and, overall, the Baltic LSF segment generated EUR 54 million in gross profit and EUR 21 million in net profit.

Pelagic fisheries are the dominant fisheries for the LSF in the Baltic Sea and this segment accounted for 61% of landed weight and 41% of the landing value in 2016. Demersal fisheries accounted for 29% of the landed weight and 33% by value. Both pelagic and demersal made gross profits; pelagic fisheries generated EUR 29 million with a gross profit margin of 33%; and demersal fisheries made a gross profit EUR 25 million with a 32% margin.

Labour productivity (GVA/FTE) in the Baltic Sea LSF has improved in recent years with the highest levels in 2016 achieved by Sweden, Denmark and Finland; EUR 80.5 thousand, EUR 57.9 thousand and EUR 57.7 thousand, respectively. However, the productivity of the Swedish fleet partly depends on the fisheries in NS region as the same fleet operates in both the Baltic and North Seas. Latvia and Estonia generated EUR 22.6 thousand and EUR 21.9 thousand GVA per FTE, respectively; whereas the lowest labour productivity was observed in Poland, Lithuania and Germany varying from EUR 11 thousand to EUR 16 thousand. The German fleet has been suffering from the continuing decline of the western cod stock.

Almost all the MS operating in the Baltic region had similar trends from 2013 to 2015, with GVA down significantly in 2014 followed by a recovery. The 2016 GVA was the highest since 2008. The decline in 2014 was, for most fleets, associated with high operating costs (especially fuel costs), the impeding impact of the export ban to Russia, as well as the poor performance of the demersal fisheries.

- GVA/FTE has showed a tendency to increase with some variation.
- Labour productivity differed between the pelagic and demersal fisheries. Fleets targeting cod showed low productivity, whereas pelagic trawlers, regardless of the MS, had a relatively high GVA/FTE with a current tendency to increase.
- The labour productivity of the SSCF has remained reasonably constant during 2008-2016.
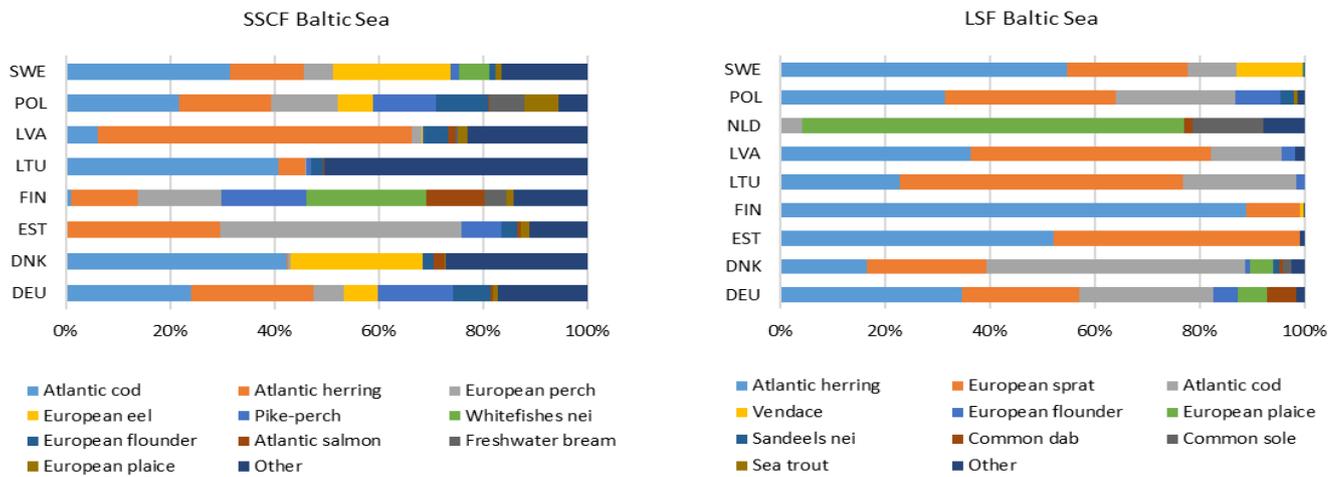
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.37 Top 10 species (and other) landed in terms of value as a proportion of the total landings in the region by MS small-scale coastal fleets and large-scale fleets operating in the Baltic Sea, 2016
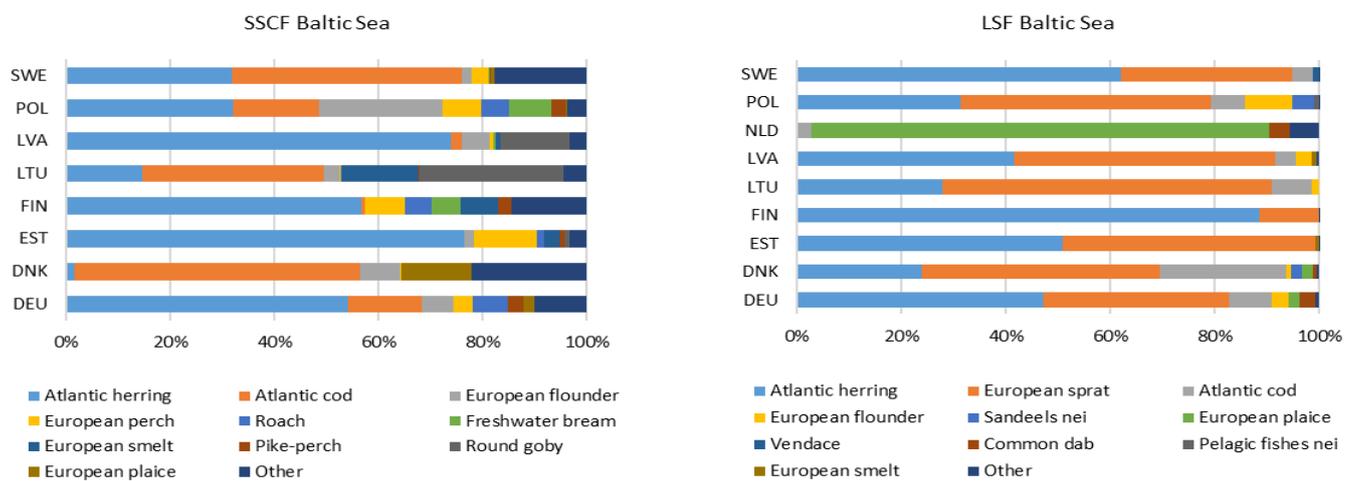
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.38 Top 10 species (and other) landed in terms of weight as a proportion of the total landings in the region by MS small-scale coastal fleets and large-scale fleets operating in the Baltic Sea, 2016

Performance by fleet segment

Table 4.10 shows the capacity, effort and socio-economic indicators estimated for the top 40 MS fleet segments (out of 54), based on the value of revenue in the region. These 40 segments represented 93% of the landed weight (629 thousand tonnes) and 88% of the revenue (EUR 220 million) generated by the Baltic Sea fleet in 2016. Of the top 40 fleet segments, 31 made positive gross profits.

One important reason for the negative gross profit (i.e., loss) of the smaller vessels is the estimated opportunity cost of unpaid labour. For the fleet segments below 12 meters, and to a certain extent for the 12-18m, the estimated opportunity cost for labour may be high in proportion to the catch value, making the gross profit negative. This indicates that many vessel owners actually earn less income than that used as an opportunity cost with the result that the observed negative gross profits do not directly lead to insolvency even though income at the fleet level does not provide a high livelihood for fishers (on average).

Energy costs are a major cost item, especially in the Baltic Sea LSF and falling fuel prices in 2015 have led to a marked improvement in the economic performance of this fuel intensive segment.

At the fleet segment level, the Swedish demersal trawl and seine 24-40m segment generated the highest landed value in 2016 (EUR 30 million), followed by the Finish pelagic trawl 24-40m segment (EUR 22 million) and then the Polish pelagic trawl 24-40m segment (EUR 21 million). The most important fleets, in terms of GVA, were the Swedish demersal trawlers 24-40m, and the Polish and Finish pelagic trawlers 24-40m.

In relative terms, the Latvian passive gear segment under 10m (PG0010) generated the highest gross profit margin, followed by the Swedish 10-12m demersal trawl segment (DTS VL1012) and Polish pelagic trawlers segment (TM VL1824). However, the Swedish fleet were mostly fishing in the North Sea.

There were 28 MS fleet segments that operated 80% or more in the Baltic Sea in 2016, accounting for 83% of the number of vessels, 83% of the days at sea deployed, 90% of the landed weight and 69% of the landed value.

While only 30 of the 54 fleets operating in the Baltic Sea recorded gross profits in 2016, 26 of the 28 fleets operating solely in the Baltic Sea did so. Furthermore 15 of these (fleet segments wholly dependent on the Baltic) also generated a net profit. This suggests that the current positive status of pelagic stocks together with the implementation of ITQs in Denmark and Sweden have had some positive impact on profitability.

Table 4.7 Structure and economic performance estimates by MS fleet operating in the Baltic Sea region, 2016

	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Denmark	510	37%	5,787	32,900	266	249	25,927	27%	25,359	29%	45,266	7%	31,228	7%	31,251	31,848	13,999	3,260	14,433	45.3	434	1.4	-6,556	-20.6	28.3	57.9
Estonia	1,548	100%	5,724	31,107	2,107	457	71,964	100%	148,242	100%	60,524	100%	14,606	100%	14,723	14,915	5,400	1,386	10,030	67.2	4,630	31.0	2,989	20.0	6.5	21.9
Finland	1,593	100%	12,798	99,661	1,524	300	110,381	100%	109,822	100%	157,322	100%	39,519	100%	33,938	35,726	6,397	8,387	17,306	48.4	10,909	30.5	-4,061	-11.4	10.9	57.7
Germany	818	78%	4,097	30,418	796	612	69,007	67%	70,663	67%	15,518	26%	14,155	9%	14,212	15,114	4,754	1,291	6,840	45.3	2,086	13.8	-837	-5.5	8.4	11.2
Latvia	265	100%	7,230	20,175	647	318	18,107	100%	19,552	100%	59,965	100%	15,801	100%	15,817	17,583	2,975	1,702	7,174	40.8	4,198	23.9	3,090	17.6	27.1	22.6
Lithuania	89	91%	3,990	9,809	335	169	6,341	75%	5,653	75%	19,112	19%	5,717	6%	5,859	5,916	1,789	1,041	2,744	46.4	955	16.2	400	6.8	30.7	16.3
Poland	809	100%	16,052	63,331	2,256	2,051	74,294	100%	70,627	100%	139,146	100%	51,367	100%	51,295	51,455	14,566	7,688	31,126	60.5	16,559	32.2	7,595	14.8	38.5	15.2
Sweden	533	55%	11,412	64,731	757	365	38,478	52%	38,478	52%	131,826	67%	47,941	38%	48,488	53,722	12,997	8,450	29,391	54.7	16,394	30.5	6,404	11.9	55.1	80.5

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.8 Structure and economic performance estimates by main type of fishing activity for MS fleets operating in the Baltic Sea region, 2016

|	Estimated no. of vessels	% of Fishing Activity vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
SSCF	5,624	16%	14,930	187,890	6,561	2,733	352,412	13%	431,742	15%	52,747	20%	49,936	5.7%	49,455	53,614	25,293	5,090	26,665	49.7	1,372	2.6	-12,293	-22.9	5	9.8
LSF	542	4%	52,164	164,249	2,126	1,787	62,088	3%	56,656	3%	575,941	16%	170,417	3.2%	166,145	172,684	37,590	28,116	92,392	53.5	54,802	31.7	21,325	12.4	170	51.7

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.9 Structure and economic performance estimates by main type of fishing activity and MS fleet operating in the Baltic Sea region, 2016

		Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
		(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
SSCF	DEU	773	100%	2,148	22,084	738	566	64,649	100%	66,644	100%	7,851	100%	8,354	100%	8,387	8,864	2,668	485	4,316	48.7	1,648	18.6	213	2.4	6	7.6
SSCF	DNK	453	46%	1,783	19,269	152	113	18,626	48%	18,488	48%	4,026	41%	9,007	36%	9,045	9,344	6,237	666	2,811	30.1	-3,426	-36.7	-5,044	-54.0	6	24.9
SSCF	EST	1,517	100%	2,215	22,136	1,952	335	68,849	100%	145,343	100%	11,592	100%	5,618	100%	5,663	5,846	2,001	534	3,487	59.7	1,486	25.4	1,032	17.7	2	10.4
SSCF	FIN	1,530	100%	3,439	67,083	1,369	176	102,583	100%	102,428	100%	9,254	100%	8,634	100%	7,941	8,958	1,727	880	4,970	55.5	3,243	36.2	-2,692	-30.1	3	28.2
SSCF	LTU	66	100%	306	2,108	149	42	4,179	100%	3,994	100%	827	100%	627	100%	678	690	352	86	403	58.4	51	7.4	-11	-1.5	6	9.6
SSCF	LVA	206	100%	429	2,725	256	106	10,830	100%	12,807	100%	3,787	100%	1,071	100%	1,072	1,073	225	23	983	91.7	759	70.7	732	68.2	5	9.3
SSCF	POL	617	100%	2,700	21,189	1,394	1,208	52,757	100%	52,099	100%	12,455	100%	11,423	100%	11,409	11,463	6,300	1,054	7,851	68.5	1,552	13.5	5	0.1	13	6.5
SSCF	SWE	462	63%	1,909	31,296	552	188	29,939	62%	29,939	62%	2,956	66%	5,202	35%	5,261	7,377	5,784	1,362	1,844	25.0	-3,940	-53.4	-6,529	-88.5	4	9.8
LSF	DEU	45	17%	1,949	8,334	58	46	4,358	11%	4,019	10%	5,801	15%	5,824	4%		6,250	2,087	806	2,525	40.4	438	7.0	-1,049	-16.8	56	54.9
LSF	DNK	58	14%	4,004	13,631	114	136	7,301	13%	6,872	14%	41,240	6%	22,221	5%	22,206	22,504	7,762	2,594	11,622	51.6	3,860	17.2	-1,513	-6.7	202	85.2
LSF	EST	31	100%	3,509	8,972	155	122	3,115	100%	2,899	100%	48,933	100%	8,988	100%	9,060	9,069	3,399	852	6,543	72.1	3,144	34.7	1,957	21.6	211	53.6
LSF	FIN	63	100%	9,359	32,578	155	124	7,798	100%	7,394	100%	148,069	100%	30,885	100%	25,997	26,768	4,670	7,507	12,336	46.1	7,666	28.6	-1,369	-5.1	196	99.5
LSF	LTU	23	100%	3,684	7,701	186	127	2,162	100%	1,659	100%	18,285	100%	5,090	100%	5,181	5,226	1,437	955	2,342	44.8	905	17.3	411	7.9	102	18.5
LSF	LVA	59	100%	6,801	17,450	391	212	7,277	100%	6,745	100%	56,177	100%	14,730	100%	14,745	16,510	2,751	1,680	6,190	37.5	3,439	20.8	2,359	14.3	105	29.2
LSF	NLD	0	0%	2	6	0	0	2	0%	1	0%	9	0%	18	0%	18	18	6	1	14	74.4	8	44.2	8	41.6	1,376	344.0
LSF	POL	192	100%	13,352	42,142	862	843	21,537	100%	18,528	100%	126,691	100%	39,943	100%	39,886	39,992	8,266	6,634	23,274	58.2	15,008	37.5	7,590	19.0	121	27.6
LSF	SWE	71	30%	9,503	33,435	205	177	8,539	33%	8,539	33%	128,870	67%	42,739	39%	43,227	46,345	7,213	7,087	27,547	59.4	20,334	43.9	12,933	27.9	387	155.8

* German pelagic trawlers excluded, Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.10 Structure and economic performance estimates for the top 40 MS fleets operating in the Baltic Sea region, 2016

|	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
SWE A27 DTS2440 °	17	45%	6,902	20,129	97	97	2,890	45%	2,890	45%	109,342	65%	29,640	43%	29,978	31,595	4,052	5,211	19,106	60.5	15,054	47.7	8,943	28.3	1,151.7	196.8
POL A27 TM2440 °	44	100%	7,341	17,631	267	263	5,462	100%	4,596	100%	75,163	100%	20,261	100%	20,232	20,237	3,761	3,469	11,280	55.7	7,518	37.2	3,872	19.1	256.4	42.9
FIN A27 TM2440 °	23	100%	7,498	21,531	100	83	4,103	100%	3,976	100%	107,065	100%	21,922	100%	19,217	19,686	2,367	6,654	8,197	41.6	5,830	29.6	- 969	- 4.9	356.4	98.8
LVA A27 TM2440	48	100%	6,470	15,379	336	176	5,662	100%	5,130	100%	48,466	100%	12,913	100%	12,925	14,081	2,255	1,420	5,174	36.7	2,919	20.7	2,328	16.5	107.8	29.4
EST A27 TM2440 °	25	100%	3,412	8,219	143	120	2,894	100%	2,705	100%	48,072	100%	8,831	100%	8,902	8,910	3,316	842	6,425	72.1	3,110	34.9	1,948	21.9	257.0	53.5
POL A27 PG0010	511	100%	1,524	14,194	1,064	912	43,667	100%	43,657	100%	8,482	100%	8,188	100%	8,178	8,219	4,434	617	6,077	73.9	1,643	20.0	680	8.3	11.9	6.7
POL A27 DTS1218 °	66	100%	1,835	8,041	252	245	7,154	100%	6,384	100%	18,706	100%	7,840	100%	7,829	7,920	1,952	1,509	4,650	58.7	2,698	34.1	1,530	19.3	70.5	19.0
FIN A27 PG0010	1,478	100%	2,898	58,199	1,317	166	101,367	100%	101,367	100%	6,601	100%	7,689	100%	7,029	8,045	1,504	731	4,652	57.8	3,149	39.1	- 1,960	- 24.4	3.1	28.0
DEU A27 PG0010	715	100%	1,508	16,936	690	526	58,995	100%	59,578	100%	4,819	100%	6,021	99%	6,045	6,392	1,578	371	3,192	49.9	1,614	25.3	591	9.2	4.5	6.1
POL A27 TM1824	27	100%	1,706	6,691	106	103	3,292	100%	2,816	100%	20,339	100%	5,765	100%	5,757	5,766	915	628	4,055	70.3	3,141	54.5	2,575	44.7	150.2	39.4
DNK A27 DTS1218	25	21%	937	4,700	47	53	3,158	21%	3,035	21%	5,389	28%	5,548	14%	5,547	5,547	2,565	736	2,202	39.7	- 363	- 6.6	- 1,390	- 25.1	89.4	41.7
SWE A27 DTS1218 °	15	20%	517	3,566	28	20	1,409	20%	1,409	20%	5,797	82%	5,215	32%	5,274	5,274	1,229	511	3,507	66.5	2,277	43.2	1,937	36.7	238.5	175.3
DNK A27 TM40XX	1	5%	1,407	2,664	7	10	167	5%	96	5%	18,977	5%	5,201	3%	5,187	5,434	889	562	3,648	67.1	2,760	50.8	506	9.3	3,257.6	364.1
SWE A27 DTS1824 °	14	35%	1,613	5,352	41	42	2,186	35%	2,186	35%	10,994	76%	4,999	27%	5,056	6,100	1,219	1,046	2,535	41.6	1,316	21.6	743	12.2	185.1	60.6
DNK A27 PGP0010	359	46%	1,004	11,956	88	61	11,829	46%	11,754	46%	1,765	43%	4,716	38%	4,753	4,898	3,591	247	1,833	37.4	- 1,758	- 35.9	- 2,555	- 52.2	5.1	30.0
POL A27 DTS1824 °	28	100%	1,611	6,154	118	114	2,840	100%	2,590	100%	11,015	100%	4,615	100%	4,608	4,608	901	840	2,550	55.3	1,649	35.8	- 99	- 2.1	91.1	22.4
FIN A27 TM1824	13	100%	1,107	5,396	28	23	1,771	100%	1,690	100%	30,020	100%	6,194	100%	4,576	4,751	1,912	548	3,059	64.4	1,147	24.2	- 226	- 4.8	235.3	133.0
EST A27 PG0010	1,434	100%	1,639	17,487	1,637	222	67,871	100%	142,870	100%	3,961	100%	4,149	100%	4,182	4,336	1,274	354	2,353	54.3	1,079	24.9	752	17.4	1.6	10.6
LTU A27 TM2440 °	10	100%	2,155	4,833	76	42	832	100%	594	100%	13,476	100%	3,271	100%	3,358	3,377	788	492	1,583	46.9	795	23.6	464	13.7	158.3	37.7
POL A27 PG1012	106	100%	1,176	6,995	330	295	9,090	100%	8,442	100%	3,974	100%	3,235	100%	3,231	3,243	1,866	438	1,774	54.7	- 91	- 2.8	- 675	- 20.8	16.7	6.0
SWE A27 DFN0010 °	395	65%	1,160	21,689	457	150	25,243	65%	25,243	65%	1,413	65%	3,183	37%	3,219	4,988	4,697	950	1,173	23.5	- 3,524	- 70.6	- 5,320	- 106.7	3.0	7.8
DNK A27 DTS1824	4	8%	423	1,206	12	19	697	8%	609	8%	4,835	10%	3,140	6%	3,141	3,141	1,106	309	1,702	54.2	595	19.0	30	1.0	431.9	89.6
DNK A27 PGP1012	33	66%	363	3,125	33	30	3,402	66%	3,350	67%	1,076	53%	2,670	51%	2,670	2,791	1,464	163	1,083	38.8	- 381	- 13.6	- 776	- 27.8	33.3	36.7
DNK A27 TM1218	4	39%	237	760	10	10	383	39%	344	42%	6,678	31%	2,512	33%	2,512	2,512	784	173	1,616	64.4	832	33.1	383	15.3	413.4	165.8
SWE A27 DTS1012 °	15	21%	188	2,476	21	10	959	21%	959	21%	2,390	83%	2,341	36%	2,368	2,405	474	194	1,763	73.3	1,289	53.6	1,026	42.7	114.3	174.2
DEU A27 PG1012	57	99%	640	5,148	48	40	5,654	99%	7,066	99%	3,032	100%	2,333	100%	2,343	2,472	1,090	113	1,124	45.5	34	1.4	- 378	- 15.3	19.6	28.4
DEU A27 DTS1218	26	100%	830	4,701	23	19	2,167	100%	2,029	100%	2,983	100%	2,248	100%	2,257	2,410	938	263	1,052	43.6	113	4.7	- 449	- 18.6	40.4	55.3
FIN A27 TM1218 °	27	100%	754	5,651	27	18	1,924	100%	1,728	100%	10,984	100%	2,769	100%	2,204	2,331	391	306	1,080	46.3	689	29.6	- 174	- 7.5	40.0	60.0
DNK A27 PMP1218	9	27%	298	1,559	16	16	1,087	27%	1,046	27%	2,275	44%	2,153	23%	2,153	2,170	956	270	1,015	46.8	60	2.8	- 270	- 12.4	110.2	63.4
DNK A27 DTS2440	1	4%	446	931	6	13	364	4%	308	4%	1,879	4%	2,085	3%	2,085	2,106	676	352	1,014	48.2	339	16.1	- 126	- 6.0	680.7	76.5
SWE A27 DFN1012 °	67	52%	749	9,607	96	38	4,696	52%	4,696	52%	1,543	67%	2,018	32%	2,041	2,389	1,088	413	671	28.1	- 417	- 17.4	- 1,208	- 50.6	10.1	17.7
DEU A27 DTS1824	5	40%	574	1,122	19	14	1,006	40%	847	38%	2,515	51%	2,025	22%	2,033	2,084	615	237	1,193	57.3	578	27.7	51	2.4	231.3	83.5
LTU A27 DTS2440 °	13	100%	1,529	2,868	110	85	1,330	100%	1,065	100%	4,809	100%	1,819	100%	1,824	1,849	649	463	758	41.0	109	5.9	- 53	- 2.9	58.3	8.9
LVA A27 TM1218	11	100%	331	2,071	55	36	1,615	100%	1,615	100%	7,711	100%	1,818	100%	1,819	2,429	496	259	1,016	41.8	521	21.4	31	1.3	92.4	28.2
EST A27 PG1012	83	100%	576	4,648	315	113	978	100%	2,473	100%	7,631	100%	1,469	100%	1,481	1,511	726	180	1,134	75.1	407	27.0	280	18.5	13.7	10.0
POL A27 DFN1218 °	27	100%	859	3,625	120	119	2,789	100%	2,142	100%	1,468	100%	1,462	100%	1,460	1,462	737	188	739	50.6	2	0.1	- 289	- 19.7	27.4	6.2
LVA A27 PGP0010	206	100%	429	2,725	256	106	10,830	100%	12,807	100%	3,787	100%	1,071	100%	1,072	1,073	225	23	983	91.7	759	70.7	732	68.2	4.8	9.3
DNK A27 PMP1012	15	48%	189	1,610	14	12	1,592	48%	1,583	48%	852	34%	976	26%	976	985	625	171	3	0.3	- 622	- 63.2	- 877	- 89.1	0.2	0.2
FIN A27 PG1012 °	52	100%	541	8,884	52	10	1,216	100%	1,061	100%	2,653	100%	945	100%	913	913	223	148	317	34.8	94	10.3	- 732	- 80.2	6.1	31.7
DNK A27 DTS1012	8	56%	123	1,084	8	6	853	56%	848	57%	775	43%	800	42%	800	800	348	131	174	21.8	- 174	- 21.8	- 272	- 33.9	22.1	28.2

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.11 Structure and economic performance estimates for MS fleet segments operating 80% or more in the Baltic Sea region, 2016

	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
POL A27 TM2440 °	44	100%	7,341	17,631	267	263	5,462	100%	4,596	100%	75,163	100%	20,261	100%	20,232	20,237	3,761	3,469	11,280	55.7	7,518	37.2	3,872	19.1	256.4	42.9
FIN A27 TM2440 °	23	100%	7,498	21,531	100	83	4,103	100%	3,976	100%	107,065	100%	21,922	100%	19,217	19,686	2,367	6,654	8,197	41.6	5,830	29.6	- 969	- 4.9	356.4	98.8
LVA A27 TM2440	48	100%	6,470	15,379	336	176	5,662	100%	5,130	100%	48,466	100%	12,913	100%	12,925	14,081	2,255	1,420	5,174	36.7	2,919	20.7	2,328	16.5	107.8	29.4
EST A27 TM2440 °	25	100%	3,412	8,219	143	120	2,894	100%	2,705	100%	48,072	100%	8,831	100%	8,902	8,910	3,316	842	6,425	72.1	3,110	34.9	1,948	21.9	257.0	53.5
POL A27 PG0010	511	100%	1,524	14,194	1,064	912	43,667	100%	43,657	100%	8,482	100%	8,188	100%	8,178	8,219	4,434	617	6,077	73.9	1,643	20.0	680	8.3	11.9	6.7
POL A27 DTS1218 °	66	100%	1,835	8,041	252	245	7,154	100%	6,384	100%	18,706	100%	7,840	100%	7,829	7,920	1,952	1,509	4,650	58.7	2,698	34.1	1,530	19.3	70.5	19.0
FIN A27 PG0010	1,478	100%	2,898	58,199	1,317	166	101,367	100%	101,367	100%	6,601	100%	7,689	100%	7,029	8,045	1,504	731	4,652	57.8	3,149	39.1	- 1,960	- 24.4	3.1	28.0
POL A27 TM1824	27	100%	1,706	6,691	106	103	3,292	100%	2,816	100%	20,339	100%	5,765	100%	5,757	5,766	915	628	4,055	70.3	3,141	54.5	2,575	44.7	150.2	39.4
POL A27 DTS1824 °	28	100%	1,611	6,154	118	114	2,840	100%	2,590	100%	11,015	100%	4,615	100%	4,608	4,608	901	840	2,550	55.3	1,649	35.8	- 99	- 2.1	91.1	22.4
FIN A27 TM1824	13	100%	1,107	5,396	28	23	1,771	100%	1,690	100%	30,020	100%	6,194	100%	4,576	4,751	1,912	548	3,059	64.4	1,147	24.2	- 226	- 4.8	235.3	133.0
EST A27 PG0010	1,434	100%	1,639	17,487	1,637	222	67,871	100%	142,870	100%	3,961	100%	4,149	100%	4,182	4,336	1,274	354	2,353	54.3	1,079	24.9	752	17.4	1.6	10.6
LTU A27 TM2440 °	10	100%	2,155	4,833	76	42	832	100%	594	100%	13,476	100%	3,271	100%	3,358	3,377	788	492	1,583	46.9	795	23.6	464	13.7	158.3	37.7
POL A27 PG1012	106	100%	1,176	6,995	330	295	9,090	100%	8,442	100%	3,974	100%	3,235	100%	3,231	3,243	1,866	438	1,774	54.7	- 91	- 2.8	- 675	- 20.8	16.7	6.0
DEU A27 DTS1218	26	100%	830	4,701	23	19	2,167	100%	2,029	100%	2,983	100%	2,248	100%	2,257	2,410	938	263	1,052	43.6	113	4.7	- 449	- 18.6	40.4	55.3
FIN A27 TM1218 °	27	100%	754	5,651	27	18	1,924	100%	1,728	100%	10,984	100%	2,769	100%	2,204	2,331	391	306	1,080	46.3	689	29.6	- 174	- 7.5	40.0	60.0
LTU A27 DTS2440 °	13	100%	1,529	2,868	110	85	1,330	100%	1,065	100%	4,809	100%	1,819	100%	1,824	1,849	649	463	758	41.0	109	5.9	- 53	- 2.9	58.3	8.9
LVA A27 TM1218	11	100%	331	2,071	55	36	1,615	100%	1,615	100%	7,711	100%	1,818	100%	1,819	2,429	496	259	1,016	41.8	521	21.4	31	1.3	92.4	28.2
EST A27 PG1012	83	100%	576	4,648	315	113	978	100%	2,473	100%	7,631	100%	1,469	100%	1,481	1,511	726	180	1,134	75.1	407	27.0	280	18.5	13.7	10.0
POL A27 DFN1218 °	27	100%	859	3,625	120	119	2,789	100%	2,142	100%	1,468	100%	1,462	100%	1,460	1,462	737	188	739	50.6	2	0.1	- 289	- 19.7	27.4	6.2
LVA A27 PGP0010	206	100%	429	2,725	256	106	10,830	100%	12,807	100%	3,787	100%	1,071	100%	1,072	1,073	225	23	983	91.7	759	70.7	732	68.2	4.8	9.3
FIN A27 PG1012 °	52	100%	541	8,884	52	10	1,216	100%	1,061	100%	2,653	100%	945	100%	913	913	223	148	317	34.8	94	10.3	- 732	- 80.2	6.1	31.7
DEU A27 DTS1012 °	10	100%	156	1,433	5	4	564	100%	540	100%	782	100%	541	100%	543	743	188	39	282	37.9	94	12.7	- 20	- 2.6	28	70.4
LTU A27 PG0010	58	100%	59	1,403	117	26	3,202	100%	3,202	100%	572	100%	405	100%	438	450	169	34	291	64.7	123	27.2	103	22.8	5	11.2
LTU A27 DFN1012 °	8	100%	247	705	32	16	977	100%	792	100%	255	100%	223	100%	240	240	183	52	111	46.5	- 72	- 30.0	- 113	- 47.2	13	7.1
EST A27 TM1218	6	100%	97	752	12	2	221	100%	194	100%	860	100%	158	100%	159	160	83	10	117	73.6	34	21.3	9	5.4	20	58.7
DEU A27 PG0010	715	100%	1,508	16,936	690	526	58,995	100%	59,578	100%	4,819	100%	6,021	99%	6,045	6,392	1,578	371	3,192	49.9	1,614	25.3	591	9.2	4.5	6.1
DEU A27 PG1012	57	99%	640	5,148	48	40	5,654	99%	7,066	99%	3,032	100%	2,333	100%	2,343	2,472	1,090	113	1,124	45.5	34	1.4	- 378	- 15.3	19.6	28.4
SWE A27 DFN1218 °	11	83%	283	1,912	18	8	1,095	83%	1,095	83%	346	90%	544	69%	551	971	238	125	636	65.5	398	41.0	284	29.3	59	82.8

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

4.3 Northeast Atlantic

At a glance

The major players in the Northeast (NE) Atlantic are the Spanish, French, British, Portuguese and Irish fleets, with the latter two having the highest dependency on the region for production. In total, ten member states have activities in the area. The most important species include Atlantic mackerel, horse mackerel, hake, Norway lobster and monkfish.

In terms of production, the UK, French, Spanish, Portuguese and Irish fleets are the most important and collectively were responsible for 85% of the landed weight and 94% of the value landed in 2016. The weight and value of landings generated by the NE Atlantic fleet amounted to approximately 1.4 million tonnes and EUR 2.48 billion respectively. Based on the value of landings the French (29% of the regional landings), Spanish (25%) and UK (20%) fisheries have the highest level of landings in the Northeast Atlantic. However, Ireland, Portugal and France have the highest percentage of national landed value from the Northeast Atlantic at 92%, 65% and 71% respectively.

Effort remained stable in 2016 with total days at sea and fishing days being 1.49 million and 1.39 million respectively. The overall, performance improved, with the majority of Member State fleets generating gross and net profits in 2016 (Figure 4.39 and 4.40).

In summary:

- Revenue generated by the NE Atlantic fleet was estimated at EUR 2.66 billion of which 95% was produced by five MS fleets: France (EUR 799 million), Spain (EUR 691 million), UK (EUR 525 million), Ireland (EUR 265 million) and Portugal (EUR 254 million). This is an increase of 8% from 2015.
- GVA was estimated at EUR 1.57 billion and after accounting for operating costs, the fleet made EUR 620 million in gross profit. GVA increased by 12% and gross profit increased by 29%.
- The net profit estimated at EUR 417 million, an 84% increase on 2015.
- The SSCF generated EUR 298 million in GVA and EUR 103 million in gross profits. The large-scale fleet generated over EUR 1.28 billion in GVA and EUR 518 million in gross profit.
- In 2016, fuel price decreased and remained low in 2017, while most fish prices remained stable or increased compared to 2016. Therefore, it is expected that economic performance will further improve as revenues are likely to increase and costs to decrease. Overall, performance is mostly driven by the large-scale fleets.

Main drivers affecting fleet performance in the region

Factors that may have contributed to the positive situation include:

- Recovery of some stocks, e.g. the biomass of most herring stocks have increased and the Northern hake stock continues to follow a positive trend.
- Low fuel prices resulting in lower energy costs, especially for pelagic fisheries.
- Increased TACs for a number of stocks, e.g. hake, herring and anglerfish.
- Stable fish prices generally and higher average prices for some important species e.g. common sole and *Nephrops*

Factors that may have hampered economic performance in the region include:

- Lower average prices and total landings for plaice, common shrimp, herring and mackerel.
- Whilst the consequences of Brexit are unknown, it is expected that it could have a large impact on fleets operating the Northeast Atlantic. The UK holds a significant portion of the landings. Furthermore, there is a high dependency on UK waters for a number of MS: Ireland, France, Spain, Belgium, the Netherlands and Germany.

Socio-economic Trends

In terms of socio-economic variables, the fleet operating in the Northeast Atlantic region displayed the following trends:

- **Employment**

Total employment in the region is estimated at 44 thousand with the number of Full Time Equivalent (FTE) employees at 32.4 thousand, an increased 5% from 2015. The most important fleets in terms of overall employment correlate to those fisheries that have the highest dependency on this area. Spain has the highest level of employment with over 14 795 thousand FTE, followed by Portugal (6 009), the UK (4 843), France (4 141) and Ireland (2 376).

Total employment for the LSF is highest for Spain and Portugal, totalling 11 676 and 5 553 respectively, reflecting the high number of active vessels in these MS. These numbers have decreased slightly from their 2015 position.

The SSCF, for all MS, demonstrates a marked difference between the numbers of total employed and total FTE indicating that a large number of those employed in the SSCF are part-time or casual workers. Total employed for the SSCF was highest in Spain and Portugal reflecting their high number of SSCF vessels. LSF figures for total employed and FTEs are closer in value indicating a high level of full time employment in this segment in comparison to the SSCF.

- **Wages and Salaries**

The overall average wage per FTE for the SSCF increased by 13% in 2016, fluctuating around EUR 21 thousand. For the LSF average wage decreased by 1.7% to a value of EUR 31 707 but this is still higher than any in year values for 2008-2014 (Figure 4.41).
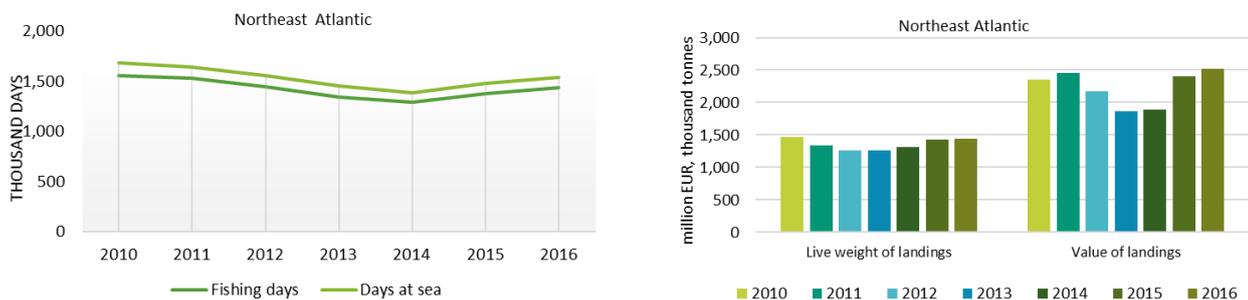
Data source: Member State data submissions under the DCF 2018 Fleet Economic ®(MARE/A3/AC(2018)).

Figure 4.39 Trends on effort and landings for MS fleets operating in the NE Atlantic region

Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC 2018).

Figure 4.40 Trends on revenue and profits for MS fleets operating in the NE Atlantic region
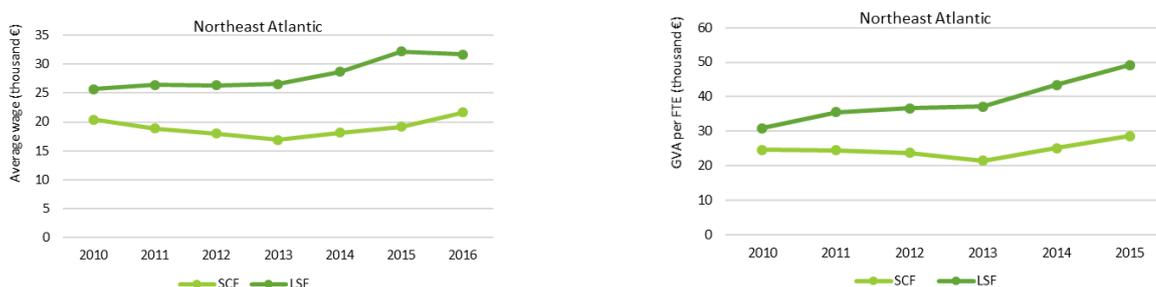
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.41 Trends on average wage and labour productivity (GVA per FTE) by fishing activity for MS fleets operating in the NE Atlantic region

Regional Details

The Northeast Atlantic region covers ICES subdivisions V, VI, VII (except VIId) and VIII, IX, X, XII. For simplicity EU vessels operating in the aforementioned ICES areas are referred to as the EU Northeast (NE) Atlantic fleet.

Ten MS fleets operated in the region in 2016; Belgium, Denmark, France, Germany, Ireland, Lithuania, the Netherlands, Portugal, Spain and the United Kingdom. Estimates provided for the Danish, Dutch, German and Lithuanian fleets should be considered with caution due to the limited fishing activity in the region (effort and landings shares in the region were less than 30% of the total). Therefore, according to the available data, the main fleets operating in the region were the Spanish, French, UK, Portuguese and Irish fleets. Some effort data by FAO fishing area (division) are missing for France for 2008 to 2009.

Tables 4.12 to 4.16 contain a summary of the economic performance of the Northeast Atlantic region fleet by Member State, main type of fishing activity and fleet segment.

MS fleet activity in the Northeast Atlantic region: situation in 2016 and recent trends

Based on the value of landings, the French (29%), Spanish (26%) and UK (20%) fisheries have the highest level of landings in the Northeast Atlantic. However, Ireland and Portugal have the highest total percentage of national landed value from the region at 92% and 65% respectively, indicating their high dependency on this area (Figure 4.42). France also has a high dependence on the area with over 70% of the value of its total landings coming from this area.

The high difference between value and weight of landings for France, Spain, UK, Portugal and Belgium compared to Ireland, Denmark or Netherlands reflects the higher value of demersal species more represented in those five MS fleet's landings.
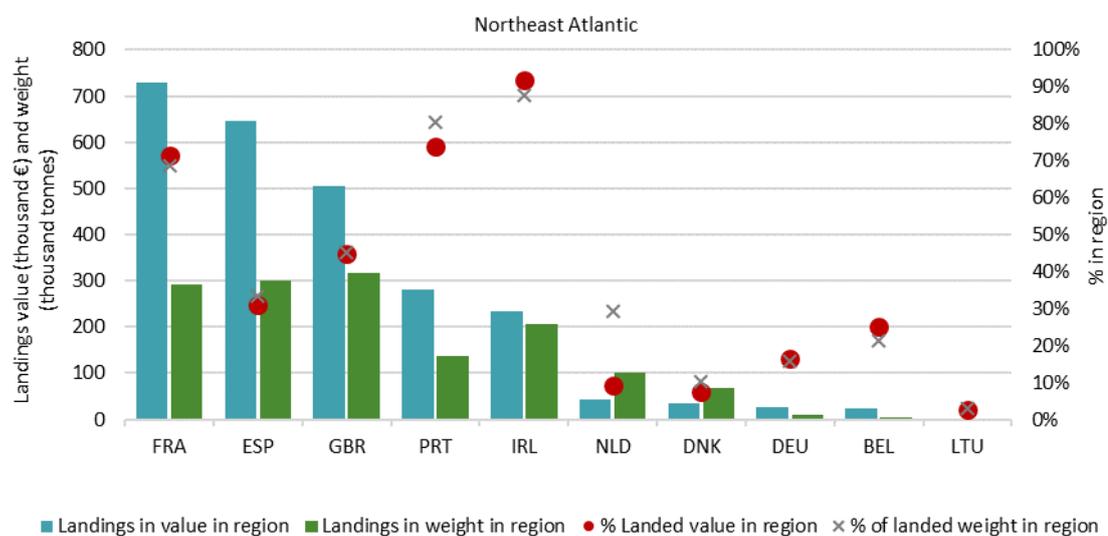
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.42 Importance of the NE Atlantic region for Member States' fisheries in terms of landings in weight and value, 2016

Fleet capacity and employment

According to the figures estimated at the regional level, the ten Member State fleets operating in the NE Atlantic region collectively numbered over 13 900 active vessels in 2016 a decrease of 5% from 2015. This makes the NE Atlantic the second region after the Mediterranean a region (18 084 vessels) in terms of vessels number. The Spanish fleet comprised the largest fleet in number (around 5 251 active vessels, or 37% of the total in the region) (Figure 4.43).

The SSCF accounted for 59% of the number of vessels and 47% of the days at sea, while LSF generated by far the highest landed weight, with 91% of the total and 85% of the value.

While the SSCF covered 59% of the number of vessels, employment estimated for this group amounted to more than 17 390 jobs and around 8 718 FTE in 2016, representing respectively around 39% of the

total jobs and 27% of the total FTEs in the Northeast Atlantic sea fisheries and indicating the predominate part-time nature of this fishing fleet.

Fleet capacity and employment of the MS fleets operating in the region have followed a general decreasing trend over most of the period analysed, apart from a slight increase in 2015 and into 2016 (Figure 4.44).
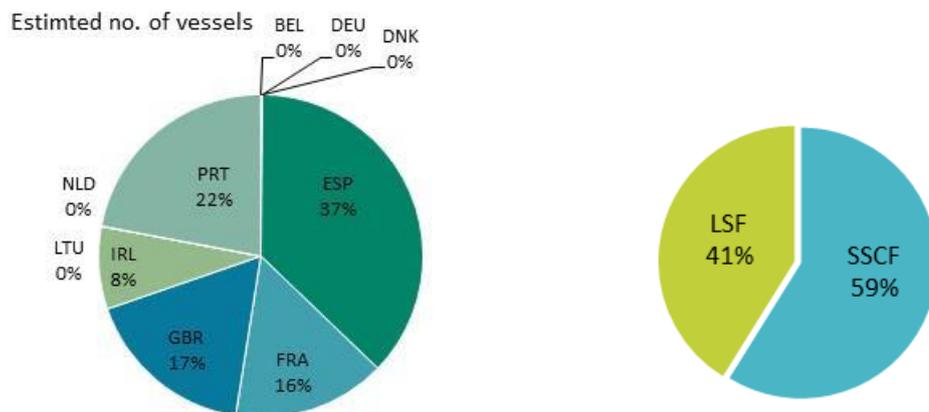
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.43 Share of NE Atlantic fleet capacity by MS and fishing activity, 2016
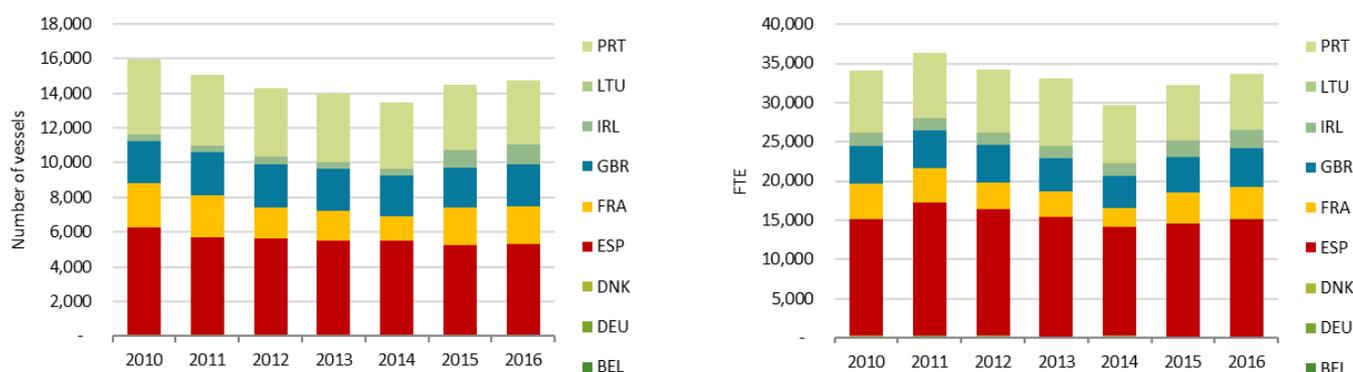
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.44 Trends on the number of vessels and employment (in FTE) for MS fleets operating in the NE Atlantic region

Fishing effort

The latest official DCF data suggests that the EU Northeast Atlantic fleet spent over 1.49 million days at sea in 2016, 43% of which were deployed by the Spanish fleet. Collectively, vessels from Portugal, France, United Kingdom, Spain and Ireland together accounted for around 99% of the total days at sea. These five fleets represented almost the total effort deployed in the region. It must be noted that Ireland had partial effort data for vessel less than 10m in length and only for the years 2013-2016, so conclusions regarding effort need to be taken with caution as Ireland's effort is underestimated for this segment (Figures 4.45 and 4.46).

The number of days at sea per fishing activity is quite balanced in the recent years. In 2016, SSCF vessels accounted for 53% of the total number of days at sea in the Northeast Atlantic area but only 9% of the landed weight and 15% of the landed value share.
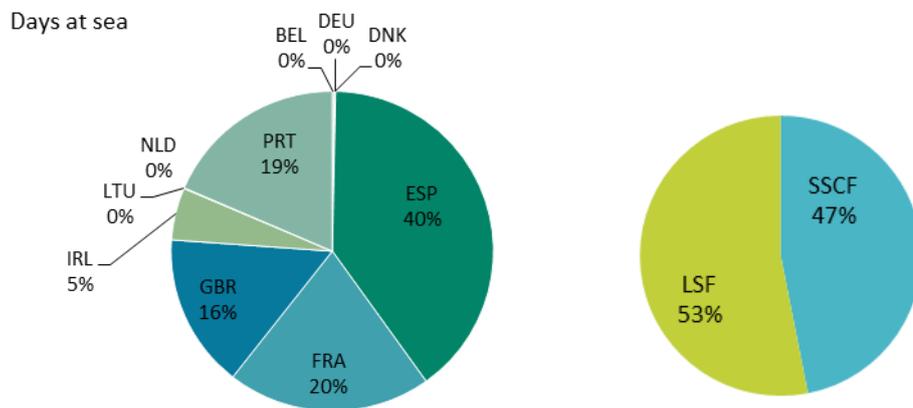
Figure 4.45 Share of effort deployed in the NE Atlantic region by MS and fishing activity, 2016

Fishing effort has decreased much in line with capacity, over the period analysed but with a significant drop in 2013, which can be largely attributed to the Spanish fleet. The capacity of the Spanish fishing fleet has significantly decreased in the last number of years to bring fishing capacity in balance with its fishing opportunities. Between 2008 and 2015, 3 656 vessels ceased activity and the decreasing trend in vessel number, engine power and gross tonnage is expected to continue for the coming years. Energy consumption has also followed a general decreasing trend, albeit more accentuated in 2014 after which we have seen an increase in energy consumption in 2015 and 2015 reflecting the increased in effort from 2015 and lower fuel prices.
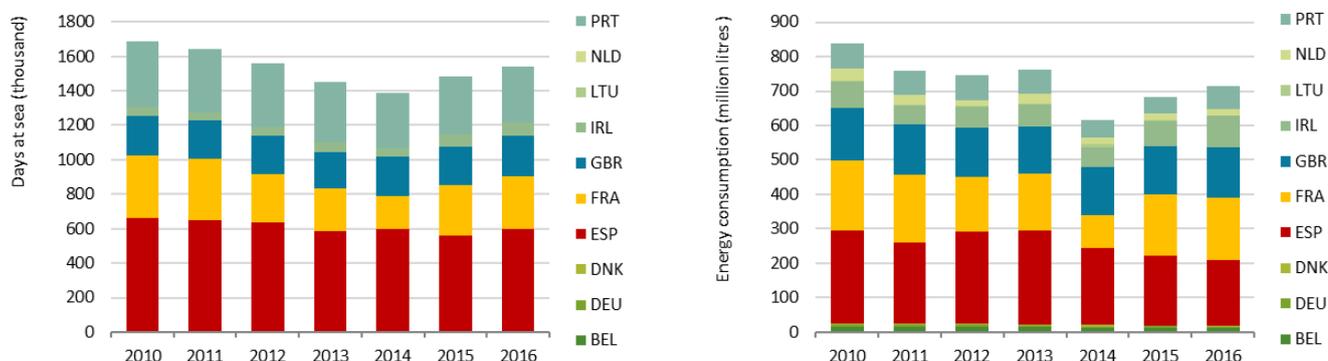
Figure 4.46 Trends on fishing effort (in days at sea) and energy consumption for MS fleets operating in the NE Atlantic region

Landings and top species

The weight and value of landings generated by the NA fleet amounted to approximately 1.4 million tonnes and EUR 2.34 billion, respectively. In terms of landed weight, the UK (316 thousand tonnes), Spanish (293 thousand tonnes), French (291 thousand tonnes), Irish (205 thousand tonnes) and Portuguese (128 thousand tonnes) were the leading national fleets, together accounting for over 87% of the total weight landed.

The French (EUR 729 million), Spanish (EUR 634 million), UK (EUR 505 million), Portuguese (EUR 247 million) and Irish (EUR 234 million) fleets together accounted for around 95% of the total value of landings in 2016 (Figure 4.47).

The weight of landings generated by the EU NE Atlantic fleet decreased 1% in 2016 compared to 2015, while the value increased 4% (Figure 4.48) despite the decrease in weight. Landings are mainly generated by the large-scale fleet, making up 91% of the live weight and 85% of the landed value. Data is present for all MS in the region for the time series presented.
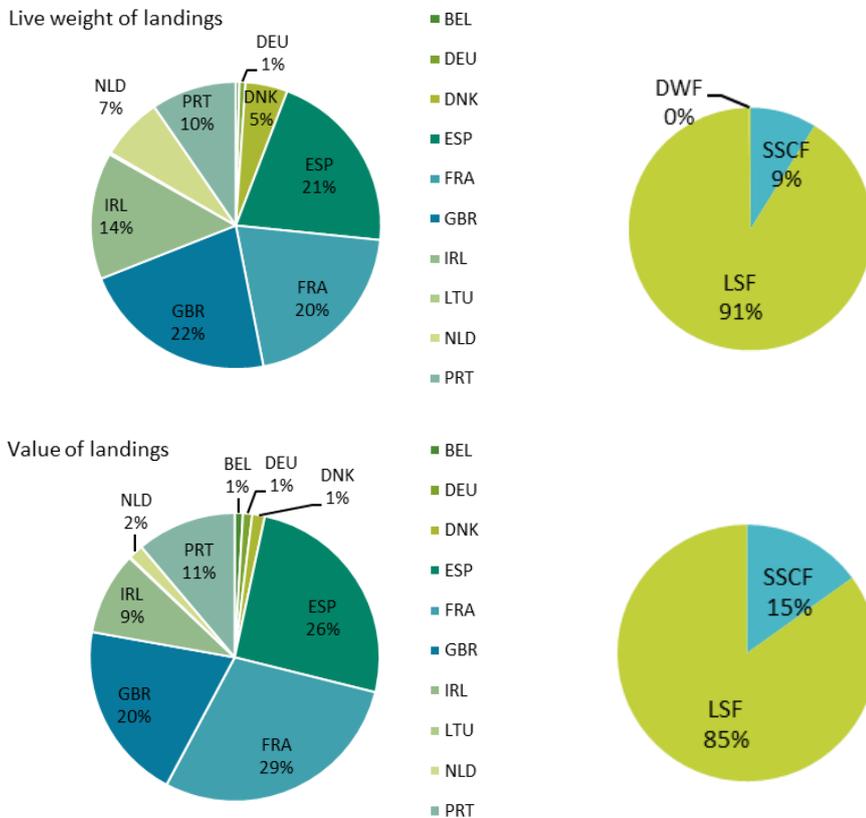
Live weight of landings

Value of landings

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.47 Share of landings from the NE Atlantic region by MS and fishing activity, 2016

Note: MS fleets with less than 1% are not shown

In 2016, the main species landed by the NE Atlantic fleet in terms of weight were small pelagic species, including Atlantic mackerel (254 thousand tonnes), blue whiting (204 thousand tonnes), followed by European hake (93 thousand tonnes) and horse mackerel (75 thousand tonnes).

In terms of value, European hake (EUR 296 million) was the most important species in 2016, followed by Atlantic mackerel (EUR 207 million) and Norway lobster (EUR 176 million) (or if, monkfish and anglerfish are grouped, produce a combined value of EUR 178 million).
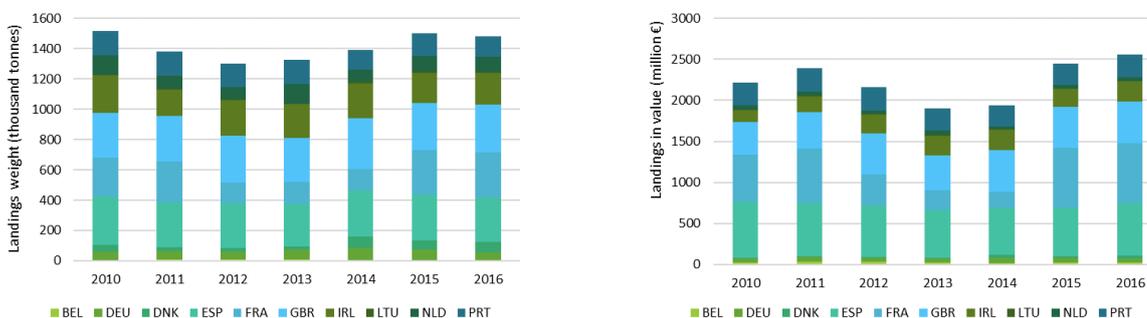
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.48 Trends on landings in weight and value from MS fleets operating in the NE Atlantic fishing region

The top species can be seen as drivers for MS fleets. The share in landed value of European hake is dominated by Spain and France (88%). Norway lobster landings values are dominated by the UK, with 37% of total landings, followed by Ireland and France with 34% and 26% respectively. Monkfish landings value (reported as MNZ) are dominated by France while anglerfish (ANF) value are dominated by the UK (43%), Spain (35%) and Ireland (16%). Blue whiting landings is shared between the MS fleets. Regarding small pelagic fishes, European pilchard landings are led by Portugal (38% share) France (29%), and Spain (25%). For European anchovy Spain is the main MS dependent on this species with 80% of the share (for this analysis the species anglerfishes and monkfishes were combined together) (Figure 4.49 and Figure 4.50).

Temporal trends in the value and weight of landings, have been significantly influenced by fluctuations in TAC and quotas for Atlantic mackerel, blue whiting and hake. Mackerel went through a significant increase in 2014 followed by a decrease in 2015, which impacted the total value of landings for MS targeting this species.
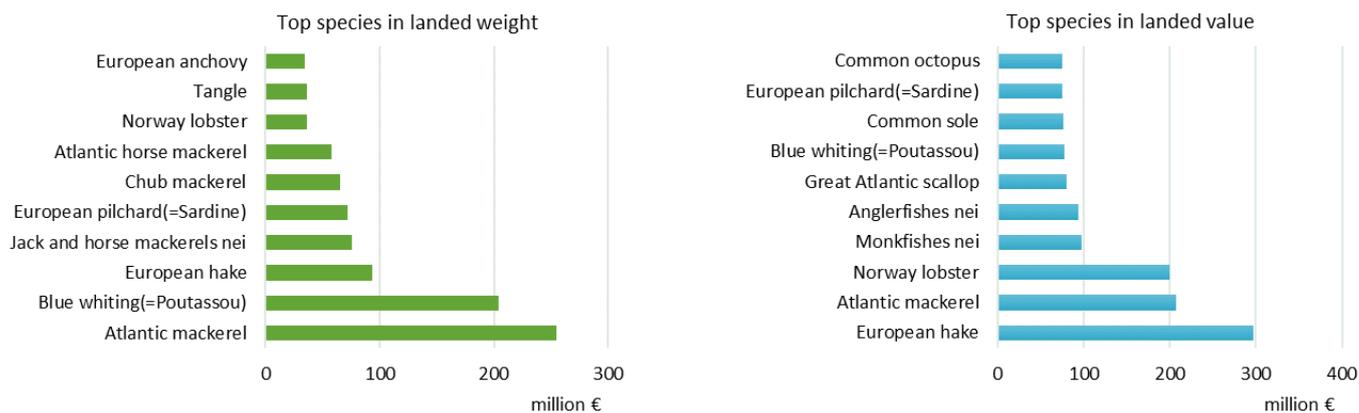
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.49 Top 10 species in terms of landed weight and value for MS fleets operating in the NE Atlantic, 2016
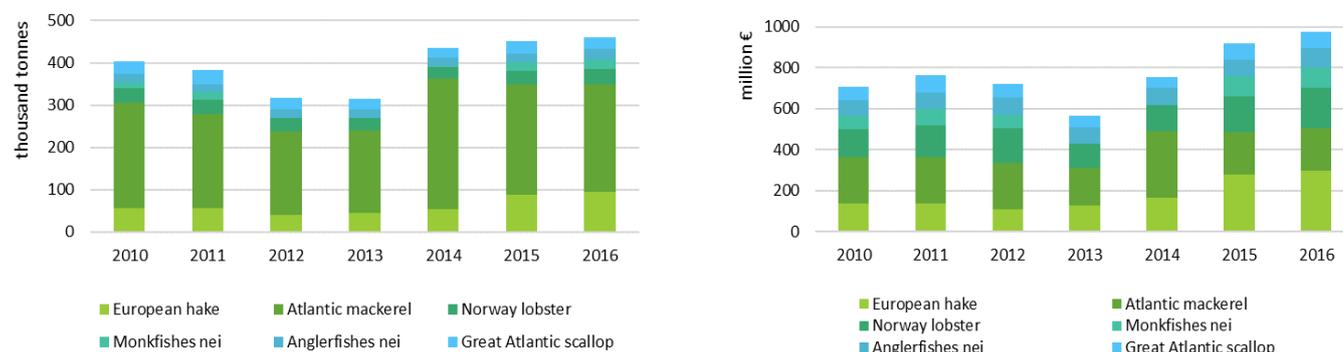
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.50 Trends on landings of the top six species in terms of landed value for MS fleets operating in the NE Atlantic region

Socio-economic performance

The revenue (income from landings and other income) generated by the EU Northeast Atlantic fleet covered in the analysis in 2016 was estimated at EUR 2.66 billion, 95% was produced by five MS fleets: France (EUR 799 million), Spain (EUR 691 million), UK (EUR 525 million), Ireland (EUR 265 million) and Portugal (EUR 254 million). This is an increase of 8% from 2015 (Figure 4.51).

Five Member State fleets saw increases of less than 10% while the German, Danish, and Irish fleets saw increases of 13%, 66% and 38%, respectively. The Dutch and Lithuanian, fleets suffered a decrease in revenue of 2% and 72%, respectively. These decreases are primarily driven by TAC and quota reductions.

The GVA produced was estimated at EUR 1.57 billion in 2016. This represented an overall increase of 16% compared to the previous year. The GVA for the Irish, Dutch and Spanish fleets in the region increased considerably +87%, +54%, and +19%, respectively. Conversely, Lithuania saw continued reductions in GVA.

After accounting for operating costs, the fleet made EUR 620 million in gross profit, an increase of 33% compared to 2015. The majority of MS fleets operating in the N Atlantic region generated gross profits. Only one MS Lithuania suffered net losses, (-EUR 4.7 million) due to creased fishing effort in the region.

By fishing activity, the NE Atlantic SSCF generated almost EUR 437 million in revenue in 2016, while the large-scale fleet generated almost EUR 2.2 billion in revenue (1% increase on 2015).

The variation in total annual revenue is mainly linked to fluctuations in TACs and quotas and fish prices. On the whole, the value of landings increased in 2016 compared to 2015 even through total landed weight decreased. In terms of the most important species European hake increased due to increasing TAC reflecting the success of the hake management plan and, to a lesser extent, improved prices in 2015

which were maintained into 2016. Value of landings for blue whiting decreased slightly in 2016 (9%) due reduced landings and slightly reduced average prices. The value of landings of Great Atlantic scallop recovered to the levels experienced in 2012 with almost 28 thousand tonnes landed in 2015 with a value of EUR 80 million.
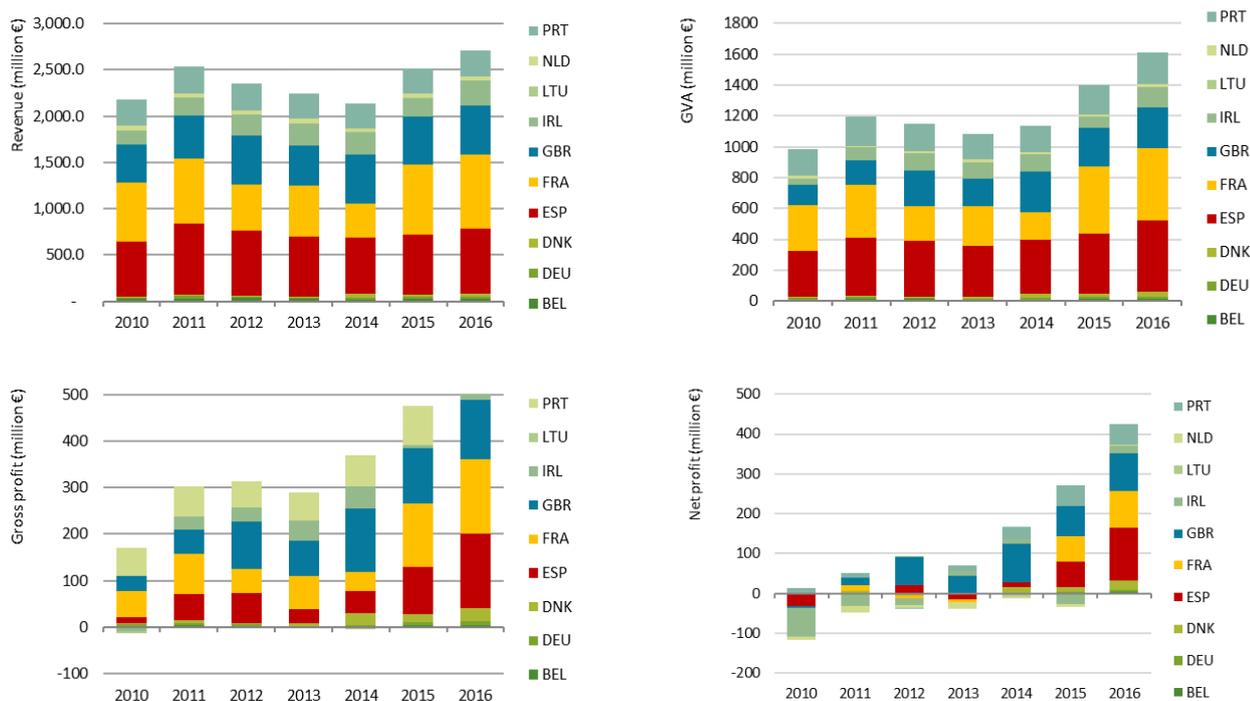
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.51 Trends on revenue (income from landings + other income) and profit (GVA, gross profit and net profit) for MS fleets operating in the NE Atlantic region

On the contrary, the value of landings for Atlantic mackerel decreased (37%) due to a 15% reduction in TAC from 2014 to 2015, as well as a decrease in its price. Ireland was affected by this reduction, reflected in the decrease of 12% of the total landed value, largely due to the decrease in mackerel TAC. Landings of common sole and European pilchard also slightly decreased between 2014 and 2015, due to lower TACs. However, a price augmentation is observed for common sole and the decrease in landings weight for European pilchard is mitigated by a slight price increase. Landings of common sole increase again in 2016.

The impact of changes in TACs and prices at MS level varies as their species composition and species dependency can differ considerably. The Northeast Atlantic is a wide region with various pelagic and demersal stocks. Among the 10 Member States fishing in the Northeast Atlantic, all are active in the North Western waters (VI, VII except VIId) with the exception of Portugal, and only Spain, France, Portugal and Belgium have fishing activities in the South Western waters (VIII, IX, X). Five countries, Spain, United Kingdom, Ireland, France and Portugal made up the most important part of the landings. The Northeast Atlantic fleet is strongly dependant on European hake landing values, in particular for France and Spain (respectively 32% and 44% of their top ten species landing values).

Productivity

On average, 494 litres of fuel per tonne of landed fish was used in Northeast Atlantic fisheries in 2016 (Figure 4.52). However, significant differences between fisheries are observed. From the most important segments, pelagic fisheries were the most fuel efficient, consuming 155 litres of fuel per landed tonne. The mid to large demersal trawlers consumed the most fuel per landed catch ranging from 906 to 1 505 litres of fuel per landed tonne.

An estimated 11% of the value of landed fish in the Northeast Atlantic went to pay for fuel costs in 2016, a similar value as in the North Sea (10%) due to a higher value of landings that offset the higher value of fuel cost (Figure 4.53). The large-scale demersal segments spent high amounts of their landed value on fuel costs (13%). Those segments benefited from the decrease in fuel prices, which has been a key driver for trawler profitability in recent times.
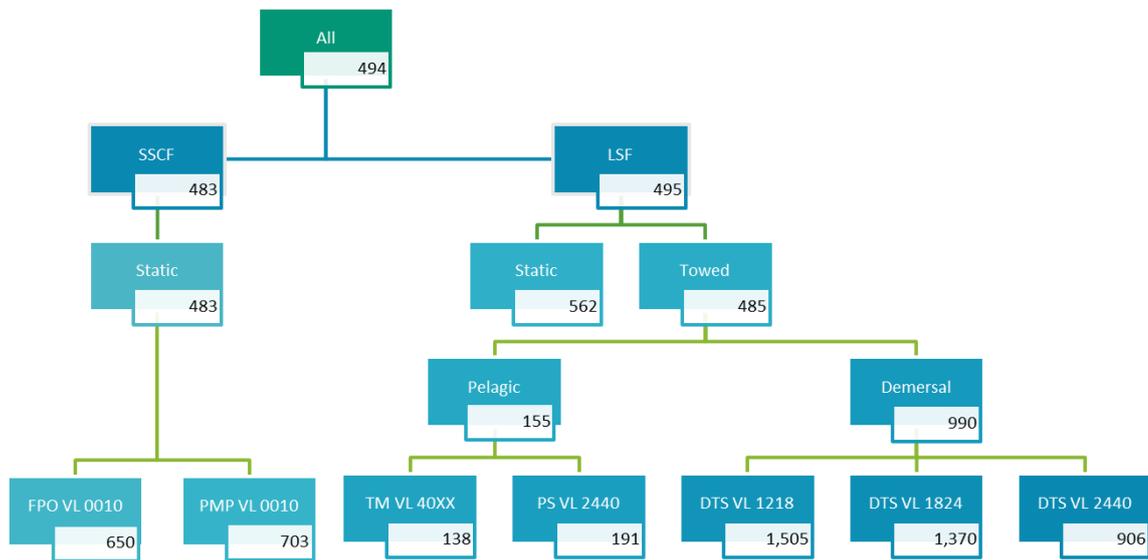
Figure 4.52 Schematic representation of the amount of fuel consumed per landed weight (litre/tonne) by the various MS fleet components operating in the NE Atlantic region, including some of the most important segments
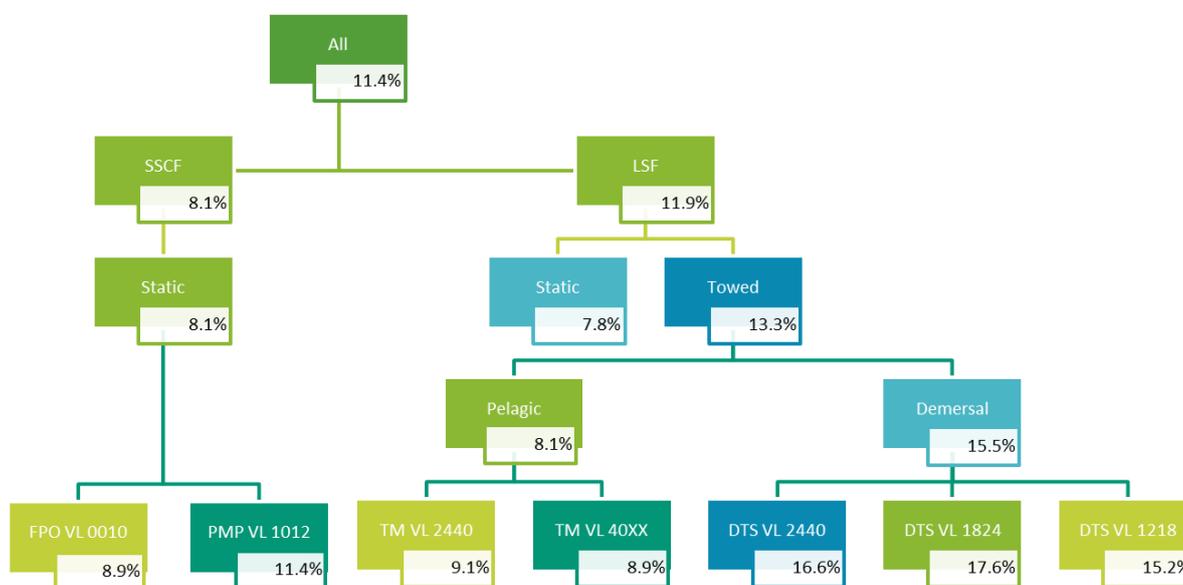
Figure 4.53 Schematic representation of the ratio fuel costs to landed value (%) for the various MS fleet components operating in the NE Atlantic region, including some of the most important segments

In 2016, the gross profit per day at sea was around EUR 416 for Northeast Atlantic fleets altogether, significantly less than in the North Sea fisheries (EUR 1 493) due to the larger diversity of the fishing segments and strategies in the Northeast Atlantic (Figure 4.54). This is an increase from 2015.

On average small-scale coastal fleets demonstrated a low but positive gross profit per day at sea of EUR 148. The LSF pelagic fisheries were highly profitable, more so than the demersal fisheries.

From the most important segments for the Northeast Atlantic, pelagic trawlers over 40m made on average EUR 25 177 in gross profit per day at sea, lower than the value for the same segments in the North Sea (EUR 44 067). Demersal trawls showed much smaller gross profit per day at sea with values ranging from EUR 475 to EUR 1 225 per day.
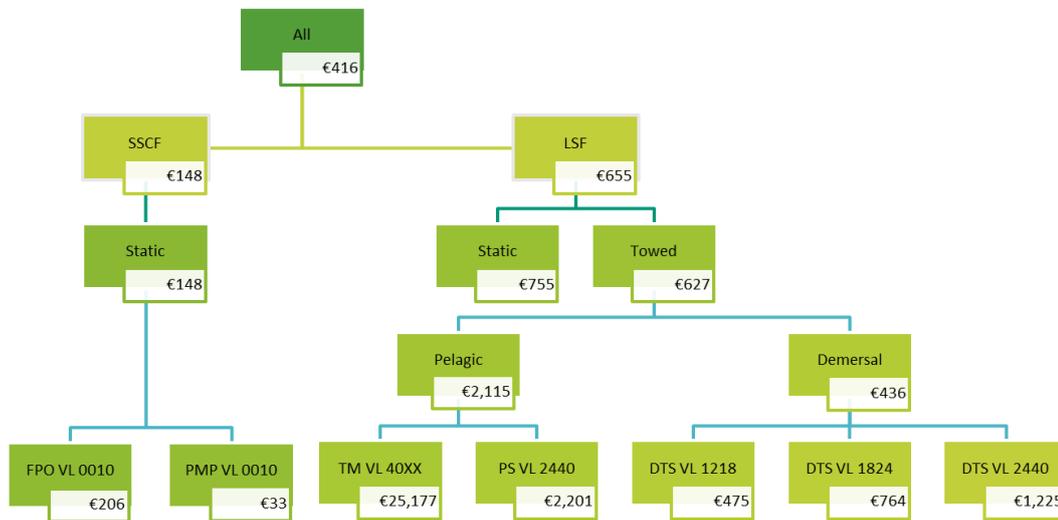
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.54 Schematic representation of the gross profit per day at sea generated by the various MS fleet components operating in the NE Atlantic region, including some of the most important segments

Regulation, Fisheries management and stock status in the region

- Council Regulation (EC) No 1300/2008 established a multi-annual plan for the herring stock distributed to the west of Scotland and the fisheries exploiting that stock in international and EU waters in ICES zones Vb and VIb, and the northern part of ICES zone VIa excluding the Clyde. The UK and Irish fleets were the most important fleet segment for this fishery. Most herring stocks (North Sea, Irish Sea and Celtic Sea) are fished in accordance with MSY, with corresponding 2016 TAC for these stocks. The situation is also positive for southern and western horse mackerel and the TAC allows fishing at levels corresponding to MSY in 2016.

- Long-term plan for cod stocks and the fisheries exploiting those stocks (Council Regulation (EC) No 1342/2008). The long-term plan for cod has an impact on the North-eastern Member States. The French, Belgian, German, UK, Irish, Dutch, Spanish and Portuguese fleets all have quota for cod and thus interact with the cod fisheries. As days at sea restrictions are becoming more constraining, it may have an effect on the economic performance of the fleets.

- Council Regulation (EC) No 388/2006 established a multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay covering ICES areas VIIIa and VIIIb. The French DFN segments are the most important fleets in term of sole landings in weight in the Northeast Atlantic with 26 000 tonnes (61%).

- Council Regulation (EC) No 509/2007 established a multi-annual plan for the sustainable exploitation of the stock of sole in the Western Channel (ICES VIIe). The sole fishery is most important to the UK and French fleets.

- Council Regulation (EC) No 2166/2005 established measures for the recovery of the Southern hake and Norway lobster stocks in the Cantabrian Sea and Western Iberian Peninsula and amending Regulation (EC) No 850/98 for the conservation of fishery resources through technical measures for the protection of juveniles of marine organisms. This has been very successful.

- Council Regulation (EU) No 713/2013 establishing the fishing opportunities for anchovy in the Bay of Biscay for the 2013/14 fishing season. This management plan concerns mainly Spanish and French fleets.

- Measures for the recovery of eel. Area covered includes EU estuaries and rivers that flow into seas in ICES areas III, IV, VI, VII, VIII, IX and the Mediterranean (Council Regulation (EC) No 1100/2007 of 18 September 2007). In the region, this management plan applies mainly to France.

- Council Regulation (EC) No 302/2009- 500/2012 Measures concerning a multiannual recovery plan for bluefin tuna in the eastern Atlantic and Mediterranean. According to STECF data, in 2015, three national fleets operated in this fishery with the French fleet representing 50% of the total of landings value in the Northeast Atlantic (followed by Portugal (48%) and Irish fleet (1%)).

- Council Regulation (EC) No 811/2004 to increase the quantities of mature fish in the Northern hake stock to at least 140 000 tonnes. This management plan concerns Spanish, French, Portuguese, Irish, UK, Dutch and Belgian fleets and has been successful.

Other management measures that may affect economic performance of the fleets operating in the Northeast Atlantic include marine protected areas and other legislation that has a multispecies impact.

In 2016, the landings obligation for demersal fisheries in the North Sea and the Atlantic EU waters came into force, bringing an important part of the EU fleet in the Northeast Atlantic under the obligation to bring and retain on board, and to land all catches. Fishing opportunities for stocks falling under the landing obligation are fixed taking into account catches rather than landings, based on biological advice and in the understanding that this should not jeopardise the MSY objective or increase the fishing mortality.

TAC development of main species

In 2016, there were quotas for 27 fish species defined for the region, 16 of them were demersal species, 7 pelagic species and 4 deep-sea species. There was in increase in the total TAC from 2015 to 2016 Figure 4.55).

Demersal species:

- This total TAC increase is mainly due to the positive development of hake stocks TAC (+11% in NWW and a slight increase in SWW from 2014 to 2015). Many hake stocks in divisions VI, VII and VIIIabd are exploited below MSY. Southern stocks are overfished but managed under technical measures for the conservation of fishery resources. French and Spanish fleets were the most impacted by this trend.

- In NWW, TAC of anglerfish increased by 40% over the period 2001-2015. The SWW anglerfish TAC increased slightly in recent years. In 2015, the French TAC represented more than 50% of the NWW TAC.

- TAC of common sole decreased in the recent years in the NWW, mainly for the stock in VIIfg (-21% from 2014 to 2015) as in the SWW.

- Norway lobster TAC in NWW and SWW remained quite stable. One of the main stocks of Norway lobster (Vb, VI) is sustainably exploited and the TAC is expected to increase in the coming years.

Pelagic Species:

TACs for pelagic species in the Northeast Atlantic region have varied since 2001 especially for blue whiting and mackerel with very high values in 2005 and then again in 2014.

- After a peak in 2014, the mackerel TAC of decreased from 2014 to 2015 impacting the Irish and British fleets.

- Horse mackerel TAC decreased in NWW from 2014 to 2015. On the contrary, the TAC increased in SWW during the same period positively impacting the Spanish and Portuguese fleets.

- Anchovy TAC increased by 23% from 2014 to 2015 (29 994 tonnes and 36 778 tonnes, respectively). Spain, Portugal and to a lesser extent France shared this TAC.

- TAC of blue whiting increased by 11% from 2014 to 2015. This increase positively affected the five most important MS fleets in the Northeast Atlantic.
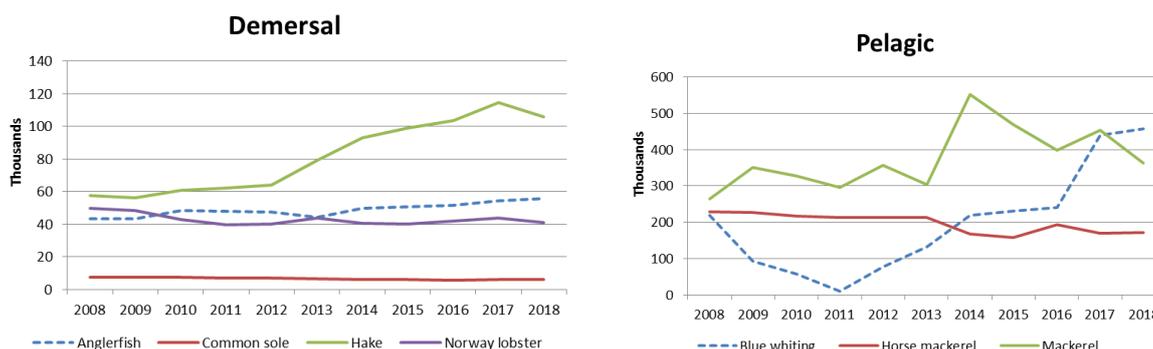
Source: Calculated based on 2017 TAC Council Regulations and BEMEF modelling

Figure 4.55 Trends on TACs for major demersal (left) and pelagic (right) stocks in the North Atlantic waters, 2001-2018

Status of important stocks

Fishing has generally progressed towards MSY (fishing at or below MSY) in all areas of the Northeast Atlantic since 2006.

Important stocks in the North Western Waters: many stocks, such as Norway Lobster (VII), mackerel and horse mackerel are overfished (but inside safe biological limits or managed under LTMP). Blue whiting, common sole (in VIIe) and Norway lobster (Vb and VI) and most herring stocks (North Sea, west of Scotland, Irish Sea and Celtic Sea) are exploited at a rate that is consistent with MSY. The common sole stock in VIIa is outside safe biological limits. The status of the anglerfish stock is unknown.

Important stocks in the South Western Waters: hake, mackerel, common sole and Norway lobster are overfished (but inside safe biological limits or managed under LTMP). All blue whiting stocks, one of the main horse mackerel stocks (IX) and the main anchovy stocks are fished in correspondence with MSY. Only one horse mackerel stock (VIIIc) is still outside safe biological limits. Norway lobster (VIIIabde) and anglerfish status of stocks are unknown.

Landing obligation

In 2015, no major problems occurred. The introduction of the landing obligation may be implemented with little extra effort in the pelagic sector as well as in the saithe fisheries as these fisheries traditionally have had low bycatch rates. However, more challenges are to be expected for demersal fisheries. Fishers fear that the discard ban will have a large impact on their profitability, mainly due to increased costs. Another concern is related to potential choke species. Particularly, in a mixed fishery this could be an issue as many species are caught at the same time and multiple choke species may occur. Whiting, haddock, ray, plaice, dab, turbot and brill are potential choke species candidates in mixed demersal fisheries. Therefore, to continue fishing throughout the year, it will be vital to have either enough quota available or adapt fishing strategies (optimal solution has not been discovered thus far).

Description of relevant fisheries in the region

Large-scale fleet

There were nine MS large-scale fleets operating in the Northeast Atlantic region totalling 5 834 active vessels. Spain and France have the largest number of active vessels with 2 881 vessels and 1 042 vessels, respectively. However, the area is more important to the Irish and Portuguese fleets with 98% and 83% of their large-scale fleet active in the area, respectively.

Overall the LSF was profitable in 2016, totalling EUR 1 282 billion in GVA and EUR 518 million in gross profit. The most profitable in terms of gross and net profit margins was the Danish NE Atlantic LSF with 76% and 63%, respectively. The French NE Atlantic LSF, consisting of over 1 042 vessels generated the highest revenue (EUR 639 million), followed by Spain (EUR 598 million), the UK (EUR 442 million) and Ireland (EUR 232 million). At MS level, all large-scale fleets operating in the NE Atlantic generated gross profits in 2016, with Spain generating the highest gross profit of EUR 145 million. All MS LSF made a positive net profit. Additionally, two distant water fleets (Lithuanian and Spanish fleets) were also active in the region in 2016. Note: Data on the EU distant water fleets operating in the region is limited and the economic indicators are to be interpreted with caution.

Total employment for the LSF is highest for Spain and Portugal totalling 11 767 and 5 553, respectively, reflecting the high number of active vessels in these MS. While the SSCF, for all MS, demonstrates a considerable difference between the numbers of total employed and total FTE, the LSF figures for total employed and FTE are closer in value indicating the high level of full time employment in this segment.

MS can be classed into different categories according to their dependency which is representative of their large-scale fleet landings composition in the Northeast Atlantic:

- Two MS have a high dependency on one or two species. For the Belgian fleet common sole constitutes 49% of landing value and for Denmark blue whiting constitutes 51% of total landings followed by mackerel (29%). The common sole fishery is highly important for the Belgian fleet valued at EUR 11 million; however, the French fleet, which is much larger, has a landings value of common sole of EUR 44.8 million, which makes up 6% of its total landed value (Figure 4.56 and Figure 4.57).

- The value of the Dutch fleet in the Northeast Atlantic is predominantly based on pelagic fisheries which make up to 91% of the total landings value (39% of blue whiting, 29% of horse mackerel, and 22% of mackerel).

- Moderate dependency on four species representing 53%/44% of total value of landings: pelagic and demersal species for the UK and Ireland (Atlantic mackerel, blue whiting, Norway lobster, anglerfish and, for UK, Great Atlantic scallop). In Ireland the main value species are *Nephrops* and mackerel totalling 38% of the total value. These two species have landing values of EUR 49.7 million and EUR 31.8 million, respectively. The UK LSF landings in the Northeast Atlantic, like Ireland, is dominated by mackerel and *Nephrops*, with landing values of EUR 101 million and EUR 80 million, respectively.

- For Spain and France, there is a more diverse landing composition, with hake playing a key role for both countries. The main species by landing value for France were hake (17%), monkfish (13%), *Nephrops* (6%) and common sole (6%). The main species by landing value for Spain were, hake (20%), anchovy (9%), albacore (7%) and anglerfish (5%).

Small-scale coastal fleet

There were small-scale coastal fleets from five Member States operating in the Northeast Atlantic. While 100% of Irish and 99% for the Portuguese SSCF fished in the NE Atlantic in 2015, it represented only part of the SSCF fishing activity for Spain (66%), France (83%) and UK (51%) as they were also active in the Mediterranean Sea and/or in the North Sea. In terms of vessel numbers Portugal and Spain have the highest number of active SSCF vessels with 2 486 vessels and 2 369 vessels, respectively.

Overall the SSCF was profitable in 2015, totalling EUR 298 million in GVA and EUR 103 million in gross profit. The most profitable in terms of gross and net profit margins was the Portuguese SSCF with 40.4% and 29%, respectively. The Irish SSCF fleet suffered net losses in 2015 although data for the SSCF Irish fleet is not complete and this result is uncertain this segment has improved and Ireland had a positive net profit. In terms of productivity, the Gross Value Added per FTE varied from EUR 17.6 thousand (Spain) to EUR 98.5 thousand (France), as the French fleet (EUR 160 million) accounted for 39% of the total SSCF revenue in that region while the Spanish fleet accounted for 45% of the FTEs (3 973 FTEs).

Total employment for the SSCF is highest for Portugal and Spain totalling 6 146 and 5 397, respectively, reflecting the high number of active vessels in these MS. All MS in the Northeast Atlantic demonstrate a much lower FTE figure in comparison with total employed indicating that a large majority of those employed in the SSCF are part-time or casual workers.
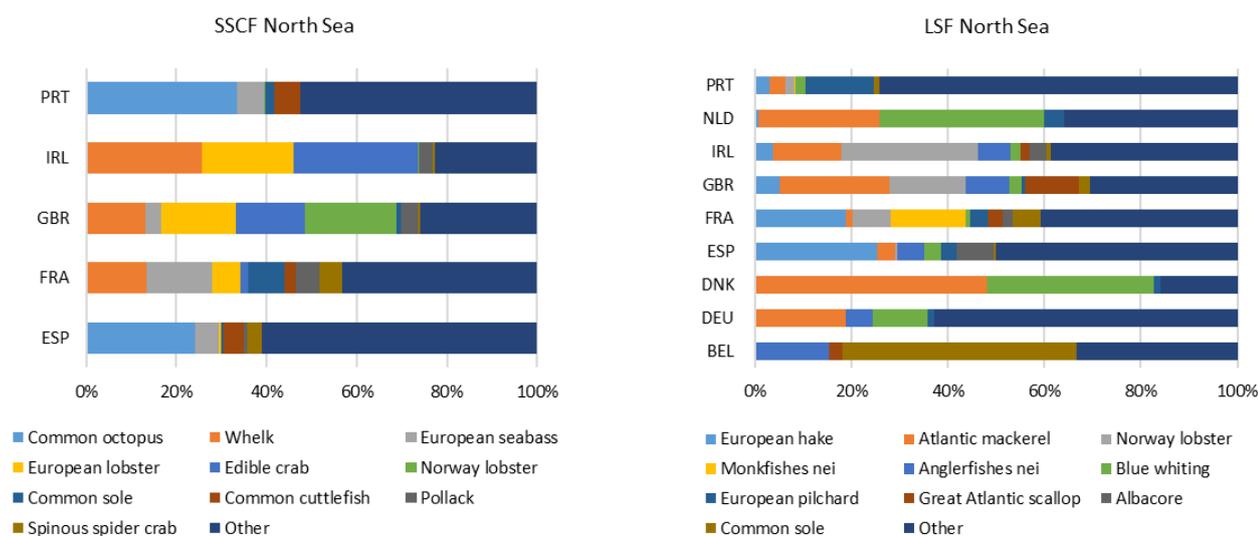
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.56 Top 10 species (and other) landed in terms of value as a proportion of the total landings in the region by MS small-scale coastal fleets and large-scale fleets operating in the NE Atlantic, 2016

SSCF North Sea

LSF North Sea

SSCF North Sea legend:
- Whelk
- Edible crab
- Tangle
- Common octopus
- North European kelp
- Atlantic mackerel
- Spinous spider crab
- European conger
- Great Atlantic scallop
- Pollack
- Other

LSF North Sea legend:
- Atlantic mackerel
- Blue whiting
- European hake
- Jack and horse mackerels nei
- European pilchard
- Chub mackerel
- Atlantic horse mackerel
- Norway lobster
- European anchovy
- Atlantic herring
- Other
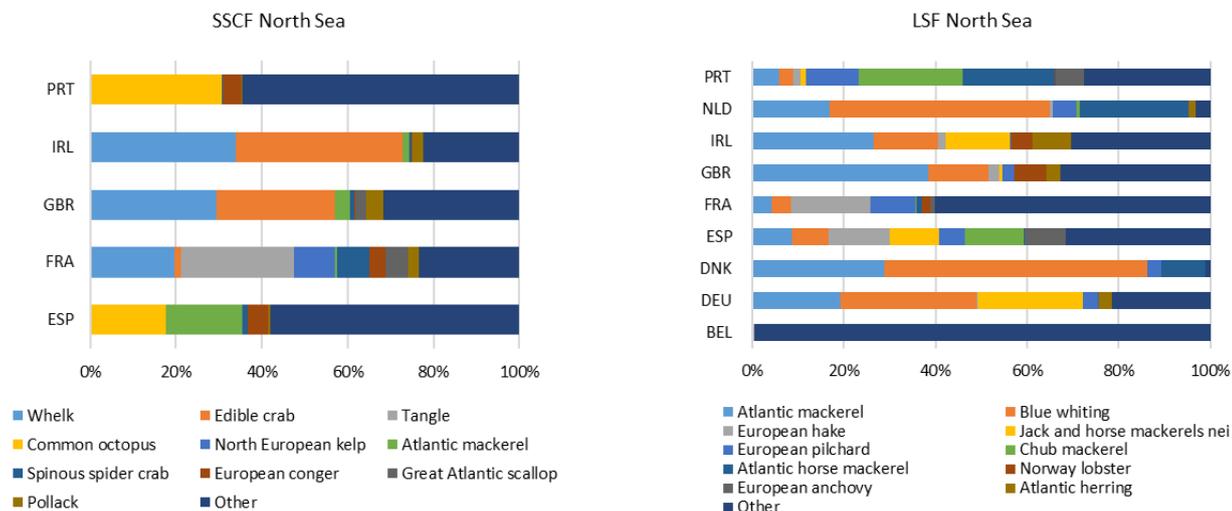
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.57 Top 10 species (weight as a proportion of the total landings), 2016

Performance by fleet segments

Table 4.15 provides results for the top 40 MS fleet segments in terms of landed value operating in the NE Atlantic region in 2015. These 40 MS fleet segments, out of the 174 fleet segments identified in the region, represented over 66% of the vessels (9 317 vessels), 75% of the landed weight (1 068 thousand tonnes) and 74% of the value (EUR 1.8 billion) generated by fleets in the region in 2016.

At fleet segment level, the French demersal trawlers between 18 and 24m generated the most revenue in 2016 (EUR 128 million), followed by the Spanish polyvalent passive gears between 24 and 40m (EUR 121 million), UK pelagic trawlers over 40m (EUR 118 million). The Spanish polyvalent passive gears between 24 and 40m also generated one of the highest GVA, estimated at EUR 76 million and GVA per FTE of EUR 1.3 million. This fleet segment posted an estimated net profit of EUR 28 million. The UK pelagic trawlers over 40m had the highest net profit at EUR 33 million.

There were 85 MS fleet segments that operated 90% or more in the Northeast Atlantic region in 2016, accounting for 70% of the number of vessels, 67% of the days at sea deployed, 72% of the FTE, 42% of the landed weight and 50% of the landed value. Collectively, these 'resident' fleets contributed to 55% of the GVA and 53% of the gross profit (Table 4.16). Of these, the Spanish polyvalent passive gears 24 to 40m segment, with a revenue of EUR 121 million and a net profit of EUR 28 million, was the most profitable. There is a significant gap between the first two most profitable segments and the others in term of revenue with the next segment, the Irish demersal 24 to 40m segment having revenue of EUR 45 million and net profit of EUR 9. The third and the fourth leading segments were the Portuguese demersal trawlers 24-40m and the French drift nets 24-40m with respectively EUR 48 million (net profit EUR 4 million) and EUR 41 million (net profit EUR 13 million). With similar profits but different fisheries: this Irish segment mainly fished Atlantic mackerel but its revenue was generated predominately from Norway lobster landings (more than EUR 20 million) while the French segment focused on European hake.

For the fleet segments operating 90% or more of their effort in the NE Atlantic, 14 fleets had a net profit over EUR 5 million and 26 had a net profit between EUR 1 and EUR 5 million.

Considering labour productivity, all the 12 French 'resident' fleet segments produced more than EUR 79 000 of GVA per FTE. The most efficient segment is the French drift net (DFN) 24-40m (EUR 137 200 of GVA per FTE). In Ireland, two segments dredgers (TM) 24-40m and over 40m had respectively EUR 105 700 of GVA per FTE and EUR 121 500 of GVA per FTE.

Table 4.12 Structure and economic performance estimates by MS fleets operating in the NE Atlantic region, 2016

	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)	(person)	(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Belgium	13	19%	3,821	12,442	76	57	3,185	22%	3,183	20%	5,729	21%	23,047	25%	23,393	24,209	7,517	4,015	12,556	51.9	5,039	20.8	3,048	12.6	970	219.2
Denmark	2	0.2%	2,888	5,485	14	21	352	0%	155	0%	67,579	10%	35,563	7%	35,457	35,960	5,089	1,160	32,271	89.7	27,182	75.6	22,629	62.9	13,732	1,553.7
France	2,166	39%	72,799	360,566	5,909	4,142	305,384	65%	286,036	65%	291,851	69%	729,363	71%	789,003	799,649	305,800	79,121	467,295	58.4	161,495	20.2	91,500	11.9	216	112.8
Germany	7	0.6%	4,990	6,857	124	95	1,529	1%	1,230	1%	9,566	16%	25,920	16%	26,024	26,109	8,558	1,673	17,436	66.8	8,878	34.0	5,926	22.7	2,568	183.3
Ireland	1,170	99%	52,228	147,627	3,024	2,376	78,844	99%	67,169	99%	205,183	88%	234,065	92%	263,735	265,241	82,954	31,362	134,603	50.8	51,688	19.5	19,790	7.5	116	57.1
Lithuania	0.4	0.4%	1,714	1,666	13	12	104	1%	79	1%	2,943	3%	2,433	3%	1,820	1,910	216	513	-574	-30.0	-790	-41.4	-1,160	-60.7	-1,304	-46.7
Netherlands	3	0.6%	21,470	22,007	141	141	810	2%	653	1%	101,116	29%	42,593	9%	42,665	42,714	11,002	5,412	20,195	47.3	9,193	21.5	1,752	4.1	6,174	143.6
Portugal	3,677	97%	40,989	222,406	13,916	7,073	320,418	96%	309,690	96%	136,575	80%	280,881	74%	288,150	288,757	117,260	35,208	201,170	69.7	83,909	29.1	52,577	18.2	55	28.4
Spain	5,265	63%	101,850	298,526	17,264	14,972	595,780	63%	595,780	63%	299,483	33%	644,977	31%	698,176	702,893	300,032	70,767	458,979	65.3	158,948	22.6	132,695	21.2	87	30.7
United Kingdom	2,442	53%	88,890	355,308	6,244	4,843	231,662	54%	174,143	54%	316,068	45%	505,541	45%	510,713	525,188	137,020	58,224	264,501	50.4	127,481	24.3	96,032	18.3	108	54.6

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.13 Structure and economic performance estimates by main type of fishing activity for MS fleets operating in the NE Atlantic region, 2016

		Estimated no. of vessels	% of Fishing Activity vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
		(#)	(%)	(GT)	(kW)	(person)	(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
NA Northeast Atlantic	SSCF	8,340	23%	27,304	370,479	17,390	8,718	699,312	26%	655,878	23%	123,625	46%	373,278	42%	431,580	437,783	194,605	30,052	298,097	68.1	103,515	23.7	71,060	19.2	36	34.2
	LSF	5,834	39%	354,068	1,019,807	26,913	23,749	791,537	41%	736,913	40%	1,295,097	35%	2,103,726	39%	2,199,244	2,226,399	764,091	251,025	1,282,466	57.6	518,390	23.3	347,618	15.9	220	54.0
	DWF	1	0%	1,924	1,958	24	25	273	0%	248	0%	3,350	1%	3,037	0%	2,409	2,503	319	657	-779	-31.1	-1,098	-43.9	-1,516	-60.6	-649	-30.6

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.14 Structure and economic performance estimates by MS and main type of fishing activity operating in the NE Atlantic region, 2016

		Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivity)
		(#)	(%)	(GT)	(kW)	(person)	(#)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
SSCF	ESP	2,369	57%	6,250	57,572	5,397	3,973	247,423	60.4%	247,423	60.4%	18,805	61.1%	74,355	61.0%	92,589	92,614	56,570	7,886	69,853	75.4	13,282.3	14.3	6,875.3	28.4	29.5	17.6
	FRA	1,124	27%	6,522	113,206	1,996	1,056	127,766	57%	126,534	57%	51,094	79%	132,509	67%	158,755	160,626	69,573	7,766	104,059	64.8	34,486	21.5	22,002	13.7	93	98.5
	GBR	1,663	51%	6,909	103,703	2,759	1,067	119,219	50%	78,477	50%	27,659	55%	78,995	55%	79,562	83,033	28,473	6,283	49,965	60.2	21,491	25.9	17,142	20.6	30	46.8
	IRL	701	100%	2,334	21,249	1,092	681	26,616	100%	25,880	100%	11,060	100%	18,829	100%	31,393	32,202	12,544	2,823	18,800	58.4	6,279	19.5	4,638	14.4	27	27.9
	PRT	2,483	1	5,288	74,749	6,146	1,941	178,288	83%	177,564	83%	15,007	82%	68,590	79%	69,281	69,309	27,444	5,292	55,421	80.0	27,977	40.4	20,402	29.4	22	29
LSF	BEL	13	19%	3,821	12,442	76	57	3,185	22%	3,183	20%	5,729	21%	23,047	25%	23,393	24,209	7,517	4,015	12,556	51.9	5,039	20.8	3,048	12.6	970	219.2
	DEU	7	3%	4,990	6,857	124	95	1,529	4%	1,230	3%	9,566	18%	25,920	17%	26,024	26,109	8,558	1,673	17,436	66.8	8,878	34.0	5,926	22.7	2,568	183.3
	DNK	2	1%	2,888	5,485	14	21	352	1%	155	0%	67,579	10%	35,563	8%	35,457	35,960	5,089	1,160	32,271	89.7	27,182	75.6	22,629	62.9	13,732	1,553.7
	ESP	2,881	72%	92,861	236,709	11,676	10,810	345,437	71%	345,437	71%	273,955	68%	559,208	58%	593,335	598,012	239,629	61,227	384,183	64.2	144,554	24.2	125,160	21.3	133	35.5
	FRA	1,042	72%	66,276	247,360	3,912	3,086	177,618	75%	159,502	74%	240,757	69%	596,853	73%	630,248	639,024	236,226	71,354	363,236	56.8	127,010	19.9	69,498	11.4	349	117.7
	GBR	779	56%	81,981	251,605	3,485	3,776	112,443	58%	95,666	58%	288,408	44%	426,546	43%	431,151	442,156	108,547	51,941	214,537	48.5	105,990	24.0	78,890	17.8	275	56.8
	IRL	469	98%	49,894	126,378	1,932	1,696	52,228	98%	41,289	98%	194,124	87%	215,236	91%	232,343	233,039	70,410	28,538	115,804	49.7	45,409	19.5	15,152	6.5	251	68.8
	NLD	3	1%	21,470	22,007	141	141	810	2%	653	2%	101,116	29%	42,593	9%	42,665	42,714	11,002	5,412	20,195	47.3	9,193	21.5	1,752	4.1	6,174	143.6
	PRT	637	1	29,888	110,964	5,553	4,068	97,935	1	89,798	1	113,864	1	178,759	1	184,628	185,175	77,113	25,706	122,249	66	45,136	24	25,562	14	192	30
DWF	ESP	1	0%	211	292	11	13	169	0%	169	0%	407	0%	603	0%	589	592	103	145	-205	-34.6	-308	-52.0	-357	-60.2	-270	-15.6
	LTU	0	0	1,714	1,666	13	12	104	0	79	0	2,943	0	2,433	0	1,820	1,910	216	513	-574	-30	-790	-41	-1,160	-61	-1,304	-47

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.15 Structure and economic performance estimates for the top 40 MS fleets operating in the NE Atlantic region, 2016

|	Estimated no. of vessels (#)	% of total no. of vessels (%)	Vessel tonnage (GT)	Engine power (kW)	Total employed	Full-time equivalent (national) (person)	Days at sea (day)	as a % of total sea days (%)	Fishing days (day)	as a % of total fishing days (%)	Live weight of landings (K tonnes)	as a % of total landed weight (%)	Value of landings (K €)	as a % of total landed value (%)	Income from landings (K €)	Revenue (K €)	Labour costs (K €)	Energy costs (K €)	Gross Value Added (K €)	GVA to revenue %	Gross profit (K €)	Gross profit margin %	Net profit (K €)	Net profit margin %	Average GVA (K €)	GVA per FTE (labour productivity) (K €)
FRA A27 DTS1824 *	112	83%	14,591	47,477	572	540	29,213	83%	24,078	83%	38,065	74%	123,284	82%	126,467	128,734	44,775	19,615	65,759	51.1	20,984	16.3	9,283	7.2	590	121.7
ESP A27 PGP2440 *	55	99%	14,375	21,518	828	1,005	10,499	99%	10,499	99%	27,781	99%	108,084	100%	120,598	121,182	41,083	8,019	76,724	63.3	35,641	29.4	28,470	23.5	1,389	76.4
GBR A27 TM40XX *	14	48%	27,310	63,453	161	50	920	48%	383	41%	161,059	45%	115,604	38%	118,012	118,806	25,184	7,980	67,431	56.8	42,247	35.6	33,186	27.9	4,988	1,361.1
ESP A27 DTS2440	107	100%	27,388	41,229	826	915	23,133	100%	23,133	100%	64,928	100%	135,474	100%	101,551	102,887	32,430	15,233	60,780	59.1	28,349	27.6	24,872	24.2	568	66.4
FRA A27 DTS2440 *	49	86%	11,752	30,628	353	343	13,980	86%	11,978	86%	29,431	76%	91,191	85%	91,047	91,532	27,829	16,400	43,879	47.9	16,050	17.5	5,883	6.4	899	127.7
FRA A27 DTS1218	134	88%	6,292	33,599	454	396	30,145	88%	26,791	88%	15,719	84%	77,672	90%	80,464	82,527	33,667	9,803	48,054	58.2	14,387	17.4	7,646	9.3	358	121.4
ESP A27 PMP0010	2,041	100%	4,043	41,811	4,143	2,947	206,239	100%	206,239	100%	11,253	100%	53,737	100%	64,766	64,791	42,845	6,250	48,702	75.2	5,857	9.0			24	16.5
IRL A27 DTS1824	69	100%	9,858	27,795	419	396	15,982	100%	12,307	100%	23,409	98%	61,197	99%	61,074	61,487	20,323	8,339	35,824	58.3	15,501	25.2	10,894	17.7	520	90.4
IRL A27 DTS2440	42	100%	8,897	20,908	394	374	10,365	100%	8,151	100%	20,899	100%	54,145	100%	54,037	54,431	14,152	7,026	27,237	50.0	13,085	24.0	9,033	16.6	648	72.9
IRL A27 TM40XX	17	87%	19,615	38,653	181	181	1,305	87%	515	91%	101,296	81%	39,196	72%	53,350	53,657	15,545	5,941	21,941	40.9	6,396	11.9	-7,389	-13.8	1,263	121.5
ESP A27 PS2440	56	98%	6,939	17,551	801	788	6,584	98%	6,584	98%	34,770	99%	44,029	99%	52,800	53,220	23,393	3,019	40,616	76.3	17,223	32.4	16,330	30.7	725	51.5
GBR A27 DTS2440	29	33%	7,914	17,153	260	363	5,962	33%	4,970	32%	19,723	25%	51,159	29%	51,518	54,344	12,897	6,337	28,859	53.1	15,962	29.4	14,174	26.1	1,005	79.6
ESP A27 DTS1824	74	100%	4,289	13,481	485	525	12,995	100%	12,995	100%	7,132	100%	22,875	100%	48,177	48,904	14,465	8,340	27,673	56.6	13,208	27.0	11,937	24.4	374	52.7
PRT A27 DTS2440	58	100%	12,332	30,224	492	479	14,441	100%	13,750	100%	33,928	100%	45,796	100%	48,128	48,399	15,278	12,648	24,885	51.4	9,607	19.9	4,359	9.0	429	52.0
GBR A27 FPO0010	876	48%	3,142	53,803	1,457	597	77,798	48%	41,755	47%	14,728	52%	45,704	54%	46,026	48,543	17,627	4,015	30,001	61.8	12,374	25.5	10,039	20.7	34	50.3
ESP A27 HOK2440	49	99%	7,740	19,511	656	959	5,971	99%	5,971	99%	20,362	100%	45,009	99%	45,100	45,223	20,764	3,222	34,717	76.8	13,953	30.9	13,670	30.2	703	36.2
FRA A27 HOK2440 *	19	95%	4,656	11,027	253	234	4,756	95%	3,791	96%	10,885	93%	35,997	91%	43,787	43,831	14,421	3,606	25,977	59.3	11,555	26.4	9,288	21.2	1,362	110.8
GBR A27 DTS1218 *	150	75%	7,414	30,942	607	631	23,772	75%	20,426	74%	15,855	75%	42,333	73%	42,635	44,121	11,728	5,811	21,857	49.5	10,129	23.0	7,800	17.7	145	34.6
FRA A27 DFN2440	18	100%	4,127	8,846	239	223	4,643	100%	3,437	100%	15,627	100%	40,324	100%	41,911	41,911	15,737	2,043	30,737	73.3	15,000	35.8	13,032	31.1	1,708	137.8
NLD A27 TM40XX *	3	46%	21,352	21,753	138	138	728	46%	582	46%	100,912	40%	41,881	41%	41,878	41,921	10,755	5,343	19,717	47.0	8,963	21.4	1,569	3.7	7,067	143.0
PRT A27 PGP0010	1,622	100%	3,157	47,500	4,163	1,356	125,173	100%	125,173	100%	9,661	100%	41,318	100%	41,636	41,636	16,875	3,455	33,130	79.6	16,255	39.0	11,684	28.1	20	24.4
FRA A27 DTS1012 *	154	82%	2,265	20,395	350	228	24,754	82%	25,424	82%	8,748	76%	36,534	80%	41,418	41,815	15,992	4,517	24,419	58.4	8,426	20.2	4,574	10.9	159	107.2
ESP A27 PS1824	97	98%	5,578	20,425	1,107	1,048	11,347	98%	11,347	98%	45,395	99%	41,867	97%	40,986	41,024	21,117	2,569	29,278	71.4	8,161	19.9	7,963	19.4	301	27.9
GBR A27 DTS1824	79	47%	10,860	30,568	475	555	13,856	47%	11,397	47%	14,562	34%	40,209	36%	40,491	43,055	10,702	7,106	16,472	38.3	5,770	13.4	3,143	7.3	209	29.7
FRA A27 DFN1218 *	64	88%	2,733	13,914	287	230	12,843	88%	11,669	88%	7,464	91%	37,177	91%	38,060	38,470	17,054	1,756	24,259	63.1	7,205	18.7	4,490	11.7	382	105.4
FRA A27 DFN1012 *	113	63%	1,427	18,453	358	231	17,513	63%	17,142	62%	7,465	72%	32,526	68%	37,911	38,732	17,952	1,641	26,083	67.3	8,131	21.0	5,317	13.7	231	112.8
DNK A27 TM40XX	2	10%	2,820	5,340	13	20	335	10%	147	8%	66,223	18%	34,405	19%	34,313	34,808	4,903	1,125	31,229	89.7	26,326	75.6	21,809	62.7	13,942	1,556.0
ESP A27 DTS1218 *	66	100%	1,674	7,105	409	405	9,825	100%	9,825	100%	3,787	100%	15,453	100%	32,503	33,116	11,614	7,035	17,945	54.2	6,330	19.1	5,358	16.2	272	44.4
ESP A27 PS1218	116	100%	2,358	12,235	1,049	894	12,784	100%	12,784	100%	28,686	100%	25,536	100%	31,681	31,681	16,286	1,678	24,102	76.1	7,816	24.7	7,103	22.4	208	27.0
FRA A27 DFN1824	29	97%	3,494	10,476	205	181	6,690	97%	5,421	97%	7,071	99%	29,775	99%	31,328	31,871	12,566	1,398	20,200	63.4	7,634	24.0	5,721	18.0	692	111.6
PRT A27 PS1824	52	100%	2,933	14,896	881	601	5,310	100%	5,310	100%	28,570	100%	29,088	100%	29,833	29,864	16,309	2,012	22,432	75.1	6,123	20.5	3,508	11.8	432	37.3
ESP A27 DR8001 0	1,731	100%	1,896	27,647	2,854	1,667	178,069	100%	178,069	100%	3,546	100%	29,570	100%	26,711	26,942	16,755	2,941	21,543	80.0	4,788	17.8	4,501	16.7	12	12.9
GBR A27 DRB1218	89	80%	3,378	17,392	366	340	12,557	80%	11,071	81%	9,719	59%	25,200	73%	25,376	26,102	6,871	3,484	9,634	36.9	2,762	10.6	529	2.0	108	28.3
FRA A27 HOK0010	213	89%	891	10,490	279	122	21,913	89%	21,864	89%	3,164	94%	20,907	93%	23,943	24,080	9,891	1,221	16,026	66.6	6,135	25.5	4,636	19.3	75	131.7
FRA A27 PS1218 *	29	100%	1,213	6,985	180	115	4,557	100%	4,310	100%	22,926	100%	21,232	100%	23,636	23,686	11,598	764	16,661	70.3	5,064	21.4	3,645	15.4	575	145.5
GBR A27 TB82440 *	23	69%	5,586	18,658	166	264	4,877	69%	4,217	68%	6,482	37%	22,927	48%	23,088	23,091	6,587	7,476	6,354	27.5	-233	-1.0	-2,009	-8.7	281	24.1
IRL A27 FPO0010	592	100%	1,139	12,542	874	525	17,710	100%	17,710	100%	5,400	100%	9,899	100%	22,484	22,796	8,120	1,868	14,259	62.6	6,138	26.9	5,032	22.1	24	27.2
FRA A27 FPO0010	220	78%	818	18,587	355	175	24,672	78%	24,410	79%	5,716	70%	17,784	74%	22,028	22,313	9,509	995	14,023	62.9	6,123	20.2	2,985	13.4	64	80.3
DEU A27 DTS40XX	2	32%	4,179	5,095	61	48	521	32%	411	32%	8,724	39%	21,917	47%	22,004	22,090	7,113	1,192	16,120	73.0	9,006	40.8	6,473	29.3	7,101	338.4
FRA A27 FPO1012	54	81%	605	8,052	162	126	9,650	81%	9,648	81%	7,287	86%	15,995	83%	22,004	22,114	8,938	1,022	14,422	65.2	5,483	24.8	4,117	18.6	269	114.6

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.16 Structure and economic performance estimates for MS fleet segments operating 100% in the NE Atlantic region, 2016

|	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivity)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
ESP A27 DTS2440	107	100%	27,388	41,229	826	915	23,133	100%	23,133	100%	64,928	100%	135,474	100%	101,551	102,887	32,430	15,233	60,780	59.1	28,349	27.6	24,872	24.2	568	66.4
IRL A27 DTS2440	42	100%	8,897	20,908	394	374	10,365	100%	8,151	100%	20,899	100%	54,145	100%	54,037	54,431	14,152	7,026	27,237	50.0	13,085	24.0	9,033	16.6	648	72.9
PRT A27 DTS2440	58	100%	12,332	30,224	492	479	14,441	100%	13,750	100%	33,928	100%	45,796	100%	48,128	48,399	15,278	12,648	24,885	51.4	9,607	19.9	4,359	9.0	429	52.0
FRA A27 DFN2440	18	100%	4,127	8,846	239	223	4,643	100%	3,437	100%	15,627	100%	40,324	100%	41,911	41,911	15,737	2,043	30,737	73.3	15,000	35.8	13,032	31.1	1,708	137.8
PRT A27 PGP0010	1,622	100%	3,157	47,500	4,163	1,356	125,173	100%	125,173	100%	9,661	100%	41,318	100%	41,636	41,636	16,875	3,455	33,130	79.6	16,255	39.0	11,684	28.1	20	24.4
PRT A27 PS1824	52	100%	2,933	14,896	881	601	7,343	100%	5,310	100%	28,570	100%	29,088	100%	29,833	29,864	16,309	2,012	22,432	75.1	6,123	20.5	3,508	11.8	432	37.3
FRA A27 PS1218 *	29	100%	1,213	6,985	180	115	4,557	100%	4,310	100%	22,926	100%	21,232	100%	23,636	23,686	11,598	764	16,661	70.3	5,064	21.4	3,645	15.4	575	145.5
IRL A27 FPO0010	592	100%	1,139	12,542	874	525	17,710	100%	17,710	100%	5,400	100%	9,899	100%	22,484	22,796	8,120	1,868	14,259	62.6	6,138	26.9	5,032	22.1	24	27.2
PRT A27 PS2440	20	100%	1,693	7,297	403	263	2,940	100%	2,321	100%	14,170	100%	14,540	100%	14,822	14,837	7,743	1,025	11,479	77.4	3,736	25.2	2,137	14.4	574	43.6
PRT A27 FPO1218	60	100%	1,349	7,315	589	455	10,298	100%	9,759	100%	3,425	100%	12,913	100%	13,018	13,042	5,452	893	10,083	77.3	4,632	35.5	3,124	24.0	168	22.2
IRL A27 DTS1218	42	100%	2,093	7,194	152	122	5,604	100%	4,760	100%	4,814	100%	10,510	100%	10,488	10,509	3,374	1,431	5,361	51.0	1,987	18.9	1,069	10.2	128	44.1
PRT A27 FPO0010	160	100%	453	6,404	349	135	13,992	100%	13,992	100%	1,741	100%	9,274	100%	9,334	9,345	3,279	511	7,847	84.0	4,568	48.9	3,864	41.4	49	58.1
ESP A27 DFN1012 *	106	100%	728	5,138	464	374	15,498	100%	15,498	100%	2,314	100%	6,939	100%	9,249	9,249	4,294	484	7,863	85.0	3,569	38.6	3,492	37.8	74	21.0
ESP A27 HOK1012 *	64	100%	449	3,221	256	260	6,698	100%	6,698	100%	2,154	100%	4,798	100%	9,231	9,231	3,964	362	6,286	68.1	2,322	25.2	2,261	24.5	98	24.2
IRL A27 TBB2440 *	15	100%	1,899	5,426	113	107	3,409	100%	2,694	100%	3,212	100%	8,617	100%	8,600	8,600	752	667	7,049	82.0	6,298	73.2	5,867	68.2	470	66.2
ESP A27 DRB1218	84	100%	1,192	7,301	252	250	9,225	100%	9,225	100%	2,286	100%	7,438	100%	8,127	8,127	3,201	978	4,364	53.7	1,163	14.3	1,108	13.6	52	17.5
PRT A27 DFN1218	52	100%	1,143	6,132	372	278	8,530	100%	7,888	100%	1,708	100%	7,838	100%	7,932	7,937	3,458	706	5,667	71.4	2,210	27.8	1,094	13.8	109	20.4
PRT A27 PS1218	36	100%	723	4,844	330	219	5,224	100%	3,878	100%	8,101	100%	7,386	100%	7,539	7,555	3,777	572	5,470	72.4	1,693	22.4	1,077	14.3	152	25.0
PRT A27 DFN1824	25	100%	1,764	5,824	305	295	6,075	100%	5,477	100%	2,134	100%	6,282	100%	6,334	6,364	2,619	934	4,112	64.6	1,493	23.5	406	6.4	164	13.9
PRT A27 FPO1012	52	100%	451	3,648	199	104	6,629	100%	6,116	100%	1,140	100%	5,489	100%	5,526	5,526	1,929	306	4,316	78.1	2,386	43.2	1,731	31.3	83	41.5
PRT A27 DFN0010	425	100%	578	9,197	932	153	16,232	100%	16,232	100%	903	100%	5,423	100%	5,471	5,471	2,421	439	4,447	81.3	2,026	37.0	1,180	21.6	10	29.1
IRL A27 DRB0010	158	100%	512	5,099	211	107	2,050	100%	2,050	100%	1,176	100%	3,998	100%	5,236	5,236	1,718	411	3,520	67.2	1,802	34.4	1,567	29.9	22	32.8
PRT A27 PS1012	29	100%	254	2,202	225	131	3,539	100%	3,011	100%	4,449	100%	4,935	100%	5,013	5,019	2,601	315	3,894	77.6	1,293	25.8	955	19.0	134	29.7
FRA A27 PGO0010 *	85	100%	177	5,181	122	26	2,853	100%	2,853	100%	4,740	100%	1,707	100%	4,637	4,662	2,338	122	3,824	82.0	1,485	31.9	1,002	21.5	45	145.9
IRL A27 DRB1012 *	48	100%	590	3,887	110	101	4,773	100%	4,058	100%	1,339	100%	4,520	100%	4,511	4,519	1,969	843	1,839	40.7 -	130 -	2.9 -	490 -	10.8	38	18.2
PRT A27 DTS1824	7	100%	838	2,370	50	47	1,712	100%	1,673	100%	426	100%	4,328	100%	4,434	4,439	1,705	986	2,607	58.7	902	20.3	450	10.1	373	55.5
ESP A27 FPO1012	71	100%	487	3,548	238	175	11,550	100%	11,550	100%	1,061	100%	4,917	100%	4,371	4,371	2,725	274	3,232	74.0	507	11.6	483	11.1	46	18.5
IRL A27 DFN1824 *	12	100%	723	2,409	56	49	1,882	100%	1,300	100%	1,512	100%	3,622	100%	3,615	3,615	3,230	668 -	2,688 -	74.4 -	5,918 -	163.7 -	7,342 -	203.1 -	224 -	54.5
ESP A27 PMP1012	70	100%	480	3,236	260	189	5,869	100%	5,869	100%	1,877	100%	2,971	100%	3,548	3,548	2,219	480	2,602	73.3	384	10.8			37	13.8
PRT A27 DRB1218	13	100%	193	1,221	78	41	1,429	100%	1,333	100%	1,239	100%	2,994	100%	3,012	3,021	1,024	152	2,446	81.0	1,422	47.1	1,174	38.9	188	59.7
PRT A27 HOK0010	133	100%	133	2,842	200	61	9,120	100%	9,120	100%	618	100%	2,395	100%	2,588	2,588	1,077	144	2,193	84.7	1,116	43.1	942	36.4	16	36.0
PRT A27 DTS1218	7	100%	267	1,223	43	42	1,450	100%	1,387	100%	860	100%	2,299	100%	2,419	2,421	835	480	1,543	63.7	708	29.2	483	19.9	220	36.8
ESP A27 PS1012 *	20	100%	149	1,083	124	130	1,719	100%	1,719	100%	2,227	100%	1,828	100%	2,341	2,341	1,445	156	1,969	84.1	524	22.4			98	15.2
PRT A27 DFN1012	21	100%	197	1,522	95	62	2,570	100%	2,435	100%	357	100%	1,979	100%	1,995	2,009	681	156	1,521	75.7	840	41.8	582	28.9	72	24.5
PRT A27 DRB1012	24	100%	198	1,666	79	44	3,112	100%	3,064	100%	1,071	100%	1,822	100%	1,842	1,842	703	399	1,164	63.2	461	25.0	232	12.6	49	26.5
PRT A27 MGO0010	33	100%	100	1,262	226	81	2,288	100%	2,288	100%	2,132	100%	1,746	100%	1,794	1,795	666	185	1,469	81.9	803	44.8	651	36.3	45	18.1
PRT A27 PS0010	21	100%	105	985	124	35	1,429	100%	1,429	100%	1,308	100%	1,763	100%	1,790	1,804	890	95	1,456	80.7	566	31.4	398	22.1	69	41.6
PRT A27 FPO1824	7	100%	415	1,723	85	81	1,528	100%	1,372	100%	650	100%	1,714	100%	1,727	1,727	683	202	1,206	69.8	523	30.3	212	12.3	172	14.9
ESP A27 DRB1012	14	100%	86	615	42	27	1,381	100%	1,381	100%	294	100%	982	100%	1,614	1,614	828	176	1,124	69.6	296	18.3	279	17.3	80	41.5
IRL A27 DTS1012	20	100%	298	1,816	41	29	1,317	100%	1,175	100%	1,214	100%	1,516	100%	1,513	1,513	966	531	158	10.5 -	808 -	53.4 -	987 -	65.2	8	5.4

continued..

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

PRT A27 DTS0010	5	100%	51	285	22	22	1,141	100%	1,087	100%	382	100%	1,487	100%	1,502	1,502	531	186	1,141	76.0	610	40.6	534	35.6	228	51.9
PRT A27 PMP0010	47	100%	104	1,741	118	33	2,901	100%	2,901	100%	335	100%	1,165	100%	1,172	1,172	604	155	862	73.6	258	22.0	110	9.4	18	26.1
PRT A27 TBB0010	36	100%	82	1,244	106	47	2,896	100%	2,896	100%	264	100%	956	100%	1,162	1,162	295	177	855	73.6	560	48.2	462	39.7	24	18.2
PRT A27 DTS1012	3	100%	57	705	16	16	708	100%	689	100%	270	100%	1,077	100%	1,089	1,093	355	159	750	68.6	395	36.1	323	29.6	250	46.9
IRL A27 DFN1012	12	100%	162	970	24	18	939	100%	704	100%	543	100%	1,000	100%	998	998	735	99	329	33.0 -	406 -	40.7 -	576 -	57.7	27	18.6
PRT A27 TBB1012 *	11	100%	100	583	42	29	1,254	100%	1,170	100%	269	100%	537	100%	965	965	281	113	751	77.8	470	48.7	356	36.9	68	25.9
PRT A27 HOK1012	6	100%	57	427	18	13	646	100%	634	100%	117	100%	856	100%	861	861	331	57	663	77.0	332	38.5	278	32.3	111	51.1
PRT A27 DRB0010	43	100%	136	1,912	100	39	3,775	100%	3,775	100%	431	100%	750	100%	755	755	260	193	377	50.0	118	15.6 -	32 -	4.2	9	9.7
PRT A27 PGP1012	17	100%	158	1,468	72	24	1,025	100%	961	100%	136	100%	691	100%	697	699	246	69	441	63.1	195	28.0	31	4.5	26	18.4
PRT A27 PGP1824	3	100%	250	637	37	27	494	100%	445	100%	168	100%	657	100%	663	663	265	62	436	65.8	171	25.8	51	7.7	145	16.2
IRL A27 TM1218 *	4	100%	117	523	14	12	149	100%	134	100%	444	100%	381	100%	381		15									
PRT A27 MGO1012	8	100%	47	354	58	17	508	100%	508	100%	272	100%	276	100%	282	282	115	42	166	59.0	51	18.2 -	21 -	7.5	21	9.8
IRL A27 PMP1218 *	2	100%	37	179	6	4	180	100%	107	100%	224	100%	223	100%	195	195	25	17	155	79.7	130	66.6	130	66.6	78	35.5
IRL A27 TM0010 °	3	100%	50	247			32	100%	32	100%	115	100%	67	100%	67		-									
IRL A27 HOK1012 °	4	100%	37	273	8	6	85	100%	77	100%	18	100%	24	100%	20		23									
ESP A27 DRB0010	1,731	100%	1,896	27,647	2,854	1,667	178,069	100%	178,069	100%	3,546	100%	29,570	100%	26,711	26,942	16,755	2,941	21,543	80.0	4,788	17.8	4,501	16.7	12	12.9
ESP A27 DTS1824	74	100%	4,289	13,481	485	525	12,995	100%	12,995	100%	7,132	100%	22,875	100%	48,177	48,904	14,465	8,340	27,673	56.6	13,208	27.0	11,937	24.4	374	52.7
ESP A27 DFN1218	145	100%	2,838	11,209	681	694	23,687	100%	23,687	100%	5,630	100%	17,703	100%	20,540	20,718	11,190	1,356	14,214	68.6	3,023	14.6	2,774	13.4	98	20.5
ESP A27 FPO1218	56	100%	794	3,619	188	141	9,318	100%	9,318	100%	1,365	100%	5,085	100%	3,404	3,404	2,051	426	2,426	71.3	374	11.0	321	9.4	43	17.2
ESP A27 PMP0010	2,041	100%	4,043	41,811	4,143	2,947	206,239	100%	206,239	100%	11,253	100%	53,737	100%	64,766	64,791	42,845	6,250	48,702	75.2	5,857	9.0			24	16.5
ESP A27 DTS1218 *	66	100%	1,674	7,105	409	405	9,825	100%	9,825	100%	3,787	100%	15,453	100%	32,503	33,116	11,614	7,035	17,945	54.2	6,330	19.1	5,358	16.2	272	44.4
FRA A27 MGP0010 *	16	100%	109	1,313	22	9	1,409	100%	1,409	100%	3,268	100%	1,094	100%	987	991	360	62	685	69.1	325	32.8	165	16.7	43	79.8
IRL A27 DTS1824	69	100%	9,858	27,795	419	396	15,982	100%	12,307	100%	23,409	98%	61,197	99%	61,074	61,487	20,323	8,339	35,824	58.3	15,501	25.2	10,894	17.7	520	90.4
IRL A27 FPO1012	93	100%	996	7,465	186	132	7,882	100%	7,389	100%	5,099	100%	7,906	100%	7,890	8,407	3,665	856	4,212	50.1	546	6.5	182	2.2	45	31.8
FRA A27 TM1218	12	100%	718	3,675	55	51	2,910	100%	2,394	100%	4,449	100%	9,906	100%	9,635	9,835	3,971	1,298	5,759	58.6	1,788	18.2	1,146	11.7	481	113.9
ESP A27 PS1218	116	100%	2,358	12,235	1,049	894	12,784	100%	12,784	100%	28,686	100%	25,536	100%	31,681	31,681	16,286	1,678	24,102	76.1	7,816	24.7	7,103	22.4	208	27.0

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

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4.4 Mediterranean Sea

At a glance

Most of the nine Mediterranean Sea Member States fleets (Croatia, Cyprus, France, Greece, Italy, Malta, Portugal – one vessel, Spain, Slovenia) are wholly dependent on the region. The exceptions were Portugal, Spain and France which also have major parts of their fleets operating in the Atlantic and other fishing regions. The main species fished in the region include anchovy, sardine, and hake.

While the overall economic situation in the region shows an overall net profit for the regional fleet, three Member State fleets (Croatia, Cyprus, and Malta), when excluding Greece, suffered net losses in 2016.

GVA as a proportion of revenue was estimated at 62%. The Mediterranean fishing fleet transformed more than half its total revenue into capital, salaries, and profits, thereby having a positive impact on the economies of the region and their fishing communities.

As for the socioeconomics, the total FTE has remained stable in 2016 despite an increase in the number of vessels as a consequence of the fact that the Croatian small-scale vessels increased. In Greece, on the contrary, no efficient SCF vessels with poor economic performance stay inactive or exit from the sector. This option gives room for the remaining vessels to improve their economic results mainly in the Greek case.

In Italy, a total of about 220 vessels will be scrapped in 2018 with public aid (mainly demersal trawlers 18-24) and a further 766 vessels will be scrapped by Greece. Furthermore, the full impact EMFF supported permanent cessation may become clearer in the coming years.

The average labour wage for both LSF and SSCF had been on a decreasing trend since 2010 but shows a slight improvement in 2016 compared to the last two years. This improvement can be linked to the positive trend in revenues and the negative one in operational costs as, in most countries, labour costs are directly related to revenues and variable costs as the tradition-based income sharing system between the ship-owner and the crew is the most prevalent. The productivity (GVA/FTE) was more or less stable in the period 2010-2014 and recovered in 2015 and 2016.

Effort (in days at sea) deployed by MS fleets operating in the region increased in 2016 (Figure 4.58). Live weight of landings shows a slight increase during the same period, but the value of landings presented a significant increase in 2016.

Increased landings income and lower operating costs (e.g., -11% in fuel costs), have helped the overall performance of the Mediterranean fleet to improve over the last few years. In fact, all performance indicators have followed an increasing trend over the period 2014 to 2016. Revenue (income from landings and other income) generated in 2016 was estimated at almost EUR 1.35 billion, an increase of 4% compared to 2014 (Figure 4.59).

Main drivers affecting fleet performance in the region

In 2016, the regional fishing fleet's economic performance has shown improvement with increased gross profit and net profit even if high variation across MS can be observed; the positive trend was mainly driven by the Italian fleet.

Factors that may have contributed to an improved economic performance in the region include:

- High revenues: revenues benefited from an increase in landings and higher average prices; in particular, the SSCF sold at higher prices compared to the large-scale fleet, and they are mainly directed to the market through very short supply-chains (either direct to consumers or to restaurants in tourist areas).

- Decreasing fuel prices resulting in lower energy costs.

- There are some examples of fisheries where stocks are being exploited at rates consistent with achieving MSY (STECF, 2017) and fleets are showing positive trends, particularly in landings. The overall level of overfishing, however, remains generally too high.

Other factors that affected fleet performance in the region include:

- Stock status: According to STECF, only very few stocks are currently being exploited at rates consistent with achieving MSY (around 13% of the stocks assessed are not overfished)

- The marine resources and ecosystems of this region have come under increasing pressure in recent years, driven by diversification and intensification of marine and maritime activities. While the fishing

capacity has been frozen or reduced in EU countries since the mid '90s, the trend in non-EU countries is probably following a different pattern, and an increase in effort and capacity is likely to still occur in some areas.

- Competition between professional and recreational fishers. There is limited information on recreational fisheries (with some exemptions, Slovenia).

- New management measures, in particular, the introduction of a TAC for swordfish and for pelagic fisheries in the Adriatic Sea. Fishers are concerned that these TACs will have a negative impact on their profits in the future. The landing obligation entered into force in 2014, but is being applied progressively across different stocks and fisheries (started with small pelagics on January 1st, 2015) and it is expected to be fully enforced by Jan 1st, 2019; fishers will face difficulties in adapting to the landing obligation (logistic problems related to storing and bringing to land the discards and additional costs due to a significant increase in sorting time for personnel). The EU quota for bluefin Tuna increased from 7 939 tonnes in 2014 to 13 451 tonnes in 2017 and this impacted positively the profitability of purse seiners and longliners involved in tuna fisheries.

- Lack of investment in fishing gear with lower environmental impact and greater energy efficiency. Energy efficiency has not improved in recent years in the region. The small-scale vessels do not have sufficient financial resources for new investments and the larger vessels have limited access to credit.

- Lack of crew recruitment due to the fact that jobs on board fishing vessels are not particularly attractive for younger people due to the low wages and relatively poor working conditions. Although there are some exceptions; the Maltese fishing fleet is benefiting from a number of young people who voluntarily help their family whilst at sea, on a seasonal basis. Additionally, extra hands are sometimes recruited for the Bluefin tuna and common dolphinfish seasons.

Outlook for 2018 and beyond

- There has been a number of specific actions taken for the Mediterranean towards tackling overfishing improving control and enforcement and aligning Mediterranean strategy with the CFP, both within EU waters and with its international partners. This has had already an effect with the review and update of five national management plans in line with STECF advice. This process is expected to accelerate in 2018 and onwards.

- Better enforcement and control is a priority in these sea basins. In 2017, the Commission extended the scope of the specific control and inspection programme (SCIP) for the Mediterranean including an international joint inspection and surveillance scheme outside the waters under national jurisdiction of the Strait of Sicily. The number of joint campaigns coordinated by the European Fisheries Agency has also substantially increased.

Social-economic Trends

In terms of socio-economic variables, the fleet operating in the Mediterranean displayed the following trends:

- **Employment**

Total employment in the Mediterranean fishing fleet for 2016 was estimated at 44 882 jobs, corresponding to 32 746 FTEs. Employment (measured as full time equivalents, FTE) has remained stable between 2014-2016. The majority of the jobs are created by the SSCF (about 23 000 jobs); the average on-board employment is 1.5.

- **Wages and Salaries**

From 2014 to 2016 the overall average wage per FTE for the SSCF increased by 5%, fluctuating between EUR 10 000 and EUR 10 513. Wages for the LSF increased to reach almost EUR 17 500.

- **Labour productivity**

The productivity (GVA/FTE) for both segments recovered in 2016. For the large-scale fleet, GVA per FTE was EUR 30 100, a 12.5% increase compared to 2014. For the SSCF, labour productivity also increased to reach EUR 17 362 (Figure 4.60).
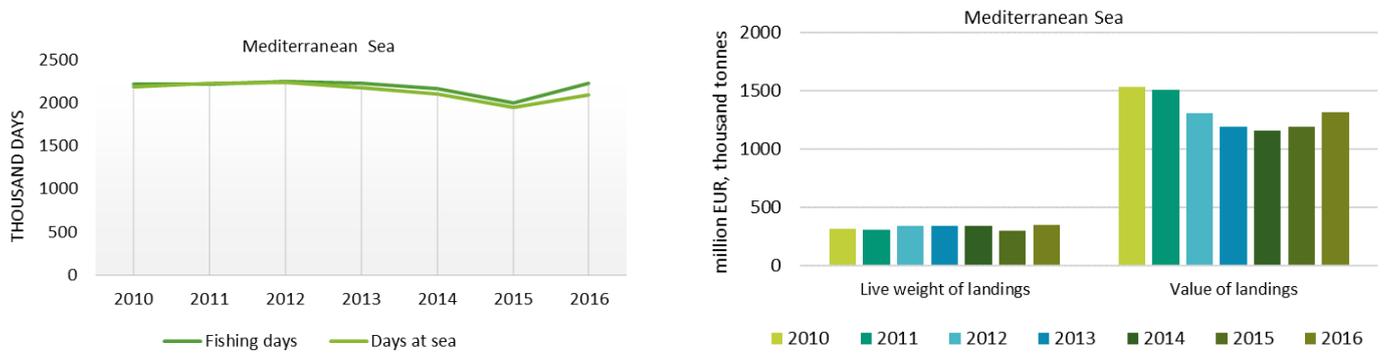
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.58 Trends on effort and landings for MS fleets operating in the Mediterranean Sea
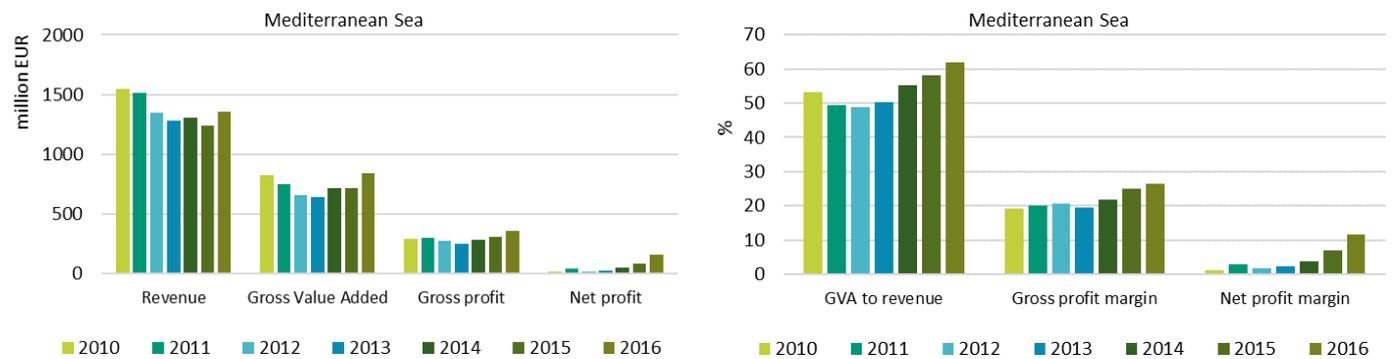
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.59 Trends on revenue and profits for MS fleets operating in the Mediterranean Sea
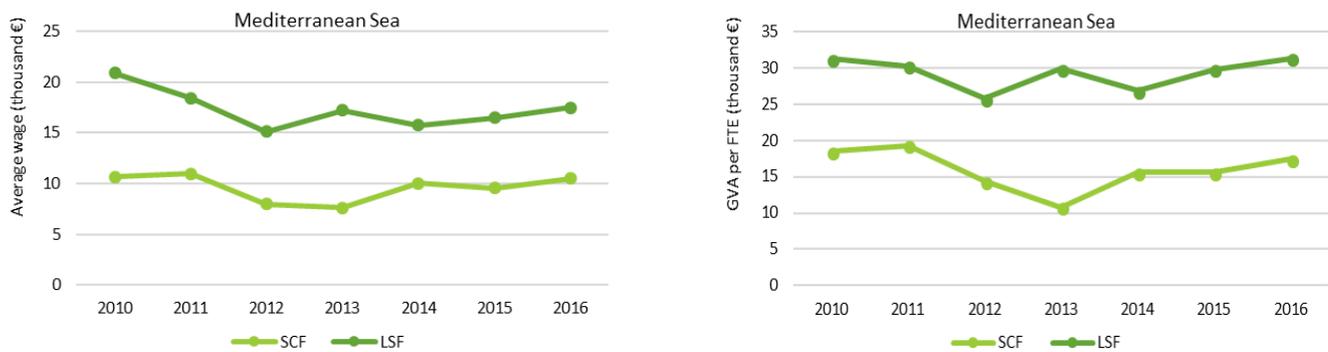
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.60 Trends on average wage and labour productivity by fishing activity for MS fleets operating in the Mediterranean Sea

Regional Details

The Mediterranean region covers FAO fishing areas 37.1, 37.2 and 37.3. Nine EU Member States were involved in Mediterranean fisheries in 2016: Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Slovenia and Spain.

While a fully comprehensive and realistic economic analysis, including all nine coastal MS fishing fleets operating in the Mediterranean Sea, was not possible, data on the structure, activity, and production of the fleets are presented for all MS involved. Economic performance results exclude Greece due to incomplete datasets. Trend analysis is provided only for the period 2011-2016 because consistent datasets for the entire period 2008-2015 were not available for all MS fleets.

The Mediterranean fleet is most important as it includes 42% of all EU vessels and provides 69 782 jobs or 45% of the EU total (31% and 35% respectively if Greece is excluded). On the other hand, the Mediterranean fleet (excluding Greece) contributes only 8% to total EU landing and 18% of total landed value. This reflects the structure of the Mediterranean fleet where 71% of the vessels operating in the

region belong to small-scale coastal fleets (55% with Greece excluded). It is also evident that the number of vessels has increased over time from 17 856 in 2010 to 21 564 in 2016 a change partly brought about by the inclusion of the Croatia and increased activity within some other fleets, especially the Croatian small scale coastal fleet.

Table 4.17 to Table 4.20 contain a summary of the economic performance of the Mediterranean fleet by Member State, fishing activity and fleet segment, respectively.

MS fleet activity: situation in 2016 and recent trends

Based on data submitted most MS fleets were totally dependent on the Mediterranean basin for their primary fishery production in 2016. All landings by the Croatian, Italian, Maltese, Slovenian and Greek fleets originated from the Mediterranean Sea. This percentage decreases to 95% for the Cypriot fleet, as some activity also occurs in other non-EU Mediterranean waters. For Spain and France, the percentage is marginal, with only 9% and 1%, respectively, of the total landed weight of these two MS fleets originating from EU-Med waters. Only one Portuguese vessel partially operates in the EU Mediterranean waters (Figure 4.61).
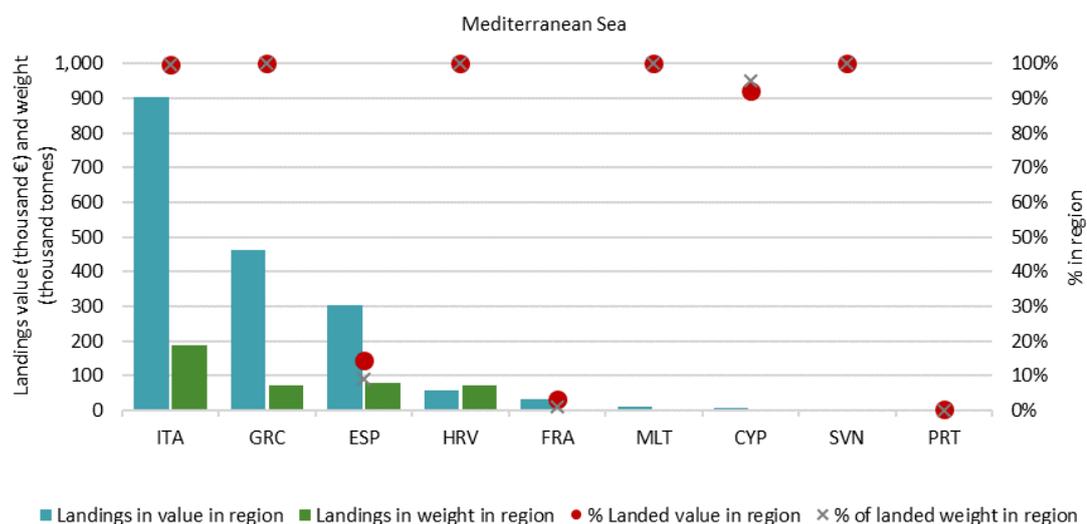
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.61 Importance of the Mediterranean Sea for MS fisheries in terms of landings in weight and value, 2016

Fleet capacity and employment

The EU fleet fishing in the Mediterranean consisted of 21 564 active vessels (excluding the Greek fleet of 13 412 vessels). The SSCF comprised 17 537 vessels or 72% of the regional fleet. With 12 687 vessels, Greece would comprise 86% of the Mediterranean fleet. Total employment in 2016 was estimated at 44 882 jobs, corresponding to 32 746 FTEs (excluding Greece) (Figure 4.62). Total employment in Greece was estimated at 24 975 jobs, corresponding to 23 040 FTEs in the same year.
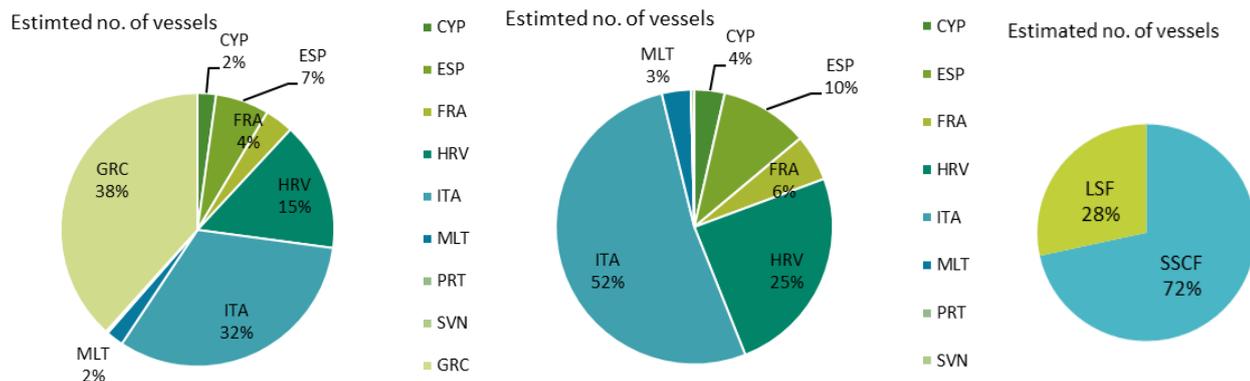
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.62 Share of Mediterranean Sea fleet capacity by MS and fishing activity, 2016 (right graph excludes Greece)

Trends in the number of vessels have remained relatively stable, increasing after 2011 due to the entry of the Croatian fleet. Effort (in days at sea) deployed by MS fleets operating in the region has followed a slight increasing trend in 2016 compared to 2015 (Figure 4.63).
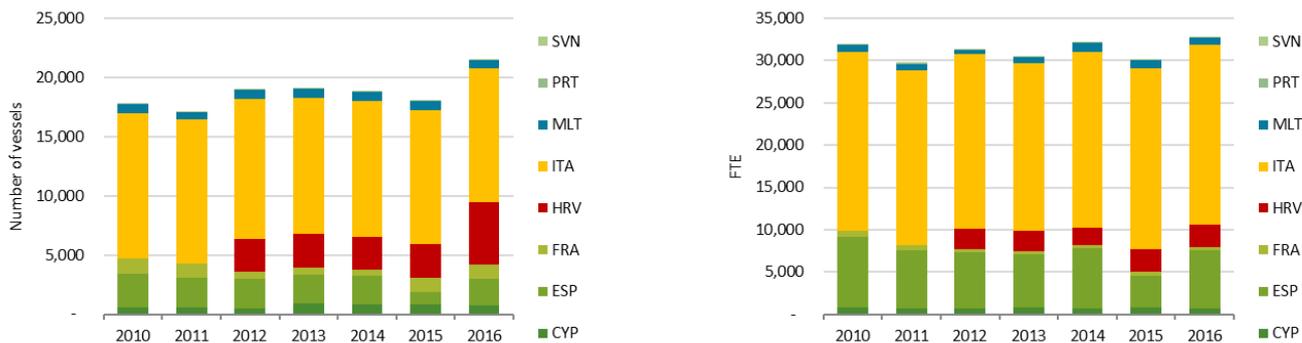
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.63 Trends on the number of vessels and employment (in FTE) for the MS fleets operating in the Mediterranean Sea

Fishing effort

The Mediterranean fleet (excluding Greece) spent more than 2.1 million days at sea in 2016. The Italian fleet accounted for 70% of the number of days, followed by Croatia (11%) and Spain (12%). The SSCF accounted for 64% of the days at sea (Figure 4.64 and Figure 4.65).
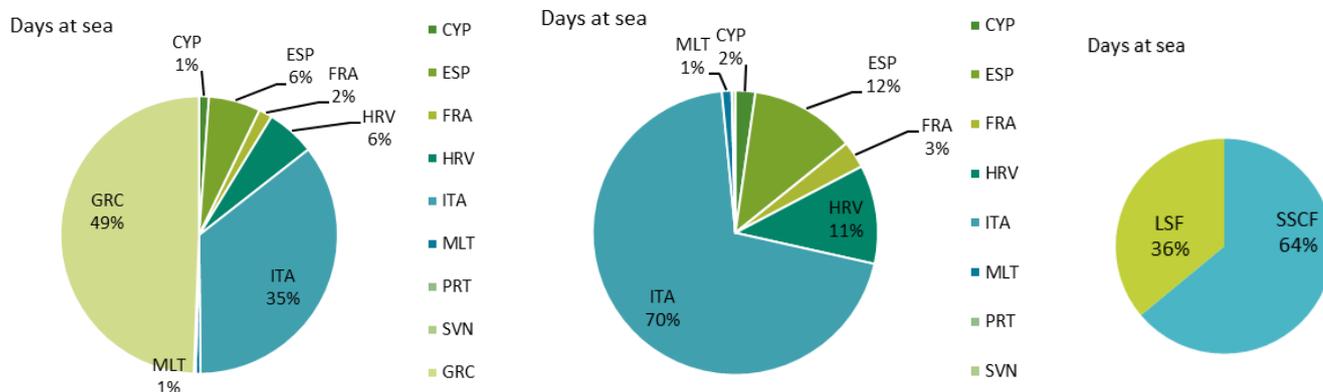
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.64 Share of the fishing effort deployed in the Mediterranean Sea by MS (right graph excludes GRC) and fishing activity, 2016
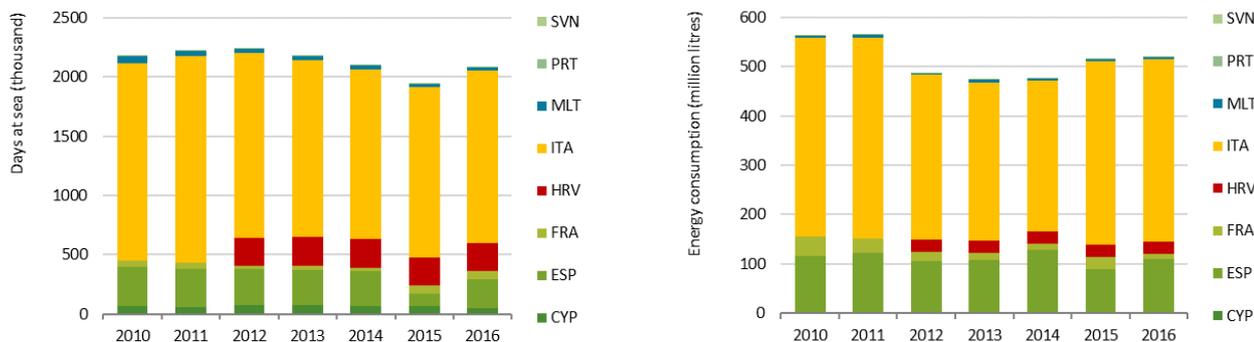
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.65 Trends on fishing effort (in days at sea) and energy consumption for MS fleets operating in the Mediterranean Sea

Landings and top species

The weight and value of landings generated by the regional fleet (excluding Greece) in 2016 amounted to approximately 351 thousand tonnes and EUR 1.19 billion, respectively.

Regarding landed weight, Italy (188 thousand tonnes), Spain (82 thousand tonnes) and Croatia (72 thousand tonnes) were again the leading countries, together accounting for 97% of the total weight and 96% of the value of landings from the EU Mediterranean Sea (Figure 4.66 and Figure 4.67).
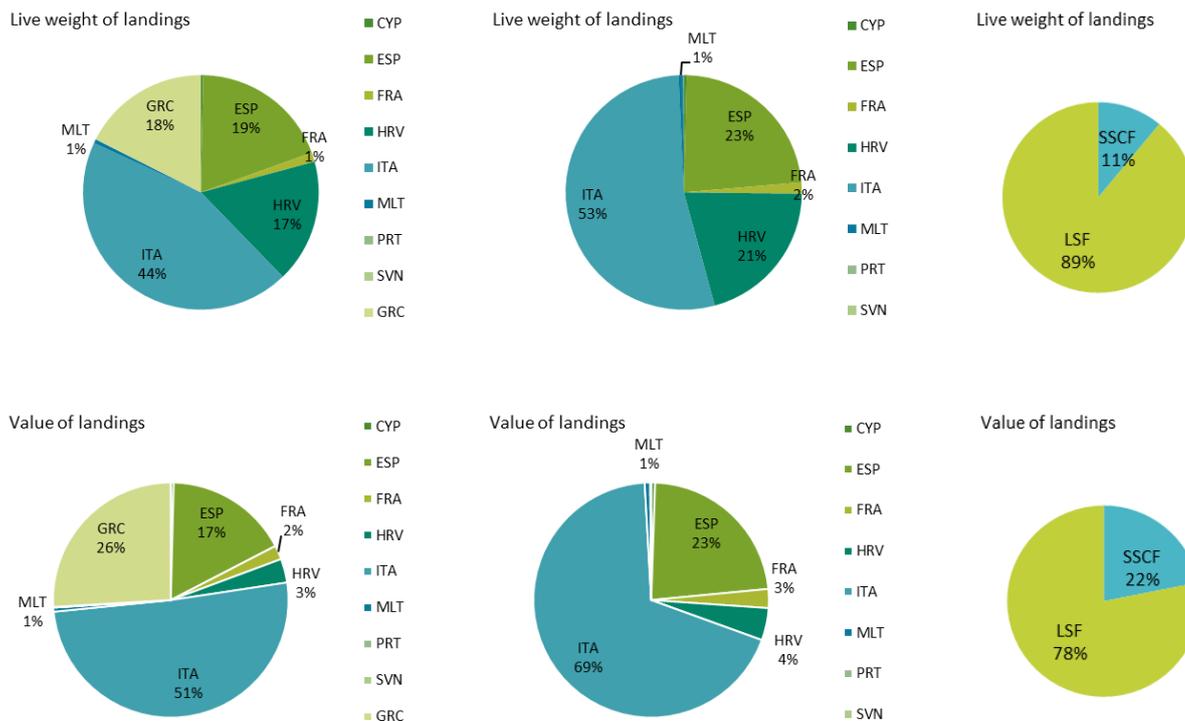
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.66 Share of landings from the Mediterranean Sea by MS (bottom graphs exclude GRC) and fishing activity, 2016

In 2016, large-scale vessels generated, by far, the highest landed weight (89% of the total), equivalent to 78% of the landed value. Although over 64% of the effort was deployed by the SSCF, these vessels landed only 11% by weight and 22% by value. This fleet segment is more important from a social point of view as it represents almost 50% of the total employment in the Mediterranean Sea (excluding Greece).
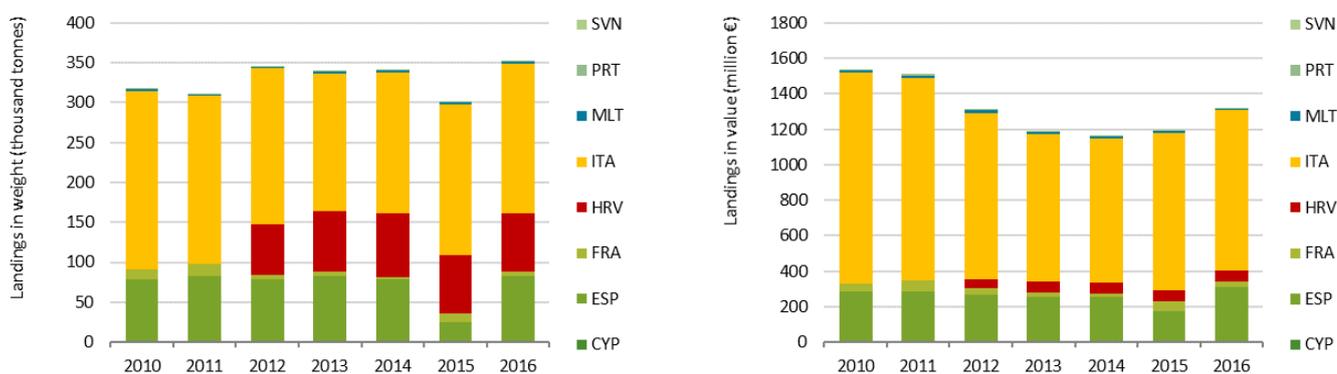
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.67 Trends on landings in weight and value by MS fleets operating in the Mediterranean Sea

In 2016, the main species (by weight) for the EU Mediterranean fleet were pilchard (=sardine, 110.6 thousand tonnes), followed by European anchovy (82.2 thousand tonnes), striped Venus (16.3 thousand tonnes) and hake (15.9 thousand tonnes) (Figure 4.68 and Figure 4.69).
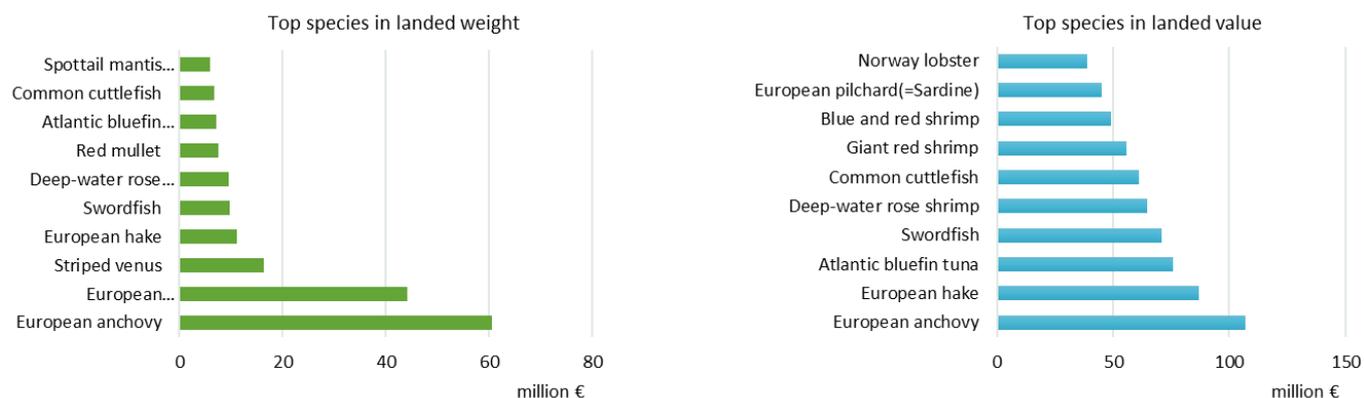
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.68 List of the top 10 species in terms of landed weight and value for MS fleets operating in the Mediterranean Sea, 2016

By value, the most landed species were anchovy (EUR 158 million), hake (EUR 128 million), pilchard (EUR 105 million) and deep-water rose shrimp (EUR 83 million) (Figure 4.68 and 4.69).

Small pelagic species (European anchovy and European pilchard) fished by purse seiners of Spanish fisheries of Mediterranean Spanish waters recorded a strong increase in volume and value.
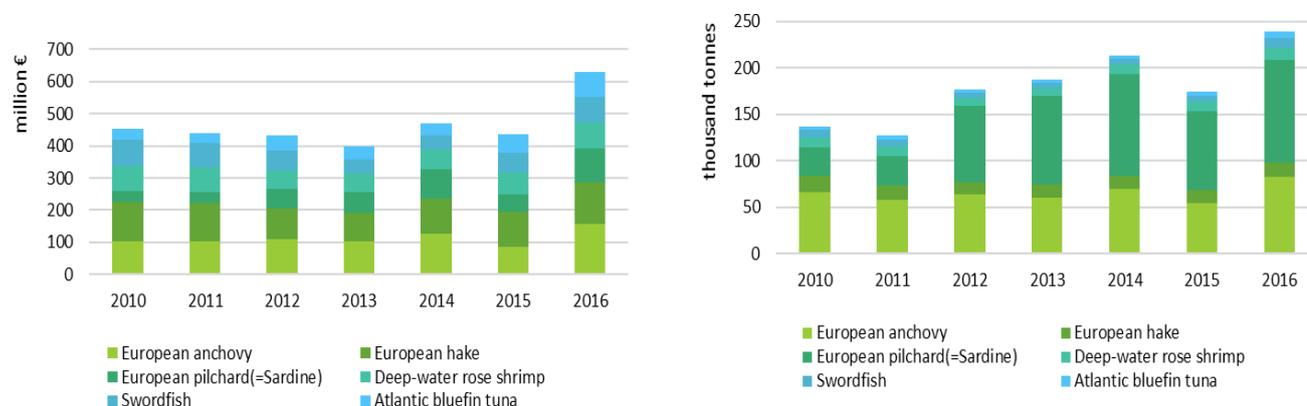
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.69 Trends on landings of the top six species in terms of landed value for MS fleets operating in the Mediterranean Sea, 2016 (excludes Greece)

Socio-Economic performance

Excluding Greece, revenue (income from landings and other income) generated by the Mediterranean fleet in 2016 was an estimated EUR 1.4 billion, 67% of which was generated by the Italian fleet (EUR 913 million). In terms of economic performance, the amount of Gross Value Added (GVA), generated by EU Mediterranean fleet was EUR 839 million. Italy (EUR 576 million), Spain (EUR 192 million), France (EUR 31 million) and Croatia (EUR 30 million) were the leading countries regarding GVA in 2016.

Total Gross profit for the region was estimated at EUR 359 million. The Italian fleet generated the largest gross profit in 2016 amounting to EUR 285 million, followed by Spain (EUR 59 million) and France (EUR 7 million), together accounting for 98% of Gross profit (Table 4.17). Net profit amounted to EUR 158 million in 2016.

Excluding Greece only one EU Mediterranean country, Malta, reported a gross loss in 2016 (-EUR 242 thousand), while three MS fleets reported net losses; Croatia (-EUR 18 million), Cyprus (-EUR 2.8 million) and Malta (EUR 2.5 million).

Among operating costs, the two major fishing expenses were crew and energy costs, accounting for EUR 479 and EUR 240 million, respectively. In terms of crew costs, Italy (EUR 291 million), Spain (EUR 133 million) and Croatia (EUR 25 million) were the leading countries, together accounting for 94% of the total crew costs. Regarding energy costs, Italy (EUR 178 million), Spain (EUR 39 million) and Croatia (EUR 13 million) were the leading countries, together accounting for 96% of the total energy cost (Table 4.17).

By fishing activity, and according to the available data, the Mediterranean fleet appears somewhat unevenly distributed between the two main fishing activities. The SSCF consisted of 72% of the fleet by number (15 433 vessels) and accounted for 64% of the effort (1.3 million days). In terms of production, however, the SSCF landed only 11% by weight (38 698 tonnes) and 22% by value (EUR 288 million). Overall, both fleet segments were profitable, with gross profit margins estimated at 28% for the SSCF and 26% for the LSF. Net profit margins were estimated at 13% for the SSCF and 11% for the LSF in 2016 (all excluding Greece) (Table 4.18).

According to the available data (i.e., excluding Greece), only the Maltese SSCF generated gross losses in 2016. A slightly different picture emerges for net profit, where three MS SSCF (Cyprus, Croatia and Malta) reported losses in 2016, and four LSF reported losses (Cyprus, Croatia, Malta and France) (Table 4.19).

Revenue and GVA generated by the fleet also followed an increasing trend from 2013 onwards. The most profitable year over the period analysed was 2016, in particular for the Italian fleet, the main contributor to trends in the region (Figure 4.70).

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.70 Trends on revenue (landings income + other income) and profit (GVA, gross profit, and net profit) by MS fleets operating in the Mediterranean Sea

Productivity

While on average 1 478 litres of fuel per tonne of landed fish were used in Mediterranean fisheries in 2016, significant differences between fisheries are observed. Large-scale purse seiners were the most fuel efficient, consuming on average 191 litres of fuel per landed tonne while the demersal trawl fisheries consumed the most fuel per landed catch (5 799 litres/tonne for DTS between 24 and 40m) (Figure 4.71).

Energy consumption per tonne landed (litres per **tonne**)
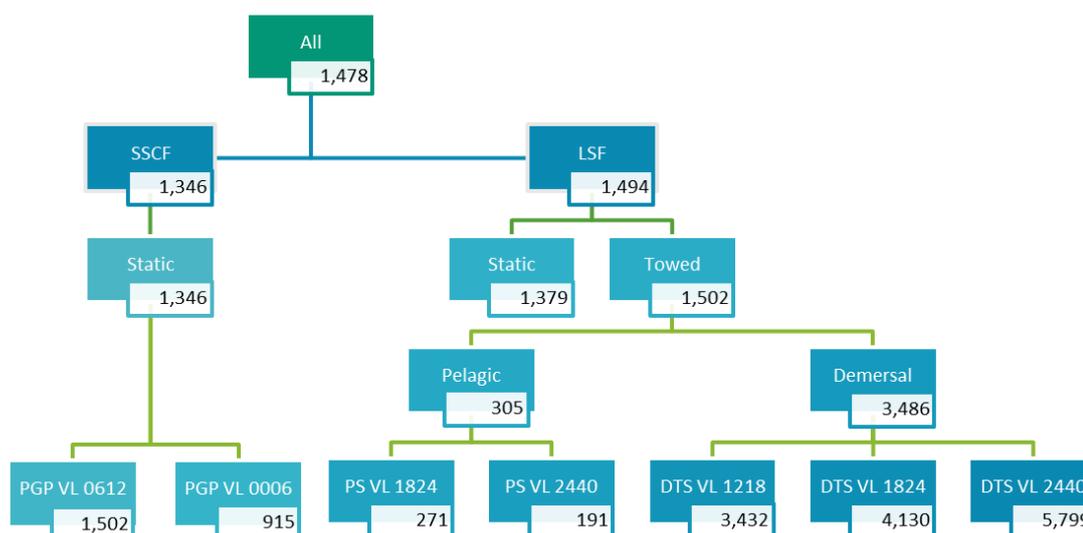
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.71 Schematic representation of the amount of fuel consumed per landed weight (litres/tonne) by the various MS fleet components operating in the Med, including some important segments

Around 18% of the landed value in the Mediterranean went to pay fuel costs in 2016. In total, around EUR 240 million was spent on fuel to catch 351 thousand tonnes of fish, with a landings value of EUR 1.32 billion. In particular, the large-scale demersal segments spent high amounts (28%) of their landed value on fuel. As trawling is typically fuel intensive, fluctuations in fuel consumption and fuel prices are therefore key drivers of the profitability of the fleets (Figure 4.72).
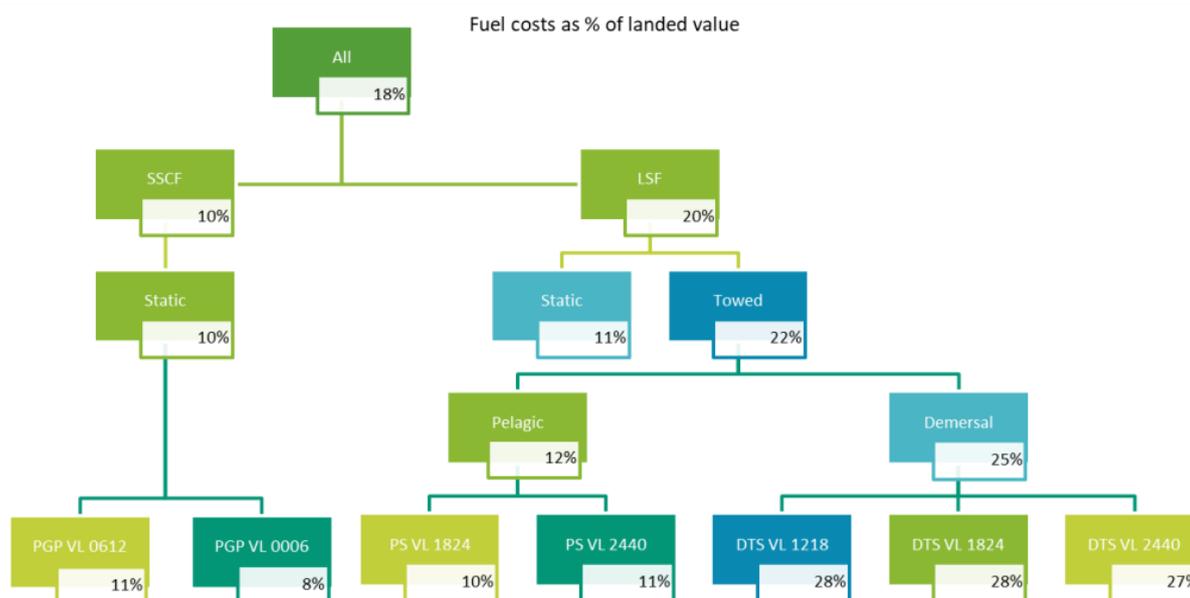
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.72 Schematic representation of the ratio fuel costs to landed value (%) for the various MS fleet components operating in the Mediterranean Sea, including some important segments

In 2016, the average gross profit per day at sea was estimated at around EUR 172 for Mediterranean Sea fisheries. On average small-scale coastal fisheries showed a low positive gross profit per day (EUR 71). Pelagic trawlers (EUR 600) and demersal trawlers (EUR 326) were the most profitable, earning on average EUR 371 in gross profit per day at sea. At the segment level, purse seiners between 24 and 40, made an average EUR 866 gross profit per day at sea and had increased steadily (Figure 4.73).
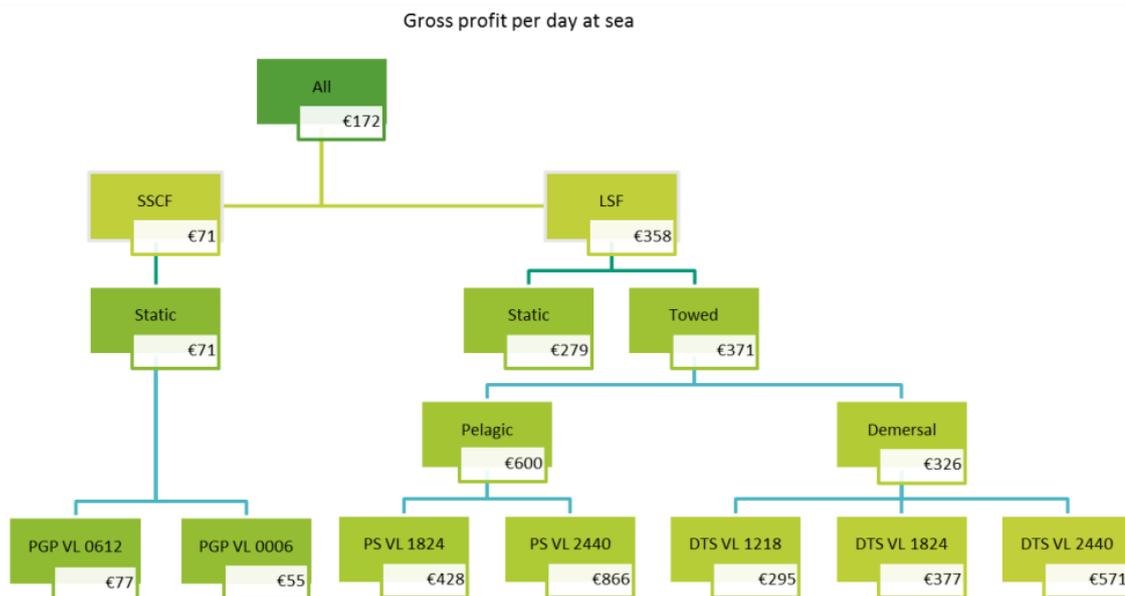
Gross profit per day at sea

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.73 Schematic representation of the amount of gross profit generated per day at sea (EUR /day) by the various MS fleet components operating in the Mediterranean, including some important segments

Status of important stocks

The Mediterranean is facing significant challenges, in particular achieving MSY for most stocks by 2020. Many assessed stocks are currently fished considerably above the MSY target estimates. In the last STECF Mediterranean stock assessment, a total of 47 area/species combinations were evaluated:

Hake in GSA 17-18 and GSA 19, Norway lobster in GSA 17-18 and thornback ray in GSA 17 are declining and are being overfished; deep-water rose shrimp in GSA 17-18-19, sole in GSA 17, spottail mantis shrimp in GSA 17-18 and red mullet in GSA 19 have increased in recent years even if fishing mortality is still over FMSY;

Around 13% (6 stocks) are not overfished: red mullet in GSA 10 (South Tyrrhenian Sea), GSA 17-18 (Adriatic Sea) and GSA 22 (Aegean Sea); European anchovy in GSA 22 (Aegean Sea); deep-water rose shrimp in GSA 9 (Ligurian and North Tyrrhenian Sea); and common cuttlefish in GSA 17 (Northern Adriatic Sea).

The small pelagic species (anchovies and sardines) show a negative trend in all the GSAs assessed.

Fisheries Management and stock status in the region

Over the last two years the EU has accelerated the development and introduction of multiannual plans under the CFP. On 24 February 2017, the European Commission adopted a proposal (COM(2017)97) for a regulation establishing a multiannual plan for small pelagic stocks (sardine and anchovy) in the Adriatic Sea and the fisheries exploiting those stocks.

The 40th session of the GFCM established further emergency measures in 2017 and 2018 for small pelagic stocks in the Adriatic Sea (GSA 17 and GAS 18) considering that both the anchovy and sardine stocks in GSA 17 and GSA 18 are overexploited, and fishing mortality needs to be reduced (Recommendation GFCM 40/2016/3). This recommendation set measures for 2017 and 2018 and foresees various future measures:

• Catch limitations for small pelagic,

• Reduction in fishing effort for the years 2017-2018,

• Spatio-temporal closures to protect nursery and spawning areas for the years 2017-2018,

• Fleet capacity limitations.

The GFCM multiannual plan mainly applies to EU fisheries since both small pelagic species are primarily exploited by EU fishing vessels.

In 2015 Italy and Croatia adopted joint management measures at the national level establishing no-take zone for bottom trawls in the area of Jabuka/Pomo pit. This regime was introduced from July 2015 to October 2016 after which it was modified with a more stringent regime established for the next three-year period. In addition, the new regime was transposed into GFCM Recommendation 41/2017/3, *on the establishment of a restricted fisheries area in the Jabuka/Pomo Pit in the Adriatic Sea*. The new regime includes three control zones: a middle zone where all demersal (trawls and longlines) and sport fishing is prohibited, and two side zones where only a limited number of authorized vessels may operate for up to two days per week. This is the first fishery restricted area (FRA) in the Adriatic and an important measure for demersal fisheries. The Jabuka/Pomo pit area had been an important fishing ground for both fleets and, short-term losses aside, it is expected that the positive effects of FRA will influence it and the surrounding area bringing longer term benefits to the fleets operating there.

In March 2018, the European Commission proposed a multiannual plan for demersal fisheries in the Western Mediterranean (COM/2018/0115 final - 2018/050 (COD). Its aim is to ensure that fishing activities are environmentally sustainable in the long term and managed in a way that secures economic, social and employment benefits. The fleet covered by this plan includes around 10 900 vessels, with a combined gross tonnage of 91 thousand GT and engine power of 587 thousand kW. The fleets affected include those of Italy (50% of the vessels potentially affected), Spain (39%) and France (11%) of which trawlers represent 14% of the total fleet, long-liners 2%, gillnets 7%, trammel nets and traps 47% with a further 30% classed as polyvalent

TAC development of main species

The bluefin tuna fishery in the Mediterranean is regulated by the International Commission for the Conservation of Atlantic Tunas (ICCAT) to which the EU is a contracting party. Eight EU Member States are involved in the bluefin tuna fishery (Cyprus, France, Greece, Croatia, Italy, Malta, Portugal and Spain). Prior to 2016 this was the only stock regulated by TAC.

In 2010, 2012 and 2014 substantial measures were introduced to ensure the sustainable management of this stock. In 2014 ICCAT endorsed a 20% annual TAC increase for the next three years and the EU quota increased from 7 938.65 tonnes in 2014 to 9 372.92 tonnes in 2015 (20%), to 11 203.54 tonnes in 2016 and to 13 451.36 tonnes in 2017.

In 2016, ICCAT (for the first time) agreed a Total Allowable Catch (TAC) of 10 500 tonnes for Swordfish (Recommendation 16-06). Recognizing the outcome of the stock assessment conducted by SCRS that year and, in particular, the overfished status of the stock (the SCRS recommended substantially reducing catches and increased monitoring of landings and discards) ICCAT decided to implement a 15-year recovery plan starting in 2017 and continuing through 2031, with the goal of achieving BMSY with at least 60% probability. Apart from a TAC, other measures were also established including capacity limitations, a closed fishing season, minimum size limits, control measures, and on-board scientific observers.

In 2017 ICCAT decided to implement management measures for Mediterranean albacore (*Thunnus alalunga*), starting in 2018, with the objective of preventing any increase in fishing effort or catch levels until the SCRS can deliver more accurate advice. ICCAT has introduced a limit on the number of the fishing vessels authorised to fish for Mediterranean albacore to the number of vessels that were authorized in 2017 and also it has imposed a closure period.

Description of relevant fisheries in the region

Small-scale coastal fleet

The small-scale coastal fleet (vessels under 12m using passive gears) in the Mediterranean is of vital importance since it represents the 72% of the total fleet by number of vessels (86% if Greece is included) and 51% of all employment. Specifically, there are 15 443 small-scale vessels with a combined gross tonnage of 31 thousand GT and a total power of 512 thousand kW. In 2016, 22 964 fishers were directly employed in the Mediterranean small-scale fishing fleet (42 502 including Greece), corresponding to 13 318 FTEs (31 066 FTEs including Greece). The majority of them are family-based enterprises. Two Member States, in particular, represent major employers: Greece with 17 748 FTEs and Italy with 9 554 FTEs, respectively. Also, in some Member States, (e.g., Greece and Cyprus) women play a key role in many SSCFs, very often through the provision of unpaid labour.

The SSCF in the Mediterranean involves a significant number of fishing techniques (static nets like trammel nets, gillnets, set longlines, pots, and traps) targeting a variety of species including common sole (mainly Croatia and Slovenia), common cuttlefish (mainly Italy, Croatia, Greece and Spain) and

surmullet (mainly Cyprus, Greece, Italy, France, Malta and Spain). Other target species include common octopus (mainly Italy, Croatia, Greece, Spain, France and Malta) and European hake (mainly Italy, Croatia, Spain and France) (Figure 4.74).

Landings by the SSCF amount to 11% of the total landed weight in the region but 22% of the total value (excluding Greece). The higher value achieved by the SSCF (compared to the LSF) appears to reflect higher prices linked to differences in quality, freshness, product size and the use of different marketing channels. The SSCF generally operates through very short supply-chains.

The SSCF accounted for 64% of the total days at sea and generated revenue of EUR 324 million. Gross Value Added was estimated at around EUR 231 million. Gross Profit and Net Profit were estimated at EUR 91 million and EUR 41 million, respectively. The labour productivity (GVA per FTE) was estimated at EUR 17.4 thousand. The highest Net Profit was generated by the Italian SSCF at EUR 35.9 thousand. The economic performance of the SSCF improved in 2016 with only Malta reporting a gross loss and Cyprus, Croatia, and Malta reporting net losses.

Factors that may have contributed to the positive situation include:

- Higher revenues for all countries except Malta
- Higher average price thanks to the use of other market channels, short supply chains and new attractive ways to contact consumers (e.g. the use of an interactive websites connected with mobile technologies to inform consumers in real time of the direct sales possibilities in their local area).

Among problems that negatively affect the economic performance of small-scale fishers there are:

- Competition with an increasing number of recreational fishers, who usually fish in coastal areas and sometimes illegally sell their catch at low prices.
- Conflict between the small-scale and large-scale fleets.
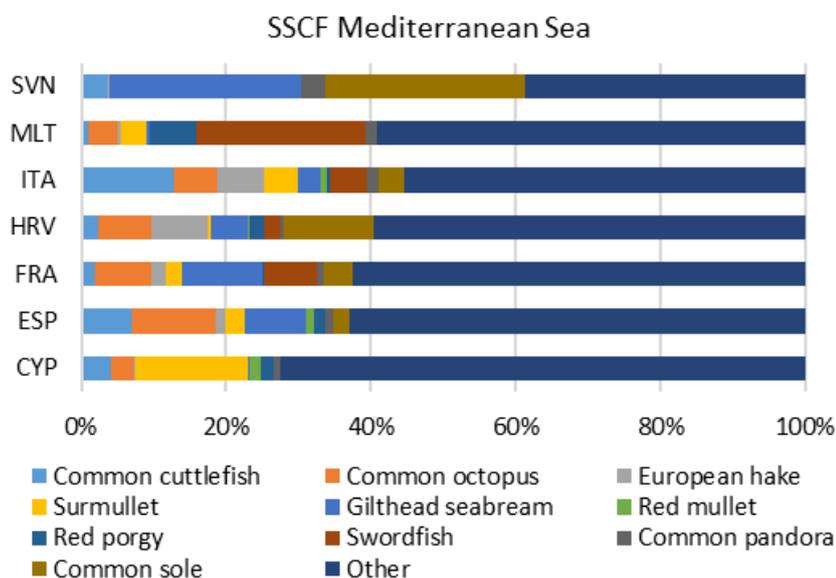
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.74 Top 10 species landed by small-scale coastal fleets as a proportion of the total, 2016

Small pelagic fisheries in the Adriatic Sea

On 24 February 2017, the European Commission adopted a proposal (COM(2017)97) for a regulation establishing a multiannual plan for small pelagic stocks (sardine and anchovy) in the Adriatic Sea and the fisheries exploiting those stocks.

In 2013, a multiannual plan for small pelagic fisheries in the Adriatic Sea was adopted by GFCM (Recommendation GFCM 37/2013). This plan established management measures and harvest control rules for fisheries targeting sardine (*Sardina pilchardus*) and anchovy (*Engraulis encrasicolus*) in the Northern Adriatic Sea (GSA 17) and transitional conservation measures for small pelagic fisheries in the southern Adriatic Sea (GSA 18). The plan was amended by emergency measures in 2014 (GFCM/38/2014/1), 2015 (GFCM/39/2015/1) and 2016 (GFCM/40/2016/3). The last recommendation foresees measures that apply in 2017 and 2018, but also introduced additional restrictions on the number of days targeting sardine, capacity limitations for purse seiners and pelagic trawlers, and additional

closure periods. It also introduced a spatial closure (for a period of at least 6 months) in areas important for younger age classes of fish, and catch limits on the total quantity of small pelagics (sardine and anchovy).

For fisheries to be sustainable by 2021 the European Commission is of the view that catches should be decreased by about 25-30%. While this will result in lower revenue (of a comparable order of magnitude) and a 10% reduction in employment, the plan is expected to increase stock size by 20% and bring about better working conditions for fishers. Overall it is expected to improve overall profitability by some 10% and wages by 5% (source: impact assessment accompanying the proposal for a multi-annual plan for small pelagic stocks in the Adriatic Sea and the fisheries exploiting those stocks).

More than 95% of the anchovy and sardine catch comes from the northern part of the Adriatic: anchovy represents a larger part of the total catch along the western coasts, while catches of sardines are more important on the eastern side.

Three EU Member States were involved in small pelagic fisheries in the Adriatic in 2016: Croatia, Italy and Slovenia. These fleets comprise 341 vessels with a combined gross tonnage (GT) of 26 608 tonnes (down 8% on 2015[8]). For Croatia and Slovenia, the principle gear is the purse seine while the Italian fleet employs the "volante" mid-water pair-trawl (towed by two vessels), mostly operated in the northern and central area. The Italian purse seine fleet operates mainly in the central Adriatic. In 2016, there were 231 purse seiners and 110 in pelagic trawlers.

Total landings from GSA17 and GSA 18 amounted to 118 489 tonnes in 2016 comprising more than 90% sardine and anchovy. Valued at EUR 92.1 million, these fisheries employed some 2 202 fishers (1 968 FTE).

The small pelagic fisheries in the Adriatic Sea are characterized by a decreasing trend in capacity, effort and employment. Between 2015 and 2016 the number of the vessels fell by 7% while the number of fishers declined by 9%.

Small pelagics are the main fisheries resources of the Adriatic Sea, accounting for a large share of the total catch. In the eastern part, fishing by Croatian vessels has been directed mostly at sardines, while anchovies are mainly landed by the Italian pelagic fleet.

Prices for sardines and anchovies show a high variability between countries. In Croatia in 2016 the average price was 0.38 EUR /kg for sardine and 0.95 EUR /kg for anchovies while in Italy it was 0.62 EUR /kg and 1.48 EUR /kg, respectively. These price differences are partly explained by the respective markets in each country; in Croatia small pelagic are used by the processing, salting and marinating industries, as well as for fish feed for tuna farms while in Italy fish are sold fresh for local consumption and in minor quantities for export (mainly for processing in Spain).

Italy is one of the most important countries for imports of fresh anchovy with the majority (90%) coming from Spain and Croatia (1 434 t and 1 047 t respectively in 2016). Over the period 2006-2016 the Croatian share decreased significantly (from 83% in 2006 to 38% in 2016) however the price of Spanish anchovy remained higher (1.29 – 5.06 EUR /kg) than those from Croatia (1.24 – 1.82 EUR /kg) (Eumofa: Processed anchovy in Italy, 2018)

Large-scale fleet

In 2016, the large-scale fleet fishing in the Mediterranean consisted of 6 131 vessels, a reduction of 166 vessels compared to 2014 with a total tonnage of 213 thousand GT (226 thousand GT in 2014) and engine power of 1.07 million kW (1.1 million kW in 2014). The LSF comprises 28% of the total Mediterranean by number of vessels. The total weight landed by the LSF was 313 thousand tonnes (301 thousand tonnes in 2014) an increase of 4%. With an estimated value of EUR 1.03 billion these fleets recorded EUR 607 million in GVA and a net profit of EUR 116 million, up 18% and 278% respectively since 2014. The highest net profit (EUR 90 million) was reported by the Italian large scale fleet representing 78% of the total net profit of the Mediterranean LSF. The large-scale fleet in the Mediterranean employs a total of 21 916 people, corresponding to 19 425 FTE. Total labour costs in 2016 were EUR 339 million while the labour productivity (GVA per FTE) was EUR 31 300. The Mediterranean large-scale fleet accounts for 41% of the EU LSF (number of vessels) but only 8.5% of the landed weight and 19.2% of the landed value. Overall the Mediterranean LSF is profitable, with a gross profit margin

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[8] Italian data on pelagic fisheries in the Adriatic Sea refers to fleets operating in GSA 17 and GSA 18 (source: Italian National Programme on Data Collection).

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estimated at 26% and a net profit margin of 11.3% in 2016 (excluding Greece). In 2014 the gross profit margin was estimated to be 21.2% while the net profit margin was only 3.1%

The largest fleets in the region are Italy with 3 940 vessels and landings of 161 thousand tonnes; Spain (1 038 vessels and 76 thousand tonnes); and Croatia (985 vessels and 71 thousand tonnes). In 2014, these fleets landed EUR 609 million (Italy), EUR 213 million (Spain) and EUR 55million (Croatia), respectively.

One of the main issues for the LSF in the Mediterranean is a high dependency on a small number of species and the status of these stocks. For many, success is highly sensitive to management measures; this is especially true for pelagic fisheries where a significant proportion of the landed weight derives from one or two species. This is the case, not just for individual fleet segments and fisheries, but is also reflected at a national level for some Member States. For example, swordfish and bluefin tuna contribute a significant part of the total landing value generated by the Maltese LSF; pilchard and anchovy contribute more than half of the landed value of Croatian LSF; while bluefin tuna account for the bulk of the landed value of the French LSF. In contrast, the Italian LSF harvest a higher variety of species with anchovy, European hake, deep-water rose shrimp and giant red shrimp accounting for about 33% of the landed value.

Considering that from 2017 the ICCAT recovery plan for Mediterranean swordfish will see a gradual TAC reduction while the bluefin TAC will have significant increases in coming years, some impact can be expected at the fleet and national levels.

In the Adriatic, fleets heavily dependent on small pelagics are similarly vulnerable. As the current fisheries are highly dependent on sardine and anchovy they are consequently highly sensitive to the status of these stocks and the management measures imposed on them (see above).
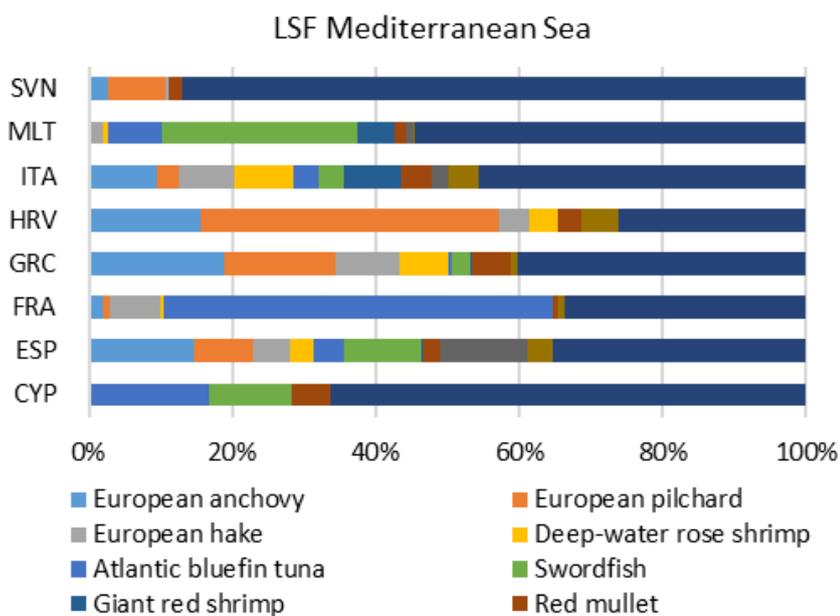
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.75 Top 8 species landed in terms of value as a proportion of the total landings in the region by MS large-scale fleets operating in the Mediterranean 2016

Demersal trawlers fishing in the Strait of Sicily

The Straits of Sicily are one of the most important demersal fishing areas in the Mediterranean. Deep-water pink shrimp, European hake, and giant red shrimp are the main target species. According to the more recent (STECF) assessments all three species are overfished.

In 2016, the GFCM established a multiannual management plan for fisheries exploiting European hake and deep-water rose shrimp in the Straits of Sicily (GSA 12 to 16). This plan targets bottom trawlers above 10 meters (LOA) when the catch of these species represents at least 25% of the total (live weight or value) (Recommendation GFCM 40/2016/4) and envisages the introduction of three Fisheries Restricted Areas (FRAs) where fishing with bottom trawls will be prohibited. However, these measures have yet to be fully implemented.

One of the most important issue confronting the success of the management plan is increased compliance and in 2017 the European fisheries control agency (EFCA) implemented a pilot project in the Strait of

Sicily aimed at promoting regional cooperation. This approach has successfully a number of non-EU countries; Algeria, Egypt, Libya, Morocco and Tunisia.

Sicilian trawlers fishing in GSA 16 operate out of seven harbours along the southern coast; the smallest ones (DTS1824) generally conduct short trips ranging from 1 to 2 days at sea, fishing on the outer shelf and upper slope. Larger Sicilian trawlers (DTS2440) go on longer fishing trips, which may last up to 4 weeks. These vessels operate offshore in both the Italian and international waters of the Strait of Sicily.

In 2016 there were 131 vessels in the DTS1824 segment and 105 vessels classified as DTS2440. These two segments saw declines in capacity and effort deployed over 2010-2015 (-20% vessels, -28% GT and -27% in days at sea).

Landings in 2016 amounted to approximately 13 thousand tonnes valued at EUR 113 million. Deep-water pink shrimp was the main target species, accounting for about 41% of the demersal landings, with giant red shrimp and European hake totalling 15% and 8%, respectively.

Gross profit increased for the DTS1824 segment as a consequence of stable revenues and lower energy costs.

The average price of the fish landed by demersal trawlers in this area is 10.00 EUR/kg, an increase in the last two years (from 7.40 EUR/kg in 2014). This rise in the average price of fish is due, in part, to the increased quantity of valuable species (shrimp) landed and the adoption of a commercial label. For instance, the average price of giant red shrimp, one of the target species, increased +28% in 2015 and remain stable in 2016; the first sale price of this species was 22.48 EUR/kg in 2016.

Performance by fleet segment

Table 4.20 provides results for the 40 most important fleet segments out of 130 active in the region. These fleets represented 76% of the total number of vessels; cover 90% of the effort deployed (in terms of fishing days); generate 92% of the revenue (EUR 1.6 billion); 92% of the GVA (EUR 1.02 billion); and 95% of the gross profit (EUR 420 million). The top ten segments alone generate 57% of the total Mediterranean revenue, but only 33% of total landed weight.

At the fleet segment level, Italian demersal trawlers 12-18 m and 18-24 m generated the most revenue from the Mediterranean region in 2016 (EUR 174 and 173 million), followed by the 06-12m Italian polyvalent/passive gear segment (EUR 169 million). The same fleet segments also generated the highest GVA (EUR 320 million in total) and gross profit (EUR 162 million in total).

Table 4.17 Structure and economic performance estimates by MS fleets operating in the Mediterranean region, 2016

		Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivity)
		(#)	(%)	(GT)	(kW)	(person)		(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Mediterranean Sea	Croatia	5.324	100%	34.152	260.445	7.227	2.611	234.806	100%	204.320	100%	72.324	100%	58.419	100%	58.051	65.819	25.258	13.151	30.422	46,2	5.416	8,2	-17.802	-27,1	5,7	11,7
	Cyprus	765	100%	2.865	32.381	1.091	642	47.337	99%	47.337	99%	1.383	95%	7.121	92%	7.034	7.034	1.036	1.125	2.495	35,5	1.459	20,7	-2.841	-40,4	3,3	3,9
	France	1.177	21%	5.063	97.003	1.580	466	64.657	14%	63.491	14%	5.452	1%	34.459	3%	50.670	51.471	23.789	5.736	31.011	60,3	7.222	14,0	2.525	4,9	26,3	66,6
	Italy	11.261	100%	143.557	927.457	25.863	21.304	1.462.968	100%	1.639.889	100%	188.020	100%	904.698	100%	903.794	913.354	290.766	178.047	575.859	63,1	285.093	31,2	126.529	13,9	51,1	27,0
	Malta	731	100%	5.210	55.443	1.262	774	23.254	100%	20.896	100%	2.302	100%	9.800	100%	9.889	10.466	4.429	2.386	4.306	41,1	-242	-2,4	-2.542	-24,8	5,9	5,4
	Portugal	1	0,0%	278	651	13	13	410	0,1%	387	0,1%	79	0,0%	847	0,2%	853	872	396	179	556	63,7	159	18,3	38	4,4	391,2	43,4
	Slovenia	83	100%	360	4.566	110	70	7.898	100%	7.898	100%	152	100%	965	100%	964	2.212	759	181	1.836	83,0	1.077	48,7	941	42,5	22,1	26,4
	Spain	2.222	27%	53.217	207.791	7.737	6.867	249.386	26%	249.386	26%	81.663	9%	302.615	15%	300.978	303.983	132.921	39.144	192.027	63,2	59.106	19,4	50.967	17,5	86,4	28,0
	Greece	13.412	100%	66.342	384.042	24.900	22.989	2.040.825	100%	2.040.825	100%	74.431	100%	461.773	100%	461.866	461.866	185.888	75.694	268.921	58,2	83.034	18,0	35.062	7,6	20,1	11,7

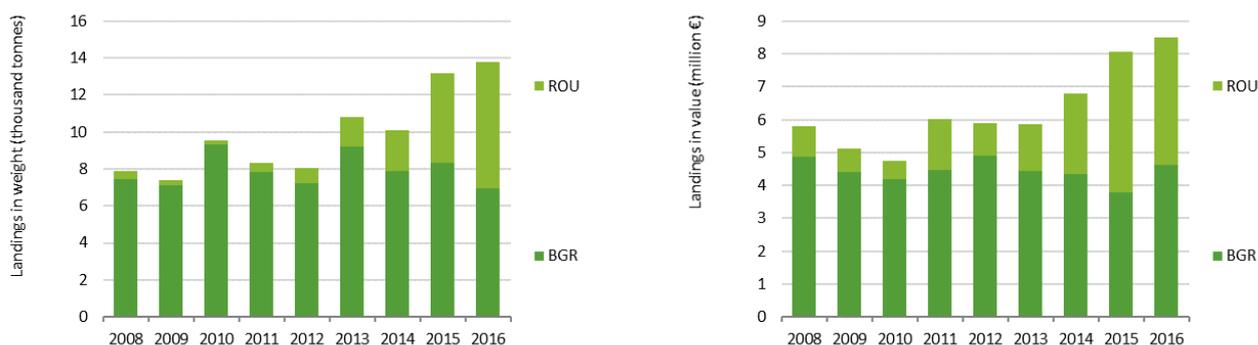* Incomplete and questionable data for Greece. Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.18 Structure and economic performance estimates by main type fishing activity (SSCF and LSF) in the Mediterranean Sea region, 2016

		Estimated no. of vessels	% of Fishing Activity vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivity)
		(#)	(%)	(GT)	(kW)	(person)		(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Mediterranean Sea	SSCF	15.433	43%	31.372	512.354	22.964	13.318	1.336.603	49,7%	1.472.226	52,3%	38.698	14,4%	288.468	32,8%	316.439	324.776	140.016	28.929	231.227	71,2	91.463	28,2	41.918	13,2	15	17,4
	LSF	6.131	41%	213.276	1.073.307	21.916	19.425	754.070	38,8%	761.334	40,9%	312.653	8,5%	1.030.306	19,2%	1.015.647	1.030.288	339.313	210.982	607.342	59,0	267.911	26,0	115.993	11,3	99	31,3
	DWF	0,2	0,1%	55	76	3	3	44	0%	44	0%	24	0%	150	0,0%	146	146	26	37	-58	-39,6	-84	-57,2	-97	-66,0	290	17,4

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.19 Structure and economic performance estimates by MS and main type of fishing activity operating in the Mediterranean Sea region, 2016

				Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivity)
			(#)	(%)	(GT)	(kW)	(person)	(#)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
MBS	Mediterranean Sea	SSCF CYP	733	100%	1.670	26.854	967	518	45.218	100%	45.218	100%	589	100%	4.224	100%	4.173	4.173	236	763	1.261	30,2	1.025	24,6	-1.601	-38,4	2	2,4
		SSCF ESP	1.184	29%	3.708	38.851	2.183	1.487	121.685	30%	121.685	30%	6.023	20%	33.370	27%	46.264	46.264	20.931	2.142	33.905	73,3	12.975	28,1	11.371	28,5	29	22,8
		SSCF FRA	1.121	27%	2.944	85.846	1.435	382	58.071	26%	57.063	26%	3.070	5%	23.739	12%	39.102	39.689	19.726	2.721	25.671	64,7	5.946	15,0	2.601	6,6	23	67,2
		SSCF HRV	4.339	100%	7.754	114.640	4.622	805	134.169	100%	114.519	100%	1.381	100%	8.113	100%	8.062	11.637	4.919	1.287	5.043	43,3	377	3,3	-4.904	-42,4	1	6,3
		SSCF ITA	7.321	100%	13.562	205.327	12.684	9.554	952.084	100%	1.109.093	100%	27.004	100%	214.921	100%	214.706	217.855	90.844	20.990	162.755	74,7	71.911	33,0	35.997	16,5	22	17,0
		SSCF MLT	663	100%	1.540	37.812	986	514	18.486	100%	17.759	100%	565	100%	3.574	100%	3.606	3.673	2.874	945	1.312	35,7	-1.562	-42,5	-2.232	-60,8	2	2,6
		SSCF SVN	72	100%	193	3.025	87	57	6.890	100%	6.890	100%	65	100%	527	100%	526	1.485	488	81	1.280	86,2	792	53,3	686	46,2	18	22,6
		SSCF GRC	12.637	100%	25.102	237.032	19.538	17.748	1.928.836	100%	1.928.836	100%	27.527	100%	233.554	100%	233.601	233.601	128.267	45.256	141.579	60,6	13.312	5,7	-4.006	-1,7	11	8,0
		LSF CYP	32	91%	1.195	5.527	124	124	2.119	82%	2.119	82%	795	92%	2.896	83%	2.861	2.861	801	361	1.234	43,1	434	15,2	-1.240	-43,3	39	9,9
		LSF ESP	1.038	26%	49.454	168.864	5.551	5.376	127.657	26%	127.657	26%	75.616	19%	269.094	28%	254.568	257.572	111.964	36.965	158.180	61,4	46.215	17,9	39.692	15,8	152	29,4
		LSF FRA	56	4%	2.120	11.157	145	84	6.586	3%	6.428	3%	2.381	1%	10.719	1%	11.568	11.782	4.064	3.015	5.340	45,3	1.276	10,8	-76	-0,6	95	63,7
		LSF HRV	985	100%	26.398	145.806	2.605	1.806	100.637	100%	89.801	100%	70.942	100%	50.306	100%	49.989	54.182	20.339	11.864	25.378	46,8	5.039	9,3	-12.899	-23,8	26	14,1
		LSF ITA	3.940	100%	129.995	722.130	13.179	11.750	510.884	100%	530.796	100%	161.015	100%	689.778	100%	689.088	695.499	199.923	157.057	413.105	59,4	213.182	30,7	90.532	13,0	105	35,2
		LSF MLT	68	100%	3.670	17.631	276	259	4.768	100%	3.137	100%	1.737	100%	6.226	100%	6.282	6.793	1.556	1.441	2.994	44,1	1.320	20,0	-310	-4,7	44	11,1
		LSF PRT	1	0%	278	651	13	13	410	0%	387	0%	79	0%	847	0%	853	872	396	179	556	63,7	159	18,3	38	4,4	391	43,4
		LSF SVN	11	100%	167	1.541	23	13	1.008	100%	1.008	100%	87	100%	439	100%	438	727	271	100	555	76,4	285	39,2	254	35,0	50	42,6
		LSF GRC	775	100%	41.239	147.010	5.362	5.242	111.989	100%	111.989	100%	46.904	100%	228.219	100%	228.265	228.265	57.621	30.438	127.342	55,8	69.721	30,5	39.068	17,1	164	24,3
		DWF ESP	0	0%	55	76	3	3	44	0%	44	0%	24	0%	150	0%	146	146	26	37	-58	-39,6	-84	-57,2	-97	-66,0	-290	-17,4

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.20 Structure and economic performance estimates for the top 40 MS fleets operating in the Mediterranean Sea, 2016

	Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
	(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
ITA A37 DTS1218	1,180	100%	22,783	164,949	3,272	3,236	175,194	100%	179,754	100%	23,841	100%	174,284	100%	174,110	174,215	44,856	43,005	102,699	59.0	57,843	33.2	39,537	22.7	87	31.7
ITA A37 DTS1824	600	100%	35,918	164,889	2,453	2,453	97,996	100%	102,124	100%	24,144	100%	171,216	100%	171,045	172,912	43,893	51,072	93,256	53.9	49,363	28.6	13,921	8.1	155	38.0
ITA A37 PGP0612	5,119	100%	11,282	186,740	9,469	7,270	677,915	100%	799,613	100%	21,059	100%	167,234	100%	167,067	169,203	69,410	17,012	124,557	73.6	55,147	32.6	23,681	14.0	24	17.1
GRC A37 DFN0612	5,638	100%	15,556	135,966	9,585	9,585	1,078,023	100%	1,078,023	100%	15,599	100%	117,629	100%	117,652	117,652	62,196	24,728	68,954	58.6	6,758	5.7	599	0.5	12	7.2
ITA A37 DTS2440	197	100%	25,976	85,173	1,050	1,050	32,363	100%	35,247	100%	8,638	100%	89,698	100%	89,609	92,462	27,536	25,637	46,718	50.5	19,182	20.8	- 1,762	- 1.9	237	44.5
ESP A37 DTS1824	299	99%	18,181	55,356	1,253	1,403	33,118	99%	33,118	99%	11,792	100%	74,782	100%	76,426	76,932	29,972	16,057	41,285	53.7	11,314	14.7	10,627	13.8	138	29.4
GRC A37 DTS2440	150	100%	20,437	48,992	1,110	1,081	29,505	100%	29,505	100%	9,855	100%	71,424	100%	71,438	71,438	11,886	11,070	42,832	60.0	30,945	43.3	19,283	27.0	286	39.6
GRC A37 PS1824	135	100%	6,479	27,727	1,665	1,574	18,940	100%	18,940	100%	17,457	100%	60,434	100%	60,446	60,446	22,722	4,700	32,090	53.1	9,368	15.5	4,114	6.8	238	20.4
GRC A37 HOK0612	1,915	100%	5,453	47,566	2,802	2,802	273,417	100%	273,417	100%	4,335	100%	54,805	100%	54,816	54,816	25,099	8,466	35,640	65.0	10,541	19.2	3,652	6.7	19	12.7
ESP A37 DTS2440	130	100%	12,909	40,370	671	709	17,751	100%	17,751	100%	5,647	100%	43,523	100%	47,468	47,545	19,807	9,032	28,488	59.9	8,680	18.3	7,313	15.4	219	40.2
ITA A37 DRB1218 °	683	100%	9,037	74,127	1,470	624	61,384	100%	61,103	100%	17,773	100%	47,040	100%	46,993	47,555	17,890	4,630	35,178	74.0	17,288	36.4	5,569	11.7	52	56.3
ITA A37 PGP0006	2,189	100%	2,193	17,466	3,158	2,228	273,035	100%	308,200	100%	5,721	100%	46,746	100%	46,699	47,702	21,048	3,834	37,511	78.6	16,463	34.5	12,117	25.4	17	16.8
GRC A37 PS2440	28	100%	2,494	6,542	410	410	6,493	100%	6,493	100%	10,551	100%	36,839	100%	36,846	36,846	4,512	1,475	27,426	74.4	22,914	62.2	20,436	55.5	980	67.0
ESP A37 PMP0612	942	99%	2,776	29,719	1,749	1,198	96,887	99%	96,887	99%	4,748	99%	25,636	98%	36,029	36,029	16,103	1,619	26,384	73.2	10,281	28.5	10,016	27.8	28	22.0
ITA A37 PGP1218 °	407	100%	5,412	61,470	1,048	908	41,436	100%	46,736	100%	5,123	100%	30,832	100%	30,801	31,738	11,241	3,845	22,500	70.9	11,259	35.5	4,126	13.0	55	24.8
ESP A37 PS1824	86	100%	4,033	18,001	984	1,026	12,448	100%	12,448	100%	22,757	100%	37,882	97%	29,876	29,876	15,612	2,736	19,575	65.5	3,963	13.3	3,495	11.7	229	19.1
GRC A37 DTS1824	100	100%	5,029	26,613	629	629	15,414	100%	15,414	100%	3,355	100%	25,533	100%	25,538	25,538	6,797	8,749	7,733	30.3	935	3.7	- 3,965	- 15.5	77	12.3
ESP A37 DTS1218	147	100%	3,618	10,799	453	426	18,910	100%	18,910	100%	4,436	100%	21,714	100%	24,119	24,132	9,180	3,467	14,744	61.1	5,564	23.1	5,384	22.3	100	34.6
GRC A37 HOK0006	1,353	100%	945	12,931	1,945	1,195	160,596	100%	160,596	100%	1,764	100%	22,976	100%	22,981	22,981	10,925	2,939	15,407	67.0	4,482	19.5	2,809	12.2	11	12.9
ITA A37 PS40XX	11	100%	2,684	7,503	165	113	331	100%	316	100%	2,765	100%	22,646	100%	22,623	22,623	8,158	1,151	18,602	82.2	10,444	46.2	7,050	31.2	1,691	165.3
FRA A37 DFN0612	511	100%	1,625	43,833	650	181	26,245	100%	25,877	100%	1,337	100%	11,518	100%	21,974	21,974	10,855	1,215	15,179	69.1	4,324	19.7	2,521	11.5	30	84.0
GRC A37 DFN0006	3,349	100%	2,225	30,745	4,659	3,639	329,218	100%	329,218	100%	3,049	100%	21,237	100%	21,241	21,241	25,862	6,987	8,775	41.3	- 17,086	- 80.4	- 18,678	- 87.9	3	2.4
ITA A37 TM1824	44	100%	2,818	13,564	269	269	7,517	100%	7,509	100%	21,019	100%	19,911	100%	19,891	19,891	5,932	3,811	10,308	51.8	4,376	22.0	1,750	8.8	234	38.3
ITA A37 PS1218 °	210	100%	2,025	20,331	943	779	27,236	100%	27,736	100%	7,643	100%	19,502	100%	19,483	19,569	6,393	2,659	13,410	68.5	7,016	35.9	5,092	26.0	64	17.2
HRV A37 PS2440	70	100%	11,181	39,518	636	574	12,688	100%	12,085	100%	41,608	100%	19,067	100%	18,947	19,100	8,646	3,075	10,524	55.1	1,878	9.8	- 5,084	- 26.6	150	18.3
ESP A37 PS1218	85	100%	1,982	10,766	763	710	9,860	100%	9,860	100%	14,255	100%	22,242	100%	18,423	18,565	10,939	1,171	13,393	72.1	2,453	13.2	2,381	12.8	158	18.9
ITA A37 PS2440	44	100%	4,804	18,492	437	397	4,814	100%	4,819	100%	10,620	100%	17,459	100%	17,441	17,441	6,203	1,711	12,907	74.0	6,703	38.4	1,369	7.9	293	32.5
ESP A37 PS2440 °	25	100%	3,065	11,093	305	195	2,802	100%	2,802	100%	5,591	100%	14,555	100%	17,200	19,068	9,001	691	14,823	77.7	5,823	30.5	4,147	21.8	594	75.9
ITA A37 HOK1218 °	122	100%	1,985	19,128	457	451	15,753	100%	15,224	100%	2,436	100%	16,457	100%	16,440	16,440	4,019	2,448	10,162	61.8	6,143	37.4	3,717	22.6	83	22.5
GRC A37 HOK1218 °	101	100%	2,146	10,371	290	290	10,064	100%	10,064	100%	1,757	100%	16,017	100%	16,020	16,020	2,759	1,375	10,560	65.9	7,801	48.7	5,867	36.6	105	36.4
ITA A37 TBB1824	23	100%	1,733	9,067	217	217	5,157	100%	5,157	100%	2,397	100%	15,887	100%	15,871	15,871	4,009	4,546	7,722	48.7	3,713	23.4	1,250	7.9	336	35.6
ITA A37 TM2440	41	100%	4,593	21,133	240	240	6,758	100%	6,754	100%	14,467	100%	15,470	100%	15,455	15,455	4,645	4,401	8,881	57.5	4,236	27.4	1,198	7.8	217	37.0
GRC A37 FPO0612 °	317	100%	883	9,100	463	463	59,025	100%	59,025	100%	2,193	100%	13,204	100%	13,207	13,207	3,585	1,903	9,450	71.6	5,865	44.4	4,932	37.3	30	20.4
ITA A37 PS1824	45	100%	2,311	11,353	367	290	4,763	100%	4,766	100%	4,996	100%	13,066	100%	13,053	13,053	3,893	1,722	8,531	65.4	4,638	35.5	2,547	19.5	190	29.4
GRC A37 PS1218 °	83	100%	1,814	11,270	775	775	8,667	100%	8,667	100%	3,189	100%	12,136	100%	12,139	12,139	5,966	1,565	4,474	36.9	- 1,493	- 12.3	- 3,513	- 28.9	54	5.8
FRA A37 DTS1824 °	32	100%	1,984	9,411	103	74	5,266	100%	5,140	100%	2,376	100%	10,644	100%	11,351	11,555	3,955	2,853	5,534	47.9	1,580	13.7	359	3.1	173	75.0
ITA A37 TM1218 °	41	100%	1,037	8,608	146	146	5,818	100%	5,744	100%	10,452	100%	11,023	100%	11,012	11,012	3,465	1,455	6,861	62.3	3,395	30.8	2,990	27.2	167	47.2
ESP A37 FPO1218 °	24	98%	615	2,538	150	135	3,397	98%	3,397	98%	400	96%	4,579	98%	9,028	9,037	2,853	590	5,503	60.9	2,650	29.3	2,460	27.2	233	40.9
HRV A37 PS1824	48	100%	3,917	16,945	387	342	8,409	100%	7,891	100%	19,181	100%	8,917	100%	8,861	9,303	3,633	1,303	4,950	53.2	1,317	14.2	- 1,403	- 15.1	103	14.5
ITA A37 DTS0612	196	100%	1,150	15,201	268	200	14,310	100%	17,175	100%	1,328	100%	8,573	100%	8,565	8,565	2,420	1,675	4,987	58.2	2,567	30.0	1,547	18.1	25	24.9

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

4.5 Black Sea

At a glance

The fishery resources of the Black Sea are shared by Bulgaria, Georgia, Romania, the Russia Federation, Ukraine and Turkey. Only two of these are EU Member States - Romania and Bulgaria. Both operate exclusively in the Black Sea waters and are fully dependent on the region. The main species fished include sea snails, sprat, turbot, red mullet, picked dogfish and anchovy. The main fishing gears used were set gillnets, pelagic trawls, purse and beach seine, pots and traps. The overall economic situation in the region is rather unstable. While revenue has increased gradually over the period 2008-2016, it peaked in 2015 but fell 19% in 2016. GVA as a proportion of revenue was estimated at 65% for 2016, which means that the Black Sea fishing fleet transformed more than half its total revenue into capital, salaries and profits, thereby having a positive impact on the economies of the region and their fishing communities. The most profitable year over the period analysed was 2015.

While the total number of vessels remained stable over the period 2012-2016, total and full-time employment have varied considerably (total employment varied between 1 635 to 2 059 workers while the number of FTEs fluctuated between 533 and 649). Further, while wages for the large scale fleet (LSF) have remained stable for the past two years, wages in the small scale coastal fleet (SSCF) have declined gradually every year.

Effort (days at sea) deployed by MS fleets operating in the Black Sea region was stable between 2012 and 2014, but increased in both 2015 and 2016 as did landings (by weight and value).

The good news:

- Higher average first sale prices of certain species: red mullet, turbot and Mediterranean horse mackerel.
- Higher revenues.
- The GSA 29 Black Sea 2017 sea snail stock is fished below FMSY (STECF).

Challenges ahead:

- Lack of investment.
- Energy efficiency has not improved in recent years and fuel costs have grown proportionally.
- Due to low wages young people are not attracted to the sector.

What's for the future?

- The turbot quota for 2018 and 2019 is 32% higher than in 2017 (114 tonnes each to Bulgaria and Romania).
- Unstable fuel prices and thus energy costs.

Main drivers affecting fleet performance in the region

After the visible improvement of the regional fishing fleet's economic performance in 2015 with an increase in both gross net profit, there was a small decrease in 2016. Factors that may have contributed to this situation include:

- Maintaining the average prices for species with significant landings.
- Increased days at sea together with increased landings driving revenue growth.
- An increase in the turbot quota for both Bulgaria and Romania in 2018 and 2019 together with fixed quotas for third countries fishing in the Black Sea.
- Lower fuel prices leading to lower energy costs.

Other factors that affected fleet performance in the region include:

- Status of Stocks. The Black Sea fishery is highly depending on very few species, and, according to STECF 17-11, some of the commercially important stocks are currently being exploited above FMSY.
- The sea snails stock in GSA 29 is fished below FMSY, which means that fishing vessels and processing plants utilising this species will continue to provide employment in the region.
- The weather conditions in the Black Sea, including strong winds and large temperature differences between winter and summer, significantly affect fishing activities.

- In 2016 the Black Sea fleet reached its highest levels of fishing effort (days at sea) and energy consumption for the last 9 years.
- As trawling is typically fuel intensive, fluctuations in fuel consumption and fuel prices are key drivers of profitability.
- The GFCM has established a set of emergency measures for stocks in the Black Sea region in order to align the implementation of management measures by all countries operating in the region.

Social-economic Trends

In terms of socio-economic variables, the fleet operating in the Black Sea displayed the following trends:

- **Wages and Salaries**

In 2016 the average wage per FTE in the small scale coastal fleet (SSCF) fell by 21%, fluctuating between EUR 4 190 and EUR 3 009.

Wages for the large scale fleet (LSF) fell 1% in 2016 compared to 2015. The average wage in 2016 was EUR 4 892, some 30% lower compared to the highest peak of the wages for the LSF in 2014 (Figure 4.78).

- **Labour productivity**

The productivity (GVA/FTE) for the large-scale fleet segment increased slightly in 2016. GVA per FTE was EUR 17 218, the highest value for the period 2008-2016, and a 6% increase on 2015. Unfortunately, the situation for the SSCF is totally different, the labour productivity decreased by 54% from 2015 to 2016, to reach its lowest value at just EUR 4 768 (Figure 4.78).
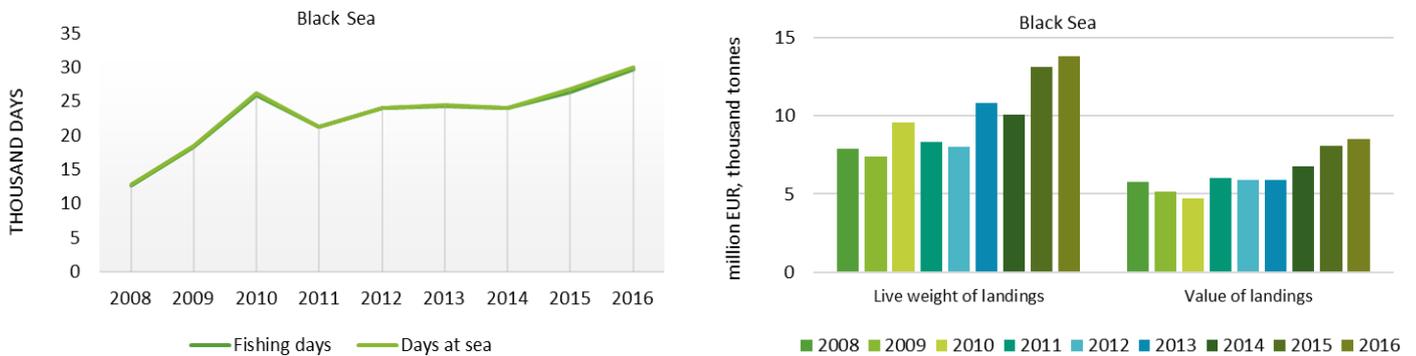
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.76 Trends on effort and landings for MS fleets operating in the Black Sea
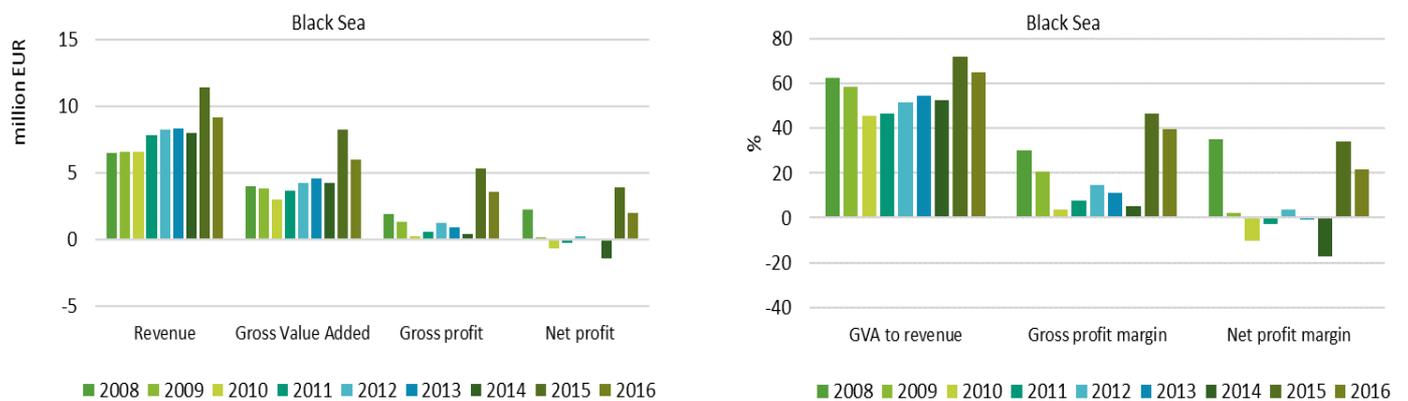
Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.77 Trends in revenue and profits for MS fleets operating in the Black Sea
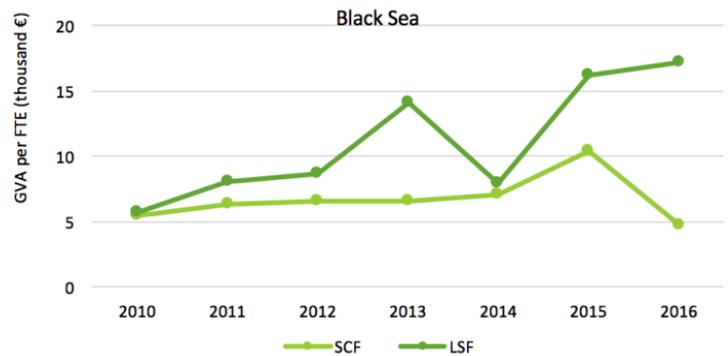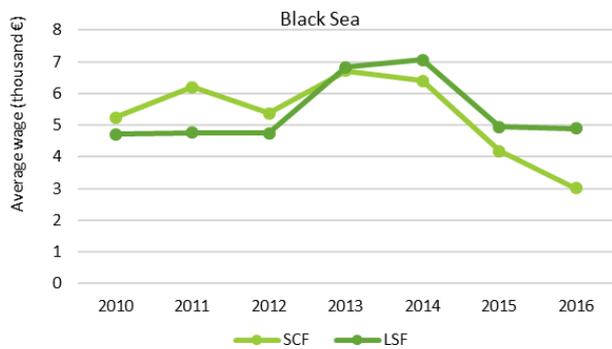
Figure 4.78 Trends on average wage and labour productivity by fishing activity for MS fleets operating in the Black Sea

Regional Details

The Black Sea region covers FAO fishing area 37.4. Two EU Member States were involved in the Black Sea fisheries in 2016: Bulgaria and Romania. Both fleets operate mainly in waters under their respective national jurisdictional.

A comprehensive economic analysis, including both coastal MS fishing fleets, was completed using data on the structure, activity and production for all vessels collected by Bulgaria and Romania. The data collection programme in place includes all economic and social variables.

A trend analysis is provided for the period 2008-2016 because consistent datasets for the entire period were available for both MS fleets. Tables 4.21 to Table 4.24 contain a summary of the economic performance of the Black Sea fleet by Member State, fishing activity and fleet segment, respectively.

There are two species under TAC management in the Black Sea, turbot and sprat with the quota for turbot divided evenly between Bulgaria and Romania. For sprat, Bulgaria and Romania's national quotas are set at 70% and 30% of the total EU quota, respectively.

MS fleet activity: the situation in 2016 and recent trends

All landings by the Bulgarian and Romanian fleets originate from the Black Sea.

Fleet capacity and employment

The EU fleet fishing in the Black Sea consisted of 1 327 active vessels in 2016. The small-scale fleet comprised 1 190 vessels or 90% of the regional fleet (Figure 4.79). The ratio between SSCF and LSF remained stable for the period analysed and no major changes are expected. With 1 206 vessels, the Bulgaria fleet makes up 91% of the Black Sea fleet.

Total employment in 2016 was estimated at 1 948 jobs, corresponding to 628 FTEs (Figure 4.80). Total employment in both countries is higher in the SSCF due to the larger number of vessels, but the FTE per vessel ratio is lower, due to the seasonal nature of small-scale fishery.
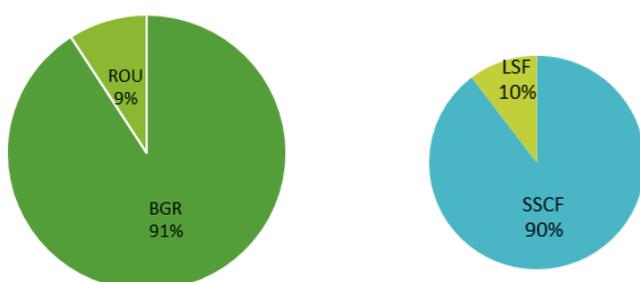
Figure 4.79 Share of Black Sea fleet capacity by MS and fishing activity, 2016

Trends in the number of vessels have remained relatively stable, the lowest number of vessels was registered in 2008 and the highest in 2012. While the number of vessels for the period 2012-2016 has not undergone any significant change, the days at sea for the same period increased by 25% (Figure 4.80). The total employment and FTE were also consistent for this period, with a small decrease only in 2013.
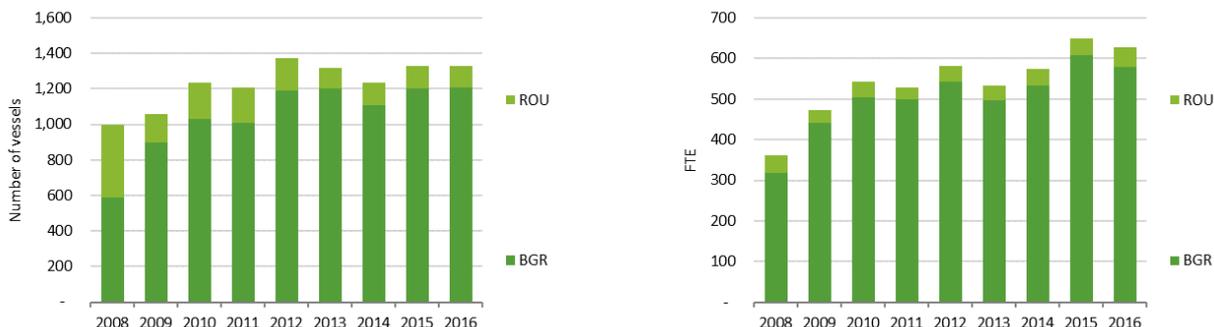
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.80 Trends in the number of vessels and employment (in FTE) for the MS fleets operating in the Black Sea

Fishing effort

The Black Sea fleet (represented by Romanian and Bulgarian vessels only) spent almost 30 thousand days at sea in 2016. The Bulgarian fleet accounted for 86% of the days, while the Romanian contribution was 14%. The SSCF accounted for 65% of the days at sea (Figure 4.81 and Figure 4.82).

While the number of days at sea was rather stable in the period 2010-2014 there has been a gradual increase 2104 and 2016, which can be explained by the growing interest in harvesting sea snails.

Days at sea

Data source: Member State data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.81 Share of the fishing effort deployed in the Black Sea by MS and fishing activity, 2016
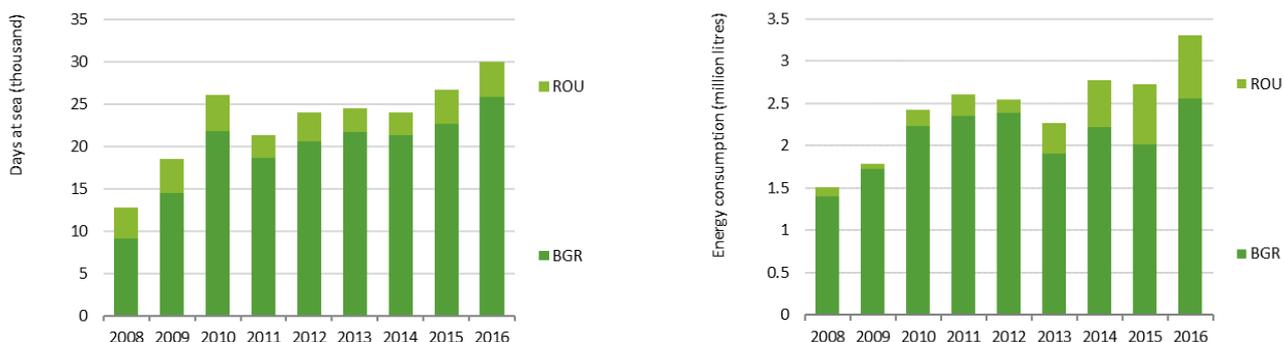
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.82 Trends on fishing effort (in days at sea) and energy consumption for MS fleets operating in the Black Sea

Landings and top species

The weight and value of landings generated by the Black Sea regional fleet in 2016 amounted to approximately 13.8 thousand tonnes and EUR 8.51 million, respectively.

In terms of landed weight, Bulgaria landed 6.95 thousand tonnes and Romania 6.83 thousand tonnes with the value of landings being EUR 4.62 million and EUR 3.88 million respectively. The percentage distribution of both the value and weight of landings, by country, is shown in Figure 4.83.
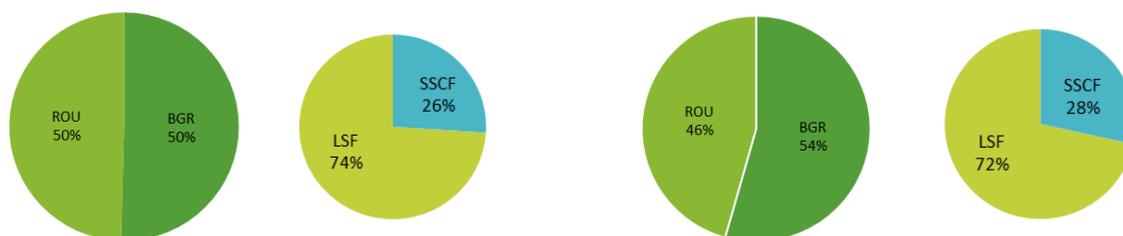
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.83 Share of landings from the Black Sea by MS and fishing activity, 2016

In 2016, large-scale vessels accounted for 74% of all landings by weight, equivalent to 72% of the landed value. Although over 65% of the effort was deployed by the SSCF, these vessels landed only 26% by weight and 28% by value (Figure 4.83 and Figure 4.84). However, the small-scale coastal fleet is more important from a social point of view as it represents almost 83% of the total employment and 62% of FTE employment in the Black Sea fleet.

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.84 Trends on landings in weight and value by MS fleets operating in the Black Sea

In 2016, the main species (by weight) were sea snails (9.9 thousand tonnes), followed by European sprat (2.34 thousand tonnes), red mullet (0.8 thousand tonnes) and Mediterranean horse mackerel (0.2 thousand tonnes) (Figure 4.85).
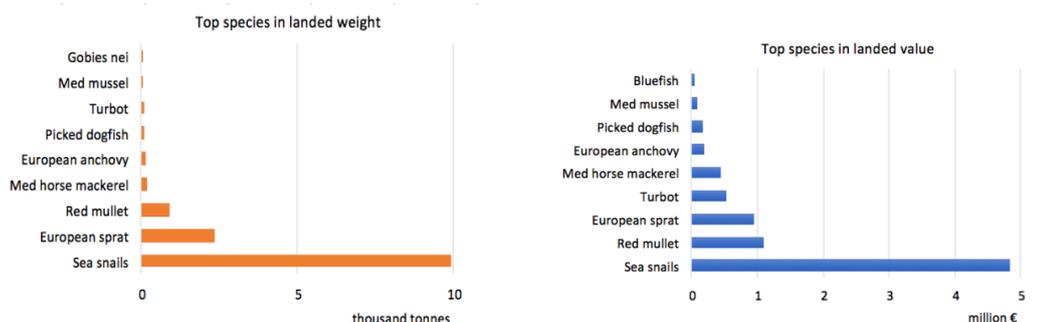
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.85 List of the top 10 species in terms of landed weight and value for MS fleets operating in the Black Sea, 2016

By value, the most important species were sea snails (EUR 4.8 million), red mullet (EUR 1.1 million), European sprat (EUR 0.9 million) and turbot (EUR 0.5 million) (Figure 4.86 and Figure 4.87).
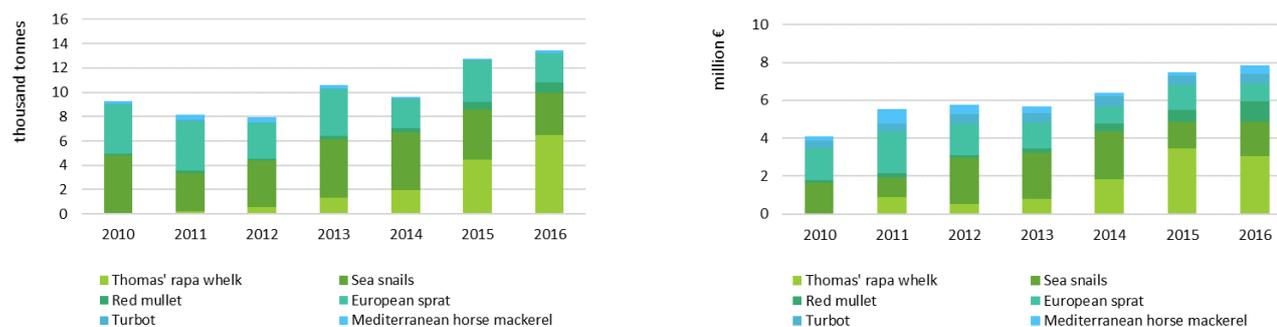
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.86 Trends in landings of the top six species in terms of landed value for MS fleets operating in the Black Sea, 2016

Socio-Economic performance

The revenue (income from landings and other income) generated by the Black Sea fleet in 2016 was an estimated EUR 9.1 million, 58% of which was generated by the Bulgarian fleet (EUR 5.3 million). In terms of economic performance, the amount of Gross Value Added (GVA) generated by EU Black Sea fleet was EUR 5.9 million of which EUR 5.3 million was added by Bulgarian and EUR 3.8 million Romania fleets.

Total Gross profit for the region was estimated at EUR 3.6 million. The Romanian fleet generated the largest gross profit in 2016 amounting to EUR 2.2 million, followed by Bulgaria (EUR 1.4 million) (Table 4.23).

Three of Bulgaria's small-scale coastal fleet segments reported a gross loss in 2016: vessels under 6 meters using active and passive gears; vessels under 6m using traps; and vessels 6-12m using polyvalent gears only. These amounted to -EUR 88 thousand.

Overall net profit amounted to EUR 1.9 million in 2016, but this includes 10 segments that recorded a net loss (-EUR 388 thousand).

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.87 Trends in revenue (landings income + other income) and profit (GVA, gross profit and net profit) by MS fleets operating in the Black Sea

Amongst the operating costs, the two major expenses were crew wages and energy costs, accounting for EUR 2.1 and EUR 1.8 million respectively. In terms of crew costs, Bulgaria was leading with EUR 1.5 million and Romanian costs were EUR 0.6 million. Regarding the energy costs, the situation was similar EUR 1.3 million for Bulgaria and EUR 0.5 million for Romania.

While the SSCF accounts for 90% of the total fleet by number (1 190 vessels) and accounts for 65% of the effort (19 518 days) it landed only 26% of the total by weight (3 588 tonnes) and 28% by value (EUR 2.4 million).

Overall, both fleet segments were generally profitable, with gross profit margins estimated at 41.5% for the Romanian SSCF and 9% for the Bulgarian SSCF while the Romanian LSF recorded a 66% gross margin and the Bulgarian LSF a 34% gross margin.

Net profit margins were estimated at 34.6% for the Romanian SSCF but -10.5% for Bulgarian SSCF while for the LSF the Romanian fleet reported a 49.1% margin and the Bulgarian LSF 12.9%.

The most profitable year for both countries over the period analysed was 2015 - revenue and GVA reached their highest values, followed by a decrease in 2016 (Figure 4.87).

Productivity

While on average 240 litres of fuel per tonne of landed fish was used in the Black Sea fisheries in 2016, significant differences between fisheries are observed. Static fisheries were the most fuel efficient, consuming on average 202 litres of fuel per landed tonne in the SSCF and 129 litres/tonne in the LSF. Pelagic trawl fisheries consumed the most fuel per landed catch (552 litres/tonne TM 18-24) (Figure 4.88).
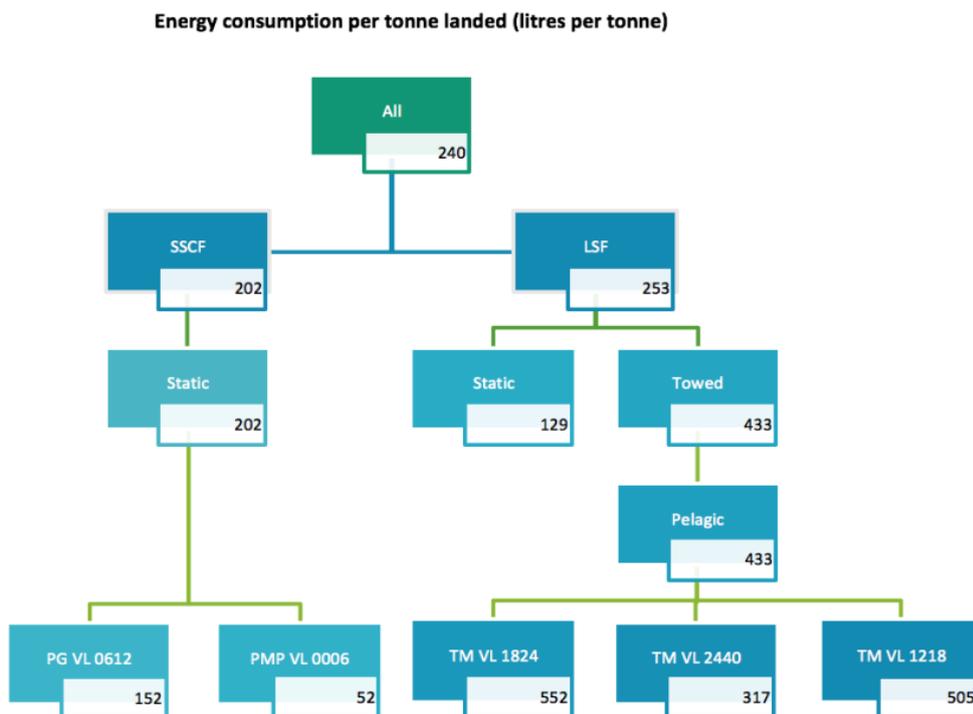
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.88 Schematic representation of the amount of fuel consumed per landed weight (litres/tonne) by the various MS fleet components operating in the Black Sea

Around 21% of the landed value in the Black Sea went to pay for fuel costs in 2016. In total, around EUR 1.7 million was spent on fuel to catch 13.8 thousand tonnes of fish with a landed value of EUR 8.5 million. In particular, the large-scale pelagic segments spent high amounts (30%) of their landed value on fuel. As trawling is typically fuel intensive, fluctuations in fuel consumption and fuel prices are therefore key drivers of the profitability of the fleets (Figure 4.89).

Fuel costs as % of landed value
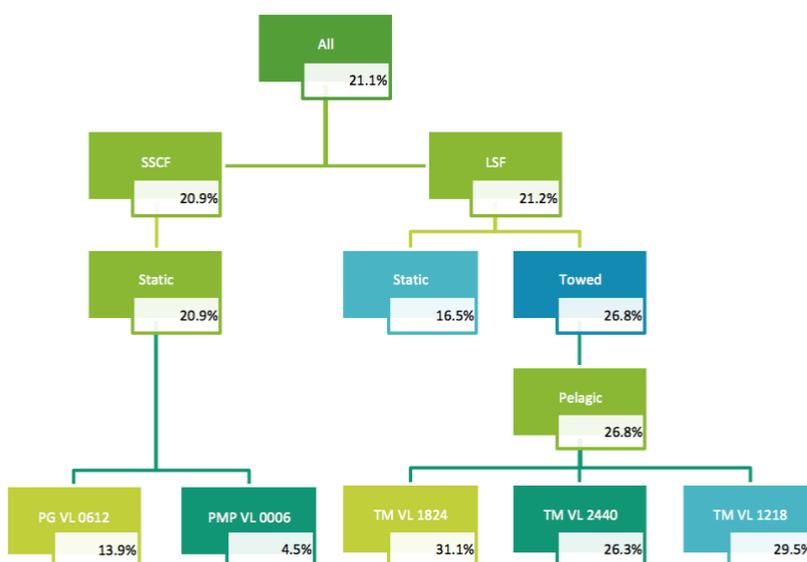
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.89 Schematic representation of the ratio fuel costs to landed value (%) for the various MS fleet components operating in the Black Sea, including some important segments

Gross profit per day at sea
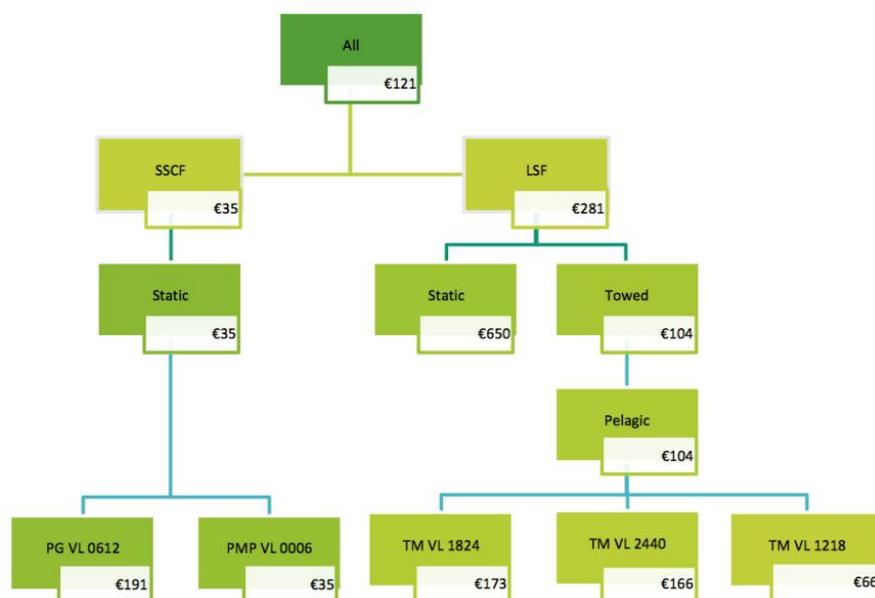
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 4.90 Schematic representation of the amount of gross profit generated per day at sea (EUR /day) by the various MS fleet components operating in the Black Sea, including some important segments

In 2016, the average gross profit per day at sea was estimated at around EUR 121 for the Black Sea fisheries. On average small-scale coastal fisheries showed a low gross profit, with the exception of vessels 6-12 m using passive gears only. The pelagic fisheries were not as profitable as the static large-scale fisheries, the latter generating, on average, EUR 650 gross profit per day at sea. In contrast, the gross profit per day at sea for trawlers TM12-18 m was only EUR 66 (Figure 4.90).

Status of important stocks

Commercially important stocks for the Black Sea fisheries during the past decades were turbot, sea snails, sprat and picked dogfish.

Turbot in GSA 29 is considered to be overexploited and management measures (following GFCM recommendations) are in place. In terms of landing weight and value, the sea snail is the most profitable

species and according to the most recent stock assessment from 2017, its stock in GSA 29 is fished below F_{MSY}. Sprat, which is the second most important fishery in economic terms, is evaluated as sustainably exploited. The picked dogfish in the Black Sea is not managed by quota, but there is an established catch limit. It is a target fishery for the Bulgarian fleet, while for the Romanian fleet it's mainly bycatch. Both however limit their 2017 catches to 2015 catch levels and inform the Commission on a quarterly basis of the actions taken to meet this objective.

In order to ensure scientific data for the assessment of the commercially important species, Bulgarian and Romanian, fishery-independent, pelagic and demersal surveys are carried out twice yearly (in spring and autumn).

Fisheries Management and stock status in the region

Over the last three years the EU has accelerated the development and introduction of management measures and a multiannual plan for the region under the CFP. There is, however, no obligation on third countries to adhere to these measures. Over the past three years in particular, the GFCM has established a set of emergency measures that look to align the implementation of management measures by all countries operating in the region.

During the 39th session of the GFCM, two Recommendations applicable to the Black Sea were adopted.

Recommendation GFCM/39/2015/3 introduced a set of measures to prevent, deter and eliminate illegal, unreported and unregulated fishing in the Black Sea turbot fishery. This requires Contracting Parties and Cooperating non Contracting Parties (CPCs) to implement specific measures to ensure: authorization for vessels targeting turbot; marking and identification of bottom-set gillnets operating in the turbot fishery; to designate, where possible, landing points in which landings of turbot in GSA 29 shall take place, and to develop specific monitoring, control and surveillance plans.

Management measures for fisheries exploiting picked dogfish were introduced with Recommendation GFCM/39/2015/4 which prohibits the retention, landing, storage, sale, or display of picked dogfish smaller than 90 cm.

In 2016 a further two recommendations were adopted by the 40th session of the GFCM. Recommendation GFCM/40/2016/1 introduced a regional scheme of port-state measures to combat illegal, unreported and unregulated (IUU) activities in the GFCM area of application, while Recommendation GFCM/40/2016/6 introduced scientific monitoring, management and control of turbot fisheries in the Black Sea (GSA 29). Both recommendations contribute to the long-term conservation and sustainable use of living marine resources in the region, counteract turbot overfishing and seek to restore, to the extent possible, the size of the Black Sea turbot stock, with a view to providing high long-term yields and to ensuring the sustainability of the fishery.

In 2017, at the initiative of the EU, the GFCM adopted recommendation GFCM/41/2017/4 which provides a multiannual management plan for turbot fisheries in the Black Sea and lays down a list of measures and total allowable catch for 2018-2019. The specific objectives of the multiannual management plan and transitional measures are to maintain fishing mortality (F) for turbot within agreed precautionary reference points with a view to achieving or maintaining fishing mortality at MSY. The recommendation established fleet management measures, management of fishing effort and monitoring, control and surveillance (MCS) programme (Note: Recommendation GFCM/41/2017/4 also repeals Recommendation 40/2016/6 see above).

Finally, Recommendation GFCM/41/2017/7 introduced a regional plan of action to combat IUU fishing. The objective of this plan is the prevention, deterrence and elimination of IUU fishing in the Mediterranean and the Black Sea by providing CPCs with comprehensive, effective and transparent measures through which to take action, thereby contributing to ensure the long-term conservation and sustainable use of marine living resources and marine ecosystems in the region.

TAC development of main species

Quotas for turbot and sprat TAC were introduced in 2008 following the accession of Bulgaria and Romania to the European Union. The quota for turbot is shared evenly by Bulgaria (50%) and Romania (50%) while Bulgaria is allocated 70% of the EU sprat TAC and Romania 30%. In the seven years to 2017, the EU TACs were 86.4 tonnes for turbot and 11 475 tonnes for sprat per year.

GFCM Recommendation GFCM/401/2017/4 sets a total allowable catch (TAC) for turbot for 2018 and 2019 with a temporary allocation of quotas. The EU share of this TAC is set at 114 tonnes in each of the two years.

Council Regulation (EU) 2017/2360 sets the EU TAC and quotas for turbot (*Psetta maxima*) and sprat (*Sprattus sprattus*). The quota for sprat was fixed at the same level as 2017 while the quota for turbot, as recommended by GFCM/401/2017/4, was 114 tonnes, 32% more than 2017.

Description of relevant fisheries in the region

Small-scale coastal fleet

The Black Sea fishery is dominated by small-scale coastal vessels dispersed across 73 landing places (15 in Romania and 58 in Bulgaria). They utilise a large number of fishing techniques including set gillnets, hand-lines, pole-lines (mechanised or hand-operated), set longlines, drifting longlines, pots and traps, and vessels without gear (divers) all adapting to fishing seasons and fluctuations in species abundance.

The 1190 vessels that comprise the SSCF have a combined capacity of 2 014 GT and 24 789 kW. These are of vital importance to the region where they make up 90% of the total fleet by number and 82% of the total employment (62% of FTE). In 2016, 1 596 fishers were directly employed, corresponding to 390 FTEs. In the majority of cases vessels are operated by the owner or a family member.

Landings by the Black Sea SSCF amount to 28% of the total landed weight in the region but 26% of the total value. The lower value achieved by the SSCF (compared to the LSF) appears to reflect the use of different marketing channels. The SSCF generally operates through very short supply-chains.

Despite the fact that SSCF vessels are small they are locally very important in the Black Sea. Besides generating revenue for the owner, there are others with lower activity where the catch is consumed directly by the owner and their families.

The SSCF accounted for 65% of the total days at sea in the Black Sea region and generated revenues of EUR 3 million. Gross Value Added was estimated to be around EUR 1.9 million, Gross Profit EUR 686 thousand and Net Profit EUR 235 thousand. Although 8 of the segments from the SSCF generated net losses the Romanian SSCF generated a net profit of EUR 424 thousand. Labour productivity (GVA per FTE) was estimated to be EUR 4.77 thousand.

The SSCF target a number of species including sea snails, turbot, European anchovy and Mediterranean horse mackerel along with red mullet, bluefish and Mediterranean mussel (Figure 4.91).
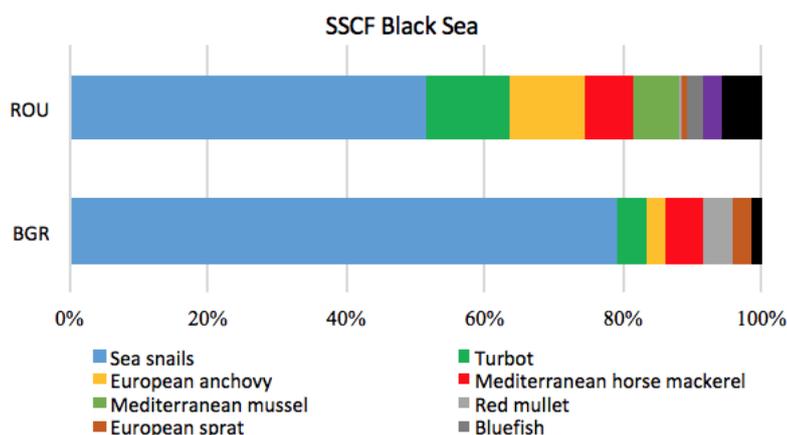
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.91 Top 10 species landed in terms of value as a proportion of the total landings in the region by MS small-scale coastal fleets operating in the Black Sea, 2016

Large-scale fleet

During the period 2009-2016, the large-scale fleet in the Black Sea consisted of 137 vessels or some 10% of the entire fleet. These had a total capacity of 4 054 GT and 21 245 kW. The Bulgarian LSF represents 88% of the EU Black Sea large-scale fleet with 120 vessels while the Romanian LSF consists of 17 vessels. The main gears used were pelagic trawls and set gillnets (anchored). There were also vessels using passive and active gears during the year.

The LSF employs a total of 352 people, corresponding to 238 FTE. Total labour costs in 2016 were EUR 1.2 million while the labour productivity (GVA per FTE) was EUR 17.2 thousand.

Over the period 2011- 2016 the LSC accounted for 30-37% of the total days at sea for the entire Black Sea fleet. However, while the proportion remained relatively constant the total number of days increased form 6.3 thousand days to 10.4 thousand in 2016.

The LSF targets the same species as the SSCF with sea snails making up the highest proportion (by value) for the Romanian fleet (93%). For the Bulgarian fleet the most valuable species were red mullet (30%) and sea snails (25%). Other important species for the LSF were turbot, European sprat, European anchovy and Mediterranean horse mackerel (Figure 4.92).

The LSF landed 72% (10.2 thousand tonnes) of the total landed weight in the region in 2016 valued at EUR 6.1 million or 74% of the total value. This generated EUR 4.1 million in GVA and a net profit of EUR 1.7 million; two of the segments however did report a net loss. The LCF generally operates through longer supply-chains than the SSCF and in 2016 the highest landings in terms of weight and value were polyvalent vessels with both active and passive gears, followed by the pelagic trawlers. Pelagic trawlers consumed more energy than polyvalent vessels and also consumed mire energy per tonne landed (litres/tonne).
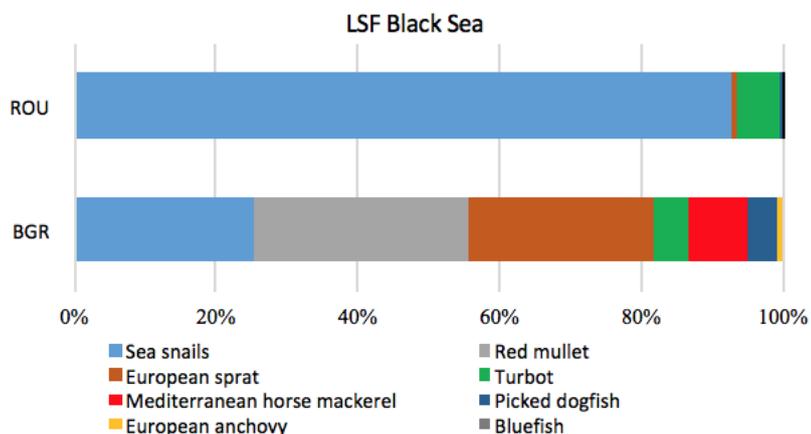
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

Figure 4.92 Top 10 species landed in terms of value as a proportion of the total landings in the region by MS large-scale fleets operating in the Black Sea, 2016

Performance by fleet segment

Table 4.24 provides results for the top 12 fleets operating in the Black Sea (out of 21 active fleet clustered segments). These segments represented 86% of the total number of vessels; cover 90% of the effort deployed (26 914 days); generate 95% of the revenue (EUR 8.7 million); 95% of the GVA (EUR 5.6 million); and 97% of the gross profit (EUR 3.5 million).

At a fleet segment level, Romanian 12-18m polyvalent active and passive gears generated the highest revenue from the Black Sea region in 2016 (EUR 2.0 million), followed by the 12-18 Bulgarian pelagic trawlers segment (EUR 1.2 million) and the Romanian 06-12m segment with vessels using passive gears only (EUR 1.2 million). The same fleet segments also generated the highest GVA and gross profit and provide employment to 85% of people working in the Black Sea fisheries sector (Table 4.24).

Table 4.21 Structure and economic performance estimates by MS fleets operating in the Black Sea, 2016

		Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
		(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Black Sea	Bulgaria	1,206	100%	5,059	40,668	1,603	580	25,871	100%	25,871	100%	6,957	100%	4,629	100%	5,203	5,34	1,661	1,270	3,053	57.1	1,392	26.0	267	5.0	2.5	5.3
	Romania	121	100%	1,010	5,366	345	48	4,093	100%	3,747	100%	6,839	100%	3,884	100%	3,843	3,843	677	526	2,906	75.6	2,230	58.0	1,709	44.5	24.0	61.0

* Incomplete and questionable data for Greece. Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.22 Structure and economic performance estimates by main type fishing activity (SSCF and LSF) in the Black Sea, 2016

		Estimated no. of vessels	% of Fishing Activity vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total sea days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
		(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Black Sea	SSCF	1,190	3%	2,014	24,789	1,596	390	19,518	1%	19,195	1%	3,588	1%	2,421	0.3%	2,935	3,036	,172	507	1,858	61.2	686	22.6	235	7.7	2	4.8
	LSF	137	1%	4,054	21,245	352	238	10,446	1%	10,423	1%	10,208	0%	6,092	0.1%	6,110	6,152	1,165	1,289	4,101	66.7	2,936	47.7	1,742	28.3	30	17.2

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.23 Structure and economic performance estimates by MS and main type of fishing activity operating in the Black Sea, 2016

			Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivi)
			(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Black Sea	SSCF	BGR	1,086	100%	1,822	23,336	1,330	373	16,620	100%	16,620	100%	1,965	100%	1,181	100%	1,708	1,810	871	338	1,048	57.9	176	9.7	-190	-10.5	1	2.8
	SSCF	ROU	104	100%	193	1,452	266	17	2,898	100%	2,575	100%	1,624	100%	1,240	100%	1,227	1,227	301	169	810	66.1	509	41.5	424	34.6	8	48.6
	LSF	BGR	120	100%	3,237	17,331	273	207	9,251	100%	9,251	100%	4,992	100%	3,448	100%	3,494	3,536	790	933	2,005	56.7	1,216	34.4	457	12.9	17	9.7
	LSF	ROU	17	100%	817	3,914	79	31	1,195	100%	1,172	100%	5,216	100%	2,644	100%	2,616	2,616	376	357	2,096	80.1	1,720	65.8	1,285	49.1	123	67.7

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 4.24 Structure and economic performance estimates for the MS fleets operating in the Black Sea, 2016

			Estimated no. of vessels	% of total no. of vessels	Vessel tonnage	Engine power	Total employed	Full-time equivalent (national)	Days at sea	as a % of total fishing days	Fishing days	as a % of total fishing days	Live weight of landings	as a % of total landed weight	Value of landings	as a % of total landed value	Income from landings	Revenue	Labour costs	Energy costs	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average GVA	GVA per FTE (labour productivity)
			(#)	(%)	(GT)	(kW)		(person)	(day)	(%)	(day)	(%)	(K tonnes)	(%)	(K €)	(%)	(K €)	(K €)	(K €)	(K €)	(K €)	%	(K €)	%	(K €)	%	(K €)	(K €)
Black Sea	ROU	ROU A37 PMP1218*	14	100%	458	2 581	59	20	925	100%	907	100%	4 158	100%	2 077	100%	2 055	2 055	253	239	1 715	83,5	1 463	71,2	1 181	57,5	123	86,6
Black Sea	BGR	BGR A37 TM1218*	47	100%	926	7 248	112	81	4 021	100%	4 021	100%	1 757	100%	1 481	100%	1 208	1 224	303	383	569	46,5	265	21,7	-106	-8,6	12	7,0
Black Sea	ROU	ROU A37 PG0612*	94	100%	186	1 262	236	15	2 622	100%	2 344	100%	1 606	100%	1 211	100%	1 198	1 198	289	166	71	65,9	501	41,8	424	35,4	8	52,7
Black Sea	BGR	BGR A37 TM2440	12	100%	1 310	3 510	52	49	1 615	100%	1 615	100%	1 753	100%	842	100%	787	787	187	221	456	57,9	268	34,0	115	14,6	38	9,3
Black Sea	BGR	BGR A37 PMP0612	154	100%	417	5 119	211	88	4 852	100%	4 852	100%	1 111	100%	619	100%	748	750	272	152	442	59,0	170	22,7	86	11,5	3	5,0
Black Sea	ROU	ROU A37 PMP2440*	3	100%	359	1 332	20	11	270	100%	265	100%	1 058	100%	567	100%												
Black Sea	BGR	BGR A37 TM1824	9	100%	462	2 210	28	26	1 122	100%	1 122	100%	625	100%	437	100%	489	500	101	136	295	59,1	194	38,9	111	22,3	33	11,4
Black Sea	BGR	BGR A37 PMP1824*	4	100%	142	856	8	7	456	100%	456	100%	272	100%	205	100%												
Black Sea	BGR	BGR A37 PMP1218	14	100%	248	2 115	27	25	1 367	100%	1 367	100%	515	100%	402	100%	391	391	132	95	228	58,3	96	24,5	19	4,9	16	9,2
Black Sea	BGR	BGR A37 DFN0612	430	100%	825	11 483	499	128	4 845	100%	4 845	100%	68	100%	75	100%	369	441	188	102	212	48,0	24	5,5	-133	-30,1	0	1,7
Black Sea	BGR	BGR A37 PMP0006	53	100%	40	587	77	26	1 895	100%	1 895	100%	571	100%	308	100%	188	188	220	14	150	80,1	-69	-36,8	-81	-43,1	3	5,9
Black Sea	BGR	BGR A37 DFN0006	304	100%	223	2 673	345	80	2 924	100%	2 924	100%	17	100%	15	100%	173	173	60	27	92	53,2	32	18,3	-12	-7,0	0	1,1

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

*The economic data for the Romanian segment PMP 2440 and for the Bulgarian segment PMP 1824 were included in all calculations but removed from the table due to the low number of vessels in both segments.

4.6 Other Fishing Regions (OFR)

Introduction

Although the main fishing grounds for the EU fishing fleet are located in FAO fishing areas 27 (Northeast Atlantic, Baltic and North seas) and FAO 37 (Mediterranean and Black seas), part of the EU fleet operates in fishing areas much further afield. These areas, including the EU outermost regions, are collectively termed "*Other Fishing Regions*" or OFR.

This year, to better reflect the fleet dynamics and operations in the OFR, the EU Long Distance Advisory Council and the European Commission requested that EWG 1807 review the existing methodology and classification of the OFR sub-areas that have so far been used in the AER to analyse the EU distant water fleet.

The geographical indicator was introduced some years ago within the DCF fleet segmentation to enable distinguishing between: (1) fishing fleets operating in EU outermost regions (local fleet), (2) fleets operating predominately in non-EU waters and (3) fleets operating exclusively in international waters. Portugal has made extensive use of this additional segmentation code to report fleet segment data under the DCF – allowing not only to distinguish the Azorean OMR fleet from the mainland fleet (both located in FAO 27) but also fleets operating in the OMR of Madeira from the distant water fleets (both classified as OFR as according to the supra-region in the DCF). Additionally, by using the geo-code 'IWE' it is also possible to distinguish fleets operating predominately in non-EU waters from fleets operating exclusively in international waters. Spain and France, however, have not yet made much use of such indicator to identify their OMR and DWF fleets. Together with other data limitations, the lack of this identifier further hinders analysing EU fleet activity at the desired regional scale.

STECF EWG 1709 strongly recommended that MS make an effort to collect and recover economic data on their outermost region fishing fleets, including, where possible, historical time-series. STECF EWG 1803 agreed to analyse OFR activities in two distinct parts, separating the distant water fisheries from the outermost region fisheries (OMR). As part of this revision, STECF EWG 1807 agreed that the OMR "local" fleet should include "all vessels below 24 metres LOA fishing inside the EEZ of the Canary Islands, Guadeloupe, Martinique, French Guiana, La Reunion, Mayotte, the Azores or Madeira".

The distant water fleet (DWF), as analysed in other chapters of the AER - by scale of operation in the EU overview and national chapters - is defined as "all EU registered vessels above 24 metres LOA operating predominately in non-EU waters". This covers all DCF fleet segments over 24m allocated to the supra-region "OFR" by MS in accordance with the dominance criteria, i.e. more than 50% of their effort (by days at sea) occurring in non-EU waters.

However, from a regional perspective this definition is not appropriate for analysing the activity of the EU distant water fleet as most of these fisheries are carried out under the umbrella of Regional Fisheries Bodies (RFBs), which differ widely in scope, species and geographical coverage.

Thus, for clarity the distant water fleet analysed here in **Other Fishing Regions is termed LDF** for long distant fisheries, and should not be considered as the same fleet analysed as DWF (defined as all vessels over 24m operating predominately in OFR).

In view of the above, the EWG 1807 agreed to restructure the OFR region section into two distinct sections: (1) the Outermost Region (OMR) and (2) Long Distant Fisheries (LDF) both pertaining to Other Fishing Regions.

Geographical scope

The areas collectively grouped and termed "*Other Fishing Regions*" (OFR) are divided into two main parts:

1) **EU Outermost Region** (OMR) waters, located in the EEZs of the Canary Islands (Spain); the Azores and Madeira (Portugal); and the French overseas regions and departments of Guyana, Antilles (Martinique and Guadeloupe), Reunion and Mayotte (France);

2) **Other Regions**, including all fishing areas outside EU waters and in Areas Beyond National Jurisdiction (ABNJ), covered by Regional Fisheries Bodies (RFBs), such as, the Northwest Atlantic Fisheries Organization (NAFO, FAO 21), the International Commission for the Conservation of Atlantic Tunas (ICCAT, FAO 21, 27, 31, 34, 37, 41, 47 and 48), the Indian Ocean Tuna Commission (IOTC, FAO 51 and 57), International waters of the Mediterranean Sea (FAO 37), the North-East Atlantic Fisheries Commission (NEAFC, FAO 27), the Western Central Atlantic Fishery Commission

(WECAFC, FAO 31 and 41) and the Fishery Committee for the Eastern Central Atlantic (CECAF FAO 34); as well as, fishing areas within the EEZ of third countries regulated under the framework of EU sustainable fisheries partnership agreements (SFPAs) and private agreements /direct authorisations between fishing operators and third countries.

Background

A large portion of the EU fleet activity in Other Fishing Regions occur in waters covered by Regional Fisheries Bodies and/or within the framework of bilateral EU fishing agreements with third countries (e.g. EU SFPAs and Northern Agreements).

Regional Fisheries Bodies

Regional Fishery Bodies (RFBs) are the main mechanism through which States or organisations that are parties to an international fishery agreement or arrangement work together towards the conservation, management and/or development of fisheries (Figure 4.93).

The mandate of RFBs vary, with some having a management mandate (RFMOs) while others have an advisory role and provide advice, decisions or coordinating mechanisms that are not binding on their members.
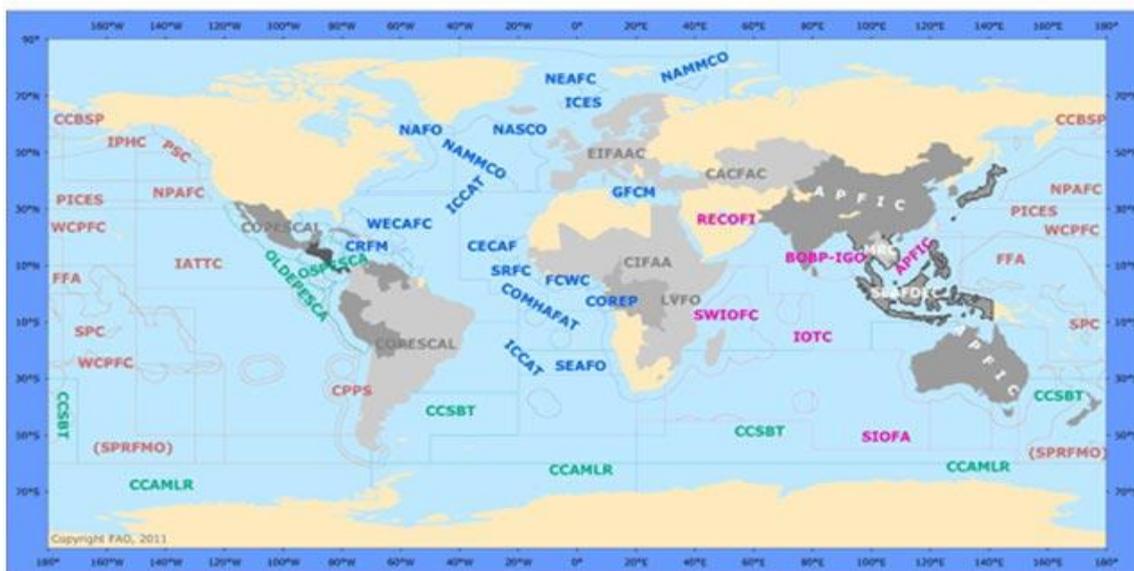
Figure 4.93 World Map of Regional Fisheries Bodies (RFB)
Source FAO: http://www.fao.org/fishery/rfb/en

Regional Fisheries Management Organizations (RFMOs)

RFMOs are inter-governmental organisations that have competence under international law to adopt legally binding conservations and management measures regarding fisheries and the area to which the legal competence applies includes a part of the high-seas.

RFMOs are the main management tool in the Areas Beyond National Jurisdiction (ABNJ) and generally cover highly migratory stocks that travel long distances, such as tunas, and "straddling" fish stocks that move between the waters of more than one country or between national and international waters (beyond 200 miles the coastal baseline) as defined by UNCLOS.

There are currently around 17 RFMOs covering various species and/or geographic areas, some of which overlap. Of these, eight can be classified as General RFMOs that manage fish stocks by geographical area; five RFMOs that manage highly migratory species, mainly tuna, and a further four or more as so-called Specialised RFMOs.

General RFMOs

The scope of general RFMOs includes all fisheries resources that are not explicitly excluded from their mandate within their regulatory area or area of competence. These RFMOs also address the sustainable management of deep-sea fisheries and the reduction or elimination of impacts from those fisheries on deep-sea biodiversity.

Currently, there are eight general RFMOs (Figure 4.94):

- Northwest Atlantic Fisheries Organization (NAFO)
- North East Atlantic Fisheries Commission (NEAFC)
- North Pacific Fisheries Commission (NPFC)
- South East Atlantic Fisheries Organisation (SEAFO),
- South Pacific Fisheries Management Organisation (SPRFMO)
- General Fisheries Commission for the Mediterranean (GFCM)
- Southern Indian Ocean Fisheries Agreement (SIOFA)
- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
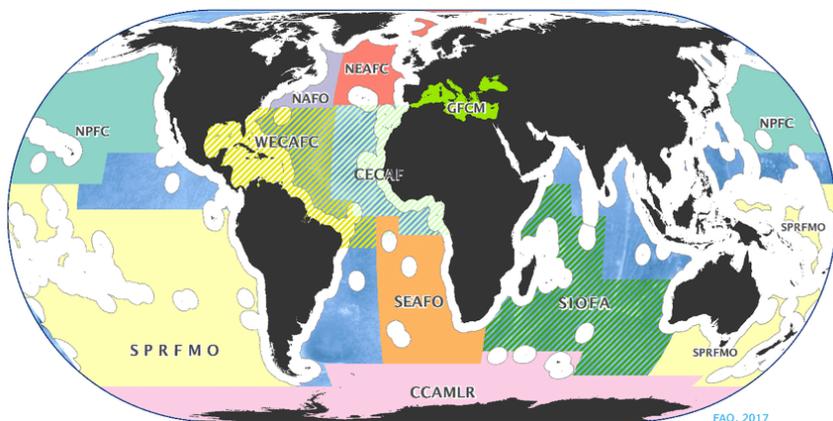
Figure 4.94 Regulatory areas of regional fishery bodies with the mandate to also manage deep-sea fisheries within areas beyond national jurisdiction*

*CECAF and WECAFC are Regional Fisheries Advisory Bodies

Tuna RFMOs

Several specific RFMOs have been established to manage tuna fisheries. These RFMOs have a mandate that relates to 'tuna and tuna-like species', 'highly migratory fish stocks', or similar, including swordfish, marlins and sharks.

Currently, there are five Tuna RFMOs (Figure 4.95):

- International Commission for the Conservation of Atlantic Tunas (ICCAT)
- Indian Ocean Tuna Commission (IOTC)
- Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
- Inter-American Tropical Tuna Commission (IATTC)
- Western and Central Pacific Fisheries Commission (WCPFC)
-
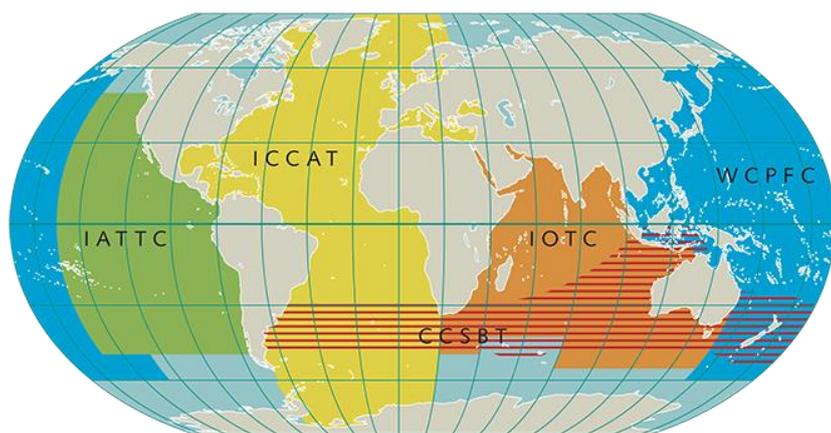
Figure 4.95 Tuna RFMOs
Source: World Ocean Review

Specialised RFMOs

Specialised RFMOs also differ from general RFMOs in that they have a narrower legal mandate, which relates to specific types of fisheries or species that are explicitly included in their mandate:

- North Atlantic Salmon Conservation Organisation (NASCO),
- North Pacific Anadromous Fish Commission (NPAFC),
- Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea (CCBSP)
- North Atlantic Marine Mammal Commission INAMMCO)

Regional Fishery Advisory Bodies

Currently, large parts of the Central Atlantic region have no RFB management framework in place. The present statute of two RFBs in the region does not allow for regulatory powers and both organisations have only an advisory role on the fishery resources in relation to the areas under their competence:

- Western Central Atlantic Fishery Commission (WECAFC)
- Fishery Committee for the Eastern Central Atlantic (CECAF)

Although the CECAF area of competence does include a large region in the high seas, almost all CECAF fishing activities have been restricted to the areas under national jurisdiction of the Member States, some of which are regulated by EU SFPAs and use CECAF advice together with the Joint Scientific Committees as basis for determining the surplus for stocks of commercial interest. Furthermore, while the high seas areas of CECAF have overlapping boundaries with management bodies such as the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the South East Atlantic Fisheries Organisation (SEAFO), the fisheries mandates of these organisations either cover only certain species (e.g. ICCAT), or the overlapping boundary is very small (e.g. SEAFO).

EU Fishing agreements with Non-EU countries

A large part of the EU fishing activity in these Other Fishing Regions occur under Fisheries Agreements, negotiated and concluded by the Commission on behalf of the EU. The EU has 2 types of fishing agreements with non-EU countries (DG MARE 2018, Figure 4.96):

- **Northern agreements:** joint management of shared stocks with Norway, Iceland and the Faeroe Islands (see also Northeast Atlantic, North Sea and NEAFC sections) and

- **Sustainable fisheries partnership agreements (SFPAs)**, where the EU gives financial and technical support in exchange for fishing rights of surplus stocks (partly covered within CECAF). There are two main types of agreements: (1) **Tuna agreements** – allow EU vessels to pursue migrating tuna stocks as they move along the shores of Africa and through the Indian Ocean and (2) **Mixed agreements** – provide access to a wide range of fish stocks in the partner country's exclusive economic zone.
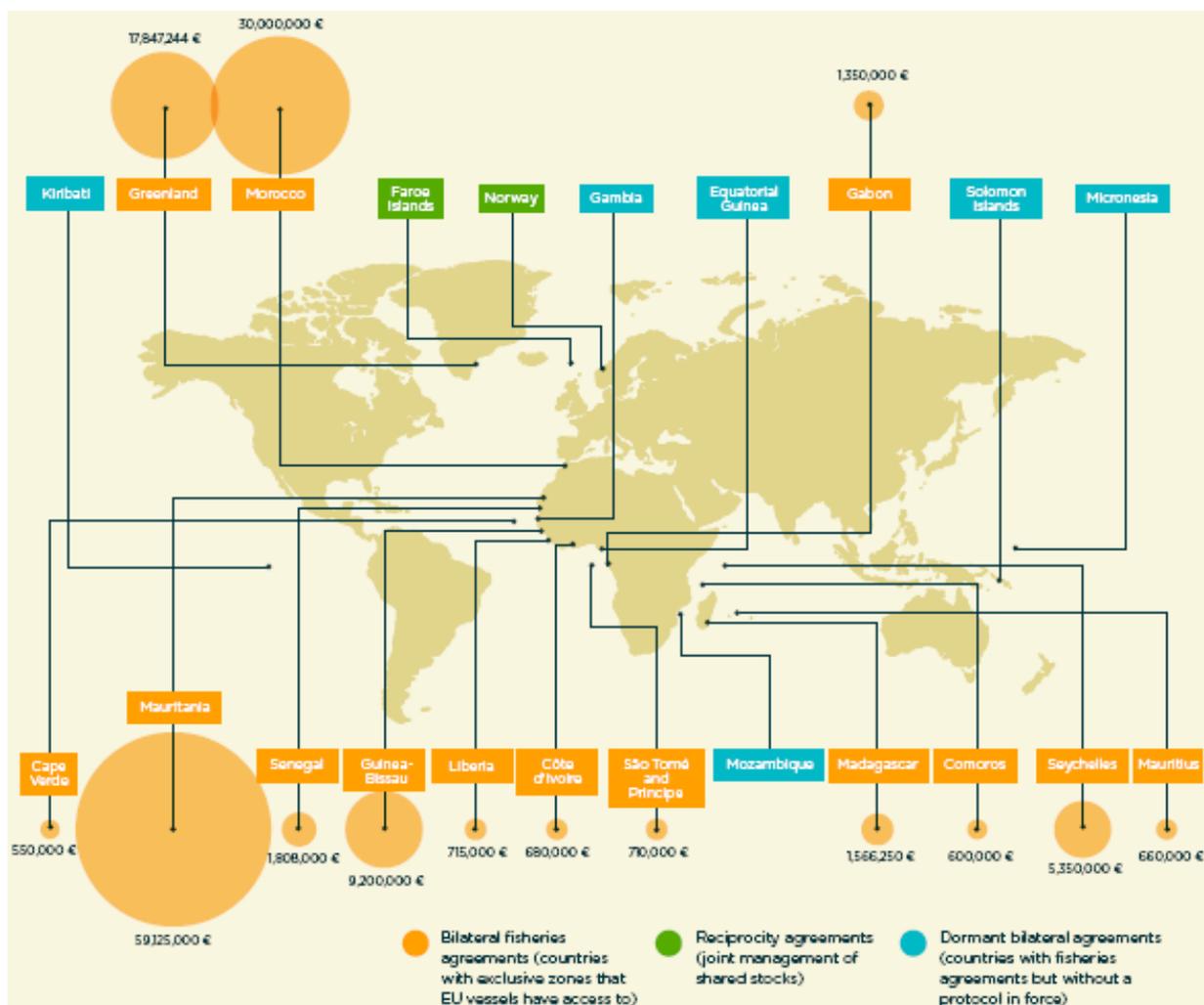
Figure 4.96 EU Fisheries Agreements
source: https://ec.europa.eu/fisheries/cfp/international/agreements_en (DG MARE)

Private Agreements – Direct Authorisations

Several EU Member States fleets also have bilateral or private agreements with non-EU countries. These *private agreements* between individual European fishing companies or operators and third country administrations are excluded here due to the difficulties to access to this data for confidentiality reasons from third countries.

However, further developments on the nature and details of these agreements and improvements on the data collection of EU fleet activities worldwide operating under private agreements are expected with the implementation of the EU Council Regulation on the Sustainable Management of the External Fishing Fleet (SMEFF). This is a key piece of legislation that entered into force on 12 December 2017, and replaced the Fishing Authorisation Regulation (FAR) 1006/2008. The SMEFF completes the legislative package associated to the External Dimension of the current CFP and aims to provide clear, harmonised rules on all fishing authorisation outside EU waters in order to promoting transparency and accountability of EU fishing activities thorough the world.

Methodological approach and criteria for defining OMR and LDF

EU Outermost Regions (OMR)

The criteria to define the 'local' OMR fishing fleet include those fishing vessels with a LOA below 24m operating within the EEZs of one of the seven EU OMR. There are a few exceptions, such as, the tuna longliners below 24m LOA with flag from Reunion but fishing in the EEZ of Madagascar and the tuna longliners from the Canaries with port of call in Las Palmas but operating under the SFPA with Morocco. The Portuguese Outermost Region of the Azores is included here considering its administrative classification instead of the geographical position (FAO 27).

EU Long Distant Fisheries (LDF)

The definition used in the AER for the distant water fleet (DWF) when analysed as a component of the EU fleet in terms of scale of operation - based solely on the vessel length group and the amount of effort deployed in OFR - is not suitable to analyse the EU fleets operating in distant water fisheries at a regional level.

In fact, as RFBs differ in scope, species and geographical coverage, a case-by-case approach was required to select fleets operating in each of these regions or by main regional fisheries management organisation.

Hence, different criteria (e.g. species specific, FAO area specific, species and FAO area specific, etc.) were applied to select fleets and analyse each individual EU MS LDF, with the only common criterion being vessel length, i.e., LOA over 24m. However, as MS sometimes need to cluster fleet segments together to protect commercially sensitive information, it may be that some of these clustered fleet segments contain vessels less than 24m LOA and vice-versa; fleet segments with LOA less than 24m containing vessels over 24m, and therefore are not covered in the LDF.

The MS which have long distance fleets (including those operating in international waters of the Mediterranean) are: Cyprus, Denmark, Estonia, France, Germany, Greece, Italy, Ireland, Latvia, Lithuania, the Netherlands, Poland, Portugal, Spain and the UK.

The main fleet segments considered are demersal and pelagic trawlers; surface and bottom-line tuna and tuna-like longliners and purse seiners; and snow crab pots and traps.

Due to their relevance for EU fleets, focus was given to four RFMOs and one RFAB, namely:

1. North West Atlantic Fisheries Organisation (NAFO)

The NAFO Convention Area encompasses a large portion of the Atlantic Ocean and includes the 200-mile zones of Coastal States jurisdiction (USA, Canada, St. Pierre et Miquelon and Greenland). The total area under NAFO's Convention is 6 551 289 km^2. Management by NAFO, however, applies only to the areas straddling and outside the Exclusive Economic Zones. This is known as NAFO's Regulatory Area (NRA) and is 2 707 895 km^2. The main EU fishing nations active in FAO 21 are Spain and Portugal, traditionally targeting redfish, shrimp, rays, Greenland halibut, cod, and other demersal species.

2. International Commission for the Conservation of Atlantic Tunas (ICCAT)

ICCAT is responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and adjacent seas. The tuna fisheries in the international waters of the Mediterranean were not covered due to the multiple number of small longliners below 24m. The main EU fishing nations are Spain, France and Portugal, traditionally targeting tuna and tuna-like species such as tropical tuna stocks, albacore, bluefin tuna, swordfish and sharks.

3. Indian Ocean Tuna Commission (IOTC)

IOTC is responsible for the management of tuna and tuna-like species in the Indian Ocean (FAO 51 and 57). It works to achieve this by promoting cooperation among its Contracting Parties (members) and Cooperating Non-Contracting Parties in order to ensure the conservation and appropriate utilisation of fish stocks and encouraging the sustainable development of fisheries. The main EU fishing nations are Spain and France, operating with purse seiners and longliners.

4. The North-East Atlantic Fisheries Commission (NEAFC)

Fishing activity in the Northeast Atlantic (FAO 27) is executed in the EEZs of the coastal states and on the high seas, and regulated by the North-East Atlantic Fisheries Commission (NEAFC). NEAFC was established in 1980 to manage the fishery resources in the North-East Atlantic in the EEZs of Contracting Parties (straddling stocks) and outside the national jurisdictions of the coastal states. Fisheries in areas under national jurisdiction are regulated by national law in accordance with international agreements. Fishing activity in these areas are partially covered in the North Sea and Northeast Atlantic regional chapters. This section aims to provide some insight into the fleet segments that are more dependent on activity in the NEAFC Regulatory Area and highlights the lack of detailed data for a more accurate analysis.

5. Fishery Committee for the Eastern Central Atlantic (CECAF)

Fishing activity is performed in the areas under national jurisdiction of coastal states in the western coast of Africa and on the high seas. The Fishery Committee for the Eastern Central Atlantic (CECAF) has an advisory role in the management of the fish stocks in the area while ICCAT is responsible for the management and conservation of tunas and tuna-like species in the Atlantic Ocean and adjacent seas. This section aims to provide insight into the non-tuna fisheries in the region.

Data sources and limitations

Given the intricate nature of these *Other Regions* and limited data availability, a comprehensive account of the EU fleet activity and economic performance in these other fishing regions based on the DCF data was beyond the scope of EWG 1807.

Factors, such as regulatory area delineations, DCF fleet segmentation and spatial aggregation, complex web of agreements and overlapping RFMOs, all contribute to making this a challenging exercise with the available data. Data at a much finer level of aggregation, both spatially as well as in terms of more homologous fleet segments, are crucial for completing this task more accurately in future years.

FAO data shows activity in OFR for a number of other MS fleets in 2016, namely Estonia, Latvia, Greece and Poland (Figure 4.97). Estonia and Latvia only report data of their Baltic Sea fleets as data on their high sea fleets are considered commercially sensitive information. Only partial data were available for Poland and Greece; insufficient to be included in this regional analysis. Germany only provides landings data and effort but no economic data on their long distant pelagic trawler fleet.

During EWG 1807, some additional data were made available for seven EU MS fleets operating in Other Fishing regions, namely: Italy, Germany, Latvia, Lithuania, Poland, Portugal and the Netherlands, and included vessels operating in fishing areas in the NEAFC and CECAF regulatory areas, FAO area 87 as well as some 'unknowns' areas. No data were provided for Spain, Estonia and the UK, either prior to or during EWG 1807; the latter mainly due to the non-attendance of an expert from these MS.

Economic analyses are mainly based on the additional data provided by experts during the meeting, with data on key Member State fleets noticeably missing, i.e., Spain, France and the UK. DCF data were used where possible to fill in these information gaps.

Due to data limitation as well as confidentiality reasons, it was not possible to fully analyse the EU Sustainable Fisheries (SFPAs) individually or by MS fleet at the appropriate level of aggregation. Nonetheless, a general assessment of EU Sustainable Fisheries Agreements (SFPAs) is provided. Additionally, these are partially covered within the CECAF analysis.

The activity of EU fleets in other RFMOs in the Atlantic, Pacific and Indian Oceans where the EU long distance fleet has presence and/or fishing rights, such as, Western and Central Pacific Fisheries Commission (WCPFC), South East Atlantic (SEAFO), Indian Ocean (SIOFA), as well as, the Inter-American Tropical Tuna Commission (IATTC) and Conservation of Southern Bluefin Tuna (CCSBT) was also not specifically addressed.

Due to missing or incomplete data the results presented here do not convey the full extent of the EU fisheries in Other Fishing Regions. To mitigate some of the data gaps this analysis is complemented with FAO and other official statistics where available.

At a glance

- According to FAO data, there were 13 EU MS fleets operating in OFR in 2016.
- Total catches (FAO) amounted to almost 943 thousand tonnes, a 9% increase compared to 2015 (864 thousand tonnes) but a 15% decrease when compared to 2014 (111 thousand tonnes).
- The main fishing areas include the Eastern Central Atlantic (FAO 34) with 43% of the catches, followed by the Western Indian Ocean (FAO 51) with 24%, the Southwest Atlantic (FAO 41), with 12% and then the Southeast Atlantic (FAO 47), with 8% (Figure 4.97).
- The main fishing nations include Spain, taking 54% of the catches in Other regions, followed by France (14%), Lithuania (8%) and Poland (6%) (Figure 4.97).
- Spain, by far the dominant fleet in these regions, has seen landings decrease over the last few years: in 2016, the Spanish fleet caught 505 thousand tonnes (FAO), a 5% decrease with respect to the 531 thousand tonnes reported in 2015, and a 19% decrease when compared to the 623 thousand tonnes caught in 2014 (Table 4.25).
- Conversely, most other MS fleets reported increased catches in 2016 when compared to 2015: Denmark (+261%), France (+19%), Germany (+61%), Lithuania (+36%), Latvia (+234%), Poland (+17%) and Portugal (22%) (Table 4.25).
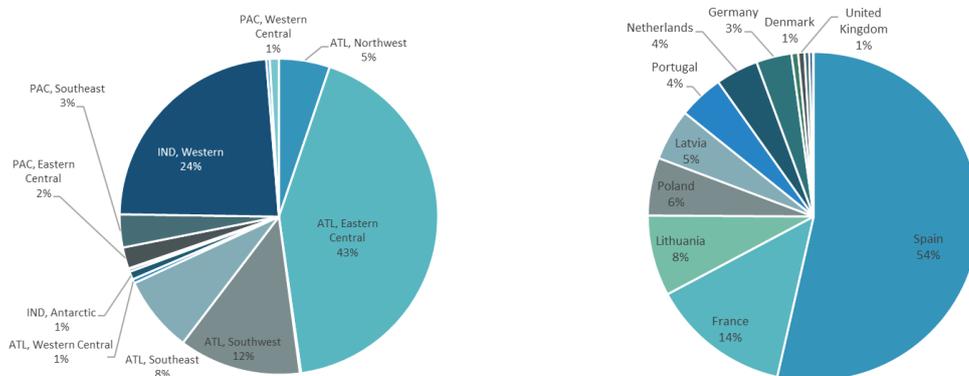
Figure 4.97 Catch by FAO major fishing region and MS in Other Fishing Regions, 2016

Source: www.fao.org/fishery/statistics/software/fishstatj/en

Table 4.25 Trends on FAO catch statistics by Member State fleets operating in Other Regions

MS	2008	2009	2010	2011	2012	2013	2014	2015	2016
Spain	423,879	484,893	495,102	544,814	557,756	576,629	623,117	531,241	504,739
France	105,134	96,948	97,133	95,788	86,360	91,268	112,491	107,568	128,515
Lithuania	146,077	132,298	128,687	114,658	44,525	72,270	102,136	55,174	74,804
Poland	24,562	71,092	55,395	63,887	53,788	54,138	49,008	45,915	53,601
Latvia	70,200	82,953	88,232	90,255	35,041	52,820	57,561	14,303	47,742
Portugal	35,525	36,156	36,853	36,339	32,807	30,626	44,429	33,940	41,461
Netherlands	143,624	124,305	148,986	122,158	37,463	13,806	86,074	37,862	39,264
Germany	54,554	35,407	35,462	37,831	16,484	2,418	21,090	20,171	32,529
Denmark	3,803	5,072	5,130	5,146	2,999	3,391	3,409	1,687	6,085
United Kingdom	48,507	24,142	35,108	16,137	15,402	8,165	7,176	7,208	5,813
Italy	11,008	8,854	2,359	2,452	1,146	...	...	4,832	4,337
Estonia	13,086	5,978	5,937	9,272	6,649	4,532	3,317	3,586	3,283
Greece	1,963	1,774	1,270	1,090	1,136	905	729	725	687
Totals - Tonnes	1,083,903	1,122,045	1,168,954	1,147,758	891,556	910,968	1,110,537	864,212	942,860

FAO. 2018. Fishery and Aquaculture Statistics. Global capture production 1950-2016 (FishstatJ). www.fao.org/fishery/statistics/software/fishstatj/en

General overview of EU activity in OFR

EU fishing activity in OFR accounts for roughly 17% of the landed weight (839 thousand tonnes) and 19% in value (EUR 1.4 billion) of the total EU landings (excluding Greece). The share is slightly higher when the OFR regions in FAO 27, i.e., non-EU waters and OMR, are considered.

- DCF socio-economic data were made available for 10 MS distant water fleets operating in Other Fishing Regions (OFR) in 2016: Spain, France, Portugal, UK, Germany, Netherlands, Italy, Lithuania, Latvia and Cyprus. Fishing activity for the Italian distant water fleet, which had been suspended since 2013, resumed in 2015. Estonia and Latvia did not provide DCF data on their distant water fleets and only partial (transversal) data were available for Poland and Greece.

- According to the DCF data, the Eastern Central Atlantic (FAO 34) accounts for 42% of the landed weight and 33% of the value in OFR, followed by the Western Indian Ocean (FAO 51) with 23% of the landed weight and 32% of the value, the Southwest Atlantic (FAO 41), with 14% of the weight and 12% of the value and then the Southeast Atlantic (FAO 47), with 9% of the weight and 8% of the value (Figure 4.98 and Figure 4.99). These figures are much in line with FAO.

- Fishing activity in the Eastern Central Atlantic (FAO 34) is mixed, with the small pelagic and tuna fisheries prevailing. The main fleet segments include: Lithuanian pelagic trawlers (small pelagics); French and Spanish purse seiners (tuna fishery) and Spanish demersal trawlers (demersal and deep-sea fishery). Parts of the LDF activity in these Atlantic regions are covered within the ICCAT (tuna and tuna-like fisheries) and CECAF sections, which are overlapping RFBs.

- The tuna fishery dominates in the Western Indian Ocean (FAO 51). The main fleet segments are the Spanish and French purse seiners over 40m LOA. Fishing activity in FAO 51 is mostly covered in the IOTC section.

- In the Southwest Atlantic (FAO 41), the Spanish demersal trawlers over 40m take almost all the catch in weight, mostly comprised of Argentine hake. In terms of value, Patagonian squid and swordfish are also important catch components.

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- Reduced fishing activity in Southeast Atlantic (FAO 47) is also led by the tuna fisheries, while the Spanish demersal trawlers are also active in the region targeting hake and shrimp.
- Most of the landed value in the Southeast Pacific (FAO 87) comes from swordfish. Chilean jack mackerel is an important catch component in terms of landed weight. The main fleet segments operating in the region are the German and Spanish pelagic trawlers.
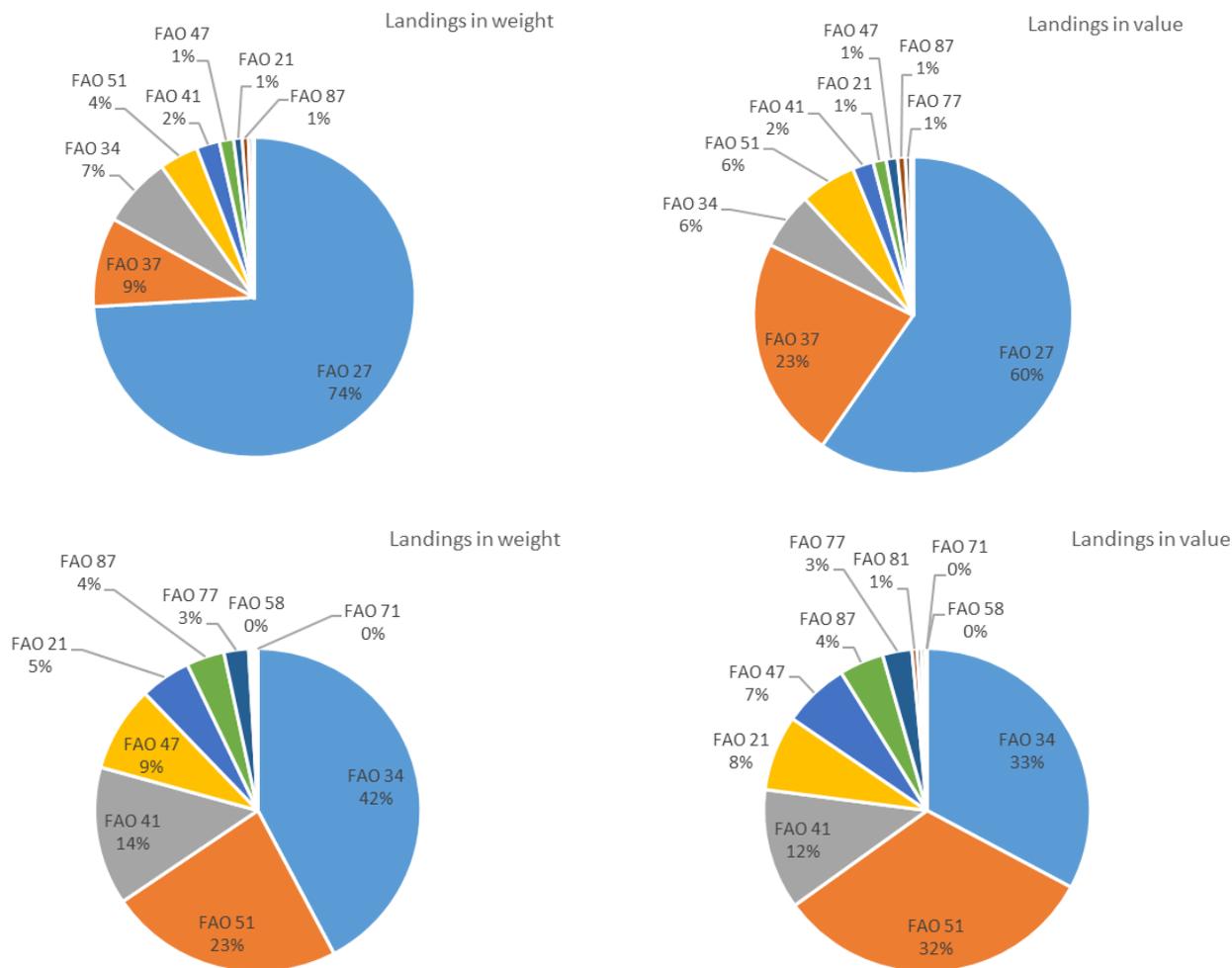
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.98 Share of landings in weight (left) and value (right) by main FAO fishing area, including FAO 27 and 37 (top) and in Other Regions (bottom), 2016
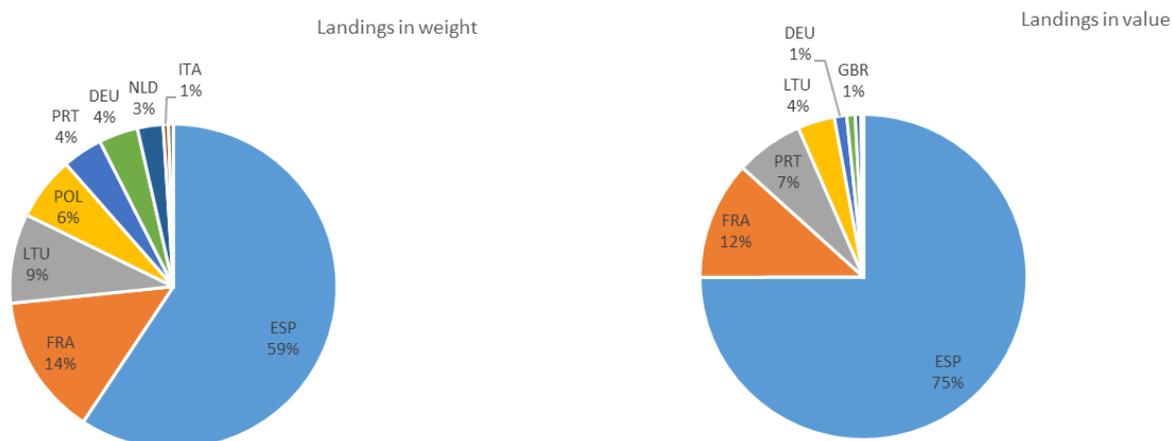
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.99 Share of landings in weight (left) and value (right) by MS in Other Regions, 2016

EU fleet activity in 2016 and recent trends

Landings have oscillated over the time-series analysed in all fishing regions, in particular landed weight. Landed weight decreased in 2012 and 2013, peaking in 2014 (855 thousand tonnes), and decreasing again in 2015 and 2016 (around 743 thousand tonnes). Conversely, landings in value increased steadily until 2014, decreasingly sharply in 2015 and recovering somewhat in 2016, largely owing to the activity in the FAO areas 34 (Eastern Central Atlantic), 41 (Southwest Atlantic), 51 (Western Indian Ocean), and to a lesser extent, area 47 (Southeast Atlantic) (Figure 4.100).
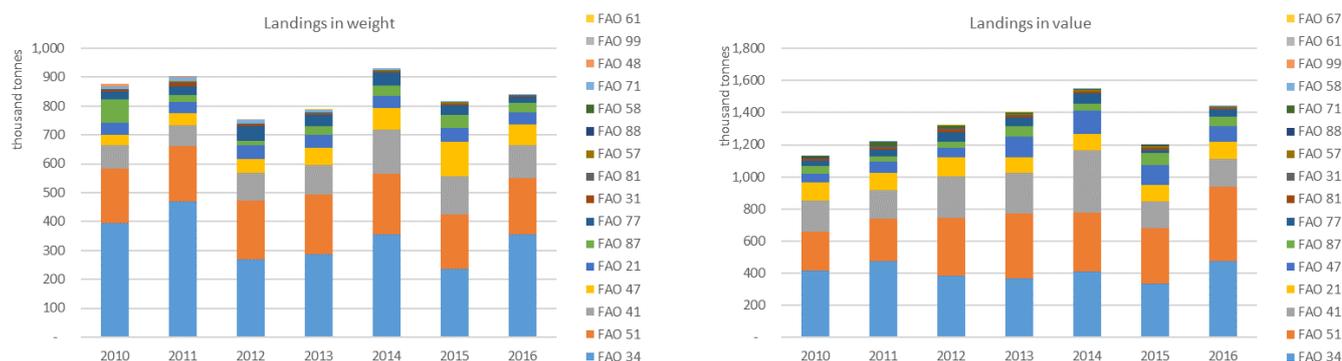
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.100 Trends on landings in weight (top) and value (bottom) by main FAO fishing area (excluding GRC)

Significant decreases in landed value of skipjack tuna in 2015 compared to 2014 where reported in FAO 34 (-51%), FAO 47 (-85%) and FAO 51 (-84%) (Figure 4.101). The year 2015 saw low tuna catches worldwide and despite low prices, demand did not increase. The price weakening for frozen skipjack started in December 2013 and continued into 2015 as a result of falling demand from the major markets. Low fuel prices also influenced the market, as with lower operating costs, tuna producers could offer tuna at a lower price (FAO GLOBEFISH).
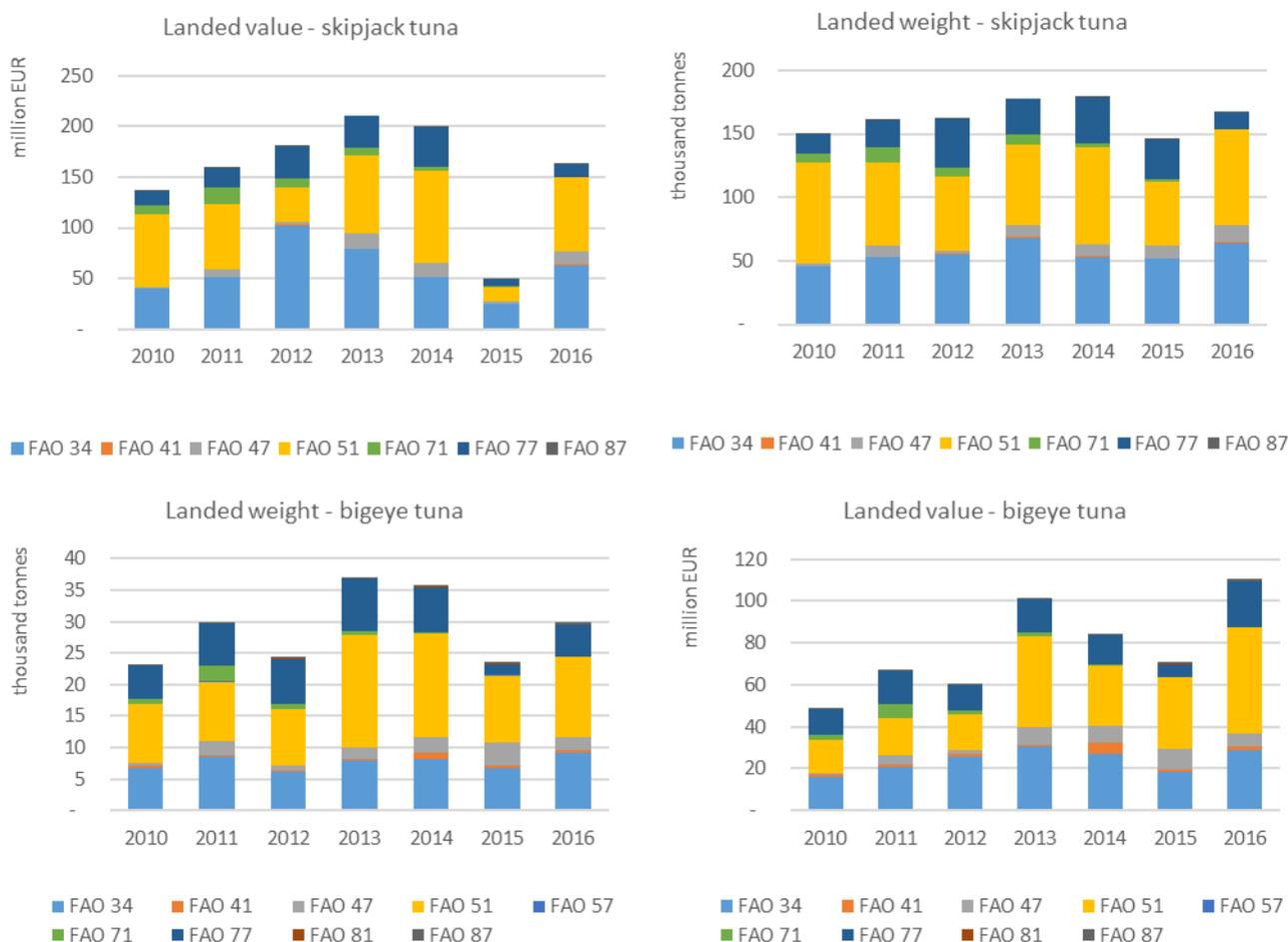
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.101 Trends on landings of skipjack tuna (top) and bigeye tuna (bottom) by main FAO fishing area

Bigeye tuna landings also decreased significantly in FAO 34 (-33%) in 2015 compared to 2014. Skipjack tuna and bigeye tuna landings recovered slightly in 2016 (Figure 4.101).

Significant decreases in landed value of Argentine hake (-41%) and Patagonian squid (-83%) from FAO 41 were also seen in 2015 when compared to 2014.

Outline of EU fleet activity by main FAO fishing area

FAO 34 – Eastern Central Atlantic

Landings in 2016 amounted to 334 thousand tonnes (+52% compared to 2015) and EUR 426 million (+45%). Target species include tuna and tuna-like species, small pelagics and demersals (hake) (Figure 4.102).

The main fleets operating in the region in terms of landings include:

Small pelagic fisheries

- Lithuanian pelagic trawlers >40m; taking 21% of the total landed weight reported for FAO 34 and 12% of the value;
- Polish pelagic trawlers >40m; taking 9% of the landed weight reported for FAO 34 (no data on value)
- Dutch pelagic trawlers >40m; taking 6% of the total landed total weight reported for FAO 34 and 2% of the value.

Tuna fisheries

- French purse seiners >40m; taking 20% of the total landed weight reported for FAO 34 and 21% of the value;
- Spanish purse seiners >40m; taking 16% of the total landed weight reported for FAO 34 and 32% of the value

Demersal fisheries

- Spanish demersal trawlers 24-40m; taking 7% of the total landed weight reported for FAO 34 and 13% of the value.

EU fleet activity in FAO 34 is further analysed in the ICCAT and CECAF sections.
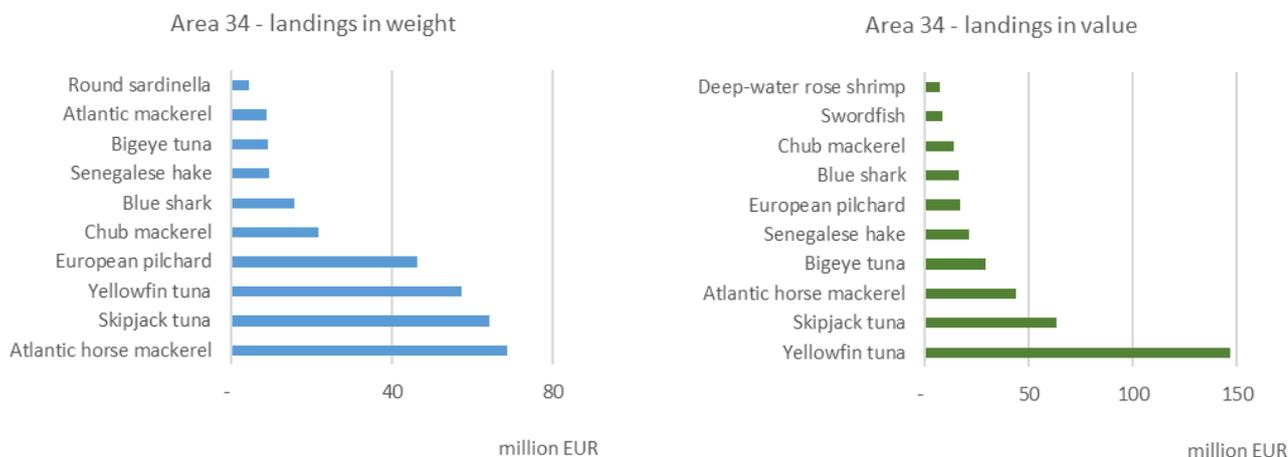
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.102 Ten top landed species in weight and value from FAO 34, 2016

FAO 51 – Western Indian Ocean

Landings in 2016 amounted to 165 thousand tonnes (+23.5% compared to 2015) and EUR 399 million (+50%). Main target species include tuna and tuna-like species, in particular, skipjack and yellowfin tuna (Figure 4.103).

The main fleets (tuna fisheries) operating in the region in terms of landings are:

- Spanish purse seiners >40m LOA; taking 79% of the total landed weight reported for FAO 51 and 88% of the value
- French purse seiners >40m LOA; 19% of the landed weight and 10% of the value

EU fleet activity in FAO 51 is further analysed in the IOTC section.
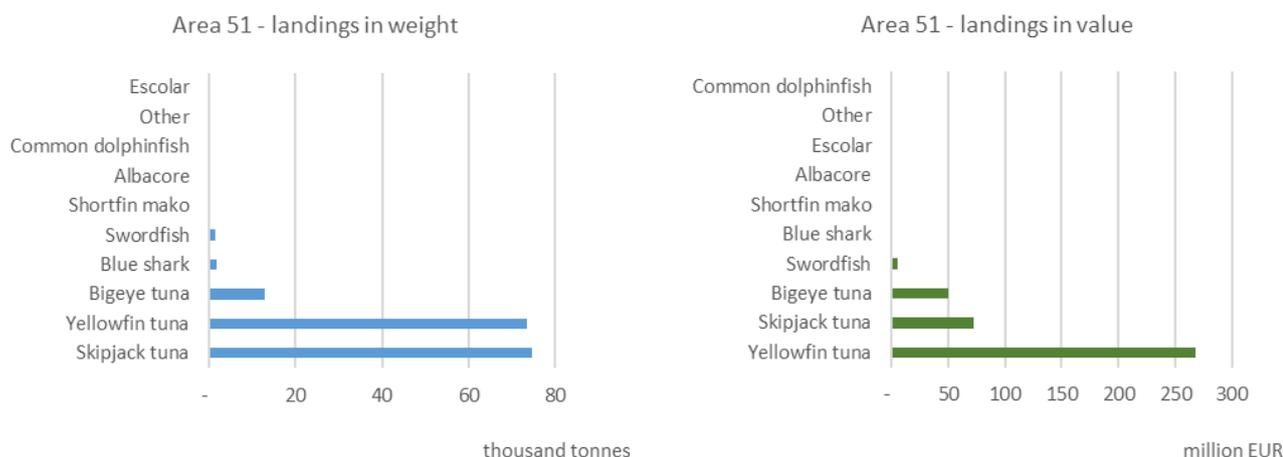
Area 51 - landings in weight

Area 51 - landings in value

Figure 4.103 Ten top landed species in weight and value from FAO 51, 2016

FAO 41 – Southwest Atlantic

Landings in 2016 amounted to 116 thousand tonnes (-13% compared to 2015) and EUR 173 million (+5.4%). Target species include demersal species, such as Argentine hake, and to a lesser extent, swordfish, blue shark and blue whiting. While swordfish and Patagonian squid are not very important in terms of landed weight, in terms of value, they are almost as important as Argentine hake (Figure 4.104).

Main fleets operating in the region in terms of landings are:

- Spanish demersal trawlers > 40m; taking 87% of the total landed weight reported for FAO 41 and 66% of the value
- Spanish pelagic trawlers 24-40m; 5% of the landed weight and 14% of the value
- Spanish pelagic trawlers >40m; 2% of the landed weight and 8% of the value
- UK demersal trawlers > 40m; 2% of the landed weight and 6% of the value

EU fleet activity in FAO 41 is partially analysed in the ICCAT section.
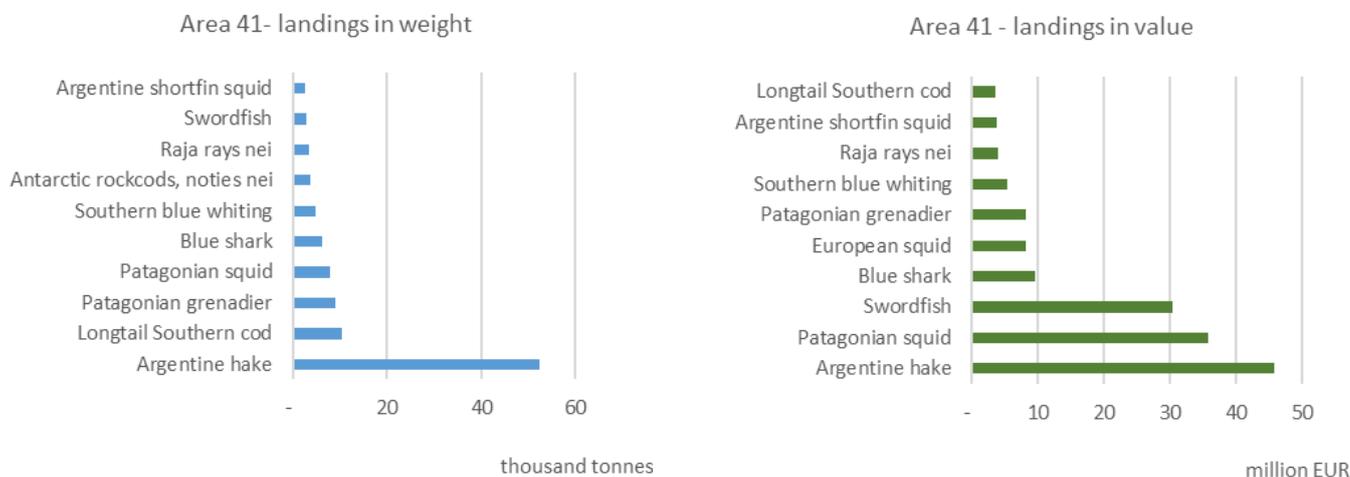
Area 41- landings in weight

Area 41 - landings in value

Figure 4.104 Ten top landed species in weight and value from FAO 41, 2016

FAO 47 – Southeast Atlantic

Landings in 2016 amounted to 72 thousand tonnes (-40% compared to 2015) and EUR 95 million (-24%). Target species include tuna and tuna-like species and to a lesser degree, hake (Figure 4.105).

Main fleets operating in the region in terms of landings are:

- Polish pelagic trawlers >40m; 28% of the landed weight (no data on value)
- Spanish purse seiners >40m; 19% of the landed weight and 25% of the value
- Spanish demersal trawlers >40m; 14% of the landed weight and 17% of the value
- French purse seiners >40m; 12% of the landed weight and 11% of the value
- Spanish demersal trawlers 24-40m; 11% of the landed weight and 24% of the value
- Spanish pelagic trawlers 24-40m; 11% of the landed weight and 18% of the value

EU fleet activity in FAO 47 is partially covered in the ICCAT section.
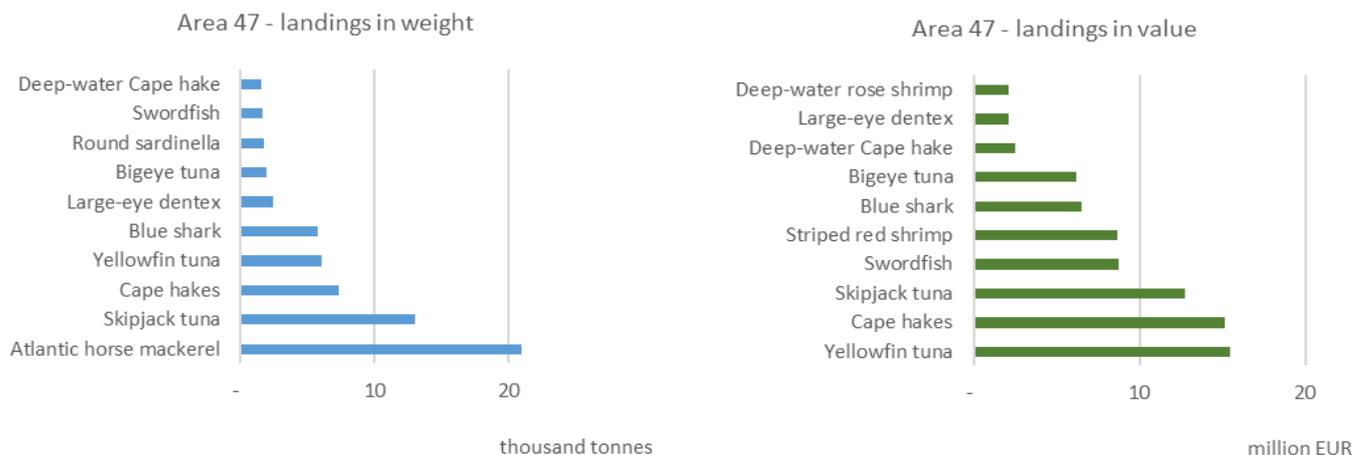
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.105 Ten top landed species in weight and value from FAO 47, 2016

FAO 87 – Southeast Pacific

Landings in 2016 amounted to 32 thousand tonnes (-30% compared to 2015) and EUR 63.5 million (-14%). Target species include tuna and tuna-like species (Figure 4.106).

Main tuna fleets operating in the region in terms of landings are:

- Spanish pelagic trawlers >40m; 33% of the landed weight and 49% of the value
- German pelagic trawlers >40m; 31% of the landed weight and 7% of the value
- Spanish pelagic trawlers 24-40m; 23% of the landed weight and 40% of the value
- Polish pelagic trawlers >40m; 9% of the landed weight (no data on value)

EU fleet activity in FAO 87 is not further analysed.
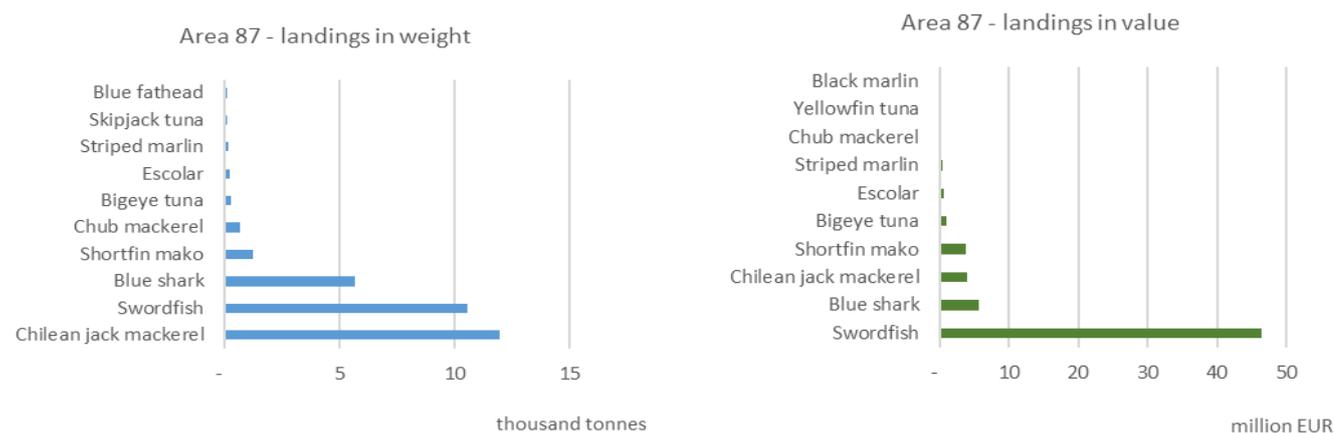
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.106 Ten top landed species in weight and value from FAO 87, 2016

FAO 77 – Eastern Central Pacific

Landings in 2016 amounted to 20.5 thousand tonnes (-40% compared to 2015) and EUR 42 million (+142%). Target species include tuna and tuna-like species (Figure 4.107).

Main fleet operating in the region in terms of landings is the **Spanish purse seiners >40m**, which accounted for 99.7% of the landed weight and 99.5% of the value reported in the region in 2016.

EU fleet activity in FAO 77 is not further analysed.
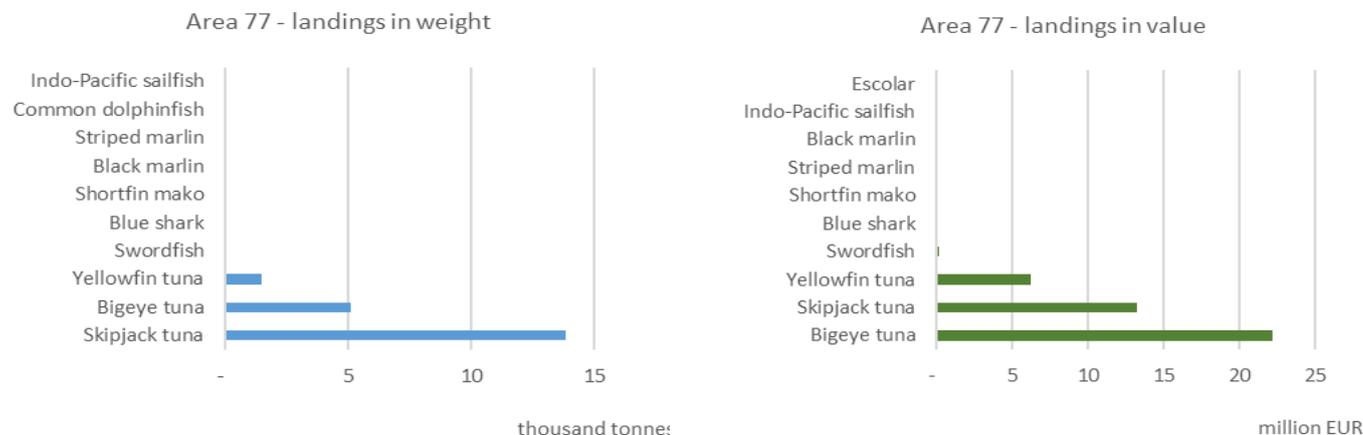
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.107 Ten top landed species in weight and value from FAO 77, 2016

Key trends and drivers of change

- The fuel prices have remained relatively stable in the last year, allowing the fishing operators to factor in and not have dramatic changes or decreases in GVA/gross profits.

- There seems to be less activity of EU tuna purse seine vessels and surface longliners in the Indian Ocean due to regulatory constraints and decreases in TACs for yellowfin tuna, so there has been a displacement of effort towards the Pacific and the Atlantic Ocean resulting in a decrease in the number of active boats and days at sea in the region.

- The reduction of fishing capacity and effort in the last years has continued as it can be seen at the Annual EC Policy Statement or Communication on Fishing Opportunities in terms of implementation of CFP. This will likely have an impact in terms of number of boats.

Outlook for 2018 and beyond

- The CFP Basic Regulation (EU) 1380/2013 and the EC Communication on the State of Play of the Common Fisheries Policy and consultation on the Fishing Opportunities for 2019, {SWD(2018) 329 final}, published in June 2018, mentions the promotion of the EU principles of fisheries management at the international level.

- The SMEFF Regulation includes the obligation for EU vessels to inform on all the public and private agreements they have with third countries. Which will bring further transparency to the process and allow this report to be expanded within the subcategory "Other Regions".

- The transitional period established for the withdrawal of UK from the EU ("Brexit") will finalise on 31 March 2018 and then a transitional period of 2 years will start. There still remain to be seen how the EU fleet is going to be affected in terms of access to areas such as Falkland Islands or also how UK will play a role in the negotiations on the RFMOs as a Contracting Party on its own right vis à vis the EU.

- There may be some uncertainty in terms of fishing operations due to problems of access to fishing resources related to the non-renewal of key fisheries agreements (e.g. delay in negotiations with Morocco or stand-by negotiations with Guinea Bissau, Sao Tomé or Gabon), as well as, dormant agreements (e.g. Mozambique, Gambia) in Africa

4.6.1   EU Outermost Regions (OMR)

The term "Outermost Region" refers to the nine remote territories belonging to EU Member States: six French territories - Guadeloupe, French Guiana, Martinique, Mayotte, La Reunion, and Saint-Martin[9]; one Spanish territory - Canary Islands; and two Portuguese autonomous regions - Azores and Madeira. While the Azores archipelago is located in the North-east Atlantic (FAO 27) it is also considered an EU Outermost Region due to its distance from the mainland.

At a glance

Combined, the EU OMR fleet numbered 3 687 vessels in 2016. With 2 244 vessels, the French OMR fleet was the most numerous, accounting for 65% of all reported vessels. The Spanish and Portuguese fleets each comprised 601 vessels (17% each).

- Martinique, with 991 vessels, was the largest OMR fleet (by number), followed by Guadeloupe (938), the Canary Islands (601), the Azores (536), La Reunion (227), Mayotte (145), French Guiana (143), and Madeira (85).

- About 91% of the vessels in OMR belong to the small-scale coastal fleet (SSCF).

- The OMR fleet spent 125 thousand days at sea in 2016, to land approximately 20 thousand tonnes of seafood valued in EUR 89 million (NB Data for Martinique and Mayotte are not included in these totals).

- Tuna and other large pelagic species represent a significant part of the landings with skipjack, bigeye, yellowfin, and albacore tuna the largest components by weight.

- The Canaries fleet was the most important (by landed weight and value), generating an income of some EUR 34 million (66% of the total by weight and 56% by value), followed by the French (EUR 19.6 million) and Portuguese (EUR 18.5 million) OMR fleets.

- GVA was estimated at EUR 82 million in 2016 (not including Mayotte and Martinique), representing an overall increase of 39% compared to 2014, and a GVA to revenue of 45%.

- Overall, the OMR fleet generated a gross profit EUR 26 million, while net profit was estimated at just over EUR 18 million.

- The Azores fleet saw an 11% reduction in revenue compared to 2015, the best year recorded over the period analysed.

- In 2016 only one OMR fleet recorded overall gross and net losses (based on the available information). The fleet of La Reunion recorded EUR 1.9 million in GVA, a gross loss of -EUR 160 thousand and a net loss of -EUR 993 thousand.

Key trends and drivers of change

- OMR fleets mostly supply local markets with fresh fish. The exceptions are tunas and other large pelagics which are often processed (canned or frozen) and exported to the EU mainland. It is noteworthy that the price obtained for these species is very dependent on the international market price while landings depend on the status of stocks.

- Some OMR fleets, in particular the SSCF, have relatively old vessels.

- The economic performance of most OMR fleets has improved in 2016 (even if these vessels do not seem very dependent on fuel prices and recorded relatively low fuel consumption).

Outlook for 2018 and beyond

- Given the lack of OMR data submitted by Spain and France it is not possible to provide a comprehensive outlook for the OMR fleets. However, given the current trends in fish prices and fuel costs, it seems that these fleets will continue to be generally profitability in the coming year.

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[9] Since the adoption of the Lisbon Treaty, Mayotte is included in the list of EU Outermost Regions (Article 349 TFEU) as of 01.01.2014. Saint-Barthélemy changed status in 2012 to become part of the Overseas Countries and Territories (OCT) within the meaning of the TFEU.

EU fleet activity in OMR: situation in 2016 and recent trends

The most important OMR by landed weight are the Canary Islands and the Azores while by value the OMRs of Guadeloupe, the Canary Islands and the Azores are the most relevant (Figure 4.108). In terms of number of vessels, Martinique and Guadeloupe together comprise more than half the OMR fleet, while in terms the fishing effort, the Canaries and Azorean fleets dominate (this is most likely a result of missing effort data for the French OMR) (Figure 4.109). Additionally, it is important to note that as not all MS provided the value of landings the analyses presented are incomplete[10], and may be biased towards OMR fleets where data is available.
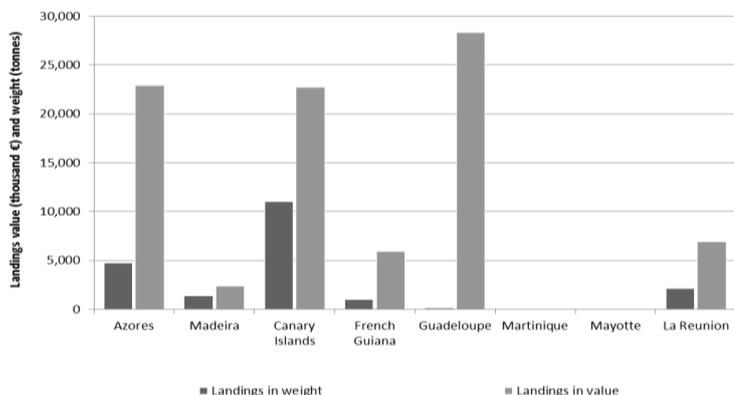
Figure 4.108 Importance of the Outermost regions fisheries in terms of landings in weight and value for 2016
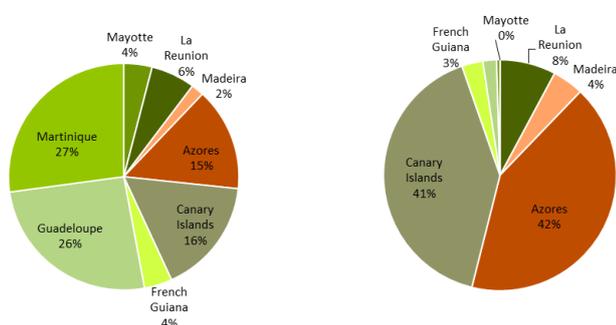
Figure 4.109 Share of capacity (number of vessels) (a) and effort (days at sea) (b) by Outermost regions in 2016

Azores

Previously the Azorean fleet was included in both Area 27 (as it operates in the Portuguese Exclusive Economic Zone, 27.9.a) and as an OMR fleet. In this report however it is treated exclusively as an OMR fleet due to its distance from the continental mainland and their administrative classification.

The Azorean OMR fleet, comprising 537 vessels, operates exclusively in the Portuguese Exclusive Economic Zone (EEZ). The fleet is dominated by longliners (HOK) which made up 85% of the active vessels in 2016 (Figure 4.98). The majority (75%) of the fleet measured less than 10 metres in length (VL0010), and only 2% of the fleet was greater than 18 metres in length (VL1824) (Figure 4.110).
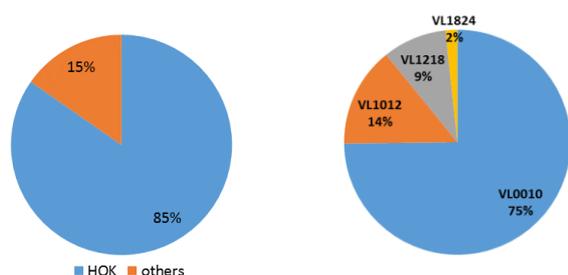
Figure 4.110 Structure of the Azores OMR fleet by main type of fishing activity (a) and vessel length group (b), 2016

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[10] On the other hand, it is also important to note that France improved the level of disaggregation of their landings in weight and intends to further disaggregated data in next year's data call.

The Azores OMR is very rich in biodiversity and fishing fleets target both demersal and large pelagic species. The main species landed, by weight, were: bigeye tuna (17%), albacore (10%), skipjack tuna and blue jack mackerel (8% each), European conger and blackspot seabream (7% each). In terms of value, 20% of the landings are from red seabream, followed by bigeye tuna (11%), red porgy (6%), albacore, blackbelly rosefish and wreckfish (5% each) (Figure 4.111).
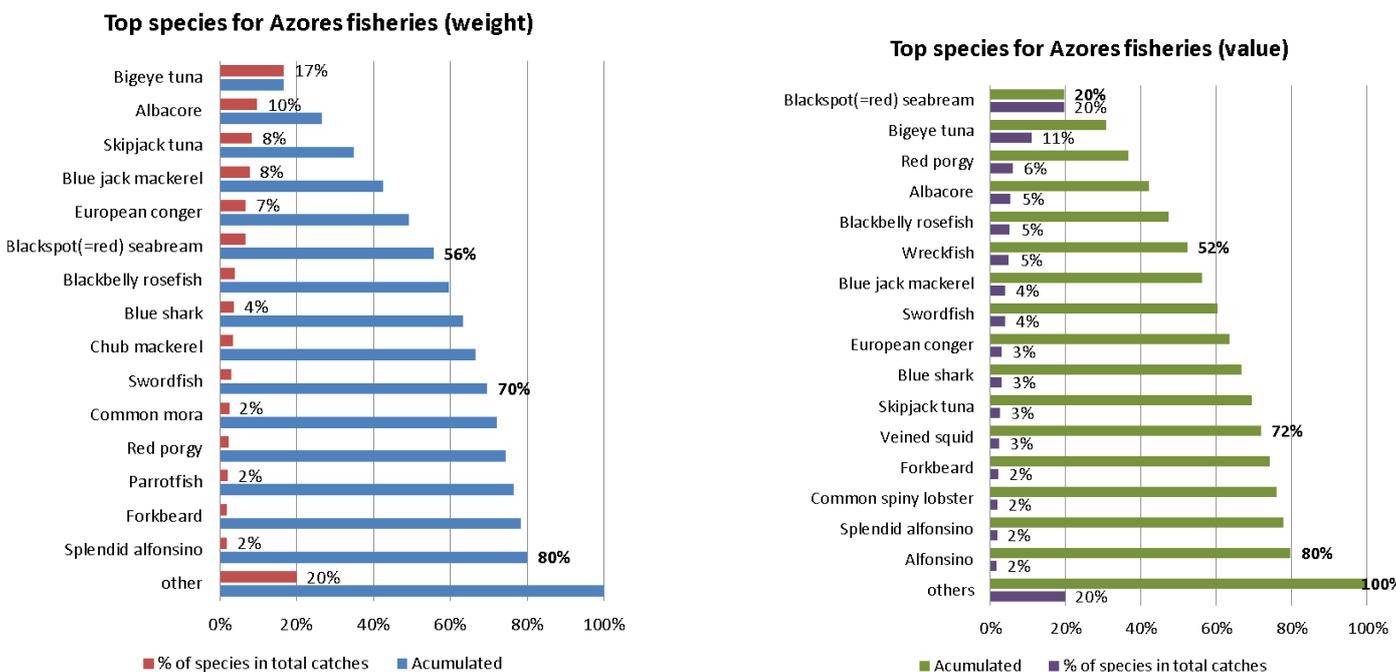
Figure 4.111 Top species in landed weight and value for the Azores OMR fleet in 2016

Total employment peaked in 2013 with 3 119 persons employed full and part time, equivalent to 1 601 FTEs but has fallen by 38% in the years to 2016 (the number of FTEs fell 47% in the same period). Like many other fleets, the Azorean OMR fleet today finds it difficult to attract sufficient crew (Table 4.26).

Between 2010 and 2016 the number of vessel in the fleet fell by 17%, capacity by 0.6% in GT and 10% in kW, while days at sea fell by 44.5% and energy consumed by 65%. Landings were down 52% during the period by volume and 16% by value (Table 4.26).

Crew wages and salaries have been decreasing since 2010 but still represent the biggest cost to operators (54% of the operating costs). Generally, the unpaid labour value is very small when compared to paid labour (wages), however, the reported figure in 2015, EUR 976 thousand, was considerably higher than the rest of the time-series (Table 4.26).

Amongst other important cost items were energy costs (19%) and other variable costs (13%). As with the OMR of Madeira, the three main cost items for the Azorean fleet make-up 86% of the total operating costs (Figure 4.112).

The profitability of the Azorean OMR fleet as a whole has been positive and relatively stable for the whole period 2010-2016.

n 2016, the GVA margin was 72%, the gross profit margin 35% and the net profit margin 24% (Table 4.26).

Table 4.26 Overview and trends for the Azores Island OMR fleet, 2010 -2016

		2010	2011	2012	2013	2014	2015	2016	Trend 2010-2016
Total number of vessels	(#)	650	630	592	573	563	550	537	
Vessel tonnage	(GT)	2,791	2,822	2,888	2,865	2,845	2,794	2,808	
Engine power	(kW)	32,796	32,775	31,786	31,219	30,733	29,881	29,424	
Total employed	(person)	2,002	3,093	2,316	3,119	2,183	2,012	1,929	
FTE	(#)	992	1,487	1,092	1,601	1,084	1,053	843	
Days at sea	(day)	73,565	74,194	66,508	67,995	43,961	47,064	40,827	
Energy consumption	(thousand litres)	9,026	7,934	8,821	6,990	3,398	3,518	3,078	
Live weight of landings	(tonne)	9,773	7,713	7,181	7,778	8,043	6,583	4,734	
Value of landings	(thousand €)	27,143	24,701	23,822	22,656	25,134	23,997	22,909	
Income from landings	(thousand €)	27,075	24,775	23,742	22,977	25,283	24,090	23,232	
Other income	(thousand €)	872	269	459	97	0	2	22	
Wages and salaries of crew	(thousand €)	11,155	9,970	9,953	9,291	9,552	8,981	8,627	
Unpaid labour value	(thousand €)	201	195	149	304	52	976	98	
Energy costs	(thousand €)	2,610	3,027	2,623	2,778	2,107	2,139	2,641	
Repair & maintenance costs	(thousand €)	1,070	1,074	938	963	1,025	945	999	
Other variable costs	(thousand €)	1,639	1,596	1,335	1,429	1,717	1,615	2,097	
Other non-variable costs	(thousand €)	1,434	1,146	1,005	1,127	1,037	534	760	
Annual depreciation costs	(thousand €)	3,038	2,930	2,953	2,954	2,767	2,693	2,205	
Opportunity cost of capital	(thousand €)	1,055	1,720	1,930	1,411	901	428	323	
Tangible asset value (replacement)	(thousand €)	26,785	26,840	25,600	24,029	22,743	22,513	12,859	
Gross Value Added	(thousand €)	21,194	18,201	18,302	16,778	19,398	18,859	16,757	
Gross profit	(thousand €)	9,838	8,037	8,199	7,183	9,793	8,903	8,032	
Net profit	(thousand €)	5,744	3,386	3,316	2,819	6,125	5,783	5,505	
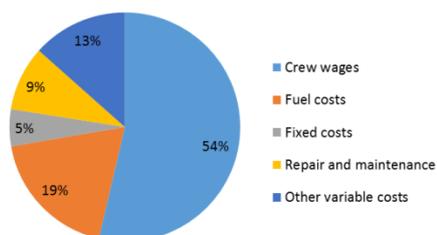
Figure 4.112 Cost structure of the Azores OMR fleet in 2016

Madeira

The Madeiran OMR fleet operates exclusively in the Portuguese Exclusive Economic Zone of CECAF 34.1.2 and is composed of 94 vessels, the majority being small scale. This fleet is dominated by longliners (HOK), which represented 89% of the active vessels in 2016. On the whole, 61% of the vessels are less than 10m LOA and 91.5% are less than 18 meters LOA (Figure 4.113).
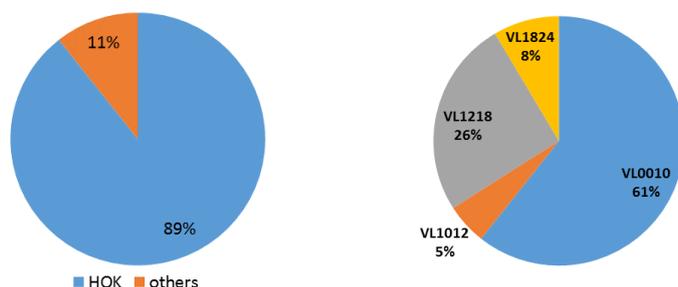
Figure 4.113 Fleet structure by type of fishing activity and vessel length group

The most important species for the Madeiran fleet are: black scabbardfish (42% of the total landed weight), followed by bigeye tuna (15%) and blue jack mackerel (13%). Combined, these three top species represent 70% of the total landings in weight. Other important species include: albacore (7%), chub mackerel (7%), swordfish (5%), blue shark (4%) and limpets (3%). Landings of these eight top species represent 96% of the total landings of the Madeiran OMR fleet. In terms of value, black scabbardfish and bigeye tuna remain the two most important species (61% and 20% of the total value landed, respectively), followed by albacore (7%) and limpets (Figure 4.114).
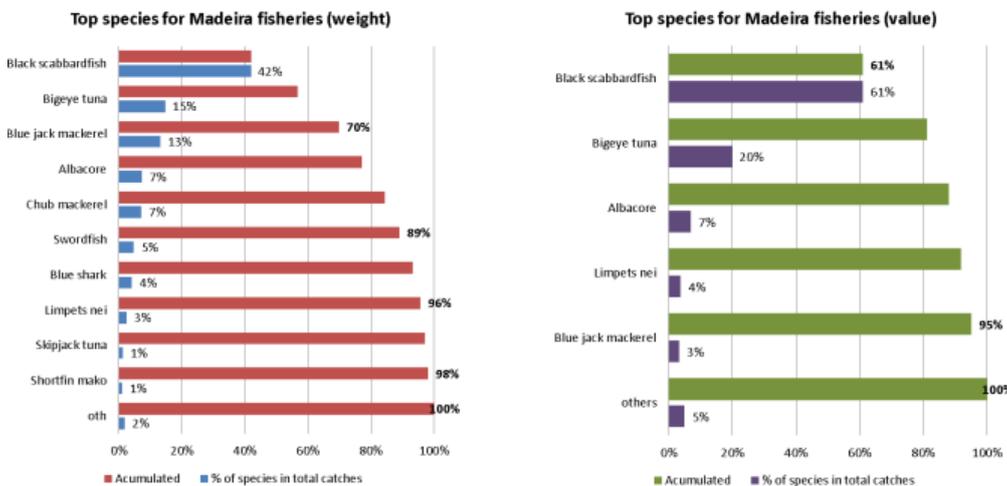
Figure 4.114 Top species in landed weight and value for the Madera OMR fleet in 2016

The total number of jobs reached its lowest value in 2015, recovering somewhat in 2016, as well as in terms of FTE, meaning more fishers working more time.

Fuel (energy) consumption has decreased while effort (days at sea) has increased, suggesting that some change in the activity pattern has occurred. For example, more or longer trips but closer to the coast, possibly to reduce fuel costs. Fuel costs have decreased over the period analysed as a result of 1) lower average fuel prices and 2) reduced fuel consumption, although there has been an increase in the number of days at sea. Other variable costs have doubled since 2013 (Table 4.27).

Table 4.27 Overview and trends for the Madeira Islands OMR fleet, 2010 - 2016

		2010	2011	2012	2013	2014	2015	2016	Trend 2010-2016
Total number of vessels	(#)	108	99	90	83	80	84	85	
Vessel tonnage	(GT)	1,399	1,170	1,035	912	923	932	928	
Engine power	(kW)	8,783	7,490	7,166	6,320	6,447	6,573	6,645	
Total employed	(person)	639	585	555	513	475	436	466	
FTE	(#)	429	398	411	348	323	301	324	
Days at sea	(day)	8,475	8,214	8,268	7,461	8,466	9,179	10,136	
Energy consumption	(thousand litres)	1,963	1,987	1,873	1,639	1,670	1,533	1,567	
Live weight of landings	(tonne)	3,457	3,795	3,986	3,324	3,367	3,556	3,529	
Value of landings	(thousand €)	8,583	9,358	9,245	8,641	8,810	10,929	9,971	
Income from landings	(thousand €)	8,757	9,533	9,332	8,661	8,884	11,468	10,095	
Other income	(thousand €)	16	25	85	67	15	31	32	
Wages and salaries of crew	(thousand €)	3,140	4,254	4,670	3,727	4,388	4,728	4,638	
Unpaid labour value	(thousand €)	1	21	64	34	58	65	85	
Energy costs	(thousand €)	1,364	1,517	1,503	1,258	1,209	899	852	
Repair & maintenance costs	(thousand €)	493	379	497	385	420	326	462	
Other variable costs	(thousand €)	699	700	599	507	1,284	1,125	1,020	
Other non-variable costs	(thousand €)	386	302	305	194	190	182	319	
Annual depreciation costs	(thousand €)	980	778	707	457	440	369	475	
Opportunity cost of capital	(thousand €)	289	380	396	266	161	78	98	
Tangible asset value (replacement)	(thousand €)	7,344	5,925	5,249	4,528	4,071	4,110	3,897	
Gross Value Added	(thousand €)	5,708	6,544	6,512	6,383	5,796	7,218	7,199	
Gross profit	(thousand €)	2,567	2,269	1,778	2,623	1,350	2,425	2,664	
Net profit	(thousand €)	1,299	1,111	676	1,901	749	1,995	2,091	

Crew wages and salaries have increased since 2010, with a fall (-20%) in 2013. This cost, together with fuel costs (14%) and other variable costs (13%), related to the activity of longliners (cost with baits etc., 13%), correspond to 86% of the total operating cost structure of the Madeira OMR fleet (Figure 4.115).

The profitability of the Madeiran OMR fleet has been positive for the whole period 2010-2016. In 2016, the GVA margin was 71%, the gross profit margin 26% and the net profit margin 21% (Table 4.27).
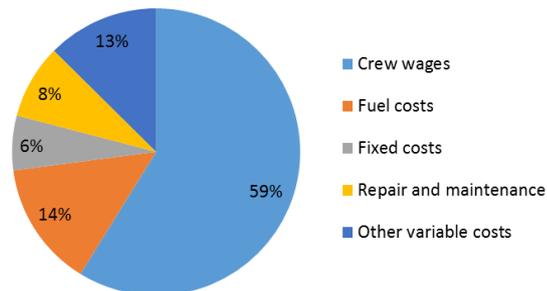
Figure 4.115 Cost structure of the Madera OMR fleet in 2016

Canary Islands

Fishing activity in the Canaries OMR takes place in FAO Area 34.1.2. As Spanish data were not provided with geographical indicator codes, and following the agreed definition of the OMR adopted by the EWG, the Canary Islands activity was estimated by selecting the fleet segments bellow 24 m LOA operating in the OFR (other fishing regions) supra region.

Landings (by weight) are dominated by large pelagic species: albacore (25%), skipjack tuna (19%), bigeye tuna (7%) but also Atlantic pomfret (10%). In terms of value, the most valuable species is also albacore with EUR 7.5 million, Atlantic pomfret EUR 3 million, and skipjack and bigeye tuna, both with EUR 2.2 million in 2016 (Figure 4.116).
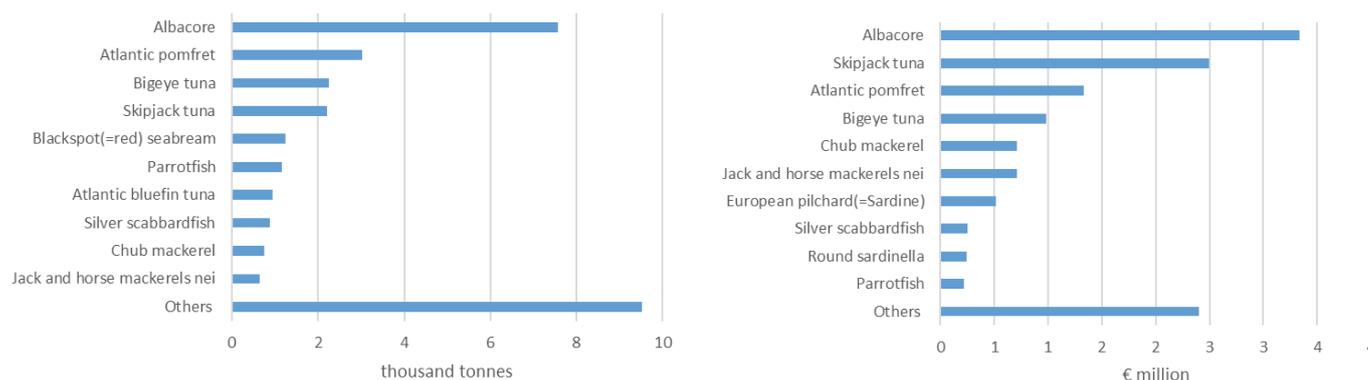
Figure 4.116 Top 10 landed species in term of weight (a) and value (b) for the Canary Islands OMR in 2016

The cost structure of the Canary fleet is dominated by wages and salaries (52%) followed by other variable costs (26%) and repair and maintenance costs (11%); fuel costs only represent 7% of the total (Figure 4.117).

The Canary Islands fleets were more active in 2016 with the number of days at sea up 4% to 51 299 days. During the period (2015-2016) landings were up 49% by weight and 41% by value while the income from landings increased by 79% to EUR 47.5 million (note, significant differences between value and income from landings). At the same time fuel costs remained little changed, wages were up 56% while other costs increased by 23% resulting in this positive overview. As a result of all these changes this OMR fleet generated a gross profit of EUR 8.87 million (up from -EUR 2.44 million in 2015) and a net profit of EUR 7.9 million (up from -EUR 4.58 million in 2015). Indeed 2016 was the year with the highest profitability for the regional fleet. In 2016 the GVA was EUR 31.6 million, while the GVA margin, gross profit margin and net profit margin reached 66%, 19%, and 17%, respectively (Table 4.28).

Table 4.28 Overview and trends for the Canary Islands OMR fleet, 2010 to 2016

		2010	2011	2012	2013	2014	2015	2016	Trend 2010-2016
Total number of vessels	(#)	826	618	604	618	632	635	641	
Vessel tonnage	(GT)	5,368	3,810	3,444	2,481	2,637	2,608	3,305	
Engine power	(kW)	26,506	20,758	19,709	18,701	20,150	19,982	21,295	
Total employed	(person)	1,896	1,614	1,253	1,492	1,536	1,381	1,797	
FTE	(#)	1,053	1,687	1,104	1,363	1,046	985	1,211	
Days at sea	(day)	45,796	43,017	43,371	45,854	48,932	49,279	51,299	
Energy consumption	(thousand litres)	5,688	7,659	6,676	5,961	4,730	4,609	6,702	
Live weight of landings	(tonne)	12,950	8,280	13,640	7,548	9,877	8,461	12,593	
Value of landings	(thousand €)	22,445	16,362	19,301	12,982	18,031	20,455	28,885	
Income from landings	(thousand €)	15,734	30,022	25,467	34,151	30,804	26,618	47,571	
Other income	(thousand €)	160	14,725	-	-	-	-	242	
Wages and salaries of crew	(thousand €)	4,226	9,344	10,119	9,991	12,912	11,080	17,241	
Unpaid labour value	(thousand €)	3,141	16,422	4,815	18,122	6,543	5,818	5,494	
Energy costs	(thousand €)	3,177	5,507	4,241	3,389	2,678	2,248	2,384	
Repair & maintenance costs	(thousand €)	1,598	6,646	1,884	2,567	2,232	1,735	3,729	
Other variable costs	(thousand €)	6,872	14,418	4,213	4,722	3,488	3,506	8,591	
Other non-variable costs	(thousand €)	3,396	3,441	668	803	1,423	4,671	1,504	
Annual depreciation costs	(thousand €)	1,022	1,582	819	561	992	648	899	
Opportunity cost of capital	(thousand €)	196	152	218	161	149	137	120	
Tangible asset value (replacement)	(thousand €)	8,848	6,695	6,462	5,359	5,083	5,785	6,882	
Gross Value Added	(thousand €)	343	14,735	14,461	22,670	20,982	14,458	31,605	
Gross profit	(thousand €)	- 3,501	-11,032	- 473	- 5,443	1,527	- 2,441	8,870	
Net profit	(thousand €)	- 1,928	-12,370	- 317	- 5,954	156	- 4,584	7,908	
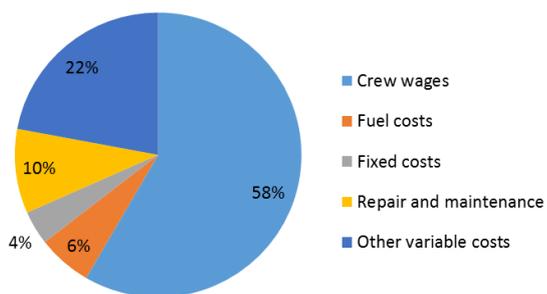
Figure 4.117 Cost structure of the Canary Islands OMR fleet, 2016

French Guiana

Fishing activity is located in FAO area 31 and 41.1.

The French Guiana OMR fleet comprised 143 vessels in 2016, mainly coastal, 10-12 metres, units fishing with drift nets. The number of vessels has declined in recent years (down 15% since 2005: Ifremer, 2017). Employment in 2016 was estimated to be 677 persons, corresponding to 320 FTE. The main species landed was *Penaeus* shrimp (Figure 4.118).
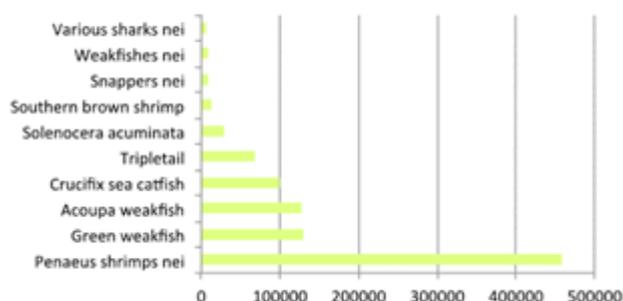
Figure 4.118 Top 10 landed species in term of weight of French Guiana OMR in 2016

In 2016 income from landings was EUR 5.9 million, mainly coming from *Penaeus* shrimp. The cost structure of the fleer was dominated by wages and salaries (56%) followed by non-variable (fixed) costs (18%) and other variable costs (14%); fuel costs only represented 5% of the total (Figure 4.119). In 2016, the fleet generated EUR 4.8 million in GVA and recorded a gross profit of almost EUR 1.6 million (Table 4.29).

Table 4.29 Overview of the French Guiana OMR fleet, 2016

Sum of value_div		year
variable_name	unit_div	2016
Total number of vessels	(#)	143
Total employed	(person)	677
FTE	(#)	320
Days at sea	(day)	7 376
Energy consumption	(thousand litres)	-
Live weight of landings	(tonne)	976
Value of landings	(thousand €)	=
Income from landings	(thousand €)	5 933
Other income	(thousand €)	1 735
Wages and salaries of crew	(thousand €)	3 279
Unpaid labour value	(thousand €)	-
Energy costs	(thousand €)	575
Repair & maintenance costs	(thousand €)	387
Other variable costs	(thousand €)	807
Other non-variable costs	(thousand €)	1 729
Annual depreciation costs	(thousand €)	309
Opportunity cost of capital	(thousand €)	6
Tangible asset value (replacement)	(thousand €)	-
Gross Value Added	(thousand €)	4 865
Gross profit	(thousand €)	1 587
Net profit	(thousand €)	1 272
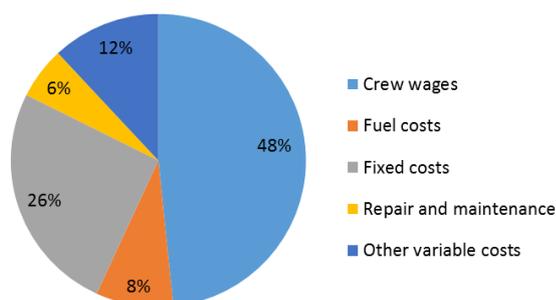
Figure 4.119 Cost structure of the French Guiana OMR fleet in 2016

Guadeloupe

The Guadeloupe OMR fleet is composed of 938 vessels, a fall of 8% since 1999, but has changed little since 2012. The majority of the vessels are below 10 metres LOA and fish with pelagic long lines and traps. Employment in 2016 was estimated to be 2 300 persons, corresponding to 732 FTE.

The most important species fished were common dolphin fish (28% by weight), parrot fishes (9%) and yellowfin tuna (8%). Some landings, reported as *marine fishes nei* are considered to be spiny lobster and albacore (Ifremer, 2017) (Figure 4.120).

The cost structure is dominated by wages and salaries (64%) followed by fixed costs (14%) and fuel costs (12%) (Figure 4.121). In 2016 the GVA was EUR 20.1 million and the gross profit EUR 5.4 million (Table 4.30).

Top species in Landing weigth
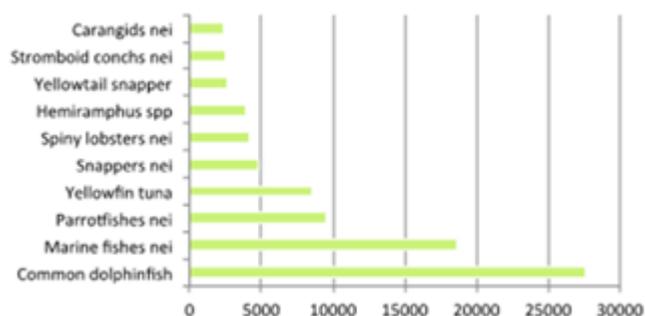
Figure 4.120 Top 10 landed species in term of weight in Guadeloupe OMR for 2016
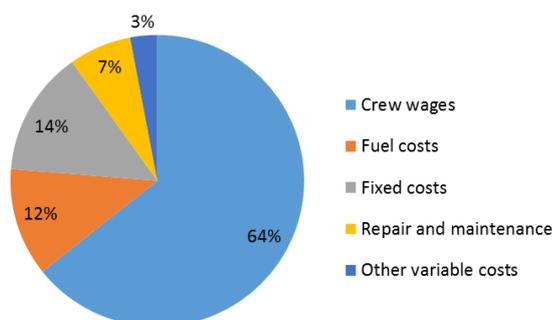
Figure 4.121 Cost structure of the Guadeloupe OMR fleet, 2016

Table 4.30 Overview of the Guadeloupe OMR fleet, 2016

Sum of value_div		year
variable_name	unit_div	2016
Total number of vessels	(#)	938
Total employed	(person)	2 300
FTE	(#)	762
Days at sea	(day)	4 768
Energy consumption	(thousand litres)	
Live weight of landings	(tonne)	
Value of landings	(thousand €)	-
Income from landings	(thousand €)	28 294
Other income	(thousand €)	-
Wages and salaries of crew	(thousand €)	14 700
Unpaid labour value	(thousand €)	-
Energy costs	(thousand €)	2 743
Repair & maintenance costs	(thousand €)	1 572
Other variable costs	(thousand €)	680
Other non-variable costs	(thousand €)	3 170
Annual depreciation costs	(thousand €)	2 804
Opportunity cost of capital	(thousand €)	28
Tangible asset value (replacement)	(thousand €)	-
Gross Value Added	(thousand €)	20 128
Gross profit	(thousand €)	5 428
Net profit	(thousand €)	2 597

Reunion

The OMR fleet of Reunion Island is composed of 228 vessels, employing 337 persons for a FTE of 129. The number of vessels decreased from 2006 to 2011, but it has been constant since then. Fishing activity takes place in FAO areas 51.6 and 51.7. The most important species for these fleets are large pelagics (90% by weight) consisting of swordfish (37%), yellowfin tuna (20%), bigeye tuna (14%), albacore (13%) and blue marlin (5%) (Figure 4.122).
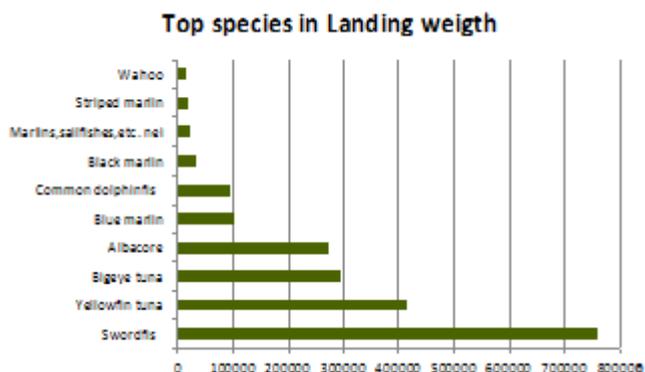
Figure 4.122 Top 10 species, by weight, landed by the La Reunion Island OMR fleet, 2016

The most important costs in 2016 were 'other' variable cost (40%), followed by wages and salaries (29%), repair and maintenance (12%) and fuel costs (10%) (Figure 4.123). The fleet generated EUR 1.9 million in GVA, but suffered a gross loss of -EUR 160 thousand and a net loss of -EUR 993 thousand (Table 4.31).

Table 4.31 Overview of the Reunion Island OMR fleet, 2016

Sum of value_div		year
variable_name	unit_div	2016
Total number of vessels	(#)	228
Total employed	(person)	337
FTE	(#)	129
Days at sea	(day)	19 492
Energy consumption	(thousand litres)	
Live weight of landings	(tonne)	2 123
Value of landings	(thousand €)	-
Income from landings	(thousand €)	6 904
Other income	(thousand €)	123
Wages and salaries of crew	(thousand €)	2 070
Unpaid labour value	(thousand €)	-
Energy costs	(thousand €)	735
Repair & maintenance costs	(thousand €)	871
Other variable costs	(thousand €)	2 899
Other non-variable costs	(thousand €)	612
Annual depreciation costs	(thousand €)	824
Opportunity cost of capital	(thousand €)	9
Tangible asset value (replacement)	(thousand €)	-
Gross Value Added	(thousand €)	1 910
Gross profit	(thousand €)	- 160
Net profit	(thousand €)	- 993
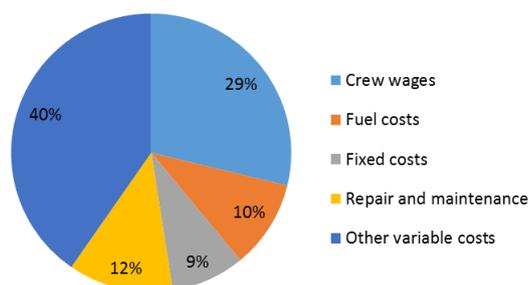
Figure 4.123 Distribution of cost structure for Reunion OMR fleet in 2016

Martinique

In 2016 the total number of vessels in the Martinique OMR fleet was estimated to be 991 units; down 15% from 2006. The fleet is composed mainly of coastal vessel less than 10 meters LOA using traps and lines (SIH IFREMER, 2017). Fishing activity takes place in FAO area 31 (Table 4.32).

Landings (by weight) are dominated by snappers (40%), which account for approximately 50% of the landed value, followed by yellowfin tuna (16% by weight) and blue marlin (13%) (Figure 4.124).

Income and cost data are not available for the Martinique OMR fleet (Table 4.32).

Top species in Landing weigth
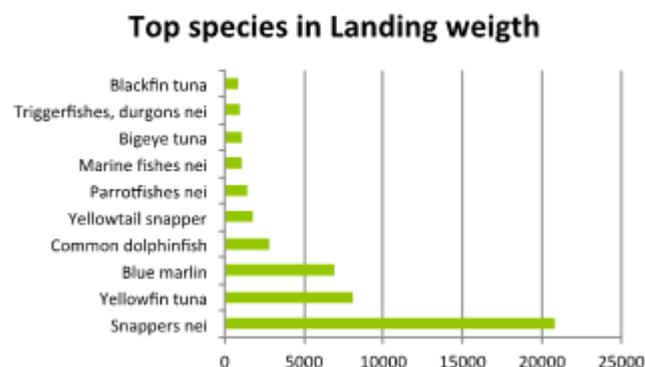
Figure 4.124 Top 10 landed species in landing weight in Martinique OMR fleet in 2016

Table 4.32 Overview of Martinique OMR fleet, 2016

Sum of value_div		year
variable_name	unit_div	2016
Total number of vessels	(#)	991
Total employed	(person)	1 114
FTE	(#)	182
Days at sea	(day)	1 170
Energy consumption	(thousand litres)	
Live weight of landings	(tonne)	
Value of landings	(thousand €)	-
Income from landings	(thousand €)	-
Other income	(thousand €)	-
Wages and salaries of crew	(thousand €)	-
Unpaid labour value	(thousand €)	-
Energy costs	(thousand €)	-
Repair & maintenance costs	(thousand €)	-
Other variable costs	(thousand €)	-
Other non-variable costs	(thousand €)	-
Annual depreciation costs	(thousand €)	-
Opportunity cost of capital	(thousand €)	
Tangible asset value (replacement)	(thousand €)	-
Gross Value Added	(thousand €)	-
Gross profit	(thousand €)	-
Net profit	(thousand €)	-

Mayotte

The Mayotte archipelago is located in the northern Mozambique Channel (Indian Ocean) off the coast of Southeast Africa, between north-western Madagascar and north-eastern Mozambique.

The available data indicate that there were 145 fishing vessels in the Mayotte fleet in 2016 (Table 4.33). However, according to IFREMER (SIH IFREMER, 2017) there were some 700 vessels operating there in

2015. These are, mainly, small-scale coastal vessels less than 6 meters LOA targeting reef and demersal species.

According to FAO estimates, total landings in Mayotte were slightly more than 1000 tonnes in 2016. The main species were marine fish species without identification (49%), followed by skipjack tuna (28%) and yellowfin tuna (17%). Fishing activity takes place in the Western Indian Ocean (FAO area 51).

Income and cost data are not available for the Mayotte OMR fleet.

Table 4.33 Overview and trend of Mayotte OMR fleet in 2016

Sum of value_div		year
variable_name	unit_div	2016
Total number of vessels	(#)	145
Total employed	(person)	285
FTE	(#)	42
Days at sea	(day)	78
Energy consumption	(thousand litres)	
Live weight of landings	(tonne)	
Value of landings	(thousand €)	-
Income from landings	(thousand €)	-
Other income	(thousand €)	-
Wages and salaries of crew	(thousand €)	-
Unpaid labour value	(thousand €)	-
Energy costs	(thousand €)	-
Repair & maintenance costs	(thousand €)	-
Other variable costs	(thousand €)	-
Other non-variable costs	(thousand €)	-
Annual depreciation costs	(thousand €)	-
Opportunity cost of capital	(thousand €)	-
Tangible asset value (replacement)	(thousand €)	-
Gross Value Added	(thousand €)	-
Gross profit	(thousand €)	-
Net profit	(thousand €)	-

Saint-Martin

Saint-Martin is situated in the Lesser Antilles archipelago of the West Indies, in the Caribbean Sea. Information about the Mayotte OMR fleet and fisheries is sparse, but, according to FAO estimates, in 2016 there were 90 tonnes of marine fishes landed, and all were taken in the Western Central Atlantic (FAO area 31). No vessels are registered in the EU fishing fleet register.

4.6.2   Other Regions: the EU Long Distant Fisheries

Northwest Atlantic Fisheries Organisation (NAFO) FAO Area 21

2016 at a glance

Six EU Member State fleets were active in the NAFO Convention region in 2016: Estonia, France, Germany, Portugal, Spain and the United Kingdom. Of these, the main fishing nations were Spain (17 demersal trawlers) and Portugal (9 demersal trawlers). The remaining MS fleets consisted of one or more vessels and, due to data limitations, these fleets could only be partially covered in the analysis below.

- The six MS fleets covered around 30 vessels and employed over 800 workers and 770 FTE.

- These vessels (excluding France and Estonia) spent around 3 000 days at sea, to land over 36.6 thousand tonnes, valued at EUR 106 million.

- In terms of value, the most important species include Atlantic redfish (EUR 35.3 million), Greenland halibut (EUR 29 million) and Atlantic cod (EUR 20.3 million).

- The Portuguese fleet dominated this fishery with 49% of the landings in weight and 53% of the value.

- The overall performance of the vessels covered was positive, jointly generating around EUR 104.6 million in revenue, EUR 69 million in GVA and EUR 41 million in gross profits.

- In relative terms, the fleet achieved an estimated GVA to revenue of 66% and a 39% gross profit margin. All MS fleets analysed generated gross profits in 2016.

- Overall, Portuguese vessels with EUR 55 million, generated more than half the total revenue, GVA (EUR 37 million, 53.5% of the total) and gross profit (EUR 22.3 million, 54% of the total). The fleet also obtained the highest GVA to revenue (67%) and profit margin (41%).

- With an average fuel price of EUR 0.43 per litre, average fuel consumption was around 6.4 thousand litres per day at sea.

- Average wage was estimated at EUR 17.3 thousand, with Portuguese crew earning on average EUR 54.4 thousand, significantly higher than their Spanish counterparts (EUR 16.9 thousand).

- Labour productivity (GVA per FTE) was estimated at EUR 78.4 thousand for the fleet as a whole but varied by MS; ranging from EUR 290 thousand for the German fleet to EUR 22 thousand for the UK.

- Low, stable fuel prices and higher average market prices have contributed positively to the overall performance, in particular, the demersal trawlers operating in the region.

- The witch flounder 3NO stock was reopened to activity in 2015. A low TAC may generate a discarding problem due to by-catches for those vessels not having quota, i.e., the majority of the EU vessels operating in NAFO except for the Baltic States namely Estonia and Lithuania.

- The new Management Strategy Evaluation for Greenland halibut, adopted at the NAFO Annual Meeting in September 2017, was implemented in 2018 with a starting TAC of 17 500 tonnes.

- The 2018 benchmark review of the cod (3M) HCR will be a major challenge for the NAFO fleet. Potentially lower catch levels (TACs) could have a socio-economic impact in the mid/long-term, in particular, for the Spanish and Portuguese demersal trawlers targeting this stock.

- Apart from proposals to potentially close certain fishing areas, the NAFO regulatory area will also likely be affected by other activities that impact the seabed; these include oil and gas drilling and deep-sea mineral mining.

- An industry-science partnership, particularly around improved gear selectivity for cod trawlers operating in Subdivision 3M, could contribute to more efficient fishing seasons, lower energy consumption, and overall cost optimisation in the medium to long term.

Note: Due to explicit data and methodological limitations, all results provided in this chapter should be considered exploratory rather than a source of factual statements that are considered robust enough to be a basis for policy decisions.

NAFO REGULATORY AREA

Fisheries in the Northwest Atlantic (NWA) are performed in the exclusive economic zones of the coastal states and on the high seas where fishery is regulated by the Northwest Atlantic Fisheries Organization (NAFO), founded in 1979 as a successor to ICNAF (International Commission of the Northwest Atlantic Fisheries) (1949-1978) to manage most fishery resources in the EEZs of Contracting Parties (straddling stocks) and outside the national jurisdiction in the NAFO Regulatory Area. Currently NAFO has 12 Contracting Parties.

Article IV. Area of Application of the NAFO Convention: "This Convention applies to the waters of the Northwest Atlantic Ocean north of 35°00' N and west of a line extending due north from 35°00' N and 42°00' W to 59°00' N, thence due west to 44°00' W, and thence due north to the coast of Greenland, and the waters of the Gulf of St. Lawrence, Davis Strait and Baffin Bay south of 78°10' N".

The NAFO Regulatory Area is defined in the NAFO Convention as that part of the Convention Area which lies beyond the areas in which Costal States exercise fisheries jurisdiction (outside of the Exclusive Economic Zones) (Figure 4.125).
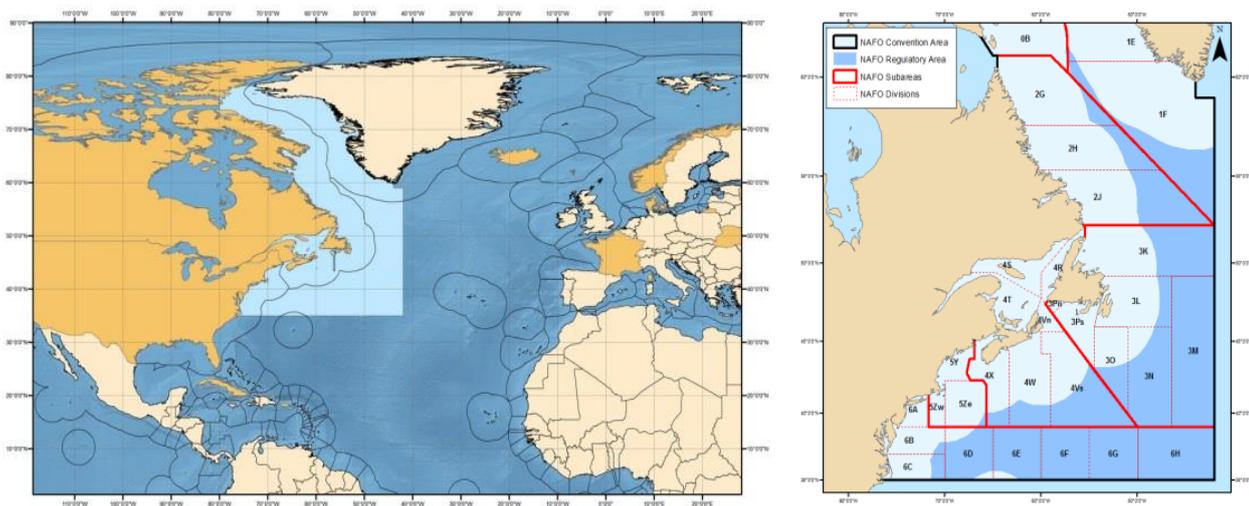
Figure 4.125 NAFO Area of Competence
Source: NAFO, GEOMAR http://www.marineplan.es/ES/fichas_kml/rfbs.html

Species under NAFO management

The three main fisheries regulated in the NAFO Area are ground fish, shrimp, and pelagic redfish, however there is currently a moratorium on the shrimp and pelagic redfish fisheries. The groundfish fishery occurs mainly in NAFO Divisions 3LMNO within the *Fishing Footprint* and is conducted using mainly bottom trawls.

NAFO does not manage sedentary species (e.g. shellfish) and species managed by other fishery bodies, i.e. salmon (NASCO), tunas/marlins (ICCAT), and whales (NAMMCO).

MS fishing activity as reported by NAFO (STATLANT)

According to NAFO (statlant), the total catch by the EU fleet in the area amounted to 26.7 thousand tonnes in 2016, with data unavailable for Spain. According to the DCF data, Spain landed 12.3 thousand tonnes in 2016, bringing the total landed weight to almost 38.9 thousand tonnes (Table 4.34, Figure 4.126).

The main fishing nations are Spain and Portugal (ranging between 33-49% each of the total catch over the period 2014-2016), and combined, taking more than 80% of total catches. The remaining EU catch is taken by Estonia (ranging between 6-9% over the period 2014-2016), Denmark (between 4-6%), Germany (4-5%), and the UK (2-3%). France had a quota of 103 tonnes (<0.5%) and according to NAFO data, the French/St. Pierre et Miquelon fleet caught 1.9 thousand tonnes in 2016. Data on the French St. Pierre et Miquelon fleet are not reported under the DCF.

No activity has been reported for the Latvian, Lithuanian and Polish fleets since 2012 apart from some reduced catch in 2014 (Table 4.34).

Table 4.34 Catches by MS fleets operating in NAFO area

	2010	2011	2012	2013	2014	2015	2016	2017	% of total 2014	% of total 2015	% of total 2016	% of total 2017
Spain	26,585	28,230	35,392	35,422	26,396	14,491	12,300	21,207	48%	38%	33%	42%
Portugal	15,488	16,680	16,230	18,073	19,167	16,901	18,221	19,448	35%	44%	49%	38%
Estonia	3,654	4,593	3,444	4,529	3,307	3,149	3,284	4,740	6%	8%	9%	9%
Denmark	3,409	267	173	3,391	3,409	1,686		2,511	6%	4%	0%	5%
Germany	1,820	2,126	1,855	2,416	2,150	1,884	1,899	1,875	4%	5%	5%	4%
United Kingdom	3,604	1,083	979	1,352			1,209	1,155	0%	0%	3%	2%
France		-		-		103			0%	0%	0%	0%
Latvia	995	587	137						0%	0%	0%	0%
Lithuania	1,542	1,000	753		7				0%	0%	0%	0%
Poland					414				1%	0%	0%	0%
FR St. Pierre et Miquelon	*4,508*	*2,685*	*2,210*	*2,102*	*2,046*	*2,088*	*1,954*	*1,380*				
EU total	57,097	54,566	58,963	65,183	54,850	38,111	37,016	50,936				

Source: htps://www.nafo.int/Data/STATLANT; (1) data for Spain in 2016 estimated from the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Overall, catches have seen a downward trend over the period 2000 to 2017, oscillating mainly due to Spanish catches and reaching a low in 2016 before recovering slightly in 2017 (Figure 4.126). In 2017, Spain recorded the largest catch with 42% of the total reported EU catches (Figure 4.127). Target species include Atlantic redfish, Atlantic cod and Greenland halibut (Figure 4.128).
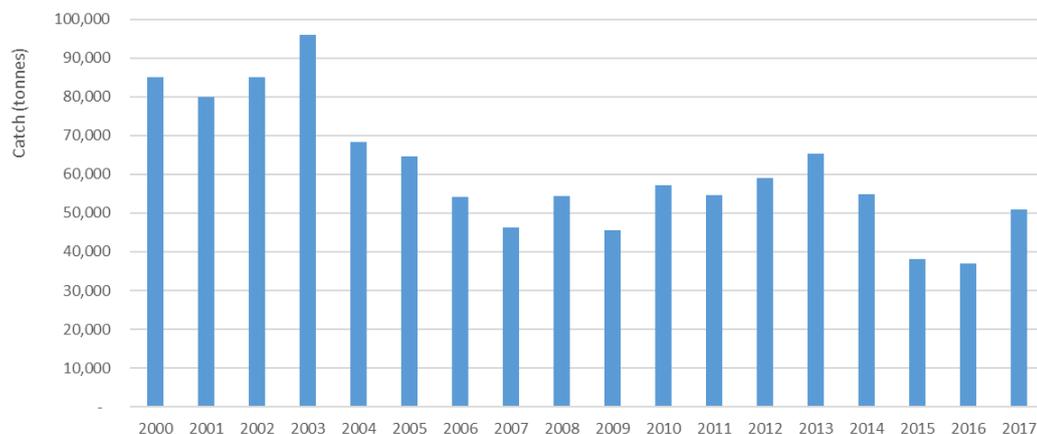
Figure 4.126 Historical catches by the EU fleet operating in NAFO area
Source: htps://www.nafo.int/Data/STATLANT; data for Spain in 2016 estimated from the DCF 2018 Fleet Economic (MARE/A3/AC(2018))
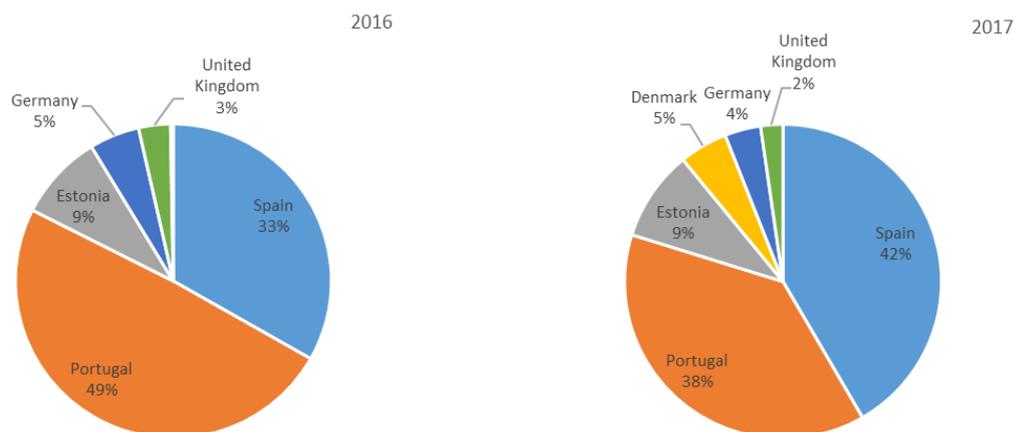
Figure 4.127 Share of catches by MS fleet according to NAFO
Source: htps://www.nafo.int/Data/STATLANT

217
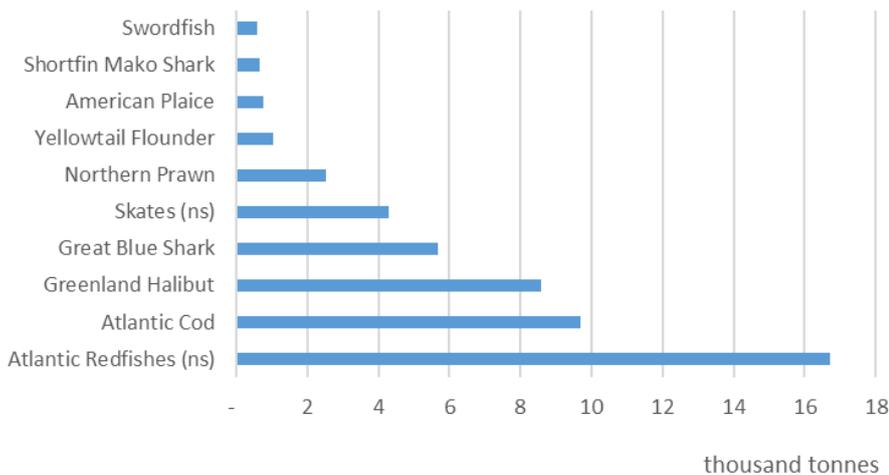
Figure 4.128 Top ten species in terms of quantity caught by the EU fleet operating in NAFO area
Source: htps://www.nafo.int/Data/STATLANT

Description of main DCF fleet segments in NAFO (FAO 21)

Portuguese demersal trawlers over 40 m (PRT A27 DTS VL40XX).

- This fleet is composed of nine vessels operating in the area (32% of the vessels in the region). The fleet's activity has remained relatively stable in terms of landings and effort. The latest 3-year trend shows an increase from 2014 to 2015 and then a slight decrease in 2016 in the number of fishing days, days at sea and landed weight. The Portuguese trawlers reported the highest value of landings in the region, with EUR 56.3 million, which is a significant improvement from that of previous year (EUR 49.4 million).
- In 2016, this fleet operated mostly in NAFO Divisions 3LMNO, targeting Atlantic redfish, Atlantic cod and Greenland halibut.

Spanish demersal trawlers over 40 m LOA (ESP A27 DTS VL40XX).

- Spain possessed the largest fleet in number with 17 vessels in 2016 (61% of the number of vessels). The segment generated a landed value of EUR 3.2 million, the second highest after Portugal. Compared to 2015, Spanish fleet capacity in terms of number of vessels decreased from 19 to 17, following a trend seen in previous years (with the exception of 2015).
- In 2016 this fleet operated mainly in NAFO Divisions 3LMNO targeting Greenland halibut, Atlantic redfish, raja rays and Atlantic cod.

German demersal trawlers over 40 m LOA (DEU A27 DTS VL40XX).

No activity reported in 2014 and 2015 under the DCF. Yet, according to NAFO data, the German fleet was active in the region, catching 2.2 thousand tonnes in 2014 and 1.9 thousand tonnes in 2015, corresponding to 4 and 5% of the total EU catches in the area, respectively.

- In 2016, this segment spent around 122 days at sea in the area, 100 of which were reported as fishing days (all in NAFO Divisions 1CD), and landed 1.9 thousand tonnes with an estimated value of EUR 5.8 million, mostly made up of Greenland halibut. To a lesser extent, the fleet also targets Atlantic redfish and roundnose grenadier.

UK demersal trawlers over 40 m LOA (GBR A27 DTS40XX).

- No activity reported in 2014 and 2015.
- In 2016, their presence was limited to 2% of the fishing days and days at sea; 2% of landed value and 4% of the landed weight. The fleet operated in NAFO Division 3M, targeting Atlantic cod, Atlantic redfish and American plaice.

Estonia

- Data on this fleet segment is not reported under the DCF. Estimates are based on landed weight from NAFO_statlant, and should be considered as an approximation only.

France

- Due to very low levels of activity (103 tonnes) and the fact that only partial DCF data are available, this fleet has not been included in the analysis. Data on the French St. Pierre et Miquelon fleet are not reported under the DCF. The latter, according to NAFO data, caught 1.9 thousand tonnes in 2016.

MS fishing activity as reported by DCF

In terms of landings and effort, the EU vessels spent 2.9 thousand fishing days (no days at sea provided by Spain) in the NAFO CA, consuming about 20 thousand litres of fuel and landing about 36.6 thousand tonnes in weight with an estimated value of EUR 106 million (Figure 4.129).
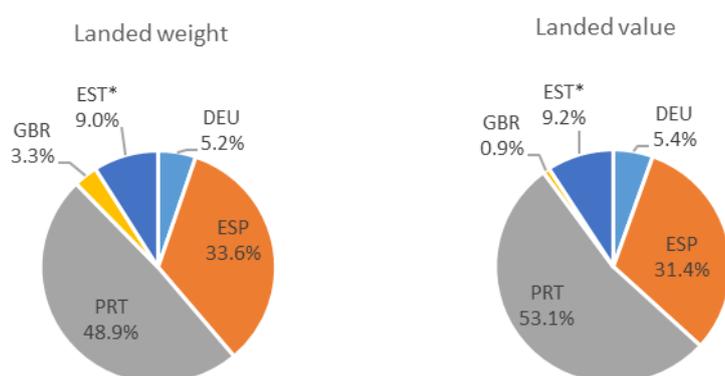
Landed weight

EST* 9.0%
GBR 3.3%
DEU 5.2%
ESP 33.6%
PRT 48.9%

Landed value

EST* 9.2%
GBR 0.9%
DEU 5.4%
ESP 31.4%
PRT 53.1%

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.129 Share of landings in weight and value by MS fleets operating in NAFO fishing areas, 2016

Top landed species in weight and value

Atlantic redfish was the most landed species in weight in 2016, with 11.4 thousand tonnes, followed by Atlantic cod (8.7 thousand tonnes), Greenland halibut (7.4 thousand tonnes) and raja rays (3.2 thousand tonnes). The remaining top 10 species (American plaice, silver hake, yellowtail flounder, witch flounder, Atlantic halibut and white hake) oscillate in volume between 200-500 tonnes (Figure 4.130).

In terms of value, the five most important species were: Atlantic redfish (EUR 35.3 million), Greenland halibut (EUR 28.9 million), Atlantic cod (EUR 20.3 million), raja rays (EUR 5.5 million) and American plaice (EUR 1.4 million). There was an overall increase in value for all species which might correspond to the increase in weight plus the stabilisation of market prices (Figure 4.130).
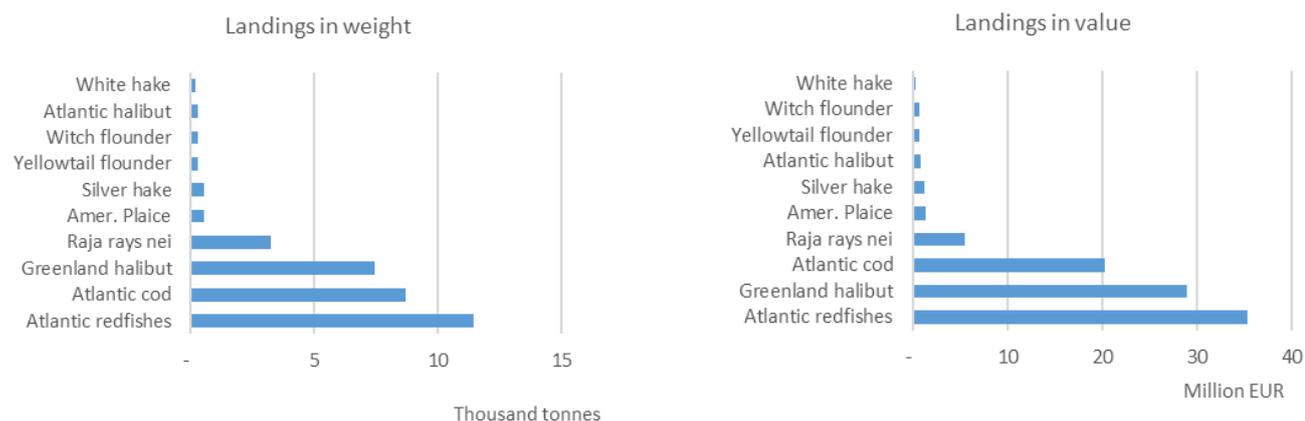
Landings in weight (Thousand tonnes)

White hake
Atlantic halibut
Witch flounder
Yellowtail flounder
Silver hake
Amer. Plaice
Raja rays nei
Greenland halibut
Atlantic cod
Atlantic redfishes

Landings in value (Million EUR)

White hake
Witch flounder
Yellowtail flounder
Atlantic halibut
Silver hake
Amer. Plaice
Raja rays nei
Atlantic cod
Greenland halibut
Atlantic redfishes

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.130 Top ten species landed by MS fleets operating in NAFO, 2016

Portugal dominates in redfish and cod landings while Spain leads in Greenland halibut and ray landings. Germany also takes a substantial share of Greenland halibut while the UK targets Atlantic cod (Figure 4.131).
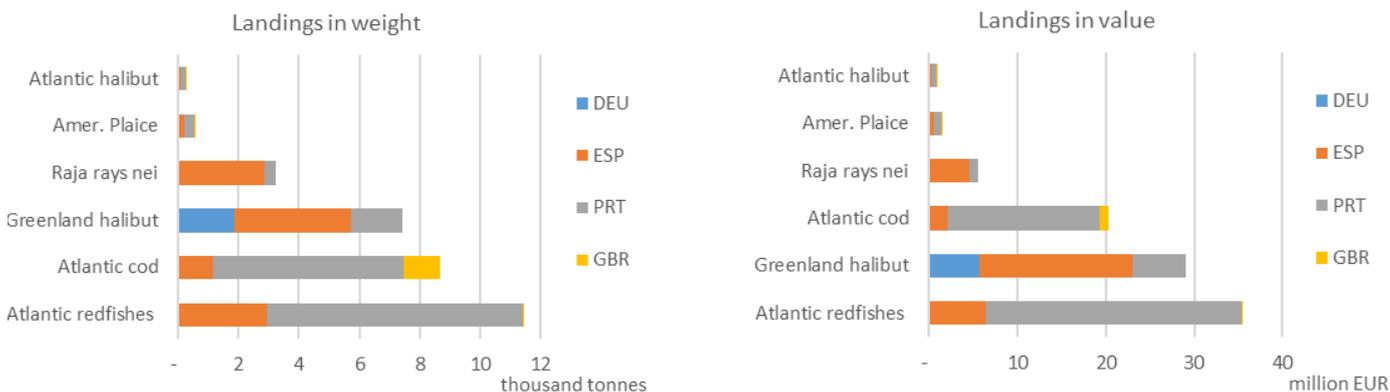
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.131 Landings of top six species, in weight and value, by MS operating in NAFO, 2016

Trends in activity and landings: Spanish and Portuguese fleets

Landings from the Spanish fleet remained relatively stable in 2015 and 2016 compared to 2014, however the value has declined albeit a slight recovery in 2016 (Figure 4.132).

The Portuguese fleet has shown a different trend. Catch volume remained relatively stable over the period while value increased significantly. Days at sea declined from 2014 to 2015 but remained remaining stable in 2016 (Figure 4.132).

While average landed price has remained rather stable at EUR 2.5-EUR 3.0 per kg, fuel prices have decreased significantly (33% and 29% respectively for Portuguese and Spanish vessels) over the period 2014 to 2016 (Figure 4.132).
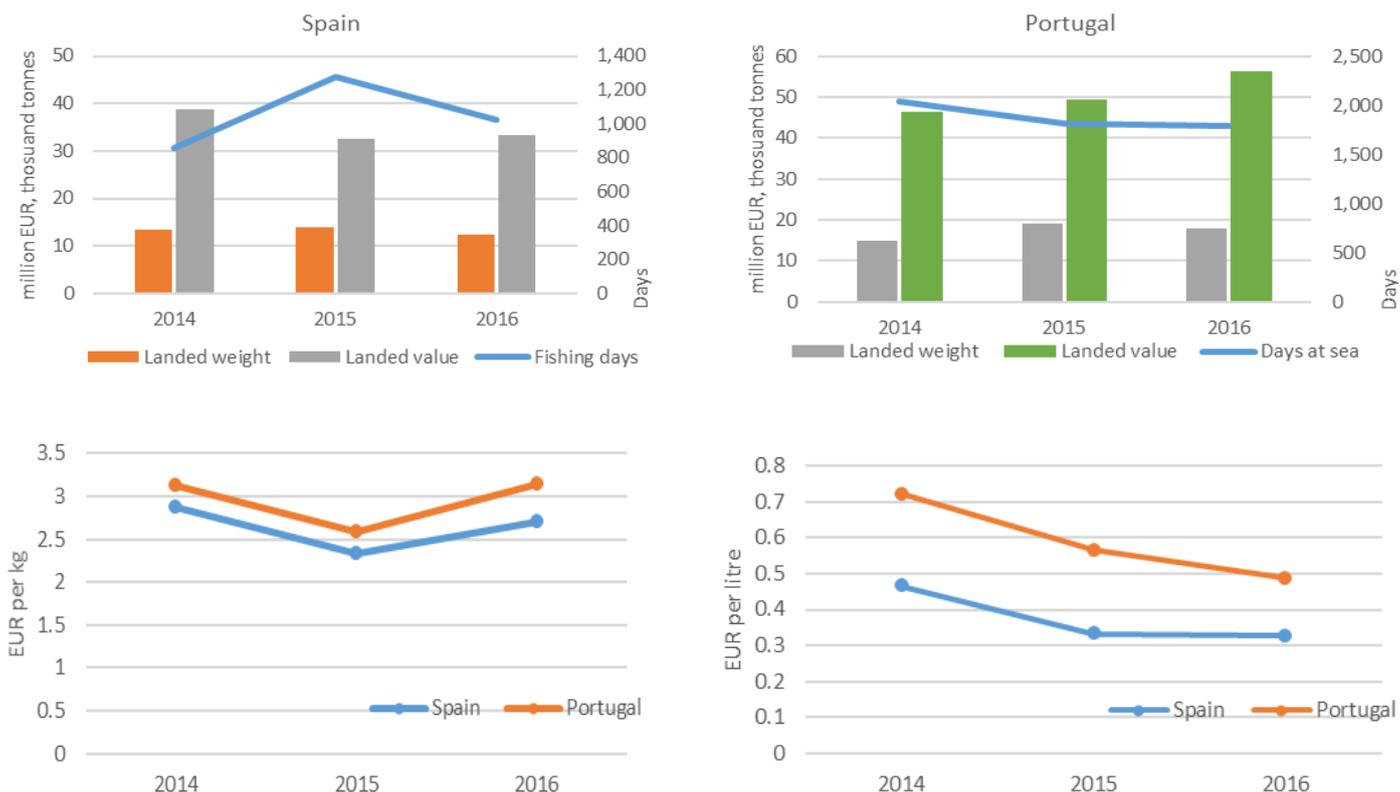
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.132 Trends on fishing activity and landings for the Spanish and Portuguese fleets operating in NAFO, 2014-2016

Socio-Economic performance

All fleet segments were profitable in 2016, with a steady improvement since 2014 for Portugal and Spain (Figure 4.133 and Figure 4.134). Revenue amounted to an estimated EUR 104.6 million in 2016, distributed as follows: Portugal EUR 54.8 million, Spain EUR 33.3 million and Germany EUR 5.6 million. The remaining catch in value were landed by UK and Estonian vessels (Table 4.35).

Gross Value Added (GVA) produced by the vessels covered was estimated at EUR 68.9 million in 2016, with a high GVA to revenue for all fleets.

After accounting for operating costs, the fleet made over EUR 41 million in gross profit. All MS fleets in the region were profitable, and combined, generated a profit margin of 39% in 2016, with Spain and Portugal ranking higher with profits above 40%, followed by Estonia (estimated) and Germany (Table 4.33).

Average landed price was estimated at EUR 2.9 per kg for the EU fleet as a whole, with Portuguese vessels obtaining the highest average price for their landings (EUR 3.1 per kg) (Table 4.36).

Average fuel price for the fleet was estimated at EUR 0.43 per litre, ranging from EUR 0.26 for German vessels to EUR 0.49 for Portuguese trawlers (Table 4.36).

Average wage was estimated at EUR 17.3 thousand in 2016. Portuguese crew earned on average EUR 54.4 thousand, significantly more than their Spanish counterparts (EUR 16.9 thousand).

Average labour productivity (GVA per FTE), estimated at EUR 78.4 thousand, varied significantly by MS, ranging from EUR 290 thousand in the German and EUR 138 thousand in the Portuguese fleets, to EUR 44 in the Spanish and EUR 22 thousand in the UK fleets. The German and Portuguese fleets also make above average gross profits per vessel (Table 4.36).
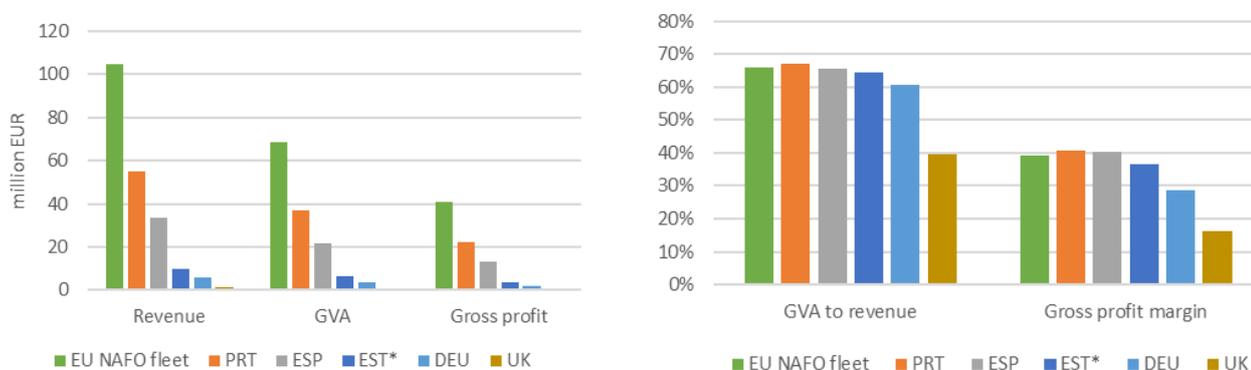
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.133 Revenue, profit and margins estimated for MS fleets operating in NAFO, 2016
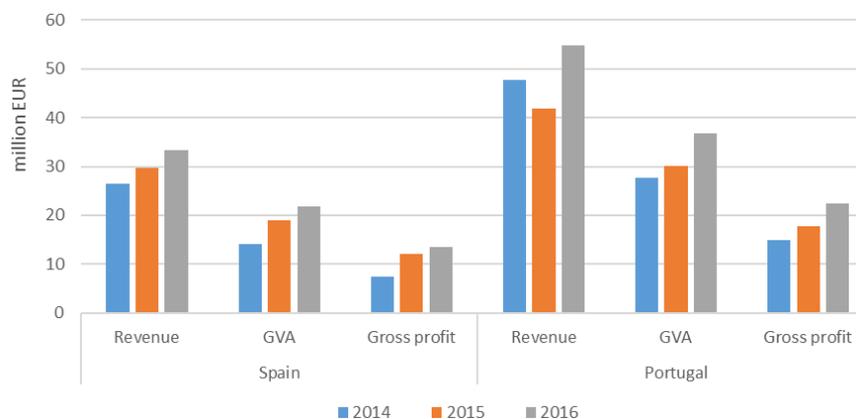
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.134 Revenue and profit estimated for Portuguese and Spanish fleets operating in NAFO, 2014-2016

Key trends and drivers of change

• Capacity, effort, and landings have remained stable for most of the fleets, with a striking increase in value for the Portuguese demersal trawler fleet.

- The gross profit margin close to 40% in average returned by the fleets is quite high; this also reflects the stability of fixed costs including fuel price.

- There is some specific concern about the decline in employment (FTE), in particular with the Spanish fleet, although this might be linked to the modernisation of boats and mechanisation of processing activities at sea, together with a rotation system of the employed full time staff on several fishing trips.

- The witch flounder 3NO stock reopened to activity in 2015, following many years with no directed fishery (NDF). A low TAC might create a discarding problem for those vessels without quota but with a by-catches of this species (i.e. the majority of the EU vessels operating in NAFO except for the Baltic States namely Estonia and Lithuania) and therefore, may generate some noise in the EU fleet performance.

Outlook for 2018 and beyond

- Management measures for key commercial stocks in NAFO, the implementation seems to be working quite efficiently in terms of quota consumption and reporting by the fleets.

- There are some problems in the utilisation of the redfish 3M stock: this is an "Olympic" fishery operating on a days-at-sea regime.

- Improved catch, discard, and effort data reporting, through combined e-logbooks and VMS, should help improve the quality of this analysis as MS will be able to provide more refined data through the DCF call.

- 2018 is the first year of implementation of the new Management Strategy Evaluation for Greenland halibut, adopted at NAFO Annual Meeting in September 2017 with a starting TAC of 17 500t. A protocol for exceptional circumstances will be developed to guarantee that the full process is respected.

- The 2018 benchmark review of the cod (3M) HCR will be a major challenge for the EU NAFO fleet. Changes to the assessment models and, potentially, lower catch levels (TACs) could have a socio-economic impact in the mid/long-term, in particular, for the Spanish and Portuguese demersal trawler fleets targeting this stock.

- The development of an ecosystem based approach to fisheries management in the NAFO regulatory area and the setting of a coherent network of Vulnerable Marine Ecosystem (VME) areas could bring about new closures or expansion of existing ones (e.g. seamounts, sponges and sea pens concentrations).

- A study of the impact of bottom fisheries in the NAFO area will be conducted in 2021. However, a preliminary evaluation that assessed eight fisheries in areas where there are VMEs found that while the Greenland halibut fishery does overlap with polygons containing VMEs, the longline cod and the shrimp fisheries do not. Other fisheries analysed showed an intermediate level of overlap. The SC recommended that this first analysis be augmented with more detailed data including VMS and haul data. The outcomes of this study could influence the dynamics of specific EU fleet segments through closures/displacement and/or reduced effort and/or concentration of catches in other areas.

- Apart from proposals to potentially close certain fishing areas, the NAFO regulatory area will also likely be affected by other activities that impact the seabed; these include oil and gas drilling and deep-sea mineral mining. Indeed, any licence to prospect or commercially extract known deposits might have an adverse effect on the fishing activities of EU fleets operating in the area.

- An industry-science partnership, particularly around improved gear selectivity for cod trawlers operating in Subdivision 3M, could contribute to more efficient fishing seasons, lower energy consumption, and overall cost optimisation in the medium to long term.

- While the 3M shrimp fishery was a very valuable one for certain EU fleets, it has been closed to fishing for eight years. During this time there has been little improvement in the stock status with the exception of female biomass; this increased slightly in 2014 and 2015 but is still below Blim. The weak signs of recovery in the stock mean that they cannot be directly connected to lower fishing

effort. The only information available for the last seven years has been an annual 3M ground-fish survey; this, however, does not provide comprehensive information on the shrimp stock. The eventual reopening of commercial shrimp fishing, in both 3LN and 3M, could generate significant incomes for the specialised demersal trawl fleet.

Table 4.35 Main capacity, activity and profitability indicators by MS fleets operating in NAFO, 2016 (based on expert ad hoc data + DCF for ESP)

	Number of vessels	Vessel tonnage (GT)	Engine power (kW)	Total employed (#)	FTE (#)	Days at sea (days)	Fishing days (days)	Energy consumed (thousand litres)	Landings in weight (thousand tonnes)	% of EU landings weight	Landings in value (million EUR)	% of EU landings value	Revenue (million EUR)	GVA (million EUR)	GVA to revenue (%)	Gross profit (million EUR)	Profit margin (%)
Germany		1,032	1,258	15	12	122	100	1,111.85	1.9	5%	5.8	5%	5.6	3.4	60.7%	1.6	28.6%
Portugal	9	16,344	18,486	292	267	1,796	1,724	12,808.20	17.9	49%	56.3	53%	54.8	36.9	67.2%	22.3	40.7%
Spain	17	19,409	20,727	447	499	1,027	1,027	5,685.47	12.3	34%	33.2	31%	33.3	21.9	65.6%	13.4	40.3%
United Kingdom		1,320	2,244	15	20	46	28	330.91	1.2	3%	1.0	1%	1.1	0.4	39.7%	0.2	16.3%
Estonia*									3.3	9%	9.7	9%	9.7	6.3	64.5%	3.5	36.5%
EU NAFO fleet	30+	38,105	42,715	770	798	2,991	2,879	19,936	36.6		106.0		104.6	68.9	66%	41.1	39%

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Table 4.36 Performance indicators by MS fleets operating in NAFO, 2016 (based on expert ad hoc data + DCF)

	Average fuel consumed per DAS	Landed weight per fishing day	Landed value per fishing day	Average landed price	GVA per FTE	Average gross profit per vessel	Average fuel price	Average wage per FTE
	(thousand litres per day)	(tonnes per day)	(thousand EUR per day)	(EUR per kg)	(thousand EUR per FTE)	(thousand EUR)	(EUR per litre)	(EUR)
Germany	9.1	19.0	57.6	3.0	290.5	2,870	0.26	153,811
Portugal	7.1	10.4	32.7	3.1	137.9	2,444	0.49	54,434
Spain	5.5	12.0	32.4	2.7	43.8	790	0.33	16,855
United Kingdom	7.2	43.2	34.6	0.8	22.0	180	0.38	13,045
EU NAFO fleet	6.7	11.6	33.5	2.9	78.4	1,355	0.43	17,286

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

International Commission for the Conservation of Atlantic Tunas (ICCAT)

At a glance

- According to official statistics, ICCAT catches, excluding Mediterranean stocks (MED and A+M stocks), amounted to 549 100 tonnes in 2016 (ICCAT https://www.iccat.int/en/accesingdb.html).

- Spain was the largest producer with 26.5% of the global catch (145 640 tonnes), followed by Ghana (12.9%) and France (9.6%).

- Portugal, with 3.4%, ranked 9th and Ireland with 0.4%, ranked 21st (Figure 4.135).

- Nine EU MS reported catches in 2016, amounting to a total of 220.5 thousand tonnes.

- The highest EU catches were reported in 2011 (227 thousand tonnes), when seven MS fleets reported activity.

- ICCAT official data includes more EU MS countries than the ones included under the analysis of this report (Spain, France and Portugal).
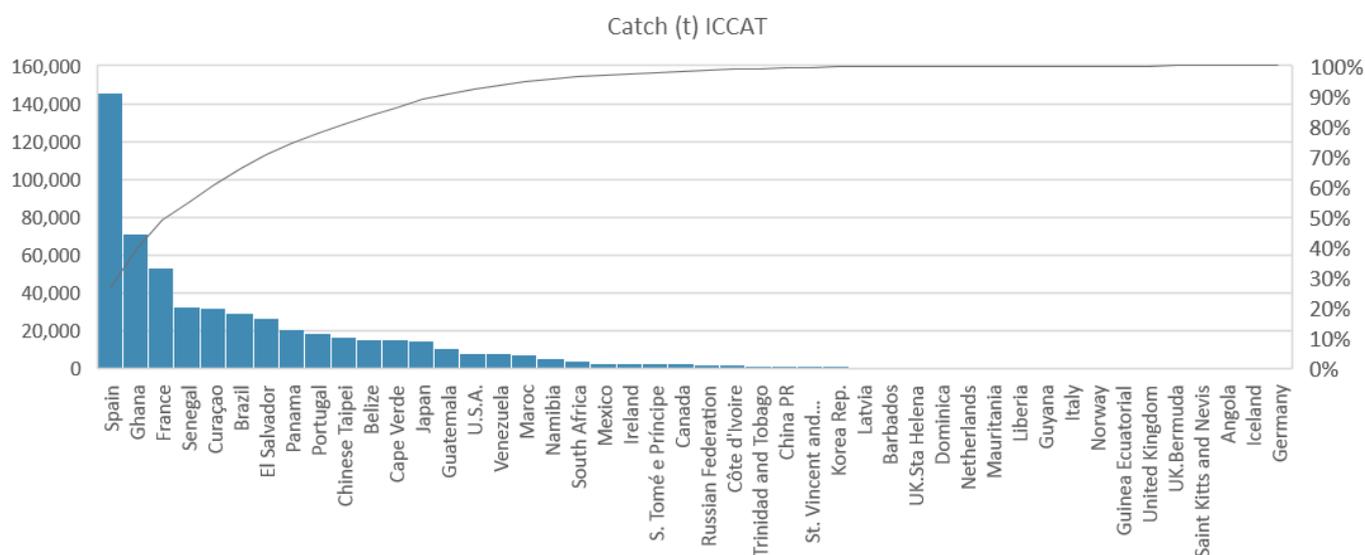
Figure 4.135 ICCAT catches (nominal, t) by flag country
Data source: https://www.iccat.int/en/accesingdb.html

Recalling that the ICCAT convention area embraces the Atlantic Ocean and covers more than 20 tuna and tuna-like species or stocks, EWG 1807 decided that only those fleet segments with a high degree of dependency (landed value from ICCAT RA-species) should be included in the analysis. The selection criterion used was at least 60% of a fleet segment's total landed value was taken from the ICCAT RA in 2016 (or for the most part of 2014-2016). The fleet segments so identified included a total of 186 vessels in 2016, from three Member States, namely France, Portugal and Spain. Results for these selected EU fleet segments (2016) (summarised in Figure 4.136) were:

- Spain deployed the largest fleet with around 127 active vessels, including surface longliners and vessels using pole and line (Spanish purse seiners active in the region are not included).

- France reported 10 purse seiners operating in the ICCAT RA, while 50 vessels were identified for Portugal, including surface longliners and vessels using pole and line with live bait.

- In terms of capacity, Spain also deployed the most, with around 26 700 GT and 47 000 kW, followed by France (18 800 GT and 32 300 kW) and Portugal (9 350 GT and 21 700 kW). It was also the main employer with 70% of the total FTE, followed by Portugal (21%) and France (9%).

- In 2016, these selected fleets spent an estimated 38 000 days at sea, of which 35 500 where fishing days, to land around 132 000 tonnes in weight valued at over EUR 247 million.

- The most important species in terms of weight were blue shark, skipjack and yellowfin tuna, followed by albacore, swordfish and bigeye tuna. In terms of value, the top species were swordfish and blue shark, followed by yellowfin, albacore, skipjack and bigeye tuna.

- The overall performance of the selected fleets was positive in 2016, jointly generating almost EUR 123 million in GVA and EUR 49 million in gross profits.

- In relative terms, the combined fleet produced a GVA to revenue of 49% and gross profit margin of 20%. All MS fleets analysed generated gross profits in 2016.

- The Spanish fleet dominates this fishery with over 55% of the landings in weight and 62% of the value. Overall, the Spanish fleets generated around EUR 151 million in revenue, EUR 77 million in GVA and EUR 32 million in gross profits in 2016. This represents 66% of the total profits.

- The French fleet accounted for 37% of the landings in weight and 26% in value. They generated EUR 64 million in revenue, EUR 28 million in GVA and almost EUR 8 million in gross profit.

- Portuguese vessels took 7% of the landed weight, 12% of the value and collectively generated almost EUR 33 million in revenue, EUR 18 million in GVA, and EUR 9 million in gross profits.

- In relative terms, Portugal achieved the highest GVA to revenue (56%) and the highest profit margin (28%), suggesting that this fleet is more efficient in transforming inputs into profits, for both crew and vessels owners. Spain achieved a GVA to revenue of 48% and 21% profit margin, while France, with its more fuel intensive purse seiner fleet, obtained the lowest margins (GVA to revenue of 43% and a 12% profit margin).

- In 2016 ICCAT adopted Recommendation 16/01 establishing management measures for tropical tuna including catch and effort limits and technical measures for tropical tuna fisheries, which affects both EU purse seiners and longliners.

- Due to the relatively poor situation of the bigeye stock (an analytical assessment is scheduled for 2018), it is possible that the tropical tuna combined TAC might be reduced or ICCAT may adopt management measures for all three tropical species (skipjack, yellowfin and bigeye). Such measures could have economic consequences in the medium-term. They might also bring about unintended shifts in fishing pattern and, potentially, displace fishing effort towards the Indian and the Pacific Oceans.
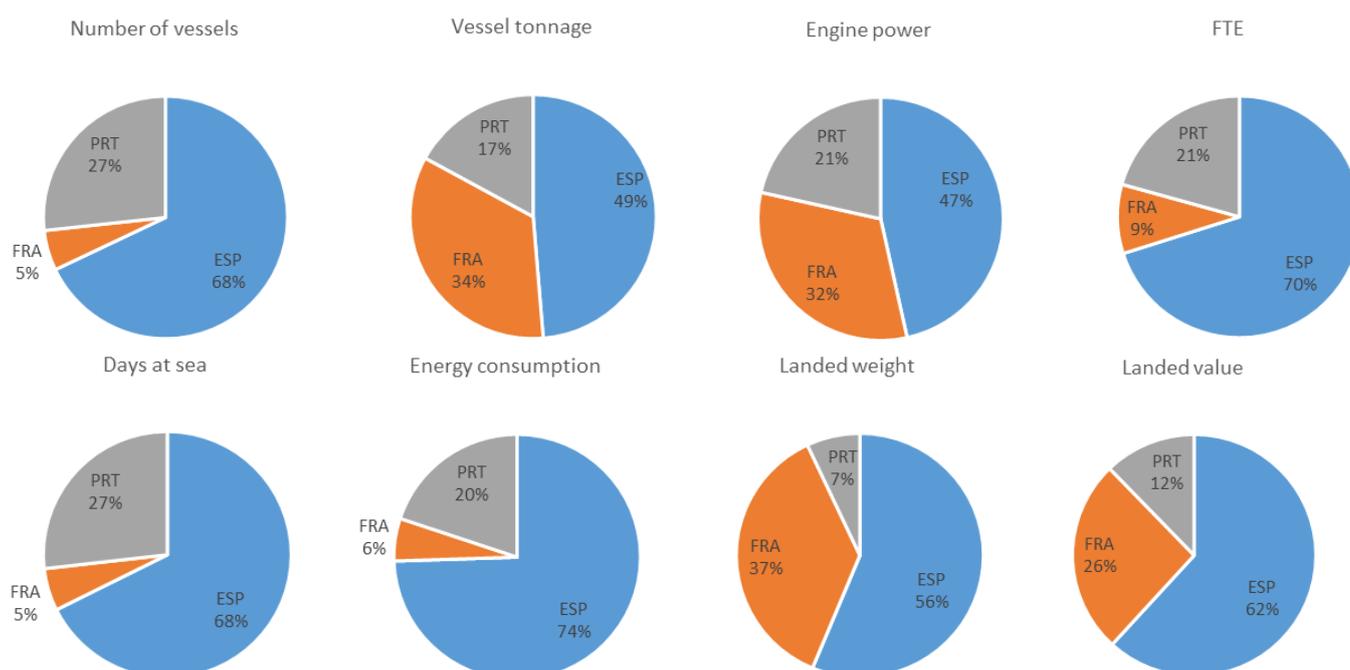
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.136 Share of capacity, employment, fishing activity and landings (for fleets with more than 60% of landed value from ICCAT RA_species), 2016

ICCAT REGULATORY AREA

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and adjacent seas. Its area of competence is all waters of the Atlantic Ocean, including adjacent seas. This covers FAO areas 21, 27, 31, 34, 37, 41, 47 and 48 (Figure 4.137).

Figure 4.137 Map of the ICCAT Convention Area
Source: https://www.iccat.int/en/

Currently ICCAT is conducting full assessment of the following stocks: Yellowfin tuna (*Thunnus albacores*) (Atlantic stock); bigeye tuna (*Thunnus obesus*) (Atlantic stock); skipjack tuna (*Katsuwonus pelamis*) (East and West Atlantic stocks); albacore tuna (*Thunnus alalunga*) (North and South Atlantic and Mediterranean stocks); Atlantic bluefin tuna (*Thunnus thynnus t.*) (West Atlantic stock and East Atlantic and Mediterranean stock); swordfish (*Xiphias gladius*) (North and South Atlantic and Mediterranean stocks); sailfish (*Istiophorus albicans*) (East and West Atlantic stock); blue marlin (*Makaira nigricans*) (Atlantic stock); white marlin (*Tetrapturus albidus*) (Atlantic stock; blue shark (*Prionace glauca*) (North and South Atlantic stocks); shortfin mako shark (*Isurus oxyrinchus*) (North and South Atlantic stocks); portbeagle (*Lamna nasus*) (Northwest, Northeast and Southwest Atlantic stocks).

There are currently fifty ICCAT members or Contracting Parties, namely: Albania, Algeria, Angola, Barbados, Belize, Brazil, Canada, Cabo Verde, China, Côte d'Ivoire, Curaçao, Egypt, El Salvador, Equatorial Guinea, European Union, France, Gabon, Ghana, Guatemala, Guinea, Honduras, Iceland, Japan, Liberia, Libya, Morocco, Mauritania, Mexico, Namibia, Nicaragua, Nigeria, Norway, Panama, Philippines, Republic of Korea, Russian Federation, Saint Vincent/Grenadines, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, Syrian Arab Republic, Trinidad and Tobago, Tunisia, Turkey, United Kingdom, United States of America, Uruguay, Vanuatu, Bolivarian Republic of Venezuela. There are four cooperating states: Bolivia, Guyana, Suriname, Taiwan Province of China.

ICCAT: catch share & nominal catches by MS and area

According to historical ICCAT catch data, EU MS production levels have remained relatively stable over the period 2008 to 2016, with fluctuations below 15% between years, with the exception of 2008 (Figure 4.138 and Table 4.37). The top EU producers were Spain (66% of the EU total), France (24%), Portugal (9%) and Ireland (1%) (Figure 4.139).

Spain reached its highest level of catches in 2011 and 2012, with 151 400 and 162 800 tonnes respectively, showing a decrease in 2013 and then remaining at similar levels as during the period 2009-2010, within the region of 135 000 to 145 000 tonnes. France has steadily increased its volume of catch on a year-by-year basis (with the exception of a small decrease in 2012 and 2015), moving from around 25 000 tonnes in 2008 to 53 000 tonnes in 2016. Portugal has shown higher fluctuations amongst years analysed, starting in 2008 with 21 000 tonnes, peaking in 2010 with 32 300 tonnes, and achieving its lowest point in 2015 with 11 000 tonnes, followed by an increase in 2016, to 18 600 tonnes.
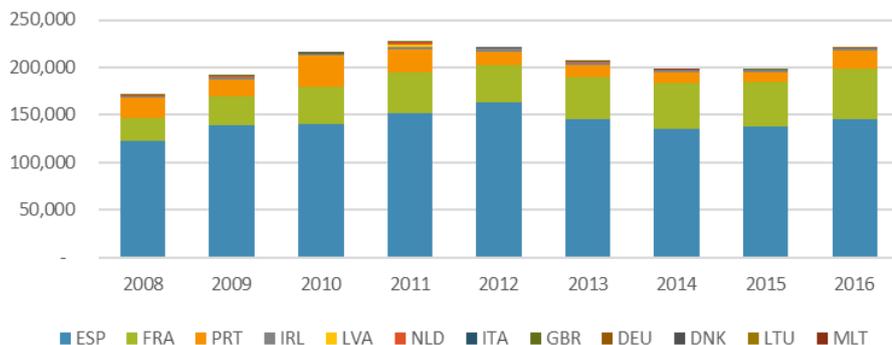
Figure 4.138 Historical catches (nominal, tonnes) by Member State, 2008-2016
Source: https://www.iccat.int/en/accesingdb.html

Table 4.37 Nominal catch (t) by EU Member State, 2008-2016 (Atlantic stocks, all species, excludes live discards, DL)

Qty_t	2008	2009	2010	2011	2012	2013	2014	2015	2016
ESP	122,456	139,628	140,219	151,397	162,853	145,311	135,408	137,744	145,640
FRA	24,986	30,617	39,804	43,208	40,187	44,378	47,848	46,456	52,938
PRT	21,076	17,627	32,363	23,809	13,609	13,362	11,214	10,998	18,686
IRL	1,527	2,067	924	3,696	3,702	2,348	2,508	2,420	2,383
LVA	-	-	1,219	2,374	49	48	30	192	528
NLD	766	638	-	2,258	110	1,169	54	17	217
ITA	-	-	-	-	-	-	-	14	54
GBR	72	264	236	251	124	145	146	44	20
DEU	-	-	-	-	-	-	6	-	4
DNK	-	-	0	-	2	-	-	-	-
LTU	-	-	-	-	-	-	95	-	-
MLT	-	-	-	-	-	-	1	-	-
EU total	170,884	190,840	214,765	226,993	220,636	206,759	197,308	197,884	220,469

Source: ICCAT https://www.iccat.int/en/accesingdb.html
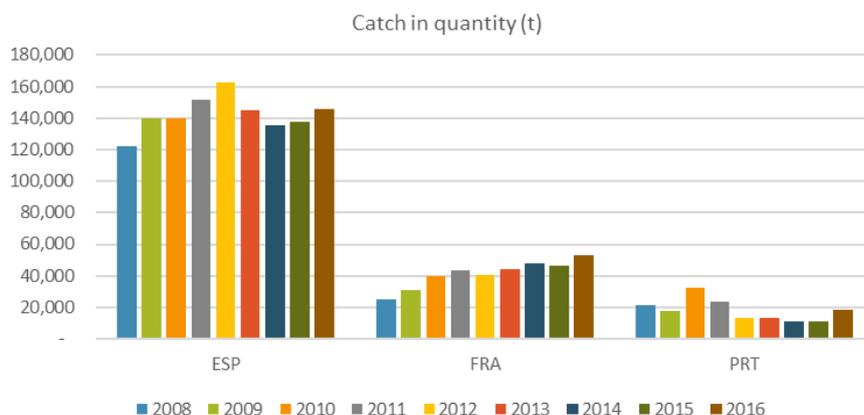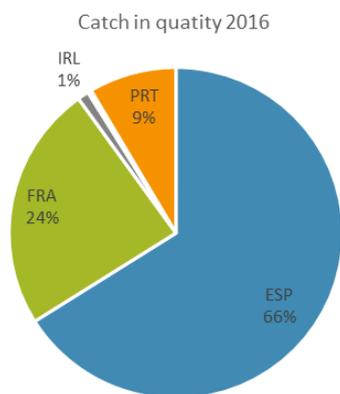
Source: https://www.iccat.int/en/accesingdb.html Atlantic stocks, all species, excludes live discards, DL (MS with less than 1% are not shown)

Figure 4.139 Nominal catches (tonnes) in 2016 (left) and historical trends 2008-2016 (right)

The majority of catches by EU fleets are taken from the East Atlantic stock (ATL East 55%), followed by the North Atlantic (31%) and South Atlantic (10%) stocks. Spain is the predominant fleet in terms of catches, ranging within 61% (ATL East) and 75% (ATL North), followed by France with 38% of the total EU catches in the ATL East and 7% in the Atlantic North. Portugal has a small presence in the Atlantic East (1% of the total catch) and Atlantic North (3%) but concentrates most of its catches in the Atlantic South where it takes up to 28% of the total. Spain takes the remaining 72% in the Atlantic South (Figure 4.140).
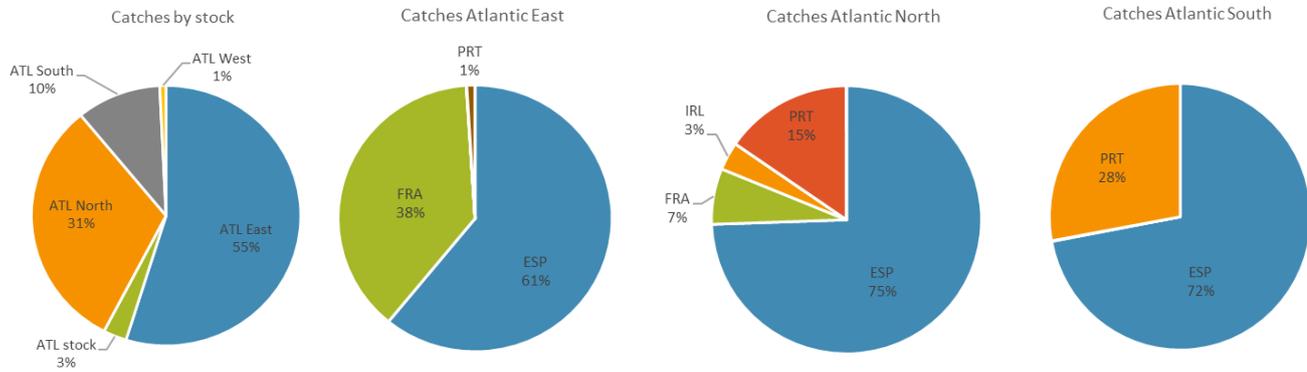
Figure 4.140 Share of nominal catch (t) by Atlantic stock and MS fleet, 2016
Data source: ICCAT https://www.iccat.int/en/accesingdb.html

General overview of the EU fleet active in the ICCAT Convention area

Methodology / selected fleets

To assess the performance of the EU fleet operating in the ICCAT regulatory area (RA) using DCF data, only those fleet segments over 24m LOA and with a high degree of dependency on the ICCAT RA are hereafter included in the analysis. A 'high degree of dependency' is defined as those fleet segments where 60% or more of their total landed value is made up of ICCAT species in 2016, or, for the most part of 2014-2016. For example, the entire Spanish purse seine fleet targeting tropical tuna in the Atlantic are excluded, as according to the data available none of their 26 active PS vessels met in 2016 or for the most part of 2014-2016, the 60% or more cut-off. While there are purse seiners fishing in ICCAT Convention Area the main bulk of their catches are taken in the Indian and Pacific Oceans[11].

- For Spanish purse seiners between 24-40m LOA (A27 PS VL2440), the share of ICCAT landed value to total landings value ranged between 22-29%, over the period 2014-2015. In terms of landed weight, these values ranged between 15-20% of total;

- For the Spanish purse seiners over 40m LOA (A27 PS VL40XX) the share of ICCAT landed value ranged between 27-32%, over the period 2014-2016. In terms of landed weight, these values ranged between 26-31%.

- Hence, for both Spanish purse seiner fleet segments, the share of ICCAT landings to total landings, was always below the 60% threshold.

- It may be that there are individual vessels within these fleet segments where the share is much higher but with the level of aggregation provided through the DCF data, these cannot be identified. Without more disaggregated information, a comprehensive assessment is simply not possible.

Analyses for Spain and Portugal are based on DCF data submitted by the MS, while for France the analyses are based on data provided by experts during the AER meeting.

As a result of this mixed methodology and data sources, and in particular, in the case of Spain and Portugal, both capacity (number of vessels, GT, kW) and employment (FTE, etc.) may be over or under-estimated. In many cases, as the effort deployed (fishing days and days at sea) was 100% in the ICCAT RA (i.e. the Atlantic Ocean), these variables were disaggregated based on either the value or weight of landings. If based on effort, the total activity of these fleets, including landings of demersal species in the Atlantic, would be included.

Information and graphs on ICCAT official data are also shown for comparative purposes. These data do not include the Mediterranean or the combined Atlantic-Mediterranean stocks.

Not all EU MS fleets are included in the performance analysis, due largely to the comparatively low levels of activity for these MS fleets (i.e. all fleets reporting less than 1% of total EU catches).

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[11] ESP A27 PS VL2440: 89 vessels in 2014, 91 in 2015, 57 in 2016. ESP A27 PSVL40XX: 33 vessels in 2014, 30 in 2015, 26 in 2016.

Italy and the UK have reduced activity in the region - one active Italian purse seiner and one UK longliner over 40m LOA were active in 2016. Due to data limitations and confidentiality issues, these two MS fleets could only be partially covered. Some activity by the Dutch pelagic trawler fleet segment TM VL40XX (n=7) was detected, but the share of ICCAT landings to total landed value ranged between 23-27% over the period 2014-2016, and 15-17% of the landed weight.

According to ICCAT the only other MS fleet with noteworthy catches is Ireland, with 2 383 tonnes reported in 2016. When analysing the DCF data, three Irish fleet segments were identified with ICCAT related activity in 2016: demersal trawlers/seiners between 24-40m (DTS VL2440) and pelagic trawlers over 24m (TM VL2440 and TM VL40XX). Only pelagic trawlers (TM VL2440) reported a significant share of ICCAT landings (23%) when compared to their total activity in 2016. The ICCAT share for the other two segments was less than 2% of their total landings income. As the criterion for the economic analysis is 60% share, these Irish fleet segments were not included in the analysis.

Based on the 60% landed value threshold a total of 186 vessels were identified in 2016, from three MS, namely France, Portugal and Spain.

Description of relevant fisheries in the region and performance of selected EU MS fleets

The selected fleet - where at least 60% of a fleet segment's total landed value was taken from the ICCAT RA in 2016 or for the most part of 2014-2016, were:

- Spanish surface longliners between 24-40 m LOA (A27 PGO VL2440 and OFR PGO VL2440);

- Spanish hook and lines 24-40 m LOA (A27 HOK VL2440 and OFR HOK VL2440)

- French purse seiners over 40 m LOA (OFR PS VL40XX)

- Portuguese pole and line/surface longliners between 24-40 m LOA fishing exclusively in international waters (OFR HOK2440 IWE);

- Azorean pole and line between 24-40 m (A27 HOK VL2440 P3),

- Madeiran pole and line between 24 and 40m LOA (OFR HOK VL2440 P2) and hook/surface longliners between 24-40 m (A27 HOK VL2440)

The total number of vessels, in the above mentioned fleet segments, was 186.

By main type of fishery and fleet segment, the Spanish surface longliners were the biggest segment (in number) with 72 vessels, followed by the Spanish hook and line fleet with 55 vessels and the Portuguese hook and line fleet with 50 vessels (Table 4.38).

In terms of employment, nearly 2 900 FTE were reported in 2016. The Spanish surface longliners employed the greatest number of crew, with over 1 000 fishers and around 1 100 FTE. Combined, they spent about 16 000 fishing days, which is almost half of the total fishing days for the selected fleets.

The 10 French purse seiners (18 807 GT GT and 32 309 kW) recorded over 2 100 days at sea, more than half of which were fishing days. The hook and line segment (Spanish and Portuguese vessels) had the greatest number of vessels, FTE and days at sea, as shown in Table 4.38.

By weight, the Spanish surface longliners landed some 39% of the total (selected fleets only) amounting to 51 000 tonnes. They were closely followed by the French purse seiners, with approximately 37% of total landings and 48 000 tonnes. The remaining volume was assigned to the Spanish and Portuguese hook and line fleets, in particular the Spanish segment between 24 and 40m in OFR, with 12% of total landings and over 15 000 tonnes.

By value, the Spanish surface longliners again landed 39% of the total (selected fleets only) amounting to more than EUR 95 million. The French purse seiners recorded EUR 64 million (26% of total); Spanish hook and line vessels combined made up 23% of the value for a total of more than EUR 56 million. The Portuguese hook and line fleets combined accounted for 13% of total landings, with a value of over EUR 30 million.

Socio-Economic performance

Table 4.38 and Table 4.39 provide a summary of the main activity and profitability indicators and Table 4.40 provides estimates on some performance indicators for the selected fleet segments and by MS (disaggregated to reflect ICCAT activity based on the 60% landed value threshold) in 2016 (FRA based on expert data; ESP and PRT based on DCF).

In terms of revenue and profits, the Spanish surface longline fleet generated a revenue of EUR 98 million, almost EUR 41 million in GVA and almost EUR 18 million in gross profit, amounting to an average GVA to revenue of 42% and a 19% profit margin (Figure 4.141).

The French purse seiner fleet declared revenue of EUR 64 million. With GVA estimated at EUR 27.7 million, the fleet generated a GVA to revenue of 43%. Gross profit was estimated at EUR 7.7 million, indicating a 12% profit margin. This fleet segment recorded the highest landings per day at sea, in weight and value (23 tonnes and 30 tonnes, respectively) but the lowest average landed price (EUR 1.3 per kg), reflecting the main type of gear used.

All fleet segments were profitable in 2016 and with around 132 thousand tonnes landed, valued at near EUR 250 million. The fleet segments included in this analysis generated over EUR 123 million in GVA, EUR 49 million in gross profits, translating in relative terms to a profit margin of 20%.

However, it should be noted that profit margins vary between 12% and 28% at MS level and from 9% to 40% depending on the fleet segment / main type of fishing activity. The Portuguese mid-sized longline fleet recorded the highest gross profit margins (40%) (average gross profit per vessel estimated at almost EUR 500 thousand) but a GVA to revenue of 55%, lower than Spanish longliners.
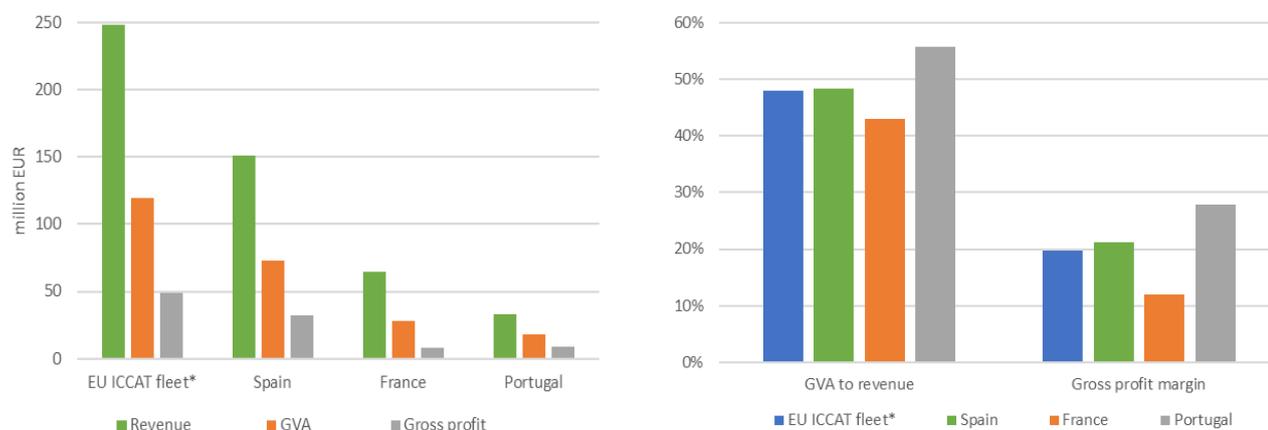
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.141 Revenue and profit estimates for MS fleets (*with more than 60% of landed value from ICCAT RA species), 2016

Looking at the period 2014-2016, overall revenue and profit for Spanish and Portuguese fleets are estimated to have increased, along with gross profit (Figure 4.142). Results show very similar trends for both national fleets at different scales. This might be partially explained by the fact that the majority of them are hook and line vessels or longliners, and that they operate with similar operational costs and in similar areas. However, the increase for Portugal is proportionally less than that for Spain. For Spanish vessels, revenue increased by 63% compared to 2014, while for Portugal, revenue increased by 14%. In terms of profit, Spanish vessels saw a 240% increase from 2014 figures, against 62% for Portugal.
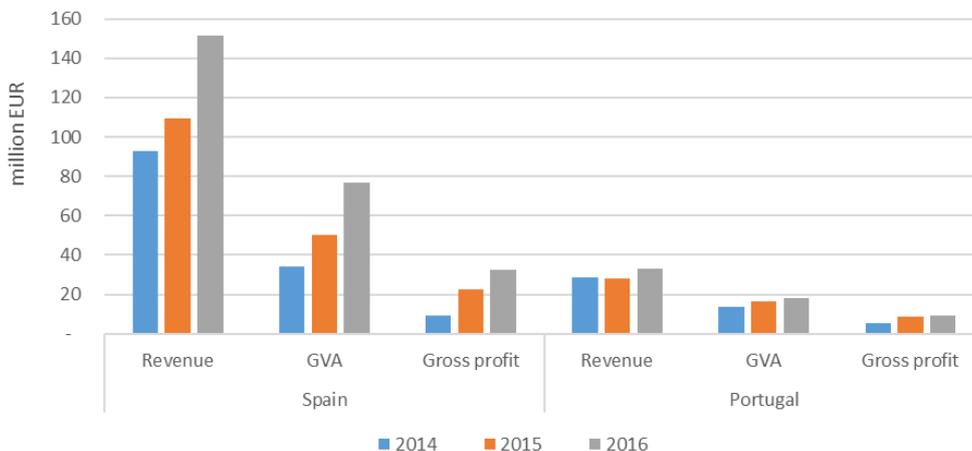
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.142 Revenue and profit estimates for MS fleets (with more than 60% of landed value from ICCAT RA_species), 2014-2016

Key trends and drivers of change

- The better economic performance (profit margin) reported for hook and line and (to a lesser extent) surface longliners over purse seiners can be partially explained by the higher fuel efficiency of these vessels resulting in lower average fuel consumed per day at sea, and, the average price paid for much of their catch, in particular swordfish and blue shark.

- Tropical tuna stocks (yellowfin, skipjack and bigeye), albacore, swordfish and blue shark are the main fisheries in the area, in terms of both volume and value of landings. For some of these species, particularly swordfish and blue shark, the average market price remains high.

- Both low fuel costs and high average prices (for key stocks) remained relatively stable in 2016 and this has contributed positively to the economic performance of this fleet generally and surface longliners and purse seiners in particular.

- In 2016 ICCAT adopted Recommendation 16/01 establishing management measures for tropical tuna including catch and effort limits and technical measures for tropical tuna fisheries, which affects both EU purse seiners and longliners. An assessment of effectiveness and levels of compliance with this recommendation (by all ICCAT CPC fleets) will take place in the coming years. In 2018 it will be important to get reliable data on the impact of the various technical conservation measures applied such as the moratorium (seasonal closed area) and the limit on the number of FADs in the Gulf of Guinea. It is also foreseen that a full assessment of Atlantic bigeye tuna stock will be conducted in 2018 and efforts must be made to gather and collect missing datasets particularly from non-European longliners and purse seiners. However, the lack of a comprehensive and periodic control system to monitor quota uptake and the unilateral increase of capacity by many CPCs could hamper the process.

Outlook for 2018 and beyond

- To facilitate appropriate analysis, it is recommended that MS provide landings data (as required by ICCAT) and disaggregated catch data broken down by fishing area.

- Better knowledge of the cost structure and improved information on landings (value and weight) for comparable fleets across member states is required if the AER is to gain a deeper understanding of the fleet dynamics and their economic drivers.

- Due to the relatively poor situation of the Atlantic bigeye stock (an analytical assessment is scheduled for 2018), it is possible that the tropical tuna TAC might be reduced or ICCAT may adopt management measures for all three tropical species (skipjack, yellowfin and bigeye); this might include temporary closures or FAD limits. Such measures could have economic consequences in the performance of the EU fleet in the medium-term. They might also bring about unintended shifts in fishing pattern and, potentially, displace fishing effort towards the Indian and the Pacific Oceans.

- As was the case for bluefin and albacore, developing a Management Strategy Evaluation (MSE) for the tropical tuna species (yellowfin, skipjack and bigeye) is key to setting clear objectives and improving the effectiveness of management measures currently in place. There are also significant information gaps for some parts of these fisheries (in particular longliners, pole and lines, etc.) and specific allocation keys cannot be set for yellowfin or skipjack for this reason.

- The adoption of further management measures for FADs will also, potentially, have an impact on the way FAD dependant fisheries are conducted. Such management measures on FADs might include inter alia a limit on the number of deployed FADs, the use of non-entangling and further research on biodegradable ones, monitoring and tracking systems for lost or abandoned FADs, etc. Such measures can be expected to impact the economic performance and profitability of the purse seiners and could, once again, bring about changes to fishing patterns and/or displacement of effort.

- The introduction of a Harvest Control Rule for Northern Atlantic Albacore Tuna in 2018, together with a 20% TAC increase has given increased certainty to EU operators, particularly in Spain and France, around future management of this stock using a set of clear rules. This could bring about increased landings by Spanish and French purse seiners and longliners from 2018 onwards.

- Further scientific work is needed to get more reliable and robust data for both the North and South Atlantic swordfish stocks. While total catches are below the EU TAC, at least one EU MS (Spain) is near full exploitation of its individual quota. In addition, the EU fleet may retain, as by-catch, up to 15% of individuals below the minimum landing size (by number) within its declared catches thereby reducing the degree of discarding.

- The adoption, in 2017, of measures designed to reduce fishing pressure and rebuild the northern stock of shortfin mako stock, including enhanced reporting of catch, release of alive individuals and survivability and catch composition, will likely have a short term economic impact. This could see lower landings in 2018 and beyond.

- An amendment to the ICCAT Convention, extending its scope to sharks, has been discussed in the last two Annual meetings in 2016 and 2017 with the decision postponed. If adopted in 2018, sharks will become a directed, regulated fishery subject to management measures. This will likely result in better catch and landings data along with improved control systems for these species.

Table 4.38 Main activity and profitability indicators by MS selected fleet segments, 2016
Note: FRA based on expert data; ESP and PRT based on DCF.

		Number of vessels	Vessel tonnage (GT)	Engine power (kW)	Total employed (#)	FTE (#)	Days at sea (days)	Fishing days (days)	Energy consumption (thousand litres)	Landings in weight (thousand tonnes)	% of EU landings weight	Landings in value (million EUR)	% of EU landings value	Revenue (million EUR)	GVA (million EUR)	GVA to revenue (%)	Gross profit (million EUR)	Profit margin (%)
Hook and line	PRT OFR HOK2440 P2	6	969	2,943	91	64	781	449	524.1	0.5	0.4%	1.4	1%	2.7	1.5	55%	0.8	29%
	PRT A27 HOK2440 P3°	20	3,146	8,663	412	266	3,416	2,637	3,427.3	2.8	2.1%	7.5	3%	7.6	3.9	51%	0.7	9%
	PRT OFR HOK2440 IWE	8	2,360	4,486	102	89	1,889	1,772	2,772.2	2.9	2.2%	8.9	4%	10.1	5.6	55%	4.0	40%
	PRT A27 HOK2440	16	2,873	5,631	178	173	4,120	3,806	3,799.8	3.0	2.2%	12.5	5%	12.5	7.4	60%	3.6	29%
	ESP A27 HOK2440	32	4,939	12,451	419	612	6,048	6,048	5,071.2	7.5	5.7%	28.6	12%	28.7	22.0	77%	8.8	31%
	ESP OFR HOK2440 °	23	4,017	9,747	263	292	3,783	3,783	4,358.9	15.5	11.8%	27.9	11%	25.1	14.1	56%	5.0	20%
Total Hook and line vessels		104	18,305	43,921	1,465	1,495	20,037	18,495	19,953	32.3	24.5%	86.8	35%	86.7	54.5	63%	22.9	26%
Surface longliners	ESP A27 PGO2440	33	6,831	9,856	482	436	7,100	7,100	10,193.2	19.9	15.1%	31.1	13%	34.0	17.3	51%	6.3	18%
	ESP OFR PGO2440 °	39	10,939	14,977	544	669	8,828	8,828	19,768.4	31.1	23.6%	65.4	26%	63.6	23.3	37%	12.2	19%
Total surface longline vessels		72	17,769	24,833	1,025	1,105	15,928	15,928	29,962	51.1	38.8%	96.5	39%	97.6	40.7	42%	18.4	19%
Purse seiners	FRA PS VL40XX	10	18,807	32,309	-	265	2,118	1,049	-	48.4	36.7%	64.3	26%	64.3	27.7	43%	7.7	12%
All		186	54,882	101,062		2,865	38,083	35,472	49,915	131.8		247.6		248.6	122.8	49%	49.1	20%

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Table 4.39 Main capacity, activity and profitability indicators by MS fleets in 2016
Note: (includes segments with more than 60% of landed value from ICCAT RA_species). (FRA based on expert data; ESP and PRT based on DCF)

	Number of vessels	Vessel tonnage (GT)	Engine power (kW)	Total employed (#)	FTE (#)	Days at sea (days)	Fishing days (days)	Energy consumed (thousand litres)	Landings in weight (thousand tonnes)	% of EU landings weight	Landings in value (million EUR)	% of EU landings value	Revenue (million EUR)	GVA (million EUR)	GVA to revenue (%)	Gross profit (million EUR)	Profit margin (%)
Spain	127	26,726	47,030	1,707	2,008	25,759	25,759	39,392	74.1	56%	153.0	62%	151.4	76.8	48%	32.2	21%
France	10	18,807	32,309	-	265	2,118	1,049	2,965	48.4	37%	64.3	26%	64.3	27.7	43%	7.7	12%
Portugal	50	9,349	21,723	783	592	10,206	8,664	10,523	9.2	7%	30.3	12%	32.8	18.3	56%	9.1	28%
Total	186	54,882	101,062		2,865	38,083	35,472	52,880	131.8		247.6		248.6	122.8	48%	49.1	20%

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Table 4.40 Main capacity, activity and profitability indicators by MS fleets in 2016
Note: Includes segments with more than 60% of landed value from ICCAT RA_species.

		Number of vessels	Average fuel consumed per DAS (thousand litres)	Average landed fish price (EUR per kg)	Landings per day at sea (tonnes per day)	Landings value per day at sea (EUR per day)	Gross profit per vessel (thousand EUR per day)	GVA per FTE (thousand EUR per FTE)
Hook and line	PRT OFR HOK2440 P2	6	0.7	2.6	0.7	1.8	142.1	23.4
	PRT A27 HOK2440 P3°	20	1.0	2.7	0.8	2.2	33.8	14.5
	PRT OFR HOK2440 IWE	8	1.5	3.1	1.5	4.7	496.0	62.7
	PRT A27 HOK2440	16	0.9	4.2	0.7	3.0	230.2	42.9
	ESP A27 HOK2440	32	0.8	3.8	1.2	4.7	280.5	36.0
	ESP OFR HOK2440 °	23	1.2	1.8	4.1	7.4	215.7	48.3
Total Hook and line vessels		104	1.0	2.7	1.6	4.3	219.8	36.4
Surface longliners	ESP A27 PGO2440	33	1.4	1.6	2.8	4.4	190.0	39.7
	ESP OFR PGO2440 °	39	2.2	2.1	3.5	7.4	311.7	34.9
Total surface longline vessels		72	1.9	1.9	3.2	6.1	256.0	36.8
Purse seiners	FRA PS VL40XX	10	-	1.3	22.9	30.4	770.9	104.5
All		186	1.4	1.9	3.5	6.5	263.4	42.9

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Catch, landings and top species (DCF and ICCAT)

Top landings by Member State and species: weight (tonnes) (Table 4.41; Figure 4.143)

- The most important (tonnes) species for those MS fleets operating in the region were blue shark (43.3 thousand tonnes); skipjack (28 thousand); yellowfin (27.9 thousand); albacore (9.3 thousand); swordfish (8.4 thousand); and bigeye tuna, (7.3 thousand).
- Spain had the highest catches of blue shark (39.1 thousand tonnes), albacore (8.3 thousand t), swordfish (7.3 thousand) and bigeye (3.7 thousand tonnes). In percentage terms - over the total catch – Spanish vessels landed around 90% of blue shark and albacore tuna, 87% of swordfish, and 51% of bigeye tuna.
- France led catches for skipjack (19 thousand tonnes) and yellowfin tuna (26.2 thousand tonnes), representing 68% and 93% of total EU catches, respectively. They also reported high catches of bigeye tuna, with almost 2 thousand tonnes.
- Portuguese catches were mainly of blue shark (4.3 thousand tonnes), bigeye tuna (1.6 thousand tonnes), swordfish (1.1 thousand tonnes), Albacore (1 thousand tonnes) and shortfin mako (0.4 thousand tonnes).

Table 4.41 Landings by species in weight (kg) for the main EU fleets by MS

Species / Country		ESP	FRA	PRT	Total (kg)
Blue shark	BSH	39,104,032		4,257,695	43,361,727
Skipjack tuna	SKJ	8,369,836	19,043,056	541,156	27,954,048
Yellowfin tuna	YFT	1,632,683	26,163,641	112,828	27,909,153
Albacore	ALB	8,260,045	63,779	946,938	9,270,762
Swordfish	SWO	7,314,993	5,190	1,119,817	8,440,000
Bigeye tuna	BET	3,719,608	1,981,396	1,589,118	7,290,123
Shortfin mako	SMA	2,451,506		417,875	2,869,381
Atlantic pomfret	POA	1,273,172		3,832	1,277,004
Atlantic bluefin tuna	BFT	566,031		5,908	571,939

Source: DCF Data and EWG Experts
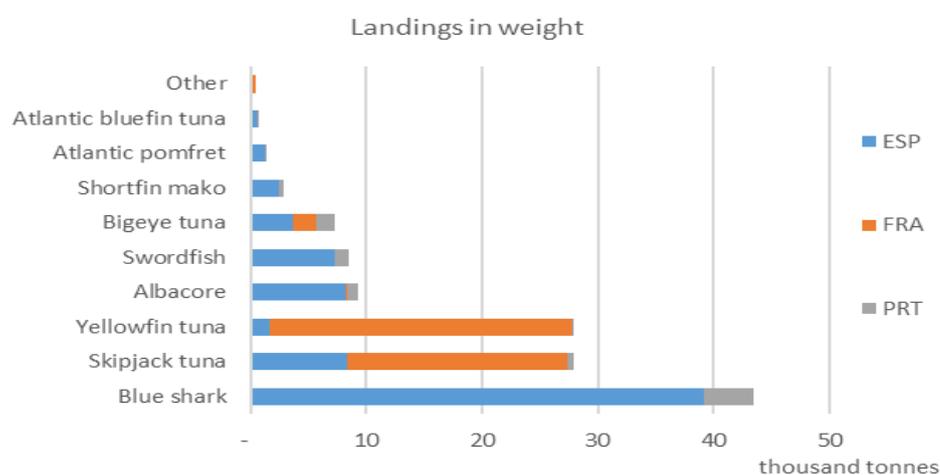
Landings in weight

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.143 Landings of top ten species, in weight, by MS fleet (with more than 60% of landed value from ICCAT RA species), 2016

Top landings by Member State and species: value (EUR) (Table 4.42; Figure 4.144)

- The most important (EUR) species for those MS fleets operating in the region were swordfish (SWO) with a landed value of EUR 54 million, blue shark (BSH) with a value of EUR 49 million, Yellowfin tuna (YFT) with almost EUR 48 million, albacore (ALB EUR 30 million), skipjack (SKJ EUR 28 million), and bigeye tuna (BET EUR 18 million).

- Spanish vessels accounted for 98% of the total landed value of Atlantic Bluefin tuna. The same fleets accounted for 90% of the landed value of Swordfish and Albacore tuna, 82% of shortfin mako, 70% of blue shark and 62% of bigeye tuna.

- The main species landed by Portuguese vessels were blue shark (EUR 15.1 million), swordfish (EUR 5.3 million) and bigeye tuna (EUR 4.4 million), followed by Albacore (EUR 2.2 million) and shortfin mako (EUR 1.4 million).

- French purse seiners mainly targeted tropical tuna, and recorded the highest landed value for yellowfin (EUR 41.1 million, 86% of the EU fleet total). They also landed significant quantities of Skipjack (EUR 19.4 million, 69% of the EU fleet total) and bigeye tuna (EUR 2.2 million, 7% of the total).

Table 4.42 Landings by species in value (Euro) for the main EU fleets by MS

Species / Countries		ESP	FRA	PRT	Total (EUR)
Swordfish	SWO	49,065,959	5,294	5,314,933	54,386,186
Blue shark	BSH	33,778,228		15,148,527	48,926,755
Yellowfin tuna	YFT	6,463,110	41,076,917	350,568	47,890,595
Albacore	ALB	28,164,670	162,636	2,188,525	30,515,831
Skipjack tuna	SKJ	8,007,024	19,423,917	695,448	28,126,389
Bigeye tuna	BET	11,326,300	2,496,560	4,397,415	18,220,275
Shortfin mako	SMA	6,711,881		1,385,906	8,097,787
Atlantic bluefin tuna	BFT	4,267,693		44,201	4,311,894
Atlantic pomfret	POA	2,874,609		17,602	2,892,211
Escolar	LEC	617,516		192,504	810,020
Atlantic sailfish	SAI	470,847	612	78,959	550,418

Source: DCF Data and EWG Experts
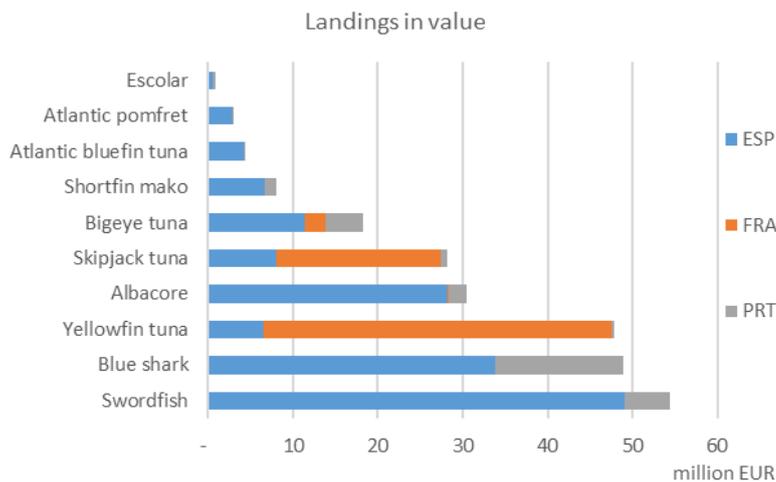
Figure 4.144 Landings of the top ten species by value, 2016
Note: excludes fleets with less than 60% of landed value from ICCAT RA. Source: DCF Data and STECF Experts

ICCAT data on nominal catch of the top ten (Atlantic) species by all EU MS fleets operating in ICCAT RA, 2016

Note: Figures 4.145 and 4.146 include Spanish purse seiners and other MS fleets not reflected in the performance analyses above.
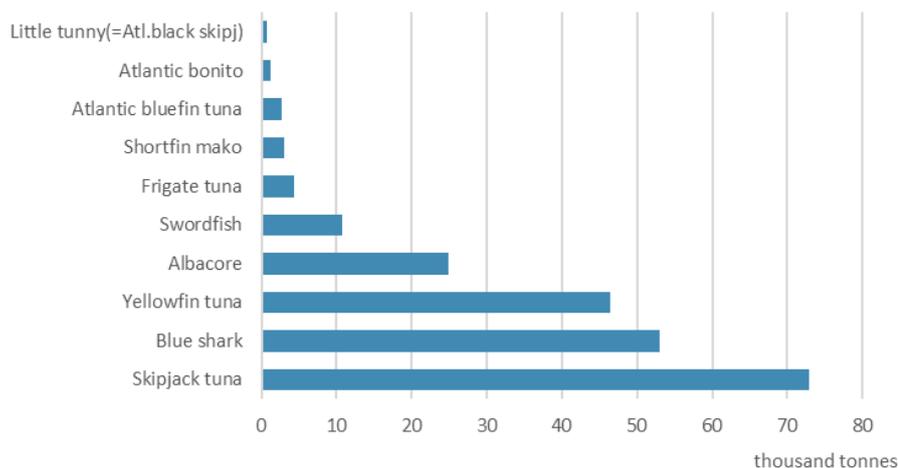
Figure 4.145 Nominal catch of the top ten species by all EU MS fleets operating in ICCAT RA, 2016
Data source: ICCAT https://www.iccat.int/en/accesingdb.html
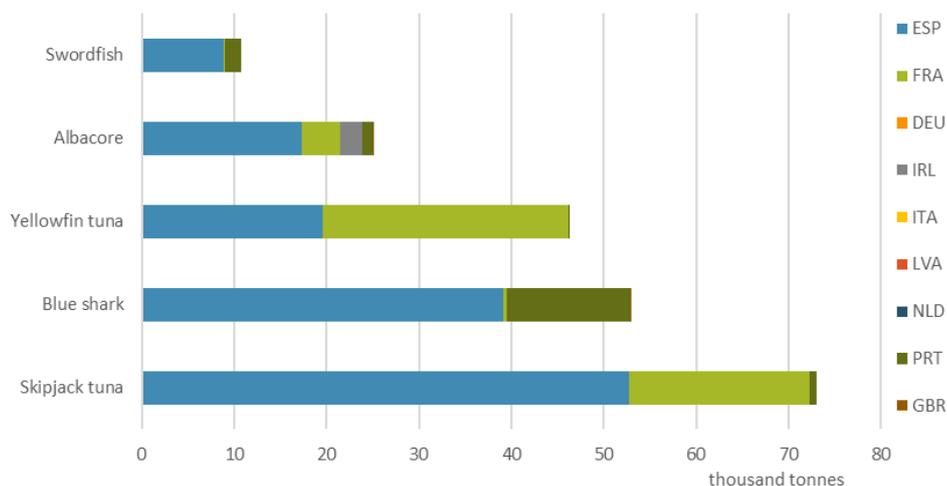
Figure 4.146 Nominal catches of key species by EU MS fleet, 2016
Data source: ICCAT https://www.iccat.int/en/accesingdb.html

Indian Ocean Tuna Commission (IOTC)

At a glance

Five EU Member State fleets were active in the IOTC Convention region in 2016: France, Italy, Portugal, Spain and the United Kingdom. The main fishing nations are Spain, France and Portugal while Italy and the UK have reduced their activity in the region. Due to data limitations and to ensure confidentiality, these two MS fleets are only partially covered in the following analysis.

In 2016, Spain possessed the largest active fleet in the region with 30 vessels: 16 purse seiners and 14 longliners. France had 14 purse seiners operating while Portugal had five longliners and Italy one purse seiner. One UK longliner (over 40m LOA) was authorised to operate in 2016.

- In 2016, the EU IOTC fleet (excluding Italy and the UK) spent around 10 000 days at sea to land 220 thousand tonnes valued at over EUR 365 million.

- The most important species (by value) for MS fleets operating in the region were yellowfin, skipjack, bigeye tuna, swordfish and blue shark.

- All MS fleets analysed generated gross profits in 2016.

- The overall performance of the fleets covered was positive and collectively generated EUR 158 million in GVA and EUR 93 million in gross profits. GVA to revenue was estimated at 43% while the gross profit margin was 25%.

- The Spanish fleet dominates this region with 65% of the landings in weight and 75% of the value. Overall, they generated around EUR 274 million in revenue, EUR 115 million in GVA, EUR 77 million in gross profits with a gross profit margin of 28% (the highest recorded).

- Purse seiners make up the largest component of the fleet, with 57% of the vessels in number, 87% of the GT and kW and employing 77% of the FTEs. This fleet segment reported 51% of all days at sea and 45% of the fishing days, to land 96% of the weight and around 93% of the value. Overall, it generated EUR 147 million in GVA (94% of the total) and almost EUR 93 million in gross profit, a GVA to revenue of 44% and a profit margin of 26%.

- The Spanish purse seiner fleet is the largest, with 16 vessels (57% of the total) and employs 72% of the FTE and produces 75% of the landed weight and value.

- The longline fishery was also profitable in 2016, generating EUR 9.9 million in GVA and EUR 5.6 million in gross profit (21% profit margin). Spain also possess the largest longliner fleet in the region with 14 vessels, employing 79% of the FTE and landing 81% of the weight and 75% of the value.

- The most profitable fleet was the Spanish purse seine fleet (over 40 metres LOA), with average gross profits estimated at around EUR 4.7 million per vessel or just over EUR 25 000 per fishing day.

- Low, stable fuel prices and average market prices have contributed positively to the overall performance of the EU fleet, in particular, the more fuel intensive purse seiners.

- Recently the IOTC has adopted management measures including catch and effort limits for purse seine and other fisheries. For tropical tunas, the measures adopted include Harvest Control Rules for skipjack tuna; catch limits for yellowfin tuna; and measures to limit fishing effort for purse seiners as a whole. In addition, the IOTC adopted measures to ban the use of lights to attract fish and the use of manned or unmanned aircraft to assist in the search of tuna schools.

- The relatively poor status of the yellowfin tuna stock along with reduced TACs, if continued, will impact the socio-economic status of the fleets operating in the region and, indirectly, coastal communities in the Indian Ocean (revenue, employment and raw material for the local canning industries). If the situation deteriorates, it may also displace effort from the Indian Ocean to the Pacific and Atlantic oceans.

*Due to explicit data and methodological limitations, all results provided in this chapter should be considered exploratory rather than a source of factual statements that are considered robust enough to be a basis for policy decisions.

IOTC AREA OF COMPETENCE

Under article II of the IOTC Agreement "The area of competence of the Commission (hereinafter referred to as the "Area") shall be the Indian Ocean (defined for the purpose of this Agreement as being FAO statistical areas 51 and 57 as shown on the map set out in Annex A to this Agreement) and adjacent seas, north of the Antarctic Convergence, insofar as it is necessary to cover such seas for the purpose of conserving and managing stocks that migrate into or out of the Indian Ocean." Note: The Commission, at its 4th Session in 1999 agreed to modify the western boundary of the IOTC area of competence from 30ºE to 20ºE, thus eliminating the gap between the areas covered by IOTC and ICCAT (Figure 4.147).
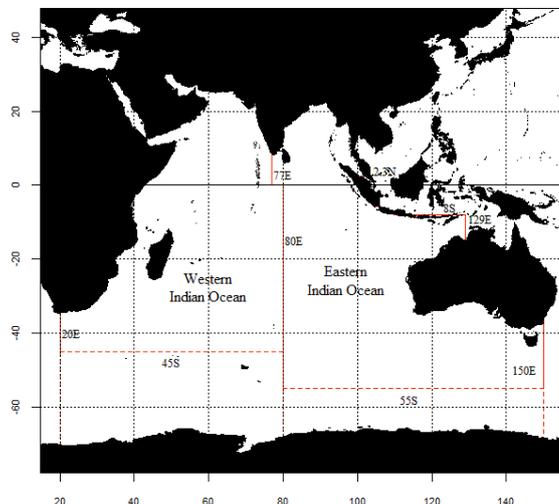
Figure 4.147 Map of the IOTC Area of Competence
Source: IOTC Website - http://iotc.org/about-iotc/competence

Species under IOTC management

The species listed below are under the management mandate of IOTC. In addition, the Commission's Secretariat collates data on non-target, associated, and dependent species affected by tuna fishing operations, i.e. marine turtles, marine mammals, seabirds, sharks and fish species caught incidentally (bycatch).

FAO English name	FAO French name	Scientific name	FAO Code
Yellowfin tuna	Albacore	*Thunnus albacares*	YFT
Skipjack	Listao; Bonite à ventre rayé	*Katsuwonus pelamis*	SKJ
Bigeye tuna	Patudo; Thon obèse	*Thunnus obesus*	BET
Albacore tuna	Germon	*Thunnus alalunga*	ALB
Southern Bluefin tuna	Thon rouge du sud	*Thunnus maccoyii*	SBT
Longtail tuna	Thon mignon	*Thunnus tonggol*	LOT
Kawakawa	Thonine orientale	*Euthynnus affinis*	KAW
Frigate tuna	Auxide	*Auxis thazard*	FRI
Bullet tuna	Bonitou	*Auxis rochei*	BLT
Narrow barred Spanish Mackerel	Thazard rayé	*Scomberomorus commerson*	COM
Indo-Pacific king mackerel	Thazard ponctué	*Scomberomorus guttatus*	GUT
Blue Marlin	Makaire bleu	*Makaira nigricans*	BUM
Black Marlin	Makaire noir	*Makaira indica*	BLM
Striped Marlin	Marlin rayé	*Tetrapturus audax*	MLS
Indo-Pacific Sailfish	Voilier de l'Indo-Pacifique	*Istiophorus platypterus*	SFA
Swordfish	Espadon	*Xiphias gladius*	SWO

General overview of the EU fleet in IOTC Convention area

Methodology and data limitations

Five EU Member States were active in the IOTC Convention region in 2016: France, Italy, Portugal, Spain and the United Kingdom. Owing to data limitations stemming from confidentiality issues, it was not possible to produce a complete overview of the EU IOTC fleet.

Detailed analyses for the Italian and UK vessels operating in the region could not be performed as: (1) only one Italian vessel was active in 2016 and hence, only capacity and landings in weight are provided and (2) reduced activity and negligible catches reported for the UK (according to the IOTC, the British longliner operating in the region caught 469 tonnes in 2016).

In view of the above, the following analyses on the EU tuna and tuna-like fleet in the IOTC Convention region covers 48 active vessels from four EU Member States in 2016 for which data were available: France, Italy (partial), Portugal and Spain. For France and Portugal, more disaggregated socio-economic data were provided by national experts during the AER meeting. Due to the absence of national experts from Spain, analyses were wholly based on data submitted under the DCF.

According to IOTC data, the EU purse seine fleet consists of large vessels, from 60 to 90 metres in length size. In 2015 (latest year available), there were 30 active vessels – 17 from Spain, 12 from France and 1 from Italy (UK is not included here due to the seasonality of the vessel under half of its fishing period plus the negligible number of catches reported).

MS fleets and segments operating in the IOTC region, 2016

- Spanish purse seiners fleet over 40m LOA (ESP OFR PS VL40XX): 16 vessels targeting tropical tuna. This fleet reported the highest landings (by weight), 140 thousand tonnes, from a total of 2 865 fishing days at sea[12], and with a value of EUR 253.7 million.

- Spanish surface longliners: 14 vessels between 24-40m LOA (ESP OFR PGO2440 °) and over 40m LOA (ESP OFR PGO40XX) targeting swordfish, with reported landings of 7.7 thousand tonnes valued at EUR 20 million.

- French purse seiner segment: 12 vessels over 40m LOA (FRA OFR PS40XX) targeting tropical tuna with reported landings of 66.3 thousand tonnes with a total value of EUR 84.6 million.

- Portuguese Hook and line/longliner fleet: composed of the Madeira longliners between 24-40m LOA, mainland longliners between 24-40m and above 40m LOA fishing exclusively in international waters (PRT OFR HOK VL24XX). Combined, these fleets reported 1 417 days at sea with a total landed weight of 1.8 thousand tonnes and a total value of EUR 6.7 million in this sub-region.

- Italian purse seiner: 1 vessel over 40m LOA (ITA PS VL40XX) fishing exclusively in international waters.

- UK longliner: 1 vessel between over 40m LOA.

Fleet activity in the IOTC region: situation in 2016 & recent trends

Table 4.43 provides estimates on the main capacity, effort, landings and profitability indicators by Member State fleet in 2016. Table 4.44 and Table 4.45 provide estimates broken-down by main type of fishery (purse seiners and longliners) and Table 4.46 by MS fleet segment.

In 2016, Spain possessed the largest fleet with 30 vessels (16 purse seiners and 14 longliners), followed by France with 14 purse seiners, Portugal with five longliners and Italy one purse seiner (Figure 4.148).

Fleet capacity is further clearly dominated by Spain, with 62% of the gross tonnage (47 800 GT) and 57% of the engine power (67 150 kW). France is second with around 27 200 GT and 43 400 kW, (35% of the total GT and kW), and then evenly followed by Italy and Portugal. This can be explained by the fact that the only Italian vessel is a purse seiner and the five Portuguese vessels are longliners (Figure 4.148).

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[12] Spain IOTC reports a total of 4 261 days at sea

Regarding the number of employees/crew, Spanish vessels employ 74% of the total FTEs (1 168), although this has declined in recent years as a result of the smaller number of vessels operating in the area. French vessels employed 338 FTE (21% of the total) while the Portuguese fleet employs the remaining 5% (figures unavailable for Italy) (Figure 4.148).

Energy consumption rates are also proportional and correlate quite accurately with GT and days at sea, with Spain accounting for 73% of the total fuel consumption and France 24%. It is noteworthy that average fuel consumption per DAS is quite similar for Spanish and French purse seiners (between 13.2 and 12.5 thousand litres) as they are homologous segments, while it is significantly lower for Portuguese longliners (less than 2 thousand litres) (Figure 4.148).

In line with capacity, the Spanish fleet dominates effort in the region with 6 259 fishing days, or 70% of the total (*Spain did not report days at sea in 2016*). France comes second with 2 156 days at sea (21% of the total), revealing a big gap with respect to its fishing days (1 078 days). However, it has reported a good ratio in terms of value of landings and market average prices leading to gross profits. In terms of landings[13] France and Spain account for 97% of the total landings in weight and 98% in value. Spain is the main fleet representing 67% of the total landings with a weight of 147.7 thousand tonnes and a value of EUR 395 million (81% of the total). France provided 30% of total landings with a weight of 66.3 thousand tonnes and a value of EUR 84.6 million (18% of the total value) (Figure 4.148).
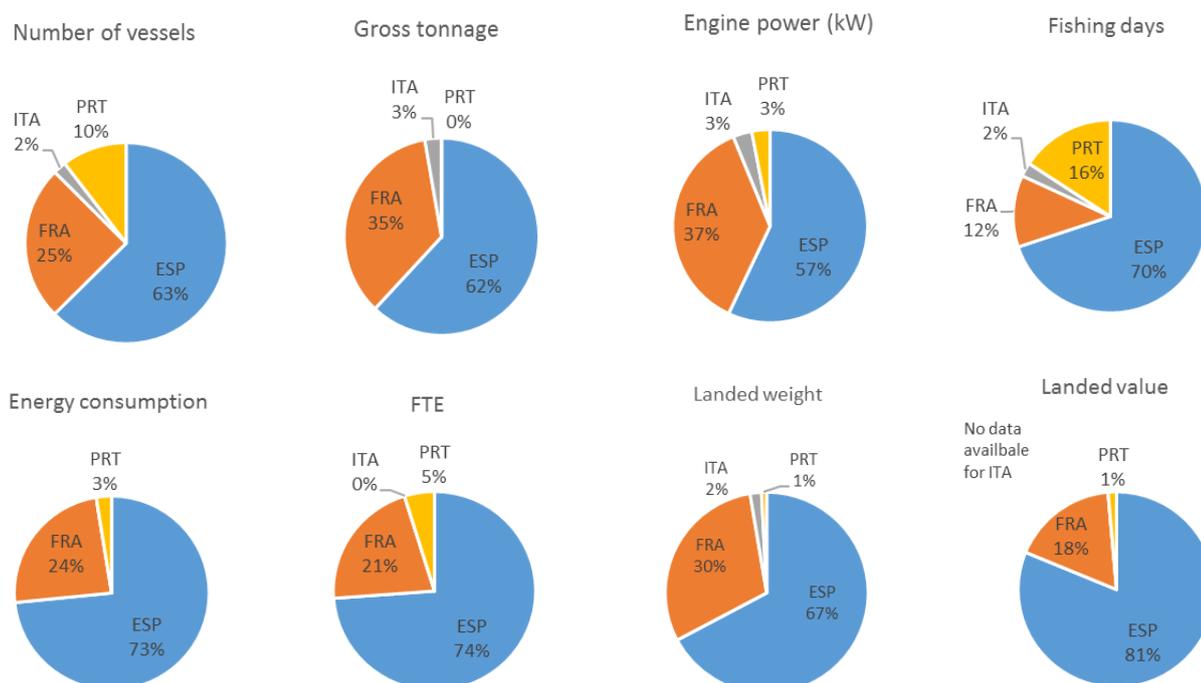
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.148 Share of capacity, employment and fishing activity by MS fleets operating in IOTC fishing areas, 2016

Looking at the combined trends on fishing activity and landings from the main MS fleets operating in IOTC for the period 2014-2016 (time series not available for FRA), there is a considerable variation between MS (Figure 4.149).

Spain reported increased landings (by weight and value) in 2016 from fewer fishing days. Portugal landed slightly less, by weight, in 2016 compared to 2014 but this was a slight increase from 2015. However, there has been a sharp reduction in both fishing days and the value of landings from 2014 to 2015, with the situation slightly improving in 2016. Italy recorded a modest increase in landings (by weight) and in fishing days from 2015 to 2016.).

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[13] Using DCF and IOTC data combined with expert advice.
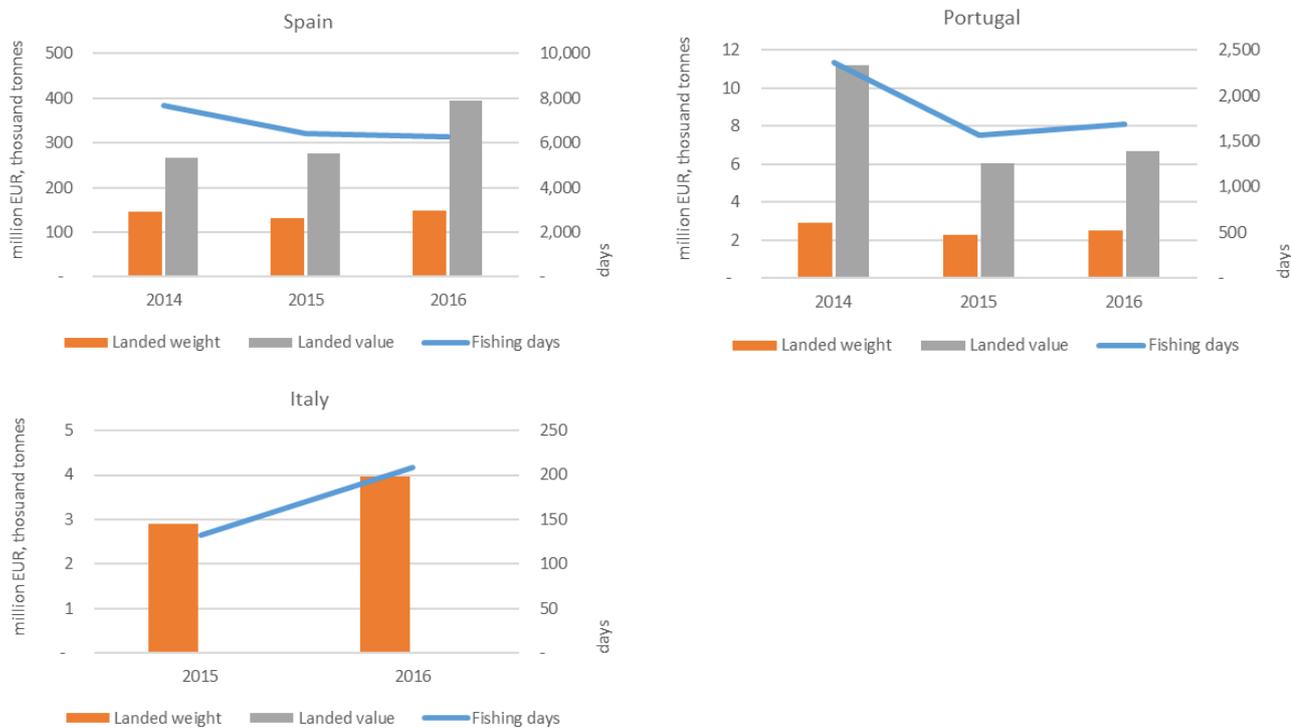
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.149 Trends on fishing activity and landings for the main MS fleets operating in IOTC, 2014-2016 (time series not available for FRA)

Socio-Economic performance

Revenue amounted to an estimated total of EUR 365 million in 2016 for all EU fleets, distributed as follows: Spain EUR 273.8 million, France EUR 84.6 million, Portugal EUR 6.7 million (excludes Italy and UK due to limited data) (Figure 4.150; Table 4.43).

GVA produced by the fleets covered in the analysis was estimated at EUR 157.6 million in 2016 distributed as follows: Spain EUR 115.4; France EUR 39.8; and Portugal EUR 2.34 million.

Combined, the EU fleets made a total gross profit for around EUR 93 million, Spain EUR 76.8 million, France EUR 14.4 million and Portugal EUR 1.4 million.

All the EU fleets recorded a positive economic performance and high levels of profitability during the year, with a GVA to revenue between 35 and 47% and an average profit margin of 25%. France achieved the highest GVA to revenue with 47% while Spain reached the highest profit margin, after accounting for operating costs, with 28%. This can be partially explained by good market price average, low fuel prices and the relatively low average wage per FTE.

Revenue generated by the Spanish fleet increased from 2014 to 2016, with a decrease both in GVA and gross profit on 2015 (probably due to fuel prices) and then an increase in 2016. Portugal experienced lower revenue, GVA and gross profit (Figure 4.151).
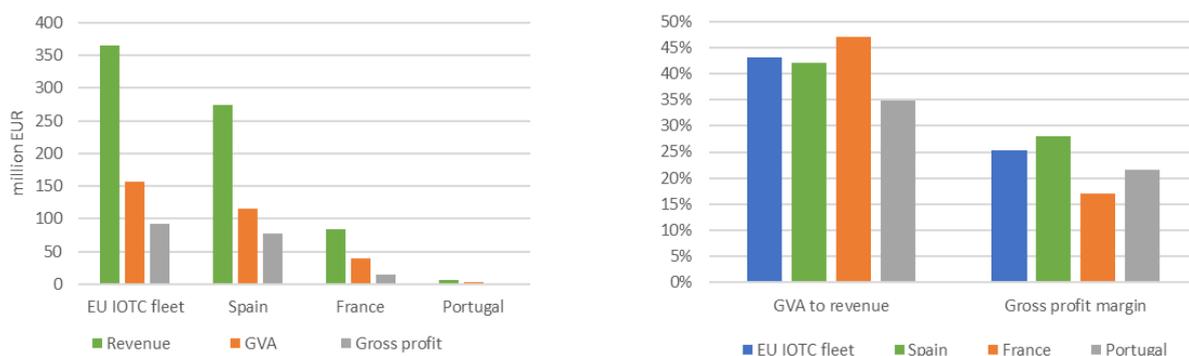
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.150 Trends on revenue (landings income + other income) and profit (GVA, gross profit and net profit) for MS fleet operating in the IOTC region
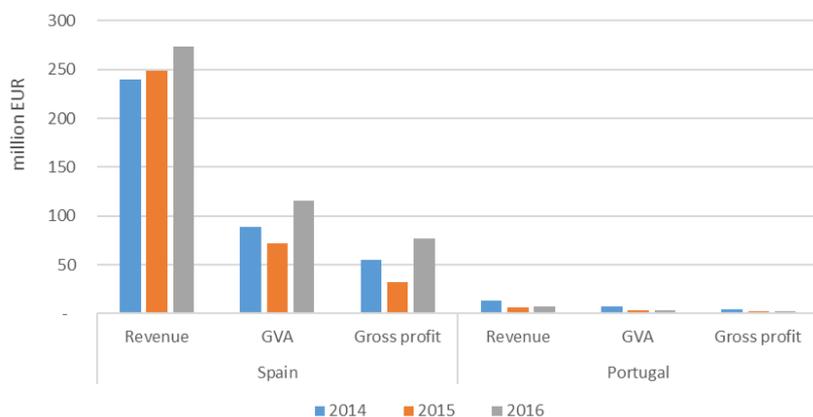
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Figure 4.151 Revenue and profit estimates for the Spanish and Portuguese fleets operating in IOTC convention area, 2016

Stratification by fishery

Table 4.44 and Table 4.45 show the differences in activity and performance of the two main segments of the EU fleet operating in IOTC, namely the purse seiners and longliners. Data and information provided at the EU total exclude the Italian purse seine fleet.

Overall, purse seiners represent near 60% of the total number of vessels in the EU IOTC fleet, with 90% of active capacity (GT and kW). Purse seiners provide almost 77% of employment in FTEs (Figure 4.152). Average wage in this segment was estimated at EUR 49.7 thousand in 2016, significantly higher than for crew working in the longliner segment (EUR 11.9 thousand). Labour productivity (GVA per FTE), estimated at EUR 121 thousand in the purse seiner segment, is well above the EUR 27 thousand per FTE in the longline segment.

In relation to days at sea, there is an even allocation of approximately 50% of total days distributed to each segment. In 2016, the longliners deployed more fishing days (4 807) than the purse seiners (3 943) with a considerable lower average fuel consumption per DAS (2.3 vs 20.1 thousand litres). This is explained by the differences in engine size and fishing operations required of each (purse seiners are more fuel demanding due to their engine size and manoeuvring requirement).

In terms of landings, the purse seiners landed 206.3 thousand tonnes in 2016, representing almost 96% of the total. The value of their landings was estimated in EUR 458 million, which is a 94% of the total. Longliners landed almost 10 thousand tonnes (4%) for a value of EUR 27 million (7%), reflecting the higher average first sale price (EUR 2.9 per kg) compared to EUR 1.6 per kg for the purse seine segment.

Despite the differences in revenue between purse seiners (EUR 338 million) and longliners (EUR 26.8 million), their GVA to revenue are similar (43.7% and 36.9% respectively) and have changed little over the period analysed (in the region of 37-44%). The same is true for the reported profit margin, 26% for the EU IOTC purse seine fleet and 21% for the EU IOTC longline fleet.

Performance by fleet segment

Table 4.46 displays the capacity, effort and socio-economic indicators estimated for the MS fleet segments operating in the region in 2016.

All fleet segments made positive gross profits in 2016, generating profit margins 17% or higher.

At the segment level, the Spanish purse seiners over 40m generated the highest landed value in 2016 (EUR 252.7 million), followed by the French purse seiners (EUR 84.6 million) and then the Spanish longliners between 24 and 40m LOA (EUR .6 million).

The most important fleets in terms of GVA were again the Spanish and French purse seiners over 40m LOA, generating EUR 108 million and EUR 40 million, respectively. The combined Spanish longliner fleet generated EUR 4.1 million in gross profits in 2016.

In relative terms, the French purse seiner fleet generated the highest GVA to revenue (47%), but the lowest gross profit margin (17%).

The Spanish purse seine over 40m segment obtained the highest profit margin (29%), followed by the Spanish longliner segment over 40m and then then Portuguese longliner fleet (22%).
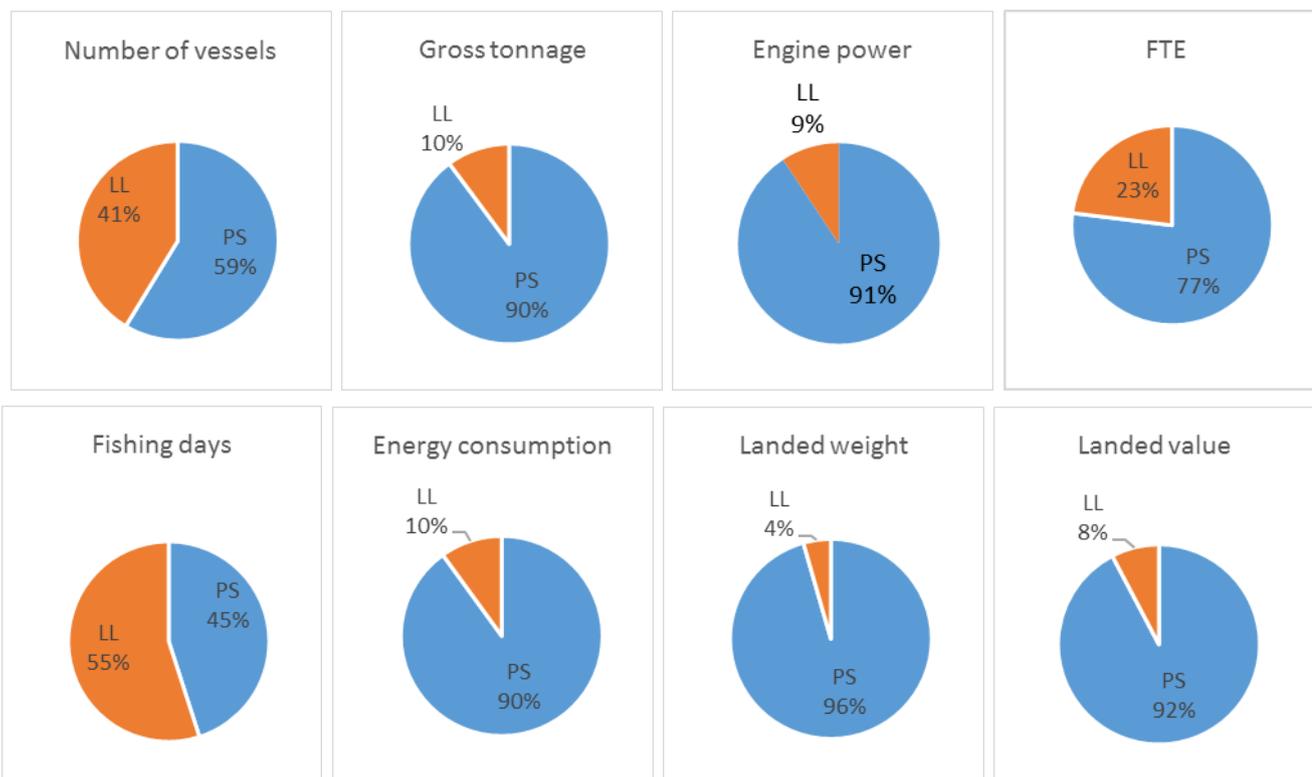
Number of vessels · Gross tonnage · Engine power · FTE · Fishing days · Energy consumption · Landed weight · Landed value

Figure 4.152 Share of capacity, employment and fishing activity by type of fishing activity: PS – purse seiners and LL – longliners, operating in IOTC fishing areas, 2016

Key trends and drivers of change

- Yellowfin and skipjack tuna are the two main fisheries in this area, in terms of volume and value of landings. The stability of fuel costs and market prices have contributed to the overall gross profit and positive economic performance of the EU fleet targeting these species, mainly purse seiners.

- In recent years, the IOTC has adopted management measures including catch and effort limits for purse seine and other fisheries. For tropical tunas, the measures adopted include Harvest Control Rules for skipjack tuna (Resolution 16/02 On harvest control rules for skipjack tuna in the IOTC area of competence), catch limits for yellowfin tuna (Resolution 17/01 On an interim plan for rebuilding the Indian Ocean yellowfin tuna stock in the IOTC area of Competence), and measures to limit fishing effort for purse seine fisheries as a whole (through a plan to reduce support vessels in Resolution 17/01; Resolution 17/08 Procedures on a fish aggregating devices (FADs) management plan, including a limitation on the number of FADs, more detailed specifications of catch reporting from FAD sets, and the development of improved FAD designs to reduce the incidence of entanglement of non-target species). In addition, the IOTC has adopted other measures including a ban on the use of lights to attract fish (Resolution 16/07 On the use of artificial lights to attract fish) and a ban on the use of manned or unmanned aircraft to assist in the search for tuna schools (Resolution 16/08 On the prohibition of the use of aircrafts and unmanned aerial vehicles as fishing aids).

- The catch limits for yellowfin tuna were set using a 15% reduction in catches as a baseline and 2014 as reference year, meaning that in 2017 and subsequent years the EU fleet must maintain catches at those levels.

- The existing FAD limit was further reduced to a maximum of 350 active FADs per vessel at any given time (500 in 2015 and 425 in 2016).

- In addition, the EU adopted different levels of reduction for the Spanish, French and Italian purse seine fleets, with lower TACs for Italy and France and Spain. The implementation of the catch limits

had serious consequences on the Spanish fleet, which was obliged to remain in port for the last two months of 2017 having reached its quota. For that reason, in 2018, some vessels decided to voluntarily stop fishing in May and remain in port.

- The reduced purse seiner activity is having serious socio-economic consequences not only for the fleet but also for the economies and livelihoods of some coastal countries in the Indian Ocean through reduced access fees, lack of raw material at canning factories, and economic loss due to a drop of services and economic activity in several coastal countries.

Outlook for 2018 and beyond

- It would be advisable to have a better knowledge of the cost structure and better details of the value and weight of landings across similar fleet segments from different MS to get a deeper understanding of the fleet dynamics and their economic drivers.

- Due to the relatively poor situation of the YFT stock, the cuts in TACs, if they continue, might have detrimental socio-economic consequences for the activity of the EU purse seine fleet in particular and indirectly for the economies of some coastal states in the Indian Ocean. It might also displace fishing effort towards the Pacific and the Atlantic Oceans.

Table 4.43 Main capacity, activity and profitability indicators by MS fleets operating in IOTC, 2016 (based on expert ad hoc data + DCF for ESP)

	Number of vessels	Vessel tonnage (GT)	Engine power (kW)	FTE (#)	Days at sea [1] (days)	Fishing days (days)	Energy consumption (thousand litres)	Landings in weight (thousand tonnes)	% of EU landings weight	Landings in value (million EUR)	% of EU landings value	Revenue (million EUR)	GVA (million EUR)	GVA to revenue (%)	Gross profit (million EUR)	Profit margin (%)
Spain	30	47,814	67,157	1,168	6,259	6,259	82,466	147.7	67%	272.6	75%	273.8	115.4	42%	76.8	28.1%
France	12	27,196	43,383	338	2,156	1,078	27,010	66.3	30%	84.6	23%	84.6	39.8	47%	14.4	17.0%
Portugal	5	2,358	3,571	76	1,417	1,413	2,851	1.8	1%	6.7	1.8%	6.70	2.34	35%	1.44	21.6%
Italy	1	2,137	3,690	-	237	208	-	4.0	2%	-		-	-		-	
EU IOTC fleet	48	79,505	117,801		10,069	8,958		220								
EU IOTC fleet [2]	47	77,368	114,111	1,582	9,832	8,750	112,327	216		364		365.1	157.6	43%	92.7	25.4%

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)). Where significant differences between the value of landings and income from landings are observed for Spain, income from landings is used instead of value of landings. DAS not available for ESP. Excludes the Italian vessel due to insufficient data

Table 4.44 Main capacity, activity and profitability indicators by MS and main type of fishery operating in IOTC, 2016 (based on expert ad hoc data + DCF for ESP)

		No. of vessels	Vessel tonnage (GT)	Engine power (kW)	Total employed (#)	FTE (#)	Days at sea [1] (days)	Fishing days (days)	Energy consumed (K litres)	Landings in weight (K tonnes)	% of EU landings weight	Landings in value (million EUR)	% of EU landings value	Revenue (million EUR)	GVA (million EUR)	GVA to revenue (%)	Gross profit (million EUR)	Profit margin (%)
Purse seiners	Spain	16	42,332	60,113	623	879	2,865	2,865	74,150	140.0	63.7%	252.7	69.4%	253.7	107.9	42.5%	72.7	29%
	France	12	27,196	43,383	199	338	2,156	1,078	27,010	66.3	30.1%	84.6	23.2%	84.6	39.8	47.1%	14.4	17%
	Italy	1	2,137	3,690	-	-	237	208	-	4.0	1.8%	-		-	-		-	
EU IOTC Purse seiner fleet [2]		28	69,528	103,496	822	1,217	5,021	3,943	101,160	206	96%	337	93%	338	147.7	43.7%	87.1	26%
Longliners	Spain	14	5,482	7,045	216	288	3,394	3,394	8,316	7.7	3.5%	20.1	5.5%	20.1	7.6	37.6%	4.1	20%
	Portugal	5	2,358	3,571	-	76	1,417	1,413	2,851	1.8	0.8%	6.7	1.8%	6.70	2.34	34.9%	1.4	22%
EU IOTC longliner fleet		19	7,840	10,615		364	4,811	4,807	11,167	10	4.4%	27	7%	27	9.9	36.9%	5.6	21%
EU IOTC fleet		48	79,505	117,801			10,069	8,958		220								
EU IOTC fleet [2]		47	77,368	114,111	1,037	1,582	9,832	8,750	112,327	216		364.1		365.1	157.6	43.2%	92.7	25%

1 DAS not available for ESP.
2 Excludes the Italian vessel due to insufficient data
Note: Where significant differences between the value of landings and income from landings are observed for Spain, income from landings is used instead of value of landings.
Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Table 4.45 Performance indicators by main type of fishery operating in IOTC, 2016 (based on expert ad hoc data + DCF for ESP)

		No. of vessels	Average fuel consumed per DAS (thousand litres)	Landed weight per fishing day (tonnes per day)	Landed value per fishing day (thousand EUR per day)	Average ex-vessel price (EUR per kg)	GVA per FTE (thousand EUR per FTE)	Average gross profit per vessel (thousand EUR)	Average fuel price (EUR per litre)	Average annual crew wage (EUR)
Purse seiners	Spain	16	25.9	48.9	88.5	1.8	122.7	4,662	0.39	39,841
	France	12	25.1	61.5	78.5	1.3	117.9	1,201	0.41	75,216
	Italy	1	-	19.1	-			-		
EU IOTC Purse seiner fleet[2]		28	20.1	52.3	85.8	1.6	121.3	3,157	0.40	49,662
Longliners	Spain	14	2.5	2.3	6.3	2.8	26.2	284	0.28	11,926
	Portugal	5	2.0	1.3	4.7	3.7	30.7	289	0.50	11,729
EU IOTC longliner fleet		19	2.3	2.0	5.8	2.9	27.2	285	0.33	11,885
EU IOTC fleet[2]		47	11.4	24.7	41.9	1.7	99.6	1,970	0.39	40,962

1 DAS not available for ESP.
2 Excludes the Italian vessel due to insufficient data
Note: Where significant differences between the value of landings and income from landings are observed for Spain, income from landings is used instead of value of landings.

Table 4.46 Main capacity, activity and profitability indicators by MS fleet segment operating in IOTC, 2016 (based on expert ad hoc data + DCF for ESP)

	Number of vessels	Vessel tonnage (GT)	Engine power (kW)	Total employed (#)	FTE (#)	Days at sea[1] (days)	Fishing days (days)	Energy consumption (thousand litres)	Average fuel consumed per DAS (thousand litres)	Landings in weight (thousand tonnes)	% of EU landings weight	Landings in value (million EUR)	% of EU landings value	Revenue (million EUR)	GVA (million EUR)	GVA to revenue (%)	Gross profit (million EUR)	Profit margin (%)
ESP OFR PS40XX	16	42,332	60,113	623	879	-	2,865	74,150	25.9	140.0	65%	252.7	69%	253.7	107.9	43%	72.7	29%
FRA OFR PS40XX	12	27,196	43,383	-	338	2,156	1,078	27,010	25.1	66.3	30.7%	84.6	23%	84.6	39.8	47%	14.4	17%
ESP OFR PGO2440 °	10	2,823	3,865	140	173	-	2,256	5,102	2.3	5.1	2.4%	13.5	4%	13.6	5.0	37%	2.6	19%
PRT OFR HOK VL24XX	5	2,358	3,571	-	76	1,417	1,413	2,851	2.0	1.82	0.8%	6.7	2%	6.7	2.3	35%	1.4	22%
ESP OFR PGO40XX	4	2,659	3,180	75	116	-	1,138	3,215	2.8	2.6	1.2%	6.5	2%	6.6	2.6	39%	1.5	23%
ITA PS VL40XX	1	2,137	3,690	-	-	237	208	-		3.97	1.8%	-		-	-		-	
EU IOTC fleet	48	79,505	117,801				8,958			220								
EU IOTC fleet[2]	47	77,368	114,111		1,582	3,573	8,750	112,327	58.0	216		364.0		365.1	157.6	43%	92.7	25%

1 DAS not available for ESP.
2 Excludes the Italian vessel due to insufficient data
Note: Where significant differences between the value of landings and income from landings are observed for Spain, income from landings is used instead of value of landings.

Top species in terms of catch, landed weight and value

According to IOTC data, catch levels have oscillated over time and amongst MS, with Spain having the highest catches (144 459 tonnes) in 2016 (147.7 thousand tonnes in landings reported under the DCF with all species included). This was 11% more than 2015 and similar to the level reported in 2014. France reported catches of 68 582 tonnes, the highest since 2008. Portugal has remained relatively stable over the period 2014-2016, reporting catches of around 3 500 tonnes each year; 2016 saw a slight decrease compared to 2014 and 2015 but increased 64% compared to 2013 (2 078 t). Catches for Italy decreased 11%, from 4 262 tonnes in 2015 to 3 781 tonnes in 2016; while the UK has suffered a steady decrease over the last years, reaching its lowest level of catches in 2016 at 469 tonnes. For France, catches by the OMR fleet in Mayotte are quite significant, although the latest data available are from 2013 (26 765 t), while 3 074 tonnes were reported for Reunion in 2016 (Figure 4.153).

Figure 4.153 Historical series of catch data (t) for the main EU fleets operating in the IOTC region
Source: http://www.iotc.org/documents/nominal-catch-species-and-gear-vessel-flag-reporting-country

According to IOTC, the estimated catches for the main target species in 2016 were: 51 489 tonnes of yellowfin (YFT), 75 264 tonnes of skipjack (SKJ), 9 371 tonnes of bigeye (BET) and 22 tonnes of albacore (ALB) (Figure 4.154). Collectively, the total catch in 2016 was 136 174 tonnes, 12% higher than the previous year, and mainly due to an increase in the skipjack catch. Although skipjack had been the main component of the catch in the previous five years (2011-2015), skipjack catches increased by 29% during 2016 in relation to this period.
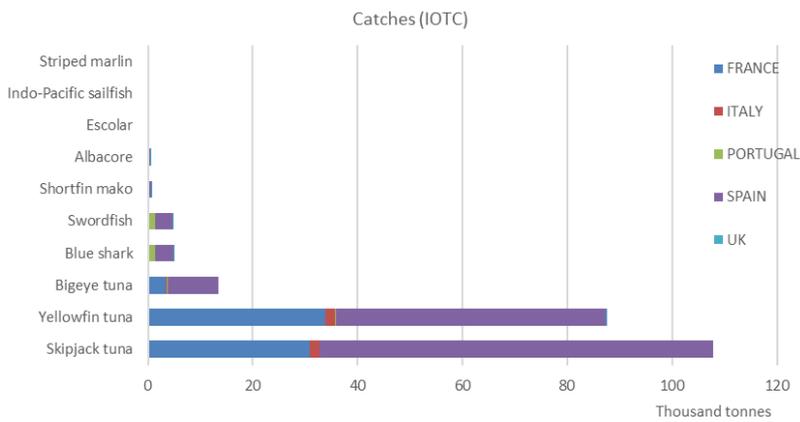
Figure 4.154 Top ten species landed by MS fleets operating in IOTC, 2016
Source: http://www.iotc.org/documents/nominal-catch-species-and-gear-vessel-flag-reporting-country

From DCF data, the top five most important species (by weight) were skipjack tuna (101.3 thousand tonnes), yellowfin tuna (93.3 thousand tonnes), bigeye tuna (15.8 thousand tonnes), swordfish (4 thousand tonnes) and blue shark (3.8 thousand tonnes). By value, yellowfin tuna was the prominent species with a value of EUR 304.9 million, followed by skipjack with EUR 97.3 million, bigeye tuna with EUR 57.6 million, swordfish with EUR 17.2 million and blue shark with EUR 5.2 million (Figure 4.155).
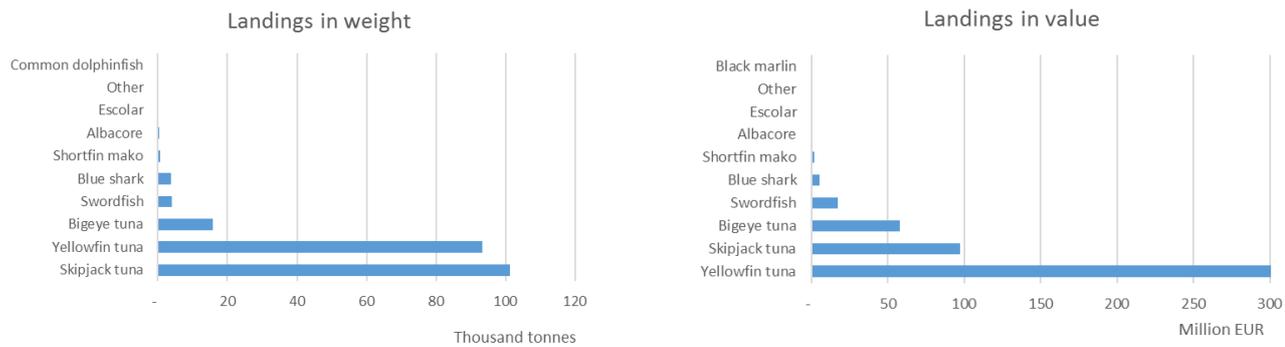
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.155 Top ten species landed in weight (left) and value (right), 2016

Spain dominates landings of all the top species taken in the region: 67% of the landed weight of yellowfin tuna and 85% of the landed value (with average price per kilo of EUR 4.15); 64% of skipjack tuna landed weight and 36% of the value (average price EUR 0.96 per kg) and 81% of the landed weight of bigeye tuna and 94% of the value (EUR 4.22 per kg). It also takes 87% of blue shark landings in weight and 66% of the value (EUR 1.04 per kg) (Figure 4.156).

Portugal takes 15% of blue shark landed weight but 34% of the value (EUR 3.5 per kg) and 30% of the weight of black marlin landings but 53% of the landed value (EUR 4.4 per kilo).

The French fleet accounts for 77% of the landed weight of albacore and 73% of the value landed (EUR 2.6 per kg).
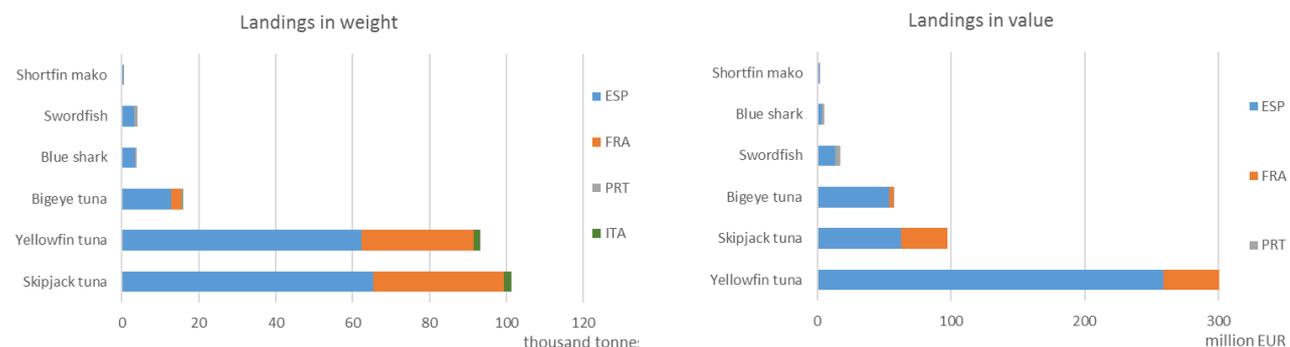
Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.156 Landings of top six species, in weight and value, by MS fleets operating in IOTC, 2016
* Value of landings not available for ITA

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The North-East Atlantic Fisheries Commission (NEAFC)

At a glance

- According to the data provided by NEAFC (https://www.neafc.org/catch), the EU fleet caught around 1.23 million tonnes in 2015 (most recent year available), 93% of which was taken from EU waters, 3% from NEAFC RA, 3% in Norwegian waters, 1% in Faroese waters and 0.2% in Greenland waters (Table 4.47).

- The EU fleet mainly targets small pelagic species, which represent 96% of the catch composition in weight (Figure 4.157). The main species include: Atlantic mackerel (523.4 thousand tonnes), herring (429 thousand tonnes) and blue whiting (221 thousand tonnes).

- While the majority of the deep-sea and small pelagic catches are taken from EU waters, 61% of the demersal species are taken from the NEAFC RA (Figure 4.158).

- The main demersal species include: redfish (9.6 thousand tonnes), ling (9.2 thousand tonnes), conger eel (8.3 thousand tonnes), black scabbardfish (5 thousand tonnes) and Greenland halibut (4.8 thousand tonnes) (Figure 4.159).

Table 4.47 EU fleet catches (tonnes) in the NEAFC Convention Area, 2015

Fishery	EU waters	Faroes	Greenland	Norway	NEAFC RA	Total
Deep sea species	33,827				2,855	41,582
Demersal	2,529	3	1,997	134	7,174	11,847
Small pelagics	1,105,417	8,002		35,194	24,423	1,173,036
Total	1,141,773	8,005	1,997	35,328	34,452	1,226,465
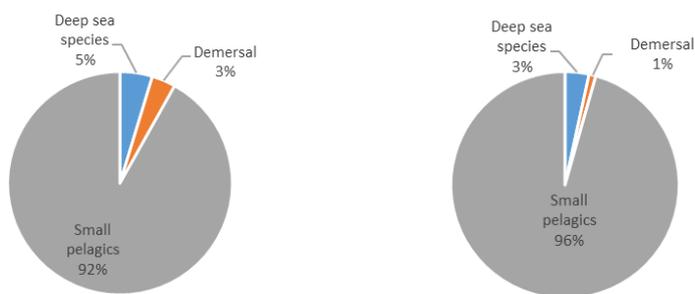
Figure 4.157 Catch composition: all contracting parties (left), EU fleet (right), 2015
Source: https://www.neafc.org/catch
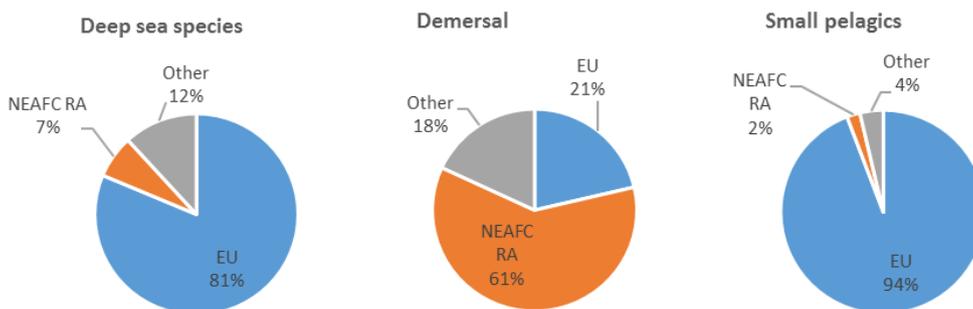
Figure 4.158 EU catch by area (other includes Faroes, Norway, Iceland), 2015
Source: https://www.neafc.org/catch
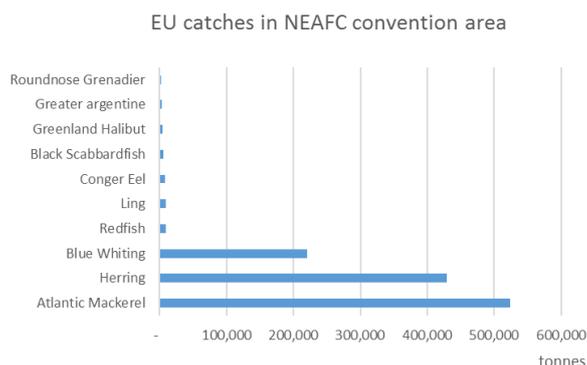
Figure 4.159 Top ten species caught by the EU fleet in NEAFC, 2015
Source: https://www.neafc.org/catch

NEAFC Area of Competence

Fishing activity in the North-East Atlantic (NEA) is performed in the exclusive economic zones (EEZs) of the coastal states and on the high seas, and regulated by the North-East Atlantic Fisheries Commission (NEAFC). NEAFC was established in 1980 to manage the fishery resources in the North-East Atlantic in the EEZs of Contracting Parties (straddling stocks) and outside the national jurisdictions of the coastal states. Fisheries in areas under national jurisdiction are regulated by national law in accordance with international agreements.

NEAFC decides upon conservation and/or management measures for the regulatory area (see Article 5 of the NEAFC Convention) (Figure 4.160). These 'measures' can cover different things, for example stocks or individual species and or a specific area or time period, depending on what policy makers want to achieve.

NECAF is comprised of Contracting Parties which have signed up to the Convention on Multilateral Cooperation in North East Atlantic Fisheries, which entered into force in November 1982. The contracting parties include: Denmark (in respect of the Faroe Islands and Greenland), European Union, Iceland, Norway and the Russian Federation.

"The Convention Area" (Article 1) means the areas:

(1) within those parts of the Atlantic and Arctic Oceans and their dependent seas which lie north of 36° north latitude and between 42° west longitude and 51° east longitude, but excluding:

> (i) the Baltic Sea and the Belts lying to the south and east of lines drawn from Hasenore Head to Gniben Point, from Korshage to Spodsbierg and from Gilbierg Head to the Kullen, and

> (ii) the Mediterranean Sea and its dependent seas as far as the point of intersection of the parallel of 36° latitude and the meridian of 5°36' west longitude

(2) within that part of the Atlantic Ocean north of 59° north latitude and between 44° west longitude and 42° west longitude.
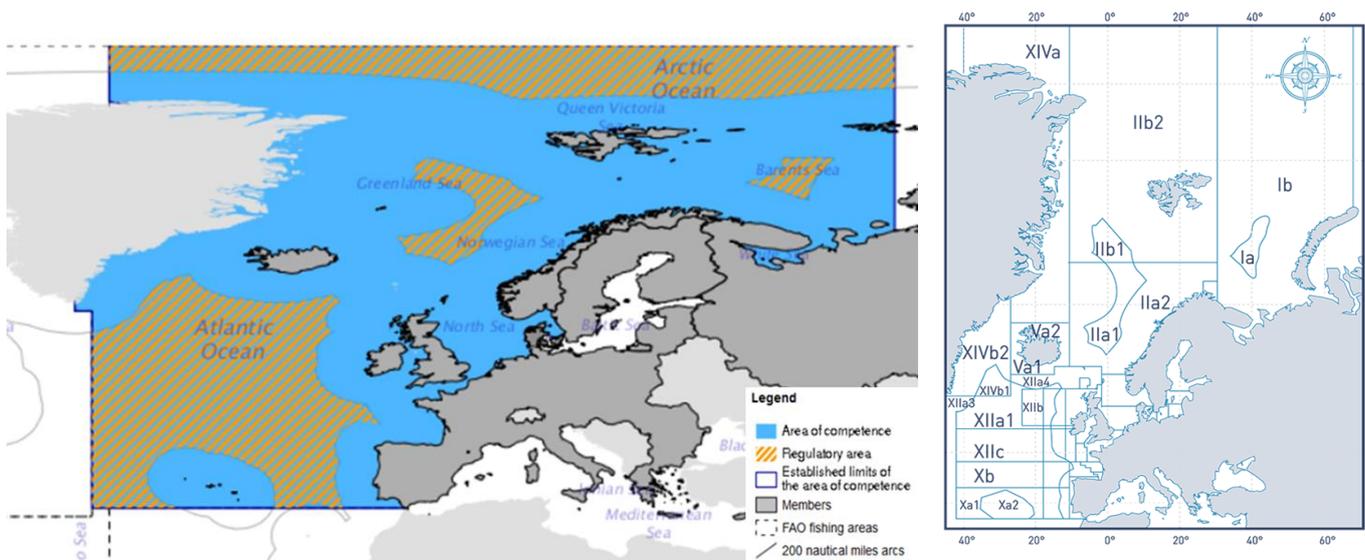
Source: FAO

Figure 4.160 Map of the NEAFC area of competence and regulatory area

The main fisheries in the NEACF area include:

- Redfish (oceanic *Sebastes Mentella* and pelagic deep-sea *Sebastes Mentella*)
- Mackerel
- Haddock
- Herring (Norwegian Spring- Spawning Atlanto-Scandian)
- Blue Whiting
- Deep-sea Species

The four main fisheries regulated in the NEAFC Regulatory Area give catches in the NEAFC Convention Area of approximately 3.3 million tonnes, roughly 31% of total catches in the North East Atlantic (approximately 10.5 million tonnes in 2015).

Northern Agreements

EU fishing activities in the North Sea and Northeast Atlantic are closely linked to those of Norway, Iceland and the Faeroe Islands. With many of the targeted stocks shared across boundaries and given that different fleets aren't necessarily interested in the same stocks, the four contracting parties coordinate their activities. Many of the stocks concerned are jointly managed, with a mechanism in place for quota exchange. Some of these stocks are managed through the intergovernmental Northeast Atlantic Fisheries Convention (see NEAFC), set up to manage fish stocks in the region, while others are managed through agreements between the various coastal states.

- Norway: in force since June 1981. There are 3 fisheries agreements with Norway: (1) Bilateral, covering North Sea & Atlantic; (2) Trilateral (Denmark, Sweden and Norway), Skagerrak and Kattegat; and (3) Neighbouring, Swedish fisheries in Norwegian waters of the North Sea. These cover the joint management of shared fish stocks in the North Sea and Skagerrak areas. It also includes an annual exchange of fishing possibilities in each other's waters.

- Faroe Islands: in force since February 1990. Annual exchange of fishing possibilities in each other's waters (mackerel, blue whiting, herring, sprat, cod, saithe, red fish…).

- Iceland: annual exchange of fishing possibilities. No exchange since 2008.

General overview of the EU fleet in NEAFC Convention area

Methodology and data limitations

While the NEAFC Convention Area spans the North-east Atlantic (FAO 27), the Regulatory Area includes the FAO fishing areas detailed in Table 4.48. Due to the more aggregated spatial data provided through the DCF, it is not possible to precisely analyse the dependency of EU fleets for these areas only. Landings data by areas defined under the DCF (FAO level 3) were used to analyse the EU fleet operating in the Northeast Atlantic. Therefore, the analyses cannot be considered an accurate account of the activity in the NEAFC RA (Table 4.48).

Due to data constraints, it is also not possible to fully analyse the Northern agreements individually or by MS fleet segment; these are partially considered within the NEAFC analyses.

Due to data and time limitations, an economic performance analyses could not be performed. This section reports on the main EU fleet segments with activity in the region, providing an outline for future analyses.

Table 4.48 NEAFC Regulatory Area with corresponding level of DCF data

NEAFC REGULATORY AREA	FAO AREA	DCF
Barents Sea	Division 27.1.a	27.1.a
Norwegian Sea	Division 27.2.a.1	27.2.a
Spitzbergen and Bear Island	Division 27.2.b.1	27.2.b
Faroe Plateau	Unit 27.5.b.1.a	27.5.b
Rockall (part of NEAFC area I)	Subdivision 27.6.b.1	27.6.b
Porcupine Bank	Subdivision 27.7.c.1	27.7.c
Southwest of Ireland - East	Subdivision 27.7.j.1	27.7.j
Southwest of Ireland - West	Subdivision 27.7.k.1	27.7.k
Bay of Biscay - Offshore	Subdivision 27.8.d.1	27.8.d
West of Bay of Biscay	Subdivision 27.8.e.1	27.8.e
Portuguese Waters - West	Subdivision 27.9.b.1	27.9.b
Azores Grounds	Subdivision 27.10.a.1	27.10.a
Southern mid-Atlantic Ridge	Subdivisions 27.12.a.1 and 27.12.a.2	27.12.a and 27.12.b
Southeast Greenland	Subdivision 27.14.b.1	27.14.b

Short description by the MS fleet segments active in NEAFC (FAO 27) in 2016

Note: due to spatial data limitations it is not possible to accurately determine the dependency of these fleets on activity in the NEAFC regulatory area.

France (FRA)

- **Drift and fixed netters 24-40m LOA** (FRA A27 DFN VL2440)

With 18 active vessels in 2016, employed 223 FTE deployed a total of 4 643 days at sea in 2016 and landed 15.6 thousand tonnes, valued at EUR 40.3 million. Revenue generated by the fleet segment (EUR 41.8 million) represented 3% of the total revenue of the French national fleet (Table 4.49).

The fleet spent around 64% of its total fishing effort (2 987 DAS) in the NEAFC RA (according to the 'DCF' areas in Table 4.48), from where landings amounted to almost 9.8 thousand tonnes (63% of the fleet's total landings in weight) and EUR 24.7 million (61% of the total value of landings). Most of the activity occurs in the FAO areas 27.7.j (73% of the landed value taken from these NEAFC areas and 45% of the fleet's total landed value).

The main target species is European hake, accounting for 96% of the total landed weight and 95% of the total value landed (15 thousand tonnes, EUR 38 million). Around 7.3 thousand tonnes (47% of the total) and EUR 17.4 million (43% of the total) in European hake landings were taken from area 27.7.j.

The fleet segment, which operated exclusively in the NEAFC Convention Area (mainly in areas 27.6, 27.7 and 27.8), was profitable in 2016, generating a GVA of almost EUR 30.6 million and a gross profit of EUR 15 million (35.7% profit margin). Average annual crew wage was estimated at EUR 70.4 thousand.

- **Demersal trawlers 24-40m LOA** (FRA A27 DTS VL2440)

There were 57 active vessels in 2016 that employed 401 FTE and deployed a total of 16 332 days at sea, landing 38.7 thousand tonnes, valued at EUR 107 million. Revenue generated by the fleet segment represented 8% of the total revenue of the French national fleet in 2016 (Table 4.49).

The fleet spent 26% of its total fishing effort (4 207 DAS) in the NEAFC RA (as outlined in Table 4.48 - 'DCF' areas), from where landings amounted to almost 9.3 thousand tonnes (24% of the fleet's total landings in weight) and EUR 33 million (31% of the total value of landings).

The main target species are monkfishes (9 thousand tonnes, EUR million), megrims (2 thousand tonnes, EUR 7.2 million), European hake (2.9 thousand tonnes, EUR 6.9 million), John dory (0.6 thousand tonnes, EUR 6.3 million) and whiting (3.9 thousand tonnes, EUR 6 million).

The fleet segment, which operated exclusively in the NEAFC Convention Area, was profitable in 2016, generating a GVA of EUR 51 million and a gross profit of EUR 18.8 million (17.6% profit margin). Average annual crew wage was estimated at EUR 81.1 thousand.

- **Demersal trawlers over 40m LOA** (FRA A27 DTS VL40XX)

With 10 active vessels in 2016, this fleet segment employed 185 FTE and represented around 4% of the total revenue generated by the French national fleet (Table 4.49).

The fleet segment deployed a total of 2 972 days at sea in 2016, of which 2 322 where fishing days and landed 32.3 thousand tonnes, valued at almost EUR 71 million.

The fleet spent around 16% of its total fishing effort (486 DAS) in the NEAFC RA (according to the 'DCF' areas in Table 4.48), from where landings amounted to almost 7 thousand tonnes (22% of the total landings weight) and EUR 17.9 million (25% of the total landings value). Most of the activity occurs in the FAO areas 27.2.a and 27.2.b (25% of the value of the NEAFC areas analysed).

The main target species include saithe (14 thousand tonnes, EUR 21.8 million), Atlantic cod (9 thousand tonnes, EUR 27.5 million, of which 50% is from areas 27.2.a and 27.2.b) and European hake (2.9 thousand tonnes, EUR 6 million).

The fleet segment, which operated solely in the NEAFC Convention Area, mainly in areas 27.4.a and 27.6.a, was profitable in 2016, generating a GVA of almost EUR 28 million and a gross profit of EUR 11.6 million (21% profit margin). Average crew wage was estimated at EUR 87.4 thousand.

Table 4.49 Main activity and performance indicators for the French fleets active in NEAFC CA in 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
FRA A27 DTS2440 °	57	401	16,332	1,101	38,682	106,923	106,992	51,322	48.0	18,793	17.6	6,916	6.5	81.1	127.9	8.0%
FRA A27 DTS40XX	10	185	2,972	528	32,326	70,942	54,658	27,778	50.8	11,605	21.2			87.4	150.2	4.1%
FRA A27 DFN2440	18	223	4,643	336	15,627	40,324	41,782	30,607	73.3	14,919	35.7	12,951	31.0	70.4	137.3	3.1%

Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

GERMANY (DEU)

- **Pelagic trawlers (DEU TM VL40XX)**

The 14 active vessels in 2016 landed a total of 168 thousand tonnes valued at EUR 76 million (due to confidentiality issues, no data on fishing effort is provided).

Around 12% of the landed weight (20 thousand tonnes) and 14% of the landed value (EUR 10.3 million) were obtained from the NEAFC RA (as according to the DCF spatial aggregation). Within NEAFC RA, most of the activity occurred in 27.2.a (39% of the landed weight and 50% of the value).

The main target species in the areas include small pelagic species, such as, blue whiting (10.4 thousand tonnes, EUR 4 million), Atlantic mackerel (4.7 thousand tonnes, EUR 4.2 million) and Atlantic herring (2.6 thousand tonnes, EUR 1.2 million).

The fleet segment also reported activity in FAO 34 (area 34.1.3), corresponding to 12% of the total landed weight (20.7 thousand tonnes) and 10% of the value (EUR 7.4 million). Some activity was also reported in the Southeast Pacific (FAO 87) (10 thousand tonnes and EUR 4.5 million). The remaining activity occurred in other areas in the Northeast Atlantic (FAO 27).

Due to confidentiality reasons, no economic data are available for this fleet segment (Table 4.50).

- **Demersal trawlers (DEU DTS VL40XX)**

There were 7 vessels active in 2016 that spent a total of 1 608 days at sea, of which 1 303 were fishing days, to land a total of 22.6 thosuand tonnes valued at EUR 46.6 million. Around 45% of the fishing effort (DAS) and 60% of the landed weight and 62% of the landed value were obtained from the NEAFC RA (as according to the DCF spatial aggregation).

The main target species in the areas include demersal species, such as, Atlantic cod (5.7 thousand tonnes, EUR 10.3 million), Greenland halibut (3.7 thousand tonnes, EUR 12.7 million), Atlantic redfishes (2.9 thousand tonnes, EUR 4 million) and saithe (963 tonnes, EUR 1.5 million).

The fleet segment also reported activity in FAO 21 (areas 21.1.c and 21.1.d) in 2016, representing 4% of the landed weight and 12% of the value. The remaining activity occurred in other areas in FAO 27.

The fleet segment was profitable, generating a gross profit margin of 28.6% in 2016. Average wage per FTE was estimated at EUR 102.5 thousand (Table 4.50).

- **Drift and fixed netters / pots and traps 24-40m LOA**

There were 6 active vessels in 2016 that spent a total of 1 337 days at sea, of which 1 106 were fishing days, to land a total of 1.2 thousand tonnes valued at EUR 5.6 million. Around 65% of the fishing effort (DAS) and 60% of the landed weight and 63% of the landed value were obtained from the NEAFC RA (as according to the DCF spatial aggregation).

The target species in the areas include anglerfishes (539 tonnes, EUR 2.3 million) and deep-sea red crab (194 tonnes, EUR 1.2 million).

The fleet segment operated exclusively in Northeast Atlantic (FAO 27).

The fleet segment operated at a loss in 2016, generating a gross loss of EUR 8 thousand. Average wage per FTE was estimated at EUR 31.7 thousand (Table 4.50).

Table 4.50 Main activity and performance indicators for the German fleets active in NEAFC CA in 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	% of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
DEU A27 TM40XX °	14				167,785	75,947	75,947									32.0%
DEU A27 DTS40XX	7	147	1,608	615	22,602	46,629	46,892	28,466	60.7	13,393	28.6	5,574	11.89	102.5	193.6	19.7%
DEU A27 DFN2440 °	6	63	1,337	1,386	1,214	5,573	5,573	1,987	35.7	- 8	- 0.2	- 564	- 10.12	31.7	31.5	2.3%

Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

LATVIA (LVA)

Only data on the Latvian Baltic Sea fleet are provided through the DCF.

According to additional information provided during EWG 1807, there were nine vessels operating in the NEAFC region in 2016: eight vessel using pots and traps (FPO) over 40m LOA and one pelagic trawler over 40 m LOA. Total landings from NEAFC areas amounted to 1.2 thousand tonnes, valued at around EUR 3.3 million.

LITHUANIA (LTU)

- **Pelagic trawlers over 40m LOA** (LTU OFR TM VL40XX)

This fleet segment had 9 active vessels in 2016, employing 253 FTE and deploying a total of 2 142 days at sea, of which 1 899 where fishing days. Total landings amounted to 83.3 thousand tonnes valued at EUR 83.7 million (Table 4.51).

Around 40% of the fishing effort (DAS) but only 6% of the landed weight (5 thousand tonnes) and 27% of the landed value (EUR 22.6 million) were obtained from the NEAFC RA (as according to the DCF spatial aggregation mentioned in Table 4.51).

The fleet segment targets both demersal and small pelagic species, namely: northern prawn, tanner crabs, beaked redfish, Atlantic mackerel and blue whiting.

In terms of value, northern prawn was the main species with 661 tonnes caught in areas 27.1.a and 27.2.b and valued at over EUR 16 million (average price of EUR 24.7/kg).

Atlantic mackerel (1.9 thousand tonnes at EUR 2.25 million) and blue whiting (1.3 thousand tonnes at EUR 417 thousand) are the most important species in terms of weight.

The fleet segment also operated in FAO 34 in 2016, mainly targeting small pelagic species, such as Atlantic horse mackerel and chub mackerel, but also some tuna and demersal species (see CECAF section for more details). Around 26 fishing days were also deployed in FAO 47, where landings of mainly small pelagics and some skipjack tuna amounted to 3.2 thousand tonnes valued at around EUR 2 million.

Collectively, the fleet segment operated at a gross profit in 2016, obtaining a profit margin of 8.5% but suffered a net loss of over EUR 2 million. Average wage per FTE was estimated at EUR 29.2 thousand (Table 4.51).

Table 4.51 Main activity and performance indicators for the Lithuanian fleet active in NEAFC CA in 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
LTU OFR TM40XX °	9	253	2,142	506	83,270	83,676	64,024	12,858	20.1	5,469	8.5	- 2,141	- 3.3	29.2	50.8	91.6%

Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

PORTUGAL (PRT)

- **Demersal trawlers over 40m LOA fishing exclusively in international waters (**PRT A27 DTS VL40XX IWE)

Collectively, this fleet segment is active in FAO 21 (NAFO) and FAO 27 (NEAFC) fishing regions. There were 11 active vessels in 2016, which employed 322 FTE and spent over 2 thousand days at sea. Total landings amounted to 22.6 thousand tonnes valued at EUR 67.4 million.

According to additional information provided during EWG 1807, two vessels operated in the NEAFC RA in 2016.

Around 220 days at sea and 170 fishing days (10% of the total) were deployed in the areas considered. Fishing activity occurred exclusively in areas 27.2.a and 27.2.b., where landings amounted to almost 2.1 thousand tonnes and EUR 7.4 million. The main species landed from these fishing areas were: Atlantic redfishes (10 thousand tonnes, EUR 29 million), Atlantic cod (8.6 thousand tonnes, EUR 26 million) and Greenland halibut (1.7 thousand tonnes, EUR 6 million).

Collectively, this fleet segment was profitable in 2016, generating almost EUR 26.6 million in gross profits (40.7% profit margin). Average wage per FTE was estimated at EUR 53.8 thousand (Table 4.52).

Table 4.52 Main activity and performance indicators for the Portuguese fleet active in NEAFC CA in 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
PRT A27 DTS40XX IWE	11	322	2,003	684	22,555	67,415	65,273	43,879	67.2	26,560	40.7	20,391	31.24	53.8	136.3	16.5%

Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

SPAIN (ESP)

Spain has several fleet segments over 24m active in the NEACF areas analysed (as identified in Table 4.48).

Table 4.53 provides landings by sub-area, in weight and value, for the main fleets. A brief description of the fleet segments that are more dependent on these areas for their fishing activity is provided below. While the pelagic longline segment (PGO VL2440m) is quite dependent on the area, this fleet targets tuna and tuna-like species and hence, not further analysed in this section.

Table 4.53 Main activity and performance indicators for the Portuguese fleet active in NEAFC CA in 2016

FAO area	ESP A27 PGP2440 °		ESP A27 DTS40XX °		ESP A27 PGO2440		ESP A27 DTS2440		ESP A27 HOK2440		ESP A27 PS2440		ESP OFR PGO2440 °	
	tonnes	thousand EUR	tonnes	thousand EUR	tonnes	thousand EUR	tonnes	thousand EUR	tonnes	thousand EUR	tonnes	thousand EUR	tonnes	thousand EUR
27.1.a	-	-	443.8	4,538.6	-	-	-	-	-	-	-	-	-	-
27.10.a.1	15.4	78.1	-	-	5,086.0	8,419.2	-	-	34.5	175.3	6.0	30.6	924.8	1,127.3
27.12.a	-	-	10.9	15.5	7.6	16.4	-	-	-	-	-	-	-	-
27.12.b	-	-	1,142.0	1,481.1	-	-	-	-	-	-	-	-	-	-
27.14.b	-	-	620.6	1,084.0	-	-	-	-	-	-	-	-	-	-
27.2.a	-	-	4,769.2	10,673.4	-	-	-	-	-	-	-	-	-	-
27.2.b	-	-	7,403.1	21,238.3	-	-	-	-	-	-	-	-	-	-
27.6.b	0.3	1.1	864.2	1,239.9	-	-	42.6	145.8	-	-	-	-	-	-
27.7.c	1,918.8	7,665.4	-	-	-	-	1,879.3	8,054.3	-	-	-	-	-	-
27.7.j	11,219.7	44,914.8	-	-	688.1	412.3	5,757.3	22,872.5	29.8	109.2	0.3	1.0	-	-
27.7.k	1,471.1	6,199.7	-	-	0.6	0.8	272.0	1,245.9	6.9	25.7	1.8	6.8	-	-
27.8.d	761.7	3,236.8	4.8	20.8	234.3	475.5	225.7	902.1	2,817.1	10,692.1	1,024.7	3,713.0	-	-
27.8.e	9.1	37.8	-	-	152.9	323.6	0.02	0.04	15.8	64.6	10.1	38.5	-	-
27.9.b	0.7	3.5	-	-	233.3	730.6	4.2	10.0	0.4	2.2	0.1	0.4	16.4	70.2
Total landings	**27,978**	**108,586**	**36,351**	**96,665**	**19,980**	**31,419**	**64,928**	**135,474**	**20,400**	**45,245**	**34,961**	**44,482**	**44,414**	**106,842**
% NEAFC	55%	57%	42%	42%	32%	33%	13%	25%	14%	24%	3%	9%	2%	1%

Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

ESP A27 PGP2440 °

This fleet segment was composed of 33 active vessels in 2016. Total landings amounted to 20 thousand tonnes valued at EUR 31.4 million.

Fishing activity is almost exclusively limited to areas in FAO 27, with 57% of the landings value taken from the selected NEAFC areas. Some activity (less than 1% of landings) was also reported in the CECAF area (FAO 34).

The main target species in NEACF include: European hake (EUR 59 million); Greater forkbeard (EUR 775 thousand) and blackbelly rosefish (EUR 752 thousand).

The fleet segment was profitable in 2016, with average wage per FTE estimated at almost EUR 25.3 thousand (Table 4.54).

ESP A27 DTS40XX °

There were 17 active vessels in this fleet segment in 2016. Total landings amounted to 36.4 thousand tonnes valued at EUR 96.7 million.

Fishing activity is split between NAFO (57% of landings value from FAO 21) and NEAFC (42% of landings value from FAO 27) areas, with some activity (4% of landings weight) also reported in the CECAF area (FAO 34).

The main target species in the NEACF areas include: Atlantic cod (EUR 24 million), beaked redfish (EUR 6.4 million), queen crab (EUR 4.5 million) and roundnose grenadier (EUR 1.9 million)

The fleet segment was profitable in 2016, with average wage per FTE estimated at almost EUR 50 thousand (Table 4.54).

Table 4.54 Main activity and performance indicators for the Spanish fleets active in NEAFC CA in 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
ESP A27 PGP2440 °	56	1,019	14,851	701	27,978	108,586	122,164	77,087	63.1	35,673	29.2	28,401	23.25	40.7	75.7	6.2%
ESP A27 DTS40XX °	17	499	3,723	412	36,351	96,665	98,034	64,326	65.6	39,501	40.3	32,927	33.59	49.7	128.9	4.9%

Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

UNITED KINGDOM (GBR)

Several fleet segments report activity in the NEAFC CA, including drift and fixed netters 24-40m LOA, demersal trawlers 24-40m and over 40m LOA and pelagic trawlers over 40m LOA. Only the drift and fixed netters appear to be somewhat dependent on these areas (more than 40% of landings are taken from the areas as defined in Table 4.48).

- **Drift and fixed netters 24-40m LOA**

This fleet segment had 14 active vessels in 2016, employing 270 FTE and deploying a total of 3 365 days at sea. Total landings amounted to almost 5.2 thousand tonnes valued at EUR 16.9 million (Table 4.55).

Around 44% of the fishing effort (DAS) and landings (in weight and value) were obtained from the NEAFC RA (as according to the DCF spatial aggregation mentioned in Table 4.55).

Landings amounted to 2.3 thousand tonnes and EUR 7.5 million in 2016. The fleet segment targets demersal species, with anglerfishes being the most important (3 thousand tonnes and EUR 10.8 million), followed by European hake (858 tonnes and EUR 2.3 million) and Pollock (584 tonnes and EUR 1.8 million).

The fleet segment operated exclusively in FAO 27 in 2016. Collectively, the fleet segment generated gross profits in 2016, obtaining a profit margin of 27%. Average wage per FTE was estimated at EUR 20.1 thousand (Table 4.55).

Table 4.55 Main activity and performance indicators for the UK fleet active in NEAFC CA in 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
GBR A27 DFN2440 °	14	270	3,365	389	5,189	16,916	16,918	10,022	59.2	4,595	27.2	2,847	16.83	20.1	37.1	1.4%

Source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Fishery Committee for the Eastern Central Atlantic (CECAF)

At a glance

- According to CECAF statistics, there were ten Member States fleets operating in the region in 2015 (latest available data): France, Germany, Greece, Latvia, Lithuania, Netherlands, Poland, Portugal, Spain and the UK.

- DCF data shows that Italy was active in the region in 2015 (and 2016), after two years of no activity.

- In 2015, total EU catches in CECAF RA amounted to 264.5 thousand tonnes, a 58% decrease when compared to 2010 (626.6 thousand tonnes) (excludes Italy) (Table 4.56).

- The main fishing nations are Spain (with 49% of the total EU catch) and France (17%), followed by Lithuanian (9%) and the Netherlands (8%).

- Activity patterns have changed since 2010, when the Dutch fleet was one of the major players in the region, taking 22% of the total catch along with Spain. Lithuania (19%) and Latvia (14%) have also seen large reductions in fishing activity since 2010 (Figure 4.161).

- The majority of EU catches in the CECAF RA are taken from the Tunas area (48%), followed by the Sahara coastal (32%), the Cape Verde coastal (9%), Canaries/Madeira insular and the Northern Oceanic (each with 3%) areas.

- Here activity patterns have also changed since 2010, with a shift from the Sahara coastal areas towards the Tunas (Figure 4.162) and linked to the increased Spanish activity.

- The top ten most important species in terms of quantity caught (amounting to almost 242 thousand tonnes, 91% of the total catch in 2015) reflect the change in fishing activity, with tuna and tuna-like species representing 68.5% of these catches in 2015, while small pelagic species where the bulk of the catch (81%) in 2010 (Figure 4.163 and Figure 4.164).

- This section aims to report on the activity of fleets operating in the region targeting mainly small pelagic and demersal species, i.e., not the tuna fishery, which is covered in the ICCAT section.

- Large part of these fisheries occur within the framework of Sustainable Fisheries Partner Agreements (SFPAs).

- Due to data limitations, it is not possible to assess fleet activity by SFPA individually.

- According to DCF data, eight Member States reported activity in the region in 2016: France, Germany, Italy, Lithuania, Poland, Portugal, the Netherlands and Spain. Additional data were provided for Latvia.

- Total landings reported from FAO 34 in 2016, including tuna and tuna-like species, amounted to 390 thousand tonnes, valued at approximately EUR 477 million.

- When excluding tuna and tuna-like species, landings amounted to 229 thousand tonnes, valued at EUR 187 million, (59% of the total weight and 39% of the value).

- The main fishing nations targeting these species are Lithuania, Latvia, Spain and Poland.

- Spain targets mostly demersal species with higher commercial value, while Lithuania and Latvia target mostly small pelagics (Figure 4.165).

- In terms of landed weight, the most important fleet segments (over 24m LOA) active in the region include: The Lithuanian, Latvian and Polish pelagic trawlers over 40m, followed by the Spanish demersal trawlers 24-40m.

- In terms of landed value, the most important fleet segments include: The Spanish demersal trawlers 24-40m, followed by the Lithuanian and Latvian large pelagic trawlers.

- All the fleet segments analysed, apart from the Italian demersal trawler segment over 40m, generated profits in 2016.

- Yet, many of these fleets operate in other fishing areas and the performance results are a combined account of their total activity. That is, it cannot be determined whether the activity limited to the CECAF area was profitable or not.

- The Italian demersal trawler segment over 40m, which operated exclusively in the CECAF region, was the only fleet segment to suffer losses in 2016.

*Due to explicit data and methodological limitations, all results provided in this chapter should be considered exploratory rather than a source of factual statements that are considered robust enough to be a basis for policy decisions.

Table 4.56 Historical catch (t) data for Member State fleets operating in CECAF regulatory area

	2010	2011	2012	2013	2014	2015
Spain	137,619	150,981	142,530	145,668	128,704	129,754
France	40,886	42,508	40,040	41,969	43,477	44,029
Lithuania	116,850	113,651	43,769	61,880	102,129	24,937
Netherlands	137,626	121,006	37,463	13,806	75,434	20,225
Germany	20,395	35,246	14,582	-	8,282	18,285
Latvia	87,238	89,668	34,904	52,820	57,561	14,303
Portugal	11,940	11,159	8,652	6,027	15,682	7,818
Poland	14,604	60,174	29,179	54,138	23,270	4,497
Greece	1,270	1,090	1,136	905	729	687
United Kingdom	22,552	8,447	4,758	1	6	6
Ireland	33,300	7,931	-	-	-	-
Italy	2,359	2,452	1,146	-	-	-
EU Total	626,639	644,313	358,159	377,214	455,274	264,541

Source: www.fao.org/fishery/statistics/software/fishstatj/en
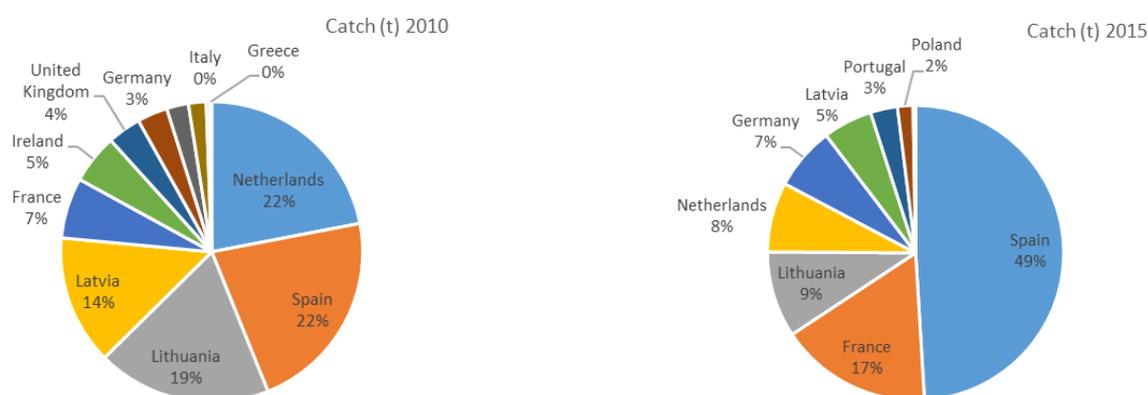
Source: www.fao.org/fishery/statistics/software/fishstatj/en

Figure 4.161 Share of catch in CECAF RA by MS fleet in 2010 (left) and 2015 (right)
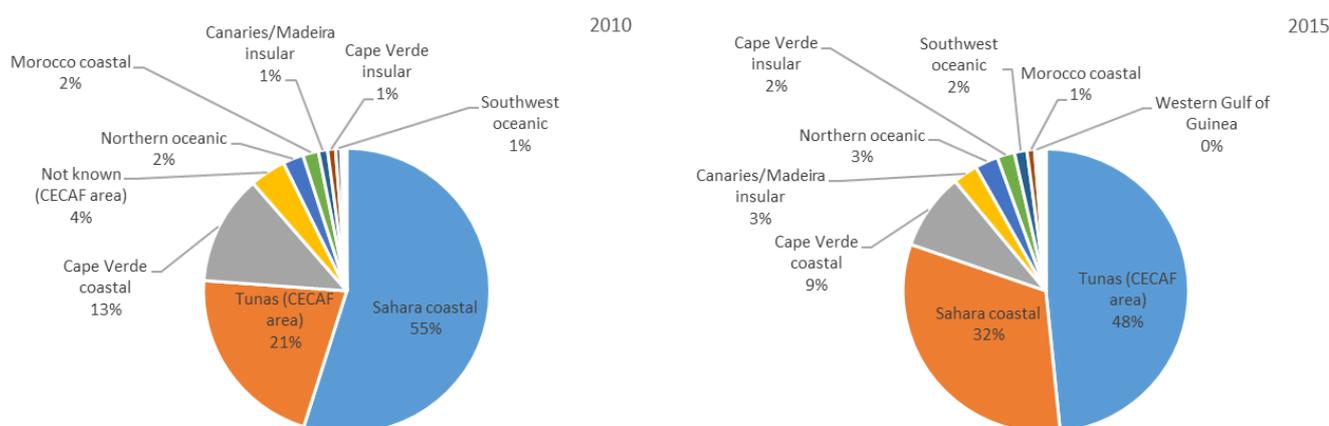
Source: www.fao.org/fishery/statistics/software/fishstatj/en

Figure 4.162 Catches (in quantity) for MS fleet by ocean area in the CECAF area, 2010 and 2015.
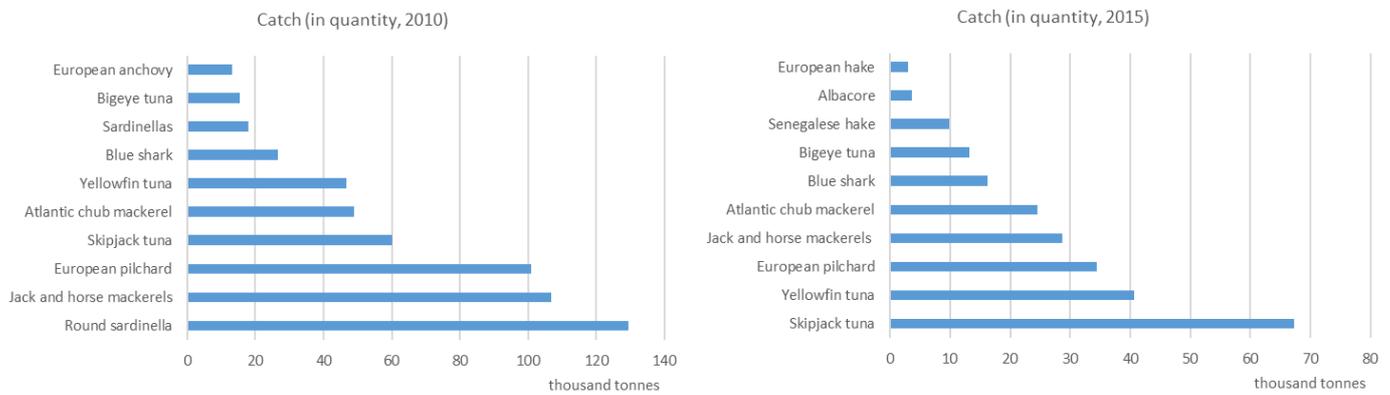
Figure 4.163 Top ten species caught in CECAF RA (t, all species), by EU fleets in 2010 and 2015
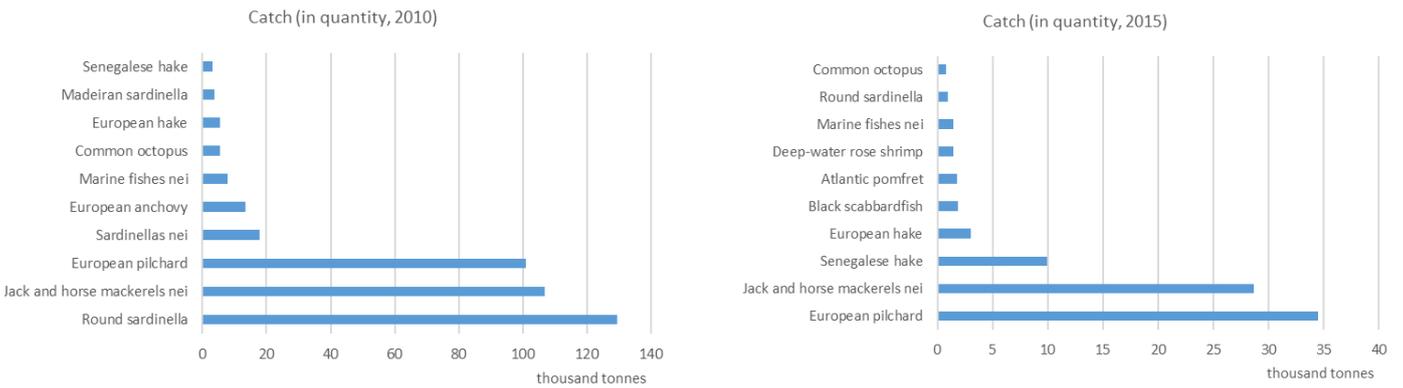
Figure 4.164 CECAF catches, excluding tuna and tuna-like species (including swordfish, marlins and sharks), 2010 and 2015 (sources: FAO)
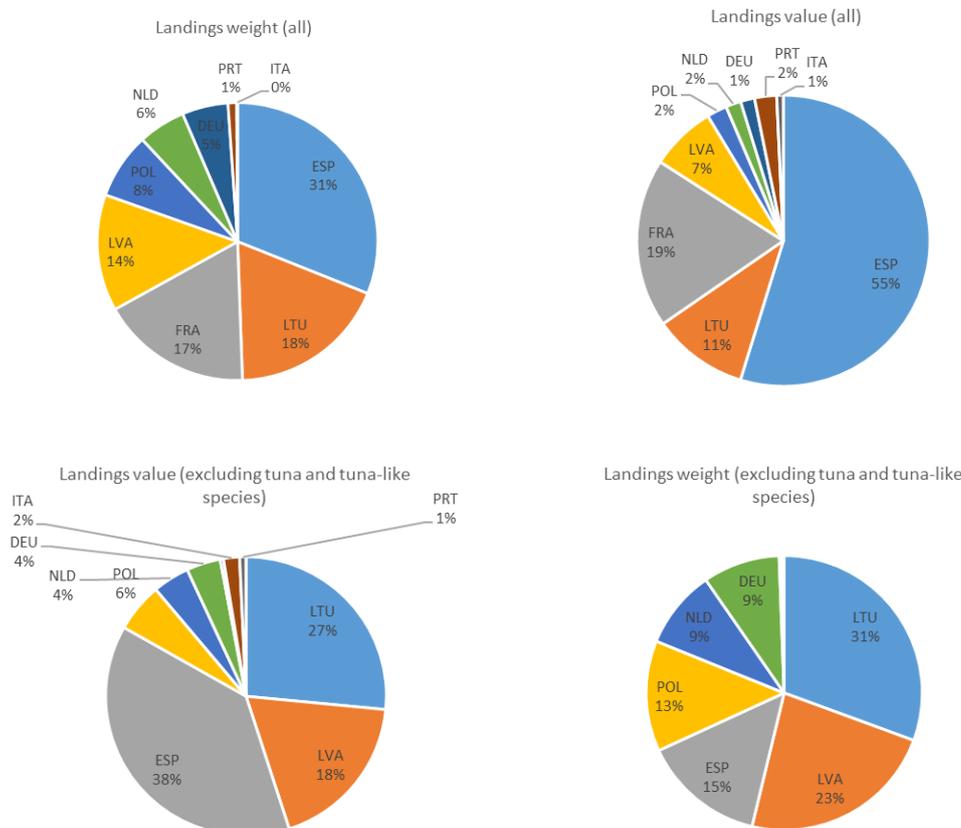
Figure 4.165 Share of landing by MS fleet reported from the CECAF area, including (top) and excluding (bottom) tuna and tuna-like species, 2016

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CECAF Area of Competence - High seas, National waters

CECAF is an advisory body and hence has no mandate on fisheries management in its area of competence. The area of the Committee includes all waters of the Atlantic bounded by a line drawn as follows: from a point on the high water mark on the African coast at Cape Spartel (lat. 35°47'N, long. 5°55'W) following the high water mark along the African coast to a point at Ponta de Moita Seca (lat. 6°07'S, long. 12°16'E) along a rhumb line in a northwesterly direction to a point on 6° south latitude and 12° east longitude, thence due west along 6° south latitude to 20° west longitude, thence due north to the Equator, thence due west to 30° west longitude, thence due north to 5° north longitude, thence due west to 40° west longitude, thence due north to 36° north longitude, thence due east to 6° west longitude, thence along a rhumb line in a southeasterly direction to the original point a Cape Spartel (Figure 4.166).

The Committee covers all living marine resources within its area of competence.
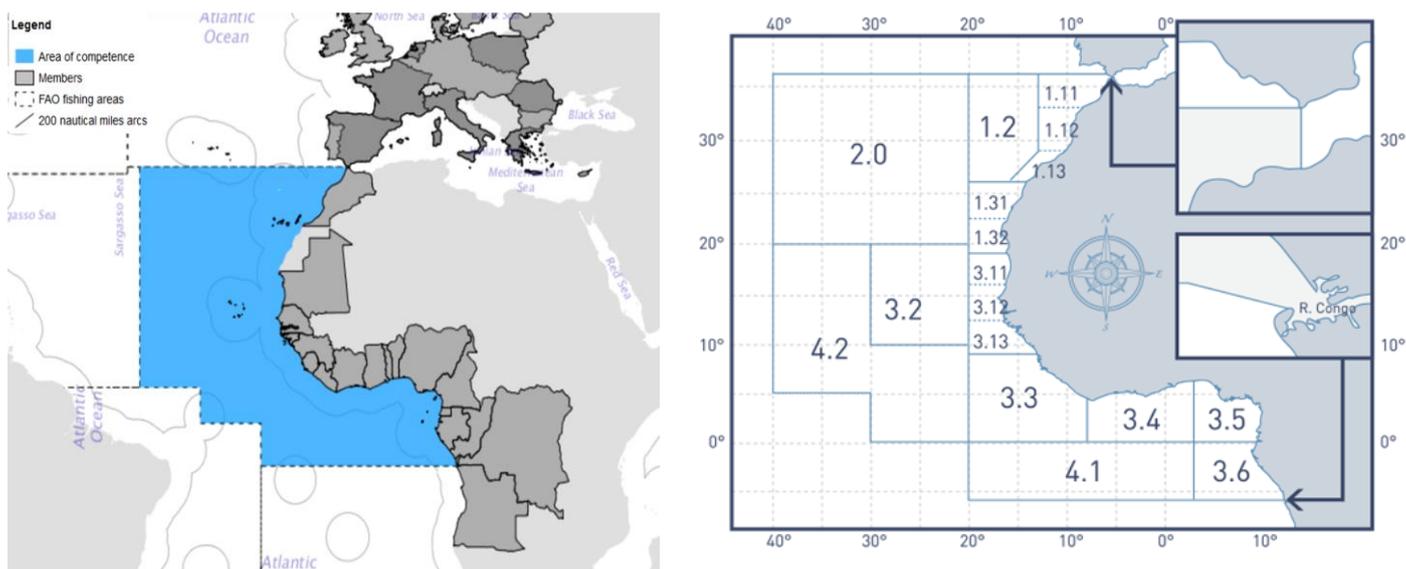
Figure 4.166 Map of the CECAF Area of Competence
Source: FAO http://www.fao.org/figis/geoserver/factsheets/rfbs.html

General overview of the EU fleet in CECAF Convention area

Methodology and data limitations

As mentioned above, a large part of the activity in the CECAF region is related to the Tuna fishery, which is covered under the ICCAT section.

This section aims to report on the activity of other fleets operating in the region targeting mainly small pelagic and demersal species. Most of this activity falls under the framework of six tuna SFPAs in West Africa (Cape Verde, Ivory Coast, Gabon, Liberia, Sao Tomé e Principe, and Senegal) and three Multi-species SFPAs (Guinea-Bissau, Mauritania and Morocco) (see section of SFPAs below).

Tuna (and swordfish) agreements allow EU vessels to catch different species of large tuna and tuna-like species, as they migrate along the shores of Africa using purse seines, pole and line, and surface longlines.

The mixed or multi-species agreements offer fishing opportunities for demersal and pelagic species, tuna, cephalopods and shrimp, mainly involving trawlers, purse seiners and longliners.

Due to data limitations, it was not possible to assess fleet activity by SFPA individually, nor undertake an economic performance analysis of these fleets.

Hence, this section aims to identify the main EU fleet segments with activity in the region targeting non tuna and tuna-like species, providing a baseline for future developments.

Short description by the MS fleet segments active in the CECAF CA (FAO 34) in 2016

Table 4.57 lists the main fleet segments operating in the CECAF area in 2016 targeting species other than tuna and tuna-like species. A short description follows.

Note: due to spatial data limitations it is not possible to accurately determine the dependency of these fleets on activity in the CECAF regulatory area, i.e., some activity may be in the Canaries and Madeira (as well as a small part of the Azores) EEZs, which are located in FAO 34.

Table 4.57 Landings by DCF fleet segments operating in CECAF area, 2016

	Landings CECAF area		Total fleet segment landings		Share CECAF	
	thousand tonnes	EUR million	thousand tonnes	EUR million	weight	value
LTU OFR TM40XX °	70.16	49.67	83.3	84.2	84%	59%
LVA OFR TM40XX	52.98	34.65	-	-	-	-
POL OFR TM40XX	29.85	-	53.1	-	56%	-
ESP OFR DTS2440	21.75	57.22	29.3	80.3	74%	71%
NLD A27 TM40XX °	21.17	7.94	275.3	110.5	8%	7%
DEU A27 TM40XX °	20.69	7.35	167.8	76.3	12%	10%
ESP OFR DTS40XX	9.29	12.01	121.3	145.5	8%	8%
ESP A27 DTS40XX °	1.57	1.60	36.4	96.3	4%	2%
FRA OFR PS40XX	0.69	0.70	114.7	149.0	1%	0%
ITA OFR DTS40XX IWE	0.37	3.47	0.4	3.5	100%	100%
PRT OFR HOK2440 IWE°	0.26	1.36	4.4	14.8	6%	9%

France (FRA)

Two French fleet segments were active in FAO 34 in 2016, the Hook and Line segment 18-24 m (OFR HOK VL1824º, which also includes the segment HOK VL2440m) and purse seiners over 40m (OFR PS VL40XX). Both fleets mainly target tuna and tuna-like species and therefore are not analysed in this section (see ICCAT).

Germany (DEU)

- ### Pelagic trawlers over 40m LOA (DEU TM VL40XX)

The 14 active vessels in 2016 landed a total of 168 thousand tonnes valued at EUR 76 million (due to confidentiality issues, no data on fishing effort is provided).

The fleet segment contains vessels operating in NEAFC (FAO 27), CECAF (FAO 34) and Southeast Pacific (FAO 87) fishing regions. The majority of the landings come from FAO 27 (82% of the landings weight and 85% of the value). Approx. 20 thousand tonnes were taken from NEAFC RA (27.2.a, 27.7.c and 27.7.K) (see NECAF section).

In the CECAF RA, landings were reported from the Sahara Coastal area (Division 34.1.3), amounting to 20.7 thousand tonnes and EUR 7.4 million in 2016 (representing around 12% of the total landings). The target species is European pilchard (17.3 thousand tonnes valued at EUR 6 million.

Some activity also reported in the Southeast Pacific (FAO area 87), where a further 10 thousand tonnes in landings (valued at EUR 4.45 million) were reported, mainly comprising Chilean jack mackerel (9 thousand tonnes at EUR 4.1 million).

Due to confidentiality reasons, no economic data are available for this fleet segment.

ITALY (ITA)

- ### Demersal trawlers over 40m LOA.

There were seven active vessels in 2016, operating exclusively in CECAF RA with bottom otter trawls (OTB). The fleet spent over 508 days at sea, of which 470 were fishing days, and employed 44 FTEs.

Landings in weight amounted to 3.7 thousand tonnes, valued at almost EUR 35 million. The fleet mainly targeted common octopus, common cuttlefish, Mediterranean scaldfish, white grouper, red mullet and common sole.

The fleet segment generated a revenue of almost EUR 3.5 million but is reported to have suffered gross losses in 2016 (Table 4.58).

Table 4.58 Main activity and performance indicators for ITA OFR DTS VL40XX IWE, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
ITA OFR DTS40XX IWE	7	44	508	10,938	371	3,472	3,472	445	12.8	- 144	- 4.1	- 4,027	- 115.99	13.2	10.0	0.4%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

LATVIA (LVA)

- **Pelagic trawlers over 40m LOA and vessels using pots/traps over 40m LOA**

Overall 12 vessels operated in both the NEAFC and CECAF RAs in 2016, spending around 1 644 fishing days, employing 693 FTEs.

Around 708 were days at sea were reported in CECAF area, of which 637 fishing days.

The fleet segment also reported activity in NEAFC: around 1 007 fishing days were spent in the region, amounting to around 1.2 thousand tonnes landed in 2016.

Landings from the CECAF area amounted around 52.9 thousand tonnes in 2016, valued at around EUR 34.6 million. Around EUR 3.3 million were also reported from NEAFC region.

The fleet segment was profitable but due to confidentiality reasons, economic data are not reported.

LITHUANIA

- **Pelagic trawlers over 40m LOA (LTU OFR TM VL40XX)**

In 2016, the fleet segment operated in FAO areas 27, 34 and 47. While fishing effort was almost evenly divided between FAO 27 and 34, in terms of landing the CECAF areas holds more importance, representing 86% of the total landed weight and 60% of the value in 2016, less than in previous years (Figure 4.167 and Figure 4.168).

Around 1 110 days at sea were reported in FAO 34, of which 970 were fishing days, mainly in the Sahara Coastal (sub-divisions 34.1.3.2 and 34.1.3.1) and Cape Verde Coastal (sub-divisions 34.3.1.1). Some activity (30 days) was also reported in the Cunene Division (47.1.3), with around 74.8 thousand tonnes landed. The fleet segment also reported activity in the NEAFC CA (see NEAFC RA section for more details).
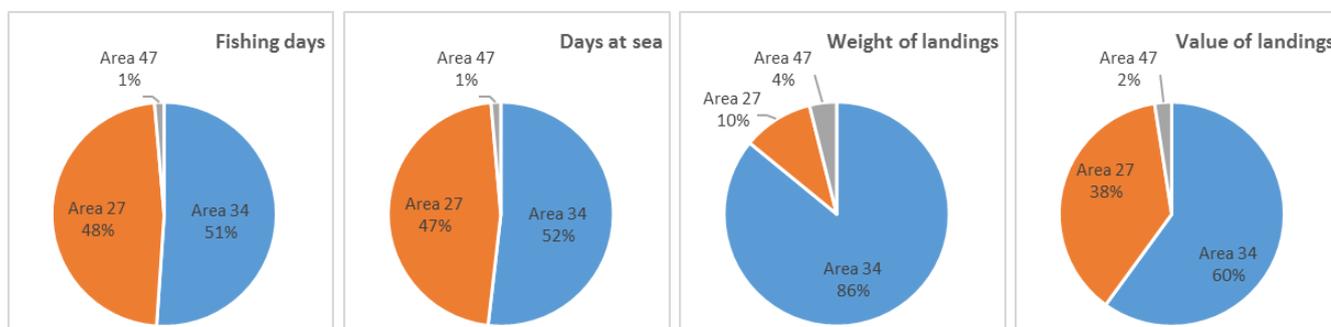
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.167 Share of fishing activity and landings by main FAO fishing areas for LTU Pelagic trawlers over 40m LOA, 2016
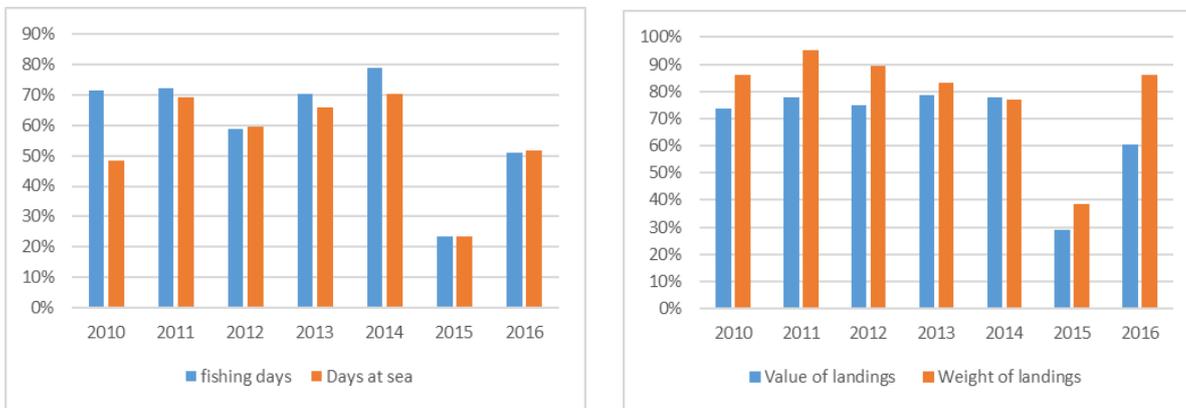
Figure 4.168 Trends on fishing dependency in FAO 34 for the LTU pelagic trawlers over 40m LOA

The main species landed from the CECAF area include the small pelagics Atlantic horse mackerel (38 thousand tonnes; EUR 31 million), chub mackerel (18 thousand tonnes; EUR 12 million) and European pilchard (10 thousand tonnes; EUR 4 million) (Figure 4.169).
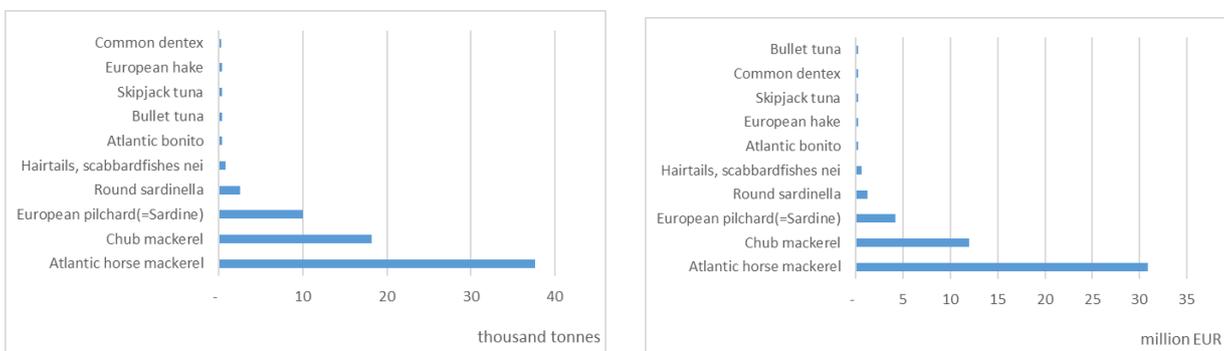
Figure 4.169 Top 10 species landed by weight and value for the LTU Pelagic trawlers over 40m LOA in FAO 34, 2016

The fleet segment, which represents almost 92% of the Lithuanian fleets total revenue, posted EUR 5.5 million in gross profit in 2016, but reported net losses (-EUR 2 million). Average wage per FTE was estimate at EUR 29.2 thousand (Table 4.59).

Table 4.59 Main activity and performance indicators for LTU OFR TM VL40XX, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	€)	(%)	(thousand €)	(thousand €)	
LTU OFR TM40XX °	9	253	2,142	506	83,270	83,676	64,024	12,858	20.1	5,469	8.5	- 2,141	- 3.3	29.2	50.8	91.6%

The Netherlands (NLD)

- **Pelagic trawlers over 40m LOA**

This fleet segment had seven active vessels in 2016, employing 346 FTEs and spending around 1 824 days at sea, of which 1 460 where fishing days. Total landings amounted to 275 thousand tonnes, valued at about EUR 110 million.

The fleet spent 240 days at sea in the CECAF RA, of which 192 where fishing days, representing 13% of fleet segment's total effort deployed in 2016. Most of the activity in CECAF RA occurs in the Sahara Coastal (Division 34.1.3) and, to a lesser extent, in the Cape Verde Coastal (Division 34.3.1).

Landings from the CECAF area amounted to 21.3 thousand tonnes (7% of the fleet segment's landed weight) valued at almost EUR 8 million (almost 8% of the fleet segment's landed value).

In the CECAF RA, the fleet mainly targets small pelagics: European pilchard (16 thousand tonnes valued at EUR 5.3 million) followed by chub mackerel (1.9 thousand tonnes valued at EUR 1.2 million) and horse mackerel (1.8 thousand tonnes valued at EUR 935 million).

The fleet also caught some tuna and tuna-like species: Atlantic bonito (96 tonnes), Frigate tuna (50 tonnes), as well as some demersal species: European hake (17.6 tonnes), amongst others.

The Dutch pelagic trawlers, not very dependent on this region for their activity, were profitable in 2016, generated a gross profit of EUR 26 million and profit margin of 24%. Average wage per FTE was estimated at EUR 81.8 thousand (Table 4.60).

Table 4.60 Main activity and performance indicators for NLD A27 TM VL40XX, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
NLD A27 TM40XX °	7	346	1,825	182	275,322	110,369	110,349	54,643	49.5	26,331	23.9	7,783	7.05	81.8	157.9	22.6%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Poland (POL)

- ### Pelagic trawlers over 40m LOA (POL OFR TM VL40XX)

There were two Polish large pelagic trawlers active in 2016, employing 191 FTEs. Activity in CECAF amounted to 626 days at sea, of which 479 where fishing days, employing 170 FTEs. Most of the activity occurred in the CECAF areas of Sahara Coastal – Division 34.1.3 and the Cape Verde Coastal (Division 34.3.1). Activity was also reported in the Cunene and Cape Cross Divisions (47.1.3 and 47.1.4, included in the Angolan and Namibian EEZs) and in the Southeast Pacific (Southern Oceanic, Division 87.3.3) (Figure 4.170).

Landings taken in the CECAF area amounted to almost 30 thousand tonnes (no data available on value), composed mainly of Atlantic horse mackerel (16.5 thousand tonnes), Atlantic mackerel (8.6 thousand tonnes) and European pilchard (2.2 thousand tonnes value at EUR 5.3 million) (Figure 4.171).

The fleet also targets Atlantic horse mackerel (19.7 thousand tonnes, 97% of the total) in the Southeast Atlantic along the African coast (FAO 47) and in the Southeast Pacific (FAO 87), the fleet almost exclusively targets Chilean jack mackerel (2.9 thousand tonnes, 99% of the landings).

Due to confidentiality reasons, economic data are not reported.
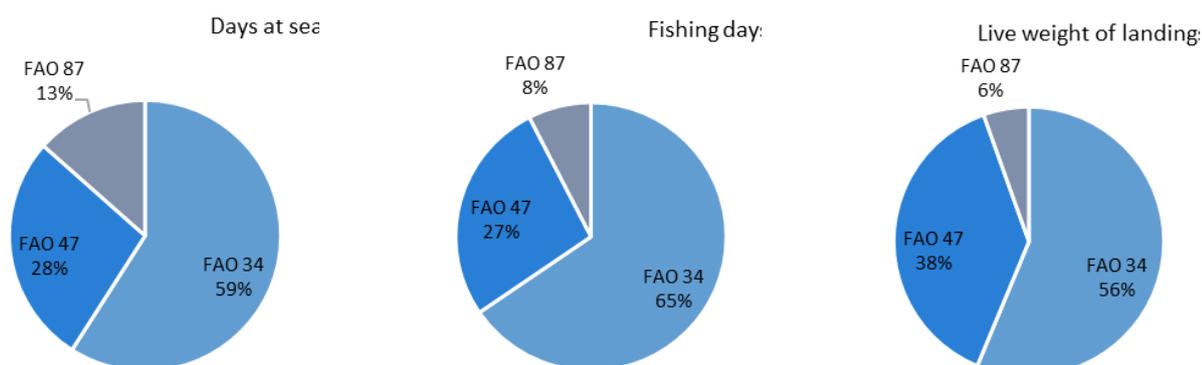
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.170 Share of activity of the Polish pelagic trawlers over 40m by main FAO fishing area, 2016
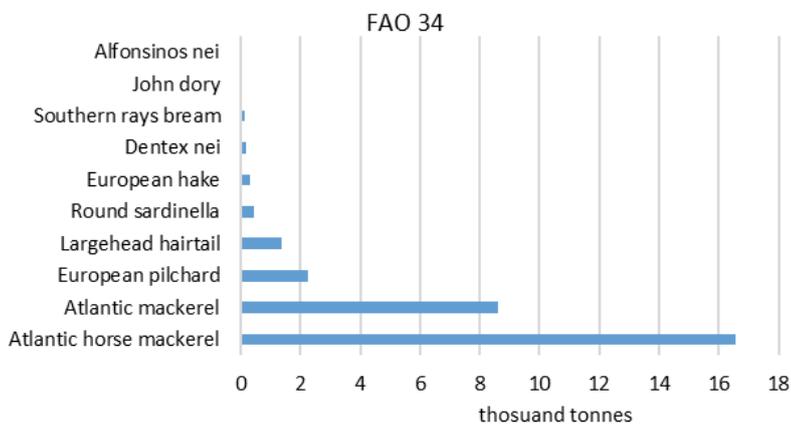
FAO 34

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.171 Top ten species landed from FAO 34 by the Polish pelagic trawler segment over 40m weight, 2016

Portugal (PRT)

- **Hook and line vessels 24-40m**

This fleet segment, comprised of 12 vessels in 2016, was active in most regions of the Atlantic, as well as, in the Indian and east Pacific oceans.

Around 1 056 days at sea were spent in FAO 34 (39% of the total DAS), of which 979 were fishing days (Figure 4.172). Landings amounted to 1.2 thousand tonnes valued at EUR 4.4 million, mostly comprised of tuna and tuna-like species (Figure 4.173). When excluding tuna and tuna-like species, landings amounted to 218 tonnes and EUR 1.2 million (that is, around 6% in weight and 9% in value of the total landings), mainly composed of hake and shrimp species.

The fleet segment as a whole was profitable, generating a gross profit of almost EUR 5.8 million, and a profit margin of 40% in 2016. Average wage was estimated at EUR 16.7 thousand per FTE (Table 4.61).
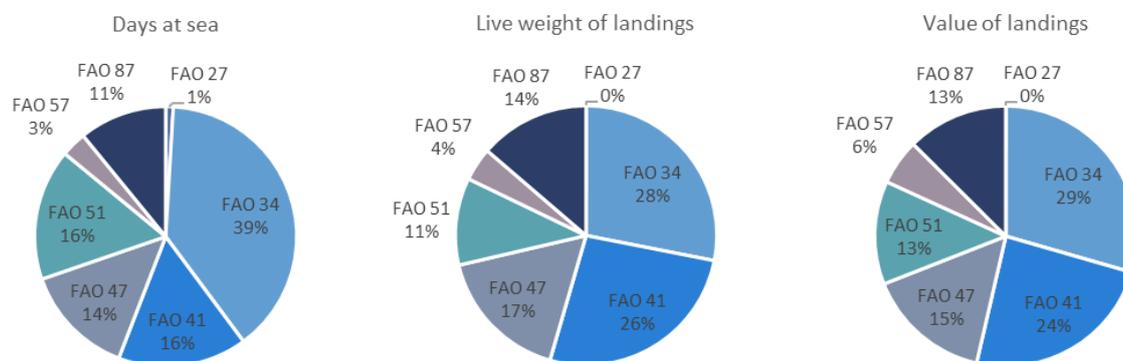
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.172 Share of fishing activity by main FAO fishing area for PRT OFR HOK VL2440 IWE, 2016
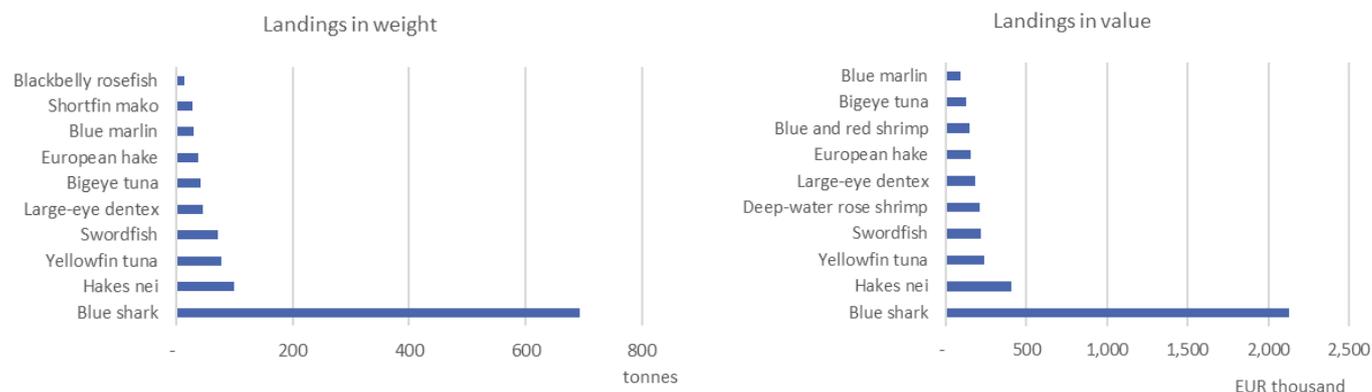
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.173 Top ten species landed from FAO 34 by the Portuguese OFR HOK VL2440 IWE, 2016

Table 4.61 Main activity and performance indicators for PRT OFR HOK VL24-40 and VL40XX IWE, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
PRT OFR HOK2440 IWE°	12	131	2,604	925	4,408	14,710	14,389	7,974	55.4	5,782	40.2	3,913	27.20	16.7	60.9	3.6%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

SPAIN

Spain has several fleet segments operating in FAO 34, mostly targeting tuna and tuna-like species (analysed in the ICCAT section). Around ten fleet segments also catch other demersal and pelagic species. The only fleet segment targeting other species with high dependency on the region is the demersal trawler segment 24-40m LOA.

- ### Spanish demersal trawlers 24-40m (ESP OFR DTS VL2440)

The 40 vessels operating in 2016, deployed almost 11.5 thousand days at sea, of which 10.8 thousand were fishing days, to landed over 29 thousand tonnes, valued at EUR 80.5 million.

The fleet's activity in FAO 34 amounted to almost 7 thousand days at sea, totalling 21.8 thousand tonnes valued at EUR 57.3 million, or 71% of the fleet segment's total landed value in 2016 (Figure 4.174). Dependency on the region has decreased over the period analysed; from near 100% of landings taken from the region during the period 2010-2012, to a low in 2015 (less than 60% of landings), increasing slightly in 2016 (Figure 4.175).

This fleet segment targets mainly demersal fish species and shrimps. Senegalese hake and Atlantic horse mackerel were the most landed species in 2016 in terms of weight. In terms of value, the deep-water rose shrimp and striped red shrimp are also important species for the fleet segment (Figure 4.176).

Senegalese hake make up 35% of the total landings from CECAF, followed by deep-water rose shrimp (12%) and Atlantic horse mackerel (10%). Combined, Senegalese hake and Atlantic horse mackerel make-up 66% of the landed weight.

The fleet segment, as whole, showed good performance in 2016 and improved compared to 2015, posting a gross profit margin of 15.5%. Average wage per FTE was estimated at EUR 10.3 thousand (Table 4.62).
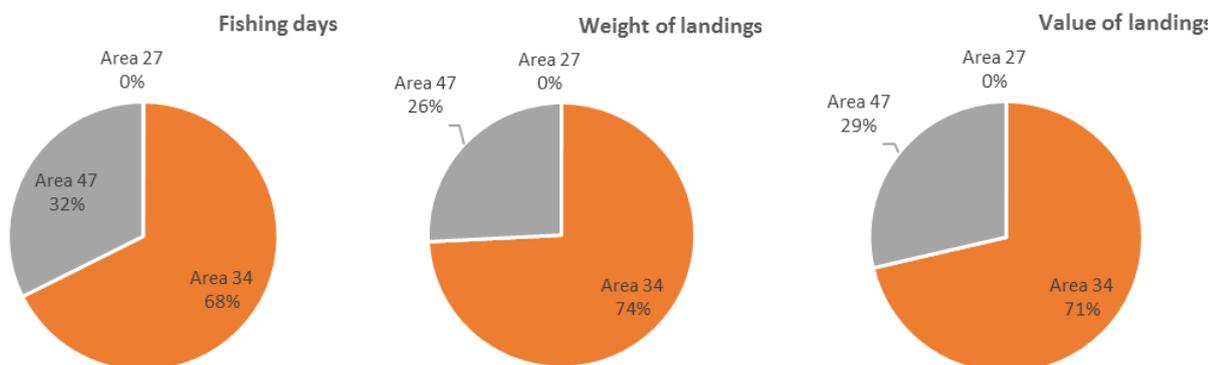
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.174 Share of fishing activity and landings by main FAO fishing areas for the ESP demersal trawlers 24-40m, 2016
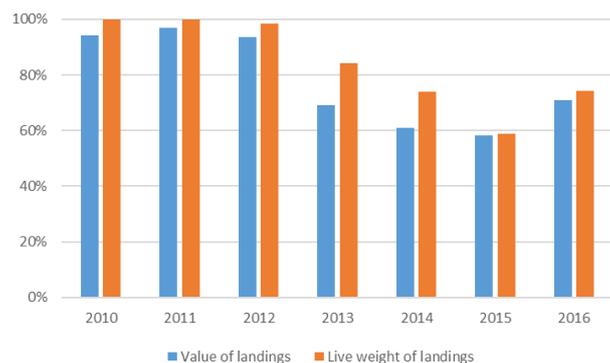
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.175 Trends on fishing dependency in FAO 34 for ESP demersal trawlers 24-40m
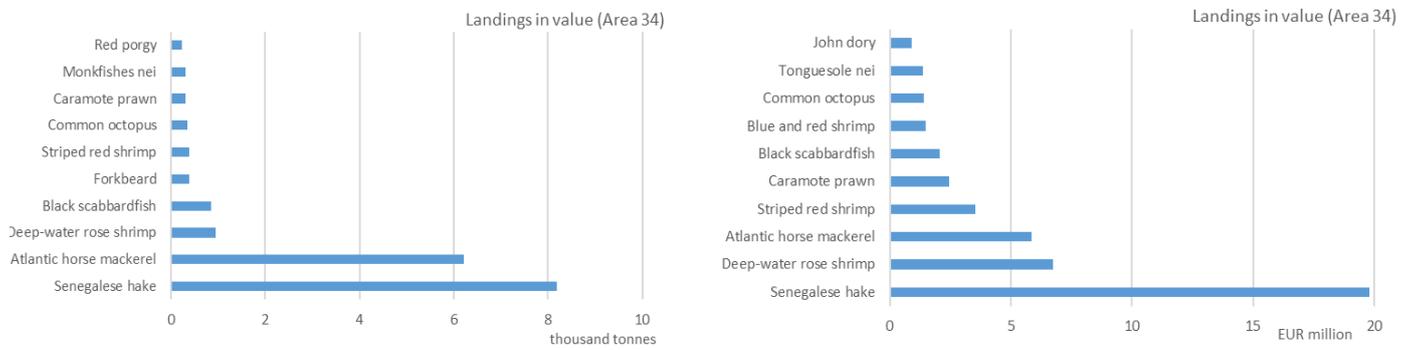
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Figure 4.176 Top 10 species landed by ESP OFR DTS VL2440 in FAO 34, 2016

Table 4.62 Main performance indicators for ESP OFR DTS VL2440, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	
ESP OFR DTS2440	40	1,228	11,448	1,098	29,344	80,543	92,998	27,039	29.1	14,421	15.5	13,219	14.21	10.3	22.0	4.7%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

United Kingdom (GBR)

According to data from CECAF, the UK fleet reported limited activity in 2015. No activity in the regions was reported through the DCF in 2016.

EU Sustainable Fisheries Agreements (SFPAs)

SFPAs are negotiated and concluded by the European Commission on behalf of the EU. The EU's financial contribution is composed of distinct parts: 1) access rights to the EEZ; 2) sectoral support tailored to the needs of the partner country (e.g. support small-scale fisheries), and 3) enhancing fisheries governance capacity of the partner country administrative and scientific capacities, monitoring and control activities (DG MARE, 2017, 2018).

In 2016, the EU had 14 active SFPAs protocols in force with third countries:

- Ten tuna SFPAs: six in West Africa (Cape Verde, Ivory Coast, Gabon, Liberia, Sao Tomé e Principe, and Senegal); four in the Southwest Indian Ocean (Comoros, Madagascar, Seychelles and Mauritius) and one in the Pacific Ocean (Cook Islands).

Tuna (and swordfish) agreements allow EU vessels to catch different species of large tuna and tuna-like species, as they migrate along the shores of Africa and across the Indian Ocean, using purse seines, pole and line, and surface longlines.

- Four Multi-species SFPAs with Guinea-Bissau, Mauritania, Morocco and Greenland.

These mixed (multi-species) agreements offer fishing opportunities for demersal and pelagic species, tuna, cephalopods and shrimp, mainly involving trawlers, purse seiners and long-liners.

In 2016, the 14 SFPAs granted to the EU fleet around 540 thousand tonnes, circa 10% of the total EU landings, of which tuna species comprised roughly 29% of the total, small pelagics 57% and demersal species 14% (Table 4.63).

The total cost of these agreements amounted to EUR 183 million, of which about 70% (EUR 128 million) was paid by the EU, and 30% by vessel owners. Around 24% of the EU payment (i.e., EUR 30.3 million of the EUR 128 million) was devoted to support the partner countries' fisheries sector (development and governance).

When considering an average price of about EUR 1 360 per tonne (based on the average price of target species received by the OFR fleet segments), the total value of the SFPAs quotas in 2016 is estimated at over EUR 730 million. That is, the total cost of the SFPAs in 2016 represented around 25% of the value of landings obtained.

Table 4.63 List of SFPAs with active protocol in 2016, by type of agreement, length of the protocol, quotas (tonnes per year), total costs (EUR) per year, including sectoral support and private costs (fees)

Country	Type	years	Quotas	Total costs	Sectoral support	Sector fees
Cabo Verde	Tuna	4	5,000	825,000	262,500	300,000
Comoros	Tuna	3	6,000	930,000	300,000	330,000
Côte d'Ivoire	Tuna	5	6,500	907,500	257,500	227,500
Gabon	Tuna	3	20,000	3,064,583	450,000	1,393,750
Liberia	Tuna	5	6,500	1,053,000	325,000	403,000
Madagascar	Tuna	4	15,750	2,550,625	700,000	1,023,750
Mauritius	Tuna	4	4,000	845,000	355,000	270,000
São Tomé and Principe	Tuna	4	7,000	1,121,250	325,000	420,000
Senegal	Tuna (+hake)	5	16,000	2,786,000	750,000	1,048,000
Seychelles	Tuna	6	50,000	8,408,333	2,533,333	3,291,667
Guinea- Bissau*	Mixed	3	18,236	10,494,756	3,000,000	1,294,756
Greenland	Mixed	5	42,726	19,190,413	2,931,000	3,090,435
Mauritania	Mixed	4	259,000	91,018,750	4,125,000	31,893,750
Morocco	Mixed	4	83,000	40,000,000	14,000,000	10,000,000
Total		**4.2**	**539,712**	**183,195,210**	**30,314,333**	**54,986,608**

*Refers to 2015 data. Source: adapted from DG MARE, 2018; Cofrepeche et al. 2016; Caillard et al. 2017.

5 NATIONAL CHAPTERS

BELGIUM: overall improved performance and operating at a net profit of EUR 16.8 million (+150%). Revenue increased by 11%, amounting to EUR 94.8 million; GVA estimated at EUR 54 million (+25%) and gross profit EUR 23.8 million (+64%).

BULGARIA: overall a deteriorated but positive performance. Revenue decreased 24%, amounting to EUR 5.4 million; GVA estimated at EUR 3.1 million (-33%), gross profit EUR 1.4 million and net profit EUR 0.2 million.

CROATIA: although still operating at a net loss, overall economic performance continues to improve. Revenue amounted to EUR 66.2 million; GVA estimated at EUR 30.8 million (+13%), gross profit EUR 5.4 million (+308%) and a net loss of -EUR 11.8 million (+23%).

CYPRUS: still operating at a loss. Revenue increased 2%, amounting to EUR 7.6 million; GVA estimated at EUR 2.6 million (+137%), gross profit -EUR 1.4 million and net profit -EUR 3.6 million (+47%).

DENMARK: overall improved performance. Revenue increased 7%, amounting to EUR 482 million; GVA increased by 8%, amounting to EUR 340 million, gross profit increased 7%, amounting to EUR 213 million and net profit increased by 23%, amounting to EUR 131 million.

ESTONIA: overall improved situation. Revenue remained stable, amounting to EUR 14.8 million; GVA estimated at EUR 9.9 million (+6%), gross profit EUR 4.5 million (+24%) and net profit EUR 2.9 million (+68%).

FINLAND: improved situation even with decreased revenues (-1%); GVA was EUR 17.2 million, 15% more than the year before. Gross profit increased also (+39%) to EUR 10.8 million but was not high enough to cover the estimated capital costs of the fleet resulting in a net loss of -EUR 4.2 million.

FRANCE: improved performance. Revenue increased 11%, amounting to EUR 1.3 billion; GVA estimated at EUR 758 million (+17%), gross profit EUR 257 million (+33%) and net profit EUR 160 million (+65%).

GERMANY: overall improved performance, varying by fishery; operating at a profit. Revenue increased 10%, amounting to EUR 162 million (excluding the pelagic trawler fleet); GVA estimated at EUR 98 million (+20%), gross profit EUR 46 million (+43%) and net profit EUR 26 million (+266%).

GREECE: improved economic results according to AGRERI, 2018 report. The cost of wages and salaries increased compared to 2015.

IRELAND: overall improved performance. Revenue (EUR 306 million) up 23%, GVA (EUR 164.5 million) up 43% and gross profit (EUR 71 million) +107%.

ITALY: overall improved performance with revenue increasing 2%, amounting to EUR 918 million; GVA estimated at EUR 577 million (+4.5%), gross profit EUR 285.6 million (+4%) and net profit EUR 122.5 million (+15%).

LATVIA: overall deteriorated performance, yet the fleet operated at a profit. Revenue decreased by 15%, amounting to EUR 17.6 million; GVA estimated at EUR 7.2 million, gross profit EUR 4.2 million and net profit EUR 3.1 million.

LITHUANIA: overall improved performance yet still operating at a net loss. Revenue increased by 19%, GVA was estimated at EUR 15.6 million (+346%), gross profit at EUR 6.4 million (+148%). Net loss amounted to -EUR 1.8 million (+93%).

MALTA: Overall deteriorated performance. Revenue decreased 17%, amounting to EUR 10.4 million; GVA estimated at EUR 4.2 million (-29%), gross loss -EUR 0.2 million (-109%) with a net loss of -EUR 2.6 million (-201%).

NETHERLANDS: Overall improved performance. Revenue increased 25%, amounting to EUR 472 million; GVA estimated at EUR 283 million (+54%), gross profit EUR 132 million (+92%) and net profit EUR 96 million (+185%).

POLAND: overall improved situation. Revenue increased 4%, amounting to EUR 51.6 million; GVA estimated at EUR 31 million (+12%), gross profit EUR 16.6 million (+23%) and net profit EUR 7.7 million (+38%).

PORTUGAL: overall improved performance. Revenue increased by 11%, amounting to EUR 395 million; GVA estimated at EUR 268 million (+8%), gross profit EUR 122 million (+5%) and net profit EUR 76.8 million (+8%).

ROMANIA: overall deteriorated performance. Revenue decreased by 9%, amounting to EUR 3.9 million; GVA estimated at EUR 2.9 million (-16%), gross profit EUR 2.3 million (-24%) and net profit EUR 1.7 million (-34%).

SLOVENIA: overall improved performance. Revenue increased 9%, amounting to EUR 2.2 million; GVA estimated at EUR 1.8 million (+18%), gross profit EUR 1.1 million (+80%) and net profit EUR 0.9 million (+279%).

SPAIN: overall improved performance. Although revenue increased by only 0.5%, amounting to EUR 1.99 billion; GVA increased by 12% (EUR 1.1 billion), gross profit by 31% (EUR 465 million) and net profit by 77% (EUR 384 million).

SWEDEN: overall improved performance. Revenue increased 5%, amounting to EUR 129 million; GVA estimated at EUR 67.9 million (+12%), gross profit EUR 38 million (+22%) and net profit of EUR 10.7 million.

UNITED KINGDOM: overall performance remained strong. Revenue increased by 5%, amounting to EUR 1.17 billion; GVA estimated at EUR 651 million (+16%), gross profit EUR 351 million (+27%) and net profit EUR 292 million (+54%).

5.1 Belgium

Short description of the national fleet

Fleet capacity

Throughout 2017 there were 73 vessels registered in the Belgian national fleet with a gross tonnage (GT) of 14 thousand tonnes and an engine power of 47 thousand kW; 67 (92%) of these vessels were active. A number of vessels changed owners throughout the year, leading to 71 vessels in the EU fleet registry by the end of 2017. Throughout 2016 there were 68 active vessels.

Fleet structure

As the Belgian fleet is small, fleet segment aggregation (clustering) has been inevitable. The Belgian fleet is mainly composed of demersal trawlers and beam trawlers. Only a few other fishing gears were in use (seiners, dredges, gill nets and trammel nets). As the number of vessels using these as their main gear has been very low throughout the years, they were grouped in a separate fleet segment (PMP VL1824). However, analysing this very small and heterogeneous fleet segment is senseless. Three important fleet segments as defined in the Data Collection Framework were identified after clustering: DTS VL2440, TBB VL1824 and TBB VL2440. Belgium does not have vessels of more than 40 meters.

Nationally the fishing fleet is divided into a "*large-fleet segment*" with an engine power of >221 kW (48% of the vessels in 2016) and a "*small-fleet segment*" with an engine power of ≤221 kW (52% of the vessels in 2016) (Devogel & Velghe, 2017). This division is of importance as it forms the basis for management measures such as effort limitations and quota distribution. In general, "*large-fleet segment*" vessels visit the far-off fishing grounds and are not permitted to fish within 12 nautical miles from the Belgian coast. On the other hand, the "*small-fleet segment*" is mainly active closer to shore in the southern and central part of the North Sea and English Channel.

Employment

Total number of crew on board was estimated around 320 in 2016, without taking into account rotation, corresponding to a total employment of 230 FTEs. Employment was relatively highest in TBB VL2440 (58%) with an average of 5 FTE per vessel, corresponding to an average of 6.2 crew on board.

In DTS VL2440 there were 3.2 FTE per vessel, corresponding to 4.8 crew on board, while in TBB VL1824 there were 2.2 FTE per vessel, corresponding to 3.0 crew on board. These numbers are close to one another in the last group, indicating little rotation, which is not surprising as vessels in this fleet segment make shorter trips.

According to the Social Secretariat of the Coast, 18% of the fishers were over 50 years of age while 26% were under 30 (data for 2016, Platteau et al., 2016). In 2003, a law on employment ended the "No catch, no pay" era, assuring income security for each trip through a set minimum wage per day at sea. This is unique in Europe. Compared to other member states, Belgian fishers have a relatively high income as they receive a fixed percentage of the gross value of landings that is usually much higher than the guaranteed minimum wage. So a larger catch usually leads to a higher income. Finding appropriate crew remains a challenge, as young people who graduate from the Maritime Institute prefer to work for dredging companies or in tourism. Working days on board can be extremely long (between 4 and 24 hours) and fishing remains a dangerous profession. In 2015, there were 35 accident declarations, some of which were deadly (Platteau et al., 2016).

Effort

Belgian vessels operate mainly in the North Sea, the English Channel, the Bristol Channel and other areas of the North Atlantic. In 2016, a total of 14.3 thousand days were spent at sea; 2% more than in 2015.

Production

Despite a declining fleet in terms of number of vessels, total landed weight shows an increasing trend since 2008. The value of landings does not follow this trend illustrating the volatile nature of fish prices. However, the value of landings per day at sea has overall been increasing since 2008. 2009 and 2013 represent the years with the lowest total value of landings. Coincidently both these years follow a year where fuel prices were extremely high.

In 2016, 26.9 thousand tonnes of seafood were landed by the Belgian fleet, with a value of EUR 91.9 million. The fleet targets mainly demersal species. Sole remained the dominant species, generating the highest landed value (EUR 28 million) and representing about 30% of the total landings value. In terms of weight, European plaice remained the top landed species (9.4 thousand tonnes or 35% of the total landed weight) and generated the second highest landed value (EUR 15 million).

The North Sea (27.IV) was the most important area in terms of total landed value (49%), followed by the Eastern Channel (27.VII.d) with 28%, the Bristol Channel (27.VII.f) and the Celtic Sea (27.VII.g,h) (together 18%) and the Bay of Biscay (27.VIII) (4%). However, when considering average prices, landings from the Bay of Biscay were the most valuable, followed by fishing areas in the Western Waters. Landings from the North Sea had the lowest value per kg.

Economic results for 2016 and recent trends

National fleet performance

The economic performance of the fleet improved even further compared to previous years. After years of being in a loss making position, net profit was positive in both 2015 and 2016. Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 54.0 million, EUR 23.8 million and EUR 16.8 million, respectively. GVA increased by 25%, gross profit and net profit increased by 64% and 150%, respectively. Gross and net profit margins increased by 47% and 125%. These results indicate a significantly improved economic situation compared to previous years.

Revenue, estimated at EUR 94.8 million, an increase by 11% as income from landings increased. Other income and direct income subsidies remained comparable to those in 2015. Therefore, total income (no income from fishing rights) increased considerably, amounting to EUR 96.4 million. On the other hand, total operating costs remained comparable to those made in 2015. Energy costs (EUR 13.4 million) decreased by 17% compared to 2015 and represented only 35% of what they were in 2008. Crew costs increased by 6%, repair and maintenance costs increased by 34%.

Overall, the cost structure has remained relatively constant over the years with energy and crew costs representing the largest operating costs. However, the share of energy costs decreased considerably in 2015 and 2016. Labour costs on the other hand increased to 36% of overall costs in 2016. Contrary to the situation in some other European countries, the crew share is a direct percentage of the gross value of landings (without subtracting variable costs first). The crew share usually amounts to about 30% of the value of landings. As value of landings increased by 12% so did the labour costs while the number of total FTE slightly decreased. This means that the crew earned more in 2016 compared to previous years. In 2016, the wages and salaries of the crew represented 31% of the value of landings.

The (depreciated) replacement value of the Belgian fleet was estimated at EUR 31.7 million. The average age of the vessels is high and increases by one unit every year. Newly built or younger vessels rarely enter the fleet to replace older ones.

Investments increased enormously, however, this may be an anomaly as a result of a different interpretation of this variable. The questionnaire was adjusted in 2017 to meet the needs of the New 2016 EU Decision

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 25%, indicating a much improved operating efficiency of the sector. This is 8 percentage points higher than in 2015. Since 2013 gross profit margin increased every year. Net profit margin was estimated at 17.7% in 2016, this too is an increase compared to previous years and indicates a more positive outlook. Between 2008 and 2013, profit margins were generally low and even negative in some years. The Rate of Return on Fixed Tangible Assets (RoFTA) also highly increased in 2015 (13%) and 2016 (52%) compared to previous years.

In 2016, a total of 14.3 thousand days were spent at sea, a comparable figure to 2015. Average days at sea per vessel increased compared to previous years (+9%) indicating that circumstances were beneficial to set sail. More striking, the **landings per unit of fishing effort** (kg per day at sea) has been increasing since 2009. In 2016, it increased by 29% compared to the values in 2008.

Fuel consumption per active vessel drastically decreased between 2008 and 2009, however it has been slowly increasing again since 2011. In general, efforts have been made since the fuel crisis to use more fuel-efficient engines and fishing techniques. Fuel prices were particularly high in 2008 and 2012. **Fuel consumption per day at sea** steeply decreased between 2008 and 2011, stagnated until 2013, increased slightly again in 2014 and 2015, but decreased in 2016. In 2016, the total amount of energy

consumed by the fleet decreased by 4% compared to 2015, while energy costs decreased further by 17% as a result of lower fuel prices.

Energy consumption per landed tonne has followed an overall decreasing trend since 2008 (-30%), with the lowest estimated value in 2016 of 1.3 thousand litres per landed tonne (-12% compared to 2015). One of the reasons behind this still relatively high fuel consumption is that the fishing grounds are spread out and sometimes far away from the Belgian coast. Another explanation is related to the use of trawling gear, as the focus remains on catching demersal species. Despite this, the fleet seems to be making efforts to reduce their fuel consumption and improve their overall efficiency.

Labour productivity (GVA/FTE) also increased significantly in 2016 as income from landings increased while other income remained the same and energy costs decreased (other operational costs included in GVA are less important). FTE on the other hand decreased by 9%. This indicates that a unit of labour input is producing more output or that the same amount of output is being produced with fewer units of labour. Labour productivity may also provide an indicator of worker's wellbeing or living standards, assuming that increases in productivity are matched by wage increases. As stated before the crew share is a direct percentage of the gross value of landings and as the latter increased significantly, so did the wages.

Performance by fishing activity

Small-scale coastal fleet

In 2014, there was only one active fishing vessel under 12 meters long, but there were no vessels belonging to a SSCF according to the European definition. In 2016, one vessel was introduced that could meet the requirements (vessel under 12 meters using passive gears).

Performance of selected fleet segments

The Belgian fleet is dominated by trawlers (beam, shrimp and otter). In 2016, the larger beam trawlers (TBB VL2440) appear to perform better than the smaller ones (TBB VL1824) in terms of GVA, revenue and profit. However, profit margins are comparable. The demersal trawlers (DTS VL2440) also have lower profits than the larger beam trawlers, but their profit margins are higher. This fleet segment seems to be relatively performing the best. It must be noted that this is a clustered fleet segment containing a wide range of length categories.

Roughly TBB VL2440 corresponds to the nationally defined "*large-fleet segment*", consisting of vessels that make longer trips and visit the faraway fishing grounds. On the other hand, TBB VL1824 is a clustered segment and more or less corresponds to the "*small-fleet segment*". These are the coastal vessels and *Eurocutters* that are allowed to fish within 12 nautical miles of the coast.

Beam Trawl 24-40m: 28 active vessels operating in FAO fishing area 27, predominantly in ICES area 27.VII, but also in the North Sea (27.IV) and Bay of Biscay (27.VIII), employing 58% of total FTE. With fishing rights in the distant North Sea and the Northeast Atlantic, many vessels fish in campaigns. In between two fishing trips, these vessels do not return home, but land fish in foreign harbours. In 2016, the value of landings amounted to EUR 61 million, representing 66% of total landed value. For 2016 this breaks down to the following:

AREA	PERCENTAGE OF THE VALUE OF LANDINGS
North Sea (27.IVa,b,c)	39%
Eastern and Western English Channel (27.VII.d,e)	29%
Bristol Channel and Celtic Sea (27.VII.f,g,h)	24%
Bay of Biscay – North and Central (27.VIII.a,b)	6%
Irish Sea (27.VII.a)	1%

The vessels in this fleet segment target a variety of species, particularly common sole (37% value of landings), European plaice (18%) and anglerfish (8%).

This fleet segment reported a positive gross profit of EUR 15.7 million and a net profit of EUR 11 million in 2016, an improved situation to 2012, 2013, 2014 and 2015. Average crew wage per FTE was highest in this fleet segment. Labour productivity was also relatively high. The profitability of this fleet segment was reasonable in 2016 and the economic development trend suggests improvement. The net profit margin increased considerably in comparison to the average of the previous years (+890%). Two major external factors had an influence on this outcome: a favourable fish price combined with relatively low fuel prices. The price of sole and plaice increased between 2014 and 2016.

Beam trawl 18-24m: 28 active vessels operating predominantly in the North Sea, Eastern and Western English Channel, employing 22.5% of total FTE. Value of landings amounted to EUR 13.5 million, 15% of total national landings. These vessels target a variety of species including common shrimp (53% of the value of landings), common sole (24%) and European plaice (8.5%).

Gross profit was positive in 2016 (EUR 3.4 million) and increased significantly compared to 2015. A net profit of EUR 2.4 million was generated in 2016 and the GVA was EUR 8.4 million. The profitability of this fleet segment was reasonable in 2016 with an improved economic development trend. The net profit margin increased in comparison to the average of the previous years (+181%). Common shrimp and sole prices increased between 2014 and 2016. Energy consumed per landed ton was highest for this fleet segment (1 560 litre/tonne).

Demersal trawlers: This segment included 6 active vessels between 18 and 24 meters, 5 active vessels between 24 and 40 meters, and 1 active vessel under 18 meters, operating predominantly in the North Sea (27.IV) and Eastern Channel (27.VII.d). This segment employed 16.5% of total FTE. Value of landings amounted to EUR 15.7 million (15% totals) of which 70% of the landed weight was caught with otter trawlers and 23% with seiners. Targeted species include *Nephrops* or Norway lobster (37% of value of landings), European plaice (17%) and common sole (9%).

Profitability in 2016 was high with a net profit of EUR 3.3 million and an improved economic development trend. The net profit margin increased significantly in comparison to the average of the previous years (+286%). Prices for Norway lobster, sole and plaice increased considerably between 2014 and 2016. Energy consumed per landed ton was lowest for this fleet segment (1 024 litre/tonnes). With the low energy prices and high fish prices, this fleet segment found itself in a favourable position in 2016.

Drivers affecting the economic performance trends

Higher average fish prices together with lower fuel costs were the main driving forces behind the overall improvement in the profitability of the fleet.

Markets and Trade (including fish price)

Total landed weight increased by 10% in 2016, while the overall average fish price remained comparable to 2015. The average landed fish price of some important species such as sole (30% of the value of landings) and plaice (16% of the value of landings) increased by 9% and 10% respectively. Furthermore, average landed prices of common shrimp increased by 50% compared to 2015. This led to an increase by 146% in the value of landings of shrimp, making the fleet segment targeting common shrimp (TBB1824) profitable for the first time in the time series. Average landed prices of Norway lobster also increased by almost 10%. The prices of angler fish remained relatively comparable to 2015, but landings were slightly higher. The average income from landings per active vessel was never as high as in 2016 and remained high in 2017.

In 2016, about 30% of landings was sold in foreign harbours, a much higher figure than in previous years as there were some disagreements with the Flemish auction. Of the Belgian harbours, Zeebrugge was the most important with about 64% of domestic landings. The dependency on the Netherlands is significant. Over 90% of landings in foreign harbours occurred in the Netherlands. About a third of the fleet is also owned by Dutch nationals. These owners tend to land in their home ports, where the price for plaice is generally higher (more demand). In 2016, the Belgian fleet landed and sold 3.6 thousand tonnes of plaice in Dutch harbours, representing about 40% of the total landed plaice. In addition, about 58% of total landed shrimp and 84% of Norway lobster were landed in Dutch harbours (Devogel & Velghe, 2017). Sole tends to remain more valuable on internal Belgian markets.

Belgium is generally a net exporter for both plaice and sole. In 2016, a total of 9.6 thousand tonnes of plaice was exported of which 90% was destined for the Netherlands. Unusually, the import of sole was higher than the export in 2016, most exchange occurring with the Netherlands (source EUMOFA 2018).

Management instruments and regulation (policy)

The fleet is managed mainly through total allowable catches (TACs) for some species together with a range of additional effort limitations. Fishing rights are collectively managed by the Flemish authorities in Belgium. Several rather complex mechanisms have been put into place to manage catches. They usually use species, area and the nationally defined fleet segment (mainly based on engine power) as parameters. Sometimes gear is an additional specification and there exist a number of exceptions, especially for passive gears. It may be interesting to note that quota allocation and effort restrictions are on a vessel level and not on a company level. Leasing or hiring fishing rights is not possible.

A first mechanism is limiting daily catches. For example, a limit of 300 kg of sole per day in the Eastern English Channel for the "*small-fleet segment*" and 550 kg per day for the *"large-fleet segment"* in 2016 (Devogel & Velghe 2017). A second mechanism involves distributing quota a number of times during the year. For example, a total allowed catch for sole in the North Sea between 1st of January and 30th of June 2016 depending on the amount of kilowatts of the vessel. Not all areas are open to all vessels. For example, areas 27.VII.h,j,k and 27.VII.f,g were basically closed in 2016 for vessels of the "*small-fleet segment*" (i.e., ≤221 kW). The fishery in the Bay of Biscay (27.VIII.a,b) is restricted to only a few months a year. National restrictions are set on the maximum number of days at sea that a vessel may reach within a year. In 2016, this maximum was set at 275 days for all vessels, regardless of the area and fishing stock.

In the context of the cod recovery plan, additional effort restrictions apply depending on the nationally defined fleet segment as well as the fishing gear. For the "*large-fleet segment*", or roughly TBB VL2440, a vessel was only permitted to spend 160 days in the North Sea and the Eastern English Channel. For most vessels of TBB VL1824, this would translate into 180 days at sea in these areas, while for DTS VL2440 it depended on the mesh sizes used. For shrimp trawlers no restrictions were set, however this is a seasonal fishery. In the context of the sole recovery plan, the Western English Channel was only accessible to beam trawlers that had been active in the area between 2002 and 2014. No restrictions applied to otter trawlers.

The Landing Obligation

There is much concern about discarding in mixed fisheries, especially in terms of sustainability of fish populations which is in turn a threat to the future of fisheries. This led to the implementation of a landing obligation (or discard ban) for European fisheries in the latest CFP reform in 2013. The landing obligation will prohibit discarding all species with a TAC by 2019, with a gradual implementation. The aim is to incentivise fishers to avoid non-target species, juvenile fish and catches that exceed quota. Measures were put into place to allow for some flexibility, such as quota uplifts. In Belgium, a *de minimis* exemption was set in the sole fisheries. This exemption allowed for a 10% discard of the catch in the North Sea, 5% in Western waters and 8% in the Bay of Biscay in 2017 (MD 2016).

Stock status, TACs and quotas

Status of some Key Stocks

The good news.

The sole stock in the North Sea and Western English Channel has been exploited at sustainable levels.

Plaice stocks have developed favourably under the current management plans. Plaice stocks in the North Sea, the Irish Sea, the Eastern English Channel, the Western English Channel and the Bristol Channel (27.VII.f,g) were exploited at sustainable levels according to ICES advice. Caution must still be applied as discard rates for plaice were estimated to be high. However, this information points towards a healthy stock status. Therefore, it is not surprising that TACs for plaice have increased since 2008.

These are important stocks for the Belgian fisheries. Plaice represented 16% of the value of landings in 2016 and almost all of the caught plaice comes from the above mentioned stocks, representing about 35% of the total landed weight. Sole represented 30% of the value of landings. Almost 10% of the value of landings was accounted for by sole from the North Sea and Western English Channel or 3% of the total landed weight.

Room for improvement. Fishing mortality for sole in the Eastern English Channel has been above Fmsy since the 1980s and increased between 2012 and 2015. Spawning-stock biomass dropped below the trigger in 2016 and 2017. The sole stocks in the Bristol Channel and in the Bay of Biscay (27.VIII.a,b) were exploited above Fmsy, while their spawning stock biomass was above MSY Btrigger. These stocks are on an improving trend, but targets have yet to be met. Sole caught from these stocks represented 19% of the total value of landings in 2016 and 6% of the total weight.

North Sea cod was harvested unsustainably for many years. Despite the implementation of the cod management plan since 2003 and some signs of stock recovery, cod in the North Sea and Eastern English Channel remained a point of concern. Fishing mortality declined since 2000, and is slowly achieving sustainable exploitation levels (ICES advice, 2016).

TACs and quotas

Total initial available quota (TAC) for the Belgian fleet in 2016 was 35.8 thousand tonnes (post Uplift). The total quota for sole, which is especially important for the Belgian fleet, was initially 2.5 thousand tonnes and 3 thousand tonnes after swaps (85% of this was caught). Especially quota in the North Sea and Eastern English Channel seem to have been underutilised (80% and 76%). However, there are effort restrictions in these areas. Catches in other areas sometimes exceeded the quota.

The initial quota for plaice was 11.7 thousand tonnes after swaps in 2016; 80% of this was caught. There were no quota exceeds.

Operational costs (external factors)

Crew costs and fuel costs represent the most important operational costs. Crew shares have been legally set and are therefore not as variable as energy costs. The only possibility for vessel owners to save on crew costs is by taking-on less crew. However, this option is also very limited, as a minimum number of members on board has been nationally defined for safety reasons. On the other hand, vessel owners seem to agree that high salaries for their crew is a fair measure given the tough character of the work.

The average fuel price in 2016 was lower than in 2015. Average fuel prices have been decreasing since 2013. The Belgian fleet is dominated by trawlers, both beam and demersal trawlers. Therefore, as trawling is typically fuel intensive, even slight decreases of the fuel price might make a difference. Fluctuations in fuel prices are therefore a key driver for the profitability of the fleet.

Innovation and Development

Research on technical innovations and alternatives for the beam trawler in the flatfish and shrimp fishery is on-going. The fuel crisis of 2008 forced the fleet to adjust to the rapidly increasing fuel costs. A number of vessels changed from traditional beam trawling to alternative beam trawling methods. For example, to reduce drag forces, a beam on wheels was introduced (Ecoroll) or the beam was replaced by a wing (SumWing). Some vessels even adopted a combination of both. Other adjustments were to reduce the overall weight of the used gears and replace old engines, nozzles and propellers. Subsidies were granted to encourage taking these measures.

Facing the implementation of the landing obligation, research on gear selectivity has been on-going as well. Selectivity can be improved by using more selective gears (or by reallocating activities to areas with a different catch composition). Therefore, devices such as cut-away top panels, square mesh top panels, benthos release panels, T-90 cod-ends, square mesh cod-ends, narrow cod-ends and tunnels in square meshes are being developed and tested in Belgium. Gear modifications can be challenging in a mixed fishery context as an improved selectivity for one species or size may entail loss or additional catch of others.

The collaborative BENTHIS-project studied technological innovations with the aim to reduce the impact of trawling. Semi pelagic otter doors may be a promising alternative, as fuel costs were reduced without affecting catch rates of the target species. Secondly, replacing mechanical stimulation through tickler chains with an electrical stimulation was also found as a promising alternative for the beam trawl in the sole and shrimp fisheries. The so-called pulse trawl is more fuel efficient and more selective in terms of undersized fish or shrimp. It also had less bottom impact (BENTHIS-final report, Rijnsdorp et al. 2017). Furthermore, its impact on the marine ecosystem was under on-going scientific investigation (Desender et al., 2016 & 2017; Soetaert et al., 2014 & 2016). However, pulse fishing in a broader societal context is highly controversial, therefore it is uncertain whether it has a future at all and more specifically in Belgium.

Socioeconomic impact

Specific programmes of the EU CFP oriented to decommissioning lead to an exponential decline in the number of active vessels. In 1992, there were 205 fishing vessels, while in 2002 there were 130 (-37%). This number remained relatively stable for some years. The fuel crisis in 2008 led to a further large decrease in the capacity and to poor economic performances. Furthermore, the commercial market plays an important role in determining fish prices. These have been low, leading to relatively lower revenue from landings. The decreasing number of vessels has had an impact on the number of jobs on board, presumably making the fishing profession much less attractive.

Since 2013, fuel prices have been decreasing and efforts have been made to reduce average fuel consumption leading to proportionally lower energy costs. Fish prices have increased leading to lucrative wages for the crew members. Economic performance has been improving since and it appears that the remaining fleet is now slowly recovering from the slaps delivered by the crisis. Figures for 2015 and especially for 2016 are finally positive. At first sight, the future looks bright. However, there are a number of big challenges with uncertain outcomes that will play a role in the near future.

Even though there is justifiable concern about the amount of discarding in mixed fisheries, the socioeconomic impact that the landing obligation will likely entail, is not negligible. Fishers fear that the discard ban will have a large impact on their profitability. The revenue from undersized fish and low value species will most likely not cover the **costs of processing** this fish on board and at shore (labour, storage, ice, unloading and transportation). If the catch is processed on board additional crew will be needed and crew costs are already around 30% of the value of landings in Belgium. **Capacity problems** on board will most likely entail additional costs as a result of increased steaming back and forth to fishing areas. A third concern is related to **choke species**[14], i.e., losing catches of species where quota are still available. Discards are highly variable depending on the fishery in terms of quantity and composition. It is expected that a quota uplift may not be sufficient in some fisheries to prevent a "choke". Fishers can indeed to a certain degree adapt their fishing behaviour in response to this challenge. For example, they could choose to change their effort allocation (where, when and what to fish) and modify towing speed and duration. The latter has indeed been observed when fuel prices were high. Technical adjustments are a second option. Fishers benefit from catching larger fish as they receive higher prices. Increasing mesh sizes and introducing escape panels present several options. On the other hand, in a mixed fisheries context improved selectivity for one species or size may entail loss or additional catch of others. Technical and behaviour adaptations may lead to a reduction in profitability. Costs are bound to increase (labour, storage, ice, etc.), while revenue will remain the same or even decrease (more low value and unmarketable fish). This in turn may have an impact on crew wages (a percentage of the gross value of landings), potentially making the profession less attractive yet again.

Belgium seems highly dependent on quota exchanges, especially for sole, and this presents another potential weak spot. In addition, there is no guarantee that fuel prices will not steeply increase again in the near future. Fishers should already be prepared for this and use as little fuel as possible, but it will still have an additional impact on their profitability.

Then there is Brexit. It is still very unclear what the UK exit will imply, but it is certain that at least half of the Belgian fleet is dependent on fishing areas in UK waters. British political leaders have made it clear that Britain will take back control of its fisheries. Therefore, it is not unreasonable to fear that Brexit may potentially have large consequences for the current Belgian fishing fleet. These consequences are also likely to interact with the landing obligation in terms of available quota and possibilities of adapting fishing strategies such as changing effort allocation.

Even though things have been looking up for the Belgian fleet, the true question for the future will be whether the fleet will be resilient enough to overcome these fast approaching challenges.

Projections for 2017-2018 and outlook

Higher average fish prices, together with lower fuel costs were the main driving forces behind the overall improvement in the profitability of the fleet. Profitability is expected to remain reasonable in 2017 and 2018 as the fish prices for some important target species remain favourable and the fuel prices remain relatively low.

In 2017, 24.1 thousand tonnes of seafood were landed by the Belgian fleet, with a value of EUR 84.2 million. **Sole prices** remained high throughout 2017, with an average yearly price of EUR 9.6 per kg (source EUMOFA). Prices in January 2018 even reached EUR 11.28 per kg. Similarly, **plaice prices** have been increasing since 2013 and reached the highest yearly average in 2017: EUR 1.85 per kg. Prices in January 2018 were higher than prices in January 2017. Shrimp prices have also been very favourable reaching a similar average price in 2017 as in 2016. Average yearly prices of Norway lobster were lower in 2017 than in 2016, but comparable to 2015.

Fuel prices remained relatively low throughout 2017. On 30th of December 2017, the fuel price for fisheries was EUR 0.62 per litre, and fluctuated around this value in the first quarter of 2018 (FPS Economy, Federal Belgian Government). **Initial quota** for sole in 2017 were comparable to those in

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[14] A choke species is a term used to describe a species with a low quota that can cause a vessel to stop fishing even if they still have quota for other species.

2015, but increased to 3 388 tonnes by November 2017, through quota swaps. Initial quota for plaice decreased in 2017 and 2018 (but was still high).

Therefore, it is to be expected that 2017 will be a slightly less profitable year compared to 2016, but still better than previous years (2008-2015). Given this current setting, where fuel prices are low, fish prices for important species are high and TAC are not dramatically decreasing, the outcome for 2018 can be expected to be positive as well.

MODEL FORECAST

Preliminary results for 2018 indicate a 7% increase in landed weight compared to 2017 (but a 4% decrease compared to 2016), with an 13% increase in landed value (+4% compared to 2016). Projections suggest that effort and fuel consumption decreased in 2017 to recover in 2018 at the same level as in 2016. Compared to 2016, there are some slight increases in fuel and labour costs. This together with stable capital costs lead to a minor deterioration of the economic performance in 2017, but a recovery in 2018 to reach a similar level than in 2016.

Thus, projection results suggest that the Belgian fleet continued to operate at a profit in 2017 and 2018. In particular, for 2018 it is estimated GVA to reach EUR 54 million, gross profit EUR 23 million and net profit EUR 15.5 million. Estimated economic performance indicators are also positive, with a GVA to revenue of 55%, EUR 232 000 of GVA per FTE and gross profit margin of almost 23% and net profit margin of 16%.

Data issues

No major issues need to be reported. There has been a change in data management: from manually adjusted queries to an automated database since 2015. The data comes from the Department of Agriculture and Fisheries of the Flemish Government who conducts the data collection. Response for economical values of 2016 was obtained from 98% of the active fleet. For effort and landings, the coverage was very close to 100%. Therefore, the overall coverage of the national fleet was very adequate.

The questionnaire was adjusted in 2017 to meet the needs of the New 2016 EU Decision. This may have a slight impact on certain variables requested in this data call. For example, investments increased enormously, however, this may be an anomaly as a result of interpreting this variable differently. If needed, any further changes to the questionnaire will be made in 2018, to avoid any potential time series breaches at a later stage.

The calculation of Days at Sea and Fishing Days was thoroughly investigated and the methodology was adjusted in this data call to be in line with the proposed methodology in the workshop on transversal variables held in Nicosia

(https://datacollection.jrc.ec.europa.eu/documents/10213/978339/2ndWorkshopTransversalVariables.pdf).

It was acknowledged that fishing days are based on an entry date in the logbook, one entry is 1 day (calendar day). Days at sea are based on continuous 24-hour period (as stated in the legislation). In the Belgian case, there are many short trips where a vessel leaves port in the evening and returns the next day, fishing on both "calendar dates", but returning to port after less than 24 hours. In this scenario, the outcome is 2 fishing days and only 1 day at sea. This explains why it is possible that fishing days exceed days at sea.

As requested in the AER 2017, the FTE data were checked since the last data call. A number of double records were removed. Therefore, the information has improved compared to values in last years' report. The trend now seems more plausible than it did last year.

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Table 5.1 Belgium: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	101	101	90	89	87	82	79	78	76	73	65		-3%	-14%
Number of Inactive vessels_ms	(#)	3	7	2	3	6	6	3	5	8	6			60%	83%
Vessel tonnage	(thousand GT)	19.2	19.4	16.0	15.7	15.7	15.0	14.5	14.5	14.0	14.0			-3%	-14%
Engine power	(thousand kW)	61.9	62.9	52.1	51.1	50.8	47.4	46.3	47.4	46.2	47.1			-3%	-12%
Total employed	(person)	472	421	394	382	376	345	345	336	318	316	309		-5%	-17%
FTE	(#)	353	305	317	312	312	228	293	255	231	221	233		-9%	-22%
Days at sea	(thousand day)	18.7	18.2	16.9	16.0	15.4	15.0	15.1	14.1	14.3	13.7	14.4		2%	-11%
Fishing days	(thousand day)	19.6	19.6	18.7	17.6	17.2	17.0	16.9	15.7	15.8	14.9			0%	-11%
Number of fishing trips	(thousand)	4.3	4.6	5.1	4.8	4.7	4.8	4.7	4.3	4.6	4.3			6%	-2%
Energy consumption	(million litre)	60.6	54.6	47.8	40.6	39.7	38.5	39.8	39.0	37.5	36.0	37.9		-4%	-17%
Live weight of landings	(thousand tonne)	21.8	19.4	21.7	22.2	24.2	25.2	26.2	24.5	26.9	24.1	25.8		10%	16%
Value of landings	(million €)	84.3	71.8	82.8	83.3	78.0	74.0	81.5	82.0	91.9	84.2	95.4		12%	15%
Income from landings	(million €)	84.3	71.8	82.3	83.5	78.2	73.9	81.8	81.8	91.6	84.8	95.2		12%	15%
Other income	(million €)	2.7	4.9	3.9	3.6	4.2	3.8	3.6	3.4	3.2	3.2	3.1		-6%	-16%
Direct income subsidies	(million €)	1.6	1.0	1.5	2.8	1.9	1.8	1.8	1.5	1.6				3%	-9%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-				
Wages and salaries of crew	(million €)	28.11	25.49	27.65	26.36	25.07	24.32	27.05	26.55	28.43	27.35	29.65		7%	8%
Unpaid labour value	(million €)	3.25	2.51	2.49	2.38	2.69	2.11	2.11	2.03	1.84	1.75	1.86		-9%	-25%
Energy costs	(million €)	37.88	21.59	24.24	26.28	28.06	25.08	23.53	16.16	13.44	13.69	16.68		-17%	-47%
Repair & maintenance costs	(million €)	5.68	5.50	5.51	5.14	5.72	5.23	5.93	6.58	8.82	8.94	8.69		34%	56%
Other variable costs	(million €)	12.67	11.41	11.07	10.93	11.16	10.12	11.32	11.94	11.75	11.55	12.18		-2%	4%
Other non-variable costs	(million €)	7.21	8.18	7.95	6.93	7.05	8.53	8.02	7.41	6.76	6.91	6.71		-9%	-12%
Annual depreciation costs	(million €)	11.21	9.63	9.58	9.10	9.56	8.86	9.67	7.70	7.40	7.51	7.29		-4%	-21%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-					
Opportunity cost of capital	(million €)	- 0.05	3.28	0.84	0.47	0.23	0.74	0.70	0.11	- 0.40	- 0.46	- 0.23		-481%	-151%
Tangible asset value (replacement)	(million €)	59.8	84.2	74.6	59.3	59.5	62.1	58.0	52.8	31.7	31.9	30.9		-40%	-50%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	4.4	12.0	12.8	14.8	12.2	5.4	4.9	7.1	61.0				756%	562%
Financial position	(%)	49.0	67.3	87.5	84.5	91.9	82.3	96.6	90.9	73.9				-19%	-9%
Gross Value Added	(million €)	23.6	29.9	37.5	37.8	30.4	28.7	36.6	43.1	54.0	46.9	54.1		25%	62%
GVA to revenue	(%)	27.1	39.1	43.5	43.4	36.9	37.0	42.8	50.6	57.0	53.3	55.0		13%	42%
Gross profit	(million €)	- 7.75	1.95	7.34	9.08	2.61	2.32	7.42	14.5	23.8	18	23		64%	407%
Gross profit margin	(%)	- 8.9	2.5	8.5	10.4	3.2	3.0	8.7	17.0	25.1	20.2	22.9		47%	351%
Net profit	(million €)	- 18.9	- 11.0	3.1	- 0.5	7.2	7.3	2.9	6.7	16.8	10.7	15.5		150%	404%
Net profit margin	(%)	- 21.7	- 14.3	3.6	- 0.6	8.7	9.4	3.4	7.9	17.7	12.2	15.8		125%	363%
GVA per FTE (labour productivity)	(thousand €)	67	98	118	121	97	126	125	169	234	212	232		38%	103%
Return on fixed tangible assets	(%)	- 31.7	9.1	3.0	- 0.0	- 11.7	- 10.5	3.9	12.9	51.7	32.3	49.3		301%	824%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.
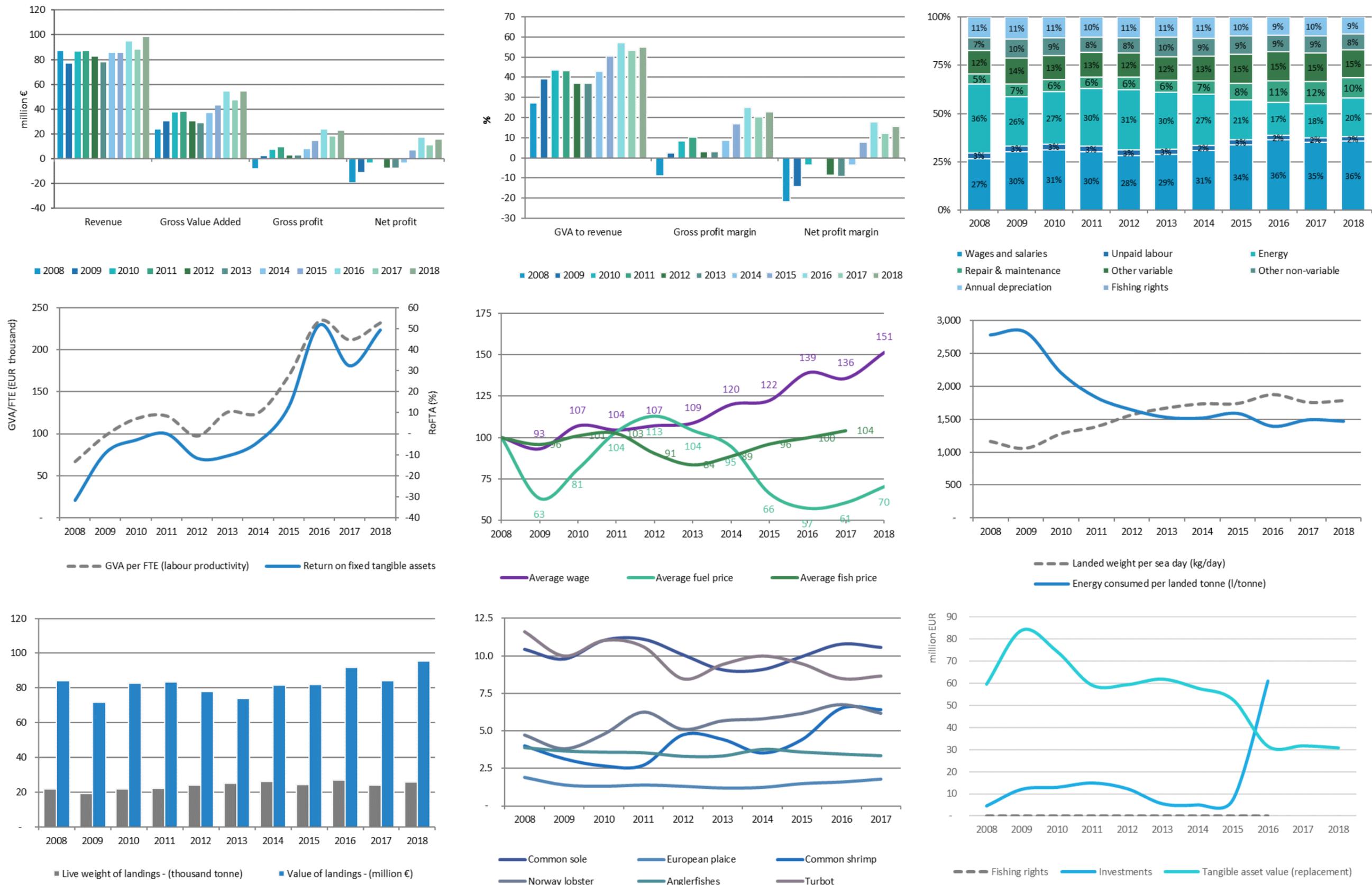
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Figure 5.1 Belgium: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital values (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.2 Belgium: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	98	94	88	86	81	76	76	73	68	67	65		-7%	-19%
Vessel tonnage	(thousand GT)	18.8	18.3	15.7	15.0	14.9	14.4	14.2	14.1	13.3	13.4			-5%	-15%
Engine power	(thousand kW)	61	59	51	49	47	46	45	45	43	44			-5%	-15%
FTE	(#)	353	305	317	312	312	228	293	255	231	221	233		-9%	-22%
Total employed	(person)	472	421	394	382	376	345	345	336	318	316	309		-5%	-17%
Days at sea	(thousand day)	18.7	18.2	16.9	16.0	15.4	15.0	15.1	14.1	14.3	13.7	14.4		2%	-11%
Fishing days	(thousand day)	19.6	19.6	18.7	17.6	17.2	17.0	16.9	15.7	15.8	14.9			0%	-11%
Number of fishing trips	(thousand)	4	5	5	5	5	5	5	4	5	4			6%	-2%
Energy consumption	(million litre)	60.64	54.63	47.80	40.64	39.75	38.48	39.83	39.01	37.50	36.03	37.89		-4%	-17%
Live weight of landings	(thousand tonne)	21.80	19.35	21.67	22.19	24.18	25.17	26.22	24.52	26.91	24.15	25.78		10%	16%
Value of landings	(million €)	84.28	71.80	82.81	83.26	77.99	74.04	81.46	82.03	91.87	84.21	95.44		12%	15%
Income from landings	(million €)	84.32	71.76	82.32	83.46	78.16	73.89	81.77	81.81	91.63	84.77	95.21		12%	15%
Other income	(million €)	2.71	4.87	3.93	3.65	4.19	3.81	3.62	3.37	3.17	3.21	3.12		-6%	-16%
Direct income subsidies	(million €)	1.60	1.03	1.53	2.82	1.86	1.75	1.80	1.55	1.60				3%	-9%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-				
Wages and salaries of crew	(million €)	28.11	25.49	27.65	26.36	25.07	24.32	27.05	26.55	28.43	27.35	29.65		7%	8%
Unpaid labour value	(million €)	3.25	2.51	2.49	2.38	2.69	2.11	2.11	2.03	1.84	1.75	1.86		-9%	-25%
Energy costs	(million €)	37.88	21.59	24.24	26.28	28.06	25.08	23.53	16.16	13.44	13.69	16.68		-17%	-47%
Repair & maintenance costs	(million €)	5.68	5.50	5.51	5.14	5.72	5.23	5.93	6.58	8.82	8.94	8.69		34%	56%
Other variable costs	(million €)	12.67	11.41	11.07	10.93	11.16	10.12	11.32	11.94	11.75	11.55	12.18		-2%	4%
Other non-variable costs	(million €)	7.21	8.18	7.95	6.93	7.05	8.53	8.02	7.41	6.76	6.91	6.71		-9%	-12%
Annual depreciation costs	(million €)	11.21	9.63	9.58	9.10	9.56	8.86	9.67	7.70	7.40	7.51	7.29		-4%	-21%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-					
Opportunity cost of capital	(million €)	-0.05	3.28	0.84	0.47	0.23	0.74	0.70	0.11	-0.40	-0.46	-0.23		-481%	-151%
Tangible asset value (replacement)	(million €)	60	84	75	59	60	62	58	53	32	32	31		-40%	-50%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	4.4	12.0	12.8	14.8	12.2	5.4	4.9	7	61				756%	562%
Gross Value Added	(million €)	23.60	29.95	37.48	37.82	30.37	28.75	36.59	43	54	47	54		25%	62%
GVA to revenue	(%)	27.1	39.1	43.5	43.4	36.9	37.0	42.8	50.6	57.0	53.3	55.0		13%	42%
Gross profit	(million €)	-7.75	1.95	7.34	9.08	2.61	2.32	7.42	15	24	18	23		64%	407%
Gross profit margin	(%)	-8.9	2.5	8.5	10.4	3.2	3.0	8.7	17.0	25.1	20.2	22.9		47%	351%
Net profit	(million €)	-18.9	-11.0	-3.1	0.5	-7.2	-7.3	-2.9	6.7	16.8	10.7	15.5		150%	404%
Net profit margin	(%)	-21.7	-14.3	-3.6	0.6	-8.7	-9.4	-3.4	7.9	17.7	12.2	15.8		125%	363%
Return on fixed tangible assets	(%)	-31.7	-9.1	-3.0	0.0	-11.7	-10.5	-3.9	12.9	51.7	32.3	49.3		301%	824%
GVA per FTE (labour productivity)	(thousand €)	67	98	118	121	97	126	125	169	234	212	232		38%	103%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.3 Belgium: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
BEL A27 TBB2440	28	133	7,214	1,463	18,617	60,909	62,692	34,961	55.8	15,743	25.1	11,008	17.56	144.7	263.3	63.4	Reasonable	890%	Improved	66%
BEL A27 DTS2440 °	12	38	2,415	1,024	4,575	15,740	16,132	9,716	60.2	4,318	26.8	3,304	20.48	141.6	254.9	46.4	High	286%	Improved	17%
BEL A27 TBB1824 °	24	52	4,119	1,560	3,227	13,469	14,161	8,434	59.6	3,387	23.9	2,381	16.81	97.0	162.1	48.4	Reasonable	181%	Improved	15%
BEL A27 PMP1824 °	4	8	593	1,087	496	1,749	1,820	925	50.8	314	17.3	71	3.91	79.3	120.1	1.2	Weak	282%	Improved	2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.4 Belgium: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
BEL A27 TBB2440	28	127	6,913	1,590	16,421	55,440	57,828	29,981	51.8	11,601	20.1	6,813	11.78	144.5	235.6	38	Reasonable	66%
BEL A27 DTS2440 °	13	39	2,470	1,059	4,526	15,996	16,452	9,536	58.0	3,822	23.2	2,717	16.51	146.6	244.6	34	Reasonable	19%
BEL A27 TBB1824 °	23	48	3,792	1,709	2,712	11,091	11,951	6,404	53.6	2,012	16.8	1,039	8.69	91.7	133.7	21	Weak	14%
BEL A27 PMP1824 °	3	7	549	1,021	489	1,683	1,749	972	55.6	356	20.4	174	9.98	86.4	136.4	6	Weak	2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.5 Belgium: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in EUR	in weight
Common sole	38.9	38.3	42.6	39.4	30.8	26.2	32.6	30.7	27.8	23.4	3.7	3.9	3.9	3.5	3.1	2.9	3.6	3.1	2.6	2.2	10.4	9.8	11.0	11.1	10.1	9.1	9.1	9.9	10.8	10.6	30%	10%
European plaice	10.0	6.4	7.0	8.8	8.7	9.8	10.8	11.6	15.1	14.1	5.2	4.6	5.4	6.4	6.7	8.2	8.8	7.8	9.4	7.9	1.9	1.4	1.3	1.4	1.3	1.2	1.2	1.5	1.6	1.8	16%	35%
Common shrimp	3.3	2.1	4.5	2.0	4.1	5.3	4.1	2.9	7.2	4.8	0.8	0.7	1.7	0.8	0.9	1.2	1.2	0.7	1.1	0.7	4.0	3.1	2.7	2.7	4.7	4.4	3.5	4.4	6.5	6.4	8%	4%
Norway lobster	1.0	0.6	0.9	1.8	1.9	1.9	2.4	3.9	6.0	6.9	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.6	0.9	1.1	4.7	3.8	4.8	6.3	5.1	5.7	5.8	6.2	6.8	6.2	6%	3%
Anglerfishes	3.8	3.1	3.7	4.5	5.7	5.5	3.8	4.0	5.0	5.3	1.0	0.9	1.0	1.3	1.7	1.7	1.0	1.1	1.5	1.6	3.9	3.7	3.6	3.5	3.3	3.3	3.8	3.6	3.5	3.3	5%	5%
Turbot	4.3	3.8	3.8	4.1	3.5	3.8	4.4	4.3	5.0	4.9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	11.6	10.0	11.0	10.6	8.5	9.4	10.0	9.5	8.5	8.7	5%	2%
Lemon sole	4.0	2.5	3.0	3.9	3.2	3.7	4.9	4.6	3.9	3.2	0.9	0.7	0.7	0.8	1.0	1.1	1.2	0.8	0.8	0.7	4.5	3.8	4.4	4.8	3.4	3.4	4.1	5.5	4.9	4.8	4%	3%
Atlantic cod	3.4	2.6	2.5	2.6	3.3	3.3	3.2	3.4	3.3	2.0	1.1	1.0	0.8	0.9	1.2	1.3	1.5	1.4	1.3	0.8	3.0	2.6	3.1	3.0	2.7	2.5	2.2	2.4	2.7	2.5	4%	5%
Common cuttlefish	1.8	0.6	1.3	1.4	2.0	0.8	0.9	1.8	2.8	3.7	0.9	0.3	0.5	0.4	0.8	0.4	0.4	0.7	0.9	0.9	2.1	1.9	2.9	3.5	2.4	2.0	2.5	2.5	3.2	4.1	3%	3%
Brill	3.0	2.5	2.5	2.5	2.0	2.1	2.3	2.3	2.4	2.2	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	8.1	7.3	6.9	7.4	6.3	6.7	7.6	6.2	6.2	6.6	3%	1%
																															84%	72%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.2 Bulgaria

Short description of the national fleet

Fleet capacity

In 2017, the Bulgarian fishing fleet consisted of 1 897 registered vessels, of which 1 295 were active and the remaining 602 vessels were inactive. The active fleet had a combined gross tonnage (GT) of 5 thousand tonnes, engine power of 41.2 thousand kilowatts (kW) and an average age of 25 years.

Fleet structure

The Bulgarian fishing fleet is divided into a small-scale segment (91.2% in 2017) with an engine power of 24.8 kW and a large-scale fleet segment (8.8% in 2017) with an engine power of 16.4 kW. The overall size of the Bulgarian fishing fleet decreased 3% between 2015 and 2016, and by 14% compared with the average for the period 2008-2015. Between 2015 and 2016 the inactive vessels decreased by 8%. Compared to 2015 in 2016, the active SSCF increased by 1%, while the active large-scale fleet decreased by 3%. In the active SSCF, GT and kW increased by 1% and 2%, and in the active large-scale fleet, GT and kW also increased by 1% and 3%, respectively.

Employment

Total employment in 2016 was estimated at 1 603 jobs, corresponding to 580 FTEs with an average of 0.5 FTE per active vessel. The level of employment decreased between 2015 and 2016 with 7%, and the total employed for 2016 increased by 18%, compared to the average total employed for the period 2008-2015. The decrease of employment might be because of the decreasing of active vessels and wages and salaries of crew.

Effort

The Bulgarian fleet spent over 25.9 thousand days at sea in 2016, a 14% increase compared to 2015 and 38% increase over the period 2008-2016. While the days at sea remained steady in the period 2013-2015, data for 2016 indicate a 19% increase compared to the period, and in 2017 the increase is 10% compared to same period but decrease by 3% compared to 2016.

The quantity of fuel consumed in 2015 totalled 2.02 million litres, increase by 27% in 2016, totalling 2.59 million litres. According to preliminary data, the increasing trend seems reliable in 2016 compared to the trend over the years and the expectations are to raise further in next two years, which is normal when days at sea increase.

Production

The total landed weight in 2016 was 6.96 thousand tonnes of seafood, with a landed value of €4.63 million. Compared to the period analysed (2008-2015) the total weight of landings decreased by 13% while the value increased by 5%.

Regarding the top species in terms of value, the average first sale price for 2017 for European sprat increase slightly compared to 2014-2016 and remain stable compared to the period 2008-2016. The price of sea snails for 2017 increased by 4% compared to 2016 and compared to the period 2008-2016, increase by 15%. The price of turbot has decreased since 2012, and in 2016 achieved an average price of 5.0 €/kg while in 2017 increase by 19% compared to 2016 and achieved an average price of 5.9 €/kg. The price of European anchovy, Mediterranean horse mackerel, and Picked dogfish for 2017 is increased by 38%, 60%, and 37% respectively while the price of red mullet decrease by 9% over the period 2008-2016. The main landed species for the Bulgarian fleet as a percentage of over the total are sea snails with 39% in value and 49% in weight, European sprat with 20% in value and 33% in weight and Red mullet with 24% in value and 13% in weight.

Economic results for 2016 and recent trends

National fleet performance

The amount of income from landings generated in 2016 was EUR 5.27 million while non-fishing income amounted to a further EUR 0.14, and the total amount of income EUR 5.41 million. In 2016 the income from landings increased by 7% from 2015 but the non-fishing income decreased by 93%. The significant

decrease of other income could be explained by the increase of days at sea by 21% in the SSCF, 4% in the LSF and 14% across the whole fleet. Mainly the other incomes are coming from tourism activities and when fishers spend more days for fishing, the decrease of other income is explicable.

Costs decreased 13% between 2015 and 2016, except 'other non-variable costs' and 'annual depreciation costs. The 'wages and salaries of crew' in 2016 decreased by 22% compared to 2015 and also to the period 2008-2014.

The operating costs in 2016 amounted to EUR 3.97 million. Crew cost and energy costs were the two major cost items (EUR 1.68 million and EUR 1.27 million, respectively). However, EUR 0.14 million of crew cost were estimated for the unpaid labour which remained in the hands of the fishers as working capital. Between 2015 and 2016, operating costs decreased by 17%.

In terms of economic performance, the total amount of Gross Value Added (GVA), gross profit and net profit in 2015 were estimated at EUR 3 million, EUR 1 million and EUR 0.2 million, respectively. Although in the past, the economic performance is constantly negative, the economic situation for 2015 has improved but in 2016 it is look like is going down again.

In 2016, the Bulgarian fleet had an estimated (depreciated) replacement value of EUR 18.5 million and investments amounted to EUR 0.46 million, which is 9% decreasing of the replacement value and 45% of investments, compared to 2015.

The distribution of the fleet has not changed over time. According to the number of vessels, SSCF is the main fleet in Bulgaria, with 1 190 active vessels in 2017. They spent near 17 thousand days at sea and landed 1.93 thousand tonnes of fish for EUR 1.2 million. The LSF spent 7.5 thousand days at sea and landed 5.2 thousand tonnes of fish EUR 3.4 million.

The very low value of investments in 2016 could be explained whit lack of founding by the Operational Program under EMFF to fishers and the spent their own funds during the last years. This also might be the reason for the bad economic performance.

Resource productivity and efficiency indicators

In 2016, the gross profit margin was 26.6%, indicating an improvement of operating efficiency of the sector, when we compared to the period 2008-2015 but slightly decrease compared to 2015. This is also seen in the net profit margin for 2016 which was decreased by 75% compared to 2015 but increase significantly compared over the period 2008-2015.

The Rate of Return on Fixed Tangible Assets (RoFTA) of 5%, in 2016, confirms an improvement from 2015 and compared to previous years.

After an overall improved development trend since 2008, labour productivity (GVA/FTE) has increased by 53% in 2015 compared to 2014. This is due to the fact that GVA increased by 74% and the number of FTE increased by 14% thus indicating an increase in efficiency. In 2016 labour productivity decrease by 30% compared to 2015 and drop down near to the level of 2014.

Fuel consumption per landed tonne has followed an overall increasing trend since 2008. In 2016, it is estimated of 368 litres per landed tonne which is 45% increase compared to the amount of 254 litres per landed tonne during the period 2008-2015. This is a standard consumption for a typical fishing vessel in the Black Sea region.

Landings in weight per unit of effort (in days at sea) followed a decreasing trend since 2008 and decreased a further 27% in 2016 compared to 2015.

Socioeconomic impact

Market and trades as a key factor is affecting the activity, especially for the level of prices. The domestic market has not increased the demand for the local fishery so that the catches are similar/comparative levels for small pelagic, as well as for demersal species.

In Bulgaria, the local products are facing the competition of imported fish, especially from the super market chains. These supermarkets are offering a large variety of species, oceanic fish mainly, also salmon (even it is from aquaculture), especially mackerel, bream, and others sea food, trout with a very competitive price, well presented and in large quantities. The lack of organization measures of the fisher associations in this respect is another major factor affecting the level of fish prices and the capacity to increase the number of fishers in the sector. That would be a future task in order to maintain the possibilities to consolidate the evolution of the sector.

Young people have no motivation to work in the sector or to invest money, because of the low level of interest from local authorities to ensure minimum conditions for developing activities for the fishery. That's why the technical level on board on the small boats is quite impossible to be done, also to the position of the financial sector which is not friendly with this kind of investors. After we also notice the drop in wages and salaries of crew in 2016 where they are under the minimum of the salary for the country, the sector is even more unattractive for new comers.

Performance by fishing activity

Large-scale

The Bulgarian large-scale fleet consisted of 120 vessels in 2016: 34 of them were under 12 metres, but with active gears; 19 of them were between 0-6m using beach seines, 6 were between 6-12m using beach seines, 6 were between 6-12m using mid-water trawls and 3 vessels between 6-12m were with beam trawls. 207 FTEs (represented 273 total employed) were employed in LSF segment.

This LSF had 5 thousand tonnes landings, which is 71.8% of the landings of the whole fleet and value of the landings €3.44 million, which represents 74.3% of the value of all landings.

The income from landings increased 7% but the other income decreased vastly. In 2016 wages and salaries of crew decreased 13% compared to 2015 which is reasonable when the value of salaries decrease. Costs generally decreased, except the repair & maintenance costs which remained stable, other non-variable costs which increased by 7%, and annual depreciation costs which increased by more than 50% compared to 2015 and to the period 2008-2015 also.

Small-scale coastal fleet

The majority of the vessels in 2016 (1 086 from 1 206 active vessels) are with a total length under 12 meters, using only passive gears and are carrying out mainly small-scale coastal, seasonal fishing. Their preferred fishing gear is gillnet (anchored) and for catching of sea snail they use the diving manual method. The total employees were 1 330, which is 7% less than the employees in 2015. For the majority of people involved in this type of fishing, this is a seasonal activity closer to a hobby than a business or it is small family business. Most of the small-scale fishers use the catches for private consumption by themselves and their families or they sell it in their own restaurant. The live weight of landings is 1.96 thousand tonnes, increased by 11% compared to 2015 but decreased by 11% from the period 2008-2015. The value of the landings increased by 68% to 2015 and it is almost on the same level to the average for the 2008-2015. The net profit and net profit margin remained negative with a high decrease compared to 2015 and over the period 2008-2015. The reason for negative profitability of this part of the fleet is lack of other income during the year which cannot compensate decreased costs.

Performance results of selected fleet segments

The fleet is diverse with a broad range of vessel types targeting different species predominantly in the Black Sea. The national fleet consisted of 25 (DCF) fleet segments in 2016, with a further 712 inactive vessels. Since the clustering scheme was changed in 2016 consistency in clusters remains and the provision of data is shown more detailed.

In 2016, the Bulgarian fleet was clustered in 5 segments: drift net 12-18 (8 vessels), purse seiners 0-6 (25 vessels), vessels using active and passive gears 18-24 (4 vessels), vessels using polyvalent passive gears only 6-12 (22 vessels) and pelagic trawls 12-18 (47 vessels).

Three fleet segments obtained more than 1 000 tonnes in live weight of landings:

Pelagic trawl 12-18m – In 2016, 47 vessels made up this clustered segment that targets a variety of species but in particular European sprat, red mullet, Mediterranean horse mackerel and sea snails exploited by some beam trawlers falling into this segment. In 2016, the total live weight of landings was 1 757 thousand tonnes with value €1 481 thousand (increased 80% compared to 2015) and around 81 FTEs were employed in this fleet segment. **Pelagic trawl 24-40m** – In 2016, 12 vessels made up this segment that targets a variety of species but in particular European sprat and red mullet. In 2016, the total live weight of landings was 1 753 thousand tonnes with value EUR 842 thousand (decreased 18% compared to 2015) and around 49 FTEs were employed in this fleet segment. The profitability of the segment is reasonable, but according to the net profit margin in 2016 the segment still decreased by 52% compared over the period 2008-2015.

Polyvalent active and passive gears 6-12m – In 2016, 154 vessels made up this segment that targets a variety of species but in particular sea snails. In 2015, the total live weight of landings was

1 111 thousand tonnes with value EUR 619 thousand (increased 33% compared to 2015) and the fleet segment employed around 88 FTEs. **Pelagic trawl 18-24m** – In 2016, 9 vessels made up this segment that targets mainly European sprat, sea snails and Red mullet. In 2016, the total live weight of landings was 625 tonnes with value EUR 437 thousand and the fleet segment employed around 26 FTEs. The profitability of the segment is high and the net profit margin in 2016 increased by 45% compared to the period 2008-2015.

The profitability of more than the half of the fleet segments remains weak for 2015, except drift netters 12-18m, polyvalent active and passive gears 6-12m, polyvalent active and passive gears 18-24m, pelagic trawlers 18-24m and pelagic trawlers 24-40m, but we should also mention that these week segments include 1 019 vessels or 84% of the whole active fleet.

Drivers affecting the economic performance trends

The income from landings during last years and prices of fish and fuel were the main driving forces behind the overall sustainability of the fleet.

The stable average price of some important species as European sprat and increase of the average price of sea snail, Mediterranean horse mackerel, turbot, red mullet and European anchovy, had a positive impact on profitability of some segments of the fleet.

When we look the other segments, the reason for their weakness is an increase of energy consumption and significant decrease of other income which mainly is generate by tourism activities. This part from the fleet is mainly small coastal fleet which is dependent also from tourism and other activities.

Markets and Trade

According to the weight and value of landings, the most important species in Bulgaria remain sea snails, red mullet and sprat. In terms of TAC species, the other important species is turbot. The price of most species have remained stable in the last years while the prices of sprat and turbot have decreased.

According to the data from the National Statistical Institute, in 2016, total imports of fish and fishery products in Bulgaria amounted to 37 724 tonnes. The volume of import decreased by 8% compared to 2015.

Over 74% of the total quantities of imported fish and fisheries products in 2016 are from Member States of the EU. Quantities from the Member States reached 28 064 tonnes, 7% more than in the previous year. The most significant amounts were supplied by Spain (4.8 thousand tonnes).

On the other hand, in 2016 imports of fish and fisheries products from third countries increased by 12% annually. Major exporters to Bulgaria were Canada (1.6 thousand tonnes) and Morocco (1.1 thousand tonnes).

The total export of fish, aquatic and fishery products in 2016 amounted to 12 096 tonnes, 27% higher than the previous year, which is explained by the increase in aquaculture production during the year, as well as the realization of re-export of imported and processed fish.

Nearly 74% of total export of fish and fish products during 2016 was for the EU. The amount of 9 461 tonnes allocated to the Member States of the EU increased 26% compared to 2015. The most significant dispatches were for Romania (4.8 thousand tonnes), Sweden (2 thousand tonnes) and Greece (1.5 thousand tonnes).

Exports of fish and fishery products to third countries increased 33% compared to 2015 to 2 634 tonnes, realised mainly to the Republic of Korea, Japan, and Serbia.

The situation in front of Bulgarian fleet is complicated because the big quantity of imported fish and fish products are imported in the country with a lower price than the price of Bulgarian catches from the Black sea and for the fishers is impossible to compete in this respect, even after processing and added value.

Management instruments

Bulgaria is currently applying a set of measures to increase the control and monitoring of landings of all species and especially of turbot, which have a positive impact on reducing IUU-fishing, including:

- Designated ports to land turbot;
- Equipment of all turbot fishing vessels with a tracking device;
- Introduced minimum size for turbot.

Bulgaria has introduced extremely stringent requirements, ensuring a low risk of IUU-fishing, to all fishing vessels who receive a permit to catch turbot. Under national legislation, all vessels fishing turbot are required to be equipped with tracking devices regardless of their length. The fleet is managed mainly through TACs, together with a range of input controls. With the Recommendation GFCM/41/2017/4 was accepted multiannual management plan for turbot fisheries in the Black Sea which lay down a list of measures and total allowable catch for 2018-2019.

TACs and quotas

There are two species with quotas in Bulgaria. Turbot and sprat TAC for the Black Sea (quota system) was introduced in 2008 following the accession of Bulgaria and Romania to the European Union (EU).

In regards to negotiation during forming of TAC regulation for Black sea and to prevent IUU fisheries, the total number of vessels engaged in fishing for turbot is reduced year by year. In 2016 and in 2017 also, a total of 116 fishing vessels were engaged in fishing for turbot, but in 2018, their number decreased to 115. Maintaining of levels of landings of turbot by Bulgarian fishing vessels in recent years as a result of compliance with the level of the total allowable catch of turbot set by the Council in the amount of 43.2 tonnes and a strict regime for fishing of turbot. From 2013 to date, approximately 50% of the total number of vessels fishing for turbot are fishing vessels with an overall length of less than 12 meters. During the same period, more than 50% of all active fishing vessels with an overall length of over 12 meters were involved in the turbot fishery.

In 2017, quotas were 43.2 tonnes of turbot and 8 032.5 tonnes of sprat and landings were 41.8 tonnes of turbot and 3 189 of tonnes sprat, respectively.

At its 41st Annual Meeting in 2017, the General Fisheries Commission for the Mediterranean (GFCM) adopted Recommendation GFCM/41/2017/4 on a multiannual management plan for turbot fisheries in the Black Sea. The recommendation a total allowable catch (TAC) for turbot for 2 years (2018-2019) with a temporary allocation of quotas.

In order to avoid interruption of fishing activities and to ensure the livelihood of Union fishers, it was important to open the fisheries concerned in the Black Sea on 1 January 2018. For reasons of urgency was adopted Council Regulation (EU) 2017/2360 of 11 December 2017 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks in the Black Sea. The Regulation fixed the fishing opportunities by Union fishing vessels flying the flag of Bulgaria and of Romania for 2018 for certain fish stocks in the Black Sea: turbot (*Psetta maxima*) and sprat (*Sprattus sprattus*). The quota for sprat was fixed at same level as in 2017 while the quota for turbot was allocated to 57 tonnes for Bulgaria which is 32% more than 2017.

Even after increasing of the turbot quota for the Member States of the EU, the TAC for Union represent less than 20% of the total TAC (644 tonnes) in the Black Sea, where the other quotas are fixed to 374 tonnes for Turkey, 101 tonnes for Ukraine, 50 tonnes for Russia and 5 tonnes for Georgia.

Operational costs (external factors)

The energy cost was the major cost item during the last 5 years. The price of fuel is not particularly constant, but from 2014 to 2016 decreased year by year. The costs for wages and salaries is the other major cost item in the same period but in 2016 decreased significantly which can be explained with huge number of small coastal vessels and the big number of unpaid workers. The value of the variables Wages and salaries and Unpaid labour decreased between 2015 and 2016 and decreased also as a percentage of the operating costs. Between 2015 and 2016, operating costs decreased by 17%. Unfortunately, due to the specifics of the fishing activities in Bulgaria and the seasonal fishing, the sector continues to offer relatively low wages, compared to the other sectors in the country. This is why the larger percentage of vessels` owners perceive fishing as a hobby, not as a business.

Innovation and Development

In the last years the basic development in Bulgarian fleet is based on the gear or engine reparation, as well as on improving terms of fish preservation or processing aiming at increasing product quality and value.

In compliance with the Operational Programme for support from the European Maritime and Fisheries Fund for the development of the Bulgarian fisheries sector for a Programming period 2014-2020, with the aim to ensure the viability and sustainable development of the Bulgarian fisheries sector as well as the protection of its fishing/marine resources. EUR 25 514.5 thousand, i.e., 22.47% of the total OP allocation, aims at ensuring the viability and sustainable development of the Bulgarian fisheries sector as well as the protection of its fishing/marine resources. This includes investments in the modernisation

of fishing infrastructure, protection and restoration of marine biodiversity, promotion of innovation, a collection of marine litter, and development of complementary activities /new forms of income for fishers. It could also cover permanent cessation of fishing activities and on board - investments to increase gear selectivity.

Unfortunately, there are still no data for payments to fishers from the Programming period 2014-2020, which is a serious difficulty for those willing to invest in innovations or other activities that they would not be able to achieve with their own funding.

Projections for 2016 and outlook

The increasing of average fish prices, together with decreasing of fuel costs are the main driving forces behind the low improvement in the profitability of the fleet in 2017.

In 2017, 7.5 thousand tonnes of seafood were landed by the Bulgarian fleet, with a value of EUR 4.8 million which is close to the highest value from 2012.

MODEL FORECAST

Bear in mind that the model for this year it does not include non-active vessels unlike the forecast from previous years. Preliminary results for 2017 suggest a 7% increase in landed weight and the value increased by a 3%. The price of sea snails for 2017 increased by 4% compared to 2016 which is good for fishers according to the constant demand on the fish market. Other good news for fishers is that the average first sale price for 2017 for the species under quotas, European sprat and turbot also increased by 24% and 19% respectively.

Projections and 2017 preliminary data suggest that increased fuel consumption and a decrease in operating costs (but energy costs increase 5%), together with a reduction in capital costs, does not foster very well the further economic performance improvements in 2017 compared to 2016: gross profit (-28%), and decrease of GVA (-13%). Projections suggest that overall, the fleet operated at a gross profit (EUR 1 million) and generate net profit (EUR 0.7 million) in 2017. The preliminary data shows that Net profit and net profit margin increased compared to 2016. This situation could be explained by the reduction of cost and the increasing of average fish prices.

Despite the fuel prices increase while fish prices for important species and TAC remain stable, the outcome for 2018 seems favourable. 2017 gains are improved in 2018 with decreasing operating costs and landings could be stable compared to projected 2017 figures. With fuel costs decreasing 4% in 2018, the fleet retains a positive gross profit and net profits about EUR 1 million due to also lower capital costs.

Data issues

No major data issues were identified during the meeting, and part of them was corrected. Only the differences between the value of landings and the total income still exist as an issue but this is well explained below.

The reason for differences between the value of landings and the total income for some fleet segments is the use of different data sources. The income from landings is from questionnaires that the owner of every vessel is obliged to provide every year and the value of landings is estimated as multiplied the total weight that was landed by the vessels in the fleet segment by the average price per kilogram. Bulgaria is currently working to align the discrepancy between the data from both sources and to avoid discrepancies in the future. The differences are presented mainly in SSCF segment where big part of the catch is for self or family consumption and fishers declare very low prices.

Table 5.6 Bulgaria: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	2,548	2,207	2,344	2,345	2,387	2,066	2,011	1,979	1,918	1,897	1,263		-3%	-14%
Number of Inactive vessels_ms	(#)	1,957	1,309	1,316	1,337	1,198	862	901	775	712	602			-8%	-41%
Vessel tonnage	(thousand GT)	8.3	7.6	7.9	7.5	7.4	6.9	6.4	6.4	6.3	6.3			-1%	-14%
Engine power	(thousand kW)	65.9	60.4	63.5	62.1	62.9	59.1	56.6	56.0	56.0	57.0			0%	-8%
Total employed	(person)	811	1,195	1,368	1,344	1,541	1,331	1,517	1,728	1,603	1,491	1,491		-7%	18%
FTE	(#)	319	441	504	501	544	496	532	608	580	499	499		-5%	18%
Days at sea	(thousand day)	9.1	14.5	21.8	18.6	20.6	21.6	21.3	22.7	25.9	25.1	22.8		14%	38%
Fishing days	(thousand day)	9.1	14.5	21.8	18.6	20.6	21.6	21.3	22.7	25.9	25.1			14%	38%
Number of fishing trips	(thousand)	9	14	22	19	21	22	21	23	26	25			14%	38%
Energy consumption	(million litre)	1.40	1.73	2.24	2.35	2.39	1.91	2.23	2.02	2.56	2.78	2.25		27%	26%
Live weight of landings	(thousand tonne)	7.46	7.10	9.32	7.81	7.22	9.21	7.90	8.31	6.96	7.47	6.47		-16%	-13%
Value of landings	(million €)	4.87	4.42	4.19	4.48	4.90	4.42	4.33	3.77	4.63	4.76	3.96		23%	5%
Income from landings	(million €)	4.87	4.42	4.19	4.48	4.90	4.15	3.95	4.92	5.27	4.68	4.57		7%	18%
Other income	(million €)	1.29	1.84	2.05	1.89	2.26	2.60	1.54	2.20	0.14	0.13	0.12		-93%	-93%
Direct income subsidies	(million €)	0.02	0.05	0.04	0.06	0.04	0.05	0.10	0.04	-				-100%	-100%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	1.41	1.91	2.06	2.06	2.06	2.17	2.20	1.98	1.54	1.54	1.50		-22%	-22%
Unpaid labour value	(million €)	0.34	0.50	0.55	0.51	0.58	0.82	0.54	0.38	0.14	0.15	0.15		-63%	-73%
Energy costs	(million €)	0.72	0.87	1.42	1.77	1.79	1.70	1.51	1.37	1.27	1.34	1.03		-7%	-9%
Repair & maintenance costs	(million €)	0.46	0.56	0.62	0.59	0.61	0.70	0.56	0.55	0.53	0.37	0.37		-4%	-9%
Other variable costs	(million €)	0.77	0.94	1.01	0.94	0.97	0.56	0.49	0.24	0.20	0.15	0.15		-17%	-73%
Other non-variable costs	(million €)	0.15	0.21	0.23	0.22	0.23	0.19	0.24	0.27	0.29	0.22	0.22		9%	35%
Annual depreciation costs	(million €)	0.33	0.41	0.43	0.40	0.46	0.40	0.72	0.43	0.55	0.31	0.31		29%	22%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	- 1.43	1.07	0.69	0.42	0.45	0.62	1.00	0.75	0.67	0.05	- 0.07		-10%	51%
Tangible asset value (replacement)	(million €)	24.2	23.2	23.5	22.1	21.9	20.2	19.9	20.2	18.5	11.8	11.7		-9%	-16%
Fishing rights	(million €)	-	-	-	-	-	-	-	-						
Investments	(million €)	3.9	5.5	6.1	5.5	5.9	7.9	3.9	5.7	0.5				-92%	-92%
Financial position	(%)	-	-	-	-	-	0.2	5.4	3.6	0.3				-90%	-70%
Gross Value Added	(million €)	4.1	3.7	3.0	2.9	3.6	3.6	2.7	4.7	3.1	2.7	2.9		-33%	-11%
GVA to revenue	(%)	65.9	58.9	47.4	44.8	49.8	53.4	49.0	65.8	57.7	56.7	62.6		-12%	6%
Gross profit	(million €)	2.31	1.27	0.34	0.28	0.92	0.62	- 0.05	2.3	1.4	1.0	1.3		-38%	44%
Gross profit margin	(%)	37.5	20.4	5.5	4.4	12.8	9.2	- 0.9	32.7	26.6	21.6	27.5		-19%	75%
Net profit	(million €)	3.4	0.2	- 0.8	- 0.5	0.0	- 0.4	- 1.8	1.2	0.2	0.7	1.1		-81%	98%
Net profit margin	(%)	55.4	3.2	- 12.4	- 8.5	0.2	- 5.9	- 32.3	16	4.1	14.0	22.4		-75%	245%
GVA per FTE (labour productivity)	(thousand €)	12.7	8.4	5.9	5.7	6.6	7.3	5.0	7.7	5.4	5.5	5.9		-30%	-27%
Return on fixed tangible assets	(%)	8.2	3.7	- 0.4	- 0.5	2.1	1.1	- 3.9	9.4	4.8	6.1	8.4		-49%	97%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2017 includes active vessels only.
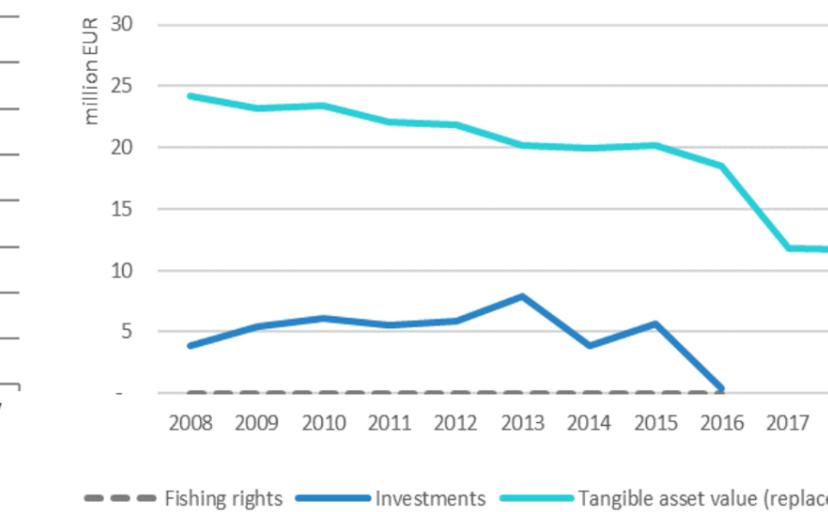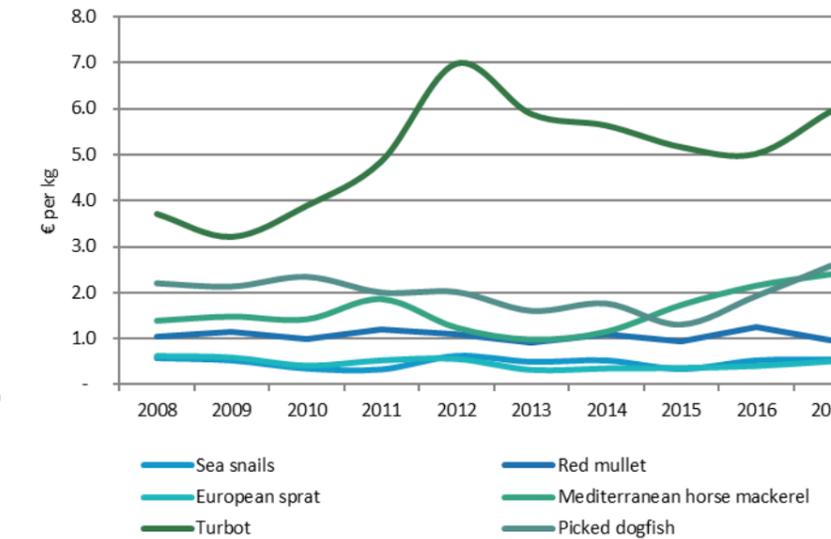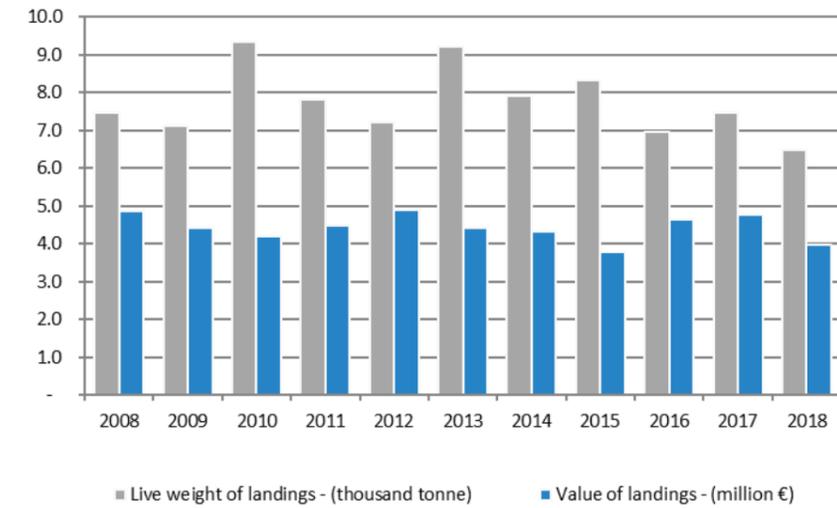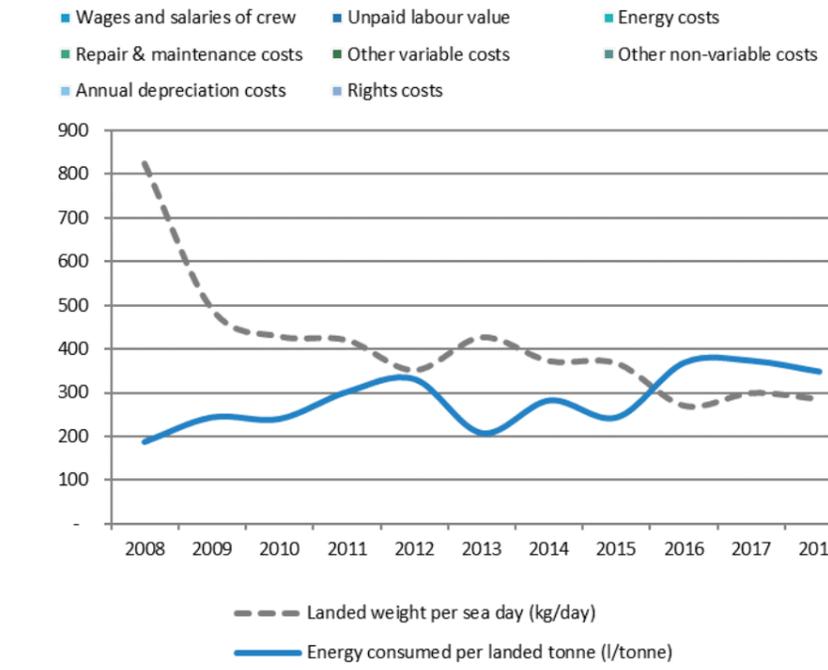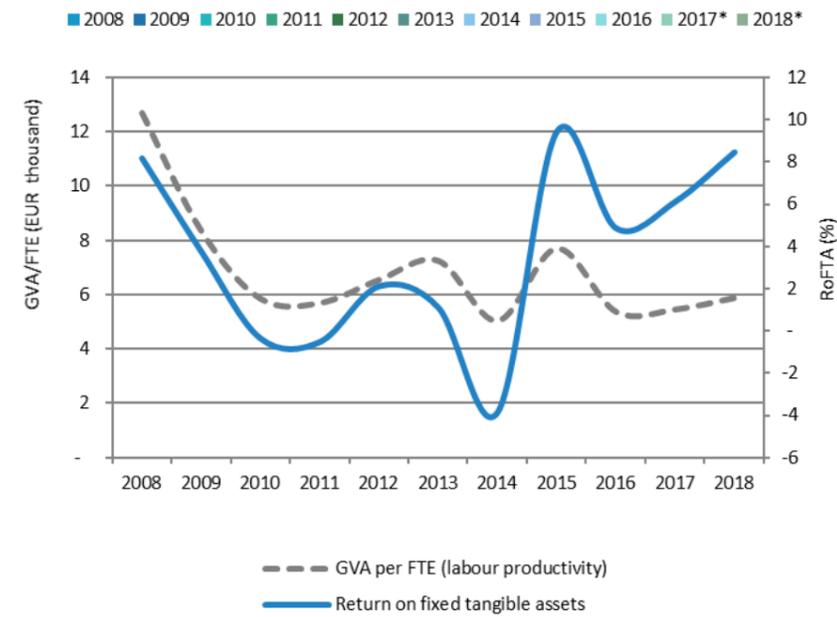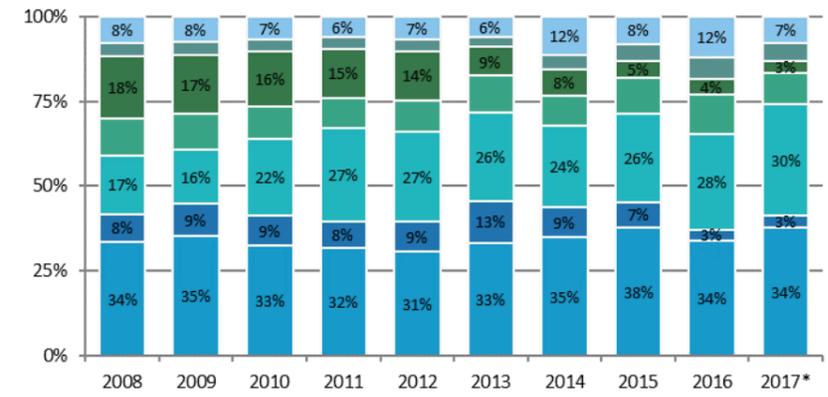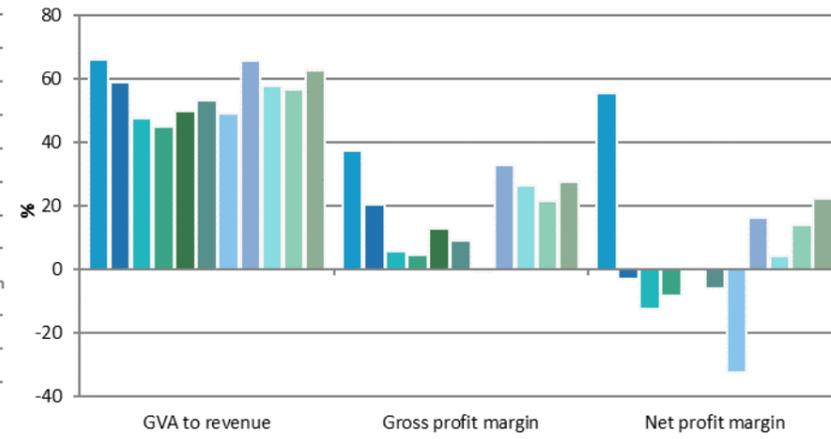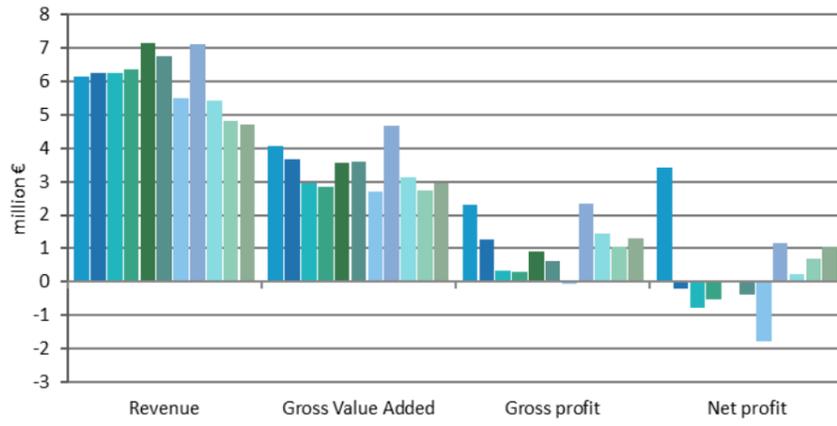
Figure 5.2 Bulgaria: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital values (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.7 Bulgaria: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF												Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Total number of vessels	(#)	502	803	922	910	1074	1100	999	1080	1086	1190	1190		1%	18%	89	95	106	98	115	104	111	124	120	73	73		-3%	14%
Vessel tonnage	(thousand GT)	1.07	1.48	1.67	1.85	1.93	1.97	1.69	1.80	1.82	1.92			1%	8%	3.0	3.2	3.5	3.1	3.2	3.0	3.1	3.2	3.2	2.5			1%	2%
Engine power	(thousand kW)	11.82	16.67	19.37	20.47	23.02	23.98	20.76	22.78	23.34	24.76			2%	18%	11.9	12.8	14.9	13.2	14.5	14.8	15.6	16.9	17.3	11.7			3%	21%
FTE	(#)	179	283	322	327	362	370	343	382	373	373	373		-2%	16%	140	158	183	173	182	127	189	225	207	126	126		-8%	20%
Total employed	(person)	598	961	1096	1094	1263	1147	1196	1429	1330	1330	1330		-7%	21%	213	234	272	250	278	184	321	299	273	161	161		-9%	6%
Days at sea	(thousand day)	5.80	9.33	15.47	12.16	13.59	14.35	13.31	13.77	16.62	16.99	16.99		21%	36%	3.3	5.2	6.4	6.5	7.0	7.3	8.0	8.9	9.3	5.8	5.8		4%	41%
Fishing days	(thousand day)	5.80	9.33	15.47	12.16	13.59	14.35	13.31	13.77	16.62	16.99			21%	36%	3.3	5.2	6.4	6.5	7.0	7.3	8.0	8.9	9.3	5.8			4%	41%
Number of fishing trips	(thousand)	5.80	9.33	15.47	12.16	13.59	14.35	13.31	13.77	16.62	16.99			21%	36%	3.3	5.2	6.4	6.5	7.0	7.3	8.0	8.9	9.3	5.8			4%	41%
Energy consumption	(million litre)	0.26	0.30	0.45	0.43	0.43	0.42	0.37	0.33	0.48	0.52	0.52		44%	28%	1.1	1.4	1.8	1.9	2.0	1.5	1.9	1.7	2.1	1.7	1.7		23%	26%
Live weight of landings	(thousand tonne)	2.61	1.78	2.95	2.33	1.87	2.18	2.09	1.77	1.96	1.93	1.93		11%	-11%	4.9	5.3	6.4	5.5	5.4	7.0	5.8	6.5	5.0	4.5	4.5		-24%	-15%
Value of landings	(million €)	1.68	1.09	1.23	1.05	1.33	1.21	1.22	0.70	1.18	1.18	1.15		68%	-1%	3.2	3.3	3.0	3.4	3.6	3.2	3.1	3.1	3.4	2.9	2.8		12%	7%
Income from landings	(million €)	1.68	1.09	1.23	1.05	1.33	1.22	1.39	1.62	1.73	1.80	1.76		7%	30%	3.2	3.3	3.0	3.4	3.6	2.9	2.6	3.3	3.5	2.9	2.8		7%	12%
Other income	(million €)	1.00	1.48	1.61	1.49	1.84	1.77	1.43	2.05	0.10	0.10	0.10		-95%	-94%	0.3	0.4	0.4	0.4	0.4	0.8	0.1	0.1	0.0	0.0	0.0		-72%	-89%
Direct income subsidies	(million €)	0.02	0.04	0.04	0.05	0.03	0.03	0.10	0.00	0.00					-100%	0.00	0.01	0.01	0.01	0.01	0.02	0.00	0.04	0.0				-100%	-100%
Income from leasing fishing rights	(million €)	0	0	0	0	0	0	0	0	0	0.00					0	0	0	0	0	0	0	0	0.0					
Wages and salaries of crew	(million €)	0.79	1.21	1.29	1.36	1.35	1.52	1.49	1.10	0.77	0.82	0.80		-30%	-39%	0.62	0.70	0.77	0.70	0.72	0.65	0.71	0.88	0.77	0.72	0.70		-13%	7%
Unpaid labour value	(million €)	0.25	0.39	0.43	0.41	0.47	0.72	0.34	0.33	0.11	0.13	0.13		-66%	-74%	0.09	0.11	0.12	0.10	0.12	0.10	0.20	0.05	0.03	0.02	0.02		-40%	-71%
Energy costs	(million €)	0.23	0.26	0.45	0.49	0.50	0.34	0.39	0.28	0.34	0.40	0.39		20%	-8%	0.49	0.60	0.98	1.28	1.29	1.35	1.12	1.09	0.93	0.94	0.63		-14%	-9%
Repair & maintenance costs	(million €)	0.12	0.18	0.20	0.20	0.21	0.24	0.22	0.20	0.17	0.17	0.17		-14%	-14%	0.33	0.38	0.43	0.39	0.40	0.46	0.34	0.35	0.36	0.21	0.20		2%	-7%
Other variable costs	(million €)	0.17	0.24	0.25	0.25	0.26	0.27	0.21	0.11	0.09	0.09	0.09		-17%	-57%	0.60	0.70	0.76	0.69	0.71	0.28	0.29	0.13	0.11	0.06	0.06		-18%	-79%
Other non-variable costs	(million €)	0.07	0.11	0.12	0.13	0.13	0.12	0.14	0.14	0.16	0.16	0.16		12%	34%	0.08	0.09	0.10	0.09	0.10	0.07	0.11	0.12	0.13	0.06	0.06		7%	36%
Annual depreciation costs	(million €)	0.11	0.18	0.19	0.19	0.21	0.21	0.27	0.20	0.18	0.18	0.18		-6%	-5%	0.22	0.23	0.25	0.21	0.25	0.19	0.46	0.23	0.36	0.13	0.13		58%	43%
Rights costs	(million €)	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0			
Opportunity cost of capital	(million €)	-0.16	0.20	0.13	0.09	0.10	0.15	0.24	0.20	0.18	0.02	-0.03		-7%	53%	-0.5	0.5	0.3	0.2	0.2	0.3	0.5	0.4	0.4	0.0	0.0		-6%	65%
Tangible asset value (replacement)	(million €)	2.77	4.36	4.55	4.76	5.01	4.75	4.86	5.25	4.98	4.92	4.85		-5%	10%	9.3	10.3	11.2	10.1	10.7	10.2	10.5	11.4	10.9	6.9	6.8		-5%	4%
Fishing rights	(million €)	0	0	0	0	0	0	0	0	0.00						0	0	0	0	0	0	0	0	0.0					
Investments	(million €)	1.86	3.21	3.53	3.28	3.69	7.08	2.30	1.41	0.23				-84%	-93%	2.0	2.2	2.6	2.2	2.2	0.8	1.6	4.2	0.2				-95%	-90%
Gross Value Added	(million €)	2.09	1.78	1.82	1.48	2.06	2.00	1.87	2.94	1.07	1.08	1.05		-64%	-47%	2.0	1.9	1.1	1.4	1.5	1.6	0.8	1.7	2.1	1.6	1.9		17%	36%
GVA to revenue	(%)	77.95	69.15	64.16	58.24	65.29	67.06	66.34	79.97	58.41	56.78	56.71		-27%	-15%	56.5	51.7	33.4	35.9	37.5	42.6	30.6	50.8	57.3	56.7	66.5		13%	35%
Gross profit	(million €)	1.05	0.18	0.09	-0.28	0.25	-0.24	0.04	1.51	0.19	0.13	0.13		-88%	-42%	1.3	1.1	0.3	0.6	0.7	0.9	-0.1	0.8	1.3	0.9	1.2		53%	85%
Gross profit margin	(%)	39.14	7.10	3.33	-11.17	8.03	-7.89	1.40	41.18	10.31	6.69	6.76		-75%	2%	36.3	29.7	7.4	14.8	16.6	22.7	-3.3	23.7	34.9	31.3	41.1		48%	89%
Net profit	(million €)	1.10	-0.20	-0.22	-0.57	-0.06	-0.60	-0.47	1.12	-0.18	-0.07	-0.02		-116%	-1369%	1.6	0.4	-0.3	0.2	0.2	0.4	-1.1	0.4	0.5	0.8	1.1		207%	171%
Net profit margin	(%)	41.12	-7.74	-7.89	-22.30	-1.80	-19.94	-16.72	30.55	-9.67	-3.93	-1.32		-132%	-1541%	45.6	10.6	-9.5	4.3	4.9	9.5	-40.2	4.7	13.8	26.4	38.0		196%	270%
Return on fixed tangible assets	(%)	33.93	0.03	-2.00	-10.04	0.92	-9.48	-4.66	25.10	0.09	-1.12	-1.10		-100%	-98%	11.2	8.4	0.0	3.5	3.9	6.6	-5.2	5.1	8.2	11.6	15.4		60%	96%
GVA per FTE (labour productivity)	(thousand €)	11.68	6.31	5.65	4.53	5.71	5.42	5.45	7.68	2.87	2.89	2.83		-63%	-56%	14.0	12.0	6.2	7.9	8.2	12.6	4.3	7.8	9.9	13.1	15.0		27%	8%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.8 Bulgaria: Landed value, weight and average price of principal species

	Value of landings (real)										Live weight of landings										Average landed price (real)										% over total (2016)	
	(thousand €)										(thousand tonne)										(€)											
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Sea snails	1.7	1.2	1.7	1.0	2.4	2.4	2.5	1.4	1.8	2.0	2.9	2.2	4.8	3.1	3.8	4.8	4.7	4.1	3.4	3.7	0.6	0.5	0.4	0.3	0.6	0.5	0.5	0.3	0.5	0.6	39%	49%
Red mullet	0.0	0.1	0.1	0.3	0.2	0.2	0.4	0.6	1.1	0.4	0.0	0.1	0.1	0.2	0.1	0.3	0.3	0.6	0.9	0.4	1.0	1.1	1.0	1.2	1.1	0.9	1.1	1.0	1.3	1.0	24%	13%
European sprat	2.7	2.7	1.7	2.1	1.6	1.2	0.8	1.2	0.9	1.6	4.3	4.5	4.0	4.0	2.8	3.8	2.3	3.3	2.3	3.2	0.6	0.6	0.4	0.5	0.6	0.3	0.4	0.4	0.4	0.5	20%	33%
Mediterranean horse	0.2	0.3	0.2	0.7	0.5	0.3	0.1	0.2	0.4	0.4	0.2	0.2	0.2	0.4	0.4	0.3	0.1	0.1	0.2	0.2	1.4	1.5	1.4	1.9	1.3	1.0	1.2	1.7	2.2	2.4	8%	2%
Turbot	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.2	3.9	4.9	7.0	5.9	5.6	5.2	5.0	5.9	5%	1%
Picked dogfish	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	2.2	2.1	2.3	2.0	2.0	1.6	1.8	1.3	1.9	2.6	3%	1%
European anchovy	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	-	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.1	-	0.7	1.1	1.2	0.8	0.9	0.5	0.6	0.7	1.1	1.1	1%	1%
																															100%	100%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.9 Bulgaria: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity) (thousand €)	Return on fixed tangible assets (%)	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
BGR A37 TM1218 °	47	81	4,021	505	1,757	1,481	1,240	585	47.2	278	22.4	- 93	- 7.53	3.8	7.2	1.2	Weak	84%	Improved	22.9%
BGR A37 TM2440	12	49	1,615	318	1,753	842	798	466	58.4	276	34.6	123	15.41	3.9	9.5	7.9	Reasonable	-52%	Deteriorated	14.7%
BGR A37 PMP0612	154	88	4,852	166	1,111	619	760	452	59.5	177	23.3	93	12.22	3.1	5.2	12.8	Reasonable	-38%	Deteriorated	14.0%
BGR A37 TM1824	9	26	1,122	552	625	437	506	302	59.7	199	39.4	117	23.04	3.9	11.6	10.8	High	45%	Improved	9.3%
BGR A37 PMP1824 °	4	7	456	238	272	205	449	341	75.8	304	67.7	266	59.17	5.5	51.0	75.6	High	858%	Improved	8.3%
BGR A37 DFN0612	430	128	4,845	1,516	68	75	446	217	48.6	27	6.1	- 130	- 29.09	1.5	1.7	- 2.1	Weak	-526%	Deteriorated	8.2%
BGR A37 PMP1218	14	25	1,367	355	515	402	397	233	58.8	99	25.0	23	5.76	5.4	9.4	5.5	Weak	110%	Improved	7.3%
BGR A37 PMP0006	53	26	1,895	96	571	308	190	153	80.3	- 70	- 36.5	- 81	- 42.69	8.7	6.0	- 58.9	Weak	-56%	Deteriorated	3.5%
BGR A37 DFN0006	304	80	2,924	5,090	17	15	175	94	53.8	33	19.0	- 11	- 6.03	0.8	1.2	2.2	Weak	91%	Improved	3.2%
BGR A37 DFN1218 °	8	12	342	690	56	65	173	116	67.3	89	51.4	60	34.77	2.3	9.9	11.6	High	144%	Improved	3.2%
BGR A37 FPO0612	42	26	764	115	117	99	103	63	61.0	9	8.5	- 1	0.95	2.1	2.4	3.2	Weak	98%	Improved	1.9%
BGR A37 HOK0612	49	12	765	3,426	3.0	5.4	83.7	47.8	57.1	24.8	29.7	5.9	7.01	1.9	3.9	5.9	Weak	921%	Improved	1.5%
BGR A37 PGP0612 °	22	5	212	221	74.4	55.7	55.2	31.8	57.6	- 10.9	- 19.8	- 44.5	- 80.67	8.0	6.0	- 11.9	Weak	38%	Improved	1.0%
BGR A37 PS0006 °	25	8	302	586	9.7	8.5	16.7	8.2	49.2	6.6	39.4	- 1.2	- 7.01	0.2	1.1	0.5	Weak	80%	Improved	0.3%
BGR A37 HOK0006	26	6	196	3,294	1.0	2.0	11.7	6.1	52.0	6.0	51.3	- 0.6	- 4.85	0.0	1.1	2.7	Weak	99%	Improved	0.2%
BGR A37 FPO0006	6	3	167	2,229	1.5	1.8	8.1	6.3	77.3	- 7.7	- 95.0	- 8.2	- 101.50	5.2	2.3	- 77.1	Weak	96%	Improved	0.1%
BGR A37 HOK1218	1	0.2	26	255																0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.10 Bulgaria: National fleet statistics and economic performance results by fleet segment, 2017

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity) (thousand €)	Return on fixed tangible assets (%)	Profitability (2016)	As a % of total revenue
BGR A37 TM2440	11	49	1,618	268	2,333	1,279	1,279	911	71.3	622	48.7	565	44.15	5.9	18.6	20	High	30.6%
BGR A37 PMP1218	21	25	1,978	431	1,071	732	732	414	56.6	171	23.3	134.8	18.43	9.8	16.7	11	Reasonable	17.5%
BGR A37 PMP0612	195	88	6,868	271	1,070	612	614	211	34.5	- 60	- 9.8	- 111	- 18.08	3.1	2.4	- 11	Weak	14.7%
BGR A37 TM1824	8	26	900	431	757	441	451	250	55.5	147	32.6	117	26.02	4.0	9.6	8	High	10.8%
BGR A37 PMP0006	82	26	2,584	122	607	335	335	292	87.2	50	14.9	42.5	12.71	9.4	11.4	34	Reasonable	8.0%
BGR A37 PMP1824 °	4	7	360	600	230	167	167	- 14	- 8.3	- 44	- 26.0	- 70	- 41.56	4.4	- 2.1	- 19	Weak	4.0%
BGR A37 DFN0612	400	128	3,574	1,499	52	70	141	- 66	- 46.9	- 242	- 172.0	- 324	- 230.34	1.4	- 0.5	- 14	Weak	3.4%
BGR A37 DFN1218 °	12	12	633	1,918	81	114	129	- 31	- 24.0	- 79	- 60.9	- 82.8	- 64.06	4.1	- 2.7	- 11	Weak	3.1%
BGR A37 PS0006 °	16	8	259	301	55.2	122.5	122.5	110.9	90.5	87.4	71.3	80.9	66.03	3.1	14.4	222	High	2.9%
BGR A37 FPO0612	38	26	533	65	140	105	107	71	66.6	14	13.0	11.7	10.98	2.2	2.8	5	Reasonable	2.6%
BGR A37 HOK0612	97	12	785	2,869	5.6	14.2	41.0	- 4.0	- 9.7	- 64.5	- 157.4	- 74.8	- 182.40	4.9	- 0.3	- 28	Weak	1.0%
BGR A37 DFN0006	260	80	2,102	730	53	35	35	- 31	- 88.8	- 170	- 489.3	- 190.2	- 548.20	1.7	- 0.4	- 27	Weak	0.8%
BGR A37 HOK1218	1	0	28	952	8	19.4	19.4	- 0.5	- 2.4	2.3	11.8			10.1	2.6			0.5%
BGR A37 PGP0612 °	64	5	238	1,926	2.4	5.7	5.7	- 9.5	- 167.3	- 13.7	- 241.5	- 37.8	- 663.38	0.8	- 1.8	- 13	Weak	0.1%
BGR A37 HOK0006	50	6	293	4,111	1.4	2.4	2.4	- 5.1	- 210.7	- 5.2	- 214.9	- 9.7	- 405.34	0.0	- 0.9	- 16	Weak	0.1%
BGR A37 FPO0006	4	3	14	589	0.2	0.3	0.3	- 0.9	- 353.0	- 3.0	- 1,167.5	- 3.2	- 1,243.66	0.8	- 0.3	- 31	Weak	0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.3 Croatia

Short description of the national fleet

Fleet capacity

In 2016, the fleet consisted of 7 746 vessels with a combined gross tonnage (GT) of 49 thousand tonnes and engine power of 387.6 thousand kilowatts (kW). This represents a drop of 9% in terms of GT and 10% in terms of kW compared to 2015.

Fleet structure

The Croatian fleet is divided to the main commercial fleet and a category of small-scale artisanal coastal fisheries for personal needs consisting of some 3 500 vessels, and defined by national legislation. Pursuant to the accession negotiations, 3 500 small-scale vessels were transferred into the commercial SSCF in 2015. Although in the commercial fleet, the vessels are mostly operating for personal needs and are kept as a separate category, with specific requirements and constrains. Out of 5 280 active vessels, 4 292 vessels are small-scale and 988 large-scale vessels. While the active small-scale vessels constitute 81% of the active fleet, their contribution in gross tonnage is 22% and in engine power 43%.

Employment

Employment was estimated at 7 377 in 2016, corresponding to 3 761 FTEs. The level of employment is steadily increasing since 2012 to 2015, and compared to 2015 employment increased by 46%, while the number of FTEs increased by 58%. This was mainly due to activation of large number of small scale vessels in the PGP segment. As expected, the increase in the number of employed corresponds to the increased number of active vessels in 2016.

Effort

In total 210 thousand days were spent at sea in 2016. This is drop of 13% from 2015 in line with the limitation of effort for purse seiners for small-pelagic fish and temporal cessation in pelagic and demersal fishery. The quantity of fuel consumed in 2016 totalled 24.87 million litres, decreasing by 2% compared to 2015, in correlation to the decrease in the number of days at sea. Overall the fleet is working more efficiently with a stable trend in landings weight (decrease of 1%) and declining trend in total sea days. The fleet operates exclusively in the Northern Adriatic, GSA 17.

Production

The overall landing of seafood has been slowly decreasing since 2014. While compared to 2014 landings decreased 9,4% to 72 thousand tonnes of seafood in 2016, at the same time landed value has decreased by 7% amounting to EUR 56.9 million in 2016.

Small pelagic species targeted in purse seine fisheries, of which sardine and anchovy are most important, by far dominate the overall structure and account for 87% of total landing weight in 2016. Small pelagic species are also the most important species in terms of value, accounting for over 50% of total landing value. On the other hand, species targeted by demersal trawling, red mullet, Norway lobster and hake, account for less than 2,6% in terms of quantity, but 12.6% in terms of the value. In 2016 the most important fleet segment in terms of contribution to total landings is purse seines from 24 to 40 meters LoA. This fleet segment accounts for 57% of landings in 2016. Overall, purse seine segments make up 91% of Croatian landings, and are managed under the provisions of a multiannual management plan for small pelagic in GSA 17 as adopted under the GFCM. As of October 2014, further restrictions apply in this regard, with limitations of days at sea and increased provisions on recording, and from 2017 catch limitations.

Economic results for 2016 and recent trends

National fleet performance

In 2016, the economic performance of the overall fleet decreased in general. This can be primarily run by the inclusion of large number of small scale vessels which belong to PGP segment and which are primarily directed to fishing for personal consumption. By doing so, they contribute to overall

performances only with costs but they very little contribute to income. The total amount of Gross Value Added (GVA) and gross profit decreased by 36% and by 152%, respectively. Net profit was at very low levels, EUR -32.4 million with a decrease of 123% since 2015.

In 2016, revenue was estimated at EUR 70.2 million, a decrease of 6% since 2015 confirming a downward trend in the last year.

Total expenditures amounted to EUR 87.23 million in 2016, with the change in the cost structure where there is significant increase in fixed costs related primarily to small scale PGP segment. This also reflects on cost structure where fixed costs now amount for 15% in compare to 9% in the 2015. Wages and salaries remained most important with 30% and followed by energy costs with 16% of all costs.

The tangible asset value of the fleet decreased in 2016, amounting to EUR 375.6 million. Investments increased by 14% in 2016 and amounted to EUR 8.8 million.

Resource productivity and efficiency indicators

The gross loss in 2016 was -EUR 3.94 million, net profit margin was estimated at-46.1%. The Rate of Return on Fixed Tangible Assets (RoFTA) decreased in 2016 to -4%.

Labour productivity (GVA/FTE) decreased to EUR 7 thousand, FTE increased by 58%, and GVA decreased by 36% to EUR 25.3 million.

Energy consumption per landed tonne remained stable with value of 345 litres/tonne in comparison to 349 in 2015, while landed weight per sea day increased 14%.

Performance by fishing activity

Although 110 species are caught commercially in Croatia, four species account for more than 89% of the total landing weight: European pilchard, European anchovy, red mullet and hake. European pilchard has the highest landing value (EUR 20.9 million), followed by European anchovy (EUR 7.8 million), Norway lobster (EUR 2.9 million) and hake (EUR 2.5 million). This fact indicates very high dependency of fleet segments targeting these species and also high sensitivity on any management measures related to these species.

Small-scale coastal fleet

Small-scale coastal fleet of vessels of less than 12 metres' length overall consisting mainly of vessels using passive gears, is not economically significant, however it is of significant social importance due to the large number of vessels and corresponding FTE. Small-scale coastal fleet segments, with 4 292 active vessels cover almost 81% of active vessels in 2016 and 1.6% of landings in 2016. Average length of these vessels is only 7 m and average age 35 years, which limits their fishing activities to fishing grounds near the port and to one-day fishing trips. Days at sea have a distinct seasonal character, especially for passive gears, depending on migration of target species to the inner sea during the warmer period of the year as well as the increased consumer demand during the tourist season.

In 2016, the total value of landings of small-scale fishery was EUR 6.85 million, covering 12% of total value of landings. Most of small-scale fisheries catch is sold on the local market, and income is often used as the addition to the home budget. This is the main reason for negative economic indicators in these segments, but for some fishers in these segments, commercial benefit in not even a priority since they have other sources of income.

The most prominent fleet segments with an important traditional and social character within the small-scale fisheries are the segments using fixed nets.

Even though low profitability is indicated for the fleet, with very low landing values, fixed nets segments are considered to be primarily highly artisanal and important in terms of social and economic elements for local population and communities.

Performance results of selected fleet segments

In 2016, the most important fleet segment in terms of landing percentage was purse seiners (PS, over 90% of total landings), whereas the largest number of vessels were active in fixed nets segment (DFN, in Croatia fixed nets – gill nets and trammel nets, 987 active vessels). In terms of landing of demersal fish most important segment is DTS1218 with 41% of total DTS landing. In PS segments, most significant are PS2440 with 63% and PS1824 with 29% of total PS landing.

Purse seine 24-40m – 70 active vessels targeting sardine and anchovy and operating predominantly in GSA 17. This segment is employing 13% of total FTE, and it has value of landing amounted to EUR 19.1 million, 30% of total national revenue. It reported a gross profit of EUR 4.2 million and a net loss of EUR 4.6 million in 2016. Its GVA is EUR 11.6 million, and it has average wage per FTE of EUR 14.7 thousand.

Purse seine 18-24m – 48 active vessels operating predominantly in GSA 17, and targeting mostly sardine and anchovy. This segment is employing 6% of total FTE, and its landings amounts to EUR 8.9 million, representing 13.8% of total revenue. Positive gross profit of EUR 2.4 million is reported with net loss of EUR 0.386 million in 2016. Average crew wage per FTE was EUR 12.4 thousand.

Demersal trawl 12-18m **–** 180 active vessels, operating in GSA 17 and targeting different demersal species, mostly European hake, Norway lobster, Red mullet and Deep-water rose shrimp. This segment is employing 4% of total FTE, and it has EUR 5.6 million value of landing, representing 11.3% of total of total revenue. It reported a positive gross profit of EUR 1.7 million, but a net loss of EUR 0.6 million in 2016. Average crew wage per FTE was EUR 10 thousand.

Drift and fixed nets 6-12m – 649 active vessels, operating predominantly in coastal areas, targeting different species and using fixed nets and longlines. This segment is employing 8% of total FTE, and in 2016 it had value of landing of EUR 2.9 million, representing 7.6% of total revenue. It reported a positive gross profit of EUR 0.9 million and a net loss of EUR 0.6 million in 2016. Average crew wage per FTE was EUR 5.6 thousand.

Drivers affecting the economic performance trends

Markets and Trade

Market is mostly domestic, with an important influence of the Italian market.

A high influence on fish prices of small pelagic species has the product destination. As Croatia is a bluefin tuna farming country, meaning that all bluefin tuna caught by purse seiners is transferred to cages for farming, and a large quantity of small pelagic fish landed on the landing sites is designated for tuna feeding. The small pelagics intended for tuna feeding are declared with low prices in the sales notes. These low prices have a minimizing effect on the average price of small pelagic fish. For the purpose of tuna feeding Croatia has a pronounced import of haring from other countries.

Operating costs

It can be noticed that trends from the five-year period are followed in the terms of share of wages and salaries, and energy costs in total costs. In 2016, share of energy cost decreased to 16%, compared to 19% in 2015 and 25% in 2014. At the same time share of wages and salaries increased to 30%, compared to 29% in 2015. This is in line with trend of increase of average wage and increase of efficiency of vessels. Other costs such as repair and maintenance, unpaid labour and other variable cost have been stable over period accounting for 10%, 3% and 11%, respectively, in 2016.

Management instruments

Croatian fleet in managed through the capacity and effort limitations, as well as though time and spatial restrictions. Effort regulations is related to restrictions on issuing fishing licences and transfer of fishing rights from one license to other in terms of permitted fishing gears or fishing zones as well as through issuing additional authorisations for fisheries under management plans. This system is preventing increase of fishing effort related to fishing gear or fishing zone, or even subzone. Capacity limitation is related to increase of vessel power and length in terms of total national fleet capacity and total capacity for specific fisheries. Besides that, by the national regulations there are restrictions related to transfer of effort between fishing zones of inner and outer fishing sea preventing increase of effort in the most vulnerable areas of inner sea. Spatial and temporal closures have been used in the past years for management of purse seine and trawling fishery. In the recent period this has become effective measure in preventing catch of smaller categories of small pelagic as well as in protection of areas important for recruitment of target species.

In addition to the aforementioned, from 2014 GFCM management plan for small pelagic fish in GSA 17 has been in force. By the provisions of this plan maximum number of fishing days for targeting sardine and anchovy has been set, as well as temporal closure period. Given the full implementation of these measures and additional national restrictions implemented for protection of small pelagic, the total number of days at sea will probably decrease further in the future.

In 2015, Italy and Croatia adopted joint management measures at the national level establishing no-take zone for bottom trawls in the area of Jabuka/Pomo pit. This regime was introduced from July 2015 to October 2016 after which regime was modified and more stringent regime has been established for the three-year period. On the top of national legislations this new regime was also transposed into GFCM Recommendation 41/2017/3 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea.

Status of Key Stocks TACs and quotas

Having in mind that fishery in Croatia is based on effort management, only bluefin tuna fishery is restricted by TAC. Annual quota has been set by ICCAT and allocated by the national allocation key. At the national level total quota is allocated to purse seine fishery for farming purposes, hand lines and recreational fishery. Total Croatian quota for 2016 was 551.22 tonnes and 661.82 tonnes for 2017 with an increasing trend. Since almost all BFT catch is intended for farming purposes it has very limited influence on the economics of PS fleet.

In terms of landing weight most important stock for Croatian fishery are sardine and anchovy which contribute with 74% (sardine) and 15% (anchovy) to total landing weight in 2017. Stock assessment for these two species was performed in 2017 by GFCM Working Group on Stock Assessment of Small Pelagic Species (WGSASP) and results have been presented in the table below. Also stock assessment for main demersal species was performed by the Working Group for demersal species (WGSAD) and their results are presented.

Stock status of demersal species and related scientific advice by the GFCM WG:

GSA	Species	Methodology	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[15] level)	Scientific advice
17-18	*Merluccius merluccius*	SS3	Fcurr= 0.33	F0.1= 0.21	1.52	In overexploitation with relative low biomass	Reduce fishing mortality
17	*Mullus barbatus*	SS3	Fcurr = 0.50	F0.1 = 0.21	2.38	In overexploitation with relative low biomass	Reduce fishing mortality
18	*Mullus barbatus*	SS3	Fcurr=0.18	F0.1=0.48	0.4	Sustainably exploited with relative high biomass	Maintain the current level of fishing mortality
17-18	*Mullus barbatus*	SS3	Fcurr=0.19	F0.1=0.55	0.35	Sustainably exploited with relative high biomass	Maintain the current level of fishing mortality
17-18	*Parapenaeus longirostris*	SS3	Fcurr=0.43	F0.1=0.9	0.48	Sustainably exploited, with relative high biomass	Maintain the current level of fishing mortality
17	*Sepia officinalis*	CMSY	Fcurr= 0.39	F_{MSY}= 0.48	0.81	Sustainably exploited with absolute low biomass ($B_{current}/B_{MSY}$ = 0.8)	Reduce fishing mortality
17	*Squilla mantis*	SS3	Fcurr=0.99	F0.1=0.51	1.94	In high overexploitation with relative low biomass	Reduce fishing mortality
17	*Solea solea*	SS3	Fcurr= 0.41	F0.1= 0.26	1.58	In overexploitation with relative low biomass	Reduce fishing mortality

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[15] The indication to the biomass level is referred to <u>relative reference points</u> deriving from the 33rd and 66th percentile of the stock assessment and not to absolute values of biomass.

* When more than one model was performed for the given assessment, asterisk refers to the final model validated by the WGSAD and to which reference values reported in these tables refer to.

Stock status of small pelagic species and related scientific advice by the GFCM WG:

GSA	Species	Methodology used	F/F_{MSY} $^*(E/E=0.4)$	B/B_{MSY} $^*B/B_{pa}$ $^{**}B/B_{lim}$	Stock status	Scientific advice
17-18	*Sardina pilchardus*	Indirect method (SAM)	2.77	*0.64 **1.29	Overexploited and in overexploitation	Reduce fishing mortality
17-18	*Engraulis encrasicolus*	Indirect method (SAM)	2.23	*0.63 ** 1.25	Overexploited and in overexploitation	Reduce fishing mortality

Improvements and Development

After Croatian accession to EU in 2013, and changes that followed due to a full implementation of Mediterranean regulation, number for 2016 still cannot be considered as stabile. In first order this is because of the process of permanent cessation which is ongoing by the end of 2017 and which will affect large scale fleet of purse seins and bottom trawlers, but also due to a process of inclusion of large number of vessels in the small scale PGP segment. It should be noted that economic and fishing activity data analysis for the PGP segment should be taken with caution, as the fleet was mostly inactive in 2015 and with limited activity in 2016 and 2017. It is expected that in 2017, after all remaining licences have been issued, and entire fleet segment shows its activity potential, the real potential of the segment shall be known. It is expected that economic and fishing activity data analysis of the segment shall be improved in the following years. In connection to the progressive, but still limited, increase of the fishing activities, an overall increasing trend is expected in the values of fishing activity and economic data. Nevertheless, these vessels due to a large number have visible impact on the performance of the all fleet.

Investments over the segments are based on the gear or engine reparation, as well as on improving terms of fish preservation or processing aiming at increasing product quality and value. This trend can be expected in the future as well in line with EMFF and Operational program. In 2016 GFCM adopted Recommendation GFCM/40/2016/3 with additional restricting measures for 2017 and 2018 for small pelagic fisheries in Adriatic. It should also be mentioned that in 2017 EC presented a proposal for Multiannual plan for small pelagic stocks in the Adriatic Sea and the fisheries exploiting those stocks. This plan is still in the pipeline but it can be expected that it will have significant impact on Croatian national fleet and fisheries. As for the demersal fleet, it can be expected that adoption of FRA in the Jabuka/Pomo pit will have limited impact on the large scale DTS fleet.

Socio-economic impact

Overexploitation and management measures implemented as a result of the stocks status remains to have a significant influence on the economic performance of the sector. This is truth primarily for small pelagic fleets which have been under strong restrictions from 2015. These were also followed with appropriate measures from the EMMFF which compensate their effect to certain level. As the sector is heavily dependent on small-pelagic fish the effects of management measures, mainly temporary and permanent cessation of fishing activities, is expected to have a positive impact as Croatia intends to continue with the measures provided within the framework of the EMFF. In addition, Croatia intends to reduce fishing effort through diversification of activities. Same measures have been implemented in the demersal fishery. Assuming that fuel prices remain fairly constant and fish prices continue to increase, the effects of conservation measures are expected to have a positive long-term impact on the general recovery of the sector.

Projections for 2017 and outlook

Preliminary results for 2017 suggest that total landed weight remained constant, matched by a similar value of landing as in 2016. Effort restrictions in the purse seine fishery continue to preliminary data and projections for 2017 indicate a drop in number fishing days and energy costs, same as in cost of crew wages and salaries. At the same time projections of economic indicators are showing a further decrease for 2017. However, this needs to be taken with caution since they are under significant influence by the small scale non-commercial fleet.

Concerning the future period, beyond 2017, status of stocks and MSY obligation, it can be expected that the main characteristic of fishery will be reduction of fishing effort. Regarding the process of introduction of multiannual management plan for small pelagic species in the Adriatic it can be assumed that PS segments will be affected the most. Since these segments continued to show weak profitability in 2016 we can expect some negative influence on their economic performances in the following years.

Data issues

As regards to the 3 500 small-scale vessels which were transferred into the commercial SSCF in 2015, all these vessels fall under the polyvalent passive gears segment (PGP), but these fishers are not full-time engaged in the fishery and most of them had very limited activity in 2015 and 2016. It should be noted that economic and fishing activity data analysis for 2015 and 2016 for the PGP segment should be taken with caution, as the fleet was mostly inactive in 2015 and with limited activity in 2016 and 2017. It is expected that for 2017, after all remaining licences have been issued, and entire fleet segment shows its activity potential, the real potential of the segment shall be known. Therefore, it is expected that economic and fishing activity data analysis of the segment shall be improved in the following years.

Table 5.11 Croatia: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2012	2013	2014	2015	2016	2017	2018	Trend 2012-2018	Δ 2016 to 2015	Δ 2016 to avg. 12-15
Total number of vessels	(#)	4,211	4,358	4,385	7,849	7,746	8,349	5,966		-1%	49%
Number of Inactive vessels_ms	(#)	1,403	1,551	1,669	5,026	2,422	2,307			-52%	0%
Vessel tonnage	(thousand GT)	45.2	46.0	46.1	53.8	49.2	48.8			-9%	3%
Engine power	(thousand kW)	329.7	346.2	347.9	429.7	387.6	386.8			-10%	7%
Total employed	(person)	4,904	4,962	4,800	4,728	7,227	7,994	8,312		53%	49%
FTE	(#)	2,467	2,448	2,151	2,591	2,611	2,436	2,391		1%	8%
Days at sea	(thousand day)	235.5	240.4	241.2	242.0	234.8	233.4	198.6		-3%	-2%
Fishing days	(thousand day)	201.1	204.0	206.1	206.7	204.3	201.7			-1%	0%
Number of fishing trips	(thousand)	194	199	203	205	222	220			8%	11%
Energy consumption	(million litre)	24.52	24.57	24.20	25.47	24.89	23.35	21.36		-2%	1%
Live weight of landings	(thousand tonne)	63.14	74.92	79.41	72.91	72.32	68.82	66.83		-1%	0%
Value of landings	(million €)	48.88	60.56	61.53	61.00	58.42	55.56	51.47		-4%	1%
Income from landings	(million €)	48.88	60.56	61.53	61.00	58.42	55.56	51.49		-4%	1%
Other income	(million €)	5.52	12.41	15.64	6.54	7.77	6.66	6.37		19%	-23%
Direct income subsidies	(million €)	9.92	2.70	8.04	5.50	17.18				212%	163%
Income from leasing fishing rights	(million €)	0.6	0.4	0.3	0.6	0				-31%	-11%
Wages and salaries of crew	(million €)	18.31	19.14	20.59	26.88	22.96	20.98	20.46		-15%	8%
Unpaid labour value	(million €)	0.70	1.34	2.20	3.08	2.44	1.90	1.81		-21%	33%
Energy costs	(million €)	20.43	19.82	19.19	16.15	13.15	12.14	13.71		-19%	-30%
Repair & maintenance costs	(million €)	6.90	6.22	6.45	8.78	7.55	6.98	6.77		-14%	7%
Other variable costs	(million €)	8.31	10.34	7.22	8.78	7.97	7.52	7.35		-9%	-8%
Other non-variable costs	(million €)	6.74	5.818	7.011	6.475	6.726	6.27	6.11		4%	3%
Annual depreciation costs	(million €)	14.35	12.94	14.17	10.75	12.50	11.39	10.99		16%	-4%
Rights costs	(million €)	0.2	0.1	0.3	0.3	0	0	0		63%	99%
Opportunity cost of capital	(million €)	9.92	8.31	15.11	15.97	15.59	3.76	2.57		-2%	26%
Tangible asset value (replacement)	(million €)	375.7	356.6	393.4	419.1	375.7	259.0	251.9		-10%	-3%
Fishing rights	(million €)										
Investments	(million €)	6.7	9.1	7.4	7.8	10				24%	24%
Financial position	(%)	36.5	19.1	25.9	16.1	20.4				27%	-16%
Gross Value Added	(million €)	12.0	30.8	37.3	27.4	30.8	29.3	24		13%	15%
GVA to revenue	(%)	22.1	42.2	48.3	40.5	46.5	47.1	41.4		15%	22%
Gross profit	(million €)	- 7.00	10.29	14.50	- 2.6	5.4	6.4	2		308%	42%
Gross profit margin	(%)	- 12.9	14.1	18.8	- 3.8	8.1	10.3	2.9		312%	101%
Net profit	(million €)	- 31.3	- 11.0	- 14.8	- 29.3	- 22.7	- 8.7	- 11.9		23%	-5%
Net profit margin	(%)	- 57.5	- 15.0	- 19.2	- 43.4	- 34.3	- 14.0	- 20.6		21%	-2%
GVA per FTE (labour productivity)	(thousand €)	5	13	17	11	12	12	10		12%	4%
Return on fixed tangible assets	(%)	- 6	- 1	0	- 3	- 2	- 2	- 4		41%	20%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
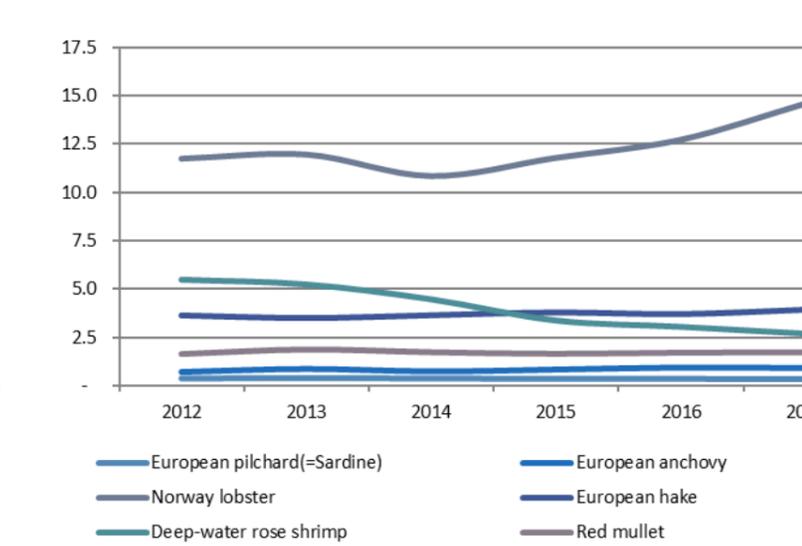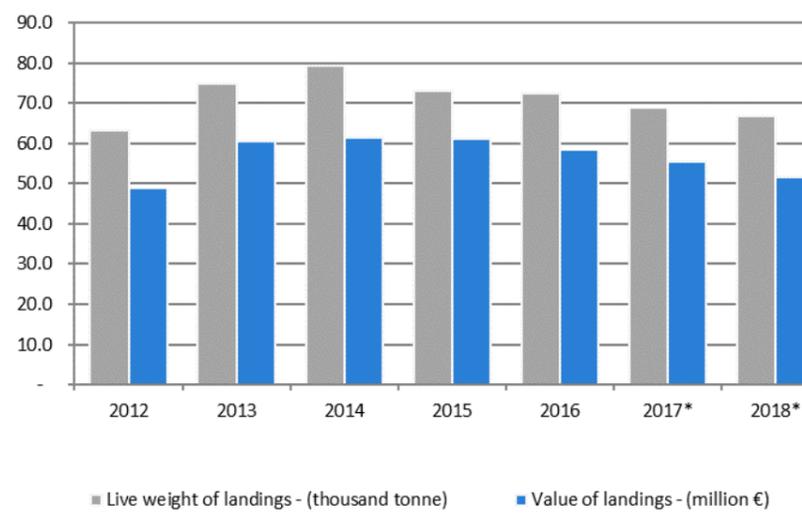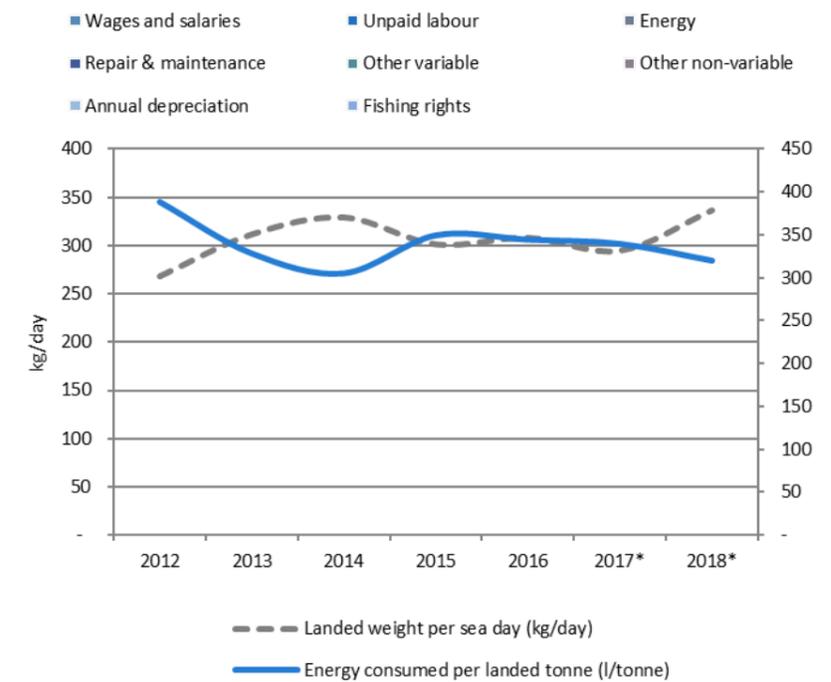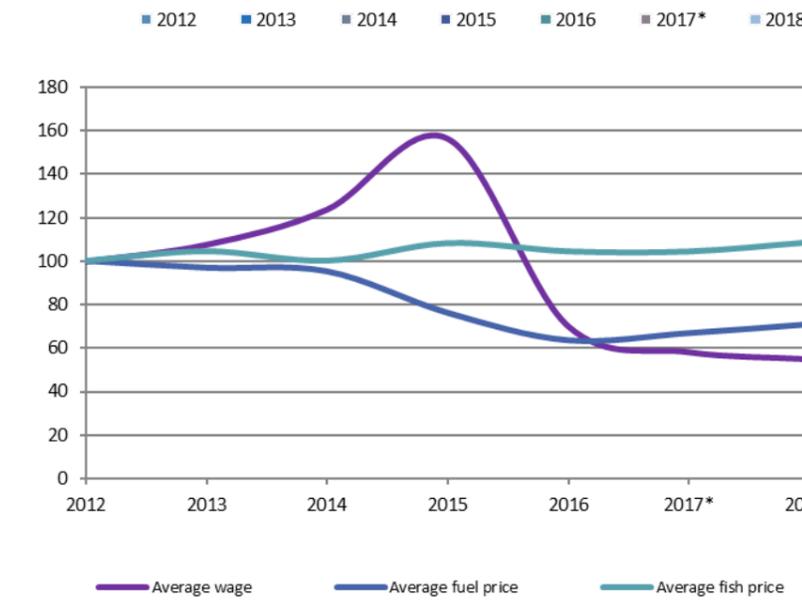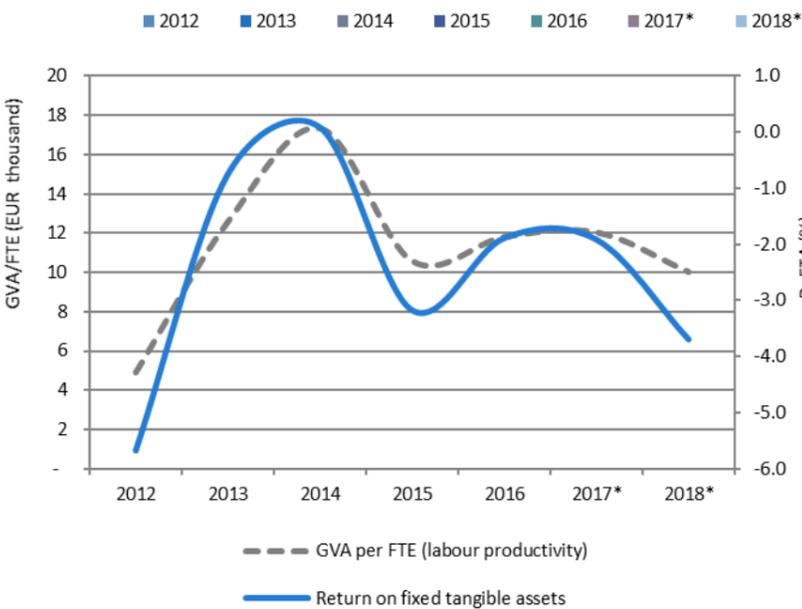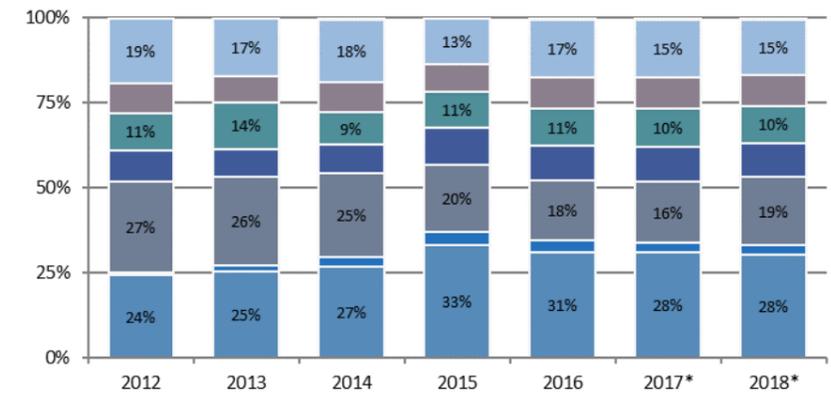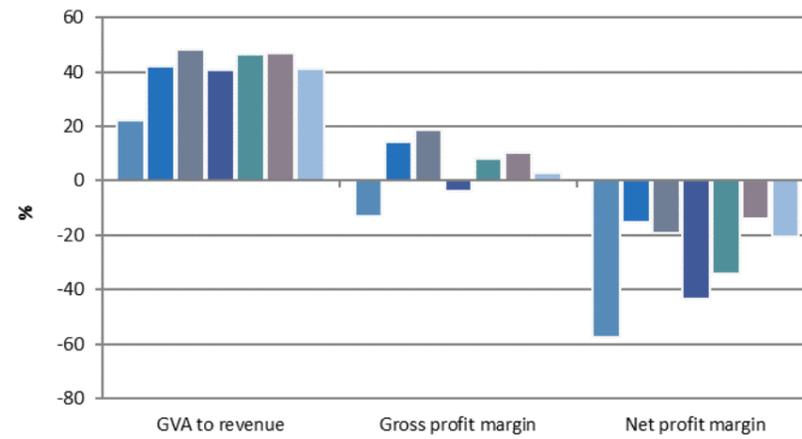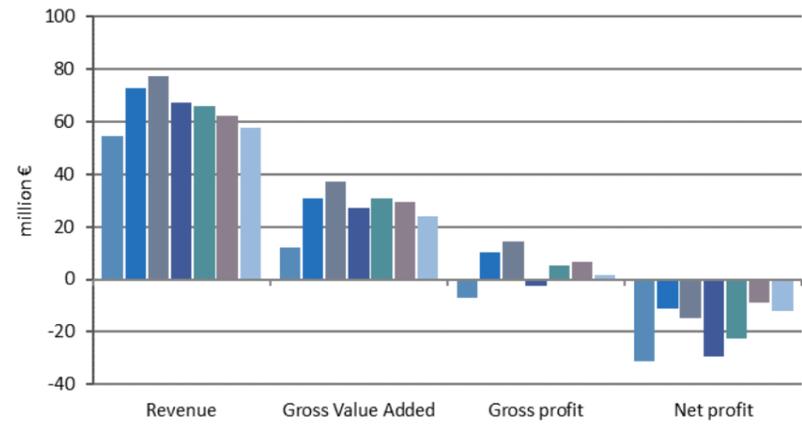
Figure 5.3 Croatia: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.12 Croatia: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF							Trend 2012-2018	Δ2016 to 2015	Δ2016 to avg. 12-15	LSF							Trend 2012-2018	Δ2016 to 2015	Δ2016 to avg. 12-15
		2012	2013	2014	2015	2016	2017	2018				2012	2013	2014	2015	2016	2017	2018			
Total number of vessels	(#)	1,707	1,726	1,665	1,771	4,339	4,865	5,064		145%	153%	1,101	1,081	1,051	1,052	985	903	901		-6%	-8%
Vessel tonnage	(thousand GT)	5.0	5.1	5.0	4.9	7.8	6.1			57%	54%	28.1	27.3	27.2	27.8	26.4	21.5			-5%	-4%
Engine power	(thousand kW)	90	96	94	94	115	78			22%	23%	152	151	150	152	146	100			-4%	-4%
FTE	(#)	779	701	537	660	805	694	674		22%	20%	1,688	1,747	1,614	1,931	1,806	1,742	1,718		-6%	3%
Total employed	(person)	2,177	2,163	2,079	1,860	4,622	5,408	5,730		148%	123%	2,727	2,799	2,721	2,868	2,605	2,586	2,583		-9%	-6%
Days at sea	(thousand day)	135.2	135.7	134.9	136.1	134.2	112.4	108.6		-1%	-1%	100.3	104.7	106.3	105.9	100.6	91.1	90.0		-5%	-3%
Fishing days	(thousand day)	115.2	114.2	115.0	116.5	114.5	64.0			-2%	-1%	85.9	89.8	91.1	90.2	89.8	58.4			0%	1%
Number of fishing trips	(thousand)	122	122	123	126	147	73			17%	19%	72	77	79	79	75	51			-5%	-2%
Energy consumption	(million litre)	2.75	2.74	2.63	2.67	2.79	2.18	1.98		4%	3%	21.77	21.83	21.57	22.79	22.10	19.88	19.38		-3%	1%
Live weight of landings	(thousand tonne)	1.16	1.23	1.30	1.36	1.38	1.01	0.95		1%	9%	61.97	73.69	78.10	71.54	70.94	67.04	65.88		-1%	-1%
Value of landings	(million €)	6.09	7.09	7.02	7.96	8.11	6.02	5.57		2%	15%	42.79	53.46	54.51	53.04	50.31	46.91	45.91		-5%	-1%
Income from landings	(million €)	6.09	7.09	7.02	7.96	8.11	6.03	5.60		2%	15%	42.79	53.46	54.51	53.04	50.31	46.89	45.89		-5%	-1%
Other income	(million €)	2.16	4.94	8.59	2.69	3.58	2.58	2.32		33%	-22%	3.35	7.47	7.05	3.86	4.19	4.08	4.05		9%	-23%
Direct income subsidies	(million €)	1.10	0.20	0.75	0.02	0.02				1%	-95%	8.83	2.49	7.28	5.48	17.16				213%	185%
Income from leasing fishing rights	(million €)	-	0.01	-	-	0					4886%	1	0	0	1	0				-44%	-27%
Wages and salaries of crew	(million €)	3.46	3.61	3.94	4.37	3.46	2.63	2.48		-21%	-10%	14.85	15.54	16.65	22.51	19.50	18.35	17.98		-13%	12%
Unpaid labour value	(million €)	0.33	0.82	1.15	2.01	1.48	1.11	1.04		-26%	37%	0.37	0.53	1.04	1.06	0.96	0.79	0.77		-10%	28%
Energy costs	(million €)	2.13	2.04	1.87	1.41	1.29	1.06	0.97		-9%	-31%	18.30	17.78	17.33	14.73	11.86	11.08	12.73		-19%	-30%
Repair & maintenance costs	(million €)	1.65	1.34	1.34	1.59	1.95	1.63	1.56		23%	32%	5.25	4.88	5.11	7.18	5.60	5.35	5.21		-22%	0%
Other variable costs	(million €)	2.48	2.31	1.03	1.18	1.66	1.26	1.16		41%	-5%	5.82	8.03	6.20	7.60	6.31	6.26	6.18		-17%	-9%
Other non-variable costs	(million €)	1.60	1.33	1.35	1.24	1.69	1.39	1.32		37%	23%	5.14	4.49	5.67	5.23	5.03	4.88	4.79		-4%	-2%
Annual depreciation costs	(million €)	2.02	1.98	2.13	2.14	3.42	2.52	2.29		60%	66%	12.33	10.97	12.04	8.60	9.08	8.87	8.70		6%	-17%
Rights costs	(million €)	0.0	-	0.0	-	0.0	0.0	0.0			8947%	0	0	0	0	0	0	0		48%	82%
Opportunity cost of capital	(million €)	1.09	0.93	1.65	2.30	2.51	0.82	0.57		9%	68%	6.16	4.93	8.93	8.60	8.86	2.93	2.00		3%	24%
Tangible asset value (replacement)	(million €)	41	40	43	60	60	57	56		0%	31%	233	212	232	226	214	202	196		-5%	-5%
Fishing rights	(million €)																				
Investments	(million €)	2.1	3.0	2.6	3	5				44%	75%	4.6	6.1	4.8	4	5				9%	-4%
Gross Value Added	(million €)	0.39	5.01	10.03	5	5	3	3		-2%	-1%	11.63	25.76	27.26	22	26	23	21		16%	18%
GVA to revenue	(%)	4.7	41.7	64.2	49.0	43.6	37.8	36.6		-11%	9%	25.2	42.3	44.3	38.9	47.1	45.9	42.1		21%	25%
Gross profit	(million €)	- 3.40	0.59	4.94	- 1	0	- 0	0		135%	68%	- 3.60	9.70	9.56	- 1	5	4	2		465%	47%
Gross profit margin	(%)	- 41.2	4.9	31.6	- 10.9	3.5	- 0.6	1.7		132%	190%	- 7.8	15.9	15.5	- 2.5	9.6	8.4	4.6		481%	82%
Net profit	(million €)	- 6.5	- 2.3	1.2	- 4.9	4.9	- 3.0	- 2.7		1%	-55%	22.1	- 6.2	11.4	18.6	12.7	7.5	- 8.4		32%	13%
Net profit margin	(%)	- 78.8	19.3	7.4	- 46.5	41.9	- 35.3	- 34.4		10%	-22%	47.9	- 10.2	18.5	32.8	23.3	14.8	16.8		29%	15%
Return on fixed tangible assets	(%)	- 13	- 3	7	- 7	7	8	8		6%	-55%	7	- 1	1	4	2	- 2	- 3		60%	44%
GVA per FTE (labour productivity)	(thousand €)	1	7	19	8	6	5	4		-20%	-26%	7	15	17	11	14	13	12		24%	14%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.13 Croatia: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2012-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
HRV A37 PS2440	70	574	12,688	137	41,608	19,067	19,220	10,644	55.4	1,943	10.1	-5,018	-26.1	15.2	18.5	-1.1	Weak			29.0%
HRV A37 PS1824	48	342	8,409	126	19,181	8,917	9,360	5,006	53.5	1,350	14.4	-1,370	-14.6	10.7	14.6	-0.3	Weak	2%	Stable	14.1%
HRV A37 DTS1218	180	190	17,950	2,620	1,682	5,707	6,723	2,556	38.0	763	11.4	-1,217	-18.1	9.4	13.5	-0.4	Weak			10.2%
HRV A37 DFN0612	664	405	60,079	2,369	560	3,508	4,761	1,292	27.1	-812	-17.1	-2,736	-57.5	5.2	3.2	-11.3	Weak	-147%	Deteriorated	7.2%
HRV A37 HOK0612 °	243	103	14,796	2,057	355	2,220	4,058	2,747	67.7	1,655	40.8	535	13.2	10.6	26.7	10.9	Reasonable	151%	Improved	6.1%
HRV A37 DTS1824	34	111	5,546	3,318	950	3,415	3,846	1,288	33.5	422	11.0	-784	-20.4	7.8	11.7	-0.6	Weak	56%	Improved	5.8%
HRV A37 MGO0006	266	110	19,403	279	415	2,228	3,037	1,586	52.2	574	18.9	-196	-6.5	9.2	14.4	-7.6	Weak	-168%	Deteriorated	4.6%
HRV A37 DTS0612	159	150	13,592	2,284	780	2,747	2,835	1,044	36.8	179	6.3	-999	-35.2	8.2	7.0	-5.3	Weak			4.3%
HRV A37 DTS2440	14	51	2,575	3,482	650	2,568	2,660	773	29.1	2	0.1	-1,445	-54.3	15.1	15.2	-5.9	Weak	-5%	Deteriorated	4.0%
HRV A37 PS1218	35	105	4,496	151	4,670	2,344	2,345	1,013	43.2	-40	-1.7	-868	-37.0	10.0	9.6	-10.5	Weak	-62%	Deteriorated	3.5%
HRV A37 DRB1218 °	33	51	3,820	1,997	433	1,776	1,776	805	45.3	197	11.1	-151	-8.5	11.8	15.7	1.1	Weak	-166%	Deteriorated	2.7%
HRV A37 MGO0612 °	76	45	6,363	1,765	103	393	1,324	375	28.3	185	13.9	-228	-17.2	4.3	8.4	-6.8	Weak	77%	Improved	2.0%
HRV A37 FPO0612 °	123	74	10,418	2,401	94	753	921	395	42.9	83	9.0	-293	-31.8	4.2	5.3	-5.8	Weak	51%	Improved	1.4%
HRV A37 DFN0006	327	108	25,551	843	158	688	722	336	46.5	263	36.4	-481	-66.7	5.5	3.1	-14.5	Weak	-16%	Deteriorated	1.1%
HRV A37 DRB0612	20	15	1,751	1,596	172	622	622	432	69.5	268	43.0	163	26.2	11.0	29.0	14.4	High	15%	Improved	0.9%
HRV A37 PS0612 °	34	50	3,174	594	274	329	535	183	34.3	77	14.4	-301	-56.2	5.2	3.7	-14.1	Weak	14%	Improved	0.8%
HRV A37 PMP0612 °	63	38	5,023	1,413	104	287	392	83	21.3	186	47.5	-486	-124.2	7.1	2.2	-30.2	Weak	-54%	Deteriorated	0.6%
HRV A37 FPO0006	49	12	3,314	1,977	23	167	291	222	76.4	147	50.5	89	30.5	6.3	18.7	23.2	High	279%	Improved	0.4%
HRV A37 DFN1218	16	12	870	3,692	25	193	216	-11	-5.2	-173	-79.9	-291	-134.7	13.6	-0.9	-17.5	Weak	-414%	Deteriorated	0.3%
HRV A37 PGP0612 °	623	19	4,226	3,618	24	179	206	102	49.7	-76	-37.0	-1,261	-612.4	9.5	5.4	-6.8	Weak			0.3%
HRV A37 HOK0006	85	10	3,665	1,883	21	127	154	85	54.9	141	91.1	-197	-127.7	22.4	8.4	-48.0	Weak	23%	Improved	0.2%
HRV A37 PMP0006	39	27	2,376	461	30	123	123	84	68.8	1	0.7	-44	-35.6	3.2	3.2	-17.5	Weak	89%	Improved	0.2%
HRV A37 PGP0006 °	2,123	10	4,721	3,243	11	61	61	-252	-410.1						-24.8					0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.14 Croatia: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
HRV A37 PS2440	73	574	11,578	147	37,149	17,550	17,701	9,211	52.0	1,224	6.9	- 3,120	- 17.6	13.9	16.0	- 1.9	Weak	29.7%
HRV A37 PS1824	49	329	7,856	125	19,796	9,555	9,975	5,688	57.0	1,754	17.6	- 31	- 0.3	11.9	17.3	1.3	Weak	16.7%
HRV A37 DTS1218	168	177	16,767	2,620	1,571	5,231	6,144	2,203	35.9	574	9.3	- 582	- 9.5	9.2	12.4	- 0.9	Weak	10.3%
HRV A37 DTS1824	30	106	4,981	2,905	950	3,353	3,762	1,397	37.1	551	14.6	- 169	- 4.5	8.0	13.1	0.4	Weak	6.3%
HRV A37 DFN0612	456	278	41,226	2,369	384	2,362	3,224	848	26.3	- 564	- 17.5	- 1,542	- 47.8	5.1	3.1	- 11.4	Weak	5.4%
HRV A37 MGO0006	264	168	18,300	222	351	1,887	3,110	922	29.6	62	2.0	- 1,034	- 33.2	5.1	5.5	- 39.6	Weak	5.2%
HRV A37 HOK0612 °	231	70	15,088	2,731	245	1,485	2,730	1,744	63.9	1,010	37.0	397	14.5	10.4	24.7	8.9	Reasonable	4.6%
HRV A37 DTS2440	13	51	2,240	2,670	678	2,464	2,555	886	34.7	147	5.8	- 898	- 35.2	14.5	17.4	- 4.9	Weak	4.3%
HRV A37 PS1218	31	98	4,052	121	5,189	2,421	2,422	1,194	49.3	102	4.2	- 514	- 21.2	11.1	12.1	- 7.9	Weak	4.1%
HRV A37 DTS0612	109	103	9,327	2,284	535	1,849	1,919	670	34.9	- 151	- 7.9	- 513	- 26.7	8.0	6.5	- 5.7	Weak	3.2%
HRV A37 DRB1218 °	29	48	3,694	2,274	305	1,244	1,244	392	31.5	- 34	- 2.7	- 232	- 18.7	8.9	8.2	- 3.7	Weak	2.1%
HRV A37 MGO0612 °	72	31	6,438	2,006	102	390	1,020	332	32.6	144	14.1	- 97	- 9.5	6.2	10.9	- 5.5	Weak	1.7%
HRV A37 FPO0612 °	111	51	10,113	3,722	65	718	832	425	51.1	126	15.1	- 74	- 8.9	5.9	8.4	- 2.3	Weak	1.4%
HRV A37 DFN0006	313	166	26,924	631	177	768	819	251	30.6	- 417	- 50.9	- 642	- 78.4	4.0	1.5	- 15.0	Weak	1.4%
HRV A37 PS0612 °	35	34	3,334	507	299	383	523	260	49.7	- 44	- 8.4	- 165	- 31.6	8.8	7.5	- 13.4	Weak	0.9%
HRV A37 FPO0006	43	18	2,948	2,112	18	137	324	228	70.4	166	51.4	97	30.0	3.4	12.5	15.3	High	0.5%
HRV A37 DRB0612	13	10	1,326	2,464	74	312	312	183	58.5	100	32.0	58	18.6	8.1	17.9	6.9	Reasonable	0.5%
HRV A37 PMP0612 °	41	26	3,759	1,722	67	238	309	89	29.0	- 134	- 43.4	- 312	- 100.9	8.5	3.4	- 31.0	Weak	0.5%
HRV A37 DFN1218	17	11	1,244	2,570	40	268	289	67	23.2	- 158	- 54.5	- 234	- 80.7	20.2	6.0	- 17.4	Weak	0.5%
HRV A37 HOK0006	80	15	3,580	1,430	18	110	152	48	31.8	- 147	- 96.9	- 217	- 142.9	12.7	3.1	- 36.6	Weak	0.3%
HRV A37 PGP0612 °	777	13	3,552	3,015	16	111	129	62	47.6	- 49	- 38.2	- 642	- 496.0	8.6	4.8	- 6.8	Weak	0.2%
HRV A37 PMP0006	28	41	1,448	749	10	57	57	0	0.8	- 39	- 69.2	- 96	- 169.3	1.0	0.0	- 29.8	Weak	0.1%
HRV A37 PGP0006 °	2,785	16	3,805	1,328	11	32	32	- 439	- 1,364.3					-	- 28.3			0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

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Table 5.15 Croatia: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)						Live weight of landings (thousand tonne)						Average landed price (real) (€)						% over total (2016)	
	2012	2013	2014	2015	2016	2017	2012	2013	2014	2015	2016	2017	2012	2013	2014	2015	2016	2017	in value	in weight
European pilchard(=Sardine)	18.2	22.9	23.6	19.5	20.9	18.1	46.6	56.9	61.0	51.7	54.4	48.3	0.4	0.4	0.4	0.4	0.4	0.4	36%	75%
European anchovy	6.6	8.9	7.7	10.8	7.8	10.0	9.0	10.1	10.1	12.8	8.2	10.9	0.7	0.9	0.8	0.9	1.0	0.9	13%	11%
Norway lobster	2.8	3.6	3.7	3.6	3.0	2.9	0.2	0.3	0.3	0.3	0.2	0.2	11.8	12.0	10.9	11.8	12.7	14.6	5%	0%
European hake	3.3	3.9	3.3	2.9	2.8	3.6	0.9	1.1	0.9	0.8	0.8	0.9	3.6	3.5	3.6	3.8	3.7	3.9	5%	1%
Deep-water rose shrimp	0.9	1.7	1.7	1.8	2.0	2.3	0.2	0.3	0.4	0.5	0.7	0.8	5.5	5.2	4.5	3.4	3.1	2.7	3%	1%
Red mullet	2.1	2.1	2.0	1.9	1.7	1.8	1.3	1.1	1.2	1.1	1.0	1.0	1.7	1.9	1.8	1.7	1.7	1.8	3%	1%
Common sole	1.5	1.9	1.5	2.3	1.7	1.8	0.2	0.3	0.2	0.3	0.2	0.2	7.7	7.6	7.9	8.4	8.8	7.9	3%	0%
European squid	0.9	0.9	1.5	1.0	1.6	0.7	0.1	0.1	0.2	0.1	0.2	0.1	7.9	8.8	7.1	8.3	7.8	9.5	3%	0%
Common octopus	0.9	1.1	1.6	1.6	1.4	0.8	0.2	0.2	0.3	0.3	0.3	0.1	5.5	5.7	5.3	5.0	5.5	6.1	2%	0%
Warty venus	0.3	0.6	0.9	1.0	1.1	0.9	0.0	0.1	0.1	0.1	0.1	0.1	8.7	8.5	8.0	8.4	8.9	9.3	2%	0%
																			75%	91%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.4 Cyprus

Short description of the national fleet

Characteristics and specificities of Cyprus fishery

Cyprus is an island in the Mediterranean Sea. Mediterranean, an oligotrophic semi-enclosed sea is exposed to severe pressures from climate change, environmental pollution, intensive coastal development, depletion of fish stocks and overfishing leading to degradation and destruction of important habitats and species.

Cyprus fishery is dominated by small-scale vessels dispersed across many landing places that use a variety of fishing gears even in the same fishing trip. Fisheries in Mediterranean Sea are of mixed-species type, one that more than one species are present in the area being fished and caught by the fishing gear no matter if these species are not the targeted ones. Usually a variety of fishing gears are used by fishers even in the same fishing day/trip.

Another important issue about Mediterranean is that with the exception of bluefin tuna (T*hunnus thynnus*) none of the other species had catch quotas until 2016. However, in 2017 a Total Allowable Catch (TAC) was set for the first time for the Mediterranean swordfish (*Xiphias gladius),* based on the ICCAT Recommendation (16-06) regarding the Multiannual recovery plan of this species and thus it becomes the second species that will have catch quotas in Mediterranean.

Fleet capacity

The Cypriot national fleet capacity in 2016 was reduced compared to last year. On average there was a reduction of 7% in the number of vessels of the period 2008-2015 compared to 2016. Consequently, GT and KW decreased due to the reduction in the number of vessels by 6% and 12% respectively. In 2016, the combined gross tonnage (GT) was 3.4 thousand tonnes (3.6 thousand tonnes in 2015) and the total engine power was 36.4 thousand kilowatts (KW) (41.2 thousand kilowatts in 2015). Most of the vessels which ceased their fishing activities were scrapped in 2013 and end of 2015 through structural aid within the framework of the EFF 2007-2013 and EMFF 2014-2020. Thus, capacity continued its declining trend in 2016. However, the reduction in the number of vessels was only for the small-scale fleet. The Large-scale fleet was slightly increased by 6% compared to last year.

Fleet structure

In Cyprus, the fishing fleet related with the active vessels can be divided into a large-fleet segment consisting of vessels over 12 metres length overall with a total engine power of 6.6 thousand KW in 2016 (a small increase of 3% compared to 2015) and a small-fleet segment consisting of vessels of less than 12 metres length overall with total engine power of 26.9 thousand KW in 2016, a significant decrease of 16% in compared to last year's total engine power (31.8 KW).

The large-fleet segment is mainly composed of polyvalent vessels with passive gears and few trawlers fishing in international and territorial waters. The large-fleet segment represents about 18% of the overall engine power for 2016 (15.5% for 2015) and 45% of the overall GT for 2016 (40.5% for 2015). Cypriot vessels, including the trawlers fishing in international waters, operate only in the Mediterranean Sea.

The vessels using *Polyvalent 'passive' gears with length ≥12m* range from 12-26m. The large majority of the vessels belong in the length group 12-18m and thus, for sampling purposes, as well as for confidentiality reasons due to small number of vessels all the polyvalent vessels were regrouped in the 12-<18m length group. It is noted that all the groups of vessels using polyvalent passive gears with length>12m are engaged in the same metiers since these vessels target the same group of species with the same gears despite their vessels length. The vessels of this fleet segment are engaged in two fisheries; mainly in the large pelagic fishery using drifting longlines and operating around Cyprus waters and the eastern Mediterranean (targeting swordfish, bluefin tuna and albacore), but also in the inshore demersal fishery using mostly set nets and set longlines. A limited number of licenses are provided for this segment annually.

Demersal trawlers range from 22-27 m. The demersal trawlers fleet segment below 24m is only 1 vessel and thus, for confidentiality reasons as it is impossible to report data without identifying this company it was regrouped in the >24m length group (up to 28m). It is emphasised though that both groups are engaged in the same metier and they target the same group of species with the same gear despite their vessels length. The licensed trawlers are categorised, based on their type of license, in those fishing in the territorial waters of Cyprus and those fishing in international waters (eastern and central

Mediterranean). For the trawlers fishing in territorial waters a limited number of licenses is provided every year, and an extended closed season (from 1st of June until the 7th of November) is employed.

The SSCF segment is mainly operated with bottom set nets and bottom longlines, targeting demersal species. Cyprus Fisheries Law[16] provides for a limited number of licenses for this segment annually and divides it into three (3) subcategories: vessels with fishing license category A' (full-time activity in fisheries), vessels with fishing license category B' (part-time activity in fisheries) and vessels with fishing license category C' (periodic activity in fisheries). The professional fishing license category (C') was introduced by a new national law and based on this law their fishing activity is performed on a periodic basis since they are allowed to fish only a total of 70 days each year. Consequently, their income from fisheries activities is too low. Thus, this new professional licence category with the low fishery activity was not grouped in the same category with the professional licences of category A' and B'. The vessels with fishing licence categories A' and B' belong to the fleet segment PG 0-6m and PG 6-12m whereas the vessels with fishing licence category C' belong to the fleet segment PGO 0-6m and PGO 6-12m.

Employment

Employment was estimated at 1 117 jobs in 2016, a 13% decrease from the 1 285 jobs in 2015. In 2016, these jobs corresponded to 668 FTEs, a reduction of 16% compared to 2015, or about an average of 2 fishers per vessel or 1 FTE per vessel in 2016. This considerable reduction in employment is not expected to continue in 2017 or 2018 because no scrapping of any vessels is foreseen for 2017 or 2018.

Effort

An estimated 58.3 thousand days were spent at sea in 2016, a significant decrease of 11% compared to 2015. The amount of energy consumed decreased as well. There was a great reduction of over 20% compared to previous year to 2.26 million litres. This is mainly due to the decrease in the number of vessels and the days spent at sea both for small-scale and large-scale vessels. The reduction in fishing days for large–scale vessels was less significant but the large-scale fleet performs longer trips and consequently, it consumes higher amount of fuels. Unsurprisingly, energy cost was decreased significantly, by 35% to EUR 1.3 million, as a result of lower amount of energy consumed and also of lower fuel prices.

Production

The weight of seafood landed reached 1.46 thousand tonnes, with a value of EUR 7.7 million in 2016 representing a small increase of 2% compared to 2015.

The bottom trawl fishery in the territorial waters and the inshore fishery with polyvalent passive gears target a mix of demersal species, as it is the case in all Mediterranean demersal fisheries. The exploited stocks are not shared with other countries' fleets. Landings of both fisheries are mainly composed by picarel (*Spicara smaris)*, bogue (*Boops boops)*, red mullet *(Mullus barbatus)*, surmullet *(M. surmuletus)*, common pandora *(Pagellus erythrinus)* and cephalopods: common octopus (*Octopus vulgaris)*, musky octopus (*Eledone moschata)*, European squid (*Loligo vulgaris)* and common cuttlefish (*Sepia officinalis*). The inshore fishery with polyvalent passive gears catches also relatively large quantities of parrotfish (*Sparisoma cretense),* blotched picarel *(Spicara maena)* and spinefeet or rabbitfishes *(Siganus* spp.).

Concerning the large pelagic fishery, polyvalent vessels operate in the Eastern Mediterranean, catching basically swordfish (*Xiphias gladius)*, albacore (*Thunnus alalunga)* and Atlantic bluefin tuna (*Thunnus thynnus)* with drifting longlines.

Economic results for 2016 and recent trends

National fleet performance

The Cypriot national fleet remained in a net loss making position in 2016 but its economic performance was significantly improved compared to the previous year 2015.

Despite the fact that the total Revenue in 2016 was slightly reduced at EUR 7.81 million compared to the last year's one (EUR 7.84 million in 2015) the income from landings was slightly increased by 2% compared to 2015. The reduction in Revenue was due to the significant reduction in direct subsidies; de minims aid given to *Polyvalent 'passive' gears vessels with length ≥12m* and also to small-scale coastal

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16 Basic Fisheries Law Cap. 135 and subsequent amendments of 1961 to 2007, Fisheries Regulations of 1990 to 2012 based on Article 6 of the Basic Law.

vessels (fishers of category A' and B' fishing licenses) was reduced from EUR 278 thousand to EUR 85 thousand.

A rise in Gross Value Added (GVA) was shown in 2016 which was estimated at EUR 2.6 million. Gross profit and net profit in 2016 were estimated at EUR 1.4 million and -EUR 3.5 million, respectively, showing a significant improvement in the economic performance compared to the previous year 2015 (Gross Profit estimated at -EUR 0.03 million and Net Profit at -EUR 6.5 million).

Other variable costs, annual depreciation, energy (fuel) costs and repair & maintenance are the main costs items in 2016 with EUR 2.77 million, EUR 2.64 million, EUR 1.32 million and EUR 0.82 million, respectively. All of these costs have dropped compared to 2015; other variable costs reduced by 12%, annual depreciation had a 14% reduction, energy (fuel) costs decreased significantly by 34% and repair & maintenance by 22%. The reduction in most important for the fleet costs is one of the main reasons for the positive economic performance in 2016 for the Cypriot national fleet. Furthermore, the opportunity cost of capital is another very important expenditure with a considerable decrease by around 33% that reached the amount of EUR 2.3 million in 2016. Actually, the only cost that shows increase is the Wages and salaries which reached the EUR 0.94 million, an increase of 12% compared to last year. This variable is related only to the large– scale fleet and thus it doesn't affect the economic results of the small-scale fleet segments. On the other hand, the variable Unpaid Labour which is related to the small-scale fleet reached EUR 0.24 million in 2016 a reduction of 19% due to the decrease in the number of the vessels below 12m. The reduction in most of the expenditures has driven the significant improvement of the economic performance. The better economic situation implies that the Cypriot fleet despite the difficulties may maintain the fleet in the future. This would explain the incorporation of new vessels in the fleet for 2017, both small-scale and large- scale vessels. It is noted that there was not any cessation of the activity of any vessels in 2016. It worth mentioning that in 2017 the total number of active vessels, both small-scale and large–scale was increased compared to 2016, ending the declining trend in the number of active vessels of the period 2008-2016.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was positive (18.5%), indicating operating efficiency of the fisheries sector. It shows great improvement compared to the previous year where the gross profit margin was negative (-0.4%) and the national fleet was facing high losses. However, the Net Profit margin remained negative in 2016 since it was estimated at -45.5% despite showing a considerable improvement of 47% in comparison to 2015 and 50% if compared to the average of the previous period 2008-2015. Despite the fact that the Return on Fixed Tangible Assets (RoFTA) is still negative for 2016 at -3%, this is an increase of 75% compared to the average of all previous years since 2008.

It is clear that there is an overall improved development trend since 2008 and this is also shown in labour productivity (GVA/FTE) which after being negative for the period 2008-2012 it has become positive the last three years and it has increased greatly in 2016 by 182%, if compared to the previous year 2015. In addition, in 2016 GVA estimated at EUR 2.6 million and GVA to revenue estimated at 33.8% were both increased significantly compared to 2015 by 137% and 132% respectively strengthening the economic performance. Yet, the number of total employed and the number of FTE were reduced by 13% and 16% respectively due to the drop down in the number of vessels and thus, the crew members.

Average fuel consumption for the whole fleet dropped down by 26% compared to the average of all previous years since 2008. Fuel consumption per landed tonne continued its decreasing trend in 2016 at 1.5 thousand litres per landed tonne showing a reduction of 38% compared to the average of the previous period 2008-2015, nearly reaching the lowest value of the whole period the one of 2008.

Landings in weight per unit of effort (in weight per days at sea) followed a decreasing trend for the period 2008-2012 and an increasing one for the period 2013-2016. In 2016, landed weight per sea day increased by 10% compared to 2015 and by 41% compared to the period 2008-2015.

Performance by fishing activity

Small-scale coastal fleet

The Cyprus fleet is dominated by small-scale-vessels. The small-scale fleet (vessels under 12m using passive gears) is by far the most significant segment of the Cyprus fleet since it represents around the 95% of the total fleet both in 2016 and in 2017 in terms of number of vessels and thus, employment. In addition, it represents 40% in regards to total weight of landings and 54.5% regarding to value of landings in 2016. The higher percentage in relation to value of landings compared to weight of landings is that SSCF generally improves production price to a higher degree than the Large-scale Fleet (LSF),

and the gap between prices at first sale can be very high. These gaps may be explained by both the differences in quality linked to freshness and the size of the products but also the marketing channels. The selling prices of SSCF are really high. The same species caught by SSCF are much higher than the ones caught by demersal trawlers. This is evident if looking two of the main commercial species surmullet (*Mullus surmuletus*) and red mullet (*Mullus barbatus*) of the Cyprus fishery. The wholesale price of surmullet when caught by SSCF was around EUR 20.5 for 2016 whereas the same species caught by demersal trawlers was sold only for EUR 14.8. More or less the same picture applies for red mullet whose wholesale price from SSCF was about EUR 18 but only EUR 10.6 when caught by demersal trawlers.

Apart from the high quality of the landings and high selling prices the main patterns of this part of the Cyprus fleet are the small family–owned businesses usually of one physical person, area of operation closest to landing points (operated in Cyprus waters i.e., less than 12 n.m.), use of one or more passive gears even to the same fishing trip and very limited daily landings. The main gears used are trammel nets (GTR), set gillnets (GNS) and set longlines (LLS).

Polyvalent 'passive' gears 6-12m

The most important SSCF segment is the *Polyvalent 'passive' gears with length 6-12m.* In 2016, there were 290 active vessels operating in territorial waters, i.e., less than 12 n.m., a reduction of 32% compared to the average number of vessels during the period 2008-2015 and a decrease of 20% compared to 2015. During 2015, 66 vessels from this fleet category were permanently withdrawn and their licences were cancelled through structural aid within the framework of the EMFF 2014-2020. The value of landings amounted to EUR 3.61 million. Despite the decrease in value of landings and as a result revenue, there is an improvement of the economic performance of this fleet segment. The fleet segment is in a net loss making position of EUR 0.25 million but it is much improved in comparison to last year when the segment faced EUR 2.1 million losses. Furthermore, the Gross Profit shows an important increase reaching the EUR 1.43 million.

The improved economic performance was mainly due to the decrease in fuel prices and the significant reduction in the overall operating costs. Although there was a reduction in the overall days at sea of the segment since they the vessels spent 48 027 days at sea in 2015 but only 39 633 days in 2016, in reality the days spent by each vessel increased in 2016 to 137 compared to 133 in 2015. The reason of this difference is the significant reduction in the number of vessels in 2016. A downfall in fuel consumption together with a reduction in fuel prices from 0.578 EUR /l in 2015 to 0.578EUR /l in 2016 have driven the significant reduction in fuel cost. The energy (fuels) consumed per landed tonne decreased from 1.941 litre/tonne in 2015 to 1.763 litre/tonne in 2016. The GVA reached the amount of EUR 1.626 million in 2016 a significant improvement of nearly 65% compared to 2015 (EUR 0.988 million). Also the GVA to Revenue was increased from 25.4% in 2015 to 45% in 2016. In 2016 the FTEs have been decreased to 397 from 508 in 2015. In overall, the main economic indicators improved during 2016, but still the economic performance is in net loss position showing low productivity.

Large-scale fleet

The large –scale fleet composes of Polyvalent passive gears vessels and trawlers with length ≥ 12m.

Vessels using Polyvalent 'passive' gears with length ≥12m

Vessels using *Polyvalent 'passive' gears with length ≥12m* range from 12-26m (the large majority from 12-18m) are engaged in two fisheries; mainly in the large pelagic fishery using drifting longlines and operating around Cyprus waters and the eastern Mediterranean (targeting swordfish, bluefin tuna and albacore), but also in the inshore demersal fishery using mostly set nets and set longlines. A limited number of licenses are provided for this segment annually.

The fleet segment was operating at a net loss making situation in 2016 (EUR 0.54 million). However, its economic development trend is improved if compared the economic indicators with the previous year. The factors behind the improvement of economic performance were the decrease of all expenditures (repairs & maintenance, energy costs, other variable costs) except for the slight increase in Wages and salaries (EUR 0.651 million in 2015 but EUR 0.676 million in 2016) and at the same time the significant increase in the value of landings from EUR 1.521 million in 2015 to EUR 2.84 million in 2016. A rise of the GVA took place in 2016 since it was estimated to EUR 1.2 million compared to the GVA in 2015 which was negative and reached the amount of -EUR 0.079 million. Both the Gross Profit margin and the Net Profit margin were significantly increased compared to the previous year indicating improvement of the economic performance. Specifically, the Gross Profit was positive and amounted to EUR 0.524 million in 2016 whereas the Net Profit was negative and amounted to -EUR 0.541 million. The respective estimations for 2015 were both negative with the Gross profit being -EUR 0.079 million and the Net Profit being -EUR 0.73 million.

Drivers affecting the economic performance trends

The bad condition of some of the main commercially exploited fish stocks can have a negative impact on the revenue of the sector. Furthermore, the lessepsians species like *Lagocephalos sceleratus* and the recently reported in Cyprus waters lionfish greatly affect the biodiversity and thus, the economic performance of the fisheries sector. On the other hand, there is a positive message coming from the 2016 stock assessment. Cyprus has performed stock assessment for two of the main commercially important demersal stocks in GSA 25, picarel (*Spicara smaris*) and red mullet (*Mullus barbatus*) and both were found sustainably exploited.

The attacks to the fisher's nets and catch by some of the protected species mainly by dolphins and sea turtles can have a negative impact on the limited fishing income and as a result, put at a risk the economic sustainability of the fleet segments especially the one of the small-scale inshore fishery fleet and of the polyvalent '*passive*' gears vessels *with length ≥12m*.

Recreational fishery is another driver that can negatively affect the economic performance of the professional fishers. The sport fishers are many in numbers and can have important production in some species even in overfished species.

A significant reduction in the number of small-scale fishery vessels, 107 in 2013 and 66 in the end of 2015, after decommissioning schemes through structural funds can become a driving force for the improvement of the economic performance of the Cyprus fleet overall but especially for the SSCF for the near future. As shown above, the national fleet and especially the small-scale fleet segment belonging to the length category 6-12m has been greatly improved its economic performance in 2016.

The only species managed in the Mediterranean by quotas until 2016 was the bluefin tuna. From 2017 swordfish will be the second species that will be managed by quotas. The allocation of quotas between the EU countries is already known and the recovery plan for the species has already started been implemented from the beginning of 2017. This fact is expected to have a negative impact on the activities and economic performance of the *Polyvalent 'passive' gears with length ≥12m* fleet segment at least in the short-run. This fleet segment is mainly engaged in the large pelagic fishery (targeting swordfish, bluefin tuna and albacore) using drifting longlines.

Cyprus after many years has issued a purse seiner license for bluefin tuna. Thus, from 2017 a new fleet segment will exist.

Markets and Trade (including fish prices)

In Cyprus the fish is mostly sold fresh. The processing fishing industry in Cyprus is at its early stages.

Cyprus has a negative trade balance in fresh fishery products both in value and weight. The average fishing prices are indicating a decreasing trend since 2011 mainly due to the financial crisis where the purchase power of the customers was significantly reduced. However, they are relatively high compared to other Mediterranean countries and the main reason must be the Cyprus trade deficit of fresh products.

It is noted that the small-scale fishery has limited daily landings that are of high quality and thus they can enjoy higher selling prices compared with the ones enjoyed by trawlers for the same species caught.

Management instruments

The fleet in Cyprus is managed mainly through effort limitations and technical measures. A limited number of licenses are provided for each segment annually. Furthermore, closed seasons, restriction measures on the use of gears and minimum landing sizes are employed, in accordance to national and European regulations.

In regards to the SSCF, the fleet segments *Polyvalent passive gears with length 0-< 6m and 6-< 12m* (category license A' and B') are allowed to operate every day all year round, with a number of restriction measures on the use of fishing gears and minimum landing sizes, according to the national and community law. In 2015, 66 vessels of A' and B' category of small-scale fleet segment were scrapped with public aid within the framework of the Scheme of Permanent Cessation, co-funded by the European Maritime and Fisheries Fund 2014-2020 and their licences were cancelled, resulting in a significant reduction in the number of licenced vessels.

The fleet segments *Polyvalent passive gears with length 0-< 6m and 6-< 12m* (vessels with license category C') have a limited fishing, with a maximum of 70 working days and stricter measures on the use of fishing gears.

For the trawlers fishing in territorial waters a limited number of licenses (two) is provided every year, and an extended closed season (from 1st of June until the 7th of November) is employed. Furthermore,

restriction measures on the use of trawl nets and minimum landing sizes are employed for all licensed trawlers, in accordance with national and community law.

As for the Polyvalent passive gears with length ≥12m, a closed period for the swordfish is employed based on European law.

TACs and quotas

In 2016, the only species managed in the Mediterranean by quotas is the bluefin tuna and the total initial available quotas (TAC) for the Cyprus fleet in 2016 amounted to around 98 tonnes. The quota was distributed only on the *Polyvalent 'passive' gears with length ≥12m* fleet segment operating with drifting longlines. The bluefin tuna TAC for 2017 and 2018 increased and Cyprus is entitled to 117.7 tonnes and 138.65 tonnes respectively.

From 2017, swordfish is the second species in Mediterranean that it is having TAC within the recovery plan of this species adopted by ICCAT. Cyprus based on the allocation key between the EU Member States is entitled to 59 tonnes in 2017 and 57.23 tonnes in 2018. The implementation of such a management measure is expected to negatively affect the *Polyvalent 'passive' gears with length ≥12m* fleet segment at least in the short-run.

Status of Key Stocks

In 2016, Cyprus has performed stock assessment for two of the main commercially important demersal stocks in GSA 25, picarel (*Spicara smaris*) and red mullet (*Mullus barbatus*) and both were found sustainably exploited. The time series used was 2005-2015 for both stock assessments performed. They were presented and endorsed by GFCM relevant scientific group.

Operational costs (external factors)

The most important operational costs are the wages and salaries of the crew members and the fuel cost. Personnel costs include all the expenditures paid by the employers, including social security. The SSCF employs only individuals and their assistants. Neither the vessels owners-fishers nor their assistants are paid any wages and salaries. They get share of the value of landings. Consequently, for the SSCF the value of the unpaid labour (for example the vessel owner's own labour) is estimated based on a minimum wage. Thus, this amount per vessel is fixed according to the number of assistants. On the other hand, the large-scale vessels fleet owners (trawlers and *Polyvalent passive gears with length ≥12m)* employ crew from third countries and these crew members are paid based on an agreed salary. It includes temporary crew as well as rotation crew. These wages can vary from year to year but not remarkably.

Fuel prices are following a decreasing trend since 2012. There was a significant reduction in fuel prices from 0.94 EUR /l in 2012 to 0.578EUR /l in 2016. These are happy news for the vessel owners, especially for the trawlers fishing in territorial waters and for those *Polyvalent passive gears with length ≥12m* which perform long trips when targeting large pelagics. Any fluctuations in fuel prices can drive positive or negative the profitability of a fleet.

Innovation and Development

The small-scale coastal fleet is not very technical advanced and neither the polyvalent segment. Only the trawlers segment does it use more advanced technology but even in this case not at a great extent. Investing in new technology needs much capital and the return is not assured.

The vessels can get funding for modernisation of their vessel for specific purposes such as hygiene from the EMFF 2014-2020. However, an action plan for the small-scale inshore fleet (0-12m with category license A&B) was implemented in 2015, based on the conclusions of the annual report on efforts to achieve a sustainable balance between fishing capacity and fishing opportunities. The target of the action plan has been to achieve balance of the fleet by 2020, with basic tool for achieving it the permanent cessation of fishing activities, through the withdrawal of a number of fishing vessels from this fleet. As long as the action plan is implemented no funding can get for modernisation through structural funds.

The owners of all the vessels have greatly expressed the need to modernise their vessels. Unfortunately, there was no funding for modernisation through the EMFF 2014-2020 for 2016.

Socioeconomic Impact

The fishery sector does not contribute much (less than 0.5%) to the Cyprus Gross National Product. However, it is an important sector for the fisheries dependent areas for direct employment (vessel owners and crew members) and auxiliary services such as fish taverns and restaurants, fishmongers, gear repair,

vessel repair and construction and families of fishers who help them in getting the fish out of the nets and fishery tourism especially during the summer season.

Projections for 2017 and outlook

MODEL FORECAST

Preliminary results for 2017 forecast that the landed weight will be 5% higher than in 2016, while the landed value will increase 6%. Projections suggest operating costs increase (labour and energy costs both by 8%). The increase in value of landings will foster economic performance improvements in 2017, and estimated GVA would reach EUR 2.9 million (+11%), and gross profit EUR 1.6 million (+13%), while net profit would also improve but remain negative (-EUR 2 million).

Positive economic developments can also be seen in performance indicators GVA to revenue (+4%), and GVA per FTE, estimated at EUR 4 155 in 2017 (+6%).

Forecast for 2018 consider that the economic performance will worsen compared to 2017 to reach levels similar to 2016. Landings would slightly increase (+1%) compared to 2017, but landings value would decrease (-2%). Moreover, main cost would also increase (labour and energy costs by 4% and 11%, respectively).

Data issues

No major issues that need reporting.

Table 5.16 Cyprus: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,197	1,177	1,013	1,079	1,082	1,001	951	905	838	817	739		-7%	-20%
Number of Inactive vessels_ms	(#)	666	266	104	122	175	68	97	65	70	34			8%	-64%
Vessel tonnage	(thousand GT)	6.2	5.1	4.4	4.1	4.0	3.4	3.5	3.6	3.4	3.5			-6%	-21%
Engine power	(thousand kW)	52.8	49.5	44.4	45.9	45.9	41.5	41.1	41.2	36.4	37.7			-12%	-20%
Total employed	(person)	1,085	909	1,329	1,344	1,301	1,347	1,219	1,285	1,117	1,160	1,109		-13%	-9%
FTE	(#)	875	777	871	839	810	830	729	794	668	695	670		-16%	-18%
Days at sea	(thousand day)	100.2	81.3	75.6	66.4	85.1	80.7	65.6	65.2	58.3	60.4	57.1		-11%	-25%
Fishing days	(thousand day)	100.2	81.3	75.6	66.4	85.1	80.2	65.6	65.2	58.3				-11%	-25%
Number of fishing trips	(thousand)	100	81	74	66	85	80	65	64	57				-11%	-25%
Energy consumption	(million litre)	3.13	4.29	4.33	3.20	3.23	2.69	2.71	2.82	2.26	2.33	2.27		-20%	-32%
Live weight of landings	(thousand tonne)	1.99	1.40	1.38	1.12	1.05	1.15	1.32	1.48	1.46	1.53	1.55		-2%	7%
Value of landings	(million €)	13.72	9.77	10.74	8.08	6.61	7.46	7.51	7.56	7.72	8.22	8.02		2%	-14%
Income from landings	(million €)	13.72	9.77	10.74	8.08	6.61	7.46	7.50	7.56	7.72	8.23	8.03		2%	-13%
Other income	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Direct income subsidies	(million €)	0.57	0.52	2.02	0.55	1.00	0.29	0.02	0.28	0.09				-69%	-87%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-						
Wages and salaries of crew	(million €)	1.12	0.89	0.97	0.49	0.49	0.55	0.55	0.84	0.94	1.02	1.06		12%	28%
Unpaid labour value	(million €)	0.42	0.34	0.41	0.35	0.49	0.33	0.28	0.29	0.24	0.25	0.23		-19%	-35%
Energy costs	(million €)	2.59	2.40	2.96	2.66	2.96	2.40	2.23	1.99	1.32	1.43	1.58		-34%	-48%
Repair & maintenance costs	(million €)	0.87	0.96	2.02	1.23	1.63	1.30	0.99	1.05	0.82	0.83	0.82		-22%	-35%
Other variable costs	(million €)	5.37	6.92	9.63	4.62	4.45	3.41	3.14	3.16	2.77	2.87	2.84		-12%	-46%
Other non-variable costs	(million €)	0.17	0.15	0.39	0.13	0.14	0.12	0.10	0.25	0.21	0.22	0.23		-16%	18%
Annual depreciation costs	(million €)	4.59	4.19	4.06	4.80	6.81	2.77	2.79	3.07	2.64	2.72	2.69		-14%	-36%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	0.11	2.68	0.75	1.57	2.23	2.70	3.25	3.55	2.34	0.90	1.17		-34%	11%
Tangible asset value (replacement)	(million €)	56.2	61.1	38.6	70.9	58.9	44.5	51.4	57.4	46.3	47.0	46.6		-19%	-16%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Investments	(million €)	0.34	0.21	0.43	0.51	0.44	0.22	0.16	0.13	0.01				-92%	-97%
Financial position	(%)	0.30	0.30	0.30	0.50	1.00	1.00	1.00	1.00	1.00				0%	48%
Gross Value Added	(million €)	4.72	- 0.67	- 4.27	- 0.55	- 2.57	0.24	1.03	1.10	2.61	2.89	2.57		137%	2258%
GVA to revenue	(%)	34.4	- 6.8	- 39.7	- 6.8	- 38.9	3.2	13.7	14.6	33.8	35.1	32.0		132%	1125%
Gross profit	(million €)	3.18	- 1.90	- 5.64	- 1.38	- 3.55	- 0.65	0.20	- 0.03	1.4	1.6	1.3		4975%	217%
Gross profit margin	(%)	23.1	- 19.4	- 52.6	- 17.1	- 53.6	- 8.7	2.6	- 0.4	18.5	19.7	16.0		4869%	218%
Net profit	(million €)	- 1.5	- 8.8	- 10.5	- 7.7	- 12.6	- 6.1	- 5.8	- 6.6	- 3.6	- 2.0	2.6		47%	52%
Net profit margin	(%)	- 11.1	- 89.7	- 97.4	- 95.9	-190.3	- 82.1	- 77.9	- 87.9	- 46.0	24.3	32		48%	50%
GVA per FTE (labour productivity)	(thousand €)	5.4	- 0.9	- 4.9	- 0.7	- 3.2	0.3	1.4	1.4	3.9	4.2	3.8		182%	2910%
Return on fixed tangible assets	(%)	- 2.5	- 10.0	- 25.1	- 8.7	- 17.6	- 7.7	- 5.0	- 5.4	- 2.6	2.3	3.0		51%	74%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
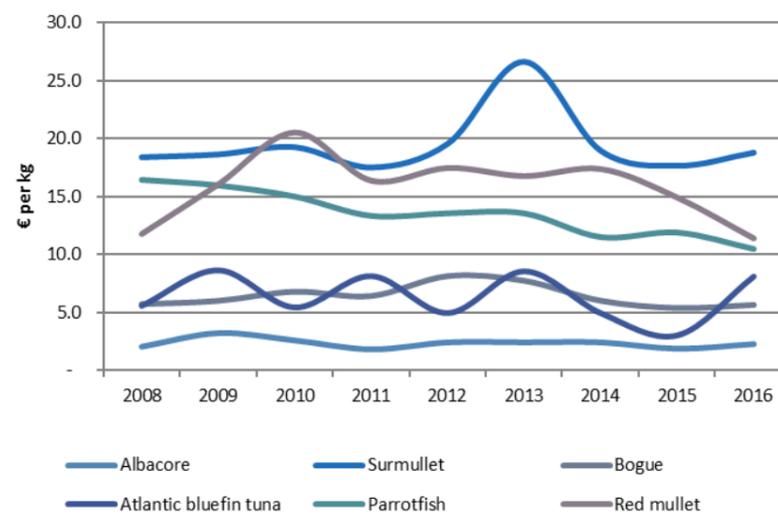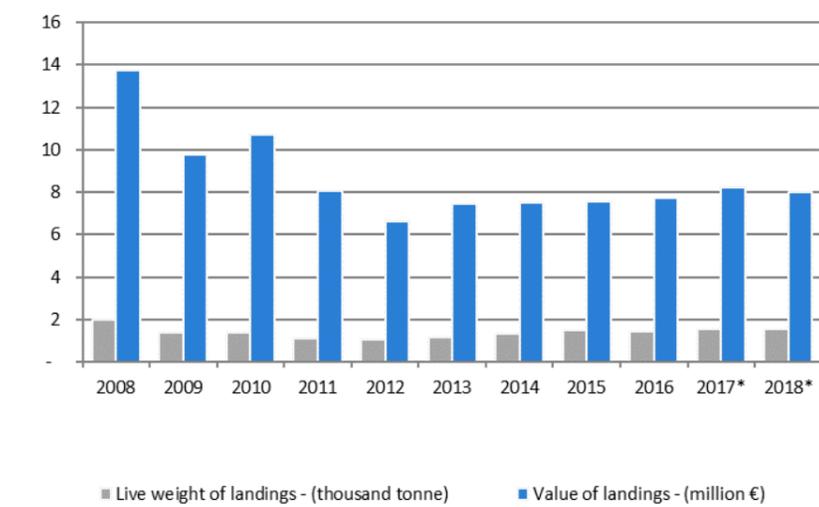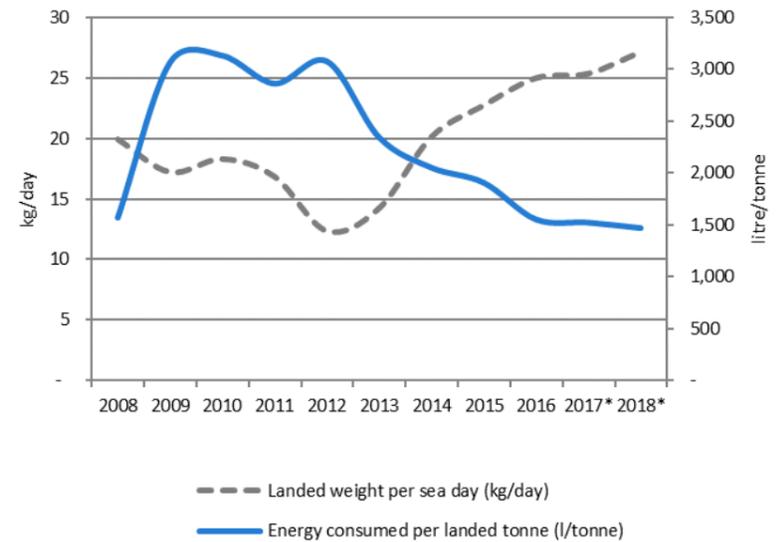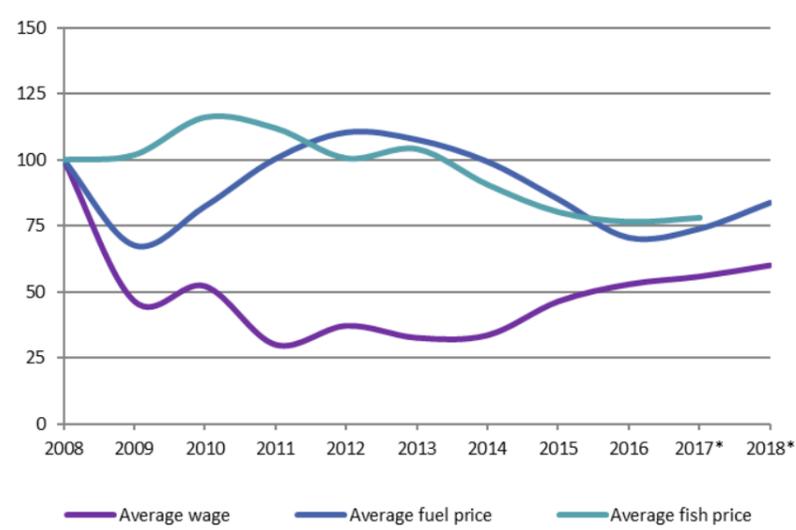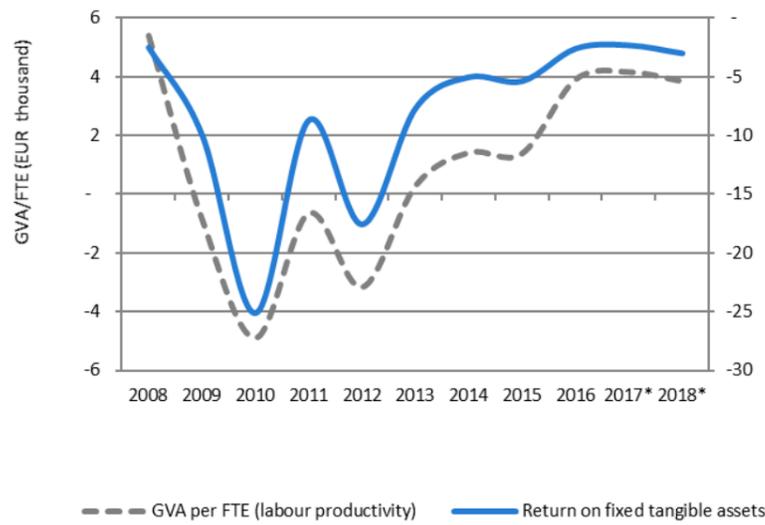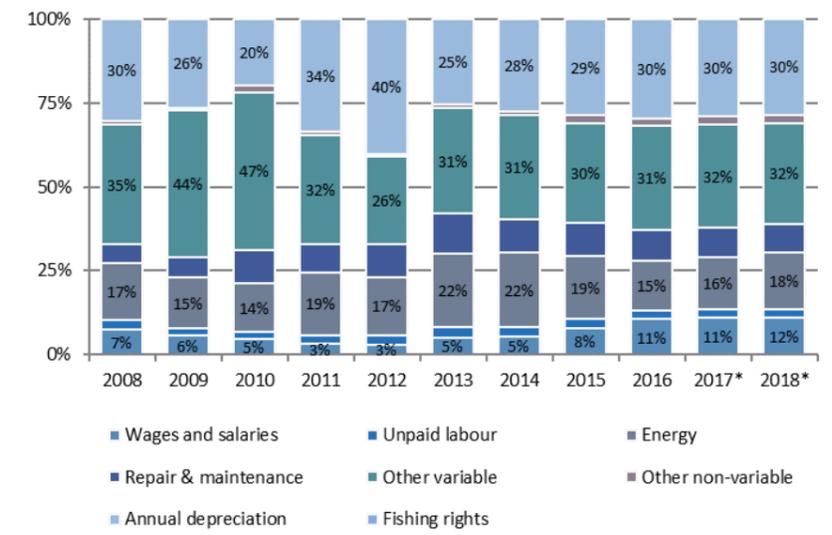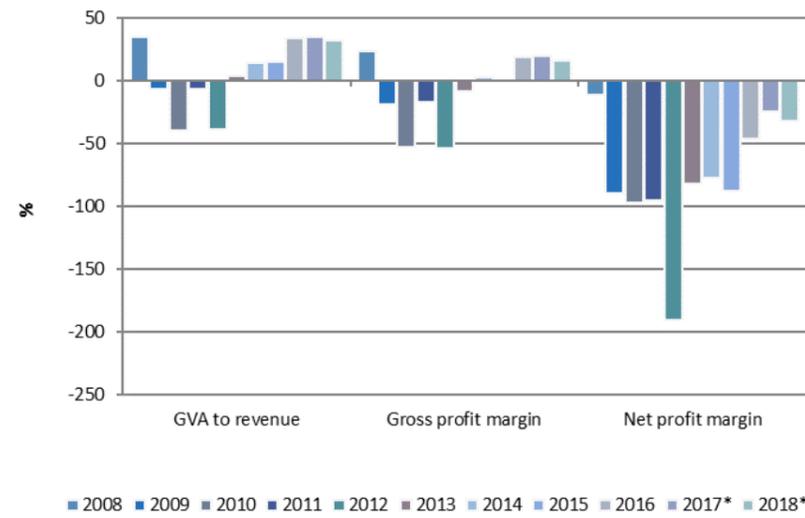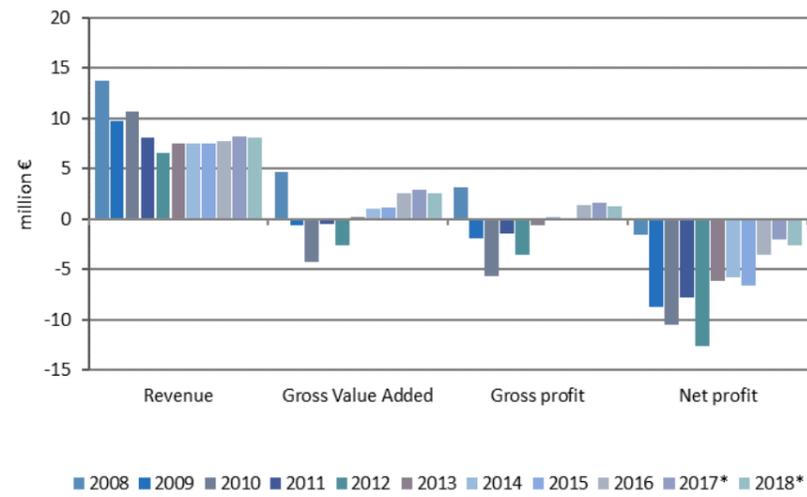
Figure 5.4 Cyprus: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.17 Cyprus: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Total number of vessels	(#)	497	880	882	931	880	907	827	807	733	743	700		-9%	-11%	34	31	27	26	27	26	27	33	35	37	40		6%	21%
Vessel tonnage	(thousand GT)	1.57	2.21	2.18	2.24	2.08	2.10	1.94	1.87	1.67	1.70			-11%	-18%	1.80	1.57	1.65	1.21	1.23	1.09	1.13	1.47	1.52599				4%	10%
Engine power	(thousand kW)	20.81	33.57	34.05	35.47	33.16	34.11	31.94	31.83	26.85	28.85			-16%	-16%	8.18	6.60	6.33	5.32	5.31	4.69	4.84	6.38	6.59321				3%	11%
FTE	(#)	697	629	723	740	701	729	616	635	518	537	504		-18%	-24%	178	148	148	99	109	101	113	159	150	158	166		-6%	14%
Total employed	(person)	895	761	1181	1245	1192	1246	1106	1126	967	1002	943		-14%	-12%	190	148	148	99	109	101	113	159	150	158	166		-6%	12%
Days at sea	(thousand day)	96.7	78.6	72.9	63.9	82.8	77.8	63.2	62.4	55.7	57.7	54.2		-11%	-26%	3.48	2.71	2.69	2.47	2.29	2.86	2.43	2.71	2.58	2.71	2.85		-5%	-5%
Fishing days	(thousand day)	96.7	78.6	72.9	63.9	82.8	77.8	63.2	62.4	99.0				59%	32%	3.48	2.71	2.66	2.47	2.29	2.41	2.43	2.71	2.58				-5%	-3%
Number of fishing trips	(thousand)	96.7	78.6	72.9	63.9	82.8	77.8	63.2	62.4	55.7				-11%	-26%	2.84	2.07	1.32	1.61	1.83	1.71	1.53	1.74	1.53				-12%	-16%
Energy consumption	(million litre)	1.2	1.9	2.6	2.0	2.3	1.7	1.7	1.4	1.3	1.4	1.3		-10%	-29%	1.95	2.44	1.74	1.20	0.97	1.03	1.04	1.37	0.95	0.98	1.00		-31%	-35%
Live weight of landings	(thousand tonne)	1.1	0.8	0.9	0.7	0.5	0.5	0.6	0.7	0.6	0.6	0.6		-15%	-19%	0.85	0.58	0.53	0.42	0.51	0.63	0.74	0.79	0.87	0.92	0.98		10%	38%
Value of landings	(million €)	9.3	6.8	7.4	6.2	4.3	4.2	4.4	4.6	4.2	4.5	4.1		-7%	-28%	4.46	2.95	3.34	1.90	2.30	3.27	3.14	3.00	3.50	3.76	3.89		17%	15%
Income from landings	(million €)	9.3	6.8	7.4	6.2	4.3	4.2	4.4	4.6	4.2	4.5	4.2		-7%	-28%	4.46	2.95	3.34	1.90	2.30	3.19	3.14	3.00	3.50	3.76	3.88		17%	15%
Other income	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Direct income subsidies	(million €)	0.5	0.5	2.0	0.5	1.0	0.3	0.0	0.3	0.0				-84%	-93%	0.04	0.01	0.05	0.03	0.00	0.01	0.00	0.01	0.04				214%	114%
Income from leasing fishing rights	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Wages and salaries of crew	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				1.12	0.89	0.97	0.49	0.49	0.55	0.55	0.84	0.94	1.02	1.06		12%	28%
Unpaid labour value	(million €)	0.4	0.3	0.4	0.3	0.5	0.3	0.3	0.3	0.2	0.3	0.2		-19%	-35%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Energy costs	(million €)	1.0	1.0	1.8	1.7	2.1	1.5	1.4	1.0	0.8	0.8	0.9		-22%	-47%	1.62	1.37	1.19	1.00	0.86	0.92	0.81	1.01	0.56	0.60	0.69		-45%	-49%
Repair & maintenance costs	(million €)	0.5	0.6	1.4	0.9	1.3	0.9	0.7	0.5	0.5	0.5	0.5		-13%	-44%	0.34	0.32	0.61	0.28	0.38	0.45	0.34	0.51	0.34	0.35	0.36		-33%	-15%
Other variable costs	(million €)	3.5	5.3	7.9	3.7	3.6	2.6	2.4	2.2	1.7	1.7	1.6		-23%	-57%	1.88	1.65	1.70	0.91	0.86	0.80	0.73	0.98	1.10	1.15	1.21		12%	-8%
Other non-variable costs	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-60%	-63%	0.16	0.14	0.38	0.11	0.13	0.10	0.08	0.24	0.21	0.21	0.22		-14%	25%
Annual depreciation costs	(million €)	2.0	1.9	1.6	2.5	3.0	1.8	2.0	2.0	1.4	1.4	1.3		-30%	-34%	2.60	2.29	2.46	2.34	3.81	1.01	0.81	1.09	1.27	1.30	1.36		16%	-38%
Rights costs	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Opportunity cost of capital	(million €)	0.1	1.8	0.5	1.2	1.8	1.8	2.2	2.2	1.3	0.5	0.6		-42%	-13%	0.03	0.64	0.23	0.30	0.44	0.86	0.94	1.23	1.05	0.41	0.56		-15%	80%
Tangible asset value (replacement)	(million €)	33.5	40.4	25.3	56.3	46.7	29.6	35.5	35.2	24.8	25.6	24.1		-30%	-34%	17.44	14.56	11.67	13.61	11.53	14.22	14.81	19.98	20.77	21.46	22.42		4%	41%
Fishing rights	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Investments	(million €)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0				-100%	-100%	0.21	0.09	0.29	0.40	0.36	0.16	0.15	0.11	0.01				-91%	-95%
Gross Value Added	(million €)	4.3	-0.1	-2.1	0.7	-0.5	-0.8	-0.2	0.8	1.3	1.4	1.2		56%	385%	0.46	-0.53	-0.53	-0.40	0.07	0.93	1.18	0.26	1.30	1.45	1.39		396%	619%
GVA to revenue	(%)	46.0	-2.0	-28.8	11.5	-10.6	-18.4	-3.5	18.4	31.1	32.1	28.4		69%	1870%	10.39	-18.00	-15.76	-21.16	2.89	29.12	37.59	8.71	37.04	38.62	35.92		325%	777%
Gross profit	(million €)	3.8	-0.5	-2.5	0.4	-0.8	-1.1	-0.4	0.5	1.1	1.2	0.9		97%	1892%	-0.66	-1.42	-1.50	-0.89	-0.42	0.38	0.63	-0.58	0.35	0.43	0.34		161%	164%
Gross profit margin	(%)	41.4	-7.0	-33.4	6.1	-17.7	-26.3	-9.9	12.0	25.5	26.5	22.8		112%	687%	-14.80	-48.23	-44.74	-46.81	-18.32	11.86	20.01	-19.21	10.10	11.50	8.65		153%	150%
Net profit	(million €)	1.8	-4.2	-4.6	-2.0	-4.5	-4.7	-4.7	-3.6	-1.5	-0.7	-1.0		57%	53%	-3.30	-4.35	-4.18	-3.53	-4.67	-1.50	-1.12	-2.91	-1.97	-1.28	-1.58		32%	38%
Net profit margin	(%)	19.3	-60.9	-61.7	-32.1	-104.5	-111.3	-106.9	-79.1	-36.7	-16.0	-23.9		54%	45%	-73.92	-147.59	-125.01	-185.82	-203.34	-47.00	-35.62	-96.72	-56.14	-34.15	-40.87		42%	51%
Return on fixed tangible assets	(%)	5.5	-5.9	-16.1	-2.7	-10.0	-9.7	-6.8	-4.0	-1.2	-0.9	-1.6		70%	81%	-18.72	-25.47	-33.88	-23.71	-36.69	-4.48	-1.24	-8.36	-4.41	-4.07	-4.55		47%	77%
GVA per FTE (labour productivity)	(thousand €)	6.1	-0.2	-3.3	1.1	-0.7	-1.1	-0.2	1.3	2.5	2.7	2.3		92%	581%	2.60	-3.58	-3.56	-4.06	0.61	9.21	10.46	1.64	8.64	9.18	8.39		426%	419%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.18 Cyprus: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
CYP A37 PG0612	290	397	39,633	1,763	520	3,610	3,610	1,626	45.0	1,426	39.5	-247	-6.84	0.5	4.1	3.5	Weak	88%	Improved	47%
CYP A37 PGP1218 °	29	100	1,687	443	684	2,284	2,284	1,200	52.6	524	23.0	-541	-23.70	6.8	12.0	0.2	Weak	83%	Improved	30%
CYP A37 DTS2440 °	6	50	891	3,538	183	1,217	1,217	96	7.9	-171	-14.0	-1,424	-117.02	5.3	1.9	8.6	Weak	-10%	Deteriorated	16%
CYP A37 PGO0006	342	68	9,261	7,449	29	286	286	-266	-93.2	-279	-97.7	-816	-285.53	0.2	-3.9	11.6	Weak	22%	Improved	4%
CYP A37 PG0006	28	39	4,858	3,557	34	264	264	17	6.3	-3	-1.1	-91	-34.55	0.5	0.4	6.7	Weak	-236%	Deteriorated	3%
CYP A37 PGO0612	73	15	1,944	8,153	6.4	64.3	64.3	-64.5	-100.3	-67	-104.5	-396	-615.32	0.2	-4.4	-7.4	Weak	37%	Improved	1%

Table 5.19 Cyprus: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
CYP A37 PG0612	296	411	41,101	1,763	539	3,817	3,828	1,754	45.8	1,541	40.2	334	8.73	0.5	4.3	3.9	Weak	46%
CYP A37 PGP1218 °	31	108	1,822	443	739	2,515	2,515	1,343	53.4	597	23.8	-197	-7.82	6.9	12.4	0.1	Weak	31%
CYP A37 DTS2440 °	6	50	891	3,538	183	1,241	1,241	108	8.7	-165	-13.3	-1,086	-87.49	5.5	2.2	-8.6	Weak	15%
CYP A37 PGO0006	347	71	9,586	7,449	30	302	303	-272	-89.8	-286	-94.3	-679	-224.12	0.2	-3.8	-11.6	Weak	4%
CYP A37 PG0006	27	40	5,028	3,557	35	278	280	21	7.6	1	0.2	-65	-23.24	0.5	0.5	6.3	Weak	3%
CYP A37 PGO0612	73	15	2,016	8,153	6.7	68.0	68.2	-66.2	-97.1	-69	-101.4	-305	-447.43	0.2	-4.4	-7.4	Weak	1%

Table 5.20 Cyprus: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)									Live weight of landings (thousand tonne)									Average landed price (real) (€)									% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	in value	in weight
Albacore	0.5	0.8	0.6	0.4	0.8	0.9	1.1	1.0	1.3	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.6	2.1	3.2	2.6	1.8	2.4	2.4	2.4	1.9	2.3	17%	39%
Surmullet	2.2	1.3	1.7	0.8	0.7	1.2	0.9	1.0	0.9	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	18.4	18.6	19.2	17.5	19.5	26.7	18.9	17.6	18.8	12%	3%
Bogue	1.9	1.5	1.8	0.7	0.7	0.6	0.7	0.7	0.6	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	5.7	6.0	6.8	6.4	8.2	7.8	6.0	5.4	5.6	8%	7%
Atlantic bluefin tuna	0.7	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.5	0.1	-	-	0.0	0.0	0.0	0.0	0.0	0.1	5.6	8.6	5.4	8.1	4.9	8.5	4.9	3.0	8.1	6%	4%
Parrotfish	0.6	0.8	0.8	0.3	0.3	0.3	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	16.0	15.0	13.3	13.6	13.6	11.5	11.9	10.5	6%	3%
Red mullet	0.6	0.4	0.7	0.4	0.3	0.5	0.5	0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	16.1	20.6	16.4	17.5	16.8	17.4	14.9	11.4	5%	2%
Marbled spinefoot				0.1	0.2	0.2	0.3								0.0	0.0	0.0	0.0						14.4	12.1	13.0	20.2	4%	1%
Swordfish	0.5	0.2	0.3	0.3	0.3	0.3	0.6	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	7.4	8.3	9.5	7.8	8.9	6.9	8.9	8.8	8.1	4%	3%
Picarel				0.1	0.3	0.3	0.3								0.0	0.1	0.1	0.1						4.8	5.1	4.1	4.1	4%	5%
White seabream				0.5		0.1	0.2	0.2	0.3						0.0	0.0	0.0	0.0				18.5		15.6	16.3	15.3	17.4	3%	1%
																												69%	68%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)..

5.5 Denmark

Short description of the national fleet

Fleet capacity

In 2016, the Danish fishing fleet consisted of 1 793 registered vessels, with a combined vessel tonnage of 66 thousand gross tonnages (GT) and engine power (kW) of 205 thousand kW. The 1 793 vessels represent production units, which may be active or inactive. In 2016, there were 1 374 active and 419 inactive units. Some of the 1 374 active production units include more than one vessel. The number of registered fishing vessels decreased with 3% between 2015 and 2016, whereas vessel tonnage did not change and engine power decreased with 2%. The fishing capacity of the Danish fishing fleet continues to decrease in line with the observed long-term trend of declining fishing capacity. Thus, between 2008 and 2015, the total vessel numbers decreased 36%, whereas vessel tonnage (GT) and engine power (kW) decreased 16% and 28%, respectively. The majority of the Danish fishing vessels have for more than 10 years been managed through property rights systems. This has facilitated a restructuring of the fleet and its capacity. However, the general expectation is that the adjustments in fleet capacity will continue in the future, but at a slower pace.

Fleet structure

Around two-thirds of the active part of the fleet continues to consist of vessels below 10 meters in 2016. These made up an even larger part of the fleet when including inactive vessels. The vessels between 24-40 meters and the ones above 40 meters corresponded to 2% each of the total number of active vessels in 2016, but accounted for 15% and 45% of the total landings value, respectively. Sixty-two percent of the Danish active vessels used passive gears only, 18% used demersal trawlers or seiners or both, 14% used both active and passive gears, while a minority of vessels used dredge, pelagic trawl or beam trawl. The largest landings in 2016 in terms of value and weight continues to be made by the pelagic trawlers above 40 meters, catching species for human consumption (Atlantic herring and Atlantic mackerel) and species for fish meal and fish oil production (sprat, sandeel, blue whiting, etc.).

Employment

Total employed in 2016 was estimated at 1 331 jobs, corresponding to 1 657 FTEs. The reason that the FTE is higher than the number of jobs is that the FTEs is estimated based on the DK-standard that a full working year consists of 1 665 working hours. However, in reality yearly working hours in the Danish fishing fleet are more likely to be around 2 000 hours. From 2008-2016, the total employed and FTE have decreased 26% and 24%, respectively. However, with no change in the number of employed and an increase of 6% in the number of FTEs, the increase of 6% from 2015, the change in the period 2008-2016 amounts to 26% and 20% respectively for the total employed and FTE.

Effort

In 2016, the Danish fleet spent a total of around 96 thousand days at sea. The total number of days at sea decreased 1% between 2015 and 2016. Fuel consumption was at 92 million litres and decreased slightly (1%) compared to 2015.

Production

In 2016, the total weight landed by the Danish fleet was 670 thousand tonnes of seafood with a landing value of EUR 476 million. The total weight of landings decreased from 2015 to 2016 by 23%, while the value of landings increased by 8%.

The two species driving the decrease in total weight landed were sandeel and sprat with 140 thousand tonnes and 80 thousand tonnes from 2015 to 2016, while the landings weight of herring increased with 25 thousand tonnes. However, the decrease in landing value of sandeel (-EUR 28 million) and sprat (-EUR 13 million) was more than compensated by increases in the landing values of herring (+EUR 35 million), Norway lobster (+ EUR 12 million), European plaice (+EUR 9 million) and common shrimp (+EUR 7 million).

Cod continues to the most economically important species in the demersal fishery. The landing weight of cod was in 2016 around 3 thousand tonnes below the level in 2015, but due to a price increase, the value of landings was at the same level in 2015 and 2016.

Economic results for 2016 and recent trends

National fleet performance

The total income generated by the Danish fleet in 2016 was EUR 505 million, corresponding to an increase of 7% compared to 2015. The total income consisted of EUR 475 million in income from landings value (+8%), EUR 7 million in non-fishing income (-33%) and EUR 23 million from leasing fishing rights (+3%). The three major variable costs consist of labour (excl. the value of unpaid labour), energy, and repair & maintenance. In 2016, the costs for labour were EUR 88 million, while energy cost and repair & maintenance costs accounted for EUR 36 and EUR 49 million each. While the labour costs and repair & maintenance costs increased with 11% and 17% respectively from 2015 to 2016, the energy costs decreased with 15%, because of a further reduction in fuel prices in 2016 after reaching its highest level for a decade in 2012. The annual depreciation costs are the major group of capital costs and accounted of 81 million in 2016, thus decreasing with 11% compared to 2015.

In terms of economic fleet performance, the total amount of gross value added (GVA), gross profit, and net profit generated by the Danish national fleet in 2016 were EUR 340 million, EUR 213 million and EUR 131 million, respectively. This corresponded to increases of 8%, 7% and 23%, compared to 2015. These increases in economic indicators despite the decrease in total landings of 23% due to increased prices of fish resulting in an increase of landing values of 8%, while the variable costs increased, but not with the same amount as the value of landings.

In 2016, the Danish fleet had an estimated (depreciated) replacement value of EUR 653 million and an estimated value of fishing rights of around EUR 1.6 billion. Compared to 2015, the estimated replacement value increased by 7% and the estimated value of fishing rights increased 52%. Investments by the fleet amounted to EUR 110 million in 2016, corresponding to an increase of 174% from 2015. The large increase was primarily due to the building of new very large pelagic trawlers in 2016.

Resource productivity and efficiency indicators

The Danish fleet had the same gross profit margin of 44% in 2016 as in 2015. The net profit margin was 27% in 2016, corresponding to an increase of 15% compared to 2015. Labour productivity, measured as GVA against FTE increased by 3% from 2015 to 2016.

Performance results of selected fleet segments

Overall, the Danish fleet consists of 19 fleet segments, covering both static and active gears and targeting both demersal and pelagic species. The capacity of the Danish fleet has in the period 2008-2016 decreased, both in terms of numbers (-36%), gross tonnage (-16%) and engine power (-28%). The period 2015-2016 has followed the trend with a decrease in number of vessels and engine power with 3% and 2% respectively, while there was no change in total tonnage from 2015 to 2016. Employment, measured in terms of Full Time Equivalents (FTE) increased slightly in 2016 compared to 2015.

In economic terms, the gross profit has increased with 7% from EUR 199 million to EUR 213 million, whereas the net profit increased with 23% from EUR 106 million to EUR 131 million. Despite variations, both the gross and the net profit show a significant positive trend if evaluated for the period 2008-2016. The large-scale fleet primarily drives this gain. Conversely, the SSCF is experiencing a minor loss. However, the profitability of the SSCF has improved during 2008-2016 being very close to zero. Explaining this positive development in the fleets is complicated and influenced by many different factors, such as development in fish prices, available quota, costs, etc. However, a very central requirement for improving the profitability is a management system, which gives fishers incentives to behave in a way, where it is possible for them to adjust their fishery easily. The current system based on property rights in majority of the fleets give these incentives.

Performance by fishing activity

The large-scale fleet (vessels above 12 meters) targets a large variety of species including codfish, flatfish, Norway lobster, herring, mackerel, sprat and sandeel in the Baltic Sea, the Sounds, Kattegat, Skagerrak, the North Sea and the Norwegian Sea. In 2015, the large-scale fishing fleet consisted of 397 registered vessels, with a combined vessel tonnage of 62 thousand GT and engine power of 153 thousand kW. The size of the large-scale fleet decreased between 2015 and 2016 in terms of number of vessels (-5%) and engine power (-2%), while vessel tonnage was almost unchanged. Comparing 2016 to the average of 2008-2015, the number of vessels in the large-scale fisheries decreased by 19%, the gross tonnage increased by 3%, while the total engine power decreased by 7%.

The value of landings generated by the large-scale fleet accounted for EUR 451 million in 2016, which was 95% of the total national landings value for fisheries. The revenue increased by 8% from 2015 to 2016. Total operating costs incurred by the large-scale fleet in 2016 equated to EUR 242 million. Of these, crew costs (incl. unpaid labour value) are the major fishing expense for the large-scale fleet and accounted for EUR 113 million. Annual depreciation is also a major expense for the large-scale fleet and amounted to EUR 77 million in 2016. The large-scale fleet had a gross profit and net profit of EUR 214 million and EUR 135 million in 2016, which is an increase of 7% and 22% compared to 2015.

The small-scale coastal fleet, which is defined as vessels below 12 meters using static gears, operates mostly in the Baltic Sea, the Sounds and the Kattegat. In 2016, the small-scale fishing fleet consisted of 977 registered vessels, with a combined vessel tonnage of 3.7 thousand GT and engine power of 41 thousand kW. The number of vessels decreased by 1% between 2015 and 2016, while vessel tonnage decreased by 1%. The total engine power of the small-scale coastal fleet remained constant between 2015 and 2016. Compared to the average in the period 2008-2015, there was a decrease in number of vessels, gross tonnage and engine power of 10%, 9% and 5%, respectively.

The value of landings generated by the SSCF amounted to EUR 25 million in 2016, which is 5% of the national landings value for fisheries. The landing value generated by the Danish SSCF increased by 11% from 2015 to 2016. Total operating costs incurred by the SSCF in 2016 equated to EUR 27 million. Crew costs are a major fishing expense for the SSCF and accounted for EUR 13 million in 2016 (incl. unpaid labour value). Between 2015 and 2016, total operating costs increased by 11%, due to decreases in wages, energy costs, repair and maintenance costs, as well as other variable costs. The SSCF made a loss in 2016 with gross profit and net profit of -EUR 1.4 million and -EUR 4.7 million, respectively. The loss in gross profit increased by 59% from 2015 to 2016, while the loss in net profit increased by 7%. The increased loss of the SSCF was, despite the increase in landings value, mainly driven by increased expenses for maintenance. Compared to the average between 2008 and 2015, the gross profit margin and net profit margin increased (reduced the negative net profit margin) with 39% and 36%, respectively in 2016.

Fleet Segment Level Economic performance

The Danish fleet is highly diversified with a broad range of vessel types operating and targeting different species predominantly in the North Sea, Baltic Sea, and North Atlantic. The national fleet consisted of 19 DCF fleet segments in 2016. In 2016, 5 fleets made losses, while 14 made an overall net profit. This compares to 6 and 13 respectively in 2015. The table at the end of the chapter provides a breakdown of the 2016 key performance indicators by all 19 fleet segments. Below, a short description of four important fleet segments is provided. The fleets are selected based on either their importance based on their share of the total value of Danish landings, the number of vessel that are in the fleet or due to a combination of both.

Pelagic trawl >40m – 22 vessels make up this segment which operates predominantly in the North Sea and the Norwegian Sea. The fleet targets pelagic species for consumption (mackerel and herring) as well as reduction species such as sandeel, sprat, and blue whiting. In 2016, the total value of landings was EUR 185 million and 197 FTEs were employed in this fleet segment, contributing to 39% of the total income from landings and 12% of FTEs generated by the Danish fishing fleet. This fleet segment reported a total gross profit of EUR 126 million and total net profit of EUR 82 million in 2016, corresponding to an increase of 19% and 38% respectively compared to 2015.

Demersal trawl / seine 24-40m – 34 vessels make up this fleet, which operates predominantly in the North Sea and Skagerrak. The fleet targets a variety of species but in particular, cod, plaice, monkfish, and Northern prawn. In 2016, the total value of landings was around EUR 73 million and 303 FTEs were employed in this fleet segment, contributing to 15% of the total landings value and 18% of the FTEs generated by the Danish fishing fleet. This fleet had a gross profit of EUR 27 million and a net profit of EUR 16 million in 2016.

Demersal trawl / seine 12-18m – 116 vessels make up this segment, which conducts fisheries in Skagerrak and, targeting a variety of species, but primarily Norway lobster, cod and plaice. The total value of landings in this segment was EUR 39 million in 2016 and the segment employed 249 FTEs, making up 8% of the total value of landings and 15% of the FTEs generated by the Danish fishing fleet. This segment increased its gross profit from EUR 6.7 million in 2015 to EUR 8.6 million in 2016 and increased its net profit from EUR 1.8 million in 2015 to EUR 3.8 million 2016.

Polyvalent passive gears 0-10m – In terms of landings value, this fleet only accounted for 3% of the total Danish landings value in 2016, but this small-scale fishery contains 774 vessels and 132 FTEs, fishing in the coastal waters of Denmark. This corresponds to 56% of the total active fleet and 8% of the total number of full time employed in the active Danish fleet, and it is thus important in many harbours

in Denmark. Their main landings are of cod and plaice. The total weight of landings was 4 thousand tonnes, corresponding to a value of landings of EUR 12 million in 2016. They are largely dependent of cod and plaice makes the fleet sensitive to quota changes of these species.

Drivers affecting the economic performance trends

Markets and trade

The trade ban between the EU and Russia have been in force for several years, and continues to have an effect for especially Danish fishers catching and exporting primarily Atlantic herring and Atlantic mackerel to Russia.

Furthermore, the multilateral WTO trade negotiations have come to a standstill. This has implied that several countries are focusing on bilateral agreements instead. EU has for example entered into an agreement with Canada and South Korea respectively, implying reduced tariffs and improved market access. This can influence significantly the trade patterns in the coming years and market prices. For instance, the agreement between EU and Canada is expected to influence the price of deep water shrimp, and therefore also the economic performance of the fishers catching shrimp.

Management instruments

As reported in the Danish Annual Report on the fishing fleet capacity 2016 (The Danish AgriFish Agency), the majority of the Danish fishing fleet is managed through variations of individual property rights schemes. These schemes have gradually been introduced since 2003, with the majority of the demersal fishery from 2007, and this has implied an increase in the capacity reductions observed in the Danish fishing fleet measured as number of vessels, tonnage and engine power.

The schemes have generally been in place for around ten years, and despite that restructuring is still occurring, the indications are that this is happening at a reduced speed compared to the first years. Given that the system is generally considered to be well functioning, there are no current plans regarding changing the system fundamentally. However, adjustments are sometimes made in order to account for unwanted situations, such as quota concentration.

TACs and quotas

The quotas of the most valuable species to the Danish fishery were in 2016 the following: Atlantic herring 150 000 tonnes, Atlantic cod 28 000 tonnes, European sprat 270 000 tonnes, Atlantic mackerel 38 000 tonnes, sandeel 72 000 tonnes, European plaice 41 000 tonnes and Norway lobster 10 000 tonnes.

The quotas for Atlantic herring, European plaice and Norway lobster increased with 13%, 6% and 63% compared to 2015, while sandeel, European sprat, mackerel and Atlantic cod decreased with 76%, 23%, 23% and 7%. These quotas vary from year to year, some more than others of course. Especially the sandeel quota fluctuates, being 305 000 tonnes in 2015, 72 000 tonnes in 2016, 430 000 tonnes in 2017 and 196 000 tonnes in 2018.

Not all Danish quotas were fully utilised in 2016. The overall quota utilisation for herring, cod, sprat and mackerel were 97%, 83%, 90% and 99% respectively, while there was lower quota utilisation for sandeel (39%), plaice (65%) and Norway lobster (41%). Reasons for low quota utilisation include low catch rates, choke species limitations, marked consideration, and capacity limitations of specific fishing gears, seasons and/or areas.

Status of key stocks

The Communication from the Commission to the European Parliament and the Council on the "Consultation on the Fishing opportunities for 2018 under the Common Fisheries Policies" (SWD(2017) 256 final) (European Commission 2017) lists the species that were fished below, at, or above MSY levels. The following species, most relevant to the Danish fishing fleets, are fished at MSY in 2016:

- Herring: The Eastern Baltic Sea (area 25-29), the North Sea area IV,
- Norway lobster: the North Sea area IV, Skagerrak and Kattegat area IIIA
- Plaice: the North Sea area IV, Skagerrak area 3AN and Kattegat, Belts and Sound area 3AS

Other important stocks are either fished above FMSY or they lack MSY assessment. The Kattegat cod remains at a low level, the western Baltic cod stock is under pressure and mackerel in the North East Atlantic are fished above MSY.

Innovation and Development

The implementation of the landing obligation regulation has initiated various efforts in order to improve the selectivity of catches. Furthermore, there are initiatives trying to optimize the use of the previously not landed fish. Such initiatives take time and an innovative approach drawing on the expertise of fishers, processors, gear technologists, researchers etc. in order to identify, test and implement the most promising ideas.

Furthermore, focus is continuously on initiatives, which can improve the value of the current landings through improved quality of the landed as well as the products coming out of the processing industry.

Projections for 2017 and outlook

Management and regulation - The TACs and thus quotas continue to be one of the most important factors that influence the fleet performance.

A look at some of the most significant changes in the Danish quotas is relevant to consider, when foreseeing the trends in economic performance in 2017.

Looking firstly at the stock for reduction purposes, caught primarily in the North Sea and North East Atlantic, the sandeel quota will be almost six-times higher in 2017 compared to 2016. Also, the quota for blue whiting and Norway pout increase, while sprat is reduced. However, in total the quotas for reduction purposes rise from a total of 503 000 tonnes in 2016 to 870 000 tonnes in 2017, but these species are variable, and often not fully utilised, because of the uncertain availability combined with low prices.

Herring and mackerel are primarily caught by the very large trawlers. The total quota for herring increases from 150 000 tonnes to 156 000 tonnes, while the mackerel quota is reduced with 1 000 tonnes to a total of 37 000 tonnes in 2017.

There is a range of demersal quotas, which Danish fishers utilise to a various degree. The total available quota for codfish, covering besides cod also species like hake, saithe and monkfish, the total quota was in 2016 48 000 tonnes, decreasing to 45 000 tonnes in 2017. Cod is the central species here, and the total quota of cod is reduced with 3 000 tonnes to 24 000 tonnes in 2017. However, the reduction is the Baltic Sea quotas, while the North Sea and Skagerrak quotas are increased. Generally, the cod from the two latter areas are considered to be of better quality and thus getting a higher price.

Turning attention to the flatfish quotas, where plaice and sole are the key species. Total quota goes up from 45 000 tonnes to 54 000 tonnes due and 8 000 tonnes increase in the Skagerrak and Baltic Sea plaice quota, and a minor increase in the sole quotas.

The implementation of the landing obligation does not seem to have caused any fundamental changes in economic performance for the Danish fishers until now, but the data availability is in general not available in order to analyse this further.

Markets and price – prices developed generally with a negative trend in 2017 compared to 2016. Herring prices decreased with 25%, sprat price 34% and sandeel price with 42%. The mackerel price was unchanged, while the cod increased with 11% and plaice price with 13%. In total, the Danish landing value decreased with 6% from 2016 to 2017.

Operating costs -The average fuel prices increased with 14% from 2016 to 2017, and has continued to increase in the beginning of 2018. General inflation is considered to continue at a low level.

MODEL FORECAST

Preliminary results for 2017 forecast a 42% increase in landed weight, matched by an 11% increase in landed value. Projections suggest operating costs will increase with 10%, most notably energy costs, which are estimated to increase by 30% due to the continued increase in fuel prices. However, the increase in revenue implies that the economic performance improves in 2017: GVA (+12%), gross profit (+13%) and net profit (+28%).

Results indicate that the Danish fleet operated at a profit in 2017: with an estimated net profit of EUR 168 million and a margin of 31%. Positive economic developments can also be seen with a minor increase in GVA to revenue (+0.3%) and gross profit margin decreases (+1.3%), but GVA per FTE deteriorated, estimated at EUR 197 thousand in 2016, by 4%.

The forecast for 2018 indicates an unchanged landed weight comparing 2017 and 2018. Landing value is expected to decrease with 3%. Fuel costs are expected to increase with around 7% in 2018 compared to 2017, but operating costs are expected to decrease with 1%. In total, these forecasts of income and

cost implies that GVA is expected to decrease with 4% in 2018 compared 2017, gross profits with 5% and net profit with 10%.

Data issues

No major data issues are identified.

Sources

European Commission (2017), Communication from the Commission to the European Parliament and the Council. Consultation on the Fishing Opportunities for 2017 under the Common Fisheries Policies, SWD(2017) 256 final.

Scientific, Technical and Economic Committee for Fisheries (STECF) – Monitoring the performance of the Common Fisheries Policy (STECF-Adhoc-18-01). Publications Office of the European Union, Luxembourg, 2018.

The Danish AgriFish Agency (2017), Danish Annual Report on the fishing fleet capacity 2016.

Table 5.21 Denmark: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	2,813	2,786	2,682	2,663	2,052	2,048	1,956	1,851	1,793	1,312	1,267		-3%	-24%
Number of Inactive vessels_ms	(#)	1,003	1,017	1,043	1,060	515	567	518	459	419				-9%	-46%
Vessel tonnage	(thousand GT)	78.8	74.4	68.0	67.5	62.2	64.6	68.2	66.3	66.5				0%	-3%
Engine power	(thousand kW)	282.9	269.2	247.4	238.8	212.6	215.2	211.0	208.2	204.8				-2%	-13%
Total employed	(person)	1,801	1,694	1,528	1,460	1,472	1,489	1,405	1,330	1,331	1,258	1,298		0%	-13%
FTE	(#)	2,061	1,854	1,804	1,661	1,558	1,652	1,619	1,570	1,657	1,937	1,836		6%	-4%
Days at sea	(thousand day)	129.2	127.5	119.4	116.0	109.4	106.2	103.8	96.8	95.5	101.6	96.6		-1%	-16%
Fishing days	(thousand day)	122.5	120.6	112.5	108.5	103.1	102.0	99.2	91.5	88.7				-3%	-17%
Number of fishing trips	(thousand)	99	96	89	88	82	79	77	72	70				-2%	-18%
Energy consumption	(million litre)	94.12	94.54	94.65	88.06	80.99	91.50	91.72	93.29	92.25	116.61	109.53		-1%	1%
Live weight of landings	(thousand tonne)	690.47	773.03	822.29	710.98	499.31	665.04	741.85	865.91	669.99	950.22	946.83		-23%	-7%
Value of landings	(million €)	366.77	310.29	408.35	427.37	382.83	395.31	379.97	440.27	475.52	532.32	520.03		8%	22%
Income from landings	(million €)	361.93	306.09	411.48	399.48	381.92	394.87	380.08	440.26	474.59	531.39	519.08		8%	23%
Other income	(million €)	14.59	11.73	18.50	8.95	8.11	7.38	5.48	10.67	7.13	6.90	7.05		-33%	-33%
Direct income subsidies	(million €)	0.21	0.05	0.07	0.25	0.54	0.05	0.13	0.01	-				-100%	-100%
Income from leasing fishing rights	(million €)				8.3	9.1	25.9	16.5	22.2	22.8				3%	39%
Wages and salaries of crew	(million €)	84.71	73.45	83.95	78.05	69.57	73.10	71.31	79.22	87.97	99.37	96.93		11%	15%
Unpaid labour value	(million €)	48.57	43.04	43.08	40.59	37.11	37.07	35.80	35.03	38.69	40.11	39.30		10%	-3%
Energy costs	(million €)	56.76	36.81	47.94	55.11	57.04	60.88	56.35	42.69	36.08	47.18	50.86		-15%	-30%
Repair & maintenance costs	(million €)	40.68	38.81	41.54	42.35	36.58	38.24	39.50	41.64	48.90	46.70	46.51		17%	22%
Other variable costs	(million €)	35.44	32.44	34.08	32.22	30.30	30.07	30.92	33.17	35.83	43.15	40.74		8%	11%
Other non-variable costs	(million €)	23.82	22.32	22.67	21.26	20.94	20.78	20.42	19.98	21.20	20.19	20.03		6%	-1%
Annual depreciation costs	(million €)	97.28	89.74	90.82	91.71	92.68	89.24	88.20	90.34	80.41	77.41	78.35		-11%	-12%
Rights costs	(million €)	7.8	7.1	12.3	17.6	17.7	19.1	18.3	32.1	29.7				-8%	80%
Opportunity cost of capital	(million €)	3.18	11.27	3.33	0.13	- 5.09	6.73	5.94	2.80	2.09	- 3.83	0.82		-25%	-41%
Tangible asset value (replacement)	(million €)	475.1	458.3	469.4	420.8	519.7	542.8	577.2	607.9	653.1	627.6	633.5		7%	28%
Fishing rights	(million €)	382	919	786	764	869	969	1,008	1,061	1,609				52%	91%
Investments	(million €)	63.4	75.9	24.7	20.4	331.3	109.8	73.5	40.1	110.1				174%	19%
Financial position	(%)	64.8	60.1	73.2	79.3	58.2	62.5	68.5	64.8	55.4				-14%	-17%
Gross Value Added	(million €)	219.8	187.4	283.8	257.5	245.2	252.3	238.4	313.5	339.7	381.1	368.0		8%	36%
GVA to revenue	(%)	58.4	59.0	66.0	63.0	62.9	62.7	61.8	69.5	70.5	70.8	69.9		1%	12%
Gross profit	(million €)	86.53	70.94	156.73	138.84	138.48	142.11	131.25	199.2	213	242	232		7%	60%
Gross profit margin	(%)	23.0	22.3	36.4	34.0	35.5	35.3	34.0	44.2	44.2	44.9	44.0		0%	34%
Net profit	(million €)	- 13.9	- 30.1	62.6	47.0	50.9	46.1	37.1	106.1	130.6	168.0	152.6		23%	242%
Net profit margin	(%)	- 3.7	- 9.5	14.6	11.5	13.0	11.5	9.6	23.5	27.1	31.2	29.0		15%	207%
GVA per FTE (labour productivity)	(thousand €)	106.7	101.1	157.3	155.0	157.4	152.8	147.3	199.7	205.0	196.7	200.5		3%	39%
Return on fixed tangible assets	(%)	- 2.3	- 4.1	14.0	11.2	8.8	9.7	7.5	17.9	20.3	26.2	24.2		13%	159%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).. Number of vessels in 2017 and 2018 include active vessels only
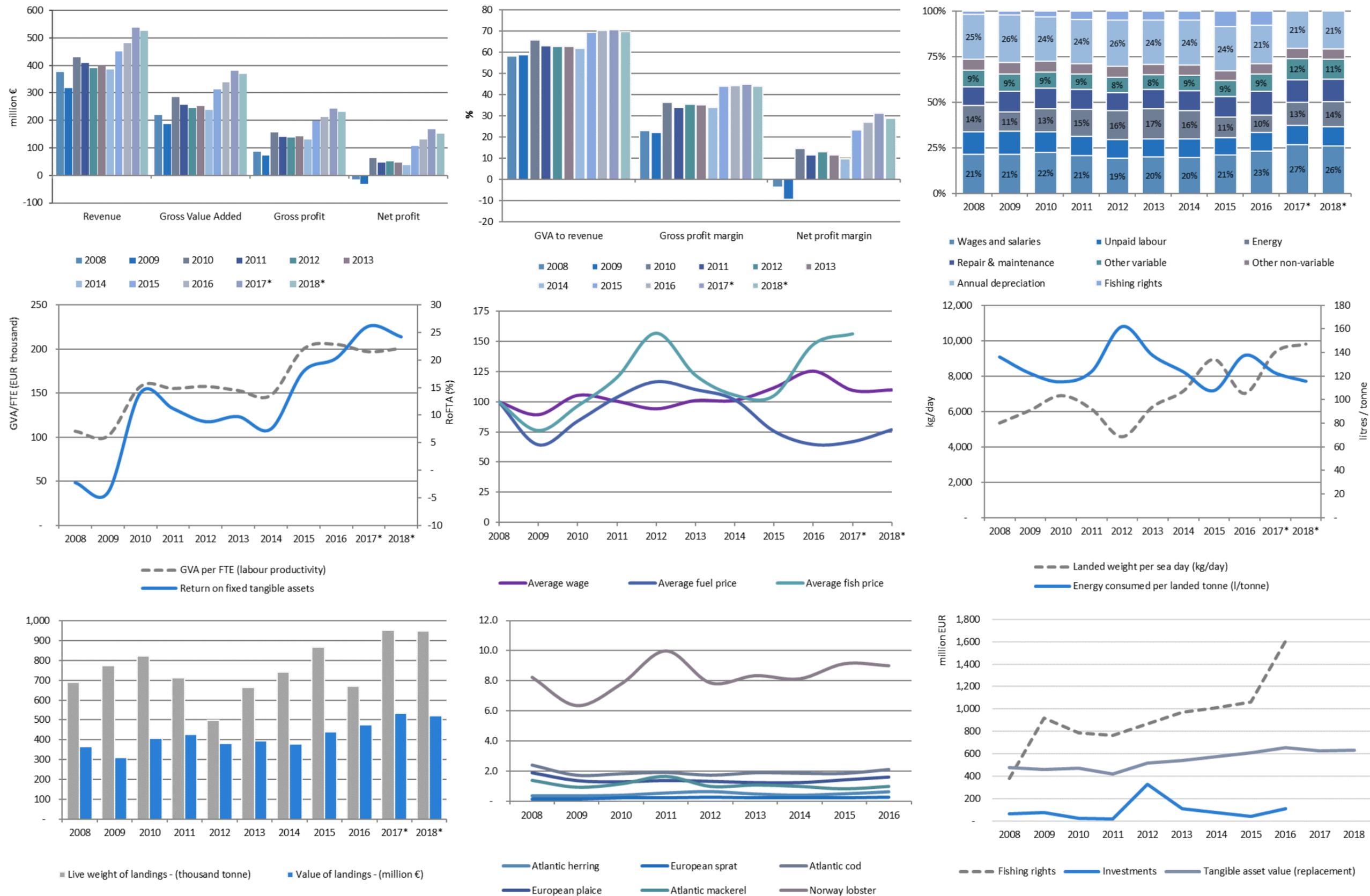
Figure 5.5 Denmark: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital values (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.22 Denmark: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	1228	1203	1118	1102	1075	1025	1004	973	977	940	906		0%	-10%	582	566	521	501	462	456	434	419	397	372	361		-5%	-19%
Vessel tonnage	(thousand GT)	4.4	4.3	4.2	4.2	4.1	3.9	3.8	3.8	3.7				-1%	-9%	59	60	59	59	56	58	63	61	62				0%	3%
Engine power	(thousand kW)	44.9	44.1	44.0	43.7	42.9	41.2	40.9	40.8	40.7				0%	-5%	181	178	171	167	154	156	157	156	153				-2%	-7%
FTE	(#)	379	319	281	276	252	239	225	219	229	207	197		5%	-16%	1682	1535	1523	1385	1307	1413	1394	1351	1428	1730	1639		6%	-1%
Total employed	(person)	420	378	333	342	345	362	307	326	314	297	300		-4%	-11%	1380	1317	1195	1119	1127	1127	1099	1004	1018	962	998		1%	-13%
Days at sea	(thousand day)					45.6	43.6	42.6	39.5	38.8	35.3	33.6		-2%	-9%					63.8	62.6	61.1	57.3	56.7	66.2	62.9		-1%	-7%
Fishing days	(thousand day)					45.3	43.4	42.4	39.5	38.5				-3%	-10%					57.8	58.6	56.8	51.9	50.2				-3%	-11%
Number of fishing trips	(thousand)	55.4	52.6	48.4	49.9	44.9	43.1	42.2	39.1	38.2				-2%	-19%	43.4	43.4	40.9	37.8	37.2	35.7	35.2	32.6	31.8				-2%	-17%
Energy consumption	(million litre)	3.7	3.7	3.2	3.2	3.1	3.0	2.9	2.6	2.3	2.1	2.1		-10%	-26%	90.4	90.9	91.5	84.8	77.9	88.5	88.8	90.7	89.9	114.5	107.5		-1%	2%
Live weight of landings	(thousand tonne)	12.9	11.8	11.2	12.3	11.8	11.2	11.1	10.2	9.9	8.0	7.3		-3%	-15%	677.5	761.2	811.1	698.7	487.5	653.8	730.8	855.7	657.0	942.2	939.6		-23%	-7%
Value of landings	(million €)	32.0	24.8	24.6	26.9	24.9	23.3	21.6	22.2	24.7	21.9	21.9		11%	-1%	334.7	285.5	383.7	400.3	358.0	372.0	358.3	418.1	450.7	510.4	498.1		8%	24%
Income from landings	(million €)	31.2	23.3	22.8	24.6	25.3	23.6	22.0	22.3	24.8	22.0	22.0		11%	2%	330.7	282.8	388.6	374.9	356.7	371.3	358.1	418.0	449.8	509.4	497.1		8%	25%
Other income	(million €)	1.6	1.9	3.5	1.2	2.0	2.4	1.1	1.0	0.6	0.5	0.5		-42%	-68%	13.0	9.9	15.1	7.7	6.1	5.0	4.4	9.7	6.6	6.4	6.5		-32%	-26%
Direct income subsidies	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-100%	0.2	0.0	0.1	0.2	0.5	0.0	0.1	0.0	0.0				-100%	-100%
Income from leasing fishing rights	(million €)				1.6	0.6	1.1	0.7	1.3	0.8				-42%	-28%				6.7	8.5	24.8	15.8	20.9	22.1				5%	44%
Wages and salaries of crew	(million €)	3.7	3.1	2.3	3.0	2.6	3.1	2.6	2.5	2.7	2.4	2.4		10%	-4%	81.0	70.4	81.7	75.1	67.0	70.0	68.8	76.8	85.2	97.0	94.5		11%	15%
Unpaid labour value	(million €)	17.0	14.2	13.2	11.7	11.4	10.8	10.8	10.4	10.7	9.5	9.5		2%	-14%	31.6	28.8	29.8	28.9	25.7	26.3	25.0	24.6	28.0	30.6	29.8		14%	2%
Energy costs	(million €)	2.4	1.7	1.8	2.3	2.5	2.2	1.9	1.4	1.4	1.3	1.4		-2%	-33%	54.4	35.1	46.2	52.8	54.6	58.7	54.4	41.3	34.7	45.9	49.4		-16%	-30%
Repair & maintenance costs	(million €)	5.3	4.2	3.8	4.2	3.8	3.9	3.7	3.4	5.0	4.7	4.5		47%	23%	35.4	34.6	37.8	38.1	32.7	34.4	35.8	38.2	43.9	42.0	42.0		15%	22%
Other variable costs	(million €)	4.5	3.3	3.2	3.1	4.2	3.9	4.0	3.8	4.2	3.8	3.6		11%	13%	30.9	29.1	30.9	29.1	26.1	26.2	26.9	29.4	31.6	39.3	37.1		8%	11%
Other non-variable costs	(million €)	3.9	3.5	3.5	3.4	3.7	3.3	2.5	2.6	2.7	2.6	2.5		4%	-17%	19.9	18.8	19.2	17.9	17.2	17.5	17.9	17.3	18.5	17.6	17.6		6%	1%
Annual depreciation costs	(million €)	7.1	5.8	4.7	4.3	4.6	4.1	4.3	3.3	3.2	3.0	2.9		-4%	-33%	90.2	84.0	86.2	87.4	88.0	85.1	83.9	87.0	77.2	74.4	75.5		-11%	-11%
Rights costs	(million €)	0.5	0.5	0.5	0.6	1.1	0.8	0.8	1.1	1.1				-2%	47%	7.2	6.7	11.8	16.9	16.6	18.3	17.5	31.0	28.6				-8%	82%
Opportunity cost of capital	(million €)	0.3	0.8	0.2	0.0	-0.4	0.5	0.4	0.2	0.1	-0.2	0.0		-33%	-61%	2.9	10.4	3.1	0.1	-4.7	6.2	5.5	2.6	2.0	-3.6	0.8		-25%	-39%
Tangible asset value (replacement)	(million €)	42.3	34.3	32.4	28.8	37.1	44.2	39.6	33.2	32.0	30.1	28.8		-4%	-12%	432.8	424.0	437.0	392.0	482.5	498.7	537.5	574.8	621.1	597.5	604.7		8%	31%
Fishing rights	(million €)	6.6	52.1	34.7	40.3	39.6	34.2	33.8	35.6	66.6				87%	93%	375.2	866.8	750.9	723.5	829.2	935.2	974.3	1025.2	1542.9				50%	90%
Investments	(million €)	5.0	3.0	3.0	2.3	7.0	1.9	0.8	0.0	-4.3					-249%	58.5	73.1	22.3	20.8	324.3	126.1	93.9	58.9	114.3				94%	18%
Gross Value Added	(million €)	16.6	12.3	14.0	12.8	13.1	12.7	10.9	12.1	12.0	10.2	10.5		0%	-8%	203.2	175.1	269.7	244.7	232.1	239.6	227.4	301.4	327.7	370.9	357.5		9%	38%
GVA to revenue	(%)	50.8	49.1	53.4	49.6	48.0	48.8	47.4	51.8	47.5	45.1	46.7		-8%	-5%	59.1	59.8	66.8	63.9	64.0	63.7	62.7	70.5	71.8	71.9	71.0		2%	13%
Gross profit	(million €)	-4.1	-5.0	-1.4	-1.9	-0.9	-1.2	-2.4	-0.9	-1.4	-1.8	-1.4		-59%	39%	90.6	75.9	158.2	140.7	139.4	143.3	133.7	200.1	214.4	243.4	233.2		7%	59%
Gross profit margin	(%)	-12.5	-19.8	-5.5	-7.3	-3.3	-4.5	-10.4	-3.7	-5.4	-7.9	-6.3		-46%	36%	26.4	25.9	39.2	36.8	38.4	38.1	36.9	46.8	47.0	47.2	46.3		0%	30%
Net profit	(million €)	-11.4	-11.6	-6.3	-6.2	-5.2	-5.8	-7.2	-4.4	-4.7	-4.6	-4.3		-7%	36%	-2.5	-18.5	68.9	53.2	56.1	52.0	44.3	110.4	135.2	172.6	156.9		22%	197%
Net profit margin	(%)	-34.9	-46.0	-24.1	-24.1	-19.0	-22.4	-31.0	-18.7	-18.4	-20.4	-19.2		2%	33%	-0.7	-6.3	17.1	13.9	15.5	13.8	12.2	25.8	29.6	33.5	31.2		15%	160%
Return on fixed tangible assets	(%)	-26.4	-31.3	-18.9	-21.5	-14.9	-11.9	-17.0	-12.7	-14.2	-15.9	-14.9		-12%	26%	0.1	-1.9	16.5	13.6	10.6	11.7	9.3	19.7	22.1	28.3	26.1		12%	122%
GVA per FTE (labour productivity)	(thousand €)	44.0	38.7	50.0	46.3	51.9	53.1	48.6	55.1	52.6	49.0	53.4		-4%	9%	120.8	114.1	177.1	176.6	177.7	169.6	163.2	223.1	229.4	214.4	218.2		3%	39%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015) Number of vessels in 2017 and 2018 include active vessels only

Table 5.23 Denmark: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
DNK A27 TM40XX	22	197	3,343	84	363,359	185,059	189,431	154,228	81.4	125,963	66.5	81,532	43.04	143.2	781.1	24	High	38%	Improved	39.3%
DNK A27 DTS2440	34	303	8,319	421	50,167	73,154	73,635	48,679	66.1	26,683	36.2	16,067	21.82	72.6	160.6	24	High			15.3%
DNK A27 DTS1824	49	236	8,662	207	47,711	49,239	49,249	31,359	63.7	14,872	30.2	7,841	15.92	69.8	132.9	17	Reasonable			10.2%
DNK A27 DTS1218	116	249	14,878	423	19,554	39,374	39,365	23,609	60.0	8,619	21.9	3,782	9.61	60.2	94.9	9	Weak	1134%	Improved	8.2%
DNK A27 DTS40XX	10	64	1,561	95	85,850	30,862	31,238	21,099	67.5	15,276	48.9	11,925	38.18	90.8	328.9	52	High	51%	Improved	6.5%
DNK A27 PMP1824	11	85	2,560	491	6,232	16,527	16,652	11,329	68.0	5,397	32.4	3,232	19.41	69.8	133.3	23	Reasonable	72%	Improved	3.5%
DNK A27 PGP0010	774	132	25,477	168	4,124	12,496	12,908	6,306	48.9	-1,725	-13.4	-3,441	-26.66	61.0	47.9	-21	Weak	17%	Improved	2.7%
DNK A27 PMP1218	34	59	4,012	420	5,147	9,517	9,577	5,317	55.5	1,517	15.8	300	3.14	64.3	90.0	1	Weak	152%	Improved	2.0%
DNK A27 TBB1824	15	54	2,638	1,448	1,512	9,464	9,521	6,426	67.5	3,241	34.0	2,320	24.37	58.8	118.7	24	High	456%	Improved	2.0%
DNK A27 PGP1218	27	70	3,627	236	3,466	9,227	9,277	5,586	60.2	1,444	15.6	247	2.66	59.0	79.5	3	Weak	137%	Improved	1.9%
DNK A27 DRB1218	26	26	1,678	17	40,078	8,941	9,051	6,951	76.8	4,502	49.7	3,543	39.15	94.0	266.6	29	High	831%	Improved	1.9%
DNK A27 TM1218	10	25	981	44	21,523	7,551	7,551	5,260	69.7	2,984	39.5	1,834	24.29	91.2	210.8	17	High	53%	Improved	1.6%
DNK A27 PGP1012	49	44	5,123	225	2,026	5,215	5,398	2,826	52.4	457	8.5	-138	-2.56	53.2	63.5	-2	Weak	85%	Improved	1.1%
DNK A27 TBB1218	10	32	1,691	1,911	658	5,201	5,241	3,561	67.9	1,583	30.2	996	19.01	62.1	111.8	18	Reasonable	309%	Improved	1.1%
DNK A27 PMP1012	32	25	3,351	316	2,539	3,786	3,804	1,737	45.7	309	8.1	-229	-6.01	56.8	69.1	-5	Weak	81%	Improved	0.8%
DNK A27 DRB1012	9	11	489	23	9,458	3,494	3,510	2,780	79.2	1,945	55.4	1,574	44.83	78.1	260.1	38	High	502%	Improved	0.7%
DNK A27 PMP0010	122	28	4,822	320	1,166	3,180	3,246	1,167	35.9	400	12.3	-854	-26.32	56.8	42.3	-14	Weak	28%	Improved	0.7%
DNK A27 DTS1012	14	11	1,513	290	1,791	1,915	1,916	805	42.0	97	5.1	75	3.92	64.5	73.4	2	Weak			0.4%
DNK A27 DTS0010	10	6	795	318	461	1,129	1,155	685	59.3	288	24.9	97	8.40	68.4	118.0	1	Weak	123%	Improved	0.2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.24 Denmark: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
DNK A27 TM40XX	21	239	4,045	73	504,389	203,148	207,328	168,704	81.4	137,675	66.4	97,685	47.12	129.9	706.2	28	High	38.5%
DNK A27 DTS2440	34	399	10,963	361	77,156	87,893	88,374	58,231	65.9	31,803	36.0	21,828	24.70	66.2	145.8	31	High	16.4%
DNK A27 DTS1824	46	301	11,058	155	81,271	58,367	58,378	38,124	65.3	18,582	31.8	12,421	21.28	64.9	126.5	28	High	10.8%
DNK A27 DTS40XX	10	119	2,885	111	136,392	43,090	43,308	28,734	66.3	20,604	47.6	17,559	40.54	68.6	242.3	78	High	8.0%
DNK A27 DTS1218	108	286	17,101	281	33,864	42,188	42,178	25,613	60.7	9,552	22.6	5,434	12.88	56.2	89.6	13	Reasonable	7.8%
DNK A27 PMP1824	10	78	2,359	487	5,784	16,216	16,332	11,354	69.5	5,535	33.9	3,636	22.27	74.3	145.0	27	High	3.0%
DNK A27 PGP0010	751	122	23,630	182	3,536	11,414	11,807	5,488	46.5	-1,847	-15.6	-3,365	-28.50	60.1	45.0	-22	Weak	2.2%
DNK A27 TM1218	9	46	1,813	43	41,227	11,780	11,780	8,438	71.6	4,887	41.5	3,915	33.24	77.0	182.9	38	High	2.2%
DNK A27 TBB1824	14	56	2,733	909	2,496	9,961	10,014	6,942	69.3	3,590	35.9	2,813	28.09	59.7	123.7	31	High	1.9%
DNK A27 PMP1218	32	61	4,121	464	4,779	9,025	9,081	4,888	53.8	1,285	14.2	268	2.95	59.4	80.6	2	Weak	1.7%
DNK A27 DRB1218	24	26	1,678	17	40,078	8,941	9,043	7,031	77.7	4,581	50.7	3,798	42.00	94.0	269.7	33	High	1.7%
DNK A27 PGP1218	25	60	3,123	237	2,966	8,434	8,480	5,159	60.8	1,373	16.2	354	4.17	62.6	85.3	3	Weak	1.6%
DNK A27 TBB1218	9	32	1,684	1,937	646	5,165	5,201	3,570	68.6	1,606	30.9	1,111	21.35	61.9	112.6	21	High	1.0%
DNK A27 PGP1012	43	36	4,162	242	1,535	4,182	4,341	2,162	49.8	263	6.0	-216	-4.97	52.5	59.8	-5	Weak	0.8%
DNK A27 DRB1012	8	11	488	23	9,454	3,492	3,506	2,835	80.8	2,000	57.0	1,710	48.77	78.1	265.2	46	High	0.7%
DNK A27 PMP1012	28	24	3,224	401	1,928	3,426	3,442	1,530	44.4	237	6.9	-196	-5.70	53.4	63.2	-6	Weak	0.6%
DNK A27 PMP0010	118	25	4,317	345	969	2,869	2,933	973	33.2	-440	-15.0	-827	-28.19	57.2	39.4	-15	Weak	0.5%
DNK A27 DTS1012	12	11	1,452	373	1,335	1,659	1,660	638	38.4	25	1.5	-104	-6.27	58.2	60.6	-5	Weak	0.3%
DNK A27 DTS0010	10	5	727	327	410	1,076	1,101	658	59.8	280	25.5	182	16.58	71.3	124.2	1	Reasonable	0.2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.25 Denmark: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)									Live weight of landings (thousand tonne)									Average landed price (real) (€)									% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	in value	in weight
Atlantic herring	43.2	38.4	36.3	54.4	93.0	74.1	63.6	68.2	102.7	116.2	105.0	88.9	97.5	142.5	152.5	155.0	135.6	160.2	0.4	0.4	0.4	0.6	0.7	0.5	0.4	0.5	0.6	22%	24%
European sprat	18.5	27.1	41.5	36.2	27.9	21.6	36.6	72.5	59.5	111.9	191.2	185.4	152.3	95.0	86.7	169.9	302.6	222.4	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.3	13%	33%
Atlantic cod	57.2	41.7	49.5	51.9	50.1	39.1	41.9	49.1	49.5	23.6	23.8	26.7	26.9	28.6	20.5	22.3	26.2	23.2	2.4	1.8	1.9	1.9	1.8	1.9	1.9	1.9	2.1	10%	3%
European plaice	33.0	22.1	23.3	28.8	28.1	27.2	25.9	34.5	43.1	17.6	16.1	18.1	20.8	21.4	21.9	20.9	24.3	26.9	1.9	1.4	1.3	1.4	1.3	1.2	1.2	1.4	1.6	9%	4%
Atlantic mackerel	38.1	22.2	48.2	59.2	36.1	36.9	41.9	39.0	40.8	27.3	23.5	41.5	36.0	36.6	34.0	42.2	46.9	41.3	1.4	0.9	1.2	1.7	1.0	1.1	1.0	0.8	1.0	9%	6%
Norway lobster	35.3	28.5	34.3	37.7	29.2	25.4	28.3	25.4	37.7	4.3	4.5	4.4	3.8	3.7	3.0	3.5	2.8	4.2	8.2	6.4	7.8	10.0	7.9	8.4	8.1	9.1	9.0	8%	1%
Common shrimp	13.8	7.2	7.7	5.5	11.6	11.9	11.3	7.0	13.7	3.4	3.1	3.1	3.0	3.1	2.8	3.1	2.1	1.6	4.1	2.3	2.5	1.8	3.7	4.2	3.6	3.3	8.4	3%	0%
Blue whiting(=Poutass	2.9	-	0.0	0.0	0.0	0.8	7.4	10.8	12.3	18.1	0.3	0.2	0.2	0.3	2.2	35.3	45.1	39.1	0.2	0.0	0.0	0.0	0.1	0.4	0.2	0.2	0.3	3%	6%
Northern prawn	6.7	7.7	7.3	9.3	9.5	10.4	10.0	11.8	11.2	2.3	2.2	1.3	1.5	1.5	2.1	2.5	2.7	2.2	3.0	3.6	5.8	6.1	6.4	4.9	4.1	4.5	5.1	2%	0%
Angler(=Monk)	7.5	7.6	7.5	6.5	6.3	5.9	6.2	7.2	10.0	1.6	1.7	1.6	1.4	1.4	1.3	1.4	1.7	2.5	4.7	4.4	4.7	4.7	4.4	4.4	4.3	4.3	4.0	2%	0%
																												80%	79%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.6 Estonia

Short description of the national fleet

Fleet capacity

In 2017, the Estonian Baltic Sea fishing fleet consisted of 1 589 registered vessels, with a combined gross tonnage of 5.7 thousand GT and engine power of 31.3 thousand kW. Total number of vessels continued to increase compared to previous years. If the number of open sea trawlers increased by one vessel, then 40 boats were added to the SSCF fleet. Due to fishing capacity had been released in large-scale segments, the Ministry of Rural Affairs have decided to use that capacity to meet the additional need of small-scale fishing boat entry into the register.

Fleet structure

The Estonian Baltic Sea fishing fleet is nationally divided into a large-scale fleet (32 vessels, forming 2% of total vessels in 2017) and a small-scale coastal fleet (1 557 vessels, forming 98% of total vessels in 2017). The large-scale fleet operates outside the coastal zone. The fleet is using mainly pelagic trawls and is divided into two size groups (12-18 meters and 24-40 meters). The SSCF operates in Estonian coastal waters using mainly passive gears and is also divided into two size groups (0-10 meters and 10-12 meters).

Employment

Employment was estimated at 2 107 jobs, corresponding to 457 FTEs in 2016. The total employed number decreased 6%. The big difference between numbers of total employed and FTE refers that there are many persons in the sector for whom fishing is not the only source of income. It mainly concerns the small scale fishery. The average age of employees is around 50 years.

Effort

An estimated 72 thousand days were spent at sea in 2016. The amount of energy consumed decreased 15%, which is related to the decrease in the number of days at sea. This also led to the reduction in energy costs despite the higher fuel prices in 2016.

Production

The live weight landed by the Estonian Baltic Sea fleet in 2016 was 60.5 thousand tonnes of seafood, with a landed value of EUR 14.6 million. The total weight of landings and the total value of landings remained rather stable in 2016 compared to 2015.

In 2016, Atlantic herring generated the highest value (EUR 6.4 million) landed by the Estonian Baltic Sea fleet, followed by European sprat (EUR 4.2 million) and European perch (EUR 2.6 million). In terms of landings weight, Atlantic herring landings were 33.8 thousand tonnes, European sprat 23.7 thousand tonnes and European perch 1.4 thousand tonnes.

Economic results for 2016 and recent trends

National fleet performance

The Estonian national fleet was profitable in 2016, despite of low first sales prices for key species as herring and sprat. Revenue, estimated at EUR 14.8 million in 2016, remained stable. The decrease in the number of days at sea led to the reduction in energy costs and in repair & maintenance costs, 22% and 10%, respectively. Also wages and salaries costs of crew decreased 10%. The total operating cost decreased by 7%. When including capital costs, total costs amounted to EUR 12 million.

Gross Value Added (GVA), gross profit and net profit were estimated at EUR 9.9 million, EUR 4.5 million and EUR 2.9 million, respectively. Compared to 2015, these indicators increased 6%, 24% and 68%, respectively, showing improvement in the economic performance.

The (depreciated) replacement value of the Estonian fleet was estimated at EUR 18.5 million in 2016 and investments amounted to EUR 1.8 million, which was 31% lower compared to 2015.

Overall, the cost structure has remained relatively constant over the years, with apparent decrease in energy costs.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 30.7%. Net profit margin was estimated at 19.6%, a 68% increase compared to 2015.

The Rate of Return on Fixed Tangible Assets (RoFTA) increased to 15.3%, a 62% in comparison to 2015.

Labour productivity (GVA/FTE) continued its positive development since 2012, when this indicator reached its lowest level between 2008 and 2016.

Fuel consumption per landed tonne has followed rather decreasing trend compared to 2008, with 46 litres per tonne in 2016. While, landings in weight per unit of effort (in days at sea) increased in 2015 and 2016, with 841 kg per sea day.

Socioeconomic impact

The Estonian fish processing industry has been highly dependence on export which share amounts to 70%. Historically the eastern market has been a most important destination for sprat and herring. Therefore, there is no doubt that the loss of the Russian market in 2014 still has a socio-economic impact on the Estonian fisheries sector. The loss of the Russian market led to a fall in the average first-sale prices of two key species as herring and sprat which directly affects the income of fishers and also the investment capability.

Performance by fishing activity

Large-scale fleet

The large-scale fleet operates outside the coastal zone using mainly pelagic trawls. The fleet targets pelagic species such a sprat and herring. The live weight landed by the large-scale fleet in 2016 was 48.9 thousand tonnes of seafood, with a landed value of EUR 9 million. The fleet has been profitable. In 2016, the weight of landings increased 3% compared to 2015. At the same time, the value of landings decreased 2%. The main reason of this was the fall in the first-sale prices for a sprat. Total operating costs decreased mainly due to the 11% fall in wages and salaries of crew and 28% fall in energy costs. But also a 19% decrease in repair & maintenance costs was significant. The reduction in these cost variables can be explained by the decrease in the sea days. When including capital costs, total costs amounted to EUR 7.1 million in 2016. Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 6.5 million, EUR 3.1 million and EUR 1.9 million, respectively. GVA, gross profit and net profit increased 3%, 26% and 83%, respectively. These results indicate improvement in the economic situation compared to 2015. The (depreciated) replacement value of the large-scale fleet was estimated at EUR 10.3 million and investments amounted to EUR 0.8 million, decreased 52% compared to 2015.

Small-scale coastal fleet

The small-scale coastal fleet operates in Estonian coastal waters using mainly passive gears. The largest catches taken in 2016 were of herring, followed by perch, flounder, garfish and smelt. The live weight landed by the SSCF in 2016 was 11.6 thousand tonnes of seafood, with a landed value of EUR 5.6 million. The fleet has been profitable. Total operating costs decreased slightly mainly due to the 9% decrease in energy costs. When including capital costs, total costs amounted to EUR 4.9 million in 2016. Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 3.4 million, EUR 1.4 million and EUR 1 million, respectively. GVA, gross profit and net profit increased 12%, 21% and 46%, respectively. These results indicate improvement in the economic situation compared to 2015. The (depreciated) replacement value of the SSCF was estimated at EUR 8.2 million and investments amounted to EUR 1 million, a 3% increase compared to 2015.

Performance results of selected fleet segments

The 24-40 meter pelagic trawlers are the most important segment in the Estonian fishing fleet in the Baltic Sea. In 2016 this fleet segment consisted of 25 active vessels accounting for a total of 3 412 GT and 8 219 kW. The number of vessels decreased by one compared to 2015. Employment in 2015 was estimated at 143 jobs, corresponding to 120 FTEs. The segment targets pelagic species such as sprat and herring. The total value of landings was EUR 8.8 million in 2016. The fleet segment was profitable. GVA, gross profit and net profit in 2016 were estimated at EUR 6.4 million, EUR 3.1 million and EUR 1.9 million, respectively.

The segment with the highest number of vessels and employment in the Estonian fleet is the 0-10 meter passive gears segment that operates in the coastal fishery. In 2016, this segment consisted of 1 434 vessels accounting for a total 1 639 GT and 17 487 kW. The number of vessels in this segment increased between 2015 and 2016. The employment in 2016 was estimated at 1 637 jobs, corresponding to 222 FTEs. The fleet targets mostly freshwater species, such as perch, pikeperch, but also marine species such as flounder and herring. The total value of landings was EUR 4.1 million in 2016. The fleet segment was profitable. GVA, gross profit and net profit in 2016 were estimated at EUR 2.3 million, EUR 1 million and EUR 0.7 million, respectively.

Drivers affecting the economic performance trends

Changes in effort variables and in average first-sale prices of some key species were the main driving forces behind the economic performance in 2016. The decrease in the number of days at sea led to the reduction in total energy costs despite the higher fuel prices in 2016. Less sea days also reduced repair & maintenance costs.

The average price for sprat fell further in 2016 and this affected the income of large-scale fleet. On the other hand the income of the small-scale coastal fleet increased despite the lower weight of landings in 2016. The main driver for this was a 17% rise in the average first-sale price of perch.

Markets and Trade

Key species as sprat and herring were mainly landed at Estonian ports, where the catch was sold to fish freezing or processing companies, unless the fishing company itself was engaged in the processing and marketing of fish. Fish was also landed at ports in Sweden, Latvia, Finland and Denmark. Compared to 2015, the proportion of fish landed at foreign ports increased, rising from 10% to 12% of the catch in 2016, with fish no longer being landed at Polish ports.

Trends in trade were still affected by the loss of Russian market. If we look at sales of trawling companies' production in 2016, then the sales to the Member States of the European Union more than doubled. Sales to Denmark, Finland and Sweden increased, in particular. The main export market for fish and fishery products continued to be Ukraine, although the export volume to Ukraine decreased by 20% in 2016. Large quantities of fish were also sold to Belarus.

The loss of the Russian market influenced the price of sprat and herring. If in 2013 the average first-sale prices of herring and sprat were EUR 0.23 and EUR 0.22 per kilogram, respectively, then in 2015 an average of EUR 0.19 per kilogram was paid for each species. During the next two years, the price of sprat and herring fell further to EUR 0.18 per kilogram.

Management instruments

The main management measures in Estonia are landings volume quotas (ITQs) in the open water fisheries (trawling) and gear usage quotas (ITE; individual transferable effort) in the coastal fisheries. Fishing quotas are allocated according to the historic fishing rights. The Estonian experience shows that ITQs can be considered an effective method for increasing the allocation of fishing rights to the most efficient enterprises and speeding the process of reducing excessive fleet capacity. The size of the large-scale fleet decreased 50% between 2008 and 2017 (from 64 to 32 vessels). The main reason for that change was capacity reduction to achieve balance between the size of the fishing fleet and fishing opportunities.

TACs and quotas

Herring, sprat and cod have been main internationally regulated/managed fish species targeted by the Estonian Baltic Sea fishing fleet. In 2016, the Estonian trawl fleet's final sprat and herring quotas (after exchanges and transfers) were 24 925 and 27 542 tonnes, respectively. The sprat catch quota declined by 5%, dropping to the lowest level of the last decade. By contrast, the herring quota increased by 8%, reaching its highest level in the last decade. Given the difficulties faced in the sales of fish, quota uptake rates remained high, amounting to 90% for herring and 95% for sprat. Fishing for cod by the Estonian trawlers was almost non-existent in 2016. The cod quota uptake rate was less than 1%. The final herring quota (after exchanges and transfers) for the Estonian coastal fishers were 11 674 tonnes in 2016. Quota uptake rate amounted to 76%.

Status of Key Stocks

International acoustic surveys of pelagic fish stocks conducted in the Baltic Sea in recent years show that stocks have declined mainly in the southern part of the Baltic Sea and that the lion's share of stocks

is now located in the central and north-eastern parts of the sea. Thus, the current status of the sprat stock in the economic zone of Estonia can still be regarded as relatively satisfactory. However, it should be noted that fishing prospects still depend on the overall status of the stock in the Baltic Sea, i.e., the relatively better situation in our waters does not automatically mean better fishing opportunities for our fishers.

Unlike sprat, which is treated as a single stock unit, i.e., population across the Baltic Sea, in the case of herring the state of stocks is assessed and advice for exploitation is given for four stock units in different subdivisions of the Baltic Sea. Only two stock units, Central Baltic herring and Gulf of Riga herring, are offering more interest to Estonian fishers. The current status of these herring stocks is regarded as relatively satisfactory.

There is still no commercial cod resource in Estonian waters. Fishing for cod was almost non-existent in 2016. The cod quota uptake rate, which was 98% in 2011, declined significantly in subsequent years and was less than 1% in 2016. The poor uptake was explained by the scarcity of cod, which made it economically unfeasible to fish for it.

Perch is the most important species in coastal fishery. The perch catches have been relatively stable in recent years, although according to researchers estimate the perch stock is not managed in the most rational way.

Operational costs

Crew costs, energy costs and repair & maintenance costs were three most important categories of operational costs in 2016. Main changes took place in energy costs, decrease 22%. Crew costs and repair & maintenance costs decreased 10% both. The total operating cost decreased by 7%. The average fuel price in 2016 was EUR 0.64 per litre, which is EUR 0.05 per litre higher than in 2015.

Innovation and Development

Innovative and development activities are related to modernization of fishing vessels and ports, but also improvements of fishing gears. For example, in order to reduce fuel consumption old trawl nets are replaced with new ones which have lower resistivity. In order to enhance the protection of fish stocks through the implementation of technical measures, the selectivity and fishing capacity of various commercial fishing methods and types of gear are studied in collaboration with local scientists. A study has also been directed to the mitigation of negative impact of seals in the Estonian coastal fisheries using AHD's (Acoustic Harassment Device) and seal-proof netting material.

Projections for 2017 and outlook

According to the preliminary data the economic performance is rather stable in 2017 compared to 2016. Although the total weight of landings increased by 7% in 2017, the total value of landings remains stable. The main reason of this is the fall in the first-sale prices for a herring and sprat. Total operating costs make a slight rise due to the increase in fuel price.

The loss of the Russian market is a main driver affecting the economic performance of the Estonian fisheries sector in 2016 and 2017. The difficulties in finding new markets for two key species (sprat and herring) keep the fish at low prices. Although the final total quota for sprat and herring remains stable, then in connection with a marketing problem the fishers cannot get out the entire quota. The situation has mainly an impact to the performance of large-scale fleet. However, the export capacity should improve in 2018 after the completion of the new fishmeal and oil factory in Estonia at the middle of 2018. Increased competition will allow fishers to ask for higher price for raw fish material.

MODEL FORECAST

Preliminary results for 2017 forecast a 7% increase in landed weight, matched by a 1% decrease in landed value. Projections suggest slight operating costs increase, most notably energy costs which are estimated to increase by 10%. However, other estimated cost variables show rather decreasing trend. According to the estimations, GVA, gross profit and net profit increased in 2017, 4%, 3% and 20%, respectively.

Results indicate that the Estonian fleet operated at a profit in 2017: with an estimated net profit margin of 23%. GVA to revenue and gross profit margin remained quite stable, while GVA per FTE, estimated at EUR 23 100 in 2017 increased 7%.

Data issues

The data concerning economic variables were collected as listed and defined in Appendix VI of Commission Decision 2008/949/EC. For economic variables included in the Estonian Fisheries Information System (EFIS) (which includes logbook data and the fishing vessel register) data were collected on all members of the population. For other economic variables questionnaires were sent out. It is important to mention that all these surveys have been carried out on a voluntary basis. Due to confidentiality issues, the data for the distant water fleet (DTS VL40XX) are not reported. There were only two owners operating with 5 vessels in this segment in 2016.

Table 5.26 Estonia: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	954	955	939	928	917	1,343	1,514	1,534	1,552	1,589	1,641		1%	37%
Number of Inactive vessels_ms	(#)	10	18	10	10	9	7	1	2	4	2			100%	-52%
Vessel tonnage	(thousand GT)	7.6	7.6	7.0	6.4	6.0	6.1	6.0	5.9	5.8	5.7			-2%	-12%
Engine power	(thousand kW)	30.3	30.4	28.7	26.9	26.1	30.6	32.1	31.8	31.5	31.3			-1%	6%
Total employed	(person)	3,002	1,899	1,948	1,993	2,046	2,046	2,070	2,242	2,107	2,135	2,146		-6%	-2%
FTE	(#)	699	541	521	524	540	514	497	485	457	444	447		-6%	-15%
Days at sea	(thousand day)	88.5	93.6	80.3	66.8	63.9	86.8	94.5	84.8	72.0	63.3	63.5		-15%	-13%
Fishing days	(thousand day)	135.7	147.5	125.5	104.2	100.2	143.0	162.9	151.6	148.2	119.5			-2%	11%
Number of fishing trips	(thousand)	87.0	92.7	79.7	65.8	63.1	86.4	94.2	84.5	71.7	63.0			-15%	-12%
Energy consumption	(million litre)	5.4	5.0	4.3	3.9	3.7	2.7	2.8	3.3	2.8	3.1	3.1		-16%	-29%
Live weight of landings	(thousand tonne)	83.5	83.5	79.6	63.4	53.3	54.6	54.8	59.3	60.5	64.5	74.4		2%	-9%
Value of landings	(million €)	18.4	16.9	14.7	15.1	14.6	15.5	14.5	14.5	14.6	14.5	15.7		1%	-6%
Income from landings	(million €)	18.4	16.9	14.7	15.1	14.6	15.5	14.5	14.5	14.6	15.2	15.7		1%	-6%
Other income	(million €)	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2		-5%	33%
Direct income subsidies	(million €)	0.01	0.01	0.01	-	-	-	-	-	-					-100%
Income from leasing fishing rights	(million €)	0.00	0.01	0.01	0.02	0.04	0.01	0.01	0.01	0.04				345%	194%
Wages and salaries of crew	(million €)	5.2	4.9	4.5	4.1	4.3	4.1	4.4	4.7	4.2	4.5	4.6		-10%	-7%
Unpaid labour value	(million €)	0.9	0.7	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.2		12%	27%
Energy costs	(million €)	3.8	2.5	2.8	3.2	3.2	2.1	1.9	1.8	1.4	1.5	1.7		-22%	-48%
Repair & maintenance costs	(million €)	1.0	1.5	1.6	1.8	1.6	2.2	1.4	1.7	1.5	1.6	1.6		-10%	-5%
Other variable costs	(million €)	1.7	1.7	1.6	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.5		5%	2%
Other non-variable costs	(million €)	0.6	0.7	0.6	0.7	0.5	0.8	0.7	0.5	0.5	0.5	0.5		-1%	-21%
Annual depreciation costs	(million €)	1.5	1.8	1.9	1.6	1.3	1.8	1.9	1.9	1.7	1.7	1.7		-8%	0%
Rights costs	(million €)	-	0.05	0.03	0.02	0.04	0.06	0.06	0.06	0.08				19%	86%
Opportunity cost of capital	(million €)	- 0.42	1.51	0.66	0.08	0.08	0.07	0.41	0.06	- 0.08	- 0.55	- 0.48		-240%	-126%
Tangible asset value (replacement)	(million €)	19.2	19.5	20.6	18.9	17.2	18.3	19.2	19.0	18.5	18.6	18.2		-2%	-3%
Fishing rights	(million €)	68.9	67.8	64.8	48.9	39.4	40.5	41.9	45.8	45.1				-1%	-14%
Investments	(million €)	1.0	1.1	1.9	2.4	1.6	2.1	1.6	2.6	1.8				-31%	1%
Financial position	(%)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.0	15.0				-6%	-11%
Gross Value Added	(million €)	11.4	10.6	8.3	8.3	8.2	9.2	9.3	9.4	9.9	10.3	10.6		6%	6%
GVA to revenue	(%)	61.6	62.4	56.0	54.5	55.5	58.9	63.2	63.5	67.0	66.8	66.8		6%	13%
Gross profit	(million €)	5.2	5.0	3.0	3.3	3.0	4.2	3.9	3.7	4.5	4.7	4.9		24%	16%
Gross profit margin	(%)	28.2	29.2	20.4	21.9	20.1	26.6	26.7	24.9	30.7	30.4	30.5		24%	24%
Net profit	(million €)	4.1	1.6	0.5	1.6	1.5	2.2	1.6	1.7	2.9	3.5	3.7		68%	55%
Net profit margin	(%)	22.4	9.6	3.1	10.7	10.5	14.3	11.2	11.7	19.6	22.7	23.0		68%	68%
GVA per FTE (labour productivity)	(thousand €)	16.3	19.6	15.9	15.8	15.1	17.9	18.7	19.3	21.7	23.1	23.8		12%	25%
Return on fixed tangible assets	(%)	19.4	16.1	5.4	9.0	9.4	12.6	10.8	9.4	15.3	15.8	17.5		62%	33%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.
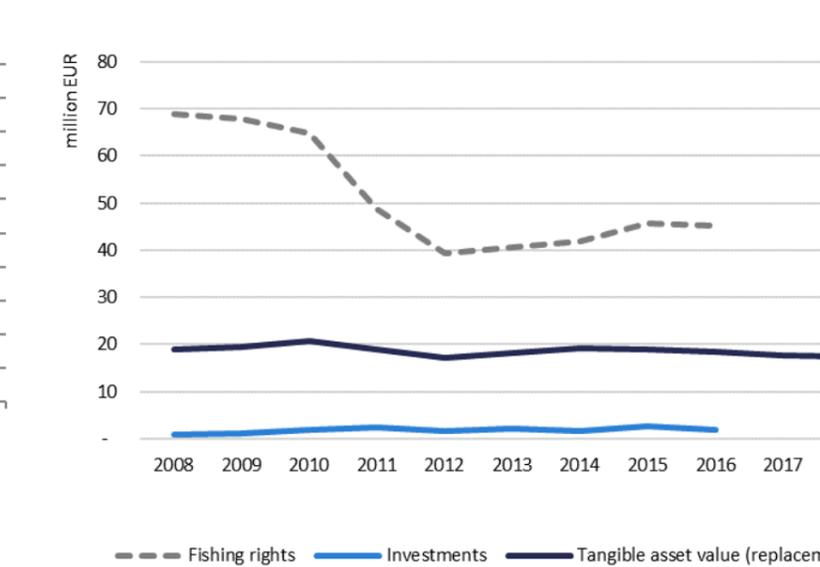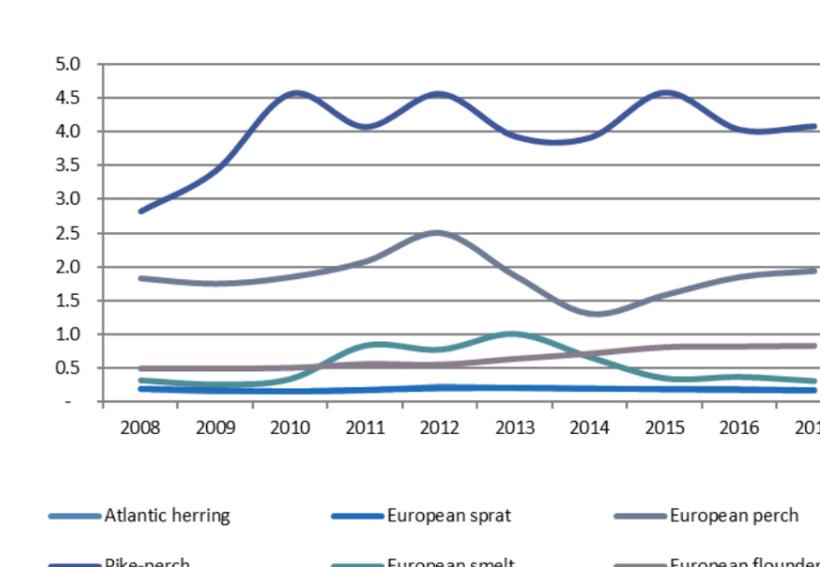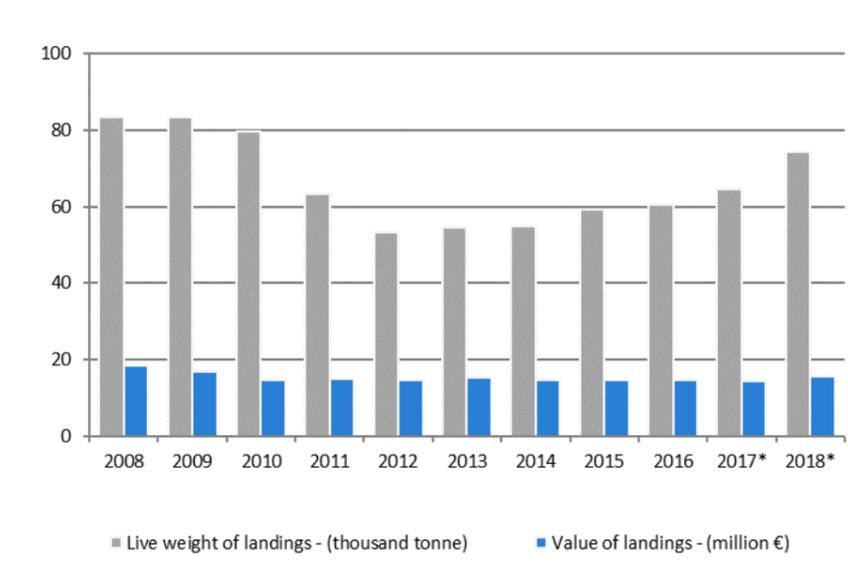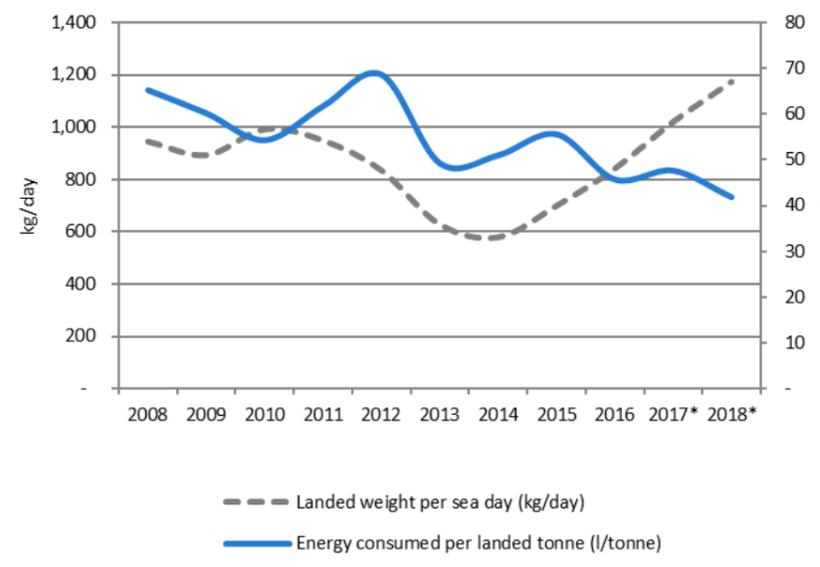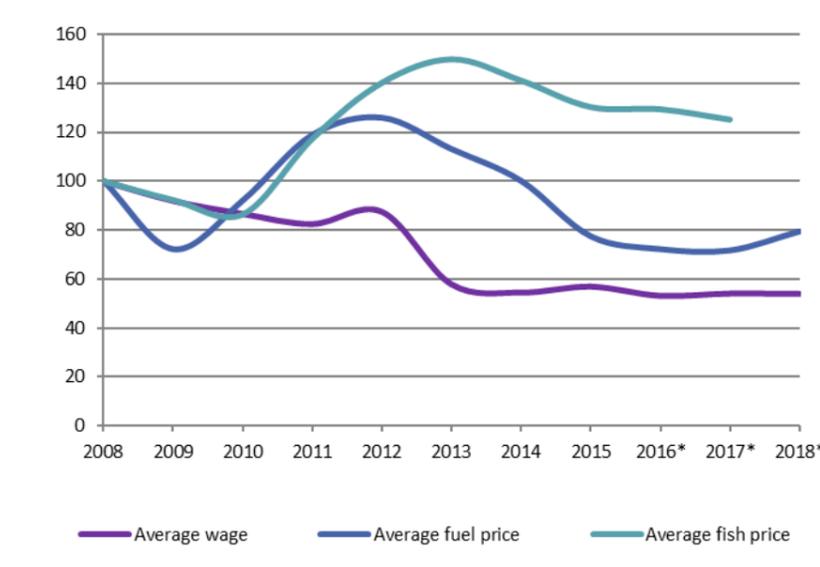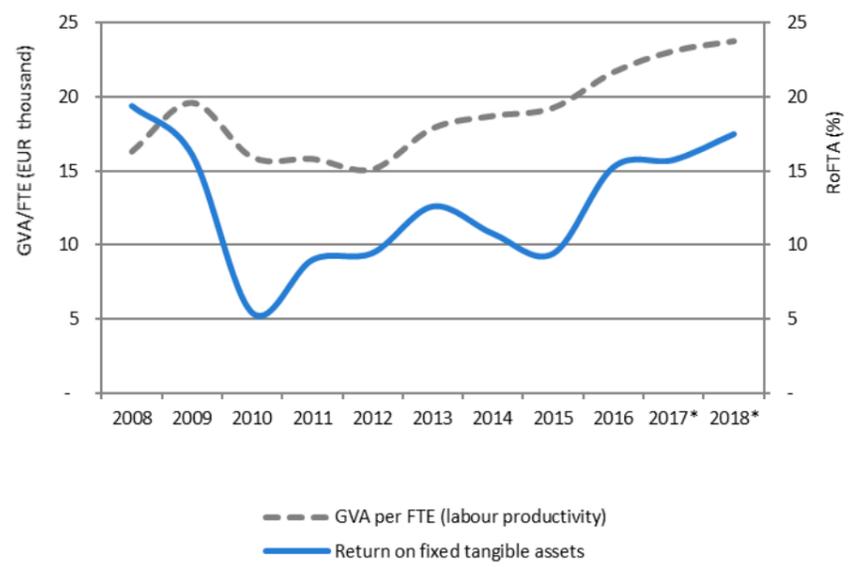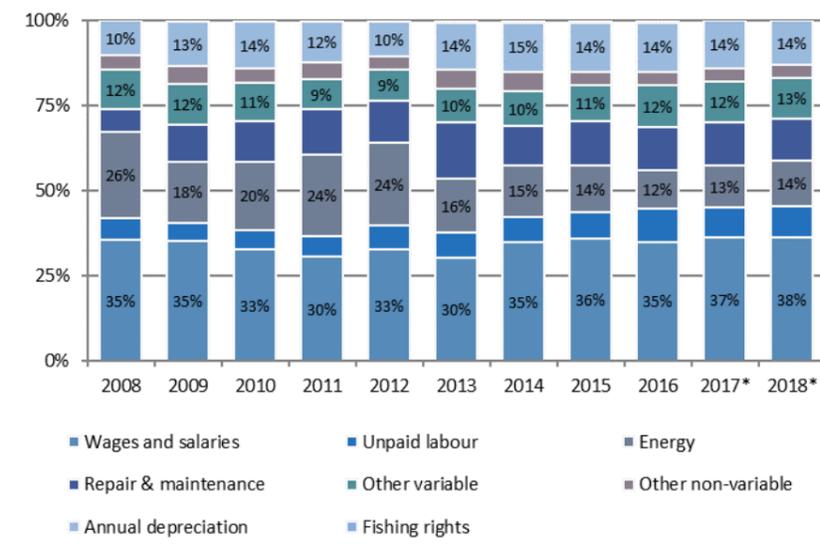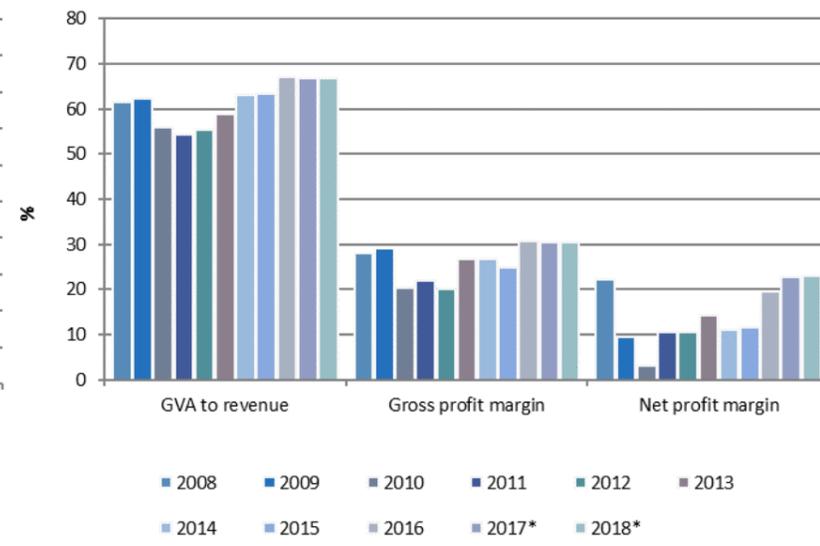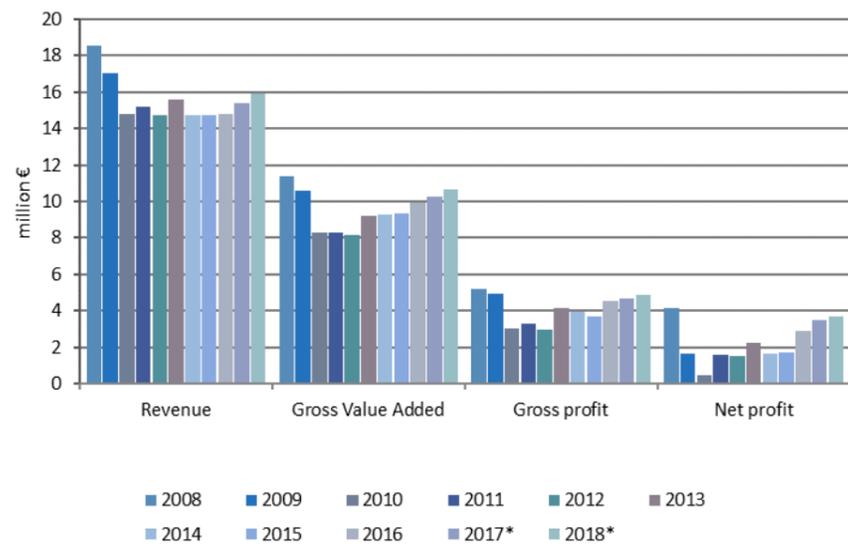
Figure 5.6 Estonia: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital values (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.27 Estonia: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Total number of vessels	(#)	880	884	881	876	872	1,300	1,475	1,498	1,517	1,557	1,614		1%	40%	64	53	48	42	36	36	38	34	31	30	27		-9%	-29%
Vessel tonnage	(thousand GT)	1.8	1.8	1.8	1.7	1.7	2.0	2.2	2.2	2.2	2.2			0%	17%	5.6	5.4	5.0	4.4	4.0	4.0	3.8	3.7	3.5	3.5			-4%	-21%
Engine power	(thousand kW)	14.6	14.6	14.5	14.4	14.6	19.6	22.2	22.2	22.1	22.3			0%	30%	15.0	13.7	12.9	11.2	10.3	10.1	9.8	9.4	9.0	8.8			-5%	-22%
FTE	(#)	444	301	309	320	362	339	333	351	335	300	301		-5%	-3%	255	240	212	204	178	175	164	134	122	143	146		-9%	-38%
Total employed	(person)	2,727	1,646	1,721	1,777	1,858	1,865	1,895	2,075	1,952	1,982	2,003		-6%	0%	275	253	227	216	188	181	175	167	155	153	144		-7%	-26%
Days at sea	(thousand day)	81.2	87.5	75.1	62.1	59.7	83.5	91.1	81.0	68.8	59.7	59.9		-15%	-11%	7.3	6.1	5.2	4.7	4.2	3.3	3.4	3.9	3.1	3.6	3.7		-19%	-34%
Fishing days	(thousand day)	128.8	141.9	120.7	100.1	96.1	139.8	159.7	148.0	145.3	116.1			-2%	12%	6.9	5.6	4.8	4.2	4.0	3.2	3.2	3.6	2.9	3.4			-20%	-35%
Number of fishing trips	(thousand)	81.2	87.5	75.1	62.1	59.7	83.5	91.1	81.0	68.8	59.7			-15%	-11%	5.8	5.1	4.6	3.6	3.4	2.9	3.1	3.6	2.8	3.3			-20%	-29%
Energy consumption	(million litre)	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.7	0.7	0.6	0.6		-8%	16%	4.8	4.5	3.7	3.3	3.1	2.2	2.3	2.6	2.1	2.5	2.5		-18%	-37%
Live weight of landings	(thousand tonne)	12.6	14.0	11.2	10.4	8.7	9.6	10.4	12.0	11.6	10.8	11.4		-4%	4%	70.9	69.5	68.3	53.0	44.5	44.9	44.4	47.3	48.9	53.6	62.9		3%	-12%
Value of landings	(million €)	4.1	4.1	3.9	4.2	4.8	5.6	5.1	5.4	5.6	5.3	5.7		4%	21%	14.3	12.8	10.8	10.9	9.7	9.8	9.5	9.1	9.0	9.2	10.0		-2%	-17%
Income from landings	(million €)	4.1	4.1	3.9	4.2	4.8	5.6	5.1	5.4	5.6	5.5	5.7		4%	21%	14.3	12.8	10.8	10.9	9.7	9.8	9.5	9.1	9.0	9.7	10.0		-2%	-17%
Other income	(million €)	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2		0%	56%	0.09	0.02	0.05	0.01	0.02	-	0.01	0.02	0.01	0.01	0.01		-52%	-67%
Direct income subsidies	(million €)	0.0	0.0	0.0	-	-	-	-	-	-					-100%	-	-	-	-	-	-	-	-	-					
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				345%	194%
Wages and salaries of crew	(million €)	0.6	0.5	0.5	0.5	0.6	0.6	0.7	0.9	0.8	0.9	0.9		-3%	42%	4.7	4.4	4.0	3.6	3.7	3.5	3.7	3.8	3.4	3.6	3.8		-11%	-14%
Unpaid labour value	(million €)	0.9	0.7	0.7	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.2		12%	30%	-	-	0.05	0.04	0.05	0.00	0.01	-	-	-	-			-100%
Energy costs	(million €)	0.7	0.5	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5		-9%	-16%	3.1	2.0	2.1	2.5	2.5	1.5	1.4	1.2	0.9	1.0	1.2		-28%	-58%
Repair & maintenance costs	(million €)	0.6	0.6	0.6	0.6	0.6	1.0	1.0	1.0	1.0	1.0	1.0		-4%	27%	0.4	0.9	1.0	1.2	1.0	1.2	0.5	0.7	0.6	0.6	0.6		-19%	-32%
Other variable costs	(million €)	0.4	0.5	0.4	0.4	0.4	0.8	0.8	0.8	0.8	0.7	0.7		-5%	35%	1.3	1.2	1.1	0.8	0.8	0.5	0.5	0.6	0.7	0.8	0.8		18%	-19%
Other non-variable costs	(million €)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1		0%	55%	0.6	0.7	0.5	0.6	0.5	0.7	0.6	0.4	0.4	0.4	0.4		-1%	-29%
Annual depreciation costs	(million €)	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5		0%	15%	1.1	1.4	1.5	1.3	0.9	1.4	1.4	1.4	1.2	1.2	1.2		-11%	-5%
Rights costs	(million €)	-	-	-	-	-	0.0	0.0	0.1	0.1				-2%	183%	-	0.05	0.03	0.02	0.04	0.01	0.01	0.01	0.0				116%	7%
Opportunity cost of capital	(million €)	-	0.2	0.6	0.2	0.0	0.0	0.0	0.2	0.0	0.2	0.2		-252%	-130%	-	0.23	0.85	0.40	0.05	0.05	0.04	0.26	0.03	0.31	0.26		-232%	-125%
Tangible asset value (replacement)	(million €)	8.2	7.9	7.6	7.1	6.6	7.2	7.2	7.7	8.2	8.2	8.3		6%	10%	10.6	10.9	12.6	11.4	10.3	10.9	11.9	11.2	10.3	10.4	9.8		-8%	-8%
Fishing rights	(million €)	1.8	1.8	1.7	1.6	1.6	1.5	1.6	1.6	1.6				-1%	-4%	67.1	66.0	63.1	47.2	37.8	39.0	40.3	44.2	43.5				-1%	-14%
Investments	(million €)	0.3	0.2	0.3	0.3	0.3	1.0	1.0	1.0	1.0				3%	86%	0.6	0.9	1.6	2.1	1.4	1.1	0.6	1.7	0.8				-52%	-36%
Gross Value Added	(million €)	2.4	2.5	2.1	2.4	3.1	3.4	2.8	3.1	3.4	3.4	3.6		12%	26%	9.0	8.1	6.2	5.8	5.0	5.8	6.5	6.3	6.5	6.8	7.1		3%	-2%
GVA to revenue	(%)	58.0	60.3	54.3	57.2	63.2	58.0	53.4	55.3	59.3	60.3	60.1		7%	3%	62.6	63.0	56.6	53.4	51.7	59.4	68.6	68.4	71.9	70.6	70.7		5%	19%
Gross profit	(million €)	0.9	1.2	0.9	1.2	1.7	1.8	1.1	1.2	1.4	1.5	1.5		21%	16%	4.4	3.7	2.1	2.2	1.3	2.4	2.8	2.5	3.1	3.2	3.3		26%	17%
Gross profit margin	(%)	20.8	29.6	23.9	27.2	34.2	31.0	21.9	21.5	25.0	25.6	25.8		16%	-5%	30.3	29.1	19.2	19.8	13.0	24.0	29.3	26.9	34.4	33.2	33.2		28%	44%
Net profit	(million €)	0.7	0.2	0.3	0.8	1.3	1.3	0.5	0.7	1.0	1.2	1.2		46%	40%	3.5	1.5	0.2	0.9	0.3	1.0	1.1	1.0	1.9	2.3	2.4		83%	63%
Net profit margin	(%)	16.0	5.3	7.7	17.7	25.7	22.2	9.8	12.2	17.1	21.2	21.0		40%	18%	24.1	11.4	1.5	7.9	2.8	9.7	12.0	11.4	21.2	23.6	24.2		86%	110%
Return on fixed tangible assets	(%)	5.8	10.6	7.2	11.1	19.8	18.1	9.2	9.2	11.8	11.8	12.3		28%	3%	30.5	21.1	4.5	8.0	3.1	9.1	11.7	9.6	18.1	18.9	22.0		88%	48%
GVA per FTE (labour productivity)	(thousand €)	5.4	8.3	6.9	7.6	8.6	9.9	8.4	8.8	10.3	11.5	11.8		17%	28%	35.3	33.8	29.0	28.7	28.3	33.4	39.7	46.8	53.0	47.6	48.6		13%	54%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.28 Estonia: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
EST A27 TM2440 °	25	120	2,894	43	48,072	8,831	8,839	6,354	71.9	3,065	34.7	1,904	21.5	27.4	53.0	18.3	High	105%	Improved	60%
EST A27 PG0010	1,434	222	67,871	113	3,961	4,149	4,302	2,320	53.9	1,047	24.3	720	16.7	5.7	10.5	12.4	Reasonable	15%	Improved	29%
EST A27 PG1012	83	113	978	30	7,631	1,469	1,499	1,122	74.9	401	26.7	273	18.2	6.4	9.9	10.3	Reasonable	26%	Improved	10%
EST A27 TM1218	6	2	221	20	860	158	158	116	73.4	33	21.1	8	5.0	41.4	58.1	4.9	Weak			1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.29 Estonia: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
EST A27 TM2440 °	25	142	3,419	47	52,836	9,100	9,516	6,712	70.5	3,171	33.3	2,261	23.8	25.0	47.3	19	High	62%
EST A27 PG0010	1,480	192	58,733	106	3,655	3,784	4,113	2,215	53.9	1,002	24.4	810	19.7	6.3	11.5	11	Reasonable	27%
EST A27 PG1012	77	108	938	30	7,186	1,498	1,592	1,227	77.1	459	28.8	401	25.2	7.1	11.3	14	High	10%
EST A27 TM1218	5	2	173	17	799	138	144	110	76.2	35	23.9	16	11.3	48.1	70.1	10	Reasonable	1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.30 Estonia: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Atlantic herring	6.0	5.4	4.3	4.4	5.1	4.8	4.7	6.2	6.4	6.3	31.8	33.2	28.9	25.3	22.5	21.9	23.1	32.3	33.8	35.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	43%	56%
European sprat	9.7	8.3	7.1	6.4	5.9	6.6	6.0	4.6	4.2	4.6	48.6	47.3	47.9	35.0	28.3	29.8	28.5	24.0	23.7	26.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	29%	39%
European perch	1.3	1.4	1.6	1.7	1.4	2.3	2.2	2.4	2.6	2.5	0.7	0.8	0.9	0.8	0.6	1.2	1.7	1.5	1.4	1.3	1.8	1.8	1.9	2.1	2.5	1.9	1.3	1.6	1.9	1.9	18%	2%
Pike-perch	0.2	0.2	0.3	0.5	0.7	0.5	0.7	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	2.8	3.4	4.6	4.1	4.6	3.9	3.9	4.6	4.0	4.1	3%	0%
European smelt	0.24	0.21	0.16	0.17	0.32	0.52	0.16	0.16	0.26	0.1	0.74	0.77	0.45	0.20	0.41	0.52	0.23	0.44	0.70	0.4	0.3	0.3	0.4	0.8	0.8	1.0	0.7	0.4	0.4	0.3	2%	1%
European flounder	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.8	0.8	0.8	1%	0%
Sea trout	0.03	0.02	0.02	0.04	0.06	0.06	0.04	0.08	0.10	0.1	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.0	2.4	1.7	1.9	3.3	3.7	4.0	2.9	4.9	4.8	6.6	1%	0%
European whitefish	0.06	0.05	0.05	0.03	0.06	0.08	0.10	0.09	0.10	0.1	0.03	0.02	0.02	0.01	0.02	0.03	0.03	0.02	0.02	0.0	2.1	2.2	3.1	2.2	2.8	2.9	4.0	4.4	5.4	5.8	1%	0%
Roach	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.5	0.5	0.4	1%	0%
Garfish	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.4	0.5	0.5	0.8	0.9	1.4	1.2	0.7	1.1	0.7	0%	0%
																															98%	99%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.7 Finland

Short description of the national fleet

Fleet capacity

The Finnish fishing fleet consisted of 3 092 registered vessels of which 1 499 were inactive in 2016; the active fleet consisted of 1 593 vessels, with a combined gross tonnage of 12.8 thousand GT and a total power of 100 thousand kW. The number and capacity of active fleet remained at the same level as in previous year.

Fleet structure

The Finnish fishing fleet is dominated by small-scale vessels: 1 530 out of 1 593 (96%) active vessels were operating in small-scale coastal fisheries. However, the 63 trawlers accounted for majority (73%) of the total fleet capacity in terms of tonnage.

Employment

Total employment in 2016 was estimated at 1 524 jobs. The majority of the jobs are created by the SSCF that is a seasonal fishery. Therefore, the employment in that sector is usually only part-time and in terms of full time equivalent the total fleet added up to 300 FTEs. The number of fishers has been dropping for a long time and the average age of fishers is high.

Effort

The total effort in 2016 was 110 thousand fishing days. The SSCF accounted for over 90% of the total effort and there has been declining trend during the past decade. At the same time the effort of LSF has been increasing. Finnish fleet operates exclusively in the Baltic Sea.

Production

The total weight landed by the Finnish fleet in 2016 amounted 157 thousand tonnes of seafood with value of EUR 40 million. The bulk of this catch consisted of Baltic herring and sprat caught by the trawler fleet. Catches of these pelagic species have been increasing during the past years due to strong herring stocks especially in the most important fishing grounds for Finnish fleet in northern Baltic Sea; herring catch reached record high in 2016 for the third consecutive year in a row. The landed value of LSF has increased during the past years with the catches. At the same time the development in SCF has been the opposite.

Baltic herring accounted for the highest landed value (EUR 28.6 million), followed by European sprat (EUR 3.1 million). The Russian embargo on EU food stuff as a countermeasure to EU sanctions due to the Ukraine crisis led to a loss of the most important market for pelagic fish that resulted in drop in pelagic fish prices.

Unfavourable weather conditions together with increase of seal population continued to hamper the small-scale costal fishing: warm winter together with cold summer lead to a drop in catches. The landing weight of the SSCF continued to decline. However, the improved prices compensated the declining catches to some extent but not enough to prevent the decline in landing value. Small-scale coastal fleet target mostly various freshwater fish species: European whitefish and pike-perch were the most important species for the segment.

Economic results for 2016 and recent trends

National fleet performance

The amount of income generated by the Finnish fleet in 2016 was EUR 35.6 million; 1% drop from the previous year. Income consisted of EUR 33.8 million in landings income and EUR 1.8 million in other income.

Profitability of the national fleet increased slightly; gross value added was EUR 17 million, 15% higher than the year before. Gross profit increased also to EUR 11 million but was not high enough to cover the estimated capital costs of the fleet resulting in a negative net profit (-EUR 4.2 million).

Resource productivity and efficiency indicators

The Gross Value Added generated of Finnish national fleet in 2016 added up to EUR 17 million that was 15% higher than previous year. The gross profit margin increased to 30% and also net profit improved. Profitability increased both in small scale coastal fishery and in trawler segments. However, the net profit margin remained negative indicating that the fleet is not economically sustainable in the long term. Profitability of trawler sector improved in 2016: Gross profit increased by 17% but was not high enough to make the trawler segments profitable. In the small-scale costal fishery, the large number of low activity vessels and accounting the value of capital of all these vessels turned the segment net profit negative even the most active part of the segment is highly profitable.

Performance by fishing activity

Small-scale coastal fleet

The Finnish fishing fleet is dominated by small-scale vessels: 1 530 out of 1 592 (96%) active vessels were operating in small-scale coastal fisheries. However, the segment account only one fourth of the national total value of landings that is dominated by the pelagic trawler fleet. At the same time the segment employs almost two thirds of total number of fishers in terms of FTE. Therefore, the segment is really important from the social point of view.

Catches of coastal fisheries continued to decline for third year in a road after peaking in 2013. In 2016, landed weight of the segment decreased by 17% and the revenues decreased to EUR 8.9 million. The segment generated EUR 4.9 million of gross value added. However, there are a large number of low activity vessels and accounting the value of capital of all these vessels turned the segment net profit negative.

The profitability of the most active part of the segment is significantly higher than those with low activity. In 2015, the new fishing law, commercial fishing enterprises are defined in two groups: the first category (I) consists of enterprises that are value added tax liable (annual turnover over EUR 10 000 in 2016); the rest are classified as the second category (II) fishers. The first category fishers are the priority in the fisheries management; and only these enterprises are eligible for EMFF funding.

In 2016, there were only 216 fishing unit in the coastal small-scale segment that exceeded the VAT threshold and categorised to category I. These enterprises accounted for 72% of the total value of landings of the total SSCF segment. Therefore, the average size of a fishing unit in this category was EUR 36 000; significantly higher compared to that for the whole small-scale segment: EUR 8 700. The increase in the average size has a significant impact on the economic performance. Profitability of the category I fishers is significantly higher compared to whole segment due to improve in gross profit margin together with the decrease in capital costs. Therefore, the net profit is significantly higher for this part of the segment: the net profit margin turns to +15%; again significantly higher than that -55% in the small-scale segment. The result proves that the active part of the small-scale coastal fisheries is the most profitable of the Finnish fishing fleet.

Performance of selected fleet segments

The Finnish fleet operates exclusively in the Baltic Sea and is based on two main fisheries: pelagic trawlers and the small-scale coastal fleet. Pelagic trawlers are divided into three segments. The SSCF is highly diversified with a range of vessel types targeting species in waters along the Finnish coastline.

Passive gears 0-10m and 10-12m – The small-scale coastal fleet is the biggest Finnish fleet segment in terms of number of boats with 1 530 vessels in 2016. The SSCF consists of diversified vessels targeting mainly freshwater fish species; European whitefish, pike-perch and perch. In 2016, the total revenue of the small-scale fishery was EUR 8.9 million making a positive gross value added of EUR 4.9 million. Gross profit margin was 36% but it was not high enough to cover the estimated capital costs: the SSCF made losses of EUR 2.7 million.

The coastal fleet is highly seasonal, and there is also a high variation in the activity of the vessels; the 200 most active fishing units make up over 70% of the total landings. These most active vessels are significantly profitable compared to the large number with low activity vessels. As a whole the overall economic performance of the whole SSCF has been poor for years and continued making losses in 2016.

Pelagic trawlers 24-40m – This fleet is economically the most important. It targets herring and sprat in the Baltic Sea. In 2016 these 23 vessels accounted for more than half of the total value landed by the Finnish fleet and employed 83 FTE. The average vessel revenue was EUR 0.9 million, employing 4 FTEs. The fleet segment generated Gross Value Added of EUR 8 million. In 2016 the Gross profit margin was

29 % which was not high enough to cover the estimated capital costs and the fleet was making losses totalling EUR 1 million with a net profit margin of -5%.

Pelagic trawlers 18-24m – This fleet segment consisted of 13 vessels in 2016 also targeting Baltic herring and sprat. The average vessel revenue was EUR 364 thousand, second highest in the Finnish fleet and average on-board employment is 2 FTE. The segment generated EUR 3 million of Gross Value Added but was making losses totalling EUR 237 thousand with net profit margin of -5%.

Pelagic trawlers 12-28m – This is the smallest pelagic trawler segment in terms of individual vessel size and consists of 27 vessels. The average vessel revenue was significantly lower than that of the bigger vessels, EUR 100 thousand. An average vessel employed less than one FTE. Also this segment was making losses with net profit margin of -8%.

Drivers affecting the economic performance trends

Most important driver for fisheries is the state of stocks. Due to the strong status of the most important fish stocks for Finnish fleet – pelagic stocks - the total weight of landings in 2016 reached the highest level recorded. The most important driver for economic performance is the fish prices and inputs especially fuel price. Fish prices for pelagic species remained rather stable in 2016. However the most important fish prices for coastal fishing increased compensating the low catches. Fuel costs are major cost item especially for the trawler fleet and fuel prices were at lowest level for decade in 2016 that had a positive impact on profitability however the fleet continued making losses.

Markets and trade (including fish prices)

Russia has traditionally been an important market for Baltic herring and sprat. Therefore, Russian embargo on EU food products as a countermeasure to EU sanctions due to the Ukraine crisis has led to marked drop in prices of these pelagic species. On the other hand, prices of the most important species for the coastal fishery - European perch, pike-perch and whitefish – have been increasing recent year due to declining supply.

Management instruments and regulation (policy)

The offshore fleet is managed mainly through TACs that are shared between Baltic Sea countries. Apart from salmon and herring the coastal fleet target mostly on freshwater species that do not have quotas but are managed with licences and other time and gear restrictions. From the beginning of 2017 ITQ regime was introduced in the Finnish pelagic fisheries and salmon fishery. The allocation of the fishing rights was based on grandfathering.

Stock status, TACs and quotas

Pelagic fisheries are the most important for the Finnish fleet by terms of weight and value. Both Baltic herring and sprat stocks were at the MSY level in 2016. Baltic herring stocks have been exceptionally strong especially in the most important fishing grounds in Bothnian Sea. In 2016, the catches of herring were at the highest level recorded for third consecutive year. The TAC of Finnish Baltic herring has not been fully utilised for years. However, there was a cut in herring TAC in Bothnian Sea for 2018 implying that the quota will be fully utilised.

The main quota species for the small-scale coastal fisheries is salmon. Salmon quotas have been decreasing during the latest years. However, the most important salmon rivers in the Baltic Sea – river Tornio and river Kalix – show that they are on the recovery path towards MSY.

Operational costs (external factors)

Fuel prices are the most important cost item especially for the larger pelagic trawlers. Fuel price was record high in 2014 but has halved since then and were at lowest level in 2016. This will have had a positive impact on profitability. Fuel prices started increase in autumn 2017 indicating increasing costs for the fleet. The labour costs are the second most important cost item and follows the revenue.

Socioeconomic impact

The number of fishers has been dropping for a long time and the average age has been increasing. The decline in the number of fishers and vessels has been particularly true for the small-scale coastal fishing segment. However, labour input in terms of fulltime employment has remained relatively stable and has even slightly increased in the trawler segments.

Russia has traditionally been the main market for Baltic herring and sprat. Therefore, Russian embargo has forced Finnish fishers to find alternative markets for pelagic species. The prices of these pelagic species have dropped significantly as landings are now more heavily used as feed.

ITQ system was introduced in the beginning of 2017. In other Nordic countries the implementation of ITQ led to a significant decrease in number of vessels and employment. Similar development may be expected in the Finnish pelagic segment.

Projections for 2017 and outlook

MODEL FORECAST

Catches of herring continued to be at high level in 2017 albeit there was a marginal decrease from the highest recorded the year before. The TAC of Finnish Baltic herring has not been fully utilised for recent years. However, for 2018 there was a cut in TAC in Bothnian Sea that is the main fishing ground for Finnish pelagic trawlers implying that the quota will be fully utilised.

The fuel prices remained at low level until the autumn 2017 when prices started to increase and continued to increase in 2018 indicating higher operating costs especially for the trawler segments for the coming year. In 2017, the profitability of trawler segments remained at same level as the year before but is expected to deteriorate in 2018. SSCF catches continued to stay at exceptionally low level in 2017 implying continued poor economic profitability of the sector.

Overall economic performance for the Finnish fleet is projected to deteriorate in 2018. While the Finnish fleet remains in negative net profits, gross profits margin is reasonable high in both SSCF and LSF. This indicates that in short term the fleet is performing well but is not sustainable in long term; The fleet is not profitable enough to cover the costs of investments required to maintain the current structure of the fleet.

Data issues

Capacity, logbook and landings data are derived from sources which are covered by different legislation. All these data are available exhaustively. The bigger vessels are covered by log-books and smaller vessels are covered by the coastal fishing report. However, in the small-scale coastal fisheries the method for correcting non-response was changed in 2014 based the response loss survey. Furthermore, the fishing law reform sanctioned the costal fishing reports mandatory for all small-scale coastal vessels from the beginning of 2015 and therefore the estimation of non-response has been abolished. Therefore, there is a break in the time series relating to the SSCF.

Economic data collection is based on a hierarchical multi-stage survey that combines information from different data sources. The main sources were the central control register on the commercial fishery (includes landings data, the vessel register, and first hand sales of quota species), the financial database in Statistics Finland (SF) and an additional account survey. Starting in 2016, the account data for the coastal fishers is collected by the Natural Resources Institute Finland.

Due to the good coverage of the data collection and an efficient estimation method the achieved precision of the economic variables is satisfactory. However, there is a break in the time series of the number of active vessels in small-scale fishing in 2012 when the recording of active vessels was re-specified and then again in 2014 and 2015 due to the methodological changes described above. Finland has modified the assumptions used in the Perpetual Inventory Method (PIM) regarding service life of each asset, depreciation rates and share of each asset in total value as well as the price per capacity used. These updates have greatly affected depreciated replacement values and the depreciation reported for the time series, affecting also the net profits of the sector.

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Table 5.31 Finland: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	3,240	3,240	3,270	3,365	3,359	3,241	3,144	2,717	3,092	3,217	1,525		14%	-3%
Number of inactive vessels_ms	(#)	1,687	1,709	1,651	1,716	1,407	1,508	1,380	1,140	1,501	1,756			32%	-2%
Vessel tonnage	(thousand GT)	16.4	16.9	16.7	18.1	17.0	16.5	16.8	15.8	16.2	16.4			2%	-4%
Engine power	(thousand kW)	173.4	174.8	175.4	181.6	178.2	172.6	173.0	155.7	168.5	173.5			8%	-3%
Total employed	(person)	1,428	1,447	1,512	1,490	1,437	1,418	1,461	1,412	1,524	1,399	1,583		8%	5%
FTE	(#)	264	229	274	338	354	377	355	358	300	263	232		-16%	-6%
Days at sea	(thousand day)	129.5	143.0	149.7	148.2	137.6	137.8	126.4	106.0	109.9	96.2	94.4		4%	-18%
Fishing days	(thousand day)	128.7	142.4	148.9	147.3	136.8	137.0	125.8	106.0	109.7	96.1			4%	-18%
Number of fishing trips	(thousand)	127	141	148	146	135	135	123	103	106	93			3%	-20%
Energy consumption	(million litre)	11.15	15.67	13.42	13.91	14.19	16.07	15.81	19.17	20.29	18.44	12.77		6%	36%
Live weight of landings	(thousand tonne)	111.58	117.54	122.08	119.69	132.92	138.39	148.22	148.13	157.32	154.50	141.47		6%	21%
Value of landings	(million €)	26.29	26.66	29.26	34.82	36.85	47.05	40.36	33.64	39.52	37.44	33.47		17%	15%
Income from landings	(million €)	27.29	27.52	29.32	35.66	39.64	41.52	37.00	34.73	33.81	32.46	28.57		-3%	-1%
Other income	(million €)	2.44	3.51	3.09	3.06	5.06	2.55	2.27	1.36	1.79	1.65	1.67		31%	-39%
Direct income subsidies	(million €)	2.67	1.67	1.48	1.38	1.28	1.14	1.04	1.36	0.92				-32%	-39%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	3.01	3.33	3.52	4.11	4.67	4.93	4.90	5.24	4.64	4.40	3.99		-11%	10%
Unpaid labour value	(million €)	3.80	3.48	4.26	5.48	5.86	3.93	2.50	1.87	1.74	1.59	1.68		-7%	-55%
Energy costs	(million €)	7.97	7.42	8.23	10.74	11.46	12.08	10.67	9.53	8.39	7.95	6.33		-12%	-14%
Repair & maintenance costs	(million €)	3.80	3.35	4.07	4.91	5.14	4.92	4.72	4.13	3.66	3.33	3.35		-11%	-17%
Other variable costs	(million €)	1.72	2.02	2.32	2.88	3.00	3.32	3.15	2.68	2.24	2.00	1.57		-16%	-15%
Other non-variable costs	(million €)	3.90	3.93	4.21	5.24	5.29	5.48	5.25	4.88	4.13	3.80	3.73		-15%	-13%
Annual depreciation costs	(million €)	12.27	14.28	15.75	15.58	12.64	12.40	14.85	15.34	14.98	13.71	13.75		-2%	6%
Rights costs	(million €)	0.2	0.2	0.3	0.3	0.4	0.3	0.2	0.3	0.2				-14%	-20%
Opportunity cost of capital	(million €)	0.24	1.53	1.00	- 0.21	- 0.78	- 0.19	0.16	0.60	- 0.01	0.10	- 0.03		-102%	-104%
Tangible asset value (replacement)	(million €)	63.6	72.6	77.6	74.3	61.3	57.5	64.3	68.8	61.7	39.9	40.1		-10%	-9%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	10.7	17.4	16.4	11.7	8.5	12.0	17.7	17.6	13.4				-24%	-4%
Financial position	(%)	45.0	50.0	47.0	52.0	50.0	46.0	50.0	48.0	55.0				15%	13%
Gross Value Added	(million €)	12.3	14.3	13.6	15.0	19.8	18.3	15.5	14.9	17.2	17.0	15.3		15%	11%
GVA to revenue	(%)	41.5	46.1	41.9	38.6	44.3	41.5	39.4	41.2	48.3	49.9	50.5		17%	15%
Gross profit	(million €)	5.5	7.5	5.8	5.4	9.3	9.4	8.1	7.8	10.8	11.0	9.6		39%	47%
Gross profit margin	(%)	18.6	24.2	17.9	13.8	20.8	21.4	20.6	21.5	30.3	32.4	31.8		41%	53%
Net profit	(million €)	- 7.0	- 8.3	- 11.0	10.0	- 2.6	- 2.8	- 6.9	- 8.2	4.2	- 2.6	4.1		49%	41%
Net profit margin	(%)	- 23.5	- 26.8	- 33.8	- 25.9	- 5.8	- 6.3	- 17.6	- 22.6	11.7	- 7.5	13.6		48%	42%
GVA per FTE (labour productivity)	(thousand €)	46.7	62.5	49.5	44.2	55.9	48.5	43.6	41.5	57.2	64.7	65.9		38%	17%
Return on fixed tangible assets	(%)	- 10.6	- 9.3	- 12.8	13.8	- 5.5	- 5.2	- 10.5	- 11.0	6.8	6.7	10.3		38%	31%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 includes active vessels only.
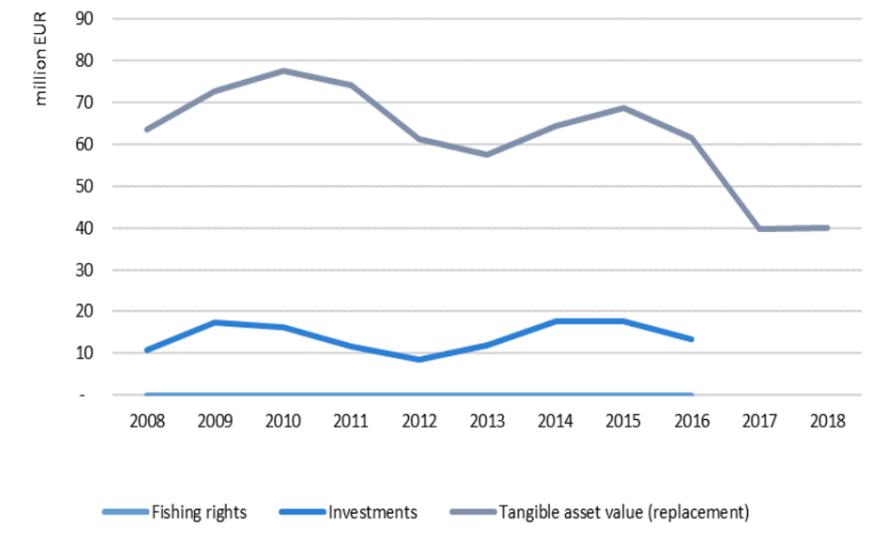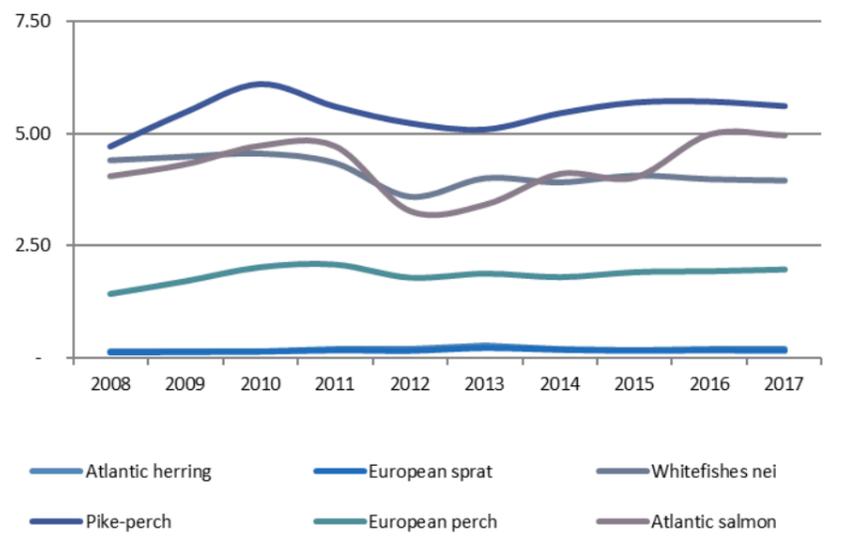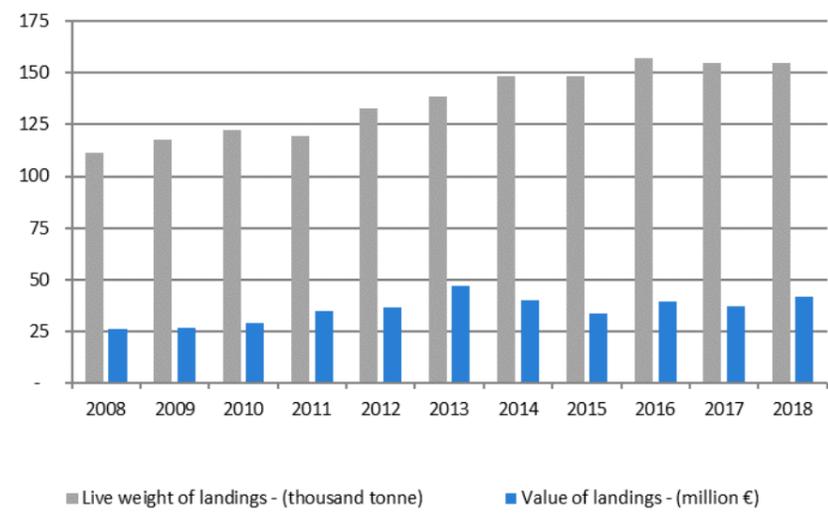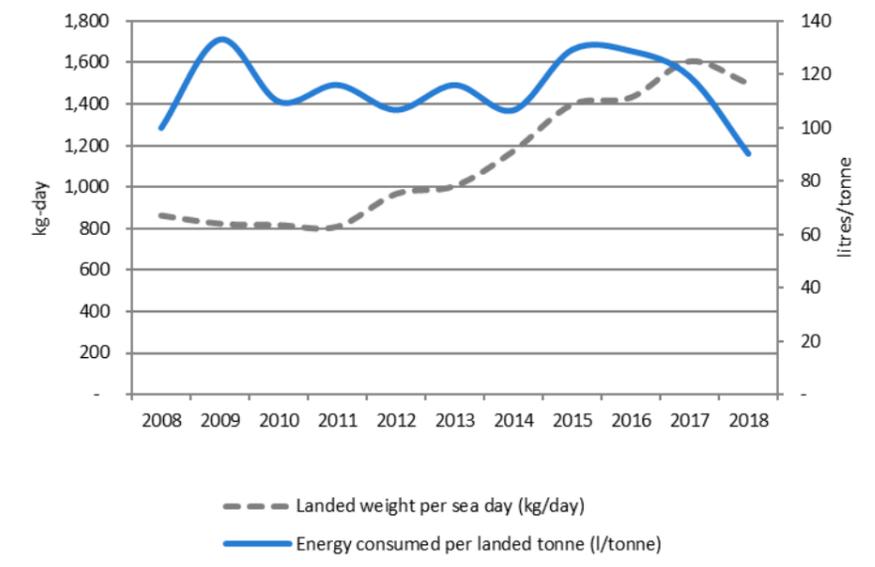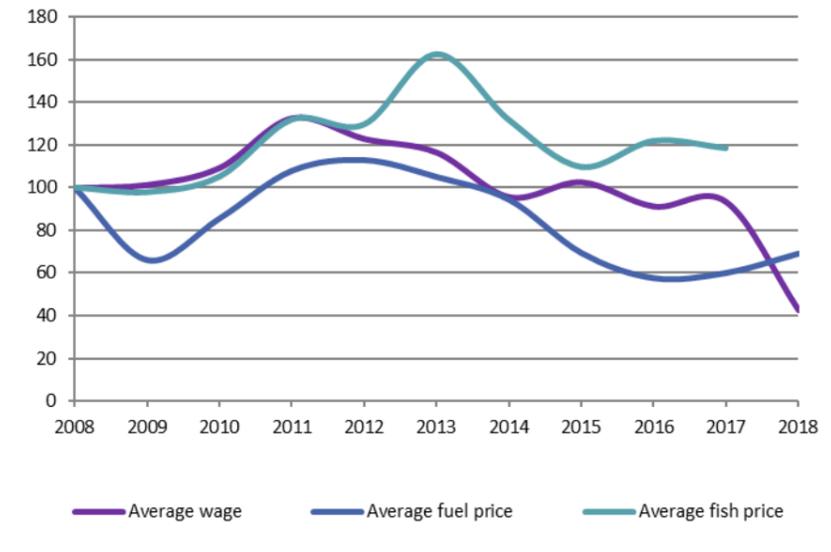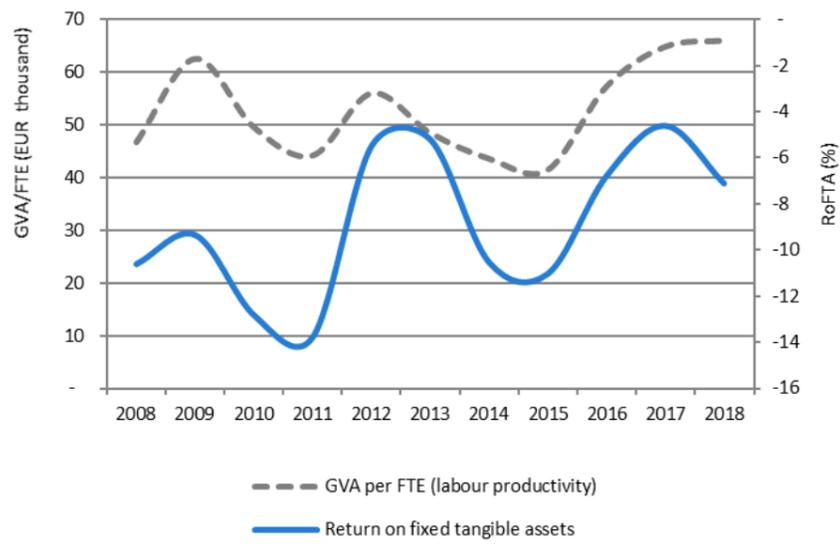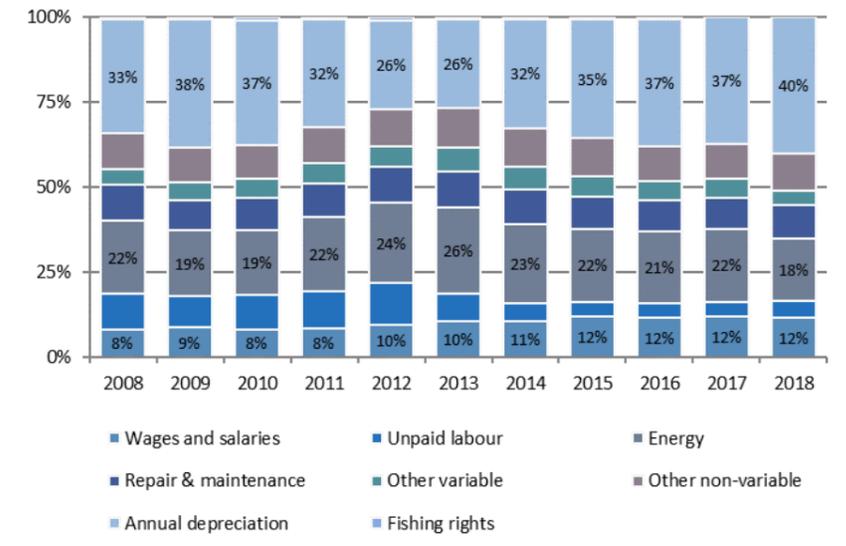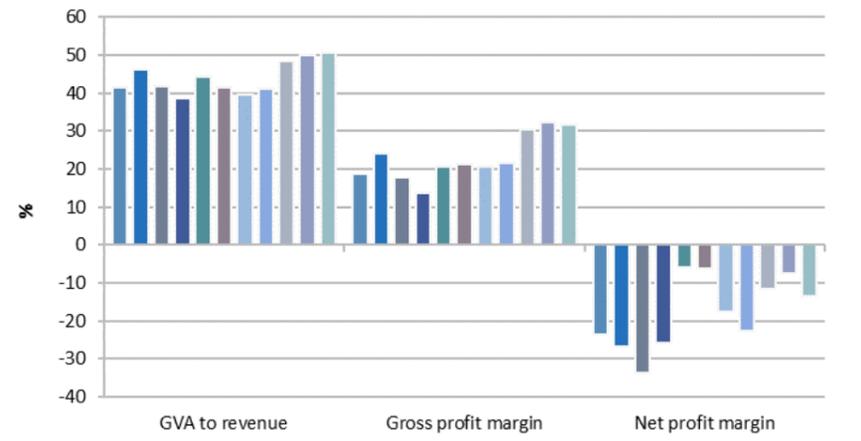
Figure 5.7 Finland: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital values (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.32 Finland: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

SCF (left block, years 2008–2018) and LSF (right block, years 2008–2018). Trend columns contain sparklines (not transcribed).

		SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg.08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg.08-15
Total number of vessels	(#)	1486	1465	1559	1589	1895	1674	1699	1513	1530	1406	1470		1%	-5%	67	66	60	60	57	59	65	64	63	56	55		-2%	1%
Vessel tonnage	(thousand GT)	4.1	3.8	4.1	4.2	4.1	3.9	5.5	3.6	3.4	3.1			-4%	-18%	7.1	7.5	7.6	9.2	8.5	8.3	9.0	9.2	9.4	8.8			2%	13%
Engine power	(thousand kW)	71.9	68.8	74.9	75.8	77.5	75.6	77.9	70.1	67.1	61.6			-4%	-9%	27.2	27.6	27.1	31.3	29.3	28.8	32.1	32.5	32.6	30.4			0%	10%
FTE	(#)	178	135	181	230	246	274	251	251	176	155	154		-30%	-19%	86	94	93	108	108	103	104	107	124	108	78		16%	24%
Total employed	(person)	1301	1306	1372	1357	1296	1273	1310	1257	1369	1257	1431		9%	5%	127	141	140	133	141	145	151	155	155	141	152		0%	9%
Days at sea	(thousand day)	124.0	138.0	145.1	142.8	131.8	131.8	120.1	99.0	102.3	89.8	89.5		3%	-21%	5.6	5.0	4.6	5.4	5.8	6.1	6.3	7.1	7.7	6.5	4.9		8%	34%
Fishing days	(thousand day)	123.9	137.8	144.8	142.5	131.4	131.5	119.8	98.9	102.1	89.7			3%	-21%	4.8	4.6	4.1	4.8	5.3	5.4	6.0	7.1	7.6	6.5			7%	44%
Number of fishing trips	(thousand)	123.8	137.7	144.8	142.4	131.3	131.5	119.6	98.8	102.1	89.6			3%	-21%	3.5	3.5	2.8	3.1	3.3	3.2	3.5	4.1	4.1	3.6			2%	23%
Energy consumption	(million litre)	2.2	1.5	2.1	1.8	1.9	1.5	1.7	1.5	1.5	1.3	1.3		-3%	-18%	8.9	14.1	11.3	12.1	12.3	14.6	14.2	17.7	18.8	17.2	11.5		7%	43%
Live weight of landings	(thousand tonne)	8.4	9.4	10.2	10.1	13.2	17.9	14.3	11.1	9.3	8.7	8.4		-17%	-22%	103.1	108.1	111.9	109.6	119.7	120.5	134.0	137.0	148.1	145.8	133.1		8%	25%
Value of landings	(million €)	8.4	9.2	9.9	11.4	10.9	12.5	11.5	8.9	8.6	7.6	8.7		-3%	-16%	17.9	17.5	19.4	23.4	26.0	34.5	28.8	24.7	30.9	29.8	24.8		25%	29%
Income from landings	(million €)	9.9	10.2	10.6	11.6	12.2	11.5	11.3	9.2	7.9	7.1	8.0		-14%	-27%	17.4	17.4	18.7	24.1	27.4	30.1	25.7	25.6	25.9	25.4	20.6		1%	11%
Other income	(million €)	2.2	2.9	2.3	2.2	3.0	1.7	1.8	0.4	1.0	0.9	1.0		146%	-51%	0.2	0.6	0.8	0.9	2.0	0.8	0.5	0.9	0.8	0.7	0.7		-19%	-9%
Direct income subsidies	(million €)	2.7	1.7	1.5	1.3	1.3	1.1	1.0	1.3	0.9				-31%	-38%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-71%	-48%
Income from leasing fishing rights	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Wages and salaries of crew	(million €)	0.6	0.7	0.7	0.6	0.9	0.7	0.7	0.6	0.6	0.5	0.6		-11%	-20%	2.4	2.7	2.8	3.5	3.8	4.2	4.2	4.6	4.1	3.9	3.4		-11%	16%
Unpaid labour value	(million €)	2.6	2.7	3.5	4.0	4.5	2.5	1.6	1.1	1.2	1.0	1.2		5%	-59%	1.2	0.8	0.7	1.4	1.3	1.4	0.9	0.8	0.6	0.5	0.5		-24%	-47%
Energy costs	(million €)	1.8	1.0	1.4	1.6	1.7	1.3	1.4	1.0	0.9	0.8	0.9		-16%	-38%	6.1	6.4	6.8	9.2	9.8	10.8	9.3	8.5	7.5	7.1	5.4		-12%	-10%
Repair & maintenance costs	(million €)	1.9	1.4	1.9	1.9	2.0	1.7	1.8	1.4	1.2	1.1	1.1		-11%	-30%	1.9	2.0	2.1	3.0	3.2	3.2	2.9	2.8	2.4	2.2	2.2		-12%	-7%
Other variable costs	(million €)	0.5	0.7	1.0	1.1	1.1	1.2	1.3	1.0	0.7	0.7	0.6		-24%	-27%	1.2	1.3	1.3	1.7	1.9	2.1	1.8	1.7	1.5	1.3	0.9		-12%	-8%
Other non-variable costs	(million €)	2.0	1.9	2.1	2.4	2.3	2.1	2.0	1.5	1.2	1.0	1.1		-23%	-43%	1.9	2.0	2.1	2.8	3.0	3.4	3.2	3.4	3.0	2.8	2.6		-12%	9%
Annual depreciation costs	(million €)	7.4	6.9	7.9	7.1	6.7	6.6	7.5	6.8	5.9	5.4	5.6		-13%	-16%	4.9	7.4	7.8	8.5	6.0	5.8	7.4	8.5	9.0	8.3	8.1		6%	29%
Rights costs	(million €)	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2				-14%	-15%	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0				-14%	-38%
Opportunity cost of capital	(million €)	0.1	0.5	0.3	-0.1	-0.3	-0.1	0.1	0.2	0.0	-0.04	-0.01		-102%	-104%	0.1	0.4	0.3	-0.1	-0.2	-0.1	0.1	0.2	0.0	-0.1	0.0		-102%	-106%
Tangible asset value (replacement)	(million €)	23.3	21.7	24.7	22.4	21.1	20.8	23.3	21.1	18.7	17.0	17.7		-11%	-16%	14.7	21.0	21.6	23.8	17.0	16.1	20.7	23.8	24.9	22.9	22.4		4%	25%
Fishing rights	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Investments	(million €)	7.5	6.5	8.4	5.0	5.3	5.9	8.0	7.2	4.4				-39%	-35%	3.2	10.9	7.9	6.7	3.1	6.0	9.6	10.4	9.0				-13%	25%
Gross Value Added	(million €)	5.9	8.0	6.4	6.7	8.1	6.9	6.6	4.7	4.9	4.4	5.2		-28%	-32%	6.4	6.3	7.1	8.2	11.7	11.4	8.9	10.2	12.2	12.6	10.1		20%	39%
GVA to revenue	(%)	48.6	61.1	49.9	48.8	53.2	52.0	50.0	49.0	55.3	55.1	57.7		-2%	-6%	36.6	35.1	36.6	33.0	39.7	37.0	34.1	38.4	45.9	48.3	47.5		12%	7%
Gross profit	(million €)	2.7	4.6	2.2	2.0	2.7	3.6	4.2	3.0	3.2	2.9	3.4		-30%	-7%	2.8	2.9	3.6	3.3	6.5	5.8	3.9	4.8	7.6	8.2	6.2		25%	17%
Gross profit margin	(%)	22.2	35.5	16.9	14.8	18.0	27.3	32.3	30.8	36.0	35.8	38.3		-4%	29%	16.1	15.9	18.6	13.3	22.2	18.8	14.7	18.2	28.4	31.3	29.0		23%	6%
Net profit	(million €)	-4.8	-2.7	-6.1	-5.0	-3.7	-3.0	-3.3	-4.1	-2.7	-2.5	-2.2		-24%	0%	-2.1	-5.0	-4.5	-5.1	0.8	0.1	-3.6	-3.9	-1.5	-0.1	-1.9		-9%	-41%
Net profit margin	(%)	-39.2	-20.7	-47.0	-36.4	-24.0	-22.4	-25.0	-42.3	-30.5	-30.8	-24.3		-69%	-38%	-12.1	-27.7	-23.0	-20.4	2.7	0.3	-13.8	-14.7	-5.5	-0.4	-9.1		-7%	-10%
Return on fixed tangible assets	(%)	-20.1	-10.4	-23.2	-22.6	-18.6	-14.5	-13.9	-18.4	-14.6	-14.8	-12.4		-32%	-4%	-14.1	-21.6	-19.5	-21.7	3.3	0.2	-17.2	-15.5	-5.9	-0.7	-8.7		10%	-20%
GVA per FTE (labour productivity)	(thousand €)	33.1	59.2	35.6	29.1	33.0	25.1	26.1	18.7	28.1	28.6	33.6		4%	-27%	75.0	67.1	76.7	76.4	108.3	110.8	85.9	95.1	98.7	116.3	130.0		-22%	0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.33 Finland: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
FIN A27 TM2440 °	23	83	4,001	156	107,065	21,922	19,612	8,122	41.4	5,763	29.4	- 1,036	- 5.28	28.4	97.9	- 5.6	Weak	60%	Improved	55.1%
FIN A27 PG0010	1,478	166	101,052	178	6,601	7,689	8,018	4,625	57.7	3,123	39.0	- 1,986	- 24.77	9.0	27.9	- 12.4	Weak	14%	Improved	22.5%
FIN A27 TM1824	13	23	1,738	46	30,020	6,194	4,733	3,042	64.3	1,137	24.0	- 237	- 5.00	82.8	132.2	- 6.2	Weak	55%	Improved	13.3%
FIN A27 TM1218 °	27	18	1,924	69	10,984	2,769	2,322	1,072	46.1	681	29.3	- 182	- 7.84	21.7	59.5	- 7.6	Weak	63%	Improved	6.5%
FIN A27 PG1012 °	52	10	1,212	106	2,653	945	909	314	34.5	91	10.0	- 735	- 80.85	22.3	31.4	- 28.1	Weak	-8%	Deteriorated	2.6%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.34 Finland: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
FIN A27 TM2440 °	21	78	3,714	145	108,197	21,787	19,688	8,672	44.0	6,299	32.0	106	0.54	30.3	110.8	0.4	Weak	57.7%
FIN A27 PG0010	1,365	146	88,702	169	6,100	6,838	7,245	4,139	57.1	2,787	38.5	- 1,915	- 26.44	9.3	28.4	- 13.1	Weak	21.2%
FIN A27 TM1824	13	20	1,463	42	28,177	5,501	4,274	2,649	62.0	936	21.9	- 434	- 10.14	87.0	134.6	- 11.6	Weak	12.5%
FIN A27 TM1218 °	22	12	1,285	54	9,405	2,514	2,121	1,160	54.7	801	37.8	100	4.69	29.8	96.4	4.8	Weak	6.2%
FIN A27 PG1012 °	41	9	1,074	96	2,625	801	780	282	36.1	90	11.5	- 559	- 71.60	21.5	31.7	- 27.2	Weak	2.3%

Table 5.35 Finland: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Atlantic herring	13.5	13.4	14.9	19.7	24.0	34.4	27.5	23.1	28.6	27.3	83.1	90.3	92.4	97.6	117.2	121.6	130.4	131.4	136.3	134.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	72.4%	86.6%
European sprat	3.4	3.5	4.0	3.0	1.6	2.6	2.4	2.1	3.1	3.0	24.3	23.2	24.6	15.8	9.0	11.1	11.8	11.9	16.8	16.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	7.9%	10.7%
Whitefishes nei	2.9	3.1	2.9	3.0	2.4	2.8	2.6	2.3	2.0	1.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.4	4.4	4.5	4.6	4.3	3.6	4.0	3.9	4.1	4.0	4.0	5.1%	0.3%
Pike-perch	1.5	1.7	2.1	2.7	1.9	1.6	2.0	1.7	1.4	1.1	0.3	0.3	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.2	4.7	5.5	6.1	5.6	5.2	5.1	5.4	5.7	5.7	5.6	3.5%	0.2%
European perch	1.2	1.1	1.5	2.0	1.8	1.6	1.9	1.4	1.4	1.1	0.8	0.6	0.7	0.9	1.0	0.8	1.1	0.7	0.7	0.6	1.4	1.7	2.0	2.1	1.8	1.9	1.8	1.9	1.9	2.0	3.5%	0.4%
Atlantic salmon	1.3	1.4	1.0	1.1	1.1	0.9	1.0	0.8	1.0	0.8	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	4.1	4.3	4.7	4.7	3.3	3.4	4.1	4.0	5.0	5.0	2.4%	0.1%
Vendace	0.2	0.2	0.3	0.4	0.5	0.6	0.6	0.5	0.5	0.7	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.3	1.6	2.0	2.2	2.5	2.4	2.5	2.3	2.5	2.5	2.5	1.3%	0.1%
Freshwater bream	0.1	0.1	0.2	0.3	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.7	0.7	0.8	1.0	0.9	0.6	0.5	0.5	0.3	0.4	0.2	0.5	0.7	0.5	0.5	0.6	0.7	0.7	0.9%	0.3%
Northern pike	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.1	1.3	1.4	1.5	1.6	1.6	1.5	1.6	1.6	1.6	0.8%	0.1%
European smelt	0.0	0.0	0.1	0.2	0.1	0.6	0.4	0.1	0.2	0.3	0.1	0.1	0.5	1.0	0.6	0.9	0.8	0.8	0.7	0.8	0.2	0.2	0.2	0.2	0.2	0.6	0.5	0.2	0.4	0.4	0.6%	0.4%
																															98%	99%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.8 France

Short description of the national fleet

Fleet capacity

The national fleet capacity continued to slightly decline in 2016, with a total of 6 835 vessels (including 1 152 of which were inactive), having a combined gross tonnage (GT) of 173.5 thousand tonnes and engine power of 1 004 thousand kilowatts (kW). If the number of vessels has been decreasing since 2009 by 6%, the national engine power remained globally stable on the period. On a similar way, after a severe decrease between 2008 and 2010 (-12%), gross tonnage remained stable, then growing again in 2014 (+7%), especially due to inclusion in the European fleet register of five purse seiners based in Mayotte (overseas territory) adding 12 thousand tonnes at the national gross tonnage.

The major factors causing the fleet decrease were vessel decommissioning schemes, entry barriers and natural wastage due to age, while average size tended to grow, allowing global engine power and gross tonnage to remain at the same level. Vessels out of age are indeed replaced most of time by larger new vessels.

The proportion of inactive vessels has increased gradually from 2009 to 2014 (from 11% to 18.5%). From 2015, this proportion tends to decline slightly and more in 2016 (17%). They are mainly made up of less than 12 meter vessels (98%) and mostly based in the French overseas territories (68%), especially in Martinique and Guadeloupe, where they represent 36% of the total number of their vessels.

Fleet structure

The French fishing fleet is nationally divided into:

- a small-scale coastal fleet (73% of total active vessels, but only 9% of the whole gross tonnage) which is mainly composed of vessels less than 10 meters long with a large diversity of metiers and an important part of polyvalent vessels. These vessel types are localised in all the French regions, 40% of the SSCF based in overseas territories (outermost region fleet), 33% in Northeast Atlantic and North Sea regions and 27% in the Mediterranean;

- a large-scale fleet (27% of total active vessels) which is mainly made up of vessels using active gears, especially demersal trawlers and dredgers with lengths ranging from less than 10 meters to more than 40 meters. Even though they are active in all the French regions, the major proportion of those vessels is based in North East Atlantic and North Sea regions. As they are most of time larger than SSCF vessels, they represent the major part of the fleet regarding the gross tonnage (61%).

- a distant water fleet[17] composed of 22 tropical purse seiners over 40 meters catching tuna in South Atlantic and Indian Oceans; even if they represent only a small part of the fleet in terms of number, these vessels generate approx. 12% of the national fleet's income.

In 2017, the number of fishing enterprises amounted to 5 416, with the vast majority (87%) owning a single vessel. The percentage of individual companies slightly decreased over the years, at an average rate of -1.5% between 2008 and 2015, and this decrease is accelerating in 2016 and 2017. The number of companies owning 2 to 5 vessels had increased in 2016 but decreased in 2017 while the number of companies owning more than 6 vessels continues to rise. This is mainly due to a gradual grouping of ship-owners, to reduce their own costs by economies of scale.

Employment

Employment was estimated at 13 536 jobs in 2016 corresponding to around 7 138 FTEs, distributed as follows: 51% to the small-scale coastal fleet, 44% to the large-scale fleet, and 5% to the distant water fleet. With smaller vessels, the small-scale coastal fleet only displays an average 2 jobs per vessel, comparing to 4 for large-scale fleet and 25 for distant water fleet, whose vessels are larger and have to navigate further into the ocean.

The level of employment decreased between 2009 and 2015, at an average rate of -2.7% per year. In 2016, employment is stable. After a severe drop between 2009 and 2011 (-26%), employment remained stable on the Mediterranean fleet, around 2 000 jobs. Since 2013, the loss of jobs especially concerns North East Atlantic and North Sea regions.

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[17] In the AER report, the French distant water fleet takes into account a vessel using hook measuring 33m long.

Effort

An estimated 476.5 thousand days were spent at sea[18], a slight increase (4.8%) compared to 2015, especially observed for the SSCF (14%) while days at sea for large-scale fleet remained stable. Fishing days increased on a similar way (6.7%), with as well a larger rise on SSCF (13.8%).

After growing in 2014, energy consumption decreased again slowly in 2016 (-0.7%). This is mainly due to Large-scale fleet, which a consumption declining of 10.6%, while distant water fleet showed on the other hand a slight increase, after a decrease in 2015 (-8.9%). The major part of fuel is however used by Large-scale Fleet, representing 68% of the whole fleet consumption.

Fuel price continued to drop in 2016, reaching an average price of 0.44EUR /l after 0.51EUR /l in 2015. This, combined with fuel consumption decreasing, allowed fishers to reduce their energy costs, with a 15% decreases in 2016.

Production

National production has been increasing over the period by 25% in value and increased a further 6% in 2016 reaching EUR 1.22 billion while landings in weight increased by 4% in 2016 at 540 thousand tonnes of seafood[19] after a constant increase since 2008.

In 2016, 'European hake' landings generated the highest value by the national fleet (EUR 128 million), stable compared to 2015, with a higher weight of landings than in 2015 (6%) and a decrease in price from EUR 3 to EUR 2.8. The hake is followed by 'monkfish' (EUR 101 million), 'Great Atlantic scallop' (EUR 80 million), 'yellowfin tuna' (EUR 76.6 million) and 'common sole' (EUR 68.4 million). The increase of 'European seabass' average landed price in 2016 did not counterbalance the 19% decrease of landing weight generating the lowest value of landings since 2010 (EUR 38.6 million). Thanks to an increase weight of landings and a constant price value (EUR 10.4), the Norway lobster value of landing reached EUR 48.5 million in 2016.

After a period of stability since 2012, the total value landed by the French SSCF increased by 36% related to the number of days at sea (14%) in 2016. Seafood production by the SSCF represented 64 thousand tonnes with a value of EUR 300 million, comprising respectively 12% and 23.5% of the national fleet[20].

The total production landed by the French large-scale fleet increased in weight (by 4.8%) from 2015 to 2016 while the value increased by 1.6% reaching EUR 870 million in 2016. It represented respectively 67% and 71% of the total landings weight and values of the national fleet.

Economic results for 2016 and recent trends

National fleet performance

At the national level, the French fleet has been reaching in 2016 its higher economic performances since 2008, mainly thanks to a high income from landings and a significant fuel price decrease.

Revenue, estimated at EUR 1.3 billion, consists mainly of landed values (97.6%) and other income (1.6%). Direct income subsidies amounted to EUR 10.7 million, which represents 0.8% of total revenues (no income from fishing rights in France).

Total operational costs represent 80.7% total income (excluding direct subsidies). Fuel costs represent only 10.3% of revenue in 2016, compared to 13.5% in 2015.

Aside from the decrease in fuel dependence, the operating cost structure remained stable between 2015 and 2016.

Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 758 million, EUR 257 million and EUR 160 million[21] respectively and all increased from 2015 to 2016.

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[18] It does not take into account days at sea for outermost regions (vessels less than 12 meters in overseas territories) and is not comparable to the rest of the fleet of vessels less than 12 meters fishing in the Mediterranean Sea.

[19] It does not take into account landings for outermost regions (vessels less than 12 meters in overseas territories) and it is not representative of the whole fleet of vessels less than 12 meters fishing in the Mediterranean Sea and in a less extent in the North Sea and the North East Atlantic.

[20] Those figures are underestimated as only part of SSCF in the North Sea and the North East Atlantic are taken into account.

21 Net profit is overestimated as capital costs are not available for distant water fleet.

These results indicate an upwards trend for economic performance of the French fleet in 2016 compared to the previous years.

Resource productivity and efficiency indicators

At the national level, the national landing weight has been increasing over the period 2008-2016, thanks especially to increase of average landed weight per vessel.

In the same time, energy consumption per landed tonne decreases by 4.6% in 2016 compared to 2015.

Thanks to that, the gross profit margin in 2016 was 19.32%, indicating a reasonable operating profitability of the French fisheries sector.

The average wage per employed increased between 2015 and 2016, reaching EUR 37 thousand in 2016. During the same time labour productivity (GVA/FTE) increased by 7%, amounting EUR 106.2 thousand in 2016.

Performance by fishing activity

Small-scale coastal fleet

In this section we focus on SSCF as defined by the European Commission[22]. It concerns 4 124 active vessels fishing including North East Atlantic, North Sea regions and Other Fishing Regions.

The French SSCF economic performances remained stable in 2016 compared to 2015. Revenue increased compared to 2015, estimated at EUR 277 million. Thanks to a cost structure that is roughly comparable to that observed in 2015, with a decrease in fuel dependence (energy cost only represent 5.6% of the income from landings), operating profitability is slightly increased in 2016, reaching 20.6%, compared with 19.5% reached the previous year.

Gross value added and gross profit were estimated at EUR 185.8 million and EUR 58.2.6 million in 2016.

Distant water fleet

The French industrial fleet of Purse Seiners consisted of 22 vessels in 2016, including the 5 vessels registered on the island of Mayotte. The overwhelming majority of this fleet is made of freezer tuna seiners operating in the Indian Ocean (12 vessels) or Atlantic Ocean (ten vessels). The average age of those 22 vessels in this fleet segment was less than 16 years in 2016 (15.8 years). The average age of vessels has decreased by almost two years compared to 2015, due to the arrival in this fleet segment of two new units and the exit of an older one. The average length of those vessels is therefore logically impacted by these modifications, and increases in 2016, reaching 78.3 meters (77.8 meters in year 2015). The average full time employment is around 26 employees by vessel in 2016 (fishers employed come both from France and foreign countries (mostly African).

In 2016, total volumes of landings of tropical Seiners amounted almost 115 000 tons for the 22 vessels of the fleet segment (an increase of almost 24% compared to 2015). Volumes of fish caught are made by seiners operating in the Indian or Atlantic Ocean. Tuna species caught are yellowfin tuna (YFT – 48.2% of the total volumes of landings), skipjack tuna (SKJ – 46.2%), big eye tuna (BET – 4.1%) and albacore (ALB – 0.3%).

Total values of landings for the whole 22 vessels reached almost EUR 149 million in 2016. According to economic data collected, the three main cost items in 2016 are crew wage, repair and maintenance and fixed costs. They represent respectively 30.5%, 20.9% and 16% of the total income in 2016. Overall, operating expenses decreased in 2016. In particular, energy costs were lower, generating a positive impact on the profitability for the vessels. The average operating profitability for the fleet segment is therefore positive in 2016, whereas it was negative the previous year. It reaches 14.9% in 2016.

In a general way, 2016 was marked by an improvement in the economic performance of vessels in this fleet segment, due in particular to the increase in prices of tropical tunas, that jumped in 2016 (especially yellowfin and skipjack tuna). This favourable market had a positive impact on the turnover and profitability of the firms, compared to 2015. Nevertheless, access to the territorial waters of coastal countries is also a cause for concern for the professionals. Important event for the vessels of this fleet

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[22] Vessels measuring less than 12 meters long and using passive gears (DFN, FPO, HOK, PGO, PGP, and PMP).

segment: the yellowfin tuna is now under quota in Indian Ocean (since 2017). Furthermore, in addition to the control of the number of *fish aggregating devices* (FADs) used by purse seiners, some new rules also require the limitation of the number of assistance vessels (supplies) for Seiners. Economic impacts of these new management measures will have to be carefully observed in the coming years.

Performance results of selected fleet segments

The French fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the North East Atlantic, but also in the Mediterranean and in more distant fisheries. Indeed, the national active fleet consisted of 97 (DCF) fleet segments in 2016 (DCF gear*length class). Of the 97 fleet segments, 24 with too few vessels to publish data were clustered. There were 1 152 inactive vessels in 2016.

Table contains a breakdown of key performance indicators for the active fleet segments in 2016. A short description of 5 important segments in terms of total landings value or employment is provided below. Some of these segments include one, two or three clustered small segments and economic indicators refer to these combined segments. Generally, these smaller segments only have a marginal impact on the indicators. Other segments are important to the economy of the national sector: the "tropical" purse seiners are discussed in the chapter dealing with long distant fisheries, some segments contain too few vessels, such as pelagic trawlers and demersal trawlers or seiners over 40 metres, others are very heterogeneous such as trawlers and seiners from 24 to 40 m.

Drift and fixed nets 10-12m – 180 vessels make up this segment (new cluster with PGP 10-12m for year 2016) which operates predominantly in the NE Atlantic (excluding overseas). The fleet targets a variety of species but in particular common sole, monkfish and European sea bass (respectively 36.4%, 9.4% and 5.7% of the total value of landings of this fleet segment). common sole also represents 13.4% of the volume landed by this fleet segment in 2016. Several management measures implemented in 2016 for common sole (reduction of quota, biological recovery period) resulted in a significant decrease in volumes landed in 2016. The observed increase in the average price partly compensated the decline in landed volumes. Total income was EUR 56.9 million (landings income and other income) contributing 4.3% to the total income generated from landings in the national fishing fleet. Total operating costs represented 81.8% of income generated by this fleet segment in 2016. This fleet segment produced a gross profit of around EUR 10.4 million in 2016 (18.2% of the income). Energy dependence is less strong in 2016, but some costs have increased, showing a decrease in operating profitability compared to 2015.

Drift and fixed nets 12-18m – 78 vessels make up this segment (69 in the Atlantic, North Sea and Channel, and 9 in the Mediterranean, excluding overseas). Considering the clusters made for this fleet segment, 92 vessels make up this fishing fleet in 2016. The top three species in terms of value landed in 2016 were common sole, monkfishes and European seabass in the NE Atlantic (respectively 33.6%, 15.2% and 6.9% of the total value of landings), and gilthead seabream, common sole and monkfishes in the Mediterranean Sea (respectively 18.2%, 16.3% and 10.1%). In 2016, total landings value was EUR 40.6 million and around 270 FTEs were employed in this fleet segment, contributing to 3% and 3.6% of the total income from landings generated and FTEs in the national fishing fleet, respectively. The NE Atlantic fleet generated a gross profit of around EUR 7.4 million in 2016, which decreased significantly between 2015 and 2016 (-9.7%). It reaches nevertheless 17.9% of the income for this Atlantic fleet segment in 2016. For these two DFN segments, common sole represents a large part of the total value of landings. This heavy dependence makes the vessels of this fleet segment more vulnerable to the different management measures that impact the specie.

Demersal trawlers / seiners 12-18m – 153 vessels make up this segment in 2016 and they are predominantly based in the NE Atlantic (economic analysis exclude 4 vessels operated in Corsica). These vessels target a variety of species. The top two species in terms of value landed in 2016 were Norway lobster and monkfishes (respectively 37.6%, and 9.8% of the total value of landings of this fleet segment). 2016 was a good year especially for Norway lobster, with mixed increased landings at an average price maintained at a correct level. Total income was almost EUR 92.2 million and 452 FTEs were supported by this segment in 2016, accounting for 6.9% and 5.9% of the national fleet income and national fleet FTEs respectively. Total operating costs amounted to 83.6% of the fleet's income in 2016. This fleet segment generated a gross profit of around EUR 15.2 million in 2016 (16.4% of the income),

with an increase compared to 2015, partly explained by a lower economic dependence on fuel, combined with good sales on important species.

Demersal trawlers / seiners 18-24m – 165 vessels made up this segment in 2016. The vast majority (75%) of these vessels operate in the Atlantic, North Sea and Channel, 16% of the vessels operate in the Mediterranean Sea and 9% in French Guyana (only landings data are available for this last Region). Depending on the supra region, vessels have different fishing activities in terms of target species or number of days at sea. The vessels operating in the Atlantic, North Sea and the Channel target a variety of species, such as Monkfishes (22% of the total values of landings of this fleet segment), squids and common cuttlefish (respectively 9% and 6.4%). In terms of volumes landed, monkfishes and whiting represent respectively 15.8% and 12.3% of the total volumes of landings in 2016. In the Mediterranean Sea, vessels target hake (15.1% of the total values of landings of this fleet segment), squids and common octopus (respectively 13.1% and 11.7%). In 2016, total income value for this fleet segment was EUR 168.7 million and around 720 FTEs were employed, contributing to 12.7% and 9.4% of the total income from landings generated and FTEs in the national fishing fleet, respectively. This fleet segment produced a gross profit of around EUR 26.6 million in the Atlantic area and EUR 1.6 million in the Mediterranean in 2016. Total operating costs represented 83.1% and 89.2% of the income generated by this fleet segment in 2016, in the Atlantic area and Mediterranean Sea, respectively.

Those two segments of the French fleet are generally considered as the highest performing segments in terms of landing values (also for the two others DTS fleet segment VL2440 and VL40XX, not analysed here). But the economic situation is very different according to the supra-region observed. In the Atlantic area, values of landings were generally correct in 2016, and proper season was observed for species such as Norway lobster, monkfish or whiting. On the other side year 2016 was a more difficult year for cephalopods, although price increases partially offset lower landed volumes. The economic situation in the Mediterranean Sea is generally better in 2016 than 2015, and improvement in economic profitability is recorded in 2016 for the vessels.

Dredgers 12-18m – 84 vessels, plus 8 dredgers between 18 and 24 m and 1 vessel between 24 and 40m, made up this segment in 2016 (cluster), which operates exclusively in the North Atlantic. The fleet mainly targets great Atlantic scallop (75% of the total value of landings of this fleet segment in 2016) but also a variety of species as Common European bittersweet or common cuttlefish. Total income was around EUR 43.2 million in 2016 for all the vessel of the cluster, and around 237 FTEs were employed in this fleet segment, accounting for 3.3% and 3.1% of national fleet and national FTEs respectively. The fleet generated a gross profit of around EUR 5.8 million, which decreased between 2015 and 2016. It reaches 13.3% of the total income during the period. In France the shell season generally begins around the month of October and ends in May of the following year. The fishing zones are open as the season advances. European fishers are all regulated in terms of size, and in France, quotas are then set may be regulated by quotas distributed between vessels, or by suitable fishing times.

Drivers affecting the economic performance trends

Markets and Trade (including fish price)

In France, 36 auctions allowed the sale of fish in 2016. The new conditions offered for sale, with new mechanisms (connected market places, remote sales) are rather positive in France for the fish prices. The top three species in terms of value landed in 2016, and sold in auctions, were monkfish, sole and European hake (they represent respectively 11.3%, 8.7% and 7.6% of the total landed values sold in auctions during year 2016). The 2% increase in the average price over the previous year compensated for lower volumes, and auction sales were stable for the full year, after two years of consecutive growth. The management measures for species such as European bass or common sole in 2016 had a strong impact on landed quantities, and the observed price increases did not fully offset the decrease in landings.

However, depending on the target species, destination markets, vessel operating modes or historical patterns, all vessels do not use this sales method to sell their production. Direct sale is still particularly developed for species such as Great Atlantic scallop or some species of crustaceans. For some species such as whelks, horse mackerel or anchovies, the amounts sold off-auction represent more than half of the total amounts sold over the observed period

Regarding foreign trade, the France shows a deficit balance that exceeded EUR 3.6 billion in 2016. France export species like tuna (in Asia), smoked salmon, frozen shrimp, fresh species like cuttlefish, seabass or sole in Italy, Spain, United Kingdom, Belgium, etc. On the other hand, the top three species in terms of value imported in 2016 were salmon (Norway), frozen shrimp and tuna, from multiple countries.

Management instruments and regulations (policy)

The French fleet is managed through several management tools, as TACs and quotas related to the area and fishing stock, fishing license or multiannual management plans under national regulations. Each plan or fishing license (assigned to the pair "vessel*owner") target a particular species or a type of gear in a specific area. They specify the field of application and all the corresponding technical requirements as:

- Gear type and dimension (meshing);
- Vessel size;
- Depth;
- Exemptions (for instance if catches are below a threshold by year of meshing above a threshold);
- Fishing prohibition area or season (for instance spawning area for Eastern English Channel sole, spawning season for netters targeting sole in Bay of Biscay or season for swordfish in the Mediterranean Sea);
- Maximum catches by year

Concerning discard ban, there is still uncertainty on the impacts of this regulation in the medium term even though *de minimis* exemptions were set. Fishers fear that the discard ban will have a large impact on their profitability in terms of lower revenue due to low value species, higher operational costs (labour, storage, and ice), capacity problems on board and choke species in mixed fisheries, that is by-catch species for which available quota is insufficient to cover catches.

Stock status, TACs and quotas

We focus on the top eight species that reached 50% of French value of landings in 2016 and matched with 29 stocks.

Status of some Key Stocks

European hake (3 stocks, 1 main stock for France): **good news for North East Atlantic stocks**

The **main stock (IIIa,IV,VI,VII,VIIIabd)** was still exploited below Fmsy in 2016 with very high biomass.

Common sole (8 stocks, 4 main stocks for France): **good news for North East Atlantic stocks with still room for improvement.**

The **Eastern English Channel stock (VIId)** was exploited below Fmsy in 2016 with decreasing fishing mortality and increasing biomass, although the biomass was still below reference biomass. The **Western English Channel stock (VIIe)** was still in a good status in 2016 with fishing mortality below Fmsy and biomass above reference biomass and stable status for 2017. The biomasses for the **Bay of Biscay stock (VIIIabd)** and the **North Sea stock** were both above the reference biomass in 2016 and fishing mortalities, although decreasing, were still above Fmsy.

Gadoids in the Celtic Sea (**VII e-k,** 3 stocks): **Mixed stock status with still room for improvements**

Both **whiting** and **haddock** were exploited at fishing rates consistent with FMSY ranges, with biomasses well above the reference points. The status for the **Cod stock** was not satisfactory: the fishing mortality, though decreasing since 2014, is still above Fmsy and the biomass, though steadily increasing since 2014, was still just below the reference biomass.

European seabass (2 stocks, 2 main stocks for France): **Worrying stock status in North East Athlantic**

The **North Sea / Irish Sea / English Channel / Celtic Sea stock (IVbc,VIIa,d-h)** was still exploited above Fmsy in 2016 with a decreasing trend for biomass. No quantitative evaluation was available for either the **Bay of Biscay stock (VIIIab)** or the **Mediterranean stock**. An ongoing benchmark should result in a revision of the advice for both North East Atlantic stocks.

Norway lobster: **good news for Bay of Biscay stock (VIIIabde)**

The **Bay of Biscay (VIIIabde)** stock was considered as sustainably exploited in 2016.

<u>Bluefin tuna</u> (1 stock): **recovery of the stock confirmed**

The evaluation for 2016 confirmed that **the stock (27+37)** was exploited below Fmsy. It was considered possible that the stock may have already rebuilt to the reference biomass, although considerable uncertainty remained.

TACs and quotas

Total available quota (TAC) for the French fleet in 2016 was 332 thousand tonnes (an increase of +5%/+ 17 000 tonnes compared to 2015). In 2017 there was also an increase of French TAC in a larger extent (+11%/ + 37 000 tonnes).

Looking at the main species for France in terms of value of landings, the quota trends between 2015 and 2016 showed:

- **An increase** for **European hake** (+19%/+9 300 tonnes), **bluefin tuna** (20%/+ 570 tonnes), **Norway lobster** (5%/+ 430 tonnes) and **monkfishes** (1.6%/ + 480 tonnes). In 2017, the quotas for those species further increased reaching +20% for bluefin tuna;

- **A decrease** for **common sole** (VIIIab, VIIe, IVc, VIId) (-7%/- 280 tonnes). In 2016, 96% of the quota for sole in Bay of Biscay (VIIIab) was consumed. In 2016, the quota decreased by 10% for the sole in the Bay of Biscay while it increased by 15% for sole in Western English Channel (VIIe) and by 12% in North Sea (IVc). Similarly, the quota decreased for Eastern English Channel (VIId) sole (-6%/-120 tons). In 2017, the quota for **common sole** slightly increased by 3% meanwhile the quota for Eastern English Channel sole fell again by 16%.

Looking at pelagic species, the quotas for Atlantic mackerel dropped by 15% (- 3 000 tonnes) in 2016 meanwhile the quotas for blue whiting and herring rose by 5% (+1 140 tonnes) and 10% (+3 730 tonnes) all areas combined respectively. In 2017, if quotas for herring decreased by 5%, quotas increased for Atlantic mackerel (+14%/+2 380 tonnes) and blue whiting (+85%/+ 19 000 tonnes).

Among the 143 stocks under TAC exploited by the French fleet in 2016, 12 stocks (9 species) presented a quota uptake higher than 90% with an adapted quota higher than 1 000 tons:

- Atlantic bluefin tuna

- Sole (Bay of Biscay);

- Cod (I, IIb – Norwegian waters of I,II);

- Saithe (IIa, IIIa,b,c and IV);

- Norway lobster (VIIIa,b,d,e - Bay of Biscay);

- Rays (VIa-b and VIIa-c, e-k – VIII, IX);

- Haddock (VIIb-k,VIII,IX,X);

- Herring (Iva,b - IVc, VIId);

- Whiting (VIII - Bay of Biscay).

Operational costs (external factors)

The major cost items were labour and other variable costs (excluding energy costs) in 2016. As in the previous year, fuel prices remained at low levels throughout the year, although its trend is on the rise. In December 2016, fuel was close to 50 cents per litre, at the same level as in the beginning of 2015.

All operating costs remained stable in 2016, and even went downhill. This has allowed improving the overall profitability of the fleet, which increases by 3.5 points in comparison with the year 2015.

Socioeconomic impact

The size of the French fleet and consequently the total employment continue to decrease worryingly in 2016. The fishing fleet is composed mainly by older vessels, which may have a negative impact on the economic profitability of fishing enterprises.

Nevertheless, for several years, and thanks to favorable economic factors, as during the year 2016, the overall economic situation of French fishing sector has improved. Indeed, since 2013, fuel prices have been decreasing and efforts have been made to reduce average fuel consumption leading to proportionally lower energy costs. Fish prices for some key species have also increased leading to better

wages for the crew members. The remaining fleet appears to be returning to levels of profitability not achieved for many years. However, regional disparities are important, and economic performance differs significantly between fleet segments and supra regions. The activity of the French fishing fleet has a significant economic impact for the territories, whether coastal or not.

Despite those favorable economic conditions, fishers are worried about the uncertainties surrounding their sector of activity, which can have a serious impact on their economic viability in the short term. Among them:

- Access and conditions for the sharing of fishing areas. The number of users of the sea is increasing, and requires professional fishers to adapt themselves to those new constraints (renewable marine energies like offshore wind farm, protected or prohibited fishing areas, access negotiations with other countries, etc.). Fishers will have to be able to adapt their fishing strategy, with the obvious socio-economic consequences.
- Brexit modalities also worry French fishers, heavily dependent on British waters.
- Quotas and fishing rights. Fishers are particularly concerned about quotas for common sole, European seabass or even whiting. Many of them would like to have a multiannual quota management for such strategic species, which would allow a better visibility for the sector.
- The landing obligation and the socioeconomic impact that it will likely entail, also worries fishers, who expect increased problems from her extension. Technical and behavior adaptations may lead to a reduction in profitability (which reduces the incentive to focus on selectivity), but it is difficult to measure precisely today.
- The difficult renewal of vessels and generations of fishers. Investment in new vessels becomes a key element for the fisheries sector to ensure the economic sustainability of the fleet. The number of new vessels built has increased in recent years thanks to better economic prospects, but the difficulties encountered in building a new vessel (access to capital, fishing rights, etc.) sometimes push back initiatives. However, it is still difficult for many companies to recruit fishers. In some ports, the use of foreign labour (for example, African fishers) is the only way to reach the required number of workers on board.

Therefore, the sector has many challenges to overcome in the coming years, and fishers will have to adapt to ensure their sustainability in this uncertain economic environment.

Projections for 2017 and outlook

2016 was the most profitable year since 2008, in an overall economic context of stabilisation of fish prices, low fuel prices, and improvement of several biomasses of some strategic species from an economic point of view.

However, regional disparities are important, and economic performance differs significantly between fleet segments and supra regions. In the Bay of Biscay, the Norway lobster season was particularly good, offering regular volumes to buyers throughout the year. In the Mediterranean, 2016 has been marked by an improvement of the economic situation, thanks to the return of species like anchovy. The market remained stable throughout 2016.

Year 2017 should see the start of a renewal of the fleet of fishing vessels in France, initiated in some regions. Access to funding or fishing rights becomes a major challenge for future investors in the fishing industry. Brexit is also a major cause for concern for French fishers, and access to fishing areas worked by French vessels is one of the main conditions for ensuring the sustainability of the trade for the coming years.

Another major challenge for the sector: attracting young fishers to maritime fishing trades. The sector suffers from an image sometimes damaged, which becomes a brake for the younger generations of fishers. Some are leaving the fisheries sector for other marine sectors, and many owners are having difficulty getting skilled labor. One of the many challenges in the coming years will be to attract young fishers and make the job more attractive to them.

The sector needs this visibility, allowing it to invest with confidence.

MODEL FORECAST

Based on the model forecast landing weight will decrease in 2017 by 20% while a 1% decrease is expected in 2018; while landings values are expected to decrease by 14% and 7%, respectively. Variable and non-variable costs are expected to significantly decrease, in particular labour costs, while energy costs will increase 5% between 2016 and 2017.

A further 5% increase in the of energy costs by will also impact the economic performance, where GVA and gross profit are expected to decrease by 14% and 39%, respectively.

In any case, results indicate that the French fleet operated at a profit in 2017: with an estimated net profit of almost EUR 37 million and a margin of 3%.

The economic performance in 2018 is expected to worsen, and the French fleet would obtain net losses (EUR 12 million).

Data issues

Improvements achieved

It should be highlighted that a lot of improvements have been carried out in recent years especially:

- Completeness of Capacity region table for recent years (2010 – 2016);
- Implementation of PIM method for years 2010 to 2016;
- Employment data have been updated on the time series thanks to a new data source (economic and activity surveys). Data are more exhaustive even in outermost regions;
- Efforts data for years 2008 and 2009 have been completed;
- Economic data for less than 12 meters in Guadeloupe and French Guiana for 2016.

Issues still remaining

However, there are still some issues in particular for previous years:

- Coverage by sub-gear type for years 2010 to 2012 in effort datasets;
- Standardisation of clusters for years 2008 to 2010;
- Implementation of PIM method for years 2008 to 2010;
- Completeness of Capacity region table for years 2008 and 2009.

Moreover, it should be highlighted that, apart from the Capacity table, data on efforts and landings are not complete for outermost region fleets. Only employment data have been brought for 2015 thanks to the new data source mentioned above, with as well some economics variables which were already collected, but on a partial coverage. This concerns around 1 700 active fishing vessels less than 12 meters based in the French islands of Reunion, Martinique, Guadeloupe and French Guyana.

Also, the coverage of effort and landings data is still an issue for vessels less than 12 meters active in the Mediterranean Sea. Thus, effort and landings estimations in DCF database are underrated for this region. But the associate partner in data collection has another data source (based on landings observations) that should make possible the update of those data with a better quality at least for some indicators. The aim is to cover all vessels in Mediterranean and as well in overseas territories.

Two different sources of information have been used to calculate fishing incomes. In the tables, landings value comes mostly from logbooks, sales notes and satellite monitoring system whereas landings income comes from accounts and responses to a sampled survey. The totals are similar but there may be significant differences for some minor fleet segments.

Investments are only reported with a very low response rate in the data collection, especially for year 2015: figures should therefore be used with caution.

Survey for economic data

A method of probability sampling has been applied to the 2016 data, on a similar way as previous years since it was set up in 2012: vessels have been selected by systematic random sampling, the fleet having been classified inside each segment by size and maritime quarter, to ensure a good representativeness of the overall diversity of the French fleet.

When vessels didn't answer, a statistical method was used to know the criteria (explanatory variables) that could explain the response rate, then vessels were merged into clusters according to that predicted response probability. Those clusters are then used to weight again responding vessels, by increasing their weight. Concerning the partial non-responses, imputations have been made.

Within the improvements done on sampled survey, Corsican vessels were surveyed for the first time in 2017: some of them have been randomly selected using the same sampling process. This also improves quality on data collected for the year 2016.

Outermost fleet

Distant water fleet gathers 21 purse seiners over 40m length, all operating in the Indian Ocean and in the South Atlantic Ocean, but 14 amongst them are registered in a French metropolitan port. Data for purse seiners are provided only for 16 vessels, while the 5 other missing are based in Mayotte. Another

source enables to get all landings for those 5 missing vessels, then values are computed with species' prices (mainly tuna) reported on other fleet segments.

Only economic data for these purse seiners and those of French hooks 12-18m and 18-24m in the Indian Ocean are available for 2011 to 2015 in other fishing regions (41 vessels in total while more than 1 700 active fishing vessels less than 12 meters are based in the French islands of Reunion, Martinique, Guadeloupe and French Guyana). Data are not exhaustive either for the Small-scale Coastal Fleet in Mediterranean Sea (including Corsican ships).

It should be highlighted that a single 33 m longliner operating in other fishing regions should belong to distant water fleet according to European definitions, but is however clustered with other hooks 18-24 m and belongs actually to long scale fleet.

Capital value

The capital value and depreciation parameters have been calculated with the recommended (PIM) method for years 2011 to 2016. Next year, indicators for years 2008 to 2010 may be calculated with the same method. It was necessary to estimate the purchase prices per meter of vessels for some aggregated fleet segments to use the PIM method. These estimates have been done using the collected purchase price of some vessels and insurance values of other ones. For some segments, these data have not been published: it has been considered they were not relevant. The implementation of this method needs to be improved so data should be used with caution.

Other improvements to set up for upcoming years

Direct subsidies and other income are not available for all segments and are underrated. In the future, it may be possible to use the exhaustive list of projects co-financed by the EFF and EMFF to update direct subsidies data.

The existing small-scale coastal fleet definition could be extended in the French case to include all vessels less than 12 meters even if they use active gears as trawls, dredges or various active gears because they concern small vessels fishing in coastal areas with trips during less than 24 hours (606 French vessels are concerned in North Atlantic and 35 vessels in Mediterranean Sea in 2014).

In addition, tax bills reported at national level by fishing companies might be used to improve the quality of assessment for economic variables (e.g. incomes, crew wages).

We have data on total personnel costs for a sample of vessels. Currently, we consider that they represent wages and salaries of crew for all vessels and we do not disseminate data on the value of unpaid labour. It would be possible to estimate the value of unpaid labour considering that it represents the total personnel costs for vessels with only one job on board. For the other vessels, we would consider that, with the crew share system, the value of imputed labour is zero and there are only wages and salaries of crew.

Table 5.36 France: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	7,919	7,290	7,234	7,211	7,144	7,125	7,069	6,911	6,835	6,835	5,657		-1%	-6%
Number of inactive vessels_ms	(#)	1,314	815	953	1,027	1,132	1,217	1,311	1,186	1,152	1,152			-3%	3%
Vessel tonnage	(thousand GT)	197.2	185.3	174.2	171.0	168.3	164.2	175.6	171.9	173.5	173.5			1%	-1%
Engine power	(thousand kW)	1,076.0	1,007.7	994.9	1,001.5	999.3	999.9	1,016.6	999.4	1,003.7	1,003.7			0%	-1%
Total employed	(person)	16,103	15,807	15,166	14,631	14,140	13,691	13,547	13,442	13,536	13,463	13,474		1%	-7%
FTE	(#)	8,629	7,644	7,819	7,464	7,196	6,900	7,026	6,569	7,138	7,587	7,406		9%	-4%
Days at sea	(thousand day)	583.3	434.1			494.8	470.6	465.3	454.7	476.5	494.7	484.4		5%	-2%
Fishing days	(thousand day)	486.1	404.1			452.0	437.3	431.8	418.3	446.1				7%	2%
Number of fishing trips	(thousand)	335	330	375	392	383	378	368	357	379				6%	4%
Energy consumption	(million litre)	294.6	383.5	357.3	341.6	306.2	302.3	322.7	316.7	314.4	349.0	340.4		-1%	-4%
Live weight of landings	(thousand tonne)	433.9	431.4	447.4	463.7	505.4	514.0	526.9	518.3	540.2	431.9	429.1		4%	13%
Value of landings	(million €)	978.8	948.0	982.8	1,092.2	1,079.0	1,112.1	1,101.1	1,147.7	1,221.1	1,054.7	983.5		6%	16%
Income from landings	(million €)	1,018.7	1,090.0	1,075.3	1,179.7	1,083.2	1,127.6	1,147.4	1,178.7	1,305.0	1,122.1	1,049.2		11%	17%
Other income	(million €)	17.0	19.7	28.8	17.2	15.5	22.5	18.7	16.1	22.0	21.8	21.6		36%	13%
Direct income subsidies	(million €)	29.7	11.5	6.3	8.7	14.1	13.3	12.1	13.6	10.7				-21%	-22%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	402.03	436.07	410.59	426.07	384.16	399.08	429.48	457.72	501.45	426.78	401.21		10%	20%
Unpaid labour value	(million €)	-	-	-	-	-	-	-	-	-					
Energy costs	(million €)	194.4	167.3	191.1	223.1	225.4	214.1	209.1	161.7	137.7	141.9	148.4		-15%	-31%
Repair & maintenance costs	(million €)	69.5	92.6	85.6	92.5	86.7	91.3	102.0	110.1	123.7	123.4	124.4		12%	35%
Other variable costs	(million €)	60.9	143.5	110.8	133.1	117.8	136.3	145.2	139.6	156.6	171.4	166.4		12%	27%
Other non-variable costs	(million €)	187.4	167.6	156.4	145.0	127.2	130.7	135.7	132.7	150.8	150.6	151.6		14%	2%
Annual depreciation costs	(million €)	71.0	65.2		90.3	96.0	95.0	88.8	91.7	95.4	95.2	95.3		4%	12%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	-	-	-	5.39	1.93	6.95	5.80	4.16	0.90	2.19	4.05		-78%	-70%
Tangible asset value (replacement)	(million €)				539.4	585.0	584.3	546.9	547.7	562.4	561.5	561.9		3%	0%
Fishing rights	(million €)														
Investments	(million €)			113.1	76.2	62.2		64.4	28.1	34.4				22%	-50%
Financial position	(%)														
Gross Value Added	(million €)	523.5	538.7	560.3	603.2	541.7	577.7	574.1	650.7	758.1	556.7	480		17%	33%
GVA to revenue	(%)	50.6	48.5	50.7	50.4	49.3	50.2	49.2	54.5	57.1	48.7	44.8		5%	13%
Gross profit	(million €)	121.51	102.64	149.69	177.14	157.52	178.64	144.66	193.0	256.7	129.9	78.8		33%	68%
Gross profit margin	(%)	11.7	9.2	13.6	14.8	14.3	15.5	12.4	16.2	19.3	11.4	7.4		20%	44%
Net profit	(million €)				81.4	59.6	76.7	50.1	97.1	160.4	36.9	12.4		65%	120%
Net profit margin	(%)				6.8	5.4	6.7	4.3	8.1	12.1	3.2	1.2		49%	93%
GVA per FTE (labour productivity)	(thousand €)	60.7	70.5	71.7	80.8	75.3	83.7	81.7	99.1	106.2	73.4	64.8		7%	36%
Return on fixed tangible assets	(%)				16.1	10.5	14.3	10.2	18.5	28.7	6.2	2.9		55%	106%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
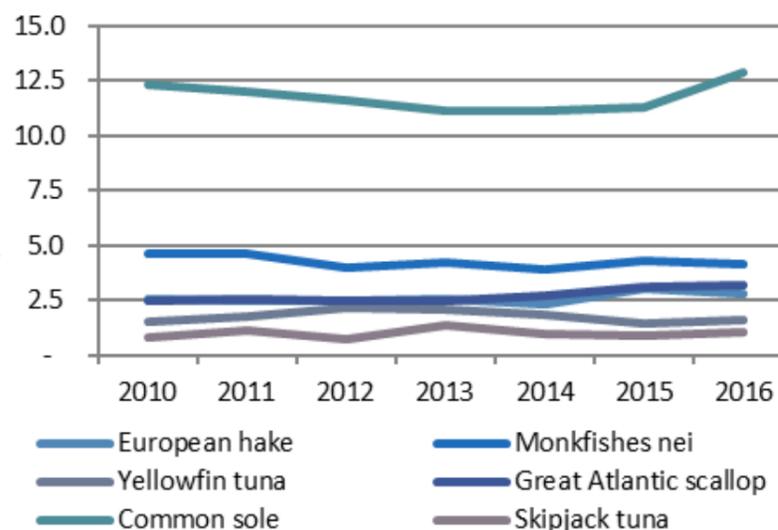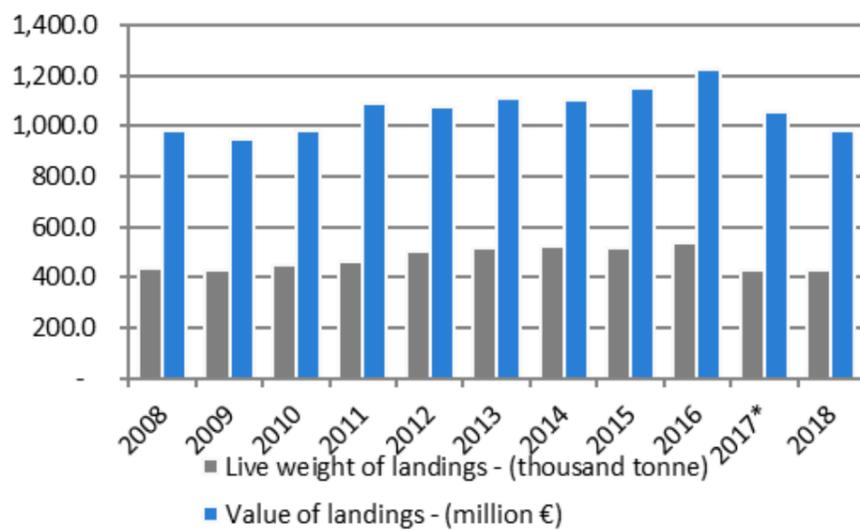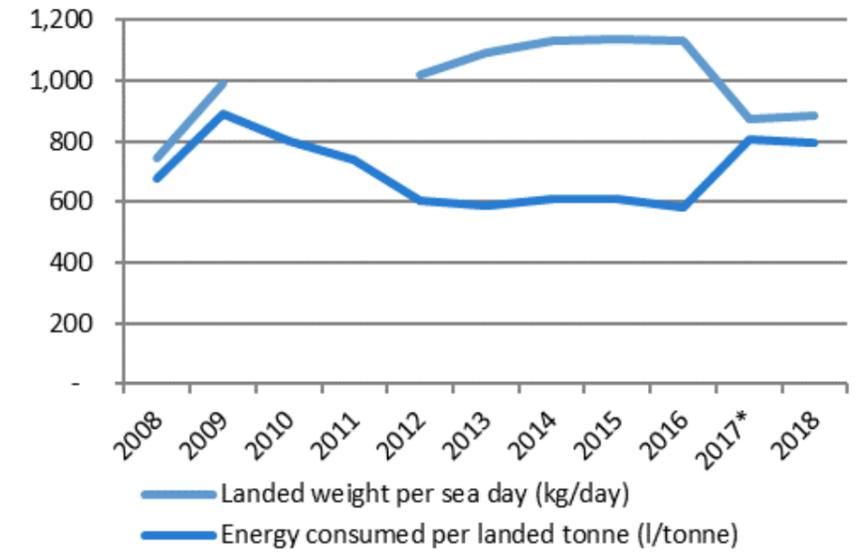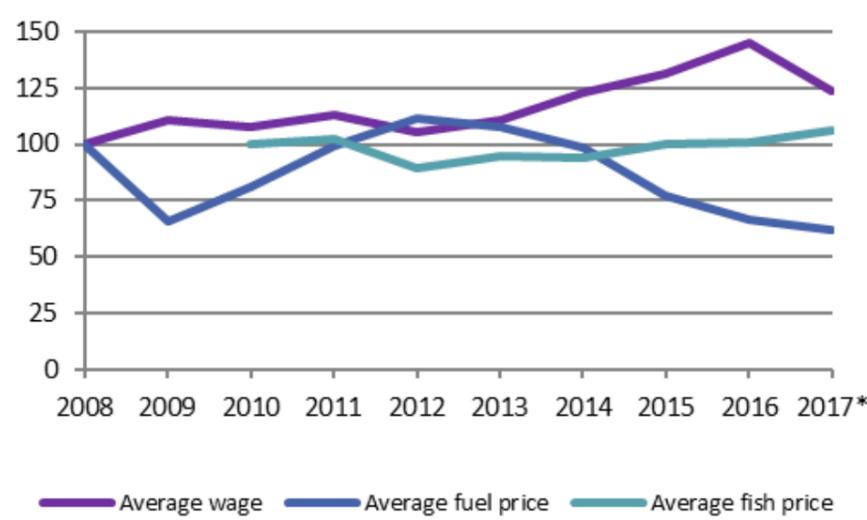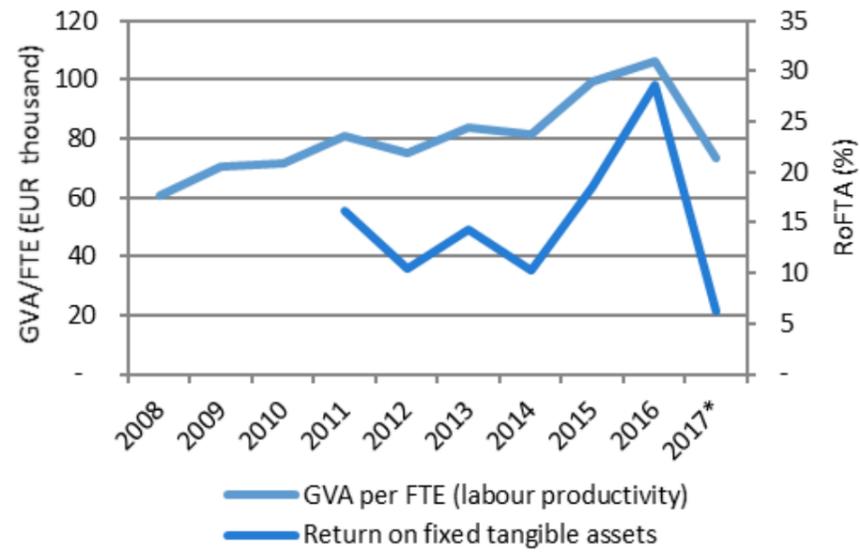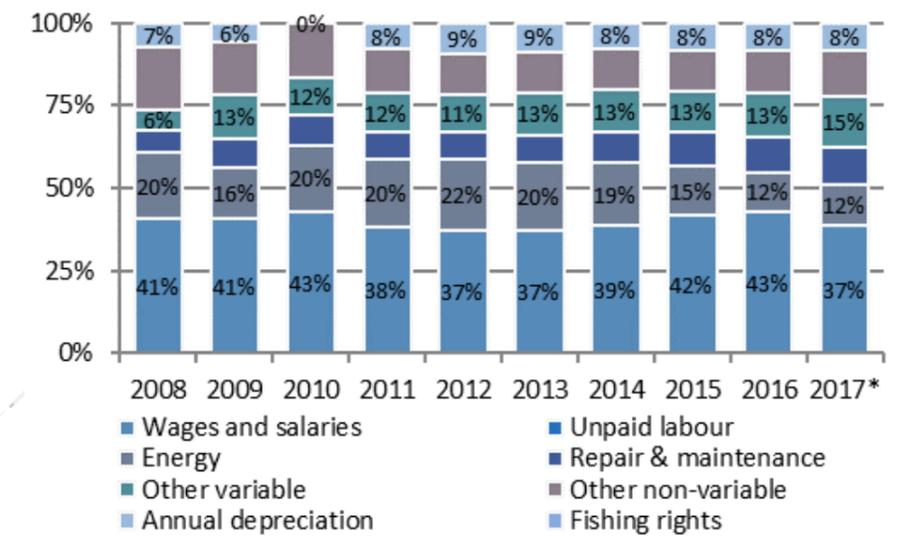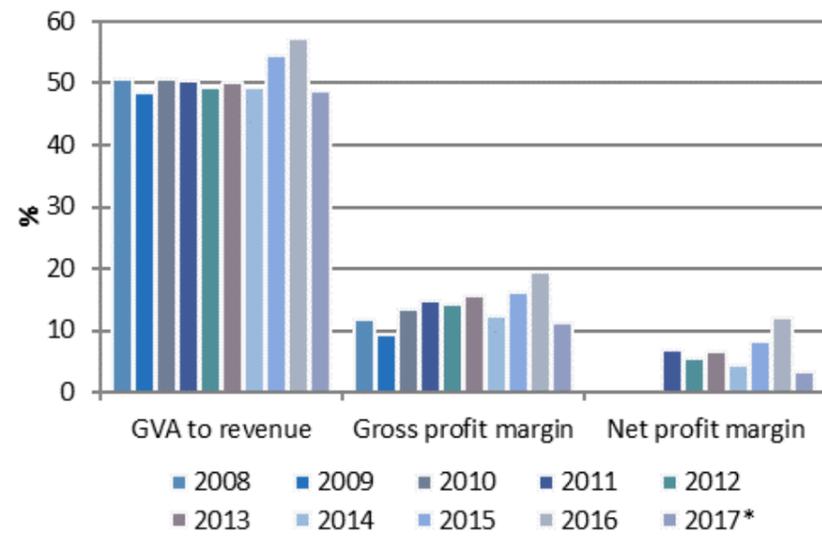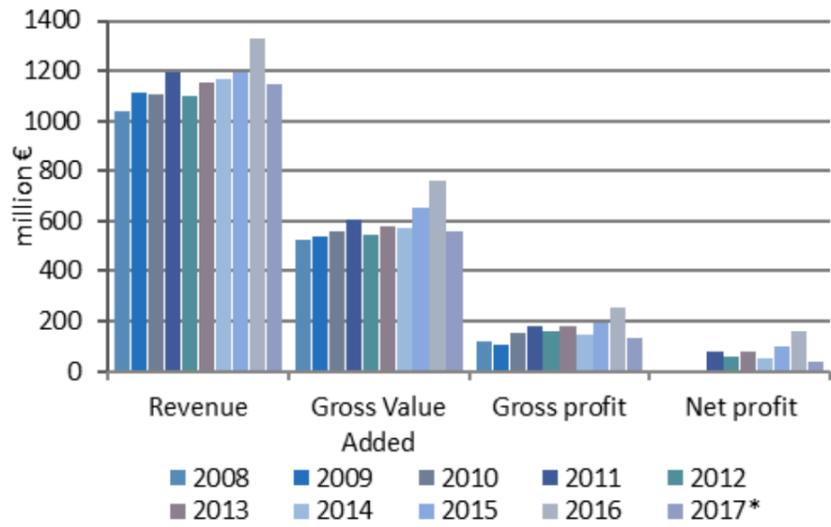
Figure 5.8 France: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.37 France: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

Indicator	Unit	SCF 2008	SCF 2009	SCF 2010	SCF 2011	SCF 2012	SCF 2013	SCF 2014	SCF 2015	SCF 2016	SCF 2017	SCF 2018	SCF Trend 2008-2018	SCF Δ2016 to 2015	SCF Δ2016 to avg. 08-15	LSF 2008	LSF 2009	LSF 2010	LSF 2011	LSF 2012	LSF 2013	LSF 2014	LSF 2015	LSF 2016	LSF 2017	LSF 2018	LSF Trend 2008-2018	LSF Δ2016 to 2015	LSF Δ2016 to avg. 08-15	DWF 2008	DWF 2009	DWF 2010	DWF 2011	DWF 2012	DWF 2013	DWF 2014	DWF 2015	DWF 2016	DWF 2017	DWF 2018	DWF Trend 2008-2018	DWF Δ2016 to 2015	DWF Δ2016 to avg. 08-15
Total number of vessels	(#)	4589	4629	4371	4480	4382	4332	4198	4178	4124	4124	4099		-1%	-6%	2011	1826	1889	1687	1612	1559	1538	1526	1537	1537	1535		1%	-10%	5	20	21	17	18	17	22	21	22	22	23		5%	25%
Vessel tonnage	(thousand GT)	16	16	15	16	16	16	16	16	15	15			-1%	-3%	169	127	119	114	109	108	106	107	106	106			-1%	-11%	3	34	31	28	33	32	45	43	46	46			7%	48%
Engine power	(thousand kW)	406	418	410	433	429	428	420	414	418	418			1%	0%	548	454	440	411	399	394	386	388	385	385			-1%	-10%	5	58	53	49	55	54	74	70	76	76			8%	45%
FTE	(#)	2518	2045	2230	2424	2360	2235	2165	2152	2208	2194	2172		3%	-3%	6045	5059	5166	4601	4423	4252	4283	4152	4327	4790	4609		4%	-9%	66	540	423	439	413	413	578	264	603	603	625		128%	54%
Total employed	(person)	7997	7881	7553	7755	7538	7250	6983	7003	6949	6890	6856		-1%	-7%	7978	7382	7174	6433	6189	6028	5986	5885	5984	5971	5994		2%	-10%	127	543	439	443	413	413	578	553	603	603	625		9%	37%
Days at sea	(thousand day)	242.2	170.8			226.9	225.8	221.1	208.0	225.7	224.3	221.2		8%	5%	340.8	257.8			267.8	244.8	243.8	242.6	246.5	266.1	258.8		2%	-7%	0.4	5.6		0.1	0.4	4.0	4.3	4.3	4.4				6%	105%
Fishing days	(thousand day)	205.3	168.6			223.3	224.0	219.3	205.6	222.1				8%	7%	280.4	235.3			228.7	213.3	212.3	211.0	221.9				5%	-4%	0.4	0.1					0.2	1.7	2.1				24%	346%
Number of fishing trips	(thousand)	175.9	172.0	209.8	227.4	224.7	225.0	220.3	203.3	221.1				9%	7%	159.3	157.7	165.0	164.3	158.7	148.5	150.5	147.9	152.8				3%	-2%	0.4	0.1	0.012	0.002	0.005	4.8	4.9	5.9	4.8				-18%	140%
Energy consumption	(million litre)	29.1	33.3	30.8	31.5	25.8	24.0	26.8	25.4	26.1	26.0	25.7		3%	-8%	265.5	297.3	278.2	262.8	234.3	236.5	237.5	238.0	234.3	269.0	258.8		-2%	-9%		52.9	48.2	47.3	46.0	41.8	58.4	53.2	54.0	54.0	55.9		2%	9%
Live weight of landings	(thousand tonne)			50.8	65.3	56.9	66.4	61.8	81.8	65.3	59.7	59.4		-20%	2%			311.2	316.4	125.2	132.6	128.2	343.6	360.2	372.2	369.7		5%	59%			85.4	82.0	78.5	79.3	100.0	92.8	114.7				24%	33%
Value of landings	(million €)			166.0	201.3	108.1	107.1	100.9	183.5	202.8	166.6	163.5		11%	40%			715.1	772.5	416.1	248.7	165.0	855.8	869.9	888.1	820.0		2%	64%			101.6	118.4	150.6	138.1	143.9	108.4	148.5				37%	17%
Income from landings	(million €)	251.9	251.1	239.9	263.7	214.8	217.9	220.2	220.4	277.3	198.3	194.8		26%	18%	766.8	748.4	740.3	789.4	715.9	769.5	789.4	846.0	879.2	923.8	854.5		4%	14%		90.4	95.2	126.6	152.5	140.2	137.8	112.3	148.5				32%	22%
Other income	(million €)	3.7	8.4	14.4	6.9	1.6	3.4	2.3	2.8	4.8	4.8	4.8		73%	-11%	13.3	11.4	14.4	10.4	13.9	19.1	16.4	13.3	17.1	17.0	16.9		29%	22%	0	0	0	0	0	0	0	0	0	0	0			
Direct income subsidies	(million €)	5.9	0.6	0.2	2.1	0.8	1.0	1.5	2.1	1.7				-19%	-6%	23.8	10.9	6.1	6.7	13.3	12.3	10.5	11.5	9.0				-22%	-24%	0	0	0	0	0	0	0	0	0					
Income from leasing fishing rights	(million €)	0	0													0	0	0	0	0	0	0								0	0	0											
Wages and salaries of crew	(million €)	126.3	121.1	113.2	118.5	96.1	96.6	99.8	99.9	127.6	87.3	85.7		28%	17%	275.7	285.4	268.1	270.4	246.6	262.0	286.0	319.0	328.6	339.5	315.5		3%	19%		29.6	29.3	37.1	41.5	40.4	43.6	38.8	45.3				17%	22%
Unpaid labour value	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Energy costs	(million €)	20.5	15.9	17.5	21.9	19.4	17.6	18.1	13.8	15.7	11.7	12.4		14%	-13%	173.9	128.7	150.0	171.6	173.9	166.6	156.3	122.2	101.9	120.5	125.1		-17%	-34%		22.7	23.6	29.6	32.2	29.9	34.7	25.7	20.1	9.7	10.9		-22%	-29%
Repair & maintenance costs	(million €)	13.2	13.6	13.1	12.8	10.9	11.6	12.3	11.5	15.2	15.1	15.0		32%	23%	56.3	59.9	56.9	60.4	52.6	58.2	63.8	72.6	77.4	77.5	78.1		7%	29%		19.2	15.6	19.3	23.2	21.4	25.9	25.9	31.0	30.7	31.3		20%	44%
Other variable costs	(million €)	11.2	20.6	23.2	25.9	22.4	25.6	24.0	26.5	29.3	29.2	28.9		11%	31%	49.7	94.5	84.4	105.0	90.5	105.4	115.0	107.2	121.0	135.9	131.2		13%	29%		28.4	3.1	2.3	4.8	5.3	6.2	5.9	6.2	6.2	6.3		7%	-22%
Other non-variable costs	(million €)	45.9	36.7	34.8	34.6	27.6	27.3	31.0	27.7	36.1	35.9	35.6		30%	9%	141.5	112.2	105.3	93.2	79.4	85.3	84.5	83.7	91.0	91.1	92.1		9%	-7%		18.7	16.3	17.3	20.2	18.1	20.2	21.3	23.8	23.5	24.0		12%	26%
Annual depreciation costs	(million €)	14.3	13.7		21.9	20.2	19.0	17.6	18.0	21.9	21.8	21.6		21%	23%	56.7	51.5		68.4	75.8	76.0	71.2	73.7	73.4	73.4	73.6		0%	9%														
Rights costs	(million €)	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0					0	0	0	0	0	0	0	0					
Opportunity cost of capital	(million €)				1.4	0.4	1.4	1.2	0.8	0.2	-0.5	-0.9		-75%	-80%				4.0	1.5	5.6	4.6	3.3	0.7	-1.7	-3.1		-79%	-82%														
Tangible asset value (replacement)	(million €)				136.2	126.0	117.9	109.9	109.7	132.1	131.6	130.4		20%	10%				403.2	459.0	466.4	437.0	437.9	430.3	429.9	431.5		-2%	-2%														
Fishing rights	(million €)																																										
Investments	(million €)			56.6	31.8	20.3		17.0	18.9	14.4				-24%	-50%			56.5	44.4	41.9		47.4	9.2	20.0				116%	-50%									0.0					
Gross Value Added	(million €)	164.8	172.7	165.7	175.4	136.1	139.2	137.0	143.6	185.8	128.5	124.7		29%	20%	358.8	364.6	356.7	369.6	333.4	373.1	386.2	473.6	505.0	535.1	464.2		7%	34%		1.4	36.6	58.2	72.2	65.4	50.9	33.5	67.3				101%	48%
GVA to revenue	(%)	64.5	66.6	65.2	64.8	62.9	62.9	61.6	64.3	65.9	64.0	63.2		2%	3%	46.0	48.0	47.4	46.2	45.7	47.3	47.9	55.1	56.3	57.2	53.6		2%	18%		1.6	38.4	46.0	47.3	46.7	36.9	29.8	45.3				52%	29%
Gross profit	(million €)	38.4	51.6	52.5	56.9	40.0	42.5	37.2	43.6	58.2	41.2	38.9		33%	28%	83.1	79.1	88.7	99.1	86.9	111.1	100.2	154.6	176.4	195.6	148.8		14%	76%		-28.1	7.3	21.1	30.7	25.0	7.2	-5.3	22.1				519%	166%
Gross profit margin	(%)	15.0	19.9	20.6	21.0	18.5	19.2	16.7	19.6	20.6	20.5	19.7		6%	10%	10.6	10.4	11.8	12.4	11.9	14.1	12.4	18.0	19.7	20.9	17.2		9%	55%		-31.1	7.6	16.7	20.1	17.8	5.3	-4.7	14.9				417%	228%
Net profit	(million €)				33.6	19.4	22.2	18.4	24.8	36.1	26.0	24.0		46%	52%				20.7	0.4	20.4	12.7	58.0	83.2	105.7	62.6		43%	271%														
Net profit margin	(%)				12.4	8.9	10.0	8.3	11.1	12.8	12.9	12.2		15%	26%				3.4	0.1	2.8	1.7	7.5	10.2	12.6	8.1		37%	230%														
Return on fixed tangible assets	(%)				25.7	15.7	20.0	17.8	23.3	27.5	27.9	25.5		18%	34%				6.1	0.4	5.6	4.0	14.0	19.5	27.7	15.8		39%	224%														
GVA per FTE (labour productivity)	(thousand €)	80.7	118.3	94.2	94.9	73.6	77.4	77.7	88.8	85.5	96.2	94.5		-4%	-3%	73.2	74.7	72.3	81.6	76.3	88.3	91.2	115.4	117.7	121.1	109.4		2%	40%		3.0	88.1	132.9	174.8	158.4	88.0	126.8	111.6				-12%	1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.38 France: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2015)	Net profit margin %Δ 2015 - average (2008-14)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
FRA A27 DTS1824 °	134	649	35,097	1,135	51,410	150,485	156,617	80,958	51.7	26,473	16.9	12,416	7.9	84.0	124.8	15.6	Weak	549%	Improved	11.8%
FRA OFR PS40XX	22	603	4,274	471	114,663	148,494	148,494	67,310	45.3	22,052	14.9			75.1	111.6			189%	Improved	11.2%
FRA A27 DTS2440 °	57	401	16,332	1,101	38,682	106,923	106,992	51,322	48.0	18,793	17.6	6,916	6.5	81.1	127.9	9.1	Weak	57%	Improved	8.0%
FRA A27 DTS1218	153	452	34,392	1,362	18,713	86,727	91,920	52,590	57.2	15,115	16.4	7,425	8.1	83.0	116.5	17.9	Weak	215%	Improved	6.9%
FRA A27 DFN1012 °	180	369	27,975	558	10,440	47,861	56,924	36,718	64.5	10,384	18.2	5,889	10.34	71.3	99.4	23.5	Reasonable	55%	Improved	4.3%
FRA A27 DTS40XX	10	185	2,972	528	32,326	70,942	54,658	27,778	50.8	11,605	21.2			87.4	150.2			70%	Improved	4.1%
FRA A27 DTS1012 °	187	277	30,105	1,091	11,562	45,523	51,932	30,775	59.3	10,910	21.0	6,225	12.0	71.7	111.1	23.5	Reasonable	336%	Improved	3.9%
FRA A27 HOK2440 °	20	246	4,988	743	11,736	39,577	48,040	29,316	61.0	13,509	28.1	11,130	23.2	64.3	119.2	79.6	High	28%	Improved	3.6%
FRA A27 DFN0612 °	93	237	14,262	640	16,561	38,929	43,293	23,770	54.9	5,742	13.3	1,250	2.9	76.2	100.5	5.4	Weak	-24%	Deteriorated	3.3%
FRA A27 DFN1218 °	72	261	14,560	558	8,223	40,949	42,257	26,146	61.9	7,420	17.6	4,341	10.3	71.8	100.2	25.3	Reasonable	67%	Improved	3.2%
FRA A27 DFN2440	18	223	4,643	336	15,627	40,324	41,782	30,607	73.3	14,919	35.7	12,951	31.0	70.4	137.3	125.4	High	22%	Improved	3.1%
FRA A27 DFN1824	30	186	6,876	430	7,114	30,050	32,078	20,083	62.6	7,440	23.2	5,474	17.1	68.0	107.9	50.5	Reasonable	365%	Improved	2.4%
FRA A27 FPO0010	280	222	31,435	311	8,200	24,039	30,046	19,483	64.8	6,670	22.2	4,722	15.7	57.6	87.6	39.6	Reasonable	-7%	Deteriorated	2.3%
FRA A27 TM40XX	3	113	507	56	48,898	23,182	28,264	15,411	54.5	7,486	26.5			70.1	136.4			-62%	Deteriorated	2.1%
FRA A27 FPO1012	66	155	11,894	341	8,435	19,180	26,438	16,957	64.1	6,272	23.7	4,588	17.4	68.9	109.3	45.9	Reasonable	87%	Improved	2.0%
FRA A27 HOK0010	239	137	24,619	920	3,364	22,415	25,745	16,696	64.9	6,125	23.8	4,440	17.2	77.3	122.1	43.8	Reasonable	722%	Improved	1.9%
FRA A27 DFN0010	274	175	29,049	694	3,660	19,634	23,982	15,348	64.0	4,815	20.1	2,999	12.5	60.3	87.9	27.6	Reasonable	91%	Improved	1.8%
FRA A27 PS1218 °	29	115	4,557	81	22,926	21,232	23,613	16,588	70.2	5,026	21.3	3,608	15.3	101.0	144.9	41.3	Reasonable	24%	Improved	1.8%
FRA A27 TM1824 °	23	118	5,565	519	13,792	23,987	22,639	11,492	50.8	3,212	14.2	967	4.3	70.3	97.6	8.1	Weak	-21%	Deteriorated	1.7%
FRA A37 DFN0612	511	181	26,245	1,583	1,338	11,520	21,908	15,113	69.0	4,291	19.6	2,488	11.4	59.9	83.7	23.8	Reasonable	-104%	Deteriorated	1.6%
FRA A27 PS2440 °	18	3					20,496	13,428	65.5	5,124	25.0	2,617	12.8	2,661.8	4,304.0	16.5	Reasonable	19%	Improved	1.5%
FRA A27 DRB1012	90	98	9,350	325	9,841	15,748	19,510	11,656	59.7	3,705	19.0	1,555	8.0	80.8	118.4	13.3	Weak	172%	Improved	1.5%
FRA A37 DTS2440 °	32	112	6,328	1,859	5,343	18,324	19,001	8,354	44.0	2,330	12.3	-1,728	-9.1	54.0	74.8	6.9	Weak			1.4%
FRA OFR PGP0010	554	128	1,214		49	426	14,720	10,160	69.0	2,453	16.7	1,044	7.09	60.2	79.4	12.5	Weak			1.1%
FRA A27 HOK1012	49	74	7,664	649	2,429	12,055	12,632	7,902	62.6	2,332	18.5	1,240	9.8	75.8	107.5	20.3	Weak			0.9%
FRA A27 MGP1012 °	36	58	5,353	174	15,087	10,007	12,006	7,905	65.8	3,142	26.2	2,214	18.4	82.2	136.4	40.7	Reasonable			0.9%
FRA A27 PMP1012 °	46	86	7,928	106	15,320	11,260	11,559	6,969	60.3	2,412	20.9	1,017	8.8	52.7	80.6	13.1	Weak			0.9%
FRA A37 DTS1824 °	32	74	5,266	2,395	2,376	10,644	11,520	5,499	47.7	1,557	13.5	336	2.9	53.4	74.5	5.6	Weak			0.9%
FRA A27 MGO0010 °	164	48	10,705	2,662	343	2,968	10,114	6,846	67.7	2,185	21.6	518	5.1	98.0	144.0	5.5	Weak			0.8%
FRA A27 FPO1824 °	17	74	2,994	514	3,387	8,165	9,918	5,860	59.1	1,825	18.4	942	9.5	54.8	79.6	18.6	Weak			0.7%
FRA A27 TM1218	12	51	2,917	619	4,456	9,919	9,818	5,732	58.4	1,769	18.0	1,125	11.5	78.2	113.1	30.9	Reasonable			0.7%
FRA A27 DTS0010	80	58	9,215	1,144	1,466	8,325	8,882	5,319	59.9	1,750	19.7	853	9.6	61.7	92.0	17.6	Weak			0.7%
FRA A27 MGP1218 °	21	54	3,740	783	2,705	8,048	8,413	4,389	52.2	1,073	12.8	61	0.7	61.2	81.0	1.2	Weak			0.6%
FRA A27 DRB0010	72	42	5,791	91	8,548	5,492	8,049	5,335	66.3	2,255	28.0	1,579	19.6	72.6	125.7	44.0	Reasonable			0.6%
FRA A37 PGP0612	115	64	8,513	1,293	741	5,517	6,786	4,520	66.6	1,378	20.3	880	13.0	49.2	70.8	27.6	Reasonable			0.5%
FRA OFR DFN0010	184	66	969		134	403	6,185	4,326	69.9	1,240	20.0	810	13.10	46.7	65.5	27.9	Reasonable			0.5%
FRA OFR HOK1218	15	60	3,029	1,136	1,184	9,326	6,099	1,680	27.5	101	1.7	-563	-9.2	29.5	27.8	-18.6	Weak			0.5%
FRA A37 HOK0612	56	15	1,788	1,644	251	2,331	5,805	4,245	73.1	1,417	24.4	1,171	20.2	185.0	277.7	80.2	High			0.4%
FRA OFR DFN1012	64	41	1,795		338	868	5,385	3,469	64.4	1,134	21.1	910	16.90	57.0	84.7	35.8	Reasonable			0.4%
FRA A27 PMP0010	51	35	5,425	241	2,650	3,788	4,817	2,878	59.8	927	19.2	340	7.1	55.8	82.3	10.6	Weak			0.4%
FRA A27 PGO0010 °	85	26	2,853	51	4,740	1,707	4,648	3,809	82.0	1,478	31.8	995	21.4	89.0	145.4	33.0	High			0.3%
FRA OFR HOK0010	497	127	4,987		435	3,264	4,147	3,078	74.2	1,035	24.9	493	11.9	16.1	24.3	15.3	Reasonable			0.3%
FRA A27 PGP0010	83	58	8,146	460	921	4,409	3,674	2,176	59.2	472	12.8	44	1.2	29.2	37.2	1.3	Weak			0.3%
FRA A37 DFN0006	115	24	4,337	1,138	259	1,640	3,091	2,135	69.1	586	19.0	475	15.4	63.3	87.3	73.6	Reasonable			0.2%
FRA A37 FPO0612	63	29	4,918	862	465	2,792	3,012	2,148	71.3	643	21.4	387	12.9	52.7	75.2	25.1	Reasonable			0.2%
FRA OFR FPO0010	268	90	538		12	110	2,617	1,793	68.5	367	14.0	98	3.75	15.8	19.9	6.0	Weak			0.2%
FRA A37 PGO0006	80	20	4,615	382		2,565	2,533	2,159	85.3	806	31.8	743	29.32	67.5	107.7	216.0	High			0.2%
FRA A37 MGO0612 °	24	10	1,321	1,868	156	650	1,882	1,460	77.6	518	27.5	387	20.57	93.7	145.3	52.6	High			0.1%
FRA A37 DFN1218 °	20	11	1,087	493	324	3,161	1,745	1,337	76.6	376	21.6	134	7.66	88.2	122.7	8.7	Weak			0.1%
FRA OFR HOK1012	20	24	1,069		198	1,536	1,536								-					0.1%
FRA OFR PS0010	25	33	120		8	73	1,494	1,299	86.9	573	38.3	501	33.52	22.2	39.7	132.6	High			0.1%
FRA OFR DTS1824	15	28	1,420		520	1,465	1,465								-					0.1%
FRA OFR PGP1012	8	1	15		1	8	1,409	868	61.6	214	15.2	13	0.89	605.8	804.0	0.9	Weak			0.1%
FRA A37 PS0612 °	12	9	401	29	3,276	34,595	1,390	1,134	81.6	411	29.6	212	15.3	79.6	124.8	18.3	Reasonable			0.1%
FRA A37 PGP0006	48	14	2,920	657	144	1,172	1,024	809	79.0	270	26.3	225	21.97	37.3	56.0	91.5	High			0.1%
FRA A27 MGP0010 °	16	9	1,411	39	3,268	1,095	988	682	69.0	323	32.7	163	16.46	41.8	79.4	20.7	Reasonable			0.1%
FRA OFR HOK1824 °	5	25	1,036	743	349	2,807	928	230	24.8	-60	-6.4	430	46.34	11.4	9.1	18.1	Weak			0.1%
FRA A37 PGO0006	42	8	1,078	483	116	520	882	724	82.0	243	27.5	205	23.28	58.6	88.2	99.6	High			0.1%
FRA A37 PMP0612 °	15	9	1,286	708	189	998	804	511	63.6	134	16.7	70	8.70	40.9	55.5	16.8	Weak			0.1%
FRA A37 PGO0612	57	13	1,716	1,310	98	517	784	527	67.2	117	14.9	-86	-11.03	31.1	40.0	-7.0	Weak			0.1%
FRA A37 HOK0006	19	4	655	745	18	249	568	290	51.1	-15	-2.7	-33	-5.84	75.8	72.0	-31.7	Weak			0.0%
FRA OFR FPO1218	2	9	207		21	206	206								-					0.0%
FRA OFR PGO0010	52	2	43		3	12	12								-					0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.39 France: National fleet statistics and economic performance results by fleet segment, 2017

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2015)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
FRA A27 DTS1824 °	134	772	83,477	1,275	54,422	181,519	188,362	101,490	53.9	35,769	19.0	22,113	11.7	85.2	131.5	27	Reasonable	16.6%
FRA A27 DTS2440 °	57	577	46,985	1,437	42,642	146,697	146,582	74,459	50.8	29,830	20.4	18,343	12.5	77.3	129.0	23	Reasonable	12.9%
FRA A27 DTS1218	153	491	74,742	1,448	19,124	91,025	96,366	54,093	56.1	14,760	15.3	7,277	7.6	80.2	110.3	17	Weak	8.5%
FRA A27 DFN1012 °	180	370	55,985	569	10,248	49,061	58,323	37,874	64.9	10,880	18.7	6,510	11.16	73.0	102.4	25	Reasonable	5.1%
FRA A27 DTS40XX	10	176	5,644	518	31,307	69,881	53,841	27,160	50.4	11,229	20.9			90.7	154.6			4.7%
FRA A27 DTS1012 °	187	280	60,822	1,077	11,827	45,888	52,345	30,640	58.5	10,615	20.3	6,064	11.6	71.6	109.5	22	Reasonable	4.6%
FRA A27 HOK2440 °	20	265	10,739	798	11,756	40,316	48,936	29,115	59.5	13,013	26.6	10,705	21.9	60.8	110.0	76	High	4.3%
FRA A27 DFN1218 °	72	277	30,963	579	8,422	44,896	46,286	29,505	63.7	8,975	19.4	5,982	12.9	74.0	106.4	34	Reasonable	4.1%
FRA A27 TM40XX	3	161	1,446	60	65,431	36,147	44,069	28,073	63.7	15,717	35.7			76.7	174.2			3.9%
FRA A27 DFN2440	18	251	10,465	381	15,562	42,277	43,805	31,893	72.8	15,445	35.3	13,528	30.9	65.4	126.9	130	High	3.9%
FRA A27 DRB1218 °	93	236	28,473	638	16,587	38,958	43,327	23,456	54.1	5,414	12.5	1,040	2.4	76.4	99.3	4	Weak	3.8%
FRA A27 DFN1824	30	202	14,894	470	7,057	32,800	34,964	22,373	64.0	8,573	24.5	6,661	19.0	68.5	111.0	61	Reasonable	3.1%
FRA A27 FPO0010	280	222	62,755	312	8,178	24,023	30,027	19,358	64.5	6,553	21.8	4,665	15.5	57.7	87.2	38	Reasonable	2.6%
FRA A27 FPO1012	66	155	23,766	341	8,423	19,202	26,469	16,880	63.8	6,183	23.4	4,549	17.2	69.0	108.9	45	Reasonable	2.3%
FRA A27 HOK0010	239	135	48,652	958	3,191	21,439	24,631	15,521	63.0	5,410	22.0	3,776	15.3	74.9	114.9	37	Reasonable	2.2%
FRA A27 PS1218 °	29	116	9,254	79	23,836	21,867	24,319	17,153	70.5	5,246	21.6	3,871	15.9	102.4	147.5	44	Reasonable	2.1%
FRA A27 TM1824 °	23	125	11,819	519	14,642	25,732	24,190	12,357	51.1	3,474	14.4	1,290	5.3	71.0	98.8	10	Weak	2.1%
FRA A27 DFN0010	274	173	57,631	703	3,581	19,568	23,903	15,192	63.6	4,694	19.6	2,933	12.3	60.6	87.7	26	Reasonable	2.1%
FRA A27 DRB1012	90	97	18,515	325	9,760	15,574	19,299	11,376	58.9	3,513	18.2	1,420	7.4	80.7	116.7	12	Weak	1.7%
FRA A27 HOK1012	49	73	15,294	675	2,330	12,001	12,579	7,792	61.9	2,246	17.9	1,185	9.4	75.6	106.2	19	Weak	1.1%
FRA A27 MGP1012 °	36	58	10,796	172	15,314	10,180	12,209	7,998	65.5	3,152	25.8	2,252	18.4	82.9	136.8	41	Reasonable	1.1%
FRA A27 PMP1012 °	46	87	15,965	106	15,438	11,450	11,752	7,083	60.3	2,449	20.8	1,093	9.3	53.2	81.4	13	Weak	1.0%
FRA A27 TM1218	12	53	6,138	607	4,782	10,506	10,388	6,066	58.4	1,868	18.0	1,242	12.0	78.7	113.7	33	Reasonable	0.9%
FRA A27 MGO0010 °	164	47	21,245	2,661	341	2,947	10,043	6,745	67.2	2,119	21.1	499	5.0	98.1	143.0	5	Weak	0.9%
FRA A27 FPO1824 °	17	74	5,986	515	3,386	8,184	9,941	5,823	58.6	1,779	17.9	922	9.3	55.0	79.1	18	Weak	0.9%
FRA A27 DTS0010	80	57	18,020	1,143	1,435	8,101	8,644	5,057	58.5	1,584	18.3	711	8.2	61.4	89.4	14	Weak	0.8%
FRA A27 MGP1218 °	21	54	7,493	761	2,789	8,083	8,449	4,348	51.5	1,017	12.0	34	0.4	61.4	80.1	0	Weak	0.7%
FRA A27 DRB0010	72	42	11,557	91	8,528	5,484	8,037	5,295	65.9	2,219	27.6	1,561	19.4	72.6	125.1	43	Reasonable	0.7%
FRA A27 PMP0010	51	35	10,870	241	2,652	3,784	4,812	2,848	59.2	899	18.7	328	6.8	55.6	81.3	10	Weak	0.4%
FRA A27 PGO0010 °	85	26	5,703	51	4,738	1,710	4,657	3,808	81.8	1,472	31.6	1,004	21.6	89.2	145.4	33	High	0.4%
FRA A27 PGP0010	83	58	16,278	467	907	4,371	3,642	2,126	58.4	437	12.0	- 64	- 1.7	28.9	36.4	- 2	Weak	0.3%
FRA A27 MGP0010 °	16	8	2,785	39	3,225	1,078	973	664	68.2	310	31.9	154	15.82	41.7	78.2	19	Reasonable	0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.40 France: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)							Live weight of landings (thousand tonne)							Average landed price (real) (€)							% over total (2015)	
	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	in value	in weight
European hake	52.8	59.2	11.2	17.8	25.6	128.5	125.6	20.6	23.6	4.6	7.1	11.2	42.4	45.3	2.6	2.5	2.5	2.5	2.3	3.0	2.8	10%	8%
Monkfishes nei	74.1	86.0	1.3	1.1	1.3	98.1	100.4	16.0	18.6	0.3	0.3	0.3	22.9	24.3	4.6	4.6	4.0	4.3	3.9	4.3	4.1	8%	4%
Yellowfin tuna	64.5	68.7	94.5	85.9	100.8	69.3	90.0	42.7	39.1	44.1	41.8	55.3	48.0	55.7	1.5	1.8	2.1	2.1	1.8	1.4	1.6	7%	10%
Great Atlantic scallop	58.8	70.5	14.6	13.3	11.5	69.8	78.8	23.9	27.9	5.9	5.3	4.3	22.3	24.9	2.5	2.5	2.5	2.5	2.7	3.1	3.2	6%	5%
Common sole	90.7	97.9	7.3	6.6	5.2	72.2	67.4	7.3	8.2	0.6	0.6	0.5	6.4	5.2	12.4	12.0	11.6	11.1	11.1	11.3	12.9	5%	1%
Skipjack tuna	30.0	42.6	0.0	40.8	35.8	36.5	53.9	35.7	37.3	0.0	29.6	37.4	40.4	53.0	0.8	1.1	0.7	1.4	1.0	0.9	1.0	4%	10%
Norway lobster	40.5	44.4	1.4	1.1	0.8	42.6	48.1	4.5	4.5	0.1	0.1	0.1	4.0	4.7	9.1	9.8	11.2	11.2	13.1	10.6	10.4	4%	1%
Atlantic bluefin tuna	19.0	16.5	10.9	23.3	3.6	37.9	40.8	2.0	1.9	0.9	2.2	0.4	2.8	3.4	9.8	8.9	12.6	10.7	10.4	13.4	11.9	3%	1%
European seabass	54.4	56.4	31.1	34.3	26.3	45.5	39.3	5.4	5.3	2.8	3.1	1.8	3.5	2.8	10.0	10.6	11.1	11.2	14.2	13.2	14.0	3%	1%
Common cuttlefish	27.8	42.4	6.7	4.1	2.3	32.8	36.3	10.1	12.8	2.3	1.7	0.7	11.2	9.4	2.8	3.3	3.0	2.5	3.1	2.9	3.9	3%	2%
																						56%	42%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.9 Germany

Short description of the national fleet

Fleet capacity

The national fleet capacity continued to decline, with a total of 1 398 vessels, 386 of which were inactive in 2017. The total fleet had a combined gross tonnage (GT) of 60.6 thousand tonnes and engine power of 132.3 thousand kilowatts (kW). In 2017, the total number of vessels decreased by 32 compared to 2016. Almost all inactive vessels (353) belong to the smallest length class (below 10 meters). In that length class about 34% of the registered vessels have reported no activity in 2017 – a figure similar to previous years. The percentage of inactive vessels decreases with increasing length – in the 24-40 meters' length class only four vessels were filed inactive.

Vessels which target blue mussels are not included in the analysis because they are defined as operating in the aquaculture sector and are therefore covered in the aquaculture report.

The German pelagic trawler fleet is excluded from the analysis except for capacity and weight and value of landings data as practically the entire segment is owned by one parent company. For confidentiality reasons the data cannot be published.

Fleet structure

In 2017, the German large-scale fishing fleet (length above 12 meters) consisted of 278 vessels (20%), whereas 1 120 vessels (80%) were accounted for the small-scale coastal fleet (below 12 meters). Thus the decrease in number of vessels applied mainly to the small scale fleet (-31) while the fleet of vessels above 12 meters decreased by only one vessel in 2017. In contrast to the number of vessels, the total tonnage and engine power of the German fleet decreased only slightly over the years, indicating a trend towards bigger vessels.

Employment

Employment was estimated at 1 539 jobs in 2016, corresponding to 1 204 FTEs. These figures remained stable compared to 2015, whereas the overall trend over time is decreasing. Given some oscillation, the figures have decreased roughly by 15% within the last six years.

Effort

About 104 thousand days were spent at sea in 2016, a slight decrease of 2% from 2015 (106 thousand days). The energy consumed in 2016 amounted to an estimated 41 million litres and was thus slightly higher (2%) than in 2015. Due to a continued decrease in fuel prices the energy costs decreased from about EUR 18.1 million in 2015 to EUR 15.6 million in 2016.

German small-scale coastal vessels operate almost exclusively in the Baltic Sea, whereas cutters (<500 GT) above 12m fish in the North Sea and in the Baltic Sea. German high seas trawlers operate mainly in the North Atlantic and Eastern Arctic area, but to some extent also in African and Southern Pacific waters.

Total Production

Total production shows an increasing trend from 2012 to 2017 with a live weight of landings increasing from 199 thousand tonnes to 253 thousand tonnes. In 2017, the weight of landings increased considerably to 253 thousand tonnes, from 228 thousand tonnes in 2016. The main species are herring, cod, common shrimp, saithe and Greenland halibut. In terms of weight herring is by far the dominant species, whereas the highest revenue is generated through brown shrimp.

Economic results for 2016 and recent trends

National fleet performance

Overall the German non-pelagic fleet generated a net profit since 2010 (with the exception of 2011 when brown shrimp prices had dropped below a critical level). Its economic performance has significantly improved compared to 2015. According to the available information from the industry, data on catches in 2017 and the still relatively low fuel prices the overall performance in 2017 is expected to be positive as well.

The total revenue of the German fleet, excluding direct income subsidies, was estimated at EUR 237 million (EUR 162 million for the non-pelagic fleet) for 2016. The increase of about EUR 20 million was generated only by the large-scale fleet, while revenues of the SSCF remained stable at about EUR 9 million.

The value of landings, which includes pelagic catches, steadily increased over the last years, especially from 2014 to 2015 (+ EUR 10.5 million), from 2015 to 2016 (+ EUR 18.1 million) and from 2016 to 2017 (+ EUR 11.5 million).

Direct income subsidies accounted for less than EUR 0.6 million in 2016.

Total operating costs of the non-pelagic fleet remained almost unchanged: energy costs decreased considerably while labour costs increased slightly. When including capital costs, total costs amounted to EUR 136 million.

For the non-pelagic fleet, GVA, gross profit and net profit in 2016 were estimated at EUR 98 million, EUR 46 million and EUR 26 million, respectively.

The (depreciated) replacement value of the German fleet was estimated at EUR 107 million, a 11% decrease compared to the 2015 value, while investments amounted to EUR 19.7 million, a 61% decrease from 2015. However, this decrease is mainly due to one newly constructed high seas trawler entering the German fleet in 2015.

Overall, the cost structure has remained relatively constant over the recent years; most cost items have increased compared to the low figures of 2014. Though fuel consumption increased in 2016, fuel costs decreased mainly due to lower fuel prices. Due to the aforementioned entry of a new trawler all related figures, like opportunity cost of capital and depreciation have been affected considerably.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 28.5%. Net profit margin was estimated at 16%, much higher than in 2015 where was estimated at 5%. The Rate of Return on Fixed Tangible Assets (RoFTA) also increased significantly to 24%.

Labour productivity (GVA/FTE) for 2015 was estimated at EUR 81 700/FTE, a 19% increase compared with 2015.

Fuel consumption per landed tonne has been fluctuating around 550 litres per tonne, but increased to 727 litres per tonne in 2016. The weight of landings per unit of effort (in days at sea) decreased after 2009 and since then has fluctuated around 2.2 tonnes/DAS.

Performance results of selected fleet segments

The German cutter fleet (below 500 GT) is dominated by beam trawlers and, to a lesser extent, demersal trawlers.

Beam trawlers

German beam trawlers operate in the North Sea. Vessels up to 27 metres target almost exclusively brown shrimp. There are a few large beam trawlers over 27 meters targeting mainly flatfish. Thus, the beam trawler segment 24-40 meters contains both types of vessels.

The owners of the shrimp beam trawlers are usually also the skippers. They operate in coastal waters: smaller vessels with shallow draught can fish in the tide-ways and the Wadden area between the islands and the coast. These vessels depend on the tide and return to the port daily. These vessels usually do not fish in winter as the target species migrates to deeper areas. Larger vessels operate in greater depths and can also fish year-round. They stay at sea for several days.

Shrimp prices and fuel costs are the crucial elements for the economic performance of shrimp beam trawlers. 2016 was regarded satisfactory: the weight of landings increased slightly from a very low level while prices for brown shrimp remained almost stable with little decrease only. Thus the total value of landings increased considerably. In addition, fuel prices decreased slightly and the profit increased. The net profit of beam trawlers up to 24 meters was about EUR 11.9 million in 2016.

Flatfish beam trawlers flying the German flag are owned and operated mainly by Dutch fishers. They target mainly sole, plaice, and turbot. All of them are equipped with pulse gear. The catch is landed exclusively in the Netherlands. The weight of landings remained stable while the value of landings increased from 2015 to 2016. Moreover, fuel costs decreased by about 10%. Thus the segment experienced an increase in gross profit of about EUR 3.9 million in 2016.

Demersal trawlers

The German demersal trawler fleet can be divided into high seas trawlers above 45m, large cutters between 23 and 45 meters and smaller cutters below 23 meters. The high seas trawlers target mainly Greenland halibut, cod and redfish in Eastern Arctic and Greenland waters, the large cutters target saithe, cod, hake and haddock, the ones around 24 meters (eurocutters) also fish *Nephrops*. These vessels fish almost exclusively in the North Sea and Skagerrak. Some eurocutters shift temporarily to shrimp beam trawling or pelagic trawling for herring. The vessels of 20 meters and below almost exclusively fish in the Baltic Sea, targeting mainly cod, flatfish and – seasonally switching to pelagic gear – herring and sprat.

This indicates that the DCF length thresholds divide the demersal fleet into segments with heterogeneous fishing patterns. Thus the performance indicators in most cases represent a mixture of different fisheries. The net profit of demersal trawlers over 40 meters was estimated at EUR 5.6 million, the net profit of demersal trawlers between 24 and 40 meters was estimated at EUR 2.8 million. The vessel profits are partly estimated upon internal prices as the vessels are part of companies that also operate in fish processing. That means that the profit is not necessarily assigned to the vessels only, but may be made at an advanced stage of the value chain as well. One new high seas demersal trawler entered the fleet in 2015 and two more in 2017. Two newly built vessels around 40 meters will enter the fleet in 2018 or 2019. This is a clear indication of profitable fisheries.

For the segments with medium sized demersal trawlers (18-24 meters) positive net profits were determined (EUR 3.36 million), but as described before, this is a mixture of North Sea and Baltic Sea vessels. For the vessels below 18 meters, negative net profits were estimated (-EUR 456 thousand). In both cases, the poor status of Western Baltic cod has a negative impact on the profitability.

Vessels using fixed nets and other passive gear

Larger fixed netters and potters (between 26 and 31 m) operated almost exclusively in Western waters, targeting anglerfish or red crab. For the related segment gross losses of EUR 8 thousand were determined. Smaller vessels using passive gear almost exclusively operate in the coastal areas of the Baltic Sea. Main target species are cod, herring, and to some extent freshwater species in the brackish Bodden areas. The segment of fixed netters 12-18m achieved net profits of EUR 787 thousand, net losses of EUR 404 thousand were calculated for the 10-12m length class. The passive gear segment with vessels below 10m achieved net profits of EUR 580 thousand. All these vessels fishing in the Baltic Sea suffered from the decreasing TAC of Western Baltic cod.

Performance by fishing activity

Large-scale fleet

In 2017, 278 active vessels were assigned to the large-scale fleet. These vessels mainly operate in the North Sea and the Baltic Sea, while the large trawlers fish also in the North Atlantic, Eastern Arctic and in distant areas. The cutters (<500 GT) target mainly brown shrimp, cod and saithe while the high seas trawlers fish herring, cod, Greenland halibut and other small pelagic species like mackerel.

The value of landings of the large-scale fleet increased continuously from 2014 to 2017 by about 17% altogether. The weight of landings also increased substantially, with some decline in 2015, but noticeable increase since then. Cost variables increased on average from 2015 to 2016, except for fuel cost. Due to the increase in income from landings, both gross and net profit increased as well.

The number or people employed in the large-scale fleet remained at the same level. The gross value added by full time equivalent increased as in previous years.

It has to be born in mind that for confidentiality reasons these observations refer only to the non-pelagic fleet. Only the weight and value of landings include the pelagic segment.

Small-scale coastal fleet

In 2016, 736 active vessels were assigned to the small-scale fleet according to the EU definition (vessels under 12 meters using passive gears). These vessels almost exclusively operate in the Baltic Sea, targeting mainly herring and cod and also freshwater species which are not managed under a TAC regime.

Weight and value of landings of the SSCF increased slightly from 2014 to 2015 and also to 2016. The estimated total effort in terms of days at sea decreased slightly between 2014 and 2016, costs showed

no clear trend. Fuel costs decreased considerably. In 2016, the small-scale fishery ended up with a gross profit of EUR 1.6 million and a net profit of EUR 200 thousand.

The estimated number of people employed remained around 750 between 2015 and 2016, corresponding to about 600 FTE.

Drivers affecting the economic performance trends

As the German fleet is dominated by trawlers, the fuel price always has a major impact on the overall economic performance. As fuel prices decreased significantly (about 25%) from 2014 to 2015 and again from 2015 to 2016 (10%), the profitability of the fleet was influenced in a positive manner.

Prices for brown shrimp have a significant influence on the performance of the national fleet, as it is the most important species in terms of value. In 2016, landings dropped by about half, but prices per kg were more than doubled from EUR 2.9 to EUR 6.5, and thus the total value of brown shrimp landings increased by about 25% compared to 2015. In 2017, catches increased slightly by about 17% while prices decreased only slightly, thus resulting in an increase of the total value by about 13%.

For all other species with major importance stable or increasing prices could be observed.

The MSC certification gains importance for sales of fish. Certification results in stable or higher prices. In several cases it has become a prerequisite for sales due to market requirements. For the high seas fisheries, the most important pelagic fisheries (North Sea herring, Atlanto-Scandian herring, mackerel, blue whiting) are MSC-certified. Cod, haddock and saithe fisheries in Norwegian waters and around Svalbard are certified as well as saithe fisheries in the North Sea. All annual audits were finalized successfully. The certification of cod, haddock and saithe fisheries in the Barents Sea was extended for five more years. The cutter fishery on brown shrimp was certified in 2017.

Markets and Trade

Brown shrimp as most important species is mainly landed in Germany, to some extent also in the Netherlands. The wholesale market is dominated by two companies which have a huge influence on the price. However, as fishers formed a producer organisation to gain market power the detrimental results of 2011 did not repeat. Just to the contrary, prices for brown shrimp developed favourably, thus increasing the profitability of the related fishery.

Overall, in 2017 only about a quarter of the total catch was landed in German ports, corresponding to about half the total value. Almost half the catch was landed in the Netherlands, about 15% in Denmark. The degree of self-sufficiency for fish is rather low in Germany, about 16%. Thus, international trade plays a crucial role for the supply of the German market with fish products.

Management instruments

The predominant management measure was TAC. The limitation of quota changes to 15% was regarded positive for keeping prices stable. Effort restrictions due to management plans were regarded counter-productive in the case of the North Sea cod management plan. kWdays-limitations for fisheries targeting cod and therefore using larger meshes were a limiting factor. In order to fully exploit the cod quota, cod fishery had to be continued as flatfish fishery with smaller meshes. According to the industry, this increased discards considerably.

The introduction of the landing obligation could be implemented with little extra effort in the pelagic as well as in the saithe fisheries as these fisheries traditionally have had low bycatch rates. In the case of cod and flatfish fisheries serious problems have been reported. In the Baltic Sea high amounts of undersized cod were observed. According to the industry no technical measures are available to solve that problem. In the case of flatfish fisheries high rates of undersized plaice are observed in sole fisheries. Again no technical solution could be implemented thus far.

TACs and quotas, status of key stocks

Most stocks targeted by the German high seas fleet, e.g. Arctic and Greenland cod, Atlanto-Scandian herring, Arctic haddock and saithe, are managed at MSY level. Overall, the high seas industry regarded fisheries both in 2015 and 2016 as good.

Brown shrimp, the most important species of the German fleet, is not subject to TAC. Catches depend mainly on abundance, effort and prices. While 2015 catches were on an average level, 2016 were cut by more than half, which was overcompensated by very high prices. Catches increased slightly in 2017 with prices remaining high, thus resulting in further increase in total revenue.

Most relevant North Sea stocks (herring, saithe, plaice, haddock, sole and *Nephrops)* are managed at MSY level. North Sea cod and herring quota increased about 15% in 2016. The saithe and plaice quota remained stable in 2016. After a benchmarking of the North Sea saithe stock substantial quota uplifts were applied for 2017. The plaice stock remained at a historically high level. The fishing mortality of North Sea cod is still above F_{MSY}, and the recovery did not occur as quick as expected. The spawning stock biomass was estimated to be slightly above MSY $B_{trigger}$ in the assessment of 2017 with high uncertainty. Further effort may be required to recover the stock to levels which can produce MSY.

Both Eastern and Western Baltic cod quota further decreased. Eastern Baltic cod stock was only partly exploited Fishes are in poor condition (malnutrition) and show an unfavourable length distribution, thus the fishery has become less attractive. A substantial cut of more than 50% occurred in 2017 for the Western Baltic cod stock. This stock has provided substantial amounts to the income of coastal fisheries and the continuing decline of quota over the last years caused a tense economic situation. Alternative fishing options, e.g. on herring or freshwater species, are limited and do not allow for a full compensation of losses in the cod fishery. Moreover, the Western Baltic herring quota was cut by 39% in 2018, thus aggravating the critical situation of the artisanal fishers. As the German quota on the Eastern cod stock can only be exploited by trawlers, it is not an alternative fishing opportunity for the small scale fixed netters suffering from decreased Western quota.

In 2017, management measures for the recreational cod fishery (western Baltic stock) were introduced in the Baltic Sea to share the burden of rebuilding the western Baltic cod stock. These included a bag limit of 3 cod per day and angler in the closed season (Feb + March) and 5 cod per day and angler during the rest of the year.

The introduced management measures had a strong adverse effect on the recreational sector in Germany, as the majority of anglers (65%) are tourists from inland states (non-resident) which lead to a decline in recreational fishing effort (resident anglers behave different that non-resident anglers). Apparently anglers perceived the 5-cod bag limit as very restricted (despite the fact that the limit is only reached by few anglers) as they value freedom higher than catch rate. The bag limit was continued in 2018.

German recreational cod catches are responsible for an additional 40-50% of catches compared to the German commercial landings in some years. An extrapolation using German, Danish and Swedish recreational cod catches estimated that recreational cod catches represented 27% of the total removals for this stock.

Flatfish stocks in the Baltic Sea developed favourably.

Projections for 2017

Data for 2017 show that a small decrease in vessel number (-2%). Landed weight increased 11%, while landed value decreased 1%) were increased. Another drop in fuel costs (about -3%) led to an improvement in many economic indicators including gross and net profits. The projected economic development is confirmed by the fishing industry.

There are a number of performance drivers in 2017 that can be explored in more detail. One high seas demersal trawler that had left the German fleet was replaced by a newly constructed trawler in 2015 which is equipped with latest technology, including energy-efficient engines. Two more high seas demersal trawlers were replaced by new vessels in 2017 and entered the fishery later in the year. Two cutters of the 40 meters class are under construction (2018). The high level of investment activities that can be observed in the sector of larger dermersal vessels is unpreceded in the recent past. Modernisation of on-board equipment was continued as in preceding years.

High seas fleet

2017 was regarded positive by the high seas sector both for pelagic and demersal fisheries. High seas trawlers achieved positive results in the cod fishery in Norwegian waters, Svalbard and the Barents Sea. Saithe fishery of high seas trawlers in Norwegian waters took place from February to April and was regarded satisfactory. For the first time in several years the high seas fleet also targeted saithe in the North Sea. Greenland halibut fisheries in Eastern and Western Greenland waters were highly efficient. The Greenland cod quota could be fully exploited. The 2017 season of pelagic redfish fishery in the Irminger Sea as well as the demersal redfish fisheries in Eastern Greenland waters were regarded successful as well. Fisheries agreements with Greenland and Norway remain a backbone of the performance of the German high seas demersal fleet.

High seas pelagic fisheries in European waters targeted herring, mackerel, horse mackerel and blue whiting and were overall regarded successful. While fisheries on blue whiting were considerably more

successful due to quota exchanges, horse mackerel catches dropped compared to the successful season in 2015. Fisheries on anchovy were performed in Moroccan and Mauritanian waters.

In 2017, European fisheries in the South Pacific under an EU-wide quota pooling were performed without a German trawler. The pelagic industry is striving for EU membership in the North Pacific Fisheries Commission in order to complement fishing activities in the Southern Pacific with fishing activities in the Northern Pacific and thus increase the overall efficiency.

In 2015, the landing obligation became effective for pelagic fisheries. As this fishery has always had low discard or bycatch rates the landing obligation caused no major problem. The total weight of bycatch landed by the high seas fleet amounted to 37t in 2017.

Cutter and small scale fleet

In 2017 the German cutter fisheries could keep landings stable overall while product prices increased on average. As a consequence, the economic situation was regarded satisfactory. The recovery of important stocks was perceived positive by the industry. However, the situation varied grossly by fishery.

The quotas for the main target species of the North Sea flatfish fishery (plaice, sole, turbot) were increased as stocks grew further. However, as in previous years the German plaice quota was only partly exploited (~ 50%) as some flatfish trawlers could switch to the more profitable *Nephrops* fishery thanks to extensive quota exchange. Flatfish beam trawlers are all equipped with pulse gear.

The North Sea saithe quota was increased substantially for 2017 (+53%) and also for 2018 (+6%). For North Sea cod the sustainability target for the spawning stock biomass was reached and the quota was raised by 17% for 2017 and 10% for 2018. Prices were satisfactory, according to the industry. Two cutters for that fishery were commissioned in 2017 and are expected to enter the fishery in 2018.

In 2017, the brown shrimp fishery in the North Sea performed even more successfully than in preceding years. Landings recovered slightly from a very low level, but prices dropped only very slightly from a very high level so that total revenues were further increased. Thus the fishery remained highly profitable.

In 2017 the Baltic cod fishery suffered grossly from a quota cut of 56% for the Western Baltic stock. There is hardly any alternative fishery. Payments for temporary and permanent cessation have been carried out by the German authorities. A strong recruitment of the 2016 age class gives hope for an improved situation in the future. An 8 week closed season during the spawning season was introduced in 2016 for trawling on Western cod. The quota for the Eastern Baltic stock was not a limiting factor for the participating fishers as the quota exploitation rate remained low. Due to the limited range of operation of the SSCF the Eastern cod stock is not an alternative source of income for the SSCF. The Eastern cod stock was classified as data poor stock which led to a withdrawal of the MSC certificate in 2015 which impedes the marketing of the catch.

The plaice stock in the Baltic Sea shows an increasing trend, the quota was fully exploited and fisheries were regarded satisfactory, though they could not compensate for the loss of cod quota. Coastal herring fisheries in the Baltic were satisfactory due to stable prices. However, the missing MSC certification of the coastal herring fishery impeded marketing. For some areas in the East an increasing population of seal has been observed. Fishers experienced damage to the catch in fixed nets and the gear itself by seals.

Outlook for 2018

High seas fisheries

Quota for 2018 remained stable for the pelagic sector. While quota were cut for Atlanto-Scandian herring (-33%) and mackerel (-20%), increases were experienced for herring in EU waters (+25%) and horse mackerel (+21%). The quota on pelagic redfish in the Irminger Sea was reduced by 12% and the quota for arctic cod by 15%. The quota for Greenland halibut remained unchanged.

A crucial problem is seen in the context of Brexit, depending on the outcome of the negotiations between the UK and the EU. The pelagic high seas fleet substantially depends on catch opportunities in British waters, mainly for herring, mackerel, blue whiting and horse mackerel. Moreover, a processing plant in Eastern Germany grossly depends on the herring catches of that fleet and it is unclear if the raw material will be available after Brexit. The demersal fleet is also affected (saithe, plaice), but to a lesser extent.

Cutter and small scale fleet

The North Seas stocks relevant for the German cutter fishery were changed only slightly. Saithe and cod quota were increased by 6% and 10%, respectively, while the plaice quota decreased by 13%. However, the German plaice quota was not fully exploited in previous years. Haddock quota increased considerably (76%), but the German share is rather low. Brown shrimp being the most important species for the

German cutter fishery is not managed by TAC. As there is no stock assessment the abundance and thus the catches of brown shrimp cannot be properly forecasted. In previous years the revenues from brown shrimp fisheries were at sufficient level, according to the industry. Changes in catch were compensated by price adjustments.

After a year with considerable quota cut on Western Baltic cod the Baltic fisheries faced a 39% quota cut in Western Baltic herring, the second important species. The 20% increase of Eastern Baltic herring is of minor importance for the German fleet and cannot compensate for the losses in the Western stock. Without a quick recovery of the Western cod and herring quota the coastal fishery is likely to further shrink considerably.

Overall, the cutter fleet is expecting increasing problems from an increasing number of overaged vessels. There has been almost no newly built cutter introduced to the German fleet, in contrast to the high seas fleet where a substantial share of the fleet is undergoing a replacement. The investment into a new vessel appears to be unfeasible for the usually family-owned businesses. Further concerns of the cutter industry refer to the lack of successors and potential area closures.

Model forecast

Landed weight increased by about 11% in 2017 compared to 2016, with a 1% decrease in landed value. Projections suggest that operating costs decreased slightly in 2017. Due to the rather stable level of costs and revenues economic performance remained at the high level of the preceding year also in 2017: GVA (-3%), gross profit (-3%) and net profit (-1%).

Projection results, suggesting that the German fleet operated at a profit also in 2017, are in line with recent statements from the industry. The estimate for net profit margin is 16%. Positive economic developments can also be seen in performance indicators GVA to revenue (61%), GVA per FTE (EUR 86 thousand) and gross and net profit margins.

The projections for 2018 suggest a stable level of revenues for the overall German fleet. Some losses in the pelagic sector due to expected decrease in prices are likely to be compensated by increased prices for other species. The overall days at sea are expected to decrease in 2018, mainly because of a further slight decrease in vessel numbers. This is going to result in slightly decreasing variable as well as fixed costs, with the exception of fuel costs. As the fuel price is assumed to increase sensibly, the total fuel costs are supposed to increase as well.

In 2018, the overall German fleet is forecasted to remain profitable with gross and net profit margins of 29% and 18%, respectively.

Data issues

Capacity, logbook and landings data are derived from sources which are covered by different legislations. All these data are available exhaustively. That means that all capacity, landings and effort data are represented at 100%.

The only exception is the group of vessels below 8 meters without logbook obligation. These vessels are sampled for effort data. The remaining variables (cost, employment, fuel consumption) are estimated based on results from an accountants' network and from surveys with questionnaires.

All data on the high seas fleet were collected exhaustively (100%).

The data basis for fleet segment level estimations has become broad over the years. All fleet segments with major contribution to the total catches of the German fleet have been sampled with satisfactory response rates. As segments are not necessarily homogeneous, the results can be quite variable which is reflected in higher coefficients of variation. Some leaps in time series might be due to an improvement in data coverage, with the latest data being most reliable as the raising procedure is based on more comprehensive information. The improvement of the estimation procedure is an on-going process.

The German fishing fleet contains a small number of pelagic vessels which are owned mainly by one company and therefore, for confidentiality reasons, it is impossible to publish this data by segment. Clustering the pelagic vessels with other vessels is not feasible as the pelagic vessels have unique characteristics that would completely bias "pure" segments when clustered. Therefore, the only pelagic fleet data in this report is capacity and weight and value of landings data, which is public, so please consider this when interpreting national totals; the German pelagic fleet accounts for a substantial part of the national fleets' costs and earnings.

All data have been collected, also for the pelagic fleet. As in previous years, confidentiality of most of the data on pelagic vessels affects regional analyses. The pelagic fleet mainly operates in the North Sea

and North Atlantic (herring, mackerel, blue whiting). Data on pelagic fisheries in the Baltic are hardly affected, as they are performed on a seasonal basis, and vessels are assigned to the DTS segment, which reflects their major activity during the year.

Vessels which targeted blue mussels were excluded from the analysis because they are defined as operating in the aquaculture sector. Not all of the participating vessels can be identified by the first gear entry in the fleet register as some vessels are using beam trawls. Instead, the relative catch of blue mussel was used, thus allowing an unambiguous identification of aquaculture vessels.

It has to be pointed out that German employment data follow the approach of minimum requirement of activity, i.e., a person that goes fishing for twenty days or less during the year is not accounted for one employed person. Fulltime equivalents are estimated with reference to the days at sea and the crew size. The total number of jobs is then derived by the ratio of total number vs. FTE as observed in panel data. Due to this approach the data correspond to official employment statistics. If one day at sea would qualify for counting a "person employed" figures would exceed official statistics by about 30%.

Table 5.41 Germany: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,861	1,817	1,757	1,664	1,564	1,537	1,516	1,478	1,430	1,398	974		-3%	-13%
Number of inactive vessels_ms	(#)	512	506	497	437	410	399	397	404	371	386			-8%	-17%
Vessel tonnage	(thousand GT)	66.6	67.9	65.9	64.6	62.1	62.2	58.2	56.5	60.7	60.6			7%	-4%
Engine power	(thousand kW)	154.7	158.3	155.8	151.4	142.2	142.1	135.4	130.1	132.9	132.3			2%	-9%
Total employed	(person)	2,068	1,529	1,744	1,639	1,752	1,647	1,605	1,532	1,539	1,492	1,475		0%	-9%
FTE	(#)	1,615	1,238	1,365	1,258	1,372	1,281	1,253	1,202	1,204	1,109	1,042		0%	-9%
Days at sea	(thousand day)	139.8	129.0	115.9	109.8	119.4	108.0	111.1	106.1	104.1	93.6	85.4		-2%	-11%
Fishing days	(thousand day)	142.7	132.9	118.5	112.5	123.4	111.8	114.4	110.7	106.4				-4%	-12%
Number of fishing trips	(thousand)	48.3	44.1	39.6	34.7	37.3	34.8	33.9	33.3	31				-8%	-20%
Energy consumption	(million litre)	48.30	46.11	47.12	41.60	46.58	37.18	38.13	40.19	41.14	40.19	40.55		2%	-5%
Live weight of landings	(thousand tonne)	258.0	228.5	220.6	207.8	198.5	219.0	226.9	238.5	228.2	252.8	245.6		-4%	2%
Value of landings	(million €)	231.5	190.9	209.5	199.1	209.4	209.3	205.3	215.8	233.9	232.3	232.1		8%	12%
Income from landings	(million €)	163.0	133.0	145.5	130.6	152.0	143.5	131.4	140.6	158.1	154.3	160.0		12%	11%
Other income	(million €)	2.9	3.4	4.9	2.9	2.6	3.6	3.2	6.6	3.5	3.4	3.4		-47%	-6%
Direct income subsidies	(million €)	0.9	1.2	1.3	1.5	1.3	1.1	1.8	0.9	0.6				-40%	-55%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-						
Wages and salaries of crew	(million €)	33.43	38.35	38.61	36.36	39.62	36.27	37.53	40.52	41.97	40.54	43.08		4%	12%
Unpaid labour value	(million €)	12.22	10.13	10.19	8.66	10.87	10.64	9.73	9.53	10.33	10.47	9.86		8%	1%
Energy costs	(million €)	28.62	21.09	24.64	27.27	31.97	24.69	23.16	18.10	14.60	14.17	16.25		-19%	-41%
Repair & maintenance costs	(million €)	20.42	20.34	20.06	19.38	18.24	15.71	15.12	17.39	18.91	18.59	17.73		9%	3%
Other variable costs	(million €)	26.48	13.52	10.74	11.40	11.59	9.62	10.74	12.93	12.87	12.82	12.87		0%	-4%
Other non-variable costs	(million €)	24.09	16.36	15.35	17.21	17.08	15.83	14.57	16.62	16.91	16.69	16.01		2%	-1%
Annual depreciation costs	(million €)	27.40	25.42	24.52	22.04	19.63	21.05	17.04	24.55	20.35	20.08	19.12		-17%	-10%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-					
Opportunity cost of capital	(million €)	1.39	3.61	1.62	0.11	- 0.54	- 0.03	0.30	0.44	- 0.33	- 1.36	- 0.81		-175%	-139%
Tangible asset value (replacement)	(million €)	120.6	119.9	106.7	102.5	91.1	99.8	83.2	120.0	107.4	100.1	95.2		-11%	2%
Fishing rights	(million €)	-	-	-	-	-	-	-	-						
Investments	(million €)	20.0	26.9	23.3	27.6	21.6	28.2	24.3	50.0	19.7				-61%	-29%
Financial position	(%)	68.0	68.0	91.0	113.0	102.0	74.0	69.0	54.0	74.0				37%	-7%
Gross Value Added	(million €)	66.2	65.1	79.5	58.3	75.7	81.3	71.0	82.1	98.3	95.5	100.5		20%	36%
GVA to revenue	(%)	39.9	47.7	52.9	43.6	49.0	55.2	52.8	55.8	60.8	60.5	61.5		9%	23%
Gross profit	(million €)	20.6	16.6	30.7	13.2	25.3	34.4	23.7	32.1	46.0	44.5	47.5		43%	87%
Gross profit margin	(%)	12.4	12.2	20.5	9.9	16.3	23.4	17.6	21.8	28.5	28.2	29.1		31%	70%
Net profit	(million €)	- 8.2	- 12.4	4.6	- 8.9	6.2	13.3	6.4	7.1	26.0	25.7	29.2		266%	2480%
Net profit margin	(%)	- 4.9	- 9.1	3.1	- 6.7	4.0	9.1	4.8	4.8	16.1	16.3	17.9		234%	2493%
GVA per FTE (labour productivity)	(thousand €)	41.0	52.6	58.3	46.3	55.2	63.4	56.7	68.3	81.7	86.1	96.4		19%	48%
Return on fixed tangible assets	(%)	- 5.7	- 7.4	5.8	- 8.6	6.2	13.3	8.1	6.3	23.9	24.4	29.9		280%	956%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2017 and 2018 include active vessels only.
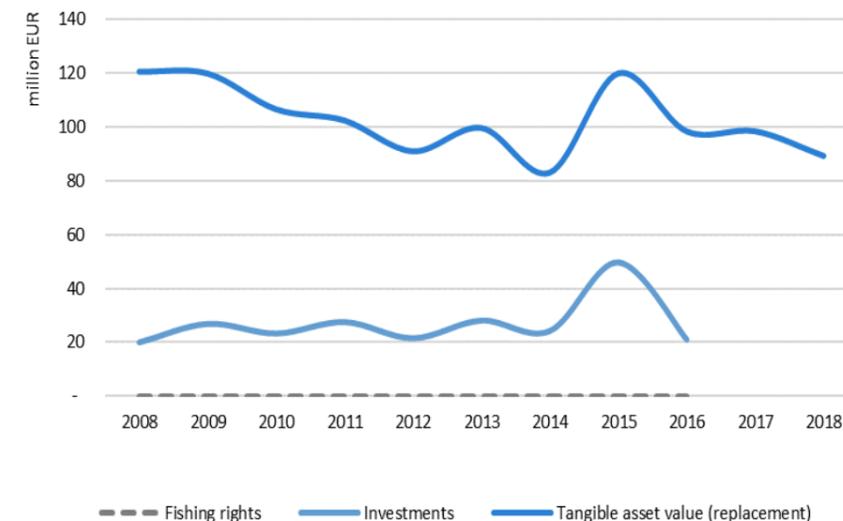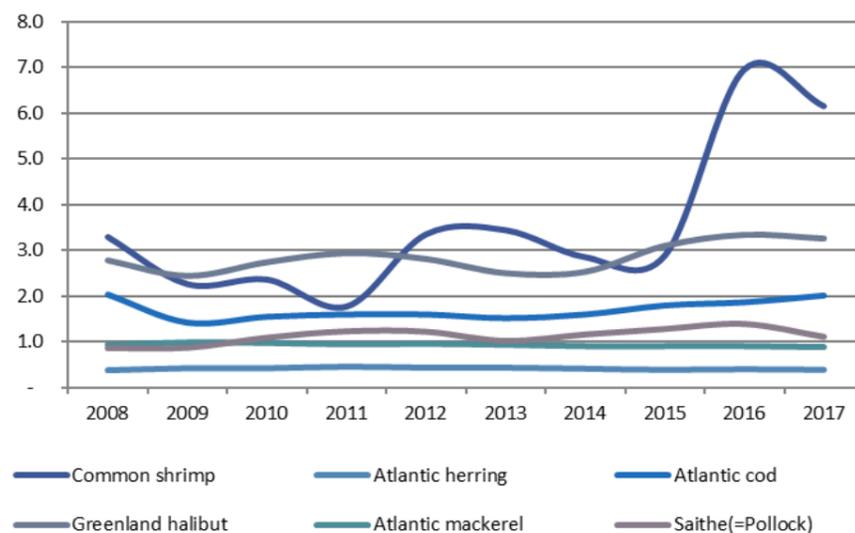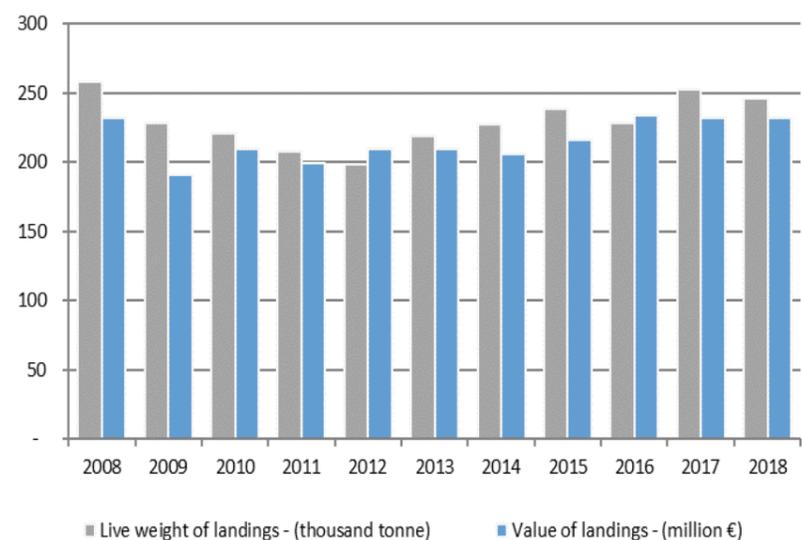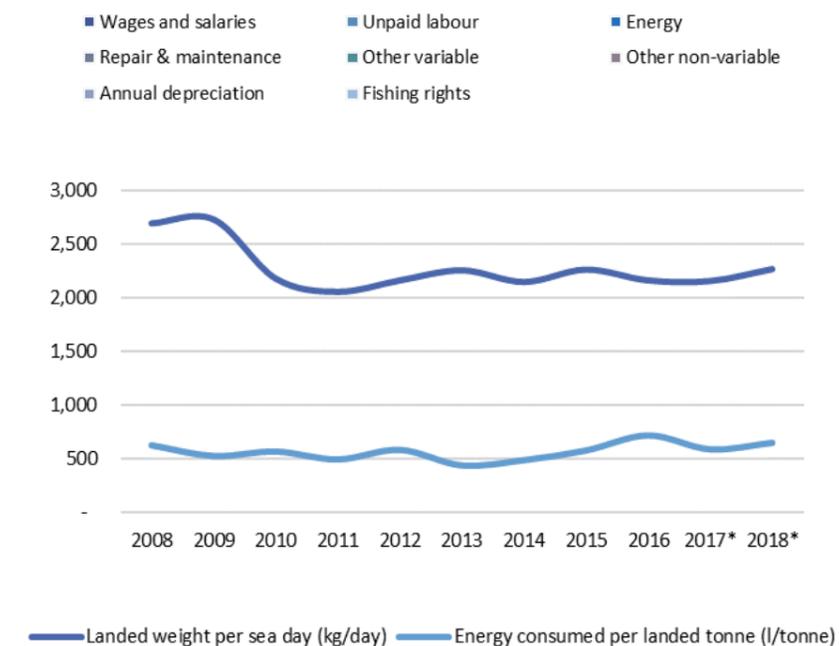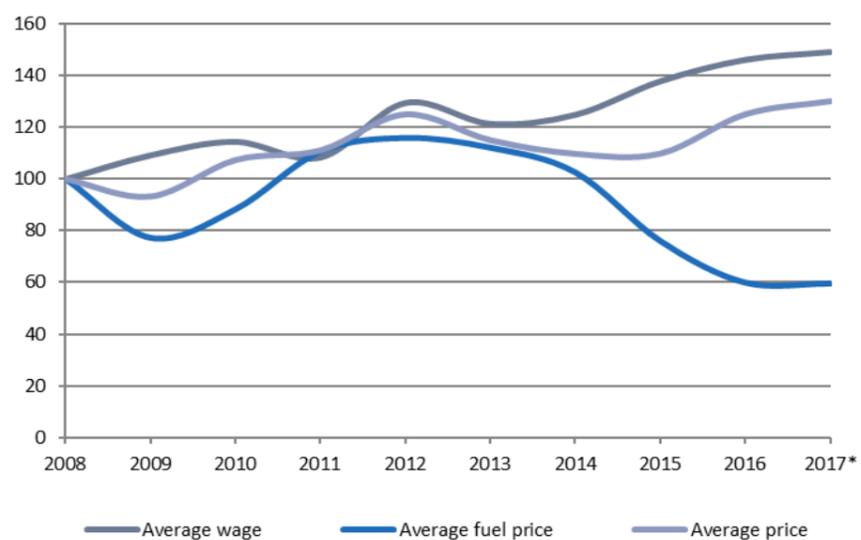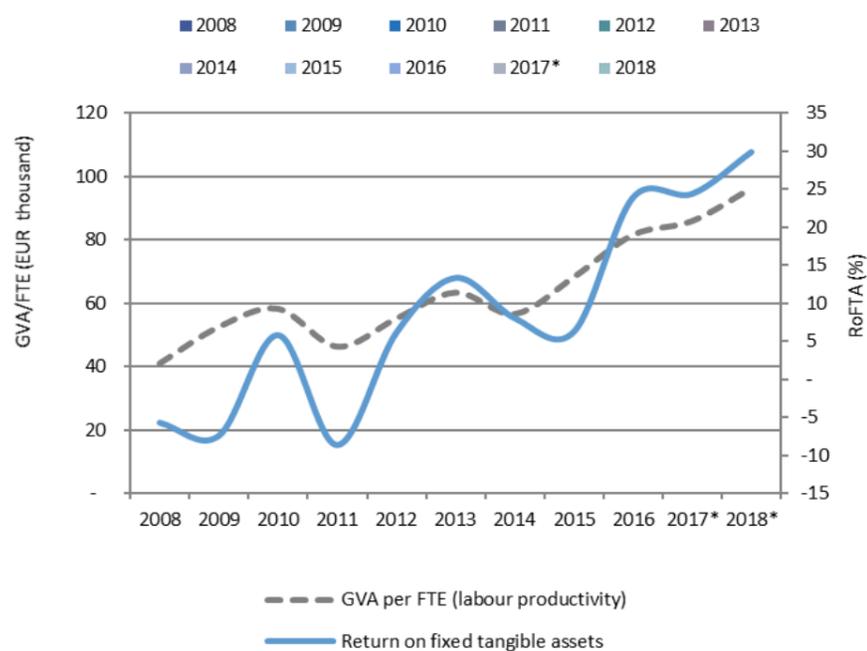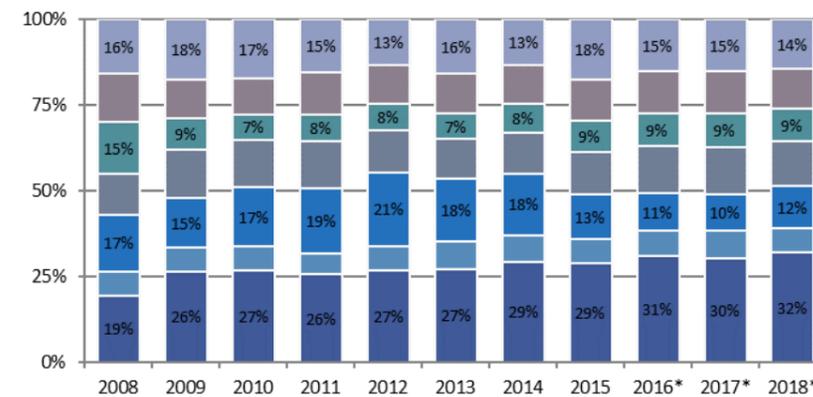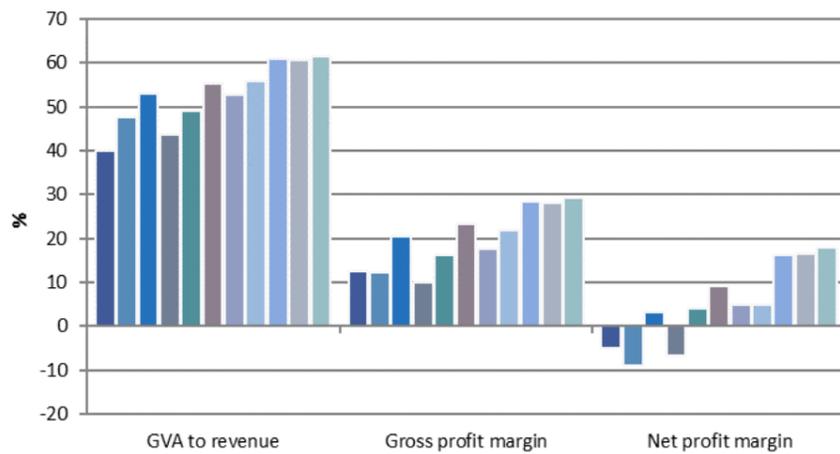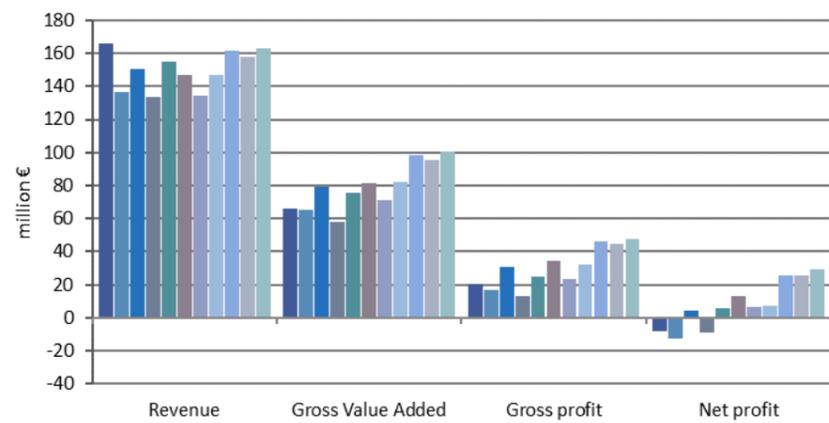
Figure 5.9 Germany: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital value (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.42 Germany: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF														LSF														DWF	
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15	2008	2011
Total number of vessels	(#)	961	939	903	883	852	832	817	787	776	736	707		-1%	-11%	375	372	357	334	301	310	302	287	283	276	267		-1%	-14%	12	10
Vessel tonnage	(thousand GT)	2.6	2.6	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.1			-1%	-9%	32.7	60.9	60.1	31.6	56.8	54.2	54.4	52.6	56.5	56.3			7%	12%	28.5	28.0
Engine power	(thousand kW)	23.8	23.9	23.4	22.6	22.7	22.2	22.4	22.1	22.2	21.3			0%	-3%	95.7	119.5	117.9	89.2	105.5	103.0	103.8	98.8	101.7	99.1			3%	-2%	23.1	25.63
FTE	(#)	790	464	654	664	668	597	608	570	568	488	418.5		0%	-9%	825	774	711	594	704	684	645	632	636	622	623.64		1%	-9%		
Total employed	(person)	1031	559	847	869	876	777	798	747	741	702	711.5		-1%	-9%	1037	970	897	770	876	870	807	785	798	790	763.28		2%	-9%		
Days at sea	(thousand day)	88.8	79.5	71.1	73.7	76.0	66.9	70.1	66.6	65.3	56.0	47.9		-2%	-12%	51.0	49.5	44.8	36.1	43.4	41.0	41.0	39.4	38.8	37.6	37.6		-2%	-10%		
Fishing days	(thousand day)	93.6	84.4	74.6	77.9	81.1	71.2	74.2	71.5	67.3				-6%	-14%	49.2	48.5	44.0	34.6	42.3	40.6	40.2	39.3	39.1				0%	-8%		
Number of fishing trips	(thousand)	22.9	19.0	16.6	16.6	16.6	15.2	14.5	14.9	13.7				-8%	-19%	25.4	25.0	23.0	18.1	20.7	19.6	19.5	18.4	16.9				-8%	-20%		
Energy consumption	(million litre)	1.66	1.48	1.11	1.24	1.35	1.07	0.86	0.88	0.82	0.69	0.57		-7%	-32%	46.6	44.6	46.0	40.4	45.2	36.1	37.3	39.3	40.3	39.5	40.0		3%	-4%		
Live weight of landings	(thousand tonne)	12.18	9.60	7.87	6.51	7.97	8.12	7.16	7.70	7.87	7.15	5.07		2%	-6%	98.1	218.9	212.8	71.6	190.5	210.9	219.7	230.8	220.4	245.7	240.6		-5%	21%	147.8	129.7
Value of landings	(million €)	11.81	8.42	8.30	7.80	9.01	8.79	8.13	8.27	8.39	8.25	5.93		1%	-5%	155.6	182.5	201.2	123.6	200.4	200.5	197.2	207.5	225.5	224.0	226.2		9%	23%	64.0	67.7
Income from landings	(million €)	11.61	8.28	8.23	7.27	9.05	8.63	7.90	7.93	8.39	8.42	5.93		6%	-3%	151.3	124.7	137.3	123.3	143.0	134.9	123.5	132.7	225.5	145.9	154.0		70%	69%		
Other income	(million €)	0.51	0.76	0.90	0.69	0.85	0.50	0.67	0.63	0.48	0.46	0.44		-24%	-30%	2.4	2.7	4.0	2.2	1.8	3.1	2.5	6.0	3.0	3.0	2.9		-49%	-1%		
Direct income subsidies	(million €)	0.14	0.18	0.32	0.39	0.27	0.45	0.70	0.38	0.33				-14%	-7%	0.7	1.0	1.0	1.1	1.1	0.7	1.1	0.6	0.2				-58%	-74%		
Income from leasing fishing rights	(million €)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Wages and salaries of crew	(million €)	1.48	2.44	1.41	1.90	1.58	1.82	1.25	1.38	1.27	1.21	0.88		-8%	-23%	31.9	35.9	37.2	34.5	38.0	34.5	36.3	39.1	40.7	39.3	42.2		4%	13%		
Unpaid labour value	(million €)	1.75	1.14	1.01	0.90	1.38	1.36	1.08	1.16	1.40	1.32	0.96		21%	15%	10.5	9.0	9.2	7.8	9.5	9.3	8.7	8.4	8.9	9.2	8.9		7%	-1%		
Energy costs	(million €)	1.28	0.88	0.88	0.91	1.15	0.96	0.77	0.55	0.49	0.41	0.39		-11%	-47%	27.3	20.2	23.8	26.4	30.8	23.7	22.4	17.5	14.1	13.8	15.9		-20%	-41%		
Repair & maintenance costs	(million €)	2.03	2.12	1.27	1.71	1.25	1.25	1.27	1.17	0.94	0.91	0.87		-19%	-37%	18.4	18.2	18.8	17.7	17.0	14.5	14.1	16.2	18.0	17.7	16.9		11%	7%		
Other variable costs	(million €)	1.50	1.53	1.42	1.14	1.57	2.25	0.87	1.27	1.02	0.85	0.70		-20%	-30%	25.0	12.0	9.3	10.3	10.0	7.4	9.9	11.7	11.9	12.0	12.2		2%	-1%		
Other non-variable costs	(million €)	2.37	2.04	1.68	2.20	2.41	1.83	1.88	2.00	2.12	2.05	1.96		6%	4%	21.7	14.3	13.7	15.0	14.7	14.0	12.7	14.6	14.8	14.6	14.0		1%	-2%		
Annual depreciation costs	(million €)	1.78	1.77	1.95	1.73	1.56	1.46	1.43	1.63	1.46	1.41	1.35		-10%	-12%	25.6	23.6	22.6	20.3	18.1	19.6	15.6	22.9	18.9	18.7	17.8		-18%	-10%		
Rights costs	(million €)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Opportunity cost of capital	(million €)	0.10	0.25	0.12	0.01	-0.04	0.00	0.02	0.03	-0.02	-0.08	-0.05		-177%	-132%	1.2	3.0	1.4	0.1	-0.5	0.0	0.3	0.4	-0.3	-1.3	-0.8		-174%	-140%		
Tangible asset value (replacement)	(million €)	8.53	8.32	8.09	7.75	7.09	6.74	6.56	6.88	6.29	6.07	5.81		-8%	-16%	105.4	98.4	92.6	88.6	78.2	83.4	72.2	107.7	95.0	94.0	89.4		-12%	5%		
Fishing rights	(million €)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Investments	(million €)	2.92	4.42	3.58	2.73	2.36	2.48	2.79	1.93	1.86				-4%	-36%	17.1	22.5	19.8	22.0	19.2	25.7	21.5	48.0	17.9				-63%	-27%		
Gross Value Added	(million €)	3.72	2.47	3.88	2.40	3.51	2.85	3.78	3.57	4.30	4.66	2.44		20%	27%	61.3	62.6	75.7	56.3	72.2	78.4	67.0	78.6	93.9	90.8	98.0		20%	36%		
GVA to revenue	(%)	40.69	27.33	42.51	25.13	35.45	31.21	44.12	41.75	48.43	52.43	38.30		16%	34%	39.9	49.2	53.6	44.8	49.9	56.8	53.1	56.7	61.5	61.0	62.5		9%	22%		
Gross profit	(million €)	1.70	-1.11	1.46	-0.79	0.55	-0.33	1.45	1.03	1.62	2.12	0.60		57%	228%	18.9	17.7	29.3	14.0	24.7	34.7	22.0	31.1	44.3	42.3	46.9		43%	84%		
Gross profit margin	(%)	14.06	-12.28	15.95	-9.98	5.52	-3.66	16.90	12.03	18.26	23.89	9.48		52%	279%	12.3	13.9	20.7	11.2	17.1	25.1	17.5	22.4	29.0	28.4	29.9		30%	66%		
Net profit	(million €)	-0.17	-3.13	-0.62	-2.54	-0.97	-1.79	0.00	-0.63	0.18	0.79	-0.70		128%	114%	-8.0	-8.9	5.3	-6.4	7.1	15.1	6.2	7.7	25.7	25.0	29.9		232%	1028%		
Net profit margin	(%)	-1.40	-34.62	-6.76	-31.88	-9.78	-19.66	-0.05	-7.33	1.99	8.94	-10.96		127%	114%	-5.2	-7.0	3.8	-5.1	4.9	11.0	4.9	5.6	16.8	16.8	19.1		201%	946%		
Return on fixed tangible assets	(%)	-0.84	-34.61	-6.10	-32.63	-14.24	-26.67	0.30	-8.74	2.49	11.72	-12.86		128%	116%	-6.4	-6.0	7.3	-7.1	8.5	18.1	8.9	7.6	26.7	25.2	32.6		253%	594%		
GVA per FTE (labour productivity)	(thousand €)	6.25	5.32	5.93	3.01	5.25	4.77	6.22	6.27	7.56	9.55	5.83		21%	41%	74.3	80.9	106.4	94.7	102.6	114.6	103.8	124.3	147.7	146.1	157.2		19%	47%		

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.43 Germany: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Common shrimp	58.6	39.0	43.3	29.9	54.7	55.5	45.0	40.0	53.4	55.0	17.9	17.3	18.4	17.0	16.4	16.2	15.9	13.9	7.7	9.0	3.3	2.3	2.4	1.8	3.3	3.4	2.8	2.9	6.9	6.1	22.7%	3.4%
Atlantic herring	18.2	15.9	12.8	17.1	22.8	31.4	22.2	27.0	27.3	27.2	46.7	37.5	29.6	37.0	51.2	71.8	53.4	67.1	67.2	68.0	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	11.6%	29.4%
Atlantic cod	35.4	26.5	30.1	26.3	30.2	22.0	24.4	28.0	26.1	21.2	17.4	18.6	19.5	16.4	18.9	14.5	15.2	15.6	14.0	10.5	2.0	1.4	1.6	1.6	1.6	1.5	1.6	1.8	1.9	2.0	11.1%	6.1%
Greenland halibut	17.8	16.0	19.6	22.6	18.2	14.8	14.3	17.8	21.2	20.6	6.4	6.5	7.1	7.7	6.4	5.9	5.6	5.7	6.3	6.3	2.8	2.5	2.8	3.0	2.8	2.5	2.5	3.1	3.4	3.3	9.0%	2.8%
Atlantic mackerel	16.2	21.9	18.2	22.7	18.0	19.4	25.6	25.4	21.0	21.8	17.5	22.4	18.9	24.1	19.0	20.9	28.5	28.3	23.4	24.8	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	8.9%	10.3%
Saithe(=Pollock)	14.3	13.9	14.3	14.5	11.6	11.3	10.4	10.9	10.2	10.2	16.6	15.7	13.0	11.6	9.4	10.9	8.9	8.4	7.3	9.1	0.9	0.9	1.1	1.2	1.2	1.0	1.2	1.3	1.4	1.1	4.3%	3.2%
Common sole	5.6	6.2	6.8	4.3	4.4	4.6	6.0	7.9	9.1	8.0	0.6	0.6	0.6	0.4	0.5	0.6	0.6	0.8	0.9	0.8	10.2	10.7	12.1	11.9	9.8	8.0	9.3	10.2	10.4	10.3	3.9%	0.4%
European plaice	6.4	4.5	5.3	5.7	5.7	6.2	5.5	8.2	7.8	6.2	3.4	3.3	4.1	4.3	4.3	5.3	4.6	5.8	5.1	3.8	1.9	1.4	1.3	1.3	1.3	1.2	1.2	1.4	1.5	1.7	3.3%	2.3%
Blue whiting	8.3	1.6	3.5	0.1	2.4	3.8	8.2	8.3	7.3	16.3	25.3	5.0	9.1	0.3	6.2	11.4	24.5	24.1	20.0	45.5	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	3.1%	8.8%
European pilchard	0.0		0.2	4.2	0.1	1.3	6.3	6.8	7.8		0.0		0.5	10.5	0.2	4.0	17.9	19.2	22.6		0.3		0.4	0.4	0.3	0.3	0.4	0.4	0.3		2.9%	8.4%
																													81.0%	75.0%		

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). 2017 and 2018 projected values

Table 5.44 Germany: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	% of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(€)	(thousand €)	(%)				
DEU A27 TM40XX °	14				167,785	75,947	75,947													32.5%
DEU A27 DTS40XX	7	147	1,608	615	22,602	46,629	46,892	28,466	60.7	13,393	28.6	5,574	11.89	102.5	193.6	11.0	Reasonable	235%	Improved	19.9%
DEU A27 TBB1824	63	132	10,536	1,519	4,114	27,060	28,588	18,271	63.9	9,108	31.9	6,619	23.15	69.4	138.4	60.7	High	32%	Improved	11.6%
DEU A27 TBB1218	111	146	14,922	1,413	3,868	26,545	27,278	17,556	64.4	7,520	27.6	5,234	19.19	68.7	120.2	56.2	Reasonable	1521%	Improved	11.3%
DEU A27 DTS2440	9	37	1,971	702	7,890	17,137	17,145	10,427	60.8	4,492	26.2	2,786	16.25	160.4	281.8	31.2	Reasonable	298%	Improved	7.3%
DEU A27 TBB2440 °	9	41	1,853	1,580	3,446	13,049	13,049	7,613	58.3	3,918	30.0	2,348	17.99	90.1	185.7	44.5	Reasonable	125%	Improved	5.6%
DEU A27 DTS1824	13	36	2,533	253	4,916	9,142	9,272	7,028	75.8	4,688	50.6	3,360	36.24	65.0	195.2	66.2	High	353%	Improved	3.9%
DEU A27 PG0010	718	528	59,596	123	4,836	6,052	6,401	3,189	49.8	1,607	25.1	580	9.06	3.0	6.0	12.4	Weak	193%	Improved	2.6%
DEU A27 DFN2440 °	6	63	1,337	1,386	1,214	5,573	5,573	1,987	35.7	- 8	- 0.2	- 564	- 10.12	31.7	31.5	- 19.8	Weak	64%	Improved	2.4%
DEU A27 PG1012	58	40	5,710	75	3,036	2,338	2,469	1,107	44.9	13	0.5	- 404	- 16.35	27.4	27.7	- 23.5	Weak	-123%	Deteriorated	1.0%
DEU A27 DTS1218	26	19	2,167	197	2,983	2,248	2,401	1,043	43.4	106	4.4	- 456	- 18.99	49.3	54.9	- 19.0	Weak	32%	Improved	1.0%
DEU A27 DFN1218	5	6	567	33	711	1,206	1,235	1,030	83.5	886	71.7	787	63.78	24.1	171.7	176.3	High	85%	Improved	0.5%
DEU A27 DTS1012 °	10	4	564	123	782	541	741	280	37.7	92	12.5	- 21	- 2.88	46.8	69.9	- 4.7	Weak	395%	Improved	0.2%
DEU A27 TBB1012 °	10	5	749	1,433	62	458	458	216	47.1	94	20.5	27	5.89	24.4	43.2	9.3	Weak	374%	Improved	0.2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.45 Germany: National fleet statistics and economic performance results by fleet segment, 2017

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	% of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(€)	(thousand €)	(%)		
DEU A27 TM40XX °	15	-	-	-	193,663	81,159												34.9%
DEU A27 DTS40XX	7	160	1,751	690	21,931	42,367	43,521	24,077	55.3	10,094	23.2	2,762	6.35	87.4	150.4	4.2	Weak	18.2%
DEU A27 TBB1218	108	146	14,917	1,168	4,677	28,321	29,632	20,067	67.7	9,135	30.8	6,996	23.61	74.9	137.5	76.0	High	12.2%
DEU A27 TBB1824	65	132	10,515	1,593	3,913	24,319	26,413	15,828	59.9	7,420	28.1	4,959	18.78	63.8	120.2	42.7	Reasonable	10.5%
DEU A27 DTS2440	8	34	1,809	613	8,286	17,088	17,454	11,349	65.0	5,307	30.4	3,868	22.16	177.9	334.2	47.7	High	7.4%
DEU A27 TBB2440 °	9	32	1,444	1,584	2,678	11,745	11,992	7,244	60.4	3,848	32.1	2,327	19.41	106.3	226.7	42.9	Reasonable	5.1%
DEU A27 DTS1824	13	36	2,515	274	4,512	10,073	10,415	8,171	78.5	5,539	53.2	4,258	40.89	73.6	228.6	82.6	High	4.3%
DEU A27 PG0010	678	457	51,592	108	4,764	6,664	7,134	4,174	58.5	2,396	33.6	1,468	20.57	3.9	9.1	32.7	High	2.9%
DEU A27 DFN2440 °	6	53	1,119	954	1,476	4,290	4,380	898	20.5	- 671	- 15.3	- 1,198	- 27.34	29.8	17.0	- 42.6	Weak	1.8%
DEU A27 DTS1218	20	16	1,863	161	3,122	2,460	2,629	1,544	58.7	498	18.9	83	3.17	64.0	94.5	3.1	Weak	1.1%
DEU A27 PG1012	58	31	4,360	73	2,384	1,583	1,747	482	27.6	- 274	- 15.7	- 674	- 38.58	24.8	15.8	- 39.9	Weak	0.7%
DEU A27 DFN1218	7	5	444	28	662	1,177	1,242	1,046	84.3	902	72.6	770	62.05	30.7	222.6	121.6	High	0.5%
DEU A27 TBB1012 °	12	5	749	933	95	550	561	295	52.5	146	26.0	69	12.22	29.8	59.0	18.8	Reasonable	0.2%
DEU A27 DTS1012 °	6	3	492	124	672	489	620	298	48.1	125	20.2	60	9.62	49.5	85.3	19.1	Weak	0.2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

5.10 Greece

Short description of the national fleet

Fleet capacity

In 2017, the Greek fishing fleet consisted of 14 985 registered vessels with a combined gross tonnage of 71 thousand GT and a total power of 426 thousand kW. The average vessel age is 31 years. The overall capacity of the Greek fleet has a falling trend between 2008 and 2017. The size of the Greek fishing fleet decreased, with the number of vessels falling by 7% while total tonnage and power also decreased by 9% and 8%, respectively. It is expected to have a further decline in the number of the vessels the next years due to the application of EMFF Measure 6.1.10 under the Union Priority 1 for permanent cessation. Also, it is important to mention that the sector faces ageing of the population without any attractive motive for successors to stay in business.

Fleet structure

The majority of the active vessels (12 687) are small-scale vessels (less than 12 meters) with a combined gross tonnage of 25 thousand GT and a total power of 238 thousand kW. On the other hand, there are 960 large-scale vessels (larger than 12 meters) with a combined gross tonnage of 42 thousand GT and a total power of 156 thousand kW.

Employment

Employment was estimated at 24 975 jobs that correspond to 23 040 FTEs with a very low average wage per FTE and total employed (EUR 8.8 and EUR 7.4 thousand, respectively) in 2016.

Effort

In 2016, the Greek fleet spent 2 040[23] thousand days at sea corresponding to an annual average of 150 days at sea for each vessel (AGRERI, 2018). The amount of energy consumed was estimated at 105 million litres and thus was slightly lower than in 2015 (2%). The average amount of energy consumption was 7 686 litres per vessel. Due to lower fuel prices, the reduction of both the fishing fleet and the fishing effort, the energy costs decreased from about EUR 105.5 million in 2013 to EUR 75.8 million in 2016. The fishing effort is concentrated mainly in Aegean (GSA 22) 73%, Ionian (GSA 20) 23.5% and Crete (GSA 23) 3.5%. Greek small-scale vessels spend 1 928 thousand days at sea (referring to the period from March to December) while large-scale vessels 112 thousand days (referring to the whole year).

Production

The Greek fishing fleet targets a variety of species. The main Greek species regarding the landings weight are European anchovy, European pilchard (sardine), European hake, red mullet, common octopus, Deep-water rose shrimp and surmulet. In 2016, production referred to a nine-month period from March to December for SCF, so it is underestimated. The core Greek species regarding landings value are Engraulis encrasicolus (9.3%), *Sardina pilchardus* (8.3%), *Merluccius merluccius* (8.4%), *Mullus barbatus* (6.5%), *Mullus surmuletus* (5%), *Pargus pargus* (4.1%) and *Octopus vulgaris* (4.1%).

Economic results for 2016 and recent trends

National fleet performance

The basic source of income of Greek fishing vessels is the income from landings, while some segments also receive direct subsidies, stemming from duties refunds. No other source of income appears (e.g. income from fishing rights, recreational fishing and tourism). The income generated from landings was enough to cover all expenses for the Greek fleet. In 2016, it was the first year with a positive value for the indicator of net profit for the sector. The economic performance has improved due to the improvement of the value of landings. Moreover, the inclusion of the imputed value of unpaid labour provide the activity with a high positive income for fishers in 2016. As the majority of the Greek fishing vessels are mainly based on family labour, this figure provides a clearer picture of the sector economic sustainability improvement. It is also important to emphasize that this figure is estimated as the

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[23]It has to be mentioned that in 2016, the National Program was lately initiated and therefore, the transversal variables were only collected for a nine-month period for the SCF while for the LCF we have information for the whole year through the ERS.

opportunity cost of labour, using the average daily wage per fisher. However, in many cases, due to the lack of labour demand in local economies, which is even more intense due to the on-going financial recession, the opportunity cost of labour is, in fact, lower or even zero.

The total expenses of the Greek fleet are EUR 415 million. The main expenses of the fishing vessels are personnel costs (wage and salaries and imputed value of unpaid labour), other variable costs, as well as energy costs. Energy costs account for 18% of total expenses and exceed a total of EUR 76 million. As far as personnel costs are concerned, they account for 46% of total costs. Specifically, wages and salaries are equal to EUR 91 million, and they derive mainly from the large-scale vessels. On the other hand, imputed labour costs are estimated to EUR 95 million and derive mainly from small-scale vessels.

Other variable costs, including commercial costs and other operating costs, are also important. These costs are estimated at EUR 78 million. The non-variable costs are significantly lower (EUR 6 million), representing only 2% of total expenses, while repairs and maintenance costs reach around EUR 33 million. Finally, the annual depreciation costs account for 9% of total costs (EUR 36 million).

As far as the value of physical capital (depreciated replacement value) is concerned, it is equal to EUR 151 million. Moreover, the total investments in physical capital in 2016 are around EUR 26 million.

Performance by fishing activity

Small-scale coastal fleet

In Greece, the majority of vessels (93%) are small-scale vessels. Specifically, there are 12 687 small-scale vessels with a combined gross tonnage of 25 thousand GT and a total power of 238 thousand kW in 2016. The number of small-scale vessels decreased by 12% from 15 834 in 2008 to 12 687 in 2016, following the general trend of the Greek fishing fleet. This segment spent 95% of the national amount of days at sea. The SSCF employs a total of 17 799 FTEs, thus contributing to 77% of the total national employment of the sector.

The SSCF mainly exploits the extensive Greek coastline, using polyvalent passive gears (mainly nets, longlines, pots, and traps). The vessels in this segment are primarily family-owned, and they are characterized by low invested capital. Moreover, their landings are sold at higher prices compared to the large-scale fleet, and they are mainly directed to the market through very short supply-chains. Despite the fact that the vessels of this segment are small, they are vital for the local economies regarding job opportunities and have strong ties to them. They usually offer income and employment to poor and isolated areas with very few alternative economic activities. Therefore, this segment highly contributes to the social and economic sustainability of the coastal communities.

The small-scale vessels consume 45 million litres fuel, and the corresponding energy costs are high. It is crucial to mention that the small-scale fishers due to their limited access to credit, they do not have the flexibility to buy their fuel in advance; instead, they buy a limited amount to cover only very short-term needs. This is the main factor that increases the energy cost because they do not gain the reduced price of fuel.

Large-scale fleet

The large-scale fleet contains 960 vessels with a combined gross tonnage of 42 thousand GT and a total power of 156 thousand kW. As larger vessels have higher levels of engine power, they can conduct more fishing operations in deeper fishing grounds. These vessels mainly use active gears (bottom trawlers and purse seiners) and are characterized by high operating costs. The large-scale vessels consume 59.8 million litres of fuel. The large-scale fleet segment in contrast to the small-scale benefits from the reduced price of fuel.

Performance results of selected fleet segments

The Greek fleet is highly diversified with a broad range of vessel types targeting different species. The national fleet consisted of 15 (DCF) fleet segments and 15 182 vessels in 2016.

Netters 6-12m: This is the largest fleet segment of the Greek fishing fleet, containing 5 638 vessels. The total value of landings is EUR 117 million (AGRERI, 2018) and the total FTEs employed in this fleet segment is 9 585 (representing the 25% and 41% of the Greek fishing fleet respectively) and corresponds to two FTE per vessel. Imputed value of unpaid labour is the main cost item (35% of total expenses) and represents the family contribution to the labour.

It is also important to mention that this segment produces the highest added value among fleet segments, which is equal to EUR 69 million (AGRERI, 2018), a fact that reveals its substantial importance. Taking into consideration that the majority of these vessels are active in poor and isolated areas, with very few alternative economic activities, the importance of this sector to the local economies is even more apparent. In 2016, the fleet segment of DFN0612 has weak profitability with 0.49% net profit margin but it is important that the net profit is positive in relation to the previous years. Moreover, the profit plus the imputed value of labour provides a notable income to the families of many coastal areas.

Netters 0-6m: It is the second most important fish segment in Greece regarding the number of vessels employed 3 349 small vessels. These vessels target multi-species *(*e.g. *Mullus barbatus*, *Mullus Surmuletus*, *Merluccius merluccius* and others*)*. The total value of landings is EUR 21 million (AGRERI, 2018), representing 5% of the total national value of landings. Moreover, this fleet segment employs 3 639 FTEs, which corresponds to one FTE per vessel. Taking into consideration that the majority of these vessels are family owned, they normally utilize only family labour. The share of the segment in both the national total value of landings and the national FTEs indicates its high importance (5% and 15%, respectively).

Unlike large-scale fisheries, the main cost element is the imputed value of unpaid labour (53%), followed by energy costs (18% of total expenses). Finally, it is worth noticing that although this segment includes very small vessels, it highly contributes to the national economy (added value of about EUR 9 million) and provides livelihood and income for fishers with limited alternative employment. The economic performance is weak, while the profit plus the imputed value of labour provides a notable income to the families of many coastal areas. The mean wage is very low, only 5.5 thousand euros.

Longliners: The fleet is made up mostly of small vessels less than 12m, around to 3 369 vessels. This segment has substantial contribution either to landings or employment. In total, it contributes with 4 137 FTEs representing 18% of the Greek fishing fleet. This figure highlights the major importance to the local rural economies. Imputed cost of labour is the main type of cost, representing the family contribution to the labour. This has a significant effect due to limiting alternatives for jobs in some specific coastal areas.

Longliners 0-6m: This fleet segment includes 1 353 small vessels (4th largest fishing segment). The total value of landings is EUR 23 million, representing 5% of the national total value of landings. Moreover, this fleet segment employs 1 046 FTEs, which corresponds to 4.5% of the total FTEs of the Greek fishing sector. Taking under consideration that the majority of these vessels are family owned, as well as the FTE per vessel is one, we can say that this segment utilizes mainly family labour. Unlike large-scale fisheries, the main cost element is the imputed value of unpaid labour (43%), which is more than EUR 8 million.

Longliners 6-12m: This is the 3rd largest fleet segment of the Greek fishing fleet, containing 1 915 vessels. The total value of landings is EUR 54 million (AGRERI, 2018) and the total FTEs employed in this fleet segment is 2 801 (representing the 12% of the Greek fishing fleet in both cases). These figures highlight the importance of this segment to the local, rural economies. Imputed value of unpaid labour is the main type of cost (31% of total expenses), and as in the previous segment, represents the family contribution to the labour. Energy costs are also important, contributing by 17% of total costs. It is important to mention that this segment an added value of EUR 36 million, a fact that reveals its high importance to the rural economies.

Bottom trawlers 18-24m: This fleet segment includes 100 active vessels with a total value of landings of EUR 25 million and a total employment that corresponds to 629 FTEs. The share of this segment in the value of landings and total employment (FTEs) is 5.5% and around 2.7%, respectively. Bottom trawlers have multi-species characteristics, captures numerous fish species, such as Penaecus kerathurus, European hake (*merluccius merluccius*), deep-water rose shrimp (*parapenaeus longirostris)*, red mullet (*mullus barbatus)*, surmullet (*mullus surmuletus)*, Pagellus erythrinus, picarel *(Spicara smaris),* common octopus *(octopus vulgaris),* bogue *(Boops boops),* and many others. This segment spends on average 154 days at sea per year. Management regulations include seasonal (June 1-Sepetember 30) and spatial closures, as well as a minimum landing size. Energy cost is the main cost element (31% of total costs), followed by wages and salaries and other variable costs as well as (23% and 19% share in total costs, respectively). Finally, it should be noted that this feet segment represents 10% of the total value of physical capital and 6.4% of total investments in 2016. This fleet segment has weak profitability due to high wages and energy costs.

Bottom trawlers 24-40m (DTS 24-40): There are 150 vessels in this fleet segment with a total tonnage of 20 thousand and total power of 49 thousand KW. The average age of these vessels is low (22 years), which is an indication of increased welfare. They spend on average 197 days at sea per year with a total value of landings of EUR 71 million. The total FTEs are 1 081, representing the 5% of the national

FTEs. The main expenses are energy cost (23%), wages and salaries (23%) and other variable costs (24%). As far as the value of physical capital is concerned, it represents 25% of the total national value of physical capital while it represents 5% of total national investment for 2016. Finally, it should be noted that, according to AGRERI (2018), this segment appears to have improved economic performance mainly due to reduced energy costs. It has high net profit margin, labour productivity and return on fixed tangible assets, which provide a high profitability for this fleet segment. The landings contribution of this segment to the national economy is also significant and the average wage per FTE is also very high.

Purse seiners: This segment includes 246 vessels operating predominately in areas Aegean (GSA 22) and Ionian GSA 20. Aegean has the 85% of the fishing effort and Ionian 15%. Purse seiners fishery is the main fishing method for small pelagic species, multispecies mainly European anchovy *(Engraulis encrasicolus)*, European pilchard or sardine *(Sardina pilchardus),* bogue *(Boops boops),* chub mackerel *(Scomber japonicus),* round sardinella *(Sardinella aurita)* and many others. The purse seiners conduct daily trips, and each vessel is responsible for fish searching, catching and transporting its own catches to port. Fishing operations are carried out exclusively during night hours with each vessel carrying around 8–10 persons. Each per seiner spends, on average, 138 days at sea per year. Management regulations currently in force for the purse seine fishery include mesh size regulations (14 mm), technical measures such as time closure (December– February), area closure and fishing prohibitions within specific distances from the coast (100 m).

Purse seiners 18-24m: This segment includes 135 vessels with a value of landings equal to EUR 60 million (13% of the total national value of landings). Each vessel spends on average 140 days at sea per year. The segment employs a total of 1 574 FTEs, and thus it contributes to the 6.8% of the national total. Wages and salaries, as well as other variable costs, are the largest cost elements in this segment, together representing the 73% of the total cost. The economic performance improved this year according to the AGRERI estimates, which allows for a positive and significant income to the fishers (taking the imputed value of unpaid labour under consideration).

Purse seiners 24-40m: The total number of vessels in this segment is 28. Unlike the previous segments it is characterized by a low average age of the vessels (17 years). Each boat spends on average 232 days at sea per year. The total value of landings is equal to EUR 37 million (8% of the national total). This segment employs 410 FTEs, which corresponds to 1.8% of the total national FTEs. The main costs of the vessels in this segment are the other variable costs (43% of total costs) and the wages and salaries of the crew (26% of total costs). Energy costs are also important contributing to the 9% of the total costs. The economic performance improved this year which allows for a positive and high profitability to the fishers.

Pots and Traps: This fleet is a small one. It includes totally 382 vessels, with the majority of them (317 vessels) to be categorized in the 6-12m length class. It offers 527 FTEs representing 2.3% of the total FTEs of the Greek fishing sector. Pots and Traps have multi-species characteristics, but captures mainly common octopus *(octopus vulgaris),* common cuttlefish *(Sepia officinalis),* Norway lobster *(Nephrops norvegicus),* black seabream *(Spondyliosoma cantharus),* and picarel *(Spicara flexuosa)*. The main characteristics of this segment are the high average vessel age; the main cost element is the imputed value of unpaid labour, which mainly represents the family contribution to the labour. In 2016, the segment faces improved economic results and high profitability.

Drivers affecting the economic performance trends

The main drivers affecting the economic performance of the Greek fishing sector involve the general economic environment and the ongoing Greek financial crisis, as well as specific sector characteristics. The cash flow shortage, the limited access to credit, the increasing social-security contributions and taxation together with the high value of inputs creates unfavourable conditions for fishers and their activities. Low prices of the main target species are also linked to the low spending power of Greek households because of the ongoing financial crisis.

Furthermore, one of the main problems fishers report concerns the damages of the fishing gears, caused by protected species like dolphins, seals, sea turtles, and seabirds. These damages increase the repair and maintenance costs of the vessels and negatively affect their overall economic performance, keeping in mind that fishers do not receive any compensation.

Additionally, the reduction of the fishing stocks in the Mediterranean Sea affects the economic performance of the Greek fishing sector. Pressure on stocks is increased due to the competition of the Greek fishing vessels with vessels from other countries that do not have to follow EU legislation and restrictions, like Turkey. There is also a variety of vessels operating in the same fishing areas, and this can lead to conflicts. In particular, there is a strong conflict between the small-scale and large-scale fleets that was highlighted by fishers as a major factor impacting on financial performance. Moreover,

there is a conflict between professional and recreational fishers who usually fish in coastal areas and illegally sell their catch at low prices.

Markets and Trade (including fish price)

As far as the market structure is concerned, fishers reported that on average, 50% of their catch is channelled to wholesalers and fish auctions while 45% involves direct sales to consumers. Direct sales refer mainly to small-scale vessels. However, if only large-scale vessels are examined (bottom trawlers and purse seiners), fishers report that about 80% of the catch is channelled to wholesalers and fish auctions.

Management instruments

Fisheries in Greece, as in all the Mediterranean countries, are recognized for the variety of commercially important species caught and the range of fishing methods employed. Stocks are managed and conserved by regulations and governmental legislation (e.g. 1967/2006), defining closed areas and seasons (for trawlers, purse-seiners, boat seiners and traps fishery), minimum landing sizes for the most commercial species and restriction on gears characteristics (mesh size, deployed net length, deployed **hook amount). Management plans are realized for bottom trawl, night purse seine, boat seine and eel** fishery.

The recreational fishery is also ruled by certain restrictions and prohibitions in fishing of defined stock (blue fin tuna and eel and several species of sharks and rays).

Fishing in international waters has been restricted in the area East of the 25th Meridian during summer in order to decline the fishing effort and conserve the stocks.

Furthermore, monitoring of the fishing activity is managed through an Integrated Information System.

The sector was significantly supported by EMFF measures (under the Fisheries 2007-2013) as port infrastructures, relate to investments in fishing ports, landing sites and fishing shelters that help to reduce the costs of fishing operations. It should also be mentioned that the new Greek Operational Programme for 2014-2020 ("Fisheries and Maritime 2014-2020) that aims to promote a sustainable management of the fisheries sector. Amongst others, the program supports the modernization of the sector through on-board investments and improvements of infrastructures.

Status of Key Stocks

One of the main problems of the fisheries sector in Greece is the reduction of population stocks in the Mediterranean Sea, caused mainly by overfishing and illegal fishing. Many of the most significant and commercial species are overfished at a young age and small size, which prevents efficient reproduction. It should be emphasized that though special attention is required in the management of these species, there are no quotas for them in the Mediterranean region except tuna.

Regarding the status of the main target species of trawlers, the stock of deep-sea pink shrimp (*Parapenaeus longirostris*) is fully exploited in GSA 22, the stock of hake (*Merluccius merluccius*) is fully exploited in GSAs 20 and 22 while the stock of the red mullet (*Mullus barbatus*) is in good condition in GSAs 20 and 22. On small pelagic species, which reflect the performance of the purse seine fishery, the stock of anchovy (*Engraulis encrasicolus*) is slightly above the appropriate operating point, while the sardine (*Sardina pilchardus*) has high exploitation index.

Operational costs (external factors)

As already discussed above, the main cost of the Greek fishing vessels is the energy cost. According to the data collected energy cost decreased during 2016, as a result mainly of the decreased fuel price. Fuel price has decreased even in the case of small-scale vessels.

On the other hand, the wages and salaries of the crew, which is also an important cost element have increased compared to 2014. Keeping in mind that the current reform of the social-security contribution also affects fishers, linking their contributions to their income, it is estimated that this increase will continue in the future. The reform gradually increases social-security contributions until the year 2022. This is one of the main concerns that fishers express together with the increase of taxation.

Another external factor that affects the costs of the fishing activity are damages caused to fishing gear, especially nets, from mammals like dolphins, but also sea turtles, crabs, and sea birds. These damages are frequent and reported by the majority of fishers, although currently no compensation is received.

Innovation and Development

The Greek fleet consists mainly of small-scale, family-owned vessels that use traditional fishing gears. Furthermore, investments are limited due to the economic crisis, while the average age of the vessels is increasing. This environment leaves limited room for new and innovative techniques not only for small-scale fisheries but also for large vessels since the latter also faces high running costs. However, as mentioned above the Greek Operational Programme for 2014-2020 aims at the modernization of the fisheries sector and its sustainability particularly through supporting the use of more selective fishing gear as well as other on-board investments and equipment, the modernization of infrastructures and the improvement of fisheries monitoring and control.

Furthermore, for successful management instruments and policies that can promote the sustainability and the development of the fisheries sector, the Greek Fisheries Institute, the Hellenic Centre for Marine Research and the Greek Agricultural Economics Research Institute are providing the necessary scientific knowledge.

Under the previous Operational Program, an improved version of trawl fishing gear was designed and constructed to optimize the technical characteristics of the vessel. This project was implemented by the Hellenic Centre of Marine Research and a Greek private company with specialization in fishing gears manufacture. The results proved significant reduction of energy consumption. The technical know-how that was obtained through the project is used by the company in order to improve trawls which are adjusted to the individual vessel needs, reserving high energy efficiency and low operational cost.

Another development in the Greek fisheries sector involves the MSC fisheries standard, which for the first time will be implemented in the Mediterranean Sea. WWF Hellas, the Greek Fisheries Institute, a private retail company and some fishers using purse seiners are working together, according to the MSC standard to support the sustainability of the fishing sector and the promotion of certified, high-quality products to consumers.

Socioeconomic impact

The extensive Greek long coastline (13 780 km), representing around 16% of Europe's coastline (EEA, 2006; Loizou, 2014), and the numerous islands located in Aegean and Ionian Sea, offers a great natural environment for the development of a powerful fishing sector in Greece. This unique environment also gives privilege to small-scale fisheries, which is a factor considerably differentiating Greece from other European countries (Tzanatos, 2006). Small-scale fishing vessels use polyvalent passive fishing gears (mainly nets, longlines, pots, and traps) and rely mainly on the work of the vessel owners (Pinello et al., 2016).

Additionally, the large continental coastline and the number of inhabited islands make fisheries (especially small-scale fisheries) more important at a local level (Tzanatos et al., 2005). Therefore, despite the fact that its contribution to the gross domestic product (GDP) is limited (less than 3.1%), the Greek fisheries sector represents a primary sector of significant socio-economic importance, particularly in coastal, traditionally fisheries-dependent areas (Malindretos et al., 2016). Especially, small-scale fisheries are vital for the local economies as they offer income and employment to poor and isolated areas with very few alternative economic activities. Therefore, this segment highly contributes to the maintenance of the social cohesion and to the socio-economic sustainability of the coastal communities.

An important problem with great socioeconomic impact is the overexploitation of the fishing stocks that has been shown to occur for the entire Mediterranean (Vasilakopoulos et al., 2014; Tsikliras et al., 2015), but also for the Greek Seas (Tsikliras et al., 2013). Overexploitation contributes to a great reduction of the fishing stocks at numbers far below their Maximum Sustainable Yields (COM (2016) 396). This situation directly threatens the economic and social sustainability of the coastal areas and islands.

The significant contribution of the sector needs support in order to provide essential effect on local coastal communities. One success story of the contribution of EMFF funding that increased the employment indicator, diversified the local activities and created new sources of income is the establishment of an innovative fish processing and packaging small-scale facility in the fish auction of Kalimnos Island, under the technical and scientific support of Fisheries Research Institute. Low commercial value fishes are used as raw material for the production of high added value food products. The facility is managed by the fishermen's wives via their Social Cooperative Enterprise. Women's entrepreneurship was empowered through the specific project, since fishermen's wives have had the opportunity to get trained in fish processing and packaging and gain valuable know-how, managerial skills and creative employment.

Data issues

There have been significant data issues in producing this chapter. The implementation of the National Programme has faced some difficulties during the last years which resulted in interrupted time series on the economic data. The lack of data and time series has created many shortfalls in the presentation of the fleet economic performance. The figures for costs come from a survey based on probability sampling, and the response rate was limited for 2016 while the transversal variables were collected only for nine months for small scale fishing segments because the National Program was lately initiated.

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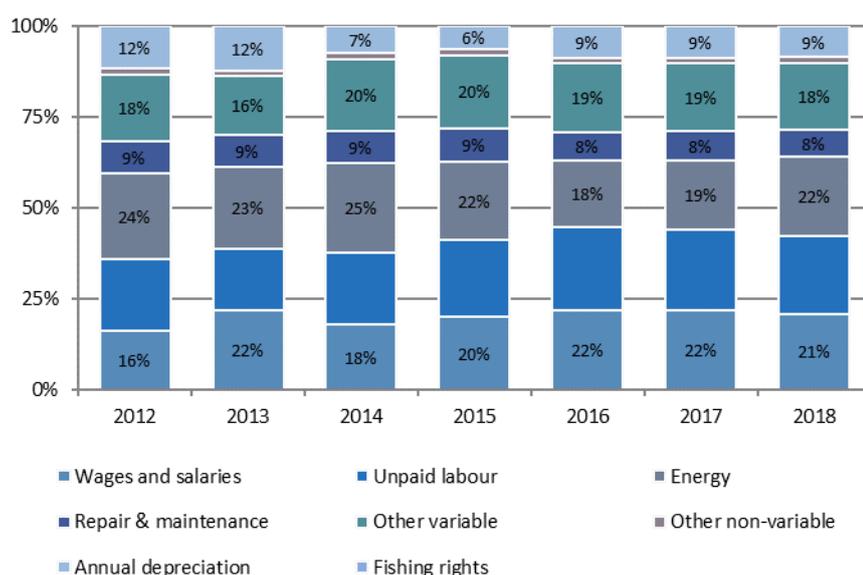
Figure 5.10 Greece: Cost structure

Table 5.46 Greece: National fleet statistics

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	17,248	17,168	17,047	16,542	16,063	15,954	14,755	15,624	15,182	14,985	14,778		-3%	-7%
Number of Inactive vessels_ms	(#)					1,531	1,202	1,155	1,210	1,535				27%	20%
Vessel tonnage	(thousand GT)	83.4	83.1	83.0	79.9	76.2	75.6	72.8	74.7	71.8	71.1			-4%	-9%
Engine power	(thousand kW)	497.2	494.7	493.9	473.8	455.6	454.6	431.2	446.2	430.8	426.7			-3%	-8%
Total employed	(person)					27,559	24,486	23,232	25,407	24,975	24,743	24,424		-2%	-1%
FTE	(#)					23,945	22,546	20,780	23,431	23,040	22,843	22,572		-2%	2%
Energy consumption	(million litre)					115.10	113.67	107.32	107.02	104.90	104.35	103.28		-2%	-5%
Wages and salaries of crew	(million €)					70.94	102.81	66.54	77.35	91.26	88.78	86.46		18%	15%
Unpaid labour value	(million €)					88.08	78.07	74.24	82.05	95.14	91.48	88.76		16%	18%
Energy costs	(million €)					105.45	105.51	91.43	84.43	75.77	78.49	89.42		-10%	-22%
Repair & maintenance costs	(million €)					38.82	42.10	33.93	35.64	32.99	32.41	31.94		-7%	-12%
Other variable costs	(million €)					81.14	75.68	73.22	78.25	77.89	76.63	75.52		0%	1%
Other non-variable costs	(million €)					7.49	6.581	7.061	6.482	6.476	6.36	6.27		0%	-6%
Annual depreciation costs	(million €)					51.74	57.22	26.55	24.21	36.28	35.70	35.23		50%	-9%
Rights costs	(million €)					-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	-	-	-	-	46.54	26.15	9.52	10.87	12.64	6.72	5.15		16%	9%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.47 Greece: National fleet statistics by fishing activity

SCF

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	15.834	15.761	15.635	15.268	13.439	13.671	12.762	13.567	12.687	13.940	13.697		-6%	-12%
Vessel tonnage	(thousand GT)	30,9	30,8	30,8	29,9	26,0	26,5	24,8	26,5	25,2				-5%	-11%
Engine power	(thousand kW)	291	289	288	281	248	252	238	252	238				-6%	-11%
FTE	(#)					19.396	17.440	15.782	18.490	17.799	19.624	19.321		-4%	0%
Total employed	(person)					21.780	19.263	18.222	20.420	19.613	21.586	21.224		-4%	-2%
Energy consumption	(million litre)					49,45	47,55	45,75	47,82	45,03	49,70	49,02		-6%	-5%
Live weight of landings	(thousand tonne)							18,15	6,36	27,53	30,35	29,93		333%	125%
Value of landings	(million €)							145,01	55,31	233,55	253,79	250,23		322%	133%
Income from landings	(million €)						37,58	148,09	55,31	234,44	253,65	250,09		324%	192%
Other income	(million €)					-	-	-	-	-	-	-			
Direct income subsidies	(million €)					-	3,47	4,43	2,40	2,49				4%	-3%
Income from leasing fishing rights	(million €)					-	-	-	-	-					
Wages and salaries of crew	(million €)					23,39	56,91	29,22	39,10	39,56	43,00	42,42		1%	6%
Unpaid labour value	(million €)					85,00	71,74	68,48	75,88	89,24	96,44	94,82		18%	19%
Energy costs	(million €)					54,78	57,59	51,99	49,01	45,34	58,47	68,01		-7%	-15%
Repair & maintenance costs	(million €)					24,97	29,00	22,15	23,81	18,65	20,36	20,06		-22%	-25%
Other variable costs	(million €)					33,05	31,06	30,06	31,66	24,75	26,86	26,48		-22%	-21%
Other non-variable costs	(million €)					3,62	4,02	4,14	3,92	3,46	3,77	3,71		-12%	-12%
Annual depreciation costs	(million €)					29,57	32,39	12,97	13,67	13,25	14,30	14,10		-3%	-40%
Rights costs	(million €)					-	-	-	-	-					
Opportunity cost of capital	(million €)					24,78	13,96		5,64	4,17	2,61	2,57		-26%	-72%
Tangible asset value (replacement)	(million €)					116	126		52	50	54	53		-3%	-49%
Fishing rights	(million €)					-	-		-	-					
Investments	(million €)					23,5	18,4		21	16				-24%	-23%

LSF

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1.414	1.407	1.412	1.274	1.093	1.081	838	847	960	1.045	1.034		13%	-18%
Vessel tonnage	(thousand GT)	52,5	52,3	52,3	50,1	46,5	46,0	44,1	44,2	42,2				-5%	-13%
Engine power	(thousand kW)	206,6	205,3	205,8	193,2	175,6	176,0	158,5	159,0	156,4				-2%	-15%
FTE	(#)					4.548,0	5.105,9	4.998,2	4.941,5	5.241,5	5.272,8	5.213,8		6%	7%
Total employed	(person)					5.778,0	5.223,1	5.010,5	4.986,7	5.362,0	5.389,2	5.328,4		8%	2%
Energy consumption	(million litre)					65,65	66,13	61,57	59,19	59,87	59,81	59,23		1%	-5%
Live weight of landings	(thousand tonne)							29,49	14,94	47,36	46,95	46,49		217%	113%
Value of landings	(million €)							133,64	72,67	230,06	228,15	226,12		217%	123%
Income from landings	(million €)						28,22	134,46	70,24	230,06	228,44	226,40		228%	196%
Other income	(million €)					-	-	-	-	-					
Direct income subsidies	(million €)					-	0,19	0,59	0,23	0,28				19%	9%
Income from leasing fishing rights	(million €)					-	-	-	-	-					
Wages and salaries of crew	(million €)					47,55	45,90	37,32	38,26	51,71	50,72	50,11		35%	22%
Unpaid labour value	(million €)					3,08	6,33	5,75	6,18	5,90	6,09	6,02		-4%	11%
Energy costs	(million €)					50,67	47,92	39,44	35,42	30,44	34,37	40,21		-14%	-30%
Repair & maintenance costs	(million €)					13,85	13,10	11,78	11,83	14,34	14,18	14,03		21%	13%
Other variable costs	(million €)					48,09	44,62	43,16	46,59	53,13	52,34	51,76		14%	16%
Other non-variable costs	(million €)					3,87	2,56	2,92	2,56	3,01	2,98	2,95		18%	1%
Annual depreciation costs	(million €)					22,17	24,83	13,58	10,54	23,03	23,04	22,84		119%	30%
Rights costs	(million €)					-	-	-	-	-					
Opportunity cost of capital	(million €)					18,59	10,72		4,39	7,62	4,42	4,38		73%	-32%
Tangible asset value (replacement)	(million €)					87	97		40	91	91	91		126%	22%
Fishing rights	(million €)					-	-		-	-					
Investments	(million €)					5,7	5,1		7	10				47%	66%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.11 Ireland

Short description of the national fleet

Fleet capacity

The capacity of the national fleet remains relatively stable albeit with small temporal fluctuations. In 2017, there were 1 953 registered vessels (excluding those registered in the *aquaculture* segment), with a total capacity of 60.5 thousand Gross Tonnes (GT) and 180.7 thousand kilowatts (kW). The estimated total number of inactive vessels in 2016 was 604. While inactivity for vessels over 10 metres LOA is known from logbook data, inactivity in the less than 10 metres LOA fleet has been estimated using data from equivalent (gear, target species *etc*.) fleets in the 10-12 metre segment and information from sales notes.

Fleet structure

National segmentation of the Irish fishing fleet does not match DCF segmentation in every case. For example, the polyvalent segment (see below) includes a variety of vessel lengths and fishing techniques. Nationally the fishing fleet is divided into five segments:

1. Refrigerated Seawater (RSW) Pelagic Segment: This segment is engaged predominantly in fishing for pelagic species (herring, mackerel, horse mackerel, blue whiting, and boarfish).
2. Beam Trawler Segment: This contains vessels, dedicated to beam trawling, a simple trawling method used predominantly in Irish inshore waters except in the southeast, where it is used to catch flatfish such as sole and plaice.
3. Polyvalent Segment: This segment contains the vast majority of the fleet. These vessels are multi-purpose and include small inshore vessels (netters and potters), along with medium and large offshore vessels targeting whitefish, pelagic fish and bivalve molluscs.
4. Specific Segment: This segment contains vessels which are permitted to fish for bivalve molluscs and aquaculture species.

Aquaculture Segment: These vessels must be exclusively used in the management, development, and servicing of aquaculture areas. They may collect spat from wild mussel stocks as part of a service to aquaculture installations. The aquaculture segment is excluded from analysis in this report.

Employment

Fleet employment in 2016 was estimated at 3 461 jobs. This corresponds to 2 672 FTEs with an average of 3.41 and 0.95 FTE per vessel for the large and small-scale coastal fleets, respectively (excluding inactive vessels). FTE has shown a 6% increase from 2015. Employment in the Irish fishing industry is particularly important to coastal communities with share of employment being as high as 12% in the North West of Ireland.

Indicative figures from the national annual employment survey suggest that 23% of active fishers were aged 50 years and over in 2016, an increase from 20% in 2015. The majority, 48% of fishers are aged 30-44 years old. Younger fishers make up a small percentage of the total with 11% aged less than 25 years. Attracting young people to the industry remains a challenge.

Average crew wage for the entire fleet remains consistent at around EUR 33 thousand per total jobs and EUR 25.5 thousand for FTE which is lower than the average national annual earnings of EUR 36.9 thousand in 2016. However, there are variations in the average wage depending on the size and gear of the vessel.

Effort

The Irish fishing fleet operates primarily in the North Atlantic, Celtic and Irish Seas. In 2016, the national fleet spent 77.2 thousand days at sea of which 67 thousand (86%) were fishing days. Days at Sea and fishing fays increased by 34% and 43% respectively from 2014 to 2015. However, this was partially explained by the inclusion of effort estimates for vessels less than 10 metres for the first time, the increase Effort could only be calculated for the gear segments FPO and DRB for the less than 10 metres segments. The increase in DAS and fishing days was 6% and 1% receptively from 2015 to 2016.

Note: Prior to 2015 *effort* was estimated using only data for the over 10 metre segment. The lack of logbook data for vessels under 10 metre has meant that the reporting of transversal, landings, activity and true economic performance of this segment (which makes up a large proportion of the Irish fleet) is based solely on this limited results from the sentinel vessel survey and sales notes data.

Energy consumption increased by 22% over the same period.

Production

Production remained stable in 2016 with landings down 1% from 240.94 thousand tonnes (valued at EUR 237 million) in 2015 to 239.35 thousand tonnes (valued at EUR 265 million) in 2016. Provisional figures for 2017 indicate that total landings will be 252 thousand tonnes with an associated value of EUR 271 million, however these figures do not include all landings from vessels under 10 metres. Adjusting for price errors in the landings data and including improved estimates for income for the less than 10m segments landing income for 2016 is estimated as EUR 303 million.

Production trends are highly influenced by quota changes for pelagic species, particularly mackerel. Indeed, many of the historical fluctuations in the value and weight of landings have been driven by mackerel, landings of which rose by 83% between 2013 and 2014. The 2014 mackerel quota, 104 thousand tonnes, included an increase of 46.56 thousand tonnes worth an estimated EUR 59 million. The 2015 mackerel quota, 89 thousand tonnes, resulted in landings of 88.7 thousand tonnes worth an estimated EUR 49 million. In 2016, the quota was further reduced to 75 thousand tonnes worth an estimated EUR 47 million.

Nephrops remained the top landed species by value in 2016 worth EUR 62 million with associated landings of 9.5 thousand tonnes.

Economic results for 2016 and recent trends

National fleet performance

In 2016, the Irish fleet recorded a gross profit of EUR 94 million and net profit of EUR 59.6 million, changing the negative trend recorded between 2014 and 2015.

Fleet revenue, estimated to be EUR 305.7 million in 2016, a 23% increase from 2015 (EUR 249 million). Fleet revenue increased for both the Small Scale and Large scale fishery activities by 48% and 20% with values of EUR 39 and EUR 267 million respectively.

It should be noted that these figures are strongly influenced by the larger pelagic vessels (TM VL2440), in particular the value assigned to its cost structure and capital values along with fish prices which can greatly affect their total landings income due to the large volumes of catches.

Overall the cost structure of the fleet has remained relatively stable, with lower energy but increased labour and repair and maintenance costs. *Operating costs* totalled EUR 265 million in 2014, an increase of 7% on 2015. Energy and other variable costs decreased by 21% and 11% respectively. However, when capital costs are included, the *total cost* of operating the national fleet rose to EUR 269.9 million and resulted in a Gross Profit of EUR 71 million and a Net Profit of EUR 35.8 million.

Gross Value Added (GVA), gross profit, and net profit in 2016 were estimated at EUR 165 million, EUR 71 million and EUR 35.8 million, increasing 43%, 107% and 700% respectively from 2015. This is a marked difference from 2015 when inflated depreciation costs and capital values with reduced estimates of landing income had resulted in a negative net profit for 2015.

Tangible asset value was estimated at EUR 517 million and investments amounted to EUR 70 million. Tangible assets value increase 11% from 2015.

Resource productivity and efficiency indicators

The fleet average *Gross Profit* margin in 2016 was 23.2%. This increased from 2015 (13.7%) which indicates that the industry is moving towards a low-cost operating model reflecting efficiency in turning inputs into outputs, indicating a low operating efficiency for the sector. The *Net profit* margin was estimated at -6%, a decrease from 2014. The *Rate of Return on Fixed Tangible Assets* (RoFTA) in 2016 was 8%, up 107% from 2015.

In 2016, fuel consumption was estimated to be 409 litres per tonne landed; the corresponding figure for 2015 was 341. While fuel consumption has remained relatively stable from 2012 to 2014 there has been a steady increase in fuel consumption each year since then. Fuel consumption *per tonne landed* had followed an overall decreasing trend from 2008 when fuel prices reached an historic high. This may, in part, be indirectly due to low fuel prices and their influence on fishers' behaviour: for example, when fuel prices are low fishers are more likely to incur increased time steaming to and from fishing grounds and/or time spent searching for fish or fishing. This trend turned in 2015 with a marked rise in energy consumption increasing by 22% and increasing by 19% from 2015 to 2016. This increase is driven by a

reduction in the litre/EUR costs which feel from 0.72 (litre/EUR) in 2014 to 0.5 (litre/EUR) in 2015 and 0.34 (litre/EUR) in 2016.

Total average fleet landings (*tonnes*) per unit of effort (Days at Sea) have fluctuated since 2008. In 2016 the fleet LPUE averaged 3.1 tonnes/day; in 2017 the corresponding figure increased to 3.2 tonnes/day (+3%). This average fleet figure may mask performance in specific segments. For example, the very large pelagic vessels (TM VL40+) had an LPUE of 83 tonnes/day in 2017, while the demersal 24-40m segment recorded a value of 2 tonnes/day. The small-scale coastal fleet averaged 0.5 tonnes/day but this is an underestimate as both landings and effort data are incomplete for vessels less than 10 metres (due to the absence of an official log-book).

Performance by fishing activity

Small-scale coastal fleet

There were 908 active vessels registered in the small-scale coastal fleet in 2016 (vessels under 12 metres using passive gears). The number of vessels in the small-scale coastal fleet increased 5%, on average, between 2008 and 2015.

There are a number of vessels using active gears below 12 meters that are not included in the definition of small-scale coastal fleet. This results in discrepancies between the data presented in this report and how the fleet would be examined at a national level which examines all vessel under 12m irrespective of gear being active or passive.

Data for the under 10m segments is poor which impacts on the estimates of economic indicators for the SSCF. As survey returns for economic data for the small-scale increase there are better estimates of economic variables. As a result, most variables demonstrate an increase in value. While this may be a real trend it is also an effect of the better survey data stream. This fleet activity recorded a GVA of EUR 23 million, gross profit of around EUR 10 million and net profit of EUR 7.6 million in 2016 demonstrating a 47%, 5% and 32% increase on 2015 estimates. This indicates reasonable profitability for 2016 with an improved economic development trend evident also in the GVA and Gross profit. This continues the improved trends experienced for this segment for the last two years.

While the SCF makes up nearly 13% of the total revenue of the Irish fleet is importance to local coastal communities should not be diminished. SCF offer employment in often deprived areas and bring much needed money into the local community and their hinterlands. The SCF employs 1 385 fishers corresponding to 856 FTEs. Employment figures may be higher. Total employment is based, in part, on the total number of active vessels in the SCF. As activity for the less than 10m is estimated from national expert knowledge and Sales Notes, the figures may be underestimated and as such employment figures could be higher.

Performance results of selected fleet segments

Ireland's national fishing fleet is highly diversified with a broad range of vessel types targeting different species or species groups often in mixed fisheries. The fleet operates from as far north as Norway and Iceland, south to the coast of Africa, but carries out the bulk of its operations in ICES areas VI and VII.

In 2016, the national fleet consisted of 22 (DCF) fleet segments, 9 of which are clustered (comprising more than one DCF segments). In 2015 there were twelve segments (both clustered and un-clustered) that had sufficient data to calculate profitability, through improved data collection and estimate for the less than 10m fleet the number of segments that now have sufficient data to calculate profitability has risen to nineteen. Of these nineteen, x demonstrated high, x reasonable and x weak profitability.

The fleet is dominated by the (nationally defined) polyvalent segment, a diverse group that includes small inshore vessels (netters and potters), along with medium and large offshore vessels targeting *Nephrops, mixed* whitefish, some pelagic species (including mackerel, herring and tuna) as well as a range of vessels, from small to large-scale, targeting bivalve molluscs and crustaceans.

The Refrigerated Seawater (RSW) pelagic segment targets exclusively pelagic species (mackerel, horse mackerel, herring, blue whiting and boarfish) and equated to the TM VL40XX DCF segmentation.

Pelagic Trawl over 40m

Pelagic Trawlers over 40 metres (TM VL40XX) are part of the, nationally defined, Refrigerated Sea Water (RSW) segment. Currently there are 21 vessels classified as TM VL40XX and these are generally considered to be amongst the best performing components of the national fleet. These vessels land large quantities of pelagic fish (Atlantic mackerel, horse mackerel, herring, blue whiting, albacore tuna and

boarfish) and operate mainly in ICEA areas VIa and VIIb,c,j,k. Mackerel, Horse mackerel, and blue whiting constitute 74%, 15% and 5% respectively of total value of landings.

The majority of the fleet operates out of Killybegs, county Donegal and Castletownbere, county Cork; both areas strongly dependent on the fishing sector. For example, total turnover for Killybegs and its hinterland in 2009 was estimated at EUR 250 million with the fishing sector accounting for 82% of the total. In the past declines in the local economy have reflected declines in the fisheries sector.

- In 2016 landings (all species) by pelagic trawlers over 40m amounted to 125 thousand tonnes (live weight), valued at EUR 54 million. This value was adjusted due to key species price discrepancies and a landing value of EUR 74 million was calculated resulting in the sector making up 25% of the total landing value in 2016.
- In 2014 Ireland's quota of mackerel reached an historic high of 105 thousand tonnes. In subsequent years this figure fell to 89 thousand tonnes (2015), 75.8 thousand tonnes (2016) and 86.4 thousand tonnes (2017). This decline explains the fall in total landing income from 2014.
- On-board employment comprised 208 fulltime equivalents (FTE) or 8% of total fleet employment nationally.
- Gross Value Added by the segment in 2015 was EUR 38.6 million generating a Gross Profit of EUR 22.4 million and a reported Net Profit of EUR 1 million.
- This indicates weak profitability for 2016 with an improved economic development trend in comparison to 2015 with net profit margin increasing 104% in comparison to the 2008-2015 average.

Ireland's pelagic fleet operates seasonally reflecting both the annual distribution patterns of the target species as well as quota limitations. The fleet is particularly dependent on mackerel with Ireland's quota averaging 54 thousand tonnes between 2008 and 2013. In 2014 this increased to 105 thousand tonnes (+93%) resulting in some EUR 59 million added to the value of landings and contributing to a positive net profit in 2014. In 2015, the mackerel quota fell back to 89 thousand tonnes (-15%) a reduction that, together with lower average prices, saw almost EUR 54 million lost from fishing income and a downward impact on overall profitability.

Pelagic fisheries were the only Irish fisheries subject to the landing obligation in 2015. Fish meal, bait for the potting fleet and pet food are the main uses of catches below minimum conservation reference size, although there is anecdotal evidence that some unwanted catches have gone to landfill. The average price paid for small pelagics destined for fishmeal varied between EUR 145 and EUR 240 per tonne with the higher prices paid for small herring and mackerel. After transport costs are deducted, the price back to the vessel varied between EUR 80 and EUR 180 per tonne. With pet food, lower margins mean that producers will collect and transport undersize fish but do not make any direct payment to the vessel. Price per box for shellfish bait is approximately EUR 10-EUR 12 per 20kg carton for round whiting and up to EUR 16/carton for pelagics (mackerel, scad, and herring).

Demersal Trawl 12m-18m

In Ireland demersal trawlers are found in two, nationally defined, segments: the polyvalent and the specific segments. Currently there are 39 polyvalent and 2 specific segment vessels classified as Demersal Trawlers 12-18m. They target a wide variety of species including Norway lobster, anglerfish and whiting.

In 2016, the total value of landings by demersal trawlers (12-18 meters) was EUR 10.5 million and around 122 FTEs were employed, contributing 4% and 4% of the total FTE and total income from landings generated by the Irish fishing fleet, respectively. The value of landings predominantly comes from *Nephrops* and anglerfish which constitute 40% and 11% of total value landings respectively. This fleet segment recorded a gross profit of around EUR 2 million and a net profit of EUR 1 million in 2016. This indicates reasonable profitability for 2016 with a deteriorated economic development trend in comparison to 2015.

Demersal Trawl 18m-24m

Currently there are 68 polyvalent and 1 specific segment vessels classified as Demersal Trawlers 18-24 meters. They also target a wide variety of species including Norway lobster, anglerfish and whiting.

In 2016, the total value of landings by demersal trawlers, 18-24 meters, was EUR 61.6 million and some 397 FTEs were employed, contributing 23% and 15% of the total income from landings and FTE and generated by the Irish fishing fleet, respectively. The value of landings predominantly comes from *Nephrops*, anglerfish and whiting which constitute 49%, 10% and 7% of total landings value respectively. This fleet segment recorded a gross profit of around EUR 15.8 million and net profit of EUR 11 million in 2016. This indicates reasonable profitability for 2016 with an improved economic development trend

evident also in the GVA and Gross profit. This continues the improved trends experienced for this segment for the last three years.

Demersal Trawl 24m-40m

Currently there are 42 polyvalent vessels classified as Demersal Trawlers 24-40 meters. They likewise target a wide variety of species including Norway lobster, anglerfish, mackerel and whiting.

In 2016, the total value of landings was almost EUR 54 million and around 374 FTEs were employed, contributing 20% and 14% of the total income from landings and FTEs generated by the Irish fishing fleet, respectively. The value of landings predominantly comes from *Nephrops*, anglerfish and whiting which constitute 47.5%, 8.5% and 8% of total landings value respectively. This fleet segment generated a gross profit of around EUR 13 million and net profit of EUR 9.1 million in 2016. This indicates reasonable profitability for 2016 with an improving economic trend. This continues the improved trends experienced for this segment for the last three years.

Drivers affecting the economic performance trends

Lower fuel costs, higher average fish prices for some species, and the impact of capacity/effort reduction were the main driving forces behind an overall improvement in the economic performance of the Irish fleet.

Markets and Trade (including fish price)

During 2016 average prices remained relatively unchanged for many species. There were some notable exceptions and *Nephrops* (20% of total value of landings) rose from EUR 6/kg in 2015 to EUR 6.5/kg. While landings declined slightly the total value of the landed catch increased due to the price increase. This increasing price trend continued into 2017 with average prices estimated at EUR 6.9/kg.

Prices for pelagic species have a dramatic effect of the total landing income of the fishery given the large bulk of pelagic species landed. The average prices indicated from the national authority (SFPA) responsible for landings declarations indicate that the average prices of Atlantic mackerel (18% of total value of landings) was maintained at EUR 0.6/kg between 2015 and 2016.

Seafood sales to the EU (EUR 452 million) accounted for 74% of Ireland's total seafood exports in 2016. The corresponding figure for 2017 was EUR 477 million, an increase of 11%.

Trade to the main EU markets mostly decreased in 2017 compared to 2016: France, EUR 170 million (+15%), Great Britain EUR 85 million (-7%), Spain EUR 75 million (-5%), Italy EUR 41 million (-11%), and Germany EUR 24 million (+1%).

Exports to Asia, Africa, the Middle East and the rest of the word increased. These export markets were valued at EUR 153 million in 2016, increasing to EUR 189 m in 2017 (23%). Nigeria remained the leading African markets with exports valued at EUR 31 million, a decrease of 5% from 2016. The value of the Asian market grew by 10% to EUR 79 million in 2017 with the Chinese market (including Hong Kong) accounting for EUR 28 million.

Management instruments and regulation (policy)

Fleet management tools include the sea-fishing boats licensing regime, gear, effort and vessel specific restrictions, as well as three separate decommissioning schemes completed between 2005 and 2008. Fishery management policy is developed through a transparent system that includes a quota management regime agreed with the Producer Organisations and other key stakeholders. Monthly allocation arrangements are designed to be responsive to criteria such as stock availability, remaining quota, market demand and other marketing initiatives.

The strengths of the fleet management system include a strict entry/exit regime that ensures the fleet remains within its prescribed reference levels. It also delivers a practical segmentation of the fleet along traditional fishing line and ensures that monthly vessel catch limits are respected.

The Landing Obligation

Ireland maintains an active research capacity in the area of fishing gear technology and a variety of studies examining ways to avoid unwanted catches have been undertaken (all funded through the European Maritime and Fisheries Fund or the earlier European Fisheries Fund) in an effort to mitigate against the effects of the landing obligation.

These efforts include gear modifications as well as factors designed to induce spatial and temporal changes to fish behaviour. *Nephrops norvegicus* is currently the most commercially important fisheries

species landed by Irish vessels. However, unwanted catches of small and/or quota limited whitefish such as cod, whiting, haddock, as well as small Nephrops need to be reduced in order to prevent 'choking' under the landing obligation and to optimise quota use. Major progress was made in this regard in 2017 through a number of studies including the testing of a SELTRA sorting box and the introduction of new national regulation (S.I. No. 510 of 2016) which requires an increase in minimum codend mesh size from 70 to 80 mm for all Irish vessels >= 12 m that deploy more than one demersal trawl from January 2017.

There is also the concern about the use and outlets of catches below the Minimum Conservation Reference Size (MCRS) of a species subject to the landing obligation. The main reported uses and destinations for catches below MCRS have been fish meal, bait for shellfish fisheries and low grade pet food. It has been reported that some unwanted catches have continued to go to landfill.

The bulk of Irish MCRS catches have been within pelagic bulk fisheries <10% and therefore not subject to the MCRS requirements of separation and marketing for purposes other than human consumption. However, these are generally graded out at the processing establishment and then the main use for <MCRS fish landed to Ireland is in the production of animal feed / fish oil where the fish are processed in an approved ABP plant. Alternative uses include their being retained whole (in the case of the Pelagic fish) and block frozen for sale as potting bait.

Price per tonne for fish meal is EUR 120 per tonne back to the Fishers' Co-op or Processor including transport costs. Taking into account costs for transport and labour for handling this fish, the return to the vessel is around EUR 55/tonne.

Price per box for shellfish bait is approximately EUR 250 per tonne back to the Fisher's Co-op/Processor. Taking into account costs for transport, labour for handling and storage costs the return to the vessel is around EUR 65/tonne.

For pet food, there is one company that collects for free and absorbs the cost of transport thus negating the cost of disposal for fish processors who would otherwise have to pay for disposal in landfill. There is no return to the vessel in this case. There are several other companies where there is a return of around EUR 130 per tonne back from the buyer to the Co-op or processor. Taking into account costs for transport, labour for handling and storage costs the return to the vessel is around EUR 60/tonne.

The only fisheries within the economic data set that were subject to the landing obligation in 2016 were the pelagic fisheries and some demersal fisheries. Indicators from this dataset do not show any socioeconomic impacts that can be directly attributed to the landing obligation.

Stock status, TACs and quotas

Status of some key Stocks

Ireland's total share of TAC's in 2017 amounted to 233 647 tonnes, including 86% of the Celtic Sea herring TAC; 69% of boarfish; 37% of *Nephrops* in VII; 28% of horse mackerel and 21% of mackerel. Ireland's share of its fishing opportunities for 2017 represents 18% by tonnage and 16% by value. This TAC can be conservatively estimated to be worth EUR 298 million for 2017. This figure will expect to rise once income data for the under 10m fleets are estimated for the 2019 annual economic report.

The Marine Institute's 2017 stock book advises that the 'number of sustainably fished stocks has increased to 29 out of 74 or 39% which is the highest since 2012. The number of stocks with biomasses higher than sustainable reference levels has also increased to 27 or 36% which is also the highest since 2012. There is gradual progress towards long-term sustainable utilisation of the resource base'.

Innovation and Development

Ireland established a National Discards Implementation Group in 2013 under an independent Chair involving the Department of Agriculture, Food & the Marine, State agencies (Marine Institute, BIM, SFPA) and Industry representatives. The purpose of the Working Group was to identify issues at an early stage and develop practical solutions and arrangements for the effective implementation of the landing obligations.

Ireland continues to carry out gear studies and trials of new measures that enable fishers avoid juvenile or unwanted catches (see above). A new national regulation (S.I. No. 510 of 2016) came in to force in January 2017 which requires an increase in minimum codend mesh size from 70 to 80 mm for all Irish vessels >= 12 m that deploy more than one demersal trawl from January 2017. Over 90% of Irish *Nephrops* are landed by vessels >= 12 m using more than one trawl so this new regulation will greatly improve the sustainability of Irish demersal trawl fisheries and assist in addressing landing obligation requirements.

In addition, the following actions, some at the initiative of the industry and some by the State, have also taken place;

- A new Irish 'Nephrops scheme' will likely result in uptake of gear measures to reduce fish bycatch in the Nephrops fishery in 2018 by incentivising more selective fishing through allocation of fishing opportunities.
- Further uptake of gear changes is also expected as part of Fishery Improvement Projects (FIPs) which were established in Ireland for *Nephrops* and Whitefish fisheries in 2017. FIPs offer a mechanism to bring together an alliance of fishers, seafood buyers and suppliers, to talk through the challenges from the landing obligation faced in the identified fishery or fisheries, identify data needs, agree on a set of priority actions that should be undertaken to improve the fishery, and then oversee an action plan.

Socioeconomic Impact

The Irish fishing industry is primarily based in rural, often deprived, coastal areas. As such, income derived from fishing, aquaculture, and the wider seafood sector is extremely important to these local economies. For example, previous studies have shown that in the case of Killybegs, 82% of all turnover in the area is directly attributable to fisheries while in Castletownbere the fish catching and processing sectors account for over half (54%) of the town's economic activity. With the inclusion of aquaculture and ancillary sectors this rises to 86%. In every case the induced spend by employees of these sectors make a substantial contribution to the local service and retail sectors.

The lack of reliable data for the small-scale coastal fisheries remains problematic, particularly for vessels less than 10 metres. While this report attempts to estimate the true value of the sector to local economies, there is an ongoing concern that the true value remains, at best, underestimated. Landed value (from sales notes data) whilst included in the analysis are subject to underreporting, while estimates from survey returns are potentially subject to bias given the large number of small boats in the sector and the number of completed/returned survey forms. However, Ireland is seeing an increase in survey returns for the less than 10m segments which is having a positive effect on the estimations for their associated variables.

Brexit

The impact of Brexit on the Irish seafood sector is potentially significant given the close historical trading relationship that exists between the two countries. The UK remains an important trading partner for Irish exports and is Ireland's most important partner for imports of seafood. The introduction of tariffs on this trade could lead to significant impacts on traders, processors and fishing fleets in Ireland and consequently on the local economies dependent on the seafood sector. Other challenges arising from Brexit include access to fishing grounds, regulatory divergence, future quota allocations and logistical impediments.

Projections for 2017 and outlook

It is important to note that the preliminary effort data for the less than 10 metre fleets were not complete with only partial effort data available (for some under 10 metre segments, FPO and DRB). As such, the results provided for 2016 should be used with caution; the uncertainties are large and many.

MODEL FORECAST

Data for 2017 show an increase in landed weight (+6%), lower increase in landings value (2%). This, together with most costs in 2017 being similar to the ones in 2016, and a significant decrease in the opportunity cost of capital, leads to an improved economic performance.

The increase in landing value along with a stable projected expenditure, predicts that the 2017 GVA, gross profit and net profit will increase by 6%, 10% and 27%, respectively; estimating net profit in 2017 to be about EUR 45 million.

Forecasts for 2018 suggest a slightly lower economic performance compared to 2017, but still significantly improved compared to 2016.

Data issues

Values and figures may differ somewhat from those in previous annual economic reports as more survey returns since last year's AER have improved total national estimates.

The effort data in the tables and graphs is not complete. The figures for days at sea and fishing days reported are those for vessels over 10m. Some effort data is reported from 2015 for the less than 10m fleet for which effort was possible to calculate based on sales notes data and small-scale fishery surveys. The exclusion of the majority of the less than 10m fleet was due to the fact that this segment is not mandated to carry and complete logbooks for fishing operations. Specifically, from 2015, effort was calculated for the segments DRB and FPO. A number of assumptions had to be made mainly that a sale event for a vessel represents a day of fishing.

Total landing income includes estimates, where possible, of income for vessels under 10 metres in length where data is available. This introduces data for vessels under 10m and as such results in a higher estimate of income value compared to the total landings values. As sample data are raised to population level variability in the data can, in some cases, inflate or reduce the overall landings income estimate for the under 10m fleet.

In previous reports, prior to reference year 2015, the total number of vessels reported for all segments below 10m excluded any indication of activity. This resulted in a misinterpretation of the size of the fleet. This impacted and skewed any calculations that used total vessels. Conscious of this issue an estimate of activity in the less than 10m segments has again been included in this year's report. While activity for this segment is not empirically known it was estimated using proxies for activity which matched equivalent gear segments in the 10-12m vessel length categories and activity data from sales note data.

The MS sampling rates have improved through increased effort in data collection. However, survey target rates vary between fleet segments with a high achievement of sampling targets in a number of segments and an under- achievement of targets in other segments. In 2015 final samples rates reached 25% of the total active fleet however reduced sample rate for the TM VL40XX segment may have introduced sample bias and affected the final raised data sets. Sample rates for 2016 data, at the time of the data upload, stood at 19%.

The operational division of the fleet into 'small-scale' and 'large-scale' fisheries is not a satisfactory aggregation for the Irish Fleet. The exclusion of active gears from the small-scale fishery definition means that many segments for which there is data, for <10m vessels, are eschewed from this segment. In 2015, there were over vessels using active gears under 12 meters. Therefore, the definition of SSCF defined in this report excludes a large part of the Irish fleet in vessel numbers as they are below 12m in length and use active gears and thereby excludes important economic data for the small-scale fishery.

The methodology use for this report is to submit landings income from the landings declarations. This differs from the Annual Fleet Report which uses declared revenue of those vessels that provided DCF economic survey data. Hence, there is no raising up of the data in the later report as it only examines sample data. This results in differences in economic indicator between both methodologies. These differences can be caused by biases in the data. For instance, those vessels that have returned DCF cost surveys may have landed below the average for their segment and so their revenue may be below the average segment level and may skew the results of the indicators, or vice versa. In 2015, the raised data for some of the segments, especially for depreciation costs seem to be inflated in comparison with the temporal trend and may have contributed to downward trend in net profit. Investment also demonstrated a marked increase which is an artefact of the sampled data and the raising producers used.

Table 5.48 Ireland: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,939	1,977	2,038	2,074	2,106	2,140	2,095	2,048	2,044	1,953	1,237		0%	0%
Number of Inactive vessels_ms	(#)	509	720	894	859	797	841	752	681	604	652			-9%	-11%
Vessel tonnage	(thousand GT)	73.8	66.9	66.0	67.2	60.3	60.3	59.5	58.9	59.9	60.6			-1%	-9%
Engine power	(thousand kW)	205.2	186.0	184.1	189.2	184.2	183.9	181.6	179.2	182.8	180.7			-1%	-5%
Total employed	(person)	4,485	4,889	4,423	3,243	3,121	3,087	3,154	3,451	3,461	3,252	3,362		9%	-9%
FTE	(#)	3,404	3,692	3,479	2,688	2,709	2,717	2,395	2,522	2,672	2,660	2,663		5%	-16%
Days at sea	(thousand day)	48.8	48.5	52.9	48.8	53.6	53.6	54.4	72.6	77.2	81.4	79.1		34%	41%
Fishing days	(thousand day)	40.0	40.0	44.0	40.6	43.3	42.8	43.5	62.0	67.7	66.7			43%	48%
Number of fishing trips	(thousand)	17.9	18.9	20.4	19.2	21.2	20.2	20.1	39.2	23	21			95%	99%
Energy consumption	(million litre)	70.20	86.42	82.59	61.98	66.03	68.75	67.70	82.34	97.90	93.64	93.95		22%	14%
Live weight of landings	(thousand tonne)	195.55	250.47	274.34	199.40	262.18	244.20	276.39	240.94	239.35	252.85	249.30		-13%	-1%
Value of landings	(million €)	223.87	167.68	172.19	209.46	243.22	258.94	293.15	237.44	265.55	271.84	276.05		-19%	6%
Income from landings	(million €)	229.41	177.27	190.53	235.27	269.06	276.55	311.93	244.97	303.67	312.51	315.39		-21%	1%
Other income	(million €)	16.20	4.76	3.42	4.47	6.17	3.41	8.65	3.93	2.07	2.24	2.18		-55%	-42%
Direct income subsidies	(million €)	22.11	17.36	1.02	0.64	0.31	0.54	0.94	0.70	0.41				-26%	-89%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	39.70	46.00	56.40	61.37	91.47	63.70	80.29	76.47	88.51	91.00	91.92		-5%	22%
Unpaid labour value	(million €)	-	0.15	0.82	1.90	1.03	1.71	1.39	4.13	5.13	5.00	5.24		197%	313%
Energy costs	(million €)	39.34	36.38	45.00	47.41	49.87	50.27	49.35	41.99	33.37	33.83	38.32		-15%	-7%
Repair & maintenance costs	(million €)	17.36	27.13	28.66	27.79	30.42	31.36	36.05	31.87	43.58	43.35	43.00		-12%	12%
Other variable costs	(million €)	16.98	17.75	20.23	23.41	22.95	36.45	42.19	38.89	34.63	34.05	33.99		-8%	51%
Other non-variable costs	(million €)	39.00	31.11	32.35	36.00	29.26	27.088	24.857	21.346	29.615	29.46	29.14		-14%	-32%
Annual depreciation costs	(million €)	33.02	31.66	25.20	25.80	28.03	20.55	26.37	33.85	30.22	30.05	29.89		28%	24%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-					
Opportunity cost of capital	(million €)	7.27	41.30	45.90	51.13	21.52	14.94	10.66	5.64	4.87	2.58	3.09		-47%	-80%
Tangible asset value (replacement)	(million €)	523.2	585.8	615.3	616.0	513.7	456.7	517.3	466.0	517.7	516.7	515.7		-10%	-15%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	26.0	8.4	38.3	10.4	66.0	18.0	17.6	141.8	76.2				706%	437%
Financial position	(%)	0.5	0.7	0.5	46.0	70.3	-	61.6	89.0	70.0				44%	247%
Gross Value Added	(million €)	132.9	69.7	67.7	105.1	142.7	134.8	168.1	114.8	164.5	174.0	173.1		-32%	-2%
GVA to revenue	(%)	54.1	38.3	34.9	43.9	51.9	48.1	52.4	46.1	53.8	55.3	54.5		-12%	0%
Gross profit	(million €)	93.2	23.5	10.5	41.9	50.2	69.4	86.5	34.2	70.9	78.0	76.0		-60%	-36%
Gross profit margin	(%)	38.0	12.9	5.4	17.5	18.3	24.8	27.0	13.7	23.2	24.8	23.9		-49%	-33%
Net profit	(million €)	52.9	- 49.4	- 60.6	- 35.1	0.7	33.9	49.4	- 5.3	35.8	45.4	43.0		-111%	-353%
Net profit margin	(%)	21.6	- 27.2	- 31.3	- 14.6	0.3	12.1	15.4	- 2.1	11.7	14.4	13.5		-114%	37%
GVA per FTE (labour productivity)	(thousand €)	39.1	18.9	19.5	39.1	52.7	49.6	70.2	45.5	61.6	65.4	65.0		-35%	10%
Return on fixed tangible assets	(%)	11.5	- 1.4	- 2.4	2.6	4.3	10.7	11.6	0.1	7.9	9.3	8.9		-99%	-99%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only
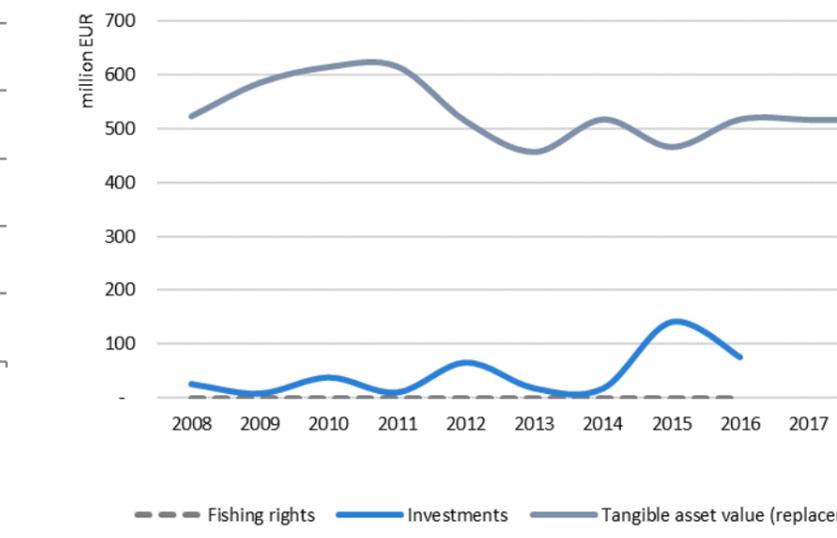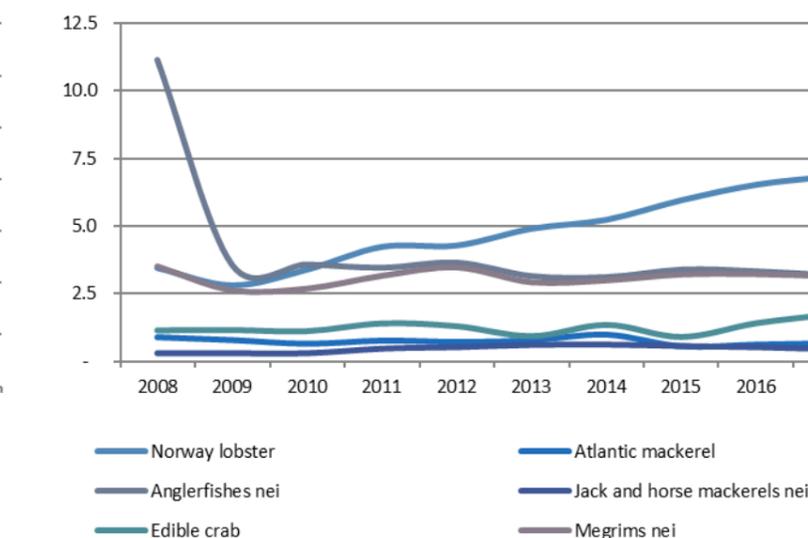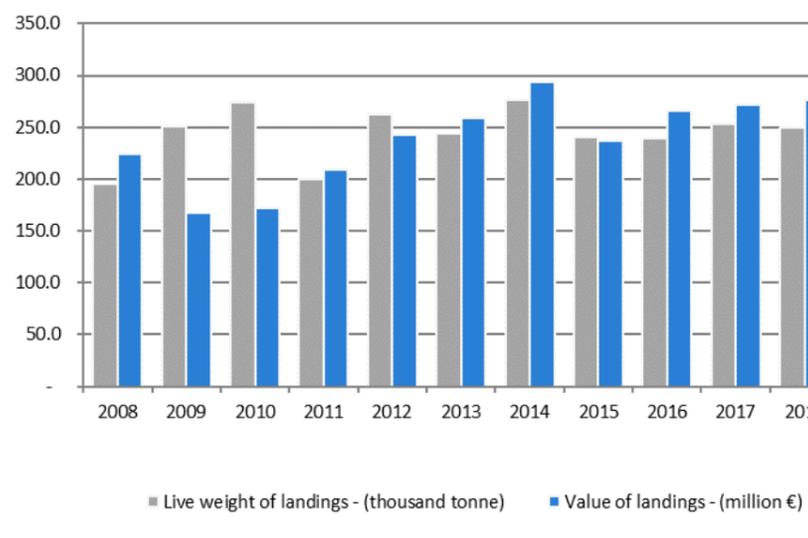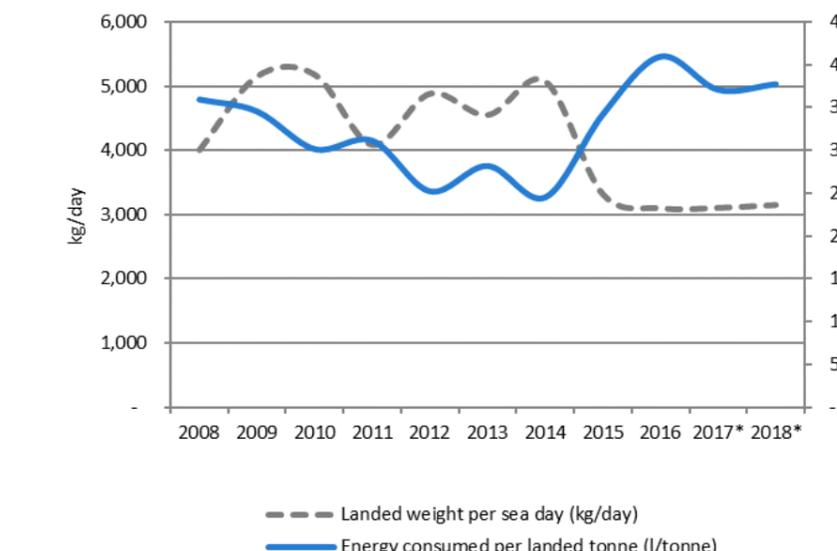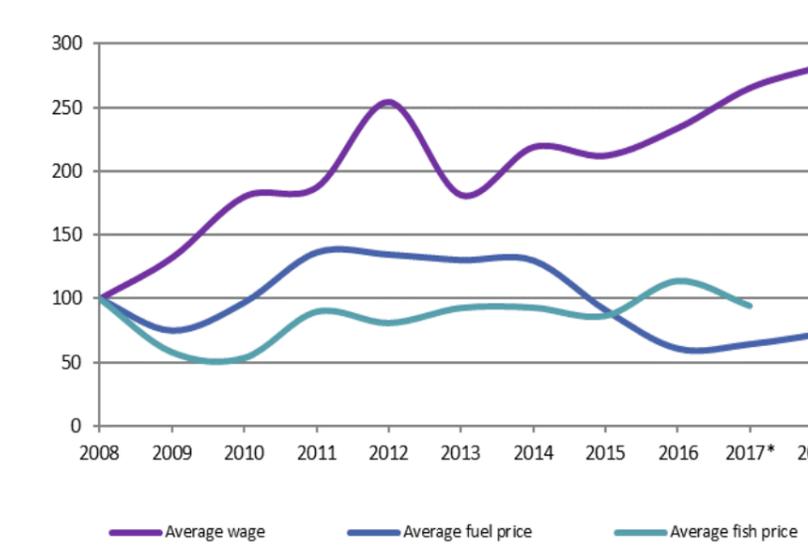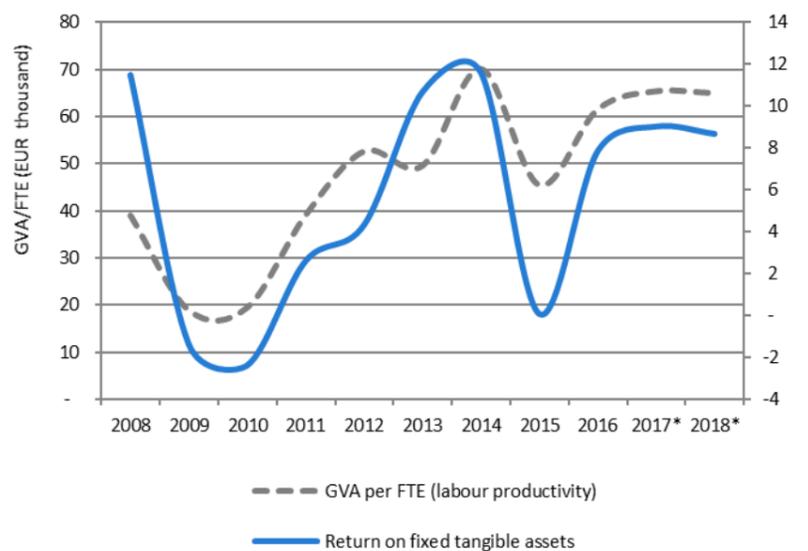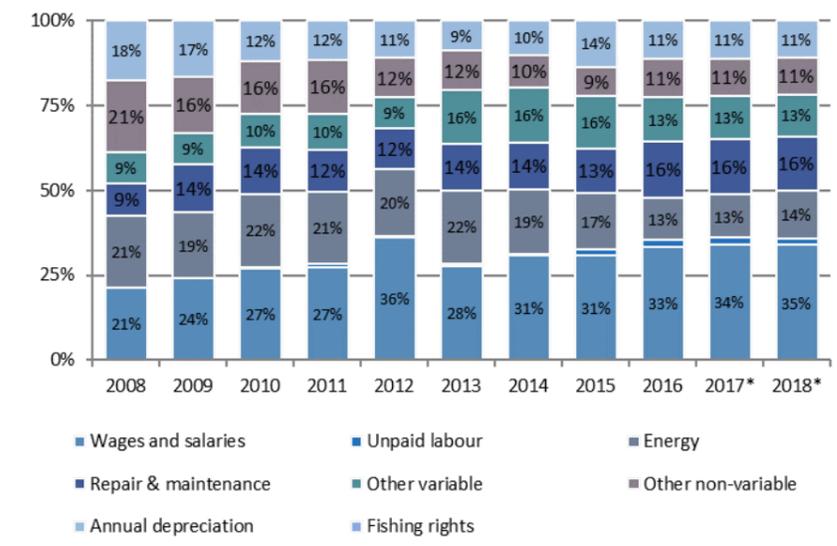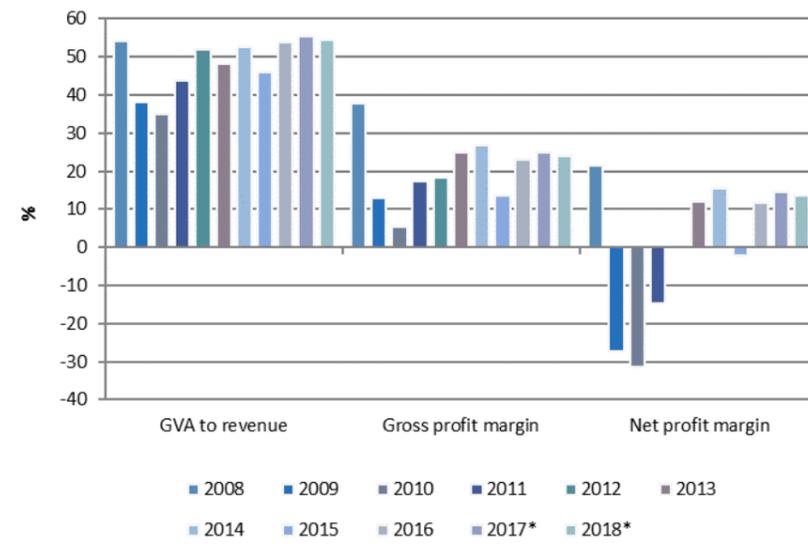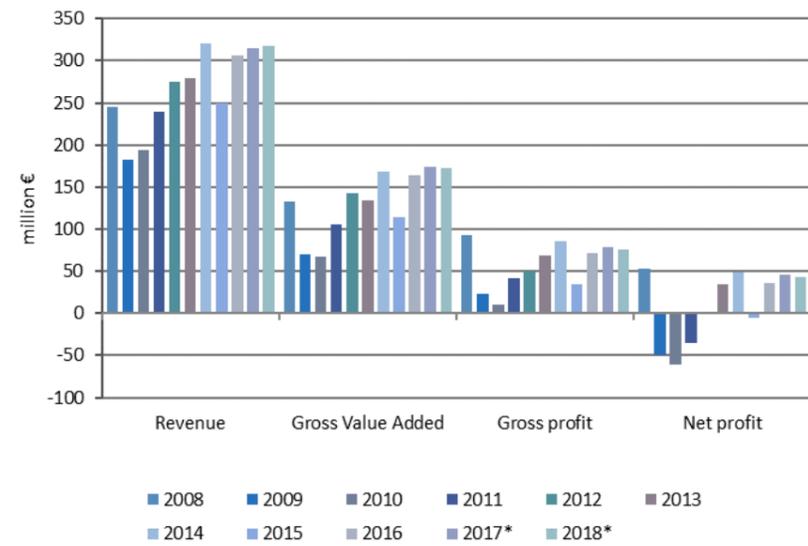
Figure 5.11 Ireland: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital values (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.49 Ireland: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,030	806	750	786	879	862	898	901	908	773	730		1%	5%	400	450	393	429	430	438	445	466	532	529	508		14%	23%
Vessel tonnage	(thousand GT)	3.8	3.2	2.4	2.5	2.7	2.6	2.7	2.7	2.8	2.4			1%	-2%	63.1	56.0	55.4	50.3	50.4	51.0	51.1	51.4	53.7	55.3			5%	0%
Engine power	(thousand kW)	31	25	23	23	25	24	25	25	25	22			0%	0%	141	123	121	120	124	125	126	128	136	137			6%	8%
FTE	(#)	1,667	1,958	1,859	1,067	1,077	1,142	763	953	856	895	893		-10%	-35%	1,738	1,734	1,621	1,622	1,632	1,575	1,632	1,569	1,816	1,768	1,772		16%	11%
Total employed	(person)	2,425	2,705	2,460	1,372	1,278	1,282	1,140	1,360	1,385	1,176	1,315		2%	-21%	2,060	2,184	1,962	1,872	1,844	1,805	2,014	2,091	2,076	2,080	2,053		-1%	5%
Days at sea	(thousand day)	6.9	8.0	8.6	7.6	8.4	7.5	7.3	25.2	26.6	27.3	27.2		6%	168%	41.8	40.6	44.2	41.2	45.2	45.9	46.9	47.4	53.2	51.7	52.0		12%	20%
Fishing days	(thousand day)	6.3	7.5	8.2	7.2	7.9	6.9	6.7	24.6	25.9	26.6			5%	175%	33.7	32.5	35.8	33.5	35.4	35.8	36.7	37.4	41.8	40.2			12%	19%
Number of fishing trips	(thousand)	5.5	6.9	7.4	6.6	7.3	6.3	5.9	24.0	7.6	6.2			-68%	-13%	12	12	13	13	14	14	14	15	16	15			4%	18%
Energy consumption	(million litre)	2.58	4.71	3.49	6.17	3.58	4.33	4.43	5.18	9.64	8.47	8.46		86%	124%	67.63	81.71	79.10	55.81	62.45	64.42	63.27	77.15	88.26	85.19	85.52		14%	28%
Live weight of landings	(thousand tonne)	3.13	4.13	4.83	4.64	5.11	10.64	10.49	15.21	14.51	12.13	14.68		-5%	100%	192.42	246.34	269.51	194.76	257.07	233.57	265.90	225.73	224.83	240.82	234.84		0%	-5%
Value of landings	(million €)	7.17	6.35	6.99	6.94	5.78	13.39	16.36	19.70	24.99	25.10	25.50		27%	142%	216.70	161.33	165.20	202.52	237.44	245.55	276.78	217.75	240.53	246.89	250.77		10%	12%
Income from landings	(million €)	12.71	15.39	23.56	29.45	25.55	30.92	27.65	25.72	38.13	37.58	38.66		48%	60%	208.04	155.53	166.96	205.82	243.51	245.63	284.28	219.24	265.53	275.10	276.92		21%	23%
Other income	(million €)	0.17	0.01	0.14	0.12	0.65	0.81	1.64	0.68	0.88	0.73	0.70		29%	66%	16.03	4.75	3.28	4.35	5.52	2.59	7.01	3.24	1.53	1.50	1.48		-53%	-74%
Direct income subsidies	(million €)	0.08	1.12	0.05	0.06	0.08	0.06	0.22	0.24	0.21				-12%	-12%	22.03	16.23	0.97	0.58	0.23	0.48	0.71	0.46	0.20				-57%	-96%
Income from leasing fishing rights	(million €)	-														-													
Wages and salaries of crew	(million €)	0.85	-	0.46	3.39	9.37	3.02	5.64	7.35	10.91	10.70	11.01		49%	190%	38.85	46.00	55.93	57.98	82.09	60.67	74.65	69.12	77.60	80.32	80.93		12%	28%
Unpaid labour value	(million €)	-	0.03	0.14	0.90	0.13	0.25	0.49	2.21	2.82	2.80	2.86		28%	444%	-	0.12	0.68	1.00	0.89	1.47	0.90	1.93	2.30	2.21	2.40		20%	164%
Energy costs	(million €)	1.44	1.98	1.90	4.72	2.71	3.17	3.23	2.64	3.29	3.47	3.92		24%	21%	37.89	34.40	43.10	42.69	47.16	47.11	46.12	39.35	30.09	30.37	34.41		-24%	-29%
Repair & maintenance costs	(million €)	0.49	1.21	1.04	1.96	1.57	1.99	1.98	1.93	4.23	3.57	3.38		120%	178%	16.86	25.91	27.62	25.84	28.84	29.38	34.07	29.94	39.35	39.79	39.63		31%	44%
Other variable costs	(million €)	0.61	1.43	1.08	3.01	2.84	3.44	3.50	3.75	5.60	5.55	5.55		49%	128%	16.37	16.32	19.15	20.41	20.11	33.01	38.69	35.14	29.03	28.51	28.45		-17%	17%
Other non-variable costs	(million €)	1.20	1.32	1.78	8.24	2.72	2.39	1.46	2.27	2.63	2.23	2.11		16%	-2%	37.80	29.80	30.58	27.76	26.53	24.70	23.39	19.08	26.99	27.23	27.03		41%	-2%
Annual depreciation costs	(million €)	0.28	-	-	0.17	0.31	0.17	0.26	0.39	1.73	1.46	1.38		340%	772%	32.74	31.66	25.20	25.64	27.72	20.38	26.11	33.46	28.50	28.59	28.50		-15%	2%
Rights costs	(million €)	-														-													
Opportunity cost of capital	(million €)	0.07	-	3.27	2.49	0.28	0.17	0.07	0.04	0.19	0.09	0.10		327%	-76%	6.31	36.37	38.10	39.29	20.21	13.13	9.84	5.59	4.68	2.50	3.00		-16%	-78%
Tangible asset value (replacement)	(million €)	4.7	-	43.8	30.0	6.6	5.1	3.3	3.7	20.2	17.2	16.3		450%	66%	454	516	511	473	482	401	477	462	497	499	499		8%	5%
Fishing rights	(million €)	-														-													
Investments	(million €)	1.0	2.1	2.3	3.2	3.2	2.6	2.0	1.6	6.3				288%	180%	25.0	6.3	35.9	7.2	62.8	15.5	15.6	64	70				9%	141%
Gross Value Added	(million €)	9.13	8.91	17.75	11.65	16.35	20.75	19.00	15.8	23.2	23.5	24.4		47%	56%	115.74	54.93	49.80	90.40	117.84	107.70	148.20	89	141	149	148		59%	46%
GVA to revenue	(%)	70.9	60.0	75.4	39.4	62.4	65.4	65.1	59.9	59.6	61.3	62.0		0%	-4%	51.9	35.1	29.3	43.7	49.0	44.5	51.0	41.8	52.9	54.2	53.4		27%	22%
Gross profit	(million €)	4.12	5.54	17.15	13.43	4.22	16.51	12.87	6.3	9.5	10.0	10.6		52%	-5%	76.73	10.70	6.99	31.42	34.86	45.68	72.53	18	61	67	65		243%	73%
Gross profit margin	(%)	56.1	61.2	72.8	46.6	18.1	54.3	44.1	23.7	24.4	26.2	26.8		3%	-48%	34.6	6.9	4.1	15.2	14.5	18.9	25.0	8.4	23.0	24.2	23.4		173%	54%
Net profit	(million €)	3.8			2.3 -	3.2	13.1	10.4	5.8	7.6	8.5	9.1		32%	42%	38.5	56.9	70.2 -	35.6 -	16.7	11.6	30.0 -	19.5	28.1	35.5	33.6		244%	289%
Net profit margin	(%)	51.4		33.2	53.7	52.1	43.3	22.0	19.5	22.1	23.1			-11%	-21%	17.3	36.4	42.0 -	17.5 -	7.1	4.8	11.0 -	9.2	10.5	12.9	12.1		215%	207%
Return on fixed tangible assets	(%)	81		36 -	45	327	316	160	39	50	56			-76%	-74%	10	4 -	6	1	1	6	8 -	3	7	8	7		319%	322%
GVA per FTE (labour productivity)	(thousand €)	6	5	10	11	15	18	25	17	27	26	27		65%	104%	77	36	32	57	77	70	92	61	78	86	85		28%	25%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.50 Ireland: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €) 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Live weight of landings (thousand tonne) 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average landed price (real) (€) 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% over total (2016) in value	in weight
Norway lobster	31.8	20.1	26.3	33.4	43.6	41.3	46.4	49.8	62.2	54.9	9.2	7.1	7.7	7.8	10.1	8.4	8.8	8.3	9.5	8.0	3.5	2.8	3.4	4.3	4.3	4.9	5.3	6.0	6.5	6.9	23%	4%
Atlantic mackerel	40.1	48.3	37.4	48.7	45.4	44.5	103.5	49.1	47.7	58.2	44.7	61.0	57.9	63.0	62.8	56.7	103.4	88.9	76.7	86.5	0.9	0.8	0.7	0.8	0.7	0.8	1.0	0.6	0.6	0.7	18%	32%
Anglerfishes nei	31.2	12.0	15.2	13.8	13.6	11.1	12.1	12.8	14.8	13.3	2.8	3.4	4.3	4.0	3.7	3.5	3.9	3.8	4.4	4.2	11.2	3.6	3.6	3.5	3.6	3.1	3.1	3.4	3.3	3.2	6%	2%
Jack and horse mackerels	10.9	12.0	11.4	16.2	21.8	21.3	20.0	12.2	14.2	10.7	34.7	39.2	36.7	34.6	41.6	35.4	32.7	21.7	27.5	23.9	0.3	0.3	0.3	0.5	0.5	0.6	0.6	0.6	0.5	0.5	5%	11%
Edible crab	6.6	5.7	7.0	6.8	6.2	9.2	10.5	9.4	13.6	14.8	5.7	4.9	6.3	4.8	4.7	9.7	7.8	10.2	9.6	8.6	1.2	1.2	1.1	1.4	1.3	1.0	1.4	0.9	1.4	1.7	5%	4%
Megrims nei	6.1	5.7	7.3	8.0	11.9	10.0	8.6	9.7	10.6	10.1	1.8	2.2	2.7	2.5	3.4	3.4	2.9	3.0	3.3	3.2	3.5	2.6	2.7	3.2	3.5	2.9	3.0	3.2	3.2	3.1	4%	1%
Whiting	3.4	3.6	5.4	5.9	8.7	11.2	8.0	8.1	9.8	8.5	2.6	3.0	4.5	5.0	6.0	7.0	7.0	6.6	7.9	6.4	1.3	1.2	1.2	1.2	1.5	1.6	1.1	1.2	1.2	1.3	4%	3%
Atlantic herring	28.2	6.5	9.2	8.4	11.4	27.7	21.3	7.2	9.4	8.5	27.9	26.2	26.5	18.5	23.4	19.2	23.1	19.2	18.9	16.3	1.0	0.3	0.4	0.5	0.5	1.4	0.9	0.4	0.5	0.5	4%	8%
European hake	3.5	3.3	3.9	3.6	3.9	3.5	6.2	6.7	8.6	9.4	1.4	1.6	2.1	1.9	1.9	1.8	2.6	2.7	3.5	3.5	2.5	2.0	1.9	1.9	2.1	2.0	2.4	2.4	2.4	2.7	3%	1%
Whelk	2.0	1.4	1.7	2.1	1.0	3.3	3.7	6.5	8.3	7.7	1.8	2.0	2.3	2.6	2.5	2.8	3.5	5.0	6.2	5.2	1.1	0.7	0.7	0.8	0.4	1.2	1.1	1.3	1.3	1.5	3%	3%
																																75%	70%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.51 Ireland: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity) (thousand €)	Return on fixed tangible assets (%)	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
IRL A27 TM40XX	20	208	1,503	160	125,299	54,891	75,216	38,688	51.4	16,882	22.4	1,004	1.34	104.8	186.0	1.3	Weak	104%	Improved	24.6%
IRL A27 DTS1824	69	397	16,007	1,021	23,997	61,629	62,042	36,338	58.6	15,835	25.5	11,221	18.09	51.7	91.6	21.1	Reasonable	423%	Improved	20.3%
IRL A27 DTS2440	42	374	10,365	986	20,899	54,147	54,541	27,347	50.1	13,167	24.1	9,114	16.71	38.0	73.2	16.6	Reasonable	436%	Improved	17.8%
IRL A27 TM2440	12	107	1,433	170	31,648	20,656	22,987	11,730	51.0	4,927	21.4	843	3.67	63.7	109.9	2.3	Weak	112%	Improved	7.5%
IRL A27 FPO0010	592	525	17,710	1,014	5,407	9,931	22,915	14,377	62.7	6,223	27.2	5,117	22.33	15.5	27.4	41.1	High	-56%	Deteriorated	7.5%
IRL A27 DTS1218	42	122	5,604	872	4,814	10,510	10,530	5,382	51.1	2,002	19.0	1,084	10.29	27.8	44.2	11.9	Reasonable	-16%	Deteriorated	3.4%
IRL A27 TBB2440 °	15	107	3,409	609	3,212	8,617	8,617	7,067	82.0	6,314	73.3	5,882	68.26	7.1	66.3	621.0	High			2.8%
IRL A27 FPO1012	93	133	7,896	493	5,107	7,916	8,434	4,231	50.2	555	6.6	189	2.24	27.7	31.9	6.3	Weak	-64%	Deteriorated	2.8%
IRL A27 FPO1218 °	23	81	2,862	339	5,016	8,027	8,027	5,896	73.5	3,881	48.4	3,543	44.14	24.7	72.4	106.3	High	58%	Improved	2.6%
IRL A27 DRB0010	158	107	2,050	826	1,462	4,332	5,685	3,970	69.8	2,139	37.6	1,904	33.49	17.0	37.0	113.2	High			1.9%
IRL A27 DFN0010	174	147		354	3,066	5,456	5,505	3,477	63.2	2,535	46.1	2,311	41.98	6.4	23.7	138.4	High			1.8%
IRL A27 DTS0010	55	66		590	1,630	2,840	4,549	2,691	59.2	1,470	32.3	1,086	23.88	18.6	40.9	42.0	High			1.5%
IRL A27 DRB2440 °	7	53	1,596	813	2,005	4,532	4,532	2,537	56.0	1,347	29.7	1,070	23.61	22.5	48.0	27.3	High	-41%	Deteriorated	1.5%
IRL A27 DRB1012 °	48	101	4,773	1,847	1,339	4,520	4,529	1,848	40.8	-125	-2.8	-485	-10.70	19.6	18.3	-7.8	Weak	97%	Improved	1.5%
IRL A27 DFN1824 °	12	49	1,882	1,296	1,512	3,622	3,622	-2,681	-74.0	-5,917	-163.4	-7,341	-202.68	65.6	-54.3	-72.7	Weak	-703%	Deteriorated	1.2%
IRL A27 DTS1012	20	29	1,317	1,282	1,214	1,516	1,516	161	10.6	-806	-53.2	-986	-65.00	32.8	5.5	-64.6	Weak	-389%	Deteriorated	0.5%
IRL A27 HOK0010	33	28		731	367	667	1,137	828	72.8	623	54.8	573	50.40	7.3	29.6	173.1	High			0.4%
IRL A27 DFN1012	12	18	939	537	543	1,000	1,000	331	33.1	-405	-40.5	-575	-57.48	41.7	18.8	-28.7	Weak	-354%	Deteriorated	0.3%
IRL A27 TM1218 °	4	12	149		447	405	405							1.3						0.1%
IRL A27 PMP1218 °	2	4	180	221	224	223	195	155	79.8	130	66.7	130	66.67	5.8	35.6	169,891	High			0.1%
IRL A27 TM0010 °	3		32		115	67	67													0.0%
IRL A27 HOK1012 °	4	6	85		18	24	20							3.9						0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.52 Ireland: National fleet statistics and economic performance results by fleet segment, 2017

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity) (thousand €)	Return on fixed tangible assets (%)	Profitability (2016)	As a % of total revenue
IRL A27 TM40XX	20	202	1,462	137	142,644	64,749	88,748	52,355	59.0	26,607	30.0	11,996	13.52	127.3	258.8	5	Reasonable	28.2%
IRL A27 DTS1824	67	366	14,780	1,096	20,641	56,780	57,238	32,732	57.2	13,822	24.1	9,588	16.75	51.6	89.3	18	Reasonable	18.2%
IRL A27 DTS2440	45	387	10,735	1,023	20,864	55,494	55,971	27,149	48.5	12,602	22.5	8,543	15.26	37.6	70.2	14	Reasonable	17.8%
IRL A27 TM2440	12	109	1,458	166	33,115	19,794	22,050	10,629	48.2	4,103	18.6	302	1.37	60.1	97.9	1	Weak	7.0%
IRL A27 FPO0010	534	590	19,910	1,453	4,239	9,394	21,683	12,917	59.6	5,197	24.0	4,251	19.61	13.1	21.9	38	Reasonable	6.9%
IRL A27 DTS1218	39	120	5,524	1,000	4,136	9,964	9,993	4,994	50.0	1,785	17.9	975	9.76	26.8	41.6	11	Weak	3.2%
IRL A27 FPO1218 °	24	76	2,671	360	4,406	8,927	8,936	6,826	76.4	4,584	51.3	4,247	47.53	29.5	89.8	122	High	2.8%
IRL A27 FPO1012	76	108	6,460	461	4,465	8,099	8,529	5,074	59.5	1,309	15.3	1,023	12.00	34.7	46.8	36	Reasonable	2.7%
IRL A27 TBB2440 °	14	95	3,043	639	2,731	7,121	7,128	5,701	80.0	5,079	71.3	4,681	65.67	6.6	60.0	530	High	2.3%
IRL A27 DRB2440 °	7	54	1,622	686	2,415	6,215	6,221	4,193	67.4	2,560	41.2	2,301	36.99	30.4	78.1	57	High	2.0%
IRL A27 DFN0010	112	147	-	-	2,309	5,650	5,687	3,958	69.6	2,981	52.4	2,842	49.97	6.6	26.9	264	High	1.8%
IRL A27 DRB0010	155	78	1,482	906	963	3,551	4,664	3,269	70.1	1,767	37.9	1,544	33.11	19.3	42.1	93	High	1.5%
IRL A27 DRB1012 °	53	109	5,144	2,163	1,233	4,527	4,541	1,593	35.1	385	8.5	-755	-16.62	18.2	14.7	-12	Weak	1.4%
IRL A27 DFN1824 °	13	49	1,884	1,307	1,500	4,088	4,092	-2,619	-64.0	-6,276	-153.4	-7,768	-189.81	74.1	-53.0	-72	Weak	1.3%
IRL A27 DTS0010	49	66	-	-	1,703	2,457	3,947	2,179	55.2	1,121	28.4	791	20.04	16.1	33.2	34	High	1.3%
IRL A27 TM1218 °	5	26	330	-	2,951	1,623	1,624							2.4				0.5%
IRL A27 DTS1012	19	30	1,320	1,476	1,058	1,270	1,272	-80	-6.3	-891	-70.1	-1,055	-82.94	27.5	-2.7	-73	Weak	0.4%
IRL A27 HOK0010	37	28	-	-	321	695	1,186	857	72.2	643	54.2	588	49.61	7.6	30.6	158	High	0.4%
IRL A27 DFN1012	9	14	743	489	472	1,012	1,013	495	48.9	-251	-24.7	-371	-36.66	53.4	35.4	-25	Weak	0.3%
IRL A27 PMP1218 °	2	4	182	182	547	393	344	304	176.6	259	150.4	259	150.38	20.4	137.4	646,650	High	0.1%
IRL A27 HOK1012 °	4	5	78	-	45	56	47							9.8				0.0%
IRL A27 TM0010 °	6		132	-	190	129												0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

5.12 Italy

Short description of the national fleet

Fleet capacity

In 2016, the national fleet capacity continued to decline, with a total of 12 310 vessels, having a combined gross tonnage (GT) of 158 thousand tonnes and engine power of 994 thousand kilowatts (kW). In 2016, the proportion of inactive vessels remained stable with percentage below 9% of the vessels and 5% of the GT. Inactive vessels mainly include small scale vessels.

Fleet structure

Small-scale Coastal Fleet consisting of active vessels of less than 12 metres' length overall using passive gears were 7 321 vessels accounting for 60% of the total active number of vessels and for 9% of the relative tonnage in 2016. Large-scale Fleet, with 3 940 vessels, accounts for 32% of total active number of vessels and for 82% of total vessel tonnage.

Employment

Total number of crew on board was estimated at 25 933 in 2016, corresponding to a total employment of 21 349 FTEs. The small-scale coastal fleet shows an average 1.7 jobs per vessel, comparing to 3.3 for large-scale fleet. Since 2008, the loss of jobs especially concerns Adriatic and Sicilian regions.

Preliminary results obtained from the survey of the Pilot study on social variable highlighted some interesting trends on socio-economic profile of Italian fishers. In general, small scale fishery is characterized by a low generational handover due to the low profitability of the sector even in traditional fishing areas such as the Adriatic regions. When there are more than one employed, the second employee is a family member.

On the contrary, the Italian large-scale fleet is characterized by a larger youth and skilled employment. In some fishing harbours, such as Mazara del Vallo in Sicily, a 20-30% of total employees are immigrants coming in particular from North Africa and Sri Lanka. Another trend which has become increasingly pronounced recently in the large-scale fishery is that most ship owners sold their quotas to cooperatives or private companies becoming just masters of the fishing ships.

Effort

In 2016, a total of 1 464 thousand days were spent at sea; 2% more than in 2015. The level of effort in terms of fishing days was 1 640 thousand.

The quantity of fuel consumed in 2016 is estimated around 373 million litres, a decrease of 1.3% from 2016 in line with the reduction of the day at sea.

Production

The total volume of products landed in 2016 has remained unchanged highlighting a slight reduction in the SSCF component (-1.6%) offset by the increase in the DWF (25%). The value of landings increased by 1.6% thanks to the good performance of the LSF component (+ 2%).

The Italian fleet targets more than 170 species, of which the first 10 species account for about 50% of total landings weight. Main species in terms of volume of landings are anchovies and sardines (35% of landings weight), striped venus (8%), swordfish (13% of total volume of landings) and five demersal species (European hake, deep-water rose shrimp, common cuttlefish, red mullet, Spottail mantis squillid, giant red shrimp). The remaining 50% of total volume of landings is distributed across more than 160 different fishing species.

If we consider the first ten species, there is a substantial stability between 2015 and 2016 in terms of landings weight. The value of landings increased by 1.3% over the same period.

Production is concentrated in the administrative regions of Sicily (GSA 16 and GSA 10), Veneto (GSA 17), Marche (GSA 17) and Apulia (GSA 18). Sicily and Apulia account for 40% of total landings value due to the prevalence of high quality demersal species such as hake, shrimp, red mullet.

Economic results for 2016 and recent trends

National fleet performance

The weak recovery in the Italian fisheries sector, which had begun in 2014, continued in 2016. Revenues, estimated at EUR 918 million, raised 2% due to increased landings income which accounts for 98% of total income.

Between 2015 and 2016, operational costs decreased thanks to the strong reduction of the energy costs (-10%). The decline in fuel expenditures is mainly due to the price of fuel reached the lowest level in the period 2008-2016.

Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 577 million, EUR 286 million and EUR 123 million respectively and all increased from 2015 to 2016. This improvement was mainly driven by the good performance of the large scale fleet which increased by around 5% both in GVA and in gross profit.

The (depreciated) replacement value of the Italian fleet further decreased in 2016 by 3% at EUR 663 million, an average reduction of 1% compared to 2008.

Resource productivity and efficiency indicators

The increase in the level of revenues allowed an improvement in productivity and efficiency indicators.

The gross profit margin in 2016 was 31%. Net profit margin was estimated at 13%. The Rate of Return on Fixed Tangible Assets (RoFTA) increased 17% from 2015 reaching 20%.

Labour productivity (GVA/FTE) was estimated at EUR 27 037/FTE, an increase of 5% compared with 2015.

Energy consumption per landed tonne slightly decreased by 1% compared to 2015. The weight of landings per unit of effort (in days at sea) remained stable compared to 2015 and was estimated at about 131 Kg/DAS for 2016.

Performance by fishing activity

Small-scale coastal fleet

The Italian SSCF is mainly concentrated in length class 06-12m (70% of SSCF). Between 2008 and 2016 SSCF declined by 5% in terms of number of vessels and by 7% and 8% in terms of GT and kW, respectively. Over the same period the total employment decreased by 8%, down from 29 604 employees in 2008 to 25 933 employees in 2016. The average number of employees is around one person both in length class 06-12m and one in the class 00-06m.

SSCF is widely spread for the entire Italian coastline, using mostly exclusively passive gears (mainly fixes nets, pots traps and longlines) and targeting a lot of different species such as cuttlefish, hake, swordfish, common octopus, mullets, common lobster (Demanèche*et al.,* 2017) In 2016, the SSCF production accounted for a 24% of the Italian landings value and for a 14% of the landings weight with a slight increase to 2015. The Italian SSCF is characterized by high average prices (an average of 8,00 euro/kg), a 2% rise on the previous year.

In 2016, total activity expressed in sea days remained relatively stable. However, over the last nine years, SSCF registered an average reduction of 8% per year. Income from landings have been constant with an increase of less than 1% compared to 2015. GVA and gross profit have also remained stable mainly as a consequence of the stability in operating costs.

The indicator of the Labour productivity (GVA/FTE) increased by 6% between 2015 and 2016 mainly as a consequence of the decrease of 3% in FTE.

Large-scale fleet

Large-scale fleet segments, with 3 940 active vessels cover almost 32% of total vessels in 2016. As they are usually larger than SSSCF vessels, they represent the major part of the fleet regarding the gross tonnage (82%) and the engine power (73%). The large-scale fleet is mainly made up of vessels using active gears, especially demersal trawlers and beam trawlers (57% of the total vessels of the segments).

Demersal trawlers mainly operate in the Adriatic Sea and in the Strait of Sicily (60%), while the pelagic fleet is prevalent in the North Adriatic (pelagic trawlers) and in the Tyrrhenian Sea (purse seiners).

The large-scale fleet decreased by 12% from 2008 to 2016; the withdrawal of the fishing vessels mainly affected vessels with an overall length of more than 24 meters with a reduction of about 25% in the segment DTS2440. The number of employed persons in the large-scale fisheries follows the same decreasing trend as the fleet in general.

The major factor causing the fleet decrease was the increasing trend of operating costs (in particular the fuel crisis in the period 2008-2010) and the concomitant deterioration of the landings per unit of fishing effort (kg per day at sea).

Efforts have been made since the fuel crisis in order to reduce effort in terms of days at sea and to change fishing areas. The fuel consumption per day at sea steeply decreased between 2008 and 2013 (616 litres per days at to 488 litres per days at sea) and increased again in 2014, 2015 and 2016 as a consequence of a lower fuel prices.

In the 2015 and 2016, positive trends have been observed both in terms of productivity and profitability. The value of landings of the large-scale fleet increased from 2014 to 2015 and again in 2016. Gross Value Added (GVA), gross profit and net profit increased in 2016. The profitability (measured in terms of net profit margin) is higher for the fleet segments 12-18m while the vessels with more than 18 metres show a weak profitability even if on a recovery path since 2014.

Performance of selected fleet segments

Fleet Segment Level Economic performance

The Italian fleet in 2016 consisted of 24 (DCF) fleet segments and sixteen of them improved in the economic performance between 2015 and 2016. Eight of the active fleet segments have high profitability, and nine with weak profitability classifications. Three segments, the Oceanic fleet (OFR DTX 40XX), DTS2440 and the TBB2440, suffered gross losses in 2016.

Both in terms of number of vessels and production value, the fleet is dominated by the polyvalent passive segments, large demersal trawlers and dredgers.

Passive gears polyvalent 6-12m: This segment accounts for 45% of the whole national fleet and is spread along the Italian coasts, mainly in Sicily (more than 1 000 vessels), Sardinia and Campania region. The main gears are Set gillnets, trammel nets, pots and traps, set longlines. The main target species are: common cuttlefish, common octopus, swordfish, European hake, mullets, blotched picarel, surmullet and spottail mantis squillid. These species account for a 45% of total landings of the segments both in terms of landings value and weight. One of the most valuable species target by PGP 06-12m is Sole (4% of the landings weight) which reached an average price of 14 euro/kg in 2016. This fleet segment contributed to 18.5% of the total Italian revenue. The comparison with 2015 shows a reduction in activity (-1.5%), followed by a decrease in productivity (kg / day) and in total landings (-4%). The increase in average prices between 2015 and 2016 price (+ 3.5%) allowed a small reduction in revenue which remained stable as the main profitability indicators.

Passive gears polyvalent 00-06m: this segment is the second in terms of number of vessels, accounting for 19% of the Italian fleet in 2016. The majority of these vessels operates with set gillnets, trammel nets, pots and traps, set longlines. The fleet is distributed along all the Italian regions, mostly in North Sicily and Sardinia. The fleet targets a number of stocks and in particular common cuttlefish, common octopus, gilthead seabream, European hake, surmullet, common Sole accounting, overall, for 43% and 35% of total landing value and weight, respectively. In 2016, the total value of landings was almost EUR 46.7 million and around 2 228 FTEs were employed in this fleet segment, a 10% of the total FTE generated by the Italian fishing fleet. The segment accounted for a 5% of total revenue in 2016 and highlighted a deteriorated trend in profitability although gross profit and net profit slightly increased compared to 2015.

Demersal trawl / seine 12-18m: This segment accounts for 10% of the national fleet and is distributed along the Italian GSAs and predominantly in Apulia (31%) and Sicily (16%) regions. The fleet mainly targets demersal species, such as European hake, giant red shrimp, deep-water rose shrimp, red mullet, spottail mantis squillid, common cuttlefish, Norway lobster. In 2016, the total value of landings was almost EUR 174 million contributing to 19% of total revenue. Although the profitability remained high in 2016, most productivity indicators deteriorated between 2015 and 2016 as a consequence of a reduction both in landings value and landings weight and in general increase in cost items with the exception of labour costs. On the contrary, activity, expressed both in fishing days and days at sea increased. The reduction in productivity (kg /day) can be related to the sharp decline, in landings of some target species such as hake and red mullet.

Demersal trawl / seine 18-24m: A 5% of the Italian fleet is included in this segment which is distributed along the Italian GSAs and mainly in Sicily, Apulia, Marche and Lazio. It accounts for 13% of the volume of landings and for 19% of the value of landings. Between 2015 and 2016 the value of landing increased by 5% due to the increased average prices of some important species as Norway lobster and deep-water rose shrimp, common sole and spottail mantis squillid.

In 2016, this fleet segment presented a gross profit of EUR 49 million and positive net profit of EUR 14 million. Although there is an improvement in the economic trends the profitability remained weak.

Demersal trawl / seine 24-40m: this segment is concentrated in GSA 16 (Southern Sicily) and largely in the port of Mazara del Vallo. Deep-water rose shrimp is the main target species accounting for 27% of volume of landings and 37% of value of landings. Together with the giant red shrimps and European hake, these three species represent 55% of the volume and 68% of the value. In 2016, there was a strong variation in the landing composition of this segment: deep-water rose shrimp fell by 12% while the giant red shrimp rose growth by 11%. mainly due to a change in fishing behaviour and fishing areas. This situation generated an increase in the days at sea (the giant red shrimp fishing areas are more distant). In 2016, deep-water rose shrimp also recorded a decline of 10% in the average price probably due to a lower domestic demand and to market saturation. This fleet segment was also particularly affected by the competition of imported products mainly in large retailers.

In 2016, total income from landings fell (-4%) as a consequence of the decreasing trend in the price. Over the same period, operating costs slightly decreased mostly due to the decreased wages and salaries costs (-2%) and to the reduction in energy costs (-6%). The profitability remained weak with a net loss of EUR 1.7 million.

Dredges 12-18m: about 680 active vessels make up this segment which is carried out in particular in GSA 17 and predominantly in Marche, Veneto and Abruzzo. Striped venus (*chamelea gallina*) is the target species accounting for around 90% of landings weight and for 80% of landings value of the segment. This fishing activity is traditionally managed by consortia which are responsible of the management measures (mainly, limitation of fishing days and the establishment of maximum daily fishing quantities). The role of Producers Organisations (POs) has increased in recent years in order to match supply with market demands. In 2017, the Discard Plan for mollusc bivalve Venus species entered into force specifying minimum conservation reference size and the list of all vessels authorised to fish Venus spp. using hydraulic dredges in the Italian territorial waters for the period 2017-2019.

Between 2015 and 2016 profitability was estimated at reasonable level thanks to an improvement in all indicators, as for revenue and gross value added which increased both by 20%. However, the sector largely deteriorated over the last nine years mainly as a consequence of the decrease in the value of landings and stagnation of average prices.

Drivers affecting the economic performance trends

Lower fuel costs together with higher average fish prices were the main driving forces behind the overall improvement in the profitability of the fleet. Biological indicators related to the exploitation of some fish species show a recovery even if the overall situation is not good.

In Mediterranean waters, professional fishing has to compete with other important economic sectors, such as economic activities with a high pollutant impact (intense oil tanker transit), mining or oil extraction, tourism, sport or recreational fishing, significant presence of non-EU fishing fleets not subject to EU regulations (Morocco, Tunisia, Turkey). Hence, the fishing activity is found to be the weaker element of the production chain engaged in marine waters.

Markets and Trade

In 2016, the average price saw a slight increase (+2%); some of the most important target species (European hake, common cuttlefish, Norway lobster) show a positive trend while average price of European anchovy, deep-water rose shrimp, giant red shrimp and red mullet remained relatively comparable to 2015.

In the last three years, various commercial strategies are being implemented, aiming to improve traceability and quality of local seafood. There have been many cases of local operators adopting quality brands, quality certification or undertaking direct sales activities in local markets. The role of Producer Organizations is improved in many fishing areas in order to match supplies with market demands and to support fishers in creating added value (for example, the PO of bivalve molluscs in Northern Adriatic, the PO of swordfish in Sicily, the PO of pelagic species in Central Adriatic).

Despite this, there was still a highly fragmented sales channels dominated by regional wholesalers and traditional fishmongers. These have scarcely been replaced by larger groups demanding consistent quality levels and high volumes; the majority of the fishers that operate at local level are unable to satisfy these requirements.

Regarding foreign trade, Italy shows a deficit balance that exceeded EUR 5 billion in 2017. Italy exports species like canned tuna, clams (fresh) and sardines (fresh). On the other hand, the top three species in terms of value imported in 2017 were canned tuna, frozen squid and salmon.

Management instruments and regulation

The Italian fisheries management system is based on fishing effort regulation systems. Input control measures affect the main components of the fishing effort and include: restrictions of access to a fishing area, restrictions on fishing activity (such as individual effort quotas and fishing days), fishing capacity restrictions.

Regarding capacity reduction, the scrapping of 420 vessels were implemented during 2017 (Ministerial Decree °21214/2017) according to the "Action plan for 2015-2017 to reach balance between the Italian fishing fleet's capacity and the fish resources".

Six multiannual management plans in accordance with EU Reg. No. 1380/2013 have been approved by National administration (Ministerial Decree 30/12/2018) at the beginning of 2018.The management plans shall be applied to demersal fisheries and are implemented at GSAs level. They include an impact evaluation of the management measures proposed in terms of recovery of the stocks and socio-economic effects. It is planned a gradual reduction of the fishing efforts in the period 2018-2020.

In the last three years, new measures have been enforced for both small pelagic and demersal fisheries in some Italian fishing areas in order to comply the directives included in the reformed CFP.

In the Adriatic sea, Ministerial Decree n. 17581/2017 on small pelagic fishery in Adriatic sea has been adopted in compliance of GFCM recommendations (Rec. GFCM/38/2014/1, Rec. GFCM/39/2015/1, Rec. GFCM/40/2016/3); a series of measures have been implemented such as a reduction of the number of fishing days for both anchovy and sardine to a maximum of 144 days; the closure, in Italy, of the 6 mile strip along the entire coast for 6 months from 1st July to 31 December; extra temporal closures between 1 October and 31 March for sardine and between 1 April and 30 September for anchovy; as well as the imposition of catch and fishing capacity limits for both species.

Spatial management measures have been implemented in two fishing areas:

• an area of the Pomo/Jabuka Pit in the Adriatic Sea - an important nursery area for European hake and hosts a resident population of Norway lobster—was closed to the trawl fishery (Ministerial Decree).

• three fisheries restricted areas in the Strait of Sicily (Recommendation GFCM 40/2016/4 on the multiannual management plan for the demersal fisheries exploiting hake and deep-water rose shrimp in the Strait of Sicily GSAs 12-16). This recommendation has not yet even entered into force.

TACs and quotas

Two fisheries are managed through TACs and quotas in Italy.

- bluefin tuna: quota is allocated among longliners (13.6%), purse seine (74.1%), trap (8.4%) and recreational fishing (0.5%). In 2016 and 2017, Italian bluefin tuna quota will increase by 20%, reaching 2 752.57 tonnes and 3 304.5 tonnes, respectively.
- swordfish: in line with the ICCAT recommendations, the Italian Administration established the national list of vessels authorised to fish for swordfish and regulated the use of fishing gears (about 850 vessels); a TAC of 4.3 thousand tonnes has been set for 2017.

Stock status

Data for more than 80 stocks of fish and crustaceans assessed in the period 2002–2014 in Mediterranean Sea showed that for 90% of them the current fishing mortality (F) is higher than the fishing mortality at MSY (Colloca, 2017). The highest F/FMSY values are observed for demersal fish, particularly hake (STECF, 2017). In general, there are large differences between GSAs in the overexploitation status of species. For example, red mulled (M. barbatus) appears sustainable exploited in GSAs 10 (South Tyrrhenian) and 18 (South Adriatic) and highly overexploited in GSA 11 (Sardinia).

Common cuttlefish - the most important species for small scale vessels with an incidence of 12% on the total value of landings- in GSA 17-18 is likely to be exploited above MSY (STECF, 2017). Another example

of stock exploited at rates consistent with MSY is the deep sea rose shrimp in North Tyrrhenian-Ligurian Sea (STECF, 2016)

An increasing biomass trend have been registered for sole in GSA17, spottail mantis shrimp in GSA17 and GSA 18, anchovy and sardine in GSA 9-10-11 (STECF, 2017). These positive trends could be considered as positive drivers which impacted positively on economic profitability of the fisheries concerned (Sabatella E., 2017).

Operational costs (external factors) including fuel prices

The recovery in the level of income, related to a reduction of operational costs (in particular energy costs), has permitted increases in wages and salaries of crew; shared in the great part of the local fishing harbours is the use of the crew-share system in which the labour costs is a fixed share of the gross profits and for this reason is effectively an incentive scheme that provides motivation for the fishers' productivity (Gee, J.,2017). Despite the increase in crew costs, the average remuneration in the fishery sectors remains well below the average remuneration in other economic sectors; this is one of the reasons of the reduced attractiveness of the sector. In some local harbours the number of non-Italians working in fisheries is increasing (as an example, in Mazara del Vallo in the South part of Sicily, about 25% of the fishers came from North Africa countries).

In addition to crew wage, energy costs represent the most important operational costs. The average fuel price in 2016 was lower than in 2015. The decreasing trend of the fuel price has a direct impact on energy costs, further improving profitability in some typical fuel intensive fleet segments as demersal trawlers.

Innovation and Development

As a result of the implementation of the landing obligation, National and EU projects have been financed in order to find solutions through the adoption of technologies and practices reducing bycatch and discards and to avoid damage to sensitive marine species and habitats. There are currently projects which are testing modified standard commercial bottom trawl nets by using sorting grid separators and separator panels in crustacean fisheries; experimental surveys using the DeepVision system to gather real time information on species and size composition in order to minimize the pre-catch losses/mortality (H2020 project MINOUW).

To ensure compliance with the landing obligation, EMFF funds also foresee measures for fishing fleet related with investments to the fishing gears to improve selectivity and for technical adjustments.

The large part of the fleet needs vessel modernisation; the average age of the vessels is 32 years and the level of investment is very low (an average of 2 thousand euros per vessel in 2016). The small-scale vessels have not the sufficient financial resources for new investments and the larger vessels have limited access to credit.

Socioeconomic Impact

Positive socioeconomic impacts:
- reduction of operational costs (in particular energy costs), with a consequent increase in wages and salaries of crew
- increase in the indicator landing per unit of effort (LPUE)
- improvement in first sales prices of several commercially important species (among these: European hake, common cuttlefish, giant red shrimp, striped venus, spottail mantis squillid, red mullet, Norway lobster)

Negative socioeconomic impacts:
- employment continues to decline especially for the small scale vessels
- lack of investments

Measures funded under the European Maritime Fisheries Fund (EMFF) would have socio-economic impacts in the next years; in particular measures which support coastal communities in diversifying their economies (with the creation of the FLAGs) or help fishers in the implementation of certification schemes or fuel-efficient fishing techniques can be used to improve the profitability of the fleet.
It is not possible to have an estimate of the socio-economic impacts of these measures until now.
At the end of 2017, national authority published a Ministerial Decree with the list of the vessels that will be scrapped in 2018; the permanent cessation can only take place in fleet segments where there is overcapacity; a total of 220 vessels will be scrapped in 2018.

As regards the landing obligation, the results of the interviews with fishers and the feedback from the companies and stakeholders (Sartor, 2016) revealed that, currently, evident costs and additional labour would be needed for the activities of sorting, handling on board and at the landing point, transport, storage and treatment of the discards subjected to landing obligation. At the same time, a general deficiency of infrastructures, logistic aspects, specific guidelines to manage the process related to the landing obligation of discards emerged from the interviews, as well as the current lack of specific structures for a possible transformation of the product (Sartor, 2016).

Projections for 2017 and outlook

In 2017, 181.8 thousand tonnes of seafood were landed by the Italian fleet, with a value of EUR 934 million, the highest it has been since 2008 (provisional figures).

Profitability is expected to increase in 2017. The positive factors behind this positive trend are:

- increase in the landing per unit of effort; the total volume of products landed is on the rise, especially for trawlers, while the days at sea decreased
- increase in fishing prices especially for high commercial species (deep-water rose shrimp, common cuttlefish, red mullet, Spottail mantis squillid, giant red shrimp)
- fuel prices remain on the same level of 2016; at the end of 2017 the average fuel price for fisheries was around EUR 0.50 per litre (http://dgsaie.mise.gov.it/dgerm).

In 2018, fuel prices are expected to increase again; in the first six months of 2018 the average fuel price was around EUR 0.70 per litre (the same price registered in 2014); this increase may negative affect the fishery sector, mainly fuel intensive fleet segments.

MODEL FORECAST

Preliminary results for 2017 forecast a minor decrease in landed weight a value (less than 1%) compared to 2016.

Projections suggest overall operating costs to remain stable too, even if existing variations among costs (fuel costs to increase 6%, depreciation and other costs to decrease by 2%).

Forecasts indicate that the Italian fleet operated at a profit in 2017: with an estimated GVA of EUR 568 million (2% less than in 2016), gross profit of EUR 276 million (3% decrease) and net profit of EUR 121 million (1% decrease), with a net profit margin of 13%.

Forecasts for 2018 suggest that the value of landings may increase, but this increase may be offset by increases in operating costs, mainly fuel costs and labour costs). This would lead to a slight decrease in the overall economic performance compared to 2017.

Data issues

All fleet segments with major contribution to the total catches of the Italian fleet have been sampled with satisfactory response rates.

Except for capacity and weight of landings no data for the OFR purse seiners segment 40 m or larger could be published due to confidentiality issues.

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Table 5.53 Italy: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	13,518	13,359	13,348	13,285	12,942	12,746	12,689	12,426	12,310	12,270	11,200		-0.9%	-5.6%
Number of Inactive vessels_ms	(#)	1,163	1,109	1,153	1,126	1,150	1,214	1,134	1,092	1,041	1,039	-		-4.7%	-8.9%
Vessel tonnage	(thousand GT)	197.5	193.0	191.8	179.2	171.2	164.6	163.9	163.6	157.7	157.2	-		-3.6%	-11.5%
Engine power	(thousand kW)	1,147	1,123	1,121	1,088	1,047	1,024	1,024	1,014	994	983	-		-2.0%	-7.4%
Total employed	(person)	29,604	29,222	29,222	28,964	28,292	26,758	26,932	25,787	25,933	25,768	25,709		0.6%	-7.7%
FTE	(#)	21,456	21,414	21,169	20,740	20,693	19,749	20,694	21,459	21,349	21,190	21,144		-0.5%	2.0%
Days at sea	(thousand day)	1,591	1,783	1,669	1,749	1,556	1,494	1,433	1,438	1,464	1,458	1,454		1.8%	-7.9%
Fishing days	(thousand day)	1,532	1,753	1,647	1,716	1,539	1,581	1,530	1,527	1,625	-	-		6.4%	1.4%
Number of fishing trips	(thousand)	1,544	1,784	1,634	1,728	1,552	1,536	1,420	1,435	1,389	-	-		-3.2%	-12.1%
Energy consumption	(million litre)	433.0	437.6	402.7	409.6	335.9	319.6	306.7	378.3	373.5	371.7	371.0		-1.3%	-1.2%
Live weight of landings	(thousand tonne)	227.0	242.4	224.8	212.4	196.8	172.6	176.8	192.2	192.4	191.5	191.0		0.1%	-6.5%
Value of landings	(million €)	1,223	1,319	1,204	1,155	944.6	834.1	813.3	894.0	908.2	905.9	924.1		1.6%	-13.4%
Income from landings	(million €)	1,223	1,319	1,204	1,155	944.6	834.1	813.3	894.0	908.2	906.4	922.1		1.6%	-13.4%
Other income	(million €)	12.4	10.3	9.1	8.7	8.9	7.6	8.8	5.1	9.6	9.4	9.3		88.1%	8.0%
Direct income subsidies	(million €)	33.2	13.9	23.9	11.7	7.8	12.6	17.1	8.0	-	-	-			
Income from leasing fishing rights	(million €)	-	-	-	-	-	0.5	1.2	-	-	-	-			
Wages and salaries of crew	(million €)	242.8	329.3	286.2	255.9	191.8	196.3	184.7	224.9	228.8	228.9	233.3		1.7%	-4.3%
Unpaid labour value	(million €)	51.2	66.7	56.6	37.6	40.1	42.3	50.2	53.3	62.8	63.0	64.2		17.9%	26.3%
Energy costs	(million €)	334.9	223.9	257.5	318.0	274.1	240.4	221.7	200.0	179.9	190.3	211.0		-10.1%	-30.5%
Repair & maintenance costs	(million €)	52.1	51.6	50.0	46.8	42.8	37.2	38.0	40.1	46.1	45.2	44.8		15.0%	2.8%
Other variable costs	(million €)	146.4	157.4	146.1	137.4	111.3	97.5	69.3	71.4	76.5	74.8	74.1		7.3%	-34.6%
Other non-variable costs	(million €)	48.5	49.0	45.3	42.6	38.6	30.8	34.1	35.4	38.0	37.3	37.0		7.2%	-6.3%
Annual depreciation costs	(million €)	199.8	206.7	202.8	198.4	170.2	148.3	151.7	156.7	152.6	150.0	148.6		-2.7%	-14.9%
Rights costs	(million €)	0.8	0.6	0.4	0.4	0.1	-	-	0.1	-	-	-			
Opportunity cost of capital	(million €)	10.9	33.8	23.7	22.2	16.7	21.2	18.7	11.0	10.5	4.9	6.9		-3.9%	-46.7%
Tangible asset value (replacement)	(million €)	958.5	972.3	986.7	905.5	786.9	711.4	698.3	685.6	663.1	611.9	606.2		-3.3%	-20.9%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	76.4	77.0	53.1	36.9	29.5	15.0	22.0	20.3	23.1	-	-		13.8%	-44.0%
Financial position	(%)	78.0	64.0	62.0	77.0	83.0	68.4	68.3	66.2	66.3	-	-		0.1%	-6.5%
Gross Value Added	(million €)	653.6	847.9	714.2	619.2	486.7	435.8	458.9	552.2	577.2	568.1	564.5		4.5%	-3.2%
GVA to revenue	(%)	52.9	63.8	58.9	53.2	51.1	51.8	55.8	61.4	62.9	62.0	60.6		2.4%	12.1%
Gross profit	(million €)	359.6	452.0	371.4	325.7	254.9	197.2	223.9	274.1	285.6	276.1	267.0		4.2%	-7.1%
Gross profit margin	(%)	29.1	34.0	30.6	28.0	26.7	23.4	27.2	30.5	31.1	30.2	28.7		2.1%	8.5%
Net profit	(million €)	148.9	211.4	144.9	105.1	68.1	27.6	53.5	106.4	122.5	121.3	111.5		15.2%	13.2%
Net profit margin	(%)	12.1	15.9	11.9	9.0	7.1	3.3	6.5	11.8	13.4	13.2	12.0		12.9%	37.5%
GVA per FTE (labour productivity)	(thousand €)	30.5	39.6	33.7	29.9	23.5	22.1	22.2	25.7	27.0	26.8	26.7		5.1%	-4.8%
Return on fixed tangible assets	(%)	16.7	25.2	17.1	14.1	10.8	6.9	10.3	17.1	20.1	20.6	19.5		17.3%	35.9%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2017 and 2018 include active vessels only.
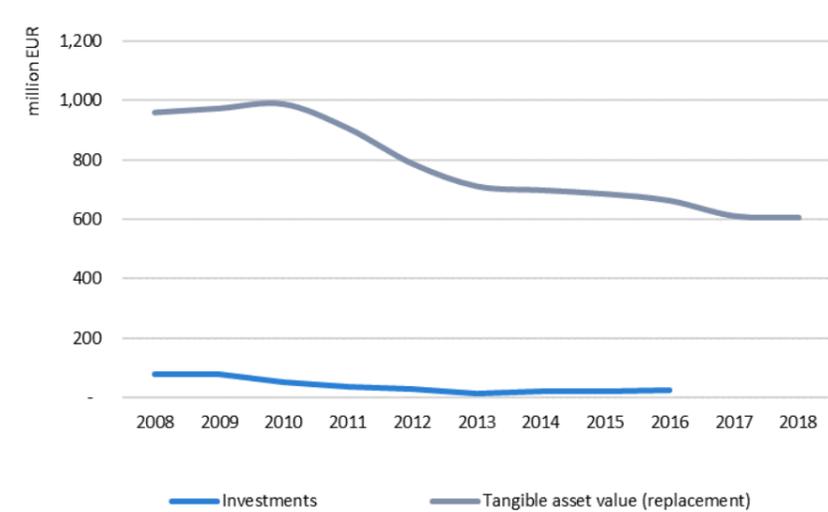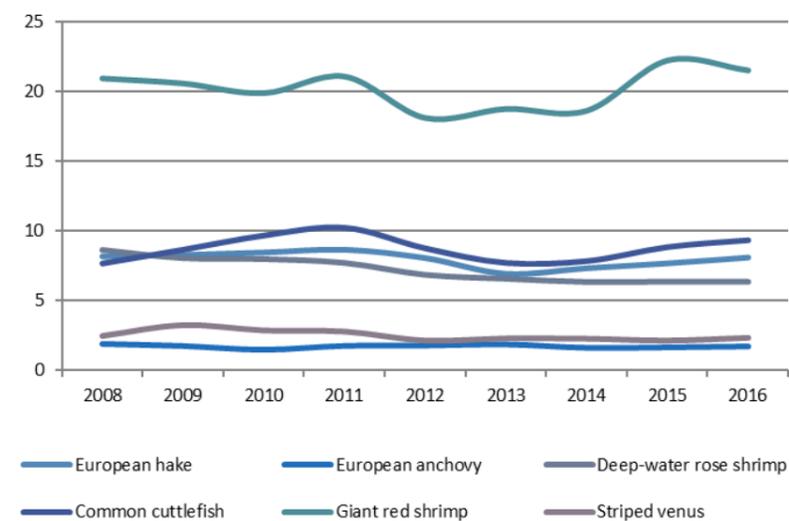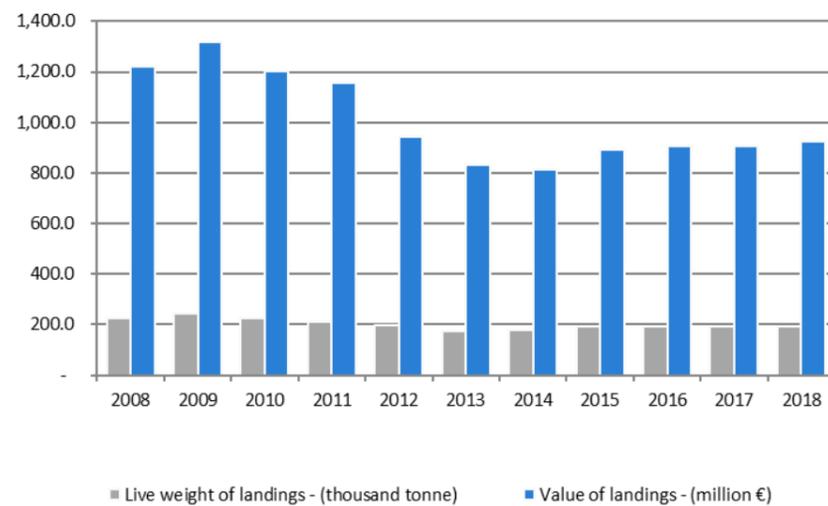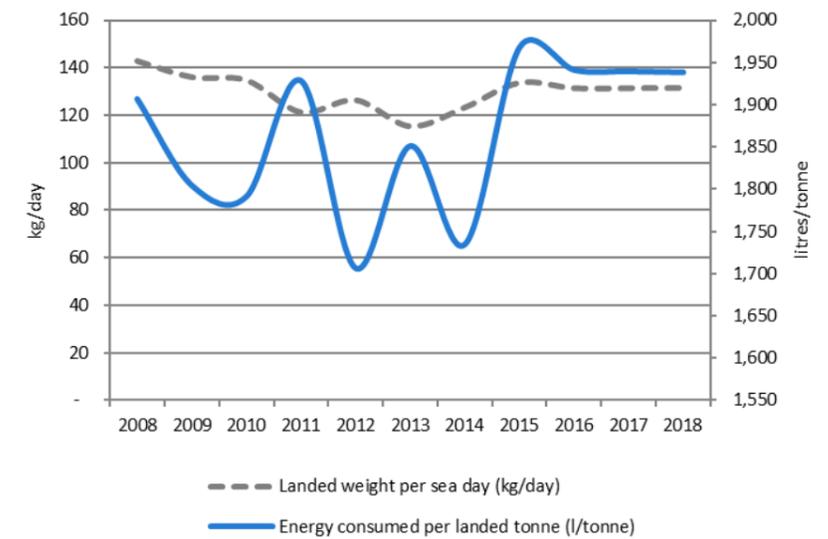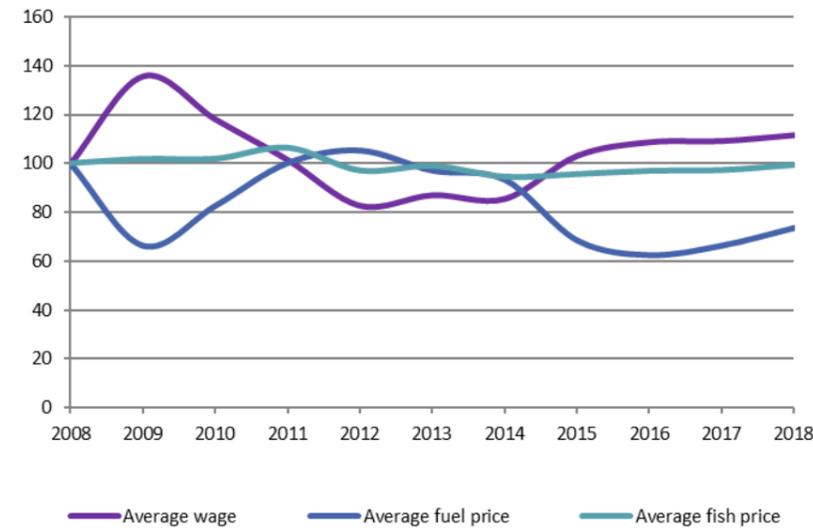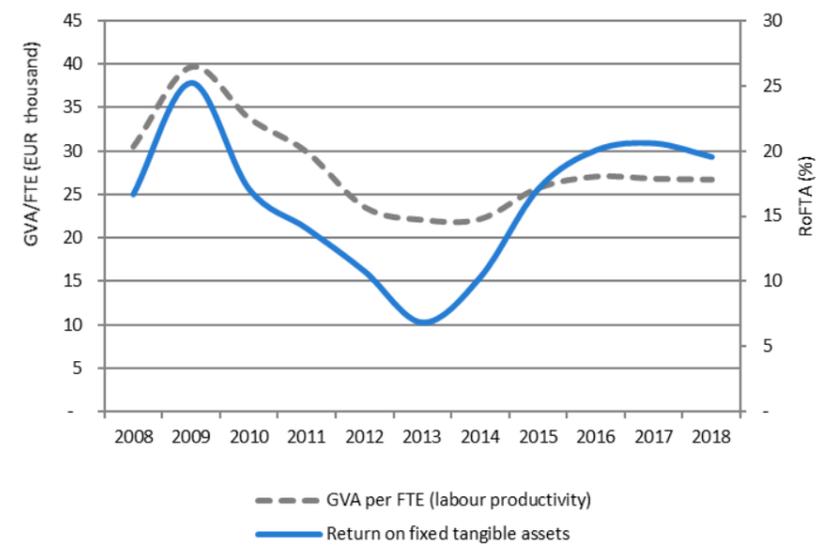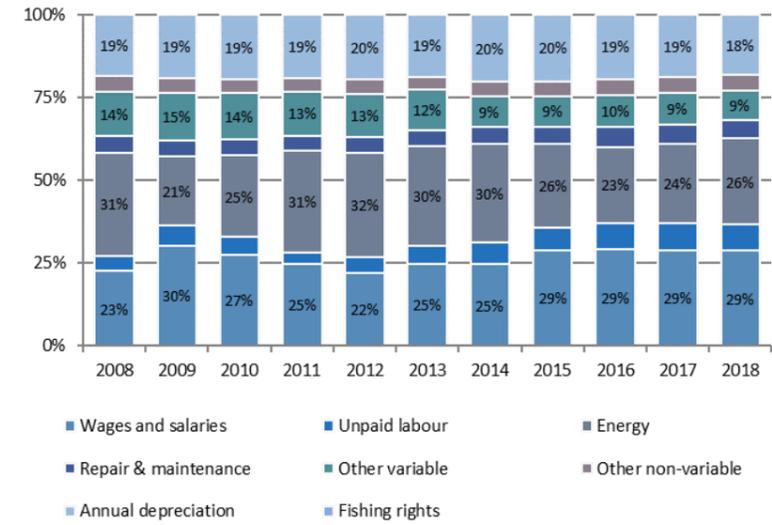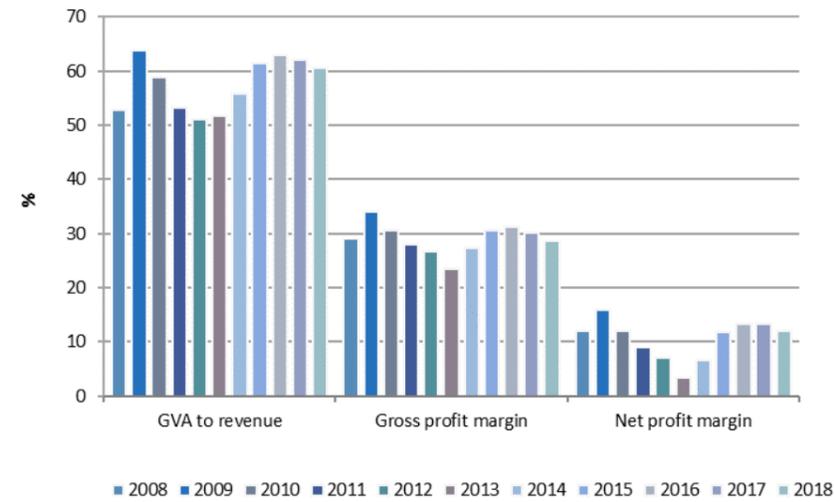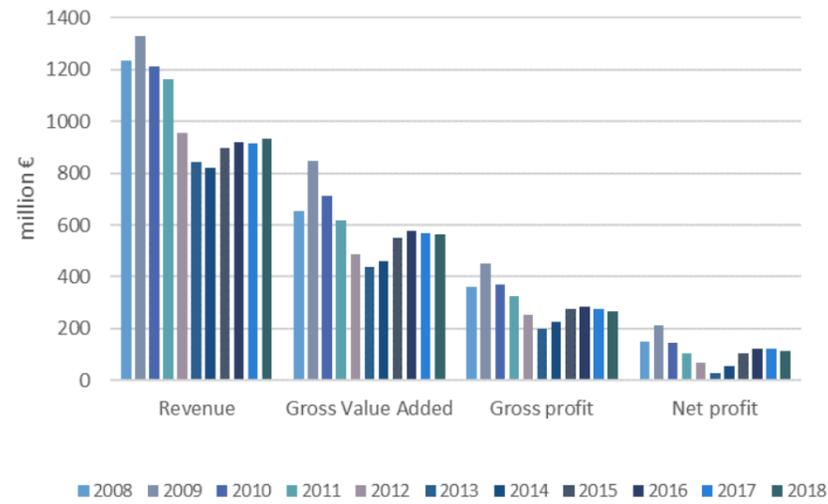
Figure 5.12 Italy: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.54 Italy: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

SCF

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	7,885	7,846	7,837	7,866	7,689	7,638	7,611	7,430	7,321	7,321	7,304		-1.5%	-5.2%
Vessel tonnage	(thousand GT)	15	15	15	15	15	15	15	14	14	14	14		-2.2%	-7.9%
Engine power	(thousand kW)	220	220	223	228	221	220	220	210	205	198			-2.4%	-6.8%
FTE	(#)	9,384	9,757	9,865	10,036	9,779	9,706	9,379	9,858	9,554	9,493	9,480		-3.1%	-1.7%
Total employed	(person)	13,722	13,698	14,094	14,050	13,856	13,275	13,114	12,559	12,684	12,619	12,599		1.0%	-6.4%
Days at sea	(thousand day)	989	1,152	1,070	1,178	1,033	986	931	954	952	950	948		-0.2%	-8.1%
Fishing days	(thousand day)	967	1,152	1,070	1,167	1,033	1,078	1,029	1,033	1,109				7.4%	4.0%
Number of fishing trips	(thousand)	1,006	1,217	1,098	1,212	1,074	1,060	950	981	929				-5.3%	-13.6%
Energy consumption	(million litre)	56.8	64.1	59.3	74.6	56.4	71.9	32.6	37.2	35.8	35.6	35.6		-3.6%	-36.7%
Live weight of landings	(thousand tonne)	32.8	38.6	33.7	36.7	31.1	27.2	28.2	27.5	27.0	26.8	26.7		-1.6%	-15.5%
Value of landings	(million €)	285.9	333.4	298.6	311.9	246.0	196.1	203.3	213.3	214.9	214.6	219.1		0.7%	-17.7%
Income from landings	(million €)	285.9	333.4	298.6	311.9	246.0	196.1	203.3	213.3	214.9	214.1	218.0		0.7%	-17.7%
Other income	(million €)	4.3	5.1	4.8	5.1	4.2	3.7	4.0	2.3	3.1	3.1	3.1		36.4%	-24.7%
Direct income subsidies	(million €)	0.5	0.4	0.4	0.1	0.5	0.1	0.1	0.0	-				-100.0%	-100.0%
Income from leasing fishing rights	(million €)														
Wages and salaries of crew	(million €)	32.8	45.4	39.2	51.6	27.3	25.7	31.9	36.4	32.4	32.1	32.8		-11.2%	-10.8%
Unpaid labour value	(million €)	50.2	64.0	54.7	36.4	38.3	40.7	48.7	52.3	58.5	58.7	59.8		12.0%	21.5%
Energy costs	(million €)	43.9	32.8	37.7	58.0	46.1	54.0	25.5	22.8	21.0	22.1	24.5		-7.9%	-47.6%
Repair & maintenance costs	(million €)	15.7	15.6	15.3	14.7	13.3	9.6	9.3	9.3	10.6	10.4	10.3		14.1%	-1.7%
Other variable costs	(million €)	30.2	35.4	31.9	33.2	26.8	25.0	13.7	13.9	13.3	13.0	12.9		-4.7%	-49.5%
Other non-variable costs	(million €)	12.3	12.2	11.5	11.5	10.1	9.9	12.2	11.2	10.2	10.1	10.0		-9.0%	-10.5%
Annual depreciation costs	(million €)	35.1	36.3	41.5	41.5	37.8	34.1	33.5	33.9	33.8	33.3	33.0		-0.2%	-7.9%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	1.5	4.9	3.9	4.0	3.2	4.0	3.5	2.1	2.1	1.0	1.5		-1.0%	-38.7%
Tangible asset value (replacement)	(million €)	135.8	141.3	162.9	163.3	149.6	135.3	131.6	131.7	131.2	129.1	128.1		-0.4%	-8.8%
Fishing rights	(million €)														
Investments	(million €)	9.8	10.2	2.1	10.6	8.7	8.1	8.4	9.2	7.9				-14.4%	-6.0%
Gross Value Added	(million €)	188.2	242.6	206.5	199.7	153.9	101.4	146.0	158.4	163.0	161.6	163.3		2.9%	-6.7%
GVA to revenue	(%)	64.8	71.7	68.1	63.0	61.5	50.7	70.4	73.4	74.7	74.4	73.9		1.8%	14.2%
Gross profit	(million €)	105.2	133.2	112.7	111.8	88.1	34.9	65.4	69.7	72.1	70.8	70.7		3.5%	-20.0%
Gross profit margin	(%)	36.2	39.4	37.1	35.3	35.3	17.5	31.6	32.3	33.1	32.6	32.0		2.3%	-0.1%
Net profit	(million €)	68.5	92.0	67.3	66.2	47.2	-3.2	28.5	33.7	36.2	36.5	36.2		7.4%	-27.7%
Net profit margin	(%)	23.6	27.2	22.2	20.9	18.9	-1.6	13.7	15.6	16.6	16.8	16.4		6.2%	-5.6%
Return on fixed tangible assets	(%)	51.6	68.6	43.7	43.0	33.8	0.6	24.3	27.2	29.2	29.1	29.4		7.3%	-20.3%
GVA per FTE (labour productivity)	(thousand €)	20.1	24.9	20.9	19.9	15.7	10.4	15.6	16.1	17.1	17.0	17.2		6.2%	-5.0%

LSF

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	4,452	4,386	4,351	4,286	4,099	3,894	3,944	3,895	3,940	3,901	3,888		1.2%	-5.4%
Vessel tonnage	164	161	155	149	142	135	136	136	130	130			-4.1%	-11.7%
Engine power	848	832	808	791	753	723	732	732	722	724			-1.3%	-7.1%
FTE	11,923	11,559	11,242	10,638	10,890	10,043	11,315	11,581	11,750	11,653	11,620		1.5%	5.4%
Total employed	15,627	15,269	14,888	14,675	14,361	13,483	13,819	13,208	13,179	13,079	13,040		-0.2%	-8.6%
Days at sea	600	630	598	571	523	508	502	484	511	507	506		5.6%	-7.4%
Fishing days	563	600	576	548	505	503	502	494	531				7.4%	-1.1%
Number of fishing trips	539	567	536	516	477	476	470	454	460				1.3%	-8.8%
Energy consumption	369.7	369.0	343.4	332.3	278.2	247.8	274.2	334.0	333.6	332.0	331.3		-0.1%	4.7%
Live weight of landings	183.7	195.5	189.3	173.6	164.7	145.4	148.6	161.3	161.0	160.4	159.9		-0.2%	-5.4%
Value of landings	911.3	960.7	892.3	832.2	694.1	637.9	610.0	676.6	689.8	687.9	701.5		1.9%	-11.2%
Income from landings	911.3	960.7	892.3	832.2	694.1	637.9	610.0	676.6	689.8	688.7	700.6		1.9%	-11.2%
Other income	8.1	5.2	4.3	3.6	4.7	3.9	4.8	2.8	6.4	6.3	6.2		131.1%	37.3%
Direct income subsidies	32.7	13.5	23.5	11.6	7.3	12.5	17.0	7.9	-				-100.0%	-100.0%
Income from leasing fishing rights						0.5	1.2							-100.0%
Wages and salaries of crew	208.2	282.5	246.1	203.4	164.1	170.6	152.8	187.6	195.8	196.2	199.9		4.4%	-3.0%
Unpaid labour value	0.9	2.7	2.0	1.3	1.7	1.6	1.6	1.0	4.3	4.3	4.4		316.7%	169.9%
Energy costs	285.8	188.7	218.3	258.1	227.2	186.4	196.2	175.2	157.1	166.2	184.3		-10.4%	-27.6%
Repair & maintenance costs	35.9	35.7	34.4	31.9	29.4	27.6	28.1	30.5	35.2	34.6	34.2		15.6%	11.1%
Other variable costs	114.7	120.9	113.4	103.4	84.2	72.5	55.7	57.0	62.5	61.0	60.4		9.6%	-30.7%
Other non-variable costs	35.6	36.3	32.9	30.8	28.3	20.9	21.9	24.0	27.6	27.1	26.9		14.8%	-4.3%
Annual depreciation costs	160.0	165.3	156.0	152.5	130.0	114.2	122.5	115.1	113.1	112.0			-6.0%	-17.7%
Rights costs														
Opportunity cost of capital	8.2	25.5	16.3	16.3	12.1	14.9	13.4	8.2	7.6	3.7	5.3		-7.3%	-47.3%
Tangible asset value (replacement)	717.4	733.3	679.6	666.0	572.6	500.1	499.1	510.6	476.2	467.9	463.3		-6.7%	-21.9%
Fishing rights														
Investments	62.8	63.7	51.0	25.1	20.0	7.0	13.6	11.1	15.2				37.3%	-52.1%
Gross Value Added	447.2	584.2	497.6	411.7	329.7	334.4	312.9	392.6	413.8	406.1	401.0		5.4%	0.0%
GVA to revenue	48.6	60.5	55.5	49.3	47.2	52.1	50.9	57.8	59.4	58.4	56.7		2.8%	12.7%
Gross profit	238.1	299.1	249.5	207.0	163.9	162.2	158.5	204.0	213.7	205.6	196.7		4.7%	1.6%
Gross profit margin	25.9	31.0	27.8	24.8	23.4	25.3	25.8	30.0	30.7	29.6	27.8		2.2%	14.7%
Net profit	69.9	108.3	77.2	38.2	21.7	33.1	26.9	73.4	91.0	88.8	79.5		24.1%	62.3%
Net profit margin	7.6	11.2	8.6	4.6	3.1	5.2	4.4	10.8	13.1	12.8	11.2		21.1%	88.7%
Return on fixed tangible assets	10.9	18.2	13.8	8.2	5.9	9.6	8.1	16.0	20.7	19.8	18.3		29.6%	82.8%
GVA per FTE (labour productivity)	37.5	50.5	44.3	38.7	30.3	33.3	27.7	33.9	35.2	34.8	34.5		3.9%	-4.9%

DWF

	2008	2009	2010	2011	2012	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	18	18	7	7	5	9	8	8	8		-11.1%	-25.0%
Vessel tonnage	10	10	4	4	3	6	6	2			-3.8%	-3.1%
Engine power	22	22	7	7	5	13	13	4			-2.5%	-0.5%
FTE	148	97	63	66	25	20	44	44	44		125.5%	-36.2%
Total employed	255	255	240	240	75	20	70	70	70		250.0%	-61.3%
Days at sea	2.3	1.4	0.8	0.9	0.4	0.5	0.7	0.7	0.7		58.6%	-28.3%
Fishing days	2.1	1.3	0.8	0.8	0.4	0.4	0.7				54.1%	-29.7%
Number of fishing trips												
Energy consumption	6.5	4.6	2.5	2.6	1.2	7.1	4.1	4.1	4.1		-43.3%	-0.9%
Live weight of landings	10.4	8.4	1.8	2.0	0.9	3.5	4.3	4.3	4.3		25.3%	-3.6%
Value of landings	25.9	25.3	13.1	11.2	4.5	4.1	3.5	3.5	3.6		-15.3%	-75.2%
Income from landings	25.9	25.3	13.1	11.2	4.5	4.1	3.5	3.5	3.6		-15.3%	-75.2%
Other income	-	-	-	-	-	-	-	-	-			
Direct income subsidies	-	-	-	-	-	-	-	-	-			
Income from leasing fishing rights												
Wages and salaries of crew	1.8	1.4	0.9	0.9	0.3	0.8	0.6	0.6	0.6		-29.8%	-42.6%
Unpaid labour value	-	-	-	-	-	-	-	-	-			
Energy costs	5.2	2.3	1.6	2.0	0.8	2.0	1.9	2.0	2.2		-6.9%	-19.7%
Repair & maintenance costs	0.5	0.4	0.3	0.3	0.1	0.3	0.2	0.2	0.2		-19.2%	-17.1%
Other variable costs	1.5	1.0	0.8	0.8	0.4	0.8	0.8	0.8	0.8		81.8%	-2.5%
Other non-variable costs	0.5	0.4	0.3	0.3	0.1	0.2	0.1	0.1	0.1		-9.4%	-60.3%
Annual depreciation costs	4.7	5.2	5.3	4.3	2.3	0.4	3.6	3.6	3.6		811.9%	-1.2%
Rights costs	0.8	0.6	0.4	0.4	0.1	0.1	-	-			-100.0%	-100.0%
Opportunity cost of capital	0.7	2.1	0.6	0.5	0.2	0.1	0.2	0.1			272.9%	-66.0%
Tangible asset value (replacement)	63.3	59.6	25.7	20.9	11.2	4.0	15.1	14.9	14.8		275.2%	-51.0%
Fishing rights												
Investments	3.8	3.0	0.1	1.3	0.8	-	-					-100.0%
Gross Value Added	8.9	16.1	10.1	7.8	3.2	1.2	0.4	0.4	0.2		-63.3%	-94.3%
GVA to revenue	53.4	79.2	77.2	69.3	70.6	29.6	12.8	10.2	6.0		-56.7%	-79.7%
Gross profit	7.1	14.7	9.2	6.9	2.9	0.4	-0.1	-0.2	-0.4		-138.5%	-102.1%
Gross profit margin	42.6	72.5	70.3	61.1	63.2	9.1	-4.1	-6.8	-11.0		-145.4%	-107.8%
Net profit	1.9	8.0	3.3	2.0	0.3	-0.1	-4.0	-3.9	-4.1		-4364.4%	-255.6%
Net profit margin	11.7	39.6	25.2	18.0	7.4	-2.2	-116.0	-113.4	-116.1		-5172.7%	-798.3%
Return on fixed tangible assets	5.8	22.2	15.2	12.1	5.1	-0.6	-25.1	-25.8	-26.8		-3792.1%	-352.2%
GVA per FTE (labour productivity)	59.8	165.2	161.2	118.7	128.5	61.5	10.0	8.0	4.8		-83.7%	-91.4%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.55 Italy: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity)	Return on fixed tangible assets (%)	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
ITA A37 DTS1218	1,180	3,236	175,194	3,732	23,841	174,284	174,389	102,873	59.0	57,972	33.2	39,666	22.75	13.9	31.8	57.0	High	47%	Improved	19.0%
ITA A37 DTS1824	600	2,453	97,996	4,499	24,144	171,216	173,083	93,427	54.0	49,490	28.6	14,048	8.12	17.9	38.1	11.8	Weak	320%	Improved	18.9%
ITA A37 PGP0612	5,119	7,270	677,915	1,452	21,059	167,234	169,371	124,724	73.6	55,287	32.6	23,821	14.06	9.6	17.2	22.2	Reasonable	-4%	Stable	18.5%
ITA A37 DTS2440	197	1,050	32,363	6,910	8,638	89,698	92,552	46,807	50.6	19,244	20.8	1,700	1.84	26.3	44.6	0.4	Weak	81%	Improved	10.1%
ITA A37 PGP0006	2,189	2,228	273,035	876	5,721	46,746	47,749	37,558	78.7	16,505	34.6	12,159	25.47	9.5	16.9	83.1	High	-9%	Deteriorated	5.2%
ITA A37 DRB1218 °	683	624	61,384	554	17,773	47,040	47,602	35,225	74.0	17,317	36.4	5,599	11.76	28.7	56.4	14.5	Reasonable	-30%	Deteriorated	5.2%
ITA A37 PGP1218 °	407	908	41,436	1,433	5,123	30,832	31,769	22,530	70.9	11,283	35.5	4,150	13.06	12.4	24.8	17.6	Reasonable	-2%	Stable	3.5%
ITA A37 PS40XX	11	113	331	904	2,765	22,646	22,646	18,625	82.2	10,459	46.2	7,065	31.20	72.6	165.5	49.9	High	194%	Improved	2.5%
ITA A37 TM1824	44	269	7,517	347	21,019	19,911	19,911	10,328	51.9	4,390	22.0	1,764	8.86	22.1	38.4	18.2	Weak	95%	Improved	2.2%
ITA A37 PS1218 °	210	779	27,236	648	19,502	19,589	19,589	13,429	68.6	7,030	35.9	5,105	26.06	8.2	17.2	70.8	High			2.1%
ITA A37 PS2440	44	397	4,814	339	10,620	17,459	17,459	12,924	74.0	6,715	38.5	1,380	7.91	15.6	32.5	8.1	Weak	320%	Improved	1.9%
ITA A37 HOK1218 °	122	451	15,753	2,071	2,436	16,457	16,457	10,178	61.8	6,156	37.4	3,730	22.66	8.9	22.6	44.4	High	46%	Improved	1.8%
ITA A37 TBB1824	23	217	5,157	4,217	2,397	15,887	15,887	7,737	48.7	3,724	23.4	1,262	7.94	18.5	35.6	14.6	Weak	305%	Improved	1.7%
ITA A37 TM2440	41	240	6,758	669	14,467	15,470	15,470	8,897	57.5	4,247	27.5	1,209	7.81	19.4	37.0	11.2	Weak	1603%	Improved	1.7%
ITA A37 PS1824	45	290	4,763	691	4,996	13,066	13,066	8,544	65.4	4,647	35.6	2,557	19.57	13.5	29.5	34.0	Reasonable	23%	Improved	1.4%
ITA A37 TM1218 °	41	146	5,818	291	10,452	11,023	11,023	6,872	62.3	3,403	30.9	2,998	27.20	23.8	47.2	188.7	High	42%	Improved	1.2%
ITA A37 DTS0612	196	200	14,310	1,743	1,328	8,573	8,573	4,995	58.3	2,573	30.0	1,553	18.12	12.1	25.0	43.2	Reasonable	42%	Improved	0.9%
ITA A37 HOK1824 °	39	193	4,685	1,638	1,625	8,283	8,283	5,774	69.7	2,890	34.9	60	0.73	14.9	29.9	2.2	Weak	1017%	Improved	0.9%
ITA A37 TBB2440	20	77	1,601	2,741	1,050	3,853	3,853	1,803	46.8	731	19.0	- 395	10.25	13.9	23.4	- 7.4	Weak	-1494%	Deteriorated	0.4%
ITA OFR DTS40XX IWE	7	44	508	10,938	371	3,472	3,472	445	12.8	- 144	4.1	- 4,027	- 115.99	13.2	10.0	- 25.1	Weak			0.4%
ITA A37 PMP1218 °	26	81	2,886	2,594	449	3,085	3,085	1,821	59.0	1,048	34.0	740	23.98	9.5	22.5	64.4	High	46%	Improved	0.3%
ITA A37 TBB1218	11	26	884	1,685	248	1,492	1,492	1,005	67.3	358	24.0	235	15.74	25.2	39.1	57.3	Reasonable	52%	Improved	0.2%
ITA A37 PMP0612	13	57	1,134	1,080	224	941	951	688	72.3	302	31.8	198	20.87	6.7	12.0	45.1	High	55%	Improved	0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.56 Italy: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity)	Return on fixed tangible assets (%)	Profitability (2016)	As a % of total revenue
ITA A37 DTS1218	1,207	3,229	174,842	3,732	23,793	174,455	174,908	101,175	57.8	56,009	32.0	38,549	22.04	14.0	31.3	55.5	High	19.1%
ITA A37 DTS1824	603	2,450	97,871	4,499	24,114	171,504	173,566	91,173	52.5	46,977	27.1	13,136	7.57	18.0	37.2	10.5	Weak	19.0%
ITA A37 PGP0612	5,139	7,287	679,566	1,452	21,110	168,136	169,846	124,459	73.3	54,612	32.2	24,411	14.37	9.6	17.1	22.1	Reasonable	18.5%
ITA A37 DTS2440	195	1,050	32,363	6,910	8,638	89,966	92,780	45,723	49.3	17,997	19.4	- 2,001	- 2.16	26.4	43.5	- 1.6	Weak	10.1%
ITA A37 DRB1218 °	705	623	61,260	554	17,737	47,086	47,734	35,192	73.7	17,178	36.0	5,981	12.53	28.9	56.5	14.9	Reasonable	5.2%
ITA A37 PGP0006	2,181	2,206	270,332	876	5,665	46,421	47,396	37,158	78.4	16,188	34.2	12,060	25.45	9.5	16.8	83.6	High	5.2%
ITA A37 PGP1218 °	415	907	41,353	1,433	5,112	30,862	31,846	22,454	70.5	11,140	35.0	4,322	13.57	12.5	24.8	17.7	Reasonable	3.5%
ITA A37 PS40XX	11	113	331	904	2,765	22,713	22,713	18,660	82.2	10,446	46.0	7,213	31.76	73.0	165.8	50.8	High	2.5%
ITA A37 TM1824	39	269	7,507	347	20,993	19,945	19,971	10,238	51.3	4,265	21.4	1,761	8.82	22.2	38.1	17.7	Weak	2.2%
ITA A37 PS1218 °	137	777	27,181	648	7,628	19,521	19,646	13,377	68.1	6,939	35.3	5,102	25.97	8.3	17.2	71.0	High	2.1%
ITA A37 PS2440	42	397	4,814	339	10,620	17,511	17,511	12,909	73.7	6,663	38.1	1,568	8.96	15.7	32.5	8.3	Weak	1.9%
ITA A37 HOK1218 °	137	450	15,721	2,071	2,431	16,473	16,506	10,136	61.4	6,090	36.9	3,770	22.84	9.0	22.5	44.8	High	1.8%
ITA A37 TBB1824	25	217	5,150	4,217	2,394	15,914	15,935	7,557	47.4	3,521	22.1	1,171	7.35	18.6	34.8	13.1	Weak	1.7%
ITA A37 TM2440	45	240	6,758	669	14,467	15,516	15,516	8,700	56.1	4,023	25.9	1,124	7.24	19.5	36.2	9.9	Weak	1.7%
ITA A37 PS1824	44	289	4,757	691	4,990	13,088	13,105	8,518	65.0	4,598	35.1	2,601	19.85	13.5	29.4	34.3	Reasonable	1.4%
ITA A37 TM1218 °	34	145	5,807	291	10,431	11,034	11,056	6,857	62.0	3,368	30.5	2,982	26.97	24.0	47.2	189.9	High	1.2%
ITA A37 DTS0612	193	200	14,344	1,743	1,332	8,619	8,599	4,939	57.4	2,503	29.1	1,523	17.71	12.2	24.6	42.1	Reasonable	0.9%
ITA A37 HOK1824 °	38	193	4,679	1,638	1,623	8,297	8,308	5,742	69.1	2,841	34.2	131	1.57	15.0	29.7	2.1	Weak	0.9%
ITA A37 TBB2440	18	77	1,601	2,741	1,050	3,864	3,864	1,741	45.1	663	17.1	- 413	- 10.69	14.0	22.6	8.7	Weak	0.4%
ITA OFR DTS40XX IWE	7	44	508	10,938	371	3,482	3,482	355	10.2	- 237	- 6.8	- 3,949	- 113.40	13.3	8.0	25.8	Weak	0.4%
ITA A37 TBB1218	12	26	883	1,685	247	1,494	1,497	1,002	67.0	352	23.5	234	15.60	25.4	39.1	57.1	Reasonable	0.2%
ITA OFR PS40XX IWE	1	-	237	-	3,966	-												

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.57 Italy: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)									Live weight of landings (thousand tonne)									Average landed price (real) (€)									% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	in value	in weight
European hake	102.4	99.4	97.3	90.4	75.6	67.4	63.8	68.9	66.7	12.6	12.0	11.5	10.5	9.4	9.8	8.7	9.0	8.3	8.2	8.3	8.4	8.6	8.0	6.9	7.3	7.7	8.1	7%	4%
European anchovy	85.4	96.4	82.0	82.3	76.8	55.5	52.5	63.2	65.9	45.0	54.4	54.1	46.2	42.8	29.7	31.8	37.5	38.0	1.9	1.8	1.5	1.8	1.8	1.9	1.7	1.7	1.7	7%	20%
Deep-water rose shrimp	70.9	76.7	81.7	77.1	56.6	54.5	48.6	57.7	56.0	8.2	9.6	10.3	10.0	8.3	8.3	7.7	9.1	8.8	8.6	8.0	8.0	7.7	6.8	6.6	6.3	6.4	6.3	6%	5%
Common cuttlefish	74.5	82.6	67.9	58.5	44.6	44.0	45.7	53.4	55.1	9.7	9.5	7.0	5.7	5.1	5.7	5.8	6.0	5.9	7.7	8.7	9.7	10.2	8.8	7.7	7.9	8.9	9.4	6%	3%
Giant red shrimp	37.2	48.1	50.0	49.5	43.0	52.1	41.6	53.9	54.6	1.8	2.3	2.5	2.4	2.4	2.8	2.2	2.4	2.5	20.9	20.6	19.9	21.1	18.1	18.7	18.6	22.2	21.5	6%	1%
Striped venus	62.1	56.9	57.0	55.3	43.0	33.6	32.2	31.5	38.3	24.9	17.3	19.8	19.7	20.0	14.6	14.1	14.7	16.3	2.5	3.3	2.9	2.8	2.2	2.3	2.2	2.2	2.4	4%	8%
Swordfish	59.2	67.3	72.8	64.0	46.5	29.3	31.9	39.4	36.6	4.5	5.1	6.0	5.4	4.0	2.9	3.4	4.3	4.0	13.1	13.1	12.1	12.0	11.6	10.2	9.4	9.2	9.3	4%	2%
Spottail mantis squillid	43.6	43.6	37.6	37.7	29.9	28.4	27.3	30.4	31.6	6.0	6.5	6.2	5.4	4.8	5.0	4.7	5.3	5.3	7.3	6.8	6.1	6.9	6.3	5.7	5.8	5.8	6.0	3%	3%
Red mullet	38.9	33.6	31.2	28.3	31.1	24.1	28.3	31.8	31.4	7.1	6.1	4.9	4.8	5.9	5.1	6.3	6.3	6.0	5.5	5.5	6.3	5.9	5.3	4.7	4.5	5.1	5.3	3%	3%
Norway lobster	70.4	74.8	66.8	55.5	41.0	36.6	28.5	28.3	28.8	3.4	3.6	3.2	2.7	2.1	2.0	1.5	1.4	1.3	20.6	20.9	20.7	20.6	20.0	18.3	19.2	20.9	22.3	3%	1%
																												51%	50%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.13 Latvia

A short description of the national fleet

Fleet capacity

In 2016, the Latvian Baltic Sea fishing fleet consisted of 332 registered vessels including 67 inactive vessels, with a combined gross tonnage of 7.3 thousand tonnes, a total engine power of 20.9 thousand kilowatts and an average age of 30 years. The size of the Latvian fleet followed a decreasing trend between 2008 and 2016. The gross tonnage declined by 22% while the total engine power of the fleet declined by 18% during the analysed period from 2008 to 2016. The reason for the changes was related to the vessels scrapping according to the multi-annual management plan aimed at achieving a better balance between fishing capacity and the available resources. The fishing vessels were "reassigned for activities outside fishing (by scrapping or selling)".

Fleet structure

Latvian fleet is divided into several segments by the length, fishing gears and different operating areas: the Baltic Sea fleet (segment trawlers VL2440 metres), fleet operating predominantly in the Gulf of Riga (segment trawlers VL1218 metres), the SSCF operating in the coastal zone (segment with polyvalent fishing gears VL0010 metres) and a distant water fleet (segment trawlers VL40XX metres) operating in the Atlantic NEAFC Barents Sea (area 27) and CECAF Morocco and Mauritania (area 34) areas.

Significant differences in the number of vessels and in other related variables were observed between 2010 and 2011 when the fleet size decreased by 364 vessels or 53%. The major factor causing the fleet to decrease was the exclusion of a part of small coastal vessels less than 10 metres from the economic analysis. The excluded vessels have licenses and obligation to fill the coastal logbooks but fish only for self-consumption and are not involved in commercial fishery. The excluded volume corresponds 11% to gross tonnage and 8% to engine power in SSCF in 2016. The exclusion of recreational vessels does not affect the total engine power of the fishing fleet and gross tonnage.

Employment

The fishers on the Baltic Sea vessels usually are local Latvia inhabitants. For the crew on board on distant water vessels there may also be invited residents of the 3rd world countries.

The employment of the Baltic Sea fleet was estimated around 647 jobs; corresponding 318 FTEs in 2016. The total employment and the FTE decreased by 37% and 29% respectively between 2008 and 2016 while the average wage per FTE increased by 7% during the same period. The number of the employed and FTE also followed a decreasing trend between 2015 and 2016 and declined by 8%. Compared to other member states, Latvia has a low wage for fishers. Also, the average salary in fishery sector was by 9% lower than the average salary in Latvia in 2016.

Effort

The Baltic Sea fishing fleet spent a total of around 18.1 thousand days at sea in 2016 but total number of fishing days calculated for each gear were 19.6 thousand. The total number of days at sea was relatively stable between 2015 and 2016 while the total quantity of fuel consumed decreased significantly by 39% and was 3.5 million litres in 2016. The live weight of landing also had a slight decrease by 3% in 2016. The segment trawlers VL1218 operating in the Gulf of Riga and segment trawlers VL2440 operating in the Baltic Sea used 95% and 69% respectively of their capacity in 2016. The coastal segment VL0010 used 25% from their gross tonnage in 2016.

Production

The total weight landed by the Baltic Sea fleet in 2016 was 60 thousand tonnes of fish with a landed value of EUR 15.8 million. The total weight of landings decreased by 3% between 2015 and 2016 while the landed value decreased significantly by 20% during the same period. Significant decrease in landed value was caused by sharp decline in price for the target species in 2016. The average first market price for the European sprat, Atlantic herring and Atlantic cod decreased by 20%, 8% and 4% respectively from 2015 to 2016.

In 2016, in terms of landings composition European sprat was the most common species landed in terms of weight 28.1 thousand tonnes, followed by Atlantic herring 26.1 thousand tonnes and Atlantic cod around 2.3 thousand tonnes. The European sprat also achieved the highest landed value EUR 6.7 million

for the national fleet followed by Atlantic herring EUR 6.0 million and then Atlantic cod EUR 2.1 million in 2016. The European sprat, Atlantic herring and Atlantic cod accounted for 44%, 38% and 13% respectively of the total landings value in 2016 and contributed to 47%, 44% and 4% to the total landed weight. Nevertheless, decrease in demand for European sprat from the fish processing sector side from 2015 to 2016 caused a sharp decline in the average market price by 20% and decrease in weight of landing by 8%. Thereby, the value of landing for European sprat in 2016 in comparison to 2015 decreased by 26%. The total landing value and weight declined by 28% and 11% respectively between 2008 and 2016. The major factor causing the decrease in weight was the reduction of the European sprat quota for Latvia between 2008 and 2012.

The high increase in weight by 24% was observed for the species Round goby in the coastal area from 2015 to 2016. In terms of landings composition for the coastal segment the Round goby kept the second place or 13% after the Atlantic herring which had share of 74% from the total segment weight of landing.

Economic results for 2016 and recent trends

National fleet performance

The economic performance for the Latvian fleet in 2016 deteriorated compared to 2015. The amount of revenue generated by the Latvian national fleet in 2016 was EUR 17.6 million including EUR 15.8 million of income from fish sales and EUR 1.8 million of non-fishing income. The revenue decreased by 15% or EUR 3.1 million between 2015 and 2016.

The total operating costs were relatively stable around EUR 13.3 million between 2015 and 2016 while the labour costs and energy costs decreased significantly by 21% and 40% respectively. The decrease of the energy costs was caused by the decline in the average price for fuel to EUR 0.49 and decrease by 37% in the volume of the energy consumed per landed tonne in 2016. The fixed cost increased by 48% during the same time period.

In terms of profitability the total amount of Gross Value Added (GVA), Gross profit and Net profit generated by the Latvian national fleet in 2016 were EUR 7.2, EUR 4.2 and EUR 3.1 million, respectively. The GVA, Gross profit and Net profit declined by 37%, 44% and 47% respectively between 2015 and 2016.

Towards the end of 2008 and during 2009 the Latvian fishery sector was negatively affected by the global economic crisis which led to significant decrease of Net profit level in 2009 and 2010. It should be mentioned that high values of Net profit in 2008 are due to the negative values of the opportunity cost of capital (EUR -5.19 million) caused by the negative real interest rates used to estimate this opportunity cost. The economic efficiency of the fleet started to improve in 2011 and reached the Net profit maximum of EUR 6.2 million. However, the Net profit declined by 72% between 2011 and 2013 due to the ban of Russian product trade from European Union countries implemented from the 7th of August 2014. Russian embargo was applied to beef, pork, fruit, vegetables, poultry, cheese, milk products and also fish and fish products, although the embargo list did not include sprat, canned meat and fish. The second reason which negatively influenced the fishery sector between 2015 and 2016 and deteriorated the profitability of the fishery sector was a temporary ban on the import of all fish and fish products from Latvia and Estonia by the Russian food safety authority Rosselkhoznadzor from the 4th June 2015. As a result, around 40 enterprises which exported their production to the Russian market suffered in Latvia. The decrease of the turnover by 22% for the fish processing sector from 2014 to 2015 also influenced the fishery sector. Despite the economic crisis and Russian ban which affected severely the profitability of the fishery enterprises, the Baltic Sea fleet in overall remained on the profit-making positions between 2009 and 2016.

Resource productivity and efficiency indicators

The Gross profit margin in 2016 was 24% indicating a high operating efficiency of the sector. Net profit margin was estimated at 18% in 2016 and the share of GVA to revenue 41% in the same year. The labour productivity (GVA/FTE) decreased by 31% between 2015 and 2016 while the numbers of FTE decreased by 8%. The Gross profit margin and Net profit margin declined by 35% and 38% respectively from 2015 to 2016.

The tangible assets (replacement) had low values between 2011 and 2015 and were on average around EUR 11 million annually. The major factors were a long service life of vessels (around 30 years) and obsolete equipment.

The RoFTA for the coastal fleet vessels in the segment VL0010 showed too high value in 2016. The high value of RoFTA in the segment can be explained with a low fleet capital asset value due to low residual

values of capital and a long service life of vessels and vessel equipment. The average age of vessels in the segment VL0010 was around 30 years and the share of the capital asset in the total fleet capital assets value was only 0.8% in 2016. The positive RoFTA values indicated that the segment was profitable in the long-term and returns of normal investments were generated. Nevertheless, the results (too high RoFTA values and the low capital asset values) also indicated that fleet modernization was necessary. The trawlers in the segments VL1218 and VL2440 showed positive and high RoFTA values of 1.62% and 27.86% respectively in 2016. The positive RoFTA values indicate that extraordinary profit is being generated and positive return of investments ensures the profitability of the segment. The main factor is that the segments target at two species as Atlantic herring and European sprat which provide the necessary turnover for the segments. However, it should be mentioned that investments decreased significantly by 10% between 2008 and 2016. Also, for 2015 investments had low values around EUR 0.2 million. If the situation is not improved in the near future, it will influence the profitability of the fleet.

The ratio between the current revenue of the fleet and break-even revenue showed how close the current revenue of a fleet was to the revenue required for the fleet to break even in a short - term. For all fleet segments in 2016 CR/BER was greater than 1 and was 1.44 (segment VL2440), 22.55 (segment VL0010) and 1.03 (segment VL1218) characterising that enough income was generated to cover variable, fixed and capital costs.

The total numbers of vessels decreased by 38% from 2008 to 2016 while the average engine power per vessel increased by 19%. The number of the fishing days per vessel increased significantly by 35% while the average days at sea increased only by 8% from 2008 to 2016. The landings and weight per unit of effort (in days at sea) had a sharp increase by 26% since 2008. The fuel consumed per landed tonne and landed value decreased by 39% and 25% respectively from 2008 to 2016. The landed weight per vessel had sharp increase by 32% between 2008 and 2016 while the landed value per vessel increased only by 3% during the same period. The main factor which caused the increase in profitability of the Baltic Sea fleet was the decommissioning of the vessels from 2008 to 2017 and the increase of fishing intensity per vessel.

Performance by fishing activity

A small-scale coastal fleet

The number of the small-scale coastal fleet (SSCF) was relatively stable between 2015 and 2016. The vessels are included in the segment VL0010 metres which use polyvalent or passive gears and target at Atlantic salmon, Atlantic cod, European flounder, European eel and other coastal species. The SSCF business is oriented to the local market. The fishing trip usually is less than 24 hours and the weather conditions as cold winters may influence a lot the turnover of the segment. The coastal species achieved the highest average price per kilo EUR 1.63. Despite the highest prices for coastal species, the amount in the total landings composition had negligible values - 7% and 6% respectively from the total value and weight of landing in 2016 and did not influence the total value of Latvian landings. The landings weight for the SSCF increased by 48% while the value of landings decreased by 26% and were around 3.4 thousand tonnes and EUR 1.1 million respectively in 2016. The SSCF is important for employment in coastal regions and was estimated at 256 jobs, corresponding to 106 FTEs. The decreasing trend was observed for the total employment and FTEs it decreased by 19% and 12% respectively between 2015 and 2016. The GVA, Gross profit and Net profit also declined by 27%, 24% and 24% respectively from 2015 to 2016.

A large-scale fleet

The decreasing trend was also observed for the large-scale fleet (LSF) operating in the Baltic Sea and the Gulf of Riga. The LSF targets at European sprat, Atlantic herring and Atlantic cod. The LSF was represented with the 59 vessels included in two segments VL2440 and VL1218 metres. The segments contributed 94% to total revenue and 76% to Net profit in 2016. Employment for the large-scale fleet was estimated at 391 jobs in 2016, corresponding to 212 FTEs. The total employment of large-scale fleet and FTEs was relatively stable over the observed period. The income from landings decreased by 20% between 2015 and 2016 while the Net profit had a sharp decrease during the same period from EUR 4.9 million to EUR 2.4 million.

A distant water fleet

There were 12 active distant water vessels which made up the segment of vessels over 40 metres owned by four Latvian companies in 2016. The 9 vessels with the average length around 60 metres were based predominantly in NEAFC Atlantic area targeting at Queen Crabs and Beaked redfish. The 3 vessels with

the length around 100 metres operated in CECAF area and targeted at Atlantic horse mackerel, Atlantic mackerel, Madeiran sardinella and sardine. In 2016, the main ports for the distant water vessels landings were Bremerhaven, Velsen, Hirtshals, Vardø, Båtsfjord, Dakhla and Nouadhibou. In 2016 the total weight for the Atlantic catches was 54.2 thousand tonnes of fish with an estimated value of EUR 37.9 million and reported income from landing EUR 16.4 million.

Performance results of selected fleet segments

The Baltic Sea fleet consisted of 3 active fleet segments in 2016. A short description for the segments is provided below.

Pelagic trawl 24-40 meters – 48 vessels made up this segment in 2016 and vessels operated predominantly in the Baltic Sea. These vessels target at species such as European sprat, Atlantic herring and Atlantic cod. The total value of landings was EUR 12.9 million and around 176 FTEs were employed in the fleet segment in 2016 contributing 82% and 55% of the total income from landings generated and FTEs in the national fleet. The fleet segment was highly profitable with a reported Gross profit of around EUR 2.9 million and a Net profit of around EUR 2.3 million in 2016.

Pelagic trawl 12-18 meters – 11 vessels made up this segment in 2016 and the vessels were operating predominantly in the Gulf of Riga. These vessels targeted at European sprat and Atlantic herring. The total value of landings was EUR 1.8 million and only 36 FTEs were supported in 2016 contributing 12% and 11% of the total income from landings generated and FTEs in the national fleet. The Gross profit and Net profit of EUR 0.519 million and EUR 0.03 million respectively were generated in 2016.

Polyvalent or passive gears 00-10 meters – 206 vessels made up this segment in 2016 and the vessels were operating predominantly in the Baltic Sea and the coastal zone of the Gulf of Riga. These vessels targeted at a variety of Atlantic cod, Atlantic salmon, European flounder, European eel, Atlantic herring and other coastal species. The total value of landings was EUR 1.1 million and 106 FTEs were supported in 2016 contributing 7% and 33% of the total income from landings generated and FTEs in the national fleet. The Gross profit and Net profit of EUR 0.758 million and EUR 0.731 million respectively were generated in 2016.

Drivers affecting the trends of the economic performance

Operational costs, including fuel prices

The operational costs for the Latvian fleet in 2016 were EUR 13.4 million amounting to 76% of revenue. In overall the operational cost structure stayed relatively stable between 2015 and 2016. The average operating costs per vessel in 2016 increased by 4% compared to 2015. The sharpest increase was observed for the other non-variable costs which increased by 52% in 2015 while the crew costs and fuel costs declined by 21% and 40%, respectively. The items with the largest cost in 2016 were other non-variable costs, wages and salaries of the crew and other variable costs contributed 37%, 20% and 17% respectively to the operational costs.

The average fuel price in 2016 was EUR 0.49 per litre and it was only EUR 0.01 per litre lower than in 2015. However, average fuel prices had decreased by 41% since 2013. The average energy costs per vessel declined by 39% between 2015 and 2016 whilst the average fuel consumed per vessel decreased by 38%.

Markets and Trade

The average price obtained for European sprat and Atlantic herring decreased by 8% and 15% respectively between 2008 and 2016 but the price of the Atlantic cod declined sharply by 29% during the same period. The low price for the Atlantic cod can be described with very low concentrations and poor catches as well as the decrease of the average price of the Atlantic cod in the international market what makes its fishery economically ineffective. Decline in the price of the Atlantic cod and poor catches were the main reasons for decommissioning of the segment netters VL2440 between 2015 and 2017.

The fishery sector in Latvia depends on the economic situation in the external markets as well as on the turnover of the fish processing enterprises. The most important buyers of fresh fish are fish processing enterprises in Latvia and in neighbouring countries. The main produced product types are fresh or frozen fish and prepared or canned fish. The total exported value of the production to the EU countries increased by 10% or EUR 16.7 million between 2015 and 2016 while exported volume of the production decreased by 6% or around 5.6 tonnes. The increase in export to the EU countries was observed by 21% or EUR 31.4 million from 2015 to 2016. The highest decline in turnover was observed with the 3rd world

countries where fish production export declined by 37% in value or EUR 14.7 million during the same period. The main reason was the negative impact because of the ban of the product trade by Russia. The export to the Russian Federation was completely discontinued in 2017.

The Lithuania ranked in the first place in terms of exported production value followed by Denmark and Estonia with the share of 20%, 16% and 15% respectively in 2016.

It is expected that the Brexit of the UK from the European Union will not have a direct disruptive effect on the fisheries in Latvia due to the low share around 2% annually in the total Latvian export, as well as in different operating areas for Latvian vessels.

Management instruments

The scrapping of seven vessels was implemented according to the "Action plan for 2015-2017 to reach the balance between the Latvian fishing fleet's capacity and the fish resources for fleet segment VL24-40 m netters targeting at Eastern Baltic Cod". The other two vessels which potentially may operate as netters for the economic analysis in AER 2018 have been included in the segments trawlers VL2440 metres. The vessels decommissioning scheme was finalised in 2017 and further reduction of the fleet is not planned.

The distant water fleet had significant changes between 2013 and 2016. Three vessels were sold and excluded from the Fleet Register between 2013 and 2015 and at the same time eight vessels with the average length around 60 metres were included in the Fleet Register. The main reason for the changes was unlimited fishery in NEAFC area and high stock for Queen crabs in the Barents Sea. 12 vessels from the 13 vessels registered in the Fleet Register for the fleet segment VL40XX were active in 2016. However, the Queen crabs' fishery was discontinued in 2017 and 9 from 13 vessels in the Fleet Register were inactive.

Latvia has one multilateral agreement for data sampling in CECAF area. Starting with 2012 the sampling of pelagic fishery has been performed on the basis of multi-lateral agreement between Germany, Latvia, Lithuania, the Netherlands and Poland by local observers.

TACs and quotas

The economic effectiveness of the Latvian fishing fleet is fully dependent on the quota received for the target species. The fishing quota for the European sprat remained approximately the same between 2017 and 2018 and was 36 289 tonnes. The quotas for the Atlantic herring in the Gulf of Riga decreased by 7% while in the central region of the Baltic Sea increased by 17% as compared to 2017. The fishing quota of the Atlantic herring in the Gulf of Riga and the central region of the Baltic Sea are 6 359 and 15 607 tonnes respectively in 2018. The fishing quotas for the Atlantic salmon in the Baltic Sea are 12 012 by the number of individual fish. The fishing quotas of the Atlantic cod in the western part of the Baltic Sea have remained the same, whereas the reduction in the eastern part is 8%. The fishing quotas of the Atlantic cod in the western and eastern part are 202 tonnes and 2 425 tonnes, respectively. Latvia fulfils the fishing quotas of the sprat and Baltic herring assigned thereto almost completely. The fishing quotas of the salmon are used in a very small-scale. However, the remaining salmon share is used in the international quotas for the exchange for sprat. The changes in quotas between 2017 and 2018 do not practically affect the fishing efficiency in 2018.

Improvements and Development

For the elaboration of the national Fisheries Policy the Integrated Control and Information System (ICIS) was developed and improved during 2015 and 2016. The ICIS is used for general management of fishing licences, control and enforcement of the fishing activities. The database contains information from the vessel electronic logbooks as well as includes information from the coastal logbooks for the SSCF. The new part of the database was developed for imputing the distant water fleet data. The first distant water fleet data was stored in the database for 2016. The development of the ICIS provides better collaboration between Latvian fishing fleet management institutions and improves work of the staff with the data base as well as simplifies the process of the data validation and allows to make cross checks and reports automatically.

Socioeconomic impacts

The changes which could affect the social situation in Latvia were connected to the decommissioning of the vessels between 2008 and 2017. Vessel scrapping between 2008 and 2017 as well as other structural changes in fleet segments had a positive impact on incomes and minimised the total costs resulting in an increase in profitability and overall improvement in the economic effectiveness of several fishing firms.

However, the changes in the fleet may have had impact on the employment in Latvian coastal regions and especially on the SSCF where the opportunities to find the job outside the fishery are low. The low salary and heavy working conditions also contribute to the outflow of labour abroad and force young people to choose other professions outside the fisheries.

The pilot study for the collection of the social data was started in 2017 and in the middle of 2018 it is planned to receive the results. 30% of companies operated in the fisheries are going to take part in the survey. The pilot study is going to be conducted in order to evaluate feasibility of the collection of social data for the variables: employment by gender, employment by age, employment by education level, nationality and employment by employment status. The results of the pilot study can provide data on employment variability. The collected social data could be used for the estimation of the number of employees' and overall analysis in the fishery sector. Furthermore, the received social data could be included into a subsequent forecast for the development of Latvian fishing fleet.

Projections for 2017 and outlook

MODEL FORECAST

Preliminary results for 2018 forecast a 10% increase in landed weight, matched by a 6% increase in landed value. Projections suggest operating costs decrease, most notably variable and non-variable costs which are estimated to decrease by 6% due to reduced fishing effort by 5%. In addition, the reduction in capital costs, fostered further economic performance improvements in 2017: GVA (+18%), gross profit (+23%) and net profit (+33%).

Results indicate that the Latvian fleet operated at a profit in 2017: with an estimated net profit of EUR 4.6 million and a margin of 25%. Positive economic developments can also be seen in performance indicators GVA to revenue (+6%), gross profit margin (+5%) and GVA per FTE, estimated at EUR 28.6 thousand in 2016 (+21%).

The fleet continuing operate with profit also in 2018. The increased landings (+6% compared to projected 2017 figures) and higher prices, resulting in an 14% increase in value. With fuel costs also increasing in 2018 (+18%), the fleet remains profitable with gross and net profit margins of 30% and 34%, respectively. However, the net indicators may be somewhat biased by negative estimated opportunity costs.

Projection suggests that Latvian fleet will keep the profit-making position in 2017 and 2018. However, the reliable economic data for 2017 will be received by questionnaires in 2018 and results provided in the current tables for 2017 and 2018 should be used with caution.

Data issues

All transversal data for 2008 to 2017 were obtained from the 'Integrated Control and Information System' for Latvian fisheries. The information system contains the logbook data and technical parameters of the fishing vessels from the Vessel Register. The data is reported on a monthly basis and covers all members of the Latvian fishing vessel population. All economic variables for 2008 to 2016 were received from the Central Statistical Bureau of Latvia (CSB) after completing the state statistical questionnaire form "1-Fisheries" and other statistical sources of economic information based on the annual balance sheet. Primary economic information from the state statistical questionnaire "1-Fisheries" was received annually from the owners of fishing firms. Economic data covers all the members of population. Despite that economic data collection is based on questionnaire forms, participation of the respondents is obligatory according to the Latvian legislation. The achieved sample rate was 100%.

The calculations were applied for FTEs, financial position and income from landings for 2008-2016 and were based on the data received from questionnaires and vessel logbooks.

The estimated values for the costs were used for 2015 and 2016. Restructuring of the costs between segments of the fleet was implemented for 2015 and 2016 in proportion relative to the value of landings. The main reason for restructuring the costs is the data collected from the companies which own vessels included in different segments. In some of such cases value and volume of landings precisely correspond to the segment but expenditures are attributed to the biggest segment.

The observed difference between 2010 and 2011 for the depreciated replacement value was caused by the necessary changes regarding data collection methodology implemented for more reliable data collection in 2010. The first data collected by the new approach was received for 2011. The data for 2008 and 2010 was imputed based on formulas for vessel scrapping. More reliable data for the depreciated replacement value was obtained by the questionnaire for 2011- 2016.

The data for the distant water fleet (segment VL40XX) operating in the Atlantic area 27 (NEAFC, NAFO) and area 34 (CECAF) was collected but have not been submitted due to different specificity of fishery and other reasons provided below:

– According to the requested format, the data should be separated by supra regions and fishing technique. There were three segments which operated in the Atlantic in 2016: VL40XX FPO NEAFC AREA 27 (8 vessels); VL40XX TM NEAFC AREA 27 (one vessel) and VL40XX TM CECAF AREA 34 (3 vessels). The economic data cannot be provided for an individual vessel or for the vessels belonging to different companies (four companies in 2016) to ensure data confidentiality. Only four vessels owned by two companies were active in 2017 (one vessel in the segment VL40XX TM NEAFC AREA 27 and three vessels in the segment VL40XX TM CECAF AREA 34).

– The data in some cases was aggregated for all regions where the country operated (the Baltic Sea and the Atlantic in the case of Latvia) and presented in the figures, tables and in some text paragraphs for the Annual Economic Report. In the case of Latvia some variables for the Atlantic region cannot be compared with the same variables for the Baltic Sea and the use for the economic analysis. The main reasons are:

o the variable 'trips' for the Atlantic not comparable with the Baltic Sea trips. The distant water vessels have long trips during the year. The Baltic Sea vessels have short trips during the year in most cases 1-2 days). In cases, when average values are calculated the results could represent incorrect average data about the activity of the fishing fleet;

o the variable 'Weight of landing' for Atlantic cod as well as other fish species cannot be comparable with the same variable for the Baltic Sea. The weight of landing for the Baltic Sea includes all landings reported in the vessel logbooks but for the Atlantic for the same variable the weight of catch from vessel logbooks should be used. According to the AER structure all fishing areas are aggregated in the totals for the country. The weight of landing aggregation for the Baltic Sea and Atlantic could cause a problem for the economic analysis at AER due to similar consistent values for the Baltic Sea landings and catches but different (by 33% in 2015) for the Atlantic. The main reason is activities on board of a distant water vessel when the vessel could keep the current catch on board and make landings for these catches later on. Another reason is the produced production on board when one share of the landing could be sold and other share of the catch used as raw material for the production. Also, current catches could be combined with the landing received from another vessel and later on landed not in the port but to another vessel. The data aggregation of the Baltic Sea landings and Atlantic catches could provide a misleading picture and uncertain results;

o the vessels VL40XX operated in the waters of the 3rd world countries can make their landings in EU and non-EU ports. The 'Income' and 'Costs' data is collected only for the EU countries but 'weight' and 'value of landings' for EU and also 3rd world countries. Due to that reason the Atlantic region 'Income' could be lower than the value of landings for the same region. If different values for the variables 'Value of landing' and 'Income' were submitted, it would make problems for the economic analysis in AER especially for the Gross Value Add and profit calculations.

Table 5.58 Latvia: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	858	814	771	407	356	351	365	329	332	323	250		1%	-38%
Number of Inactive vessels_ms	(#)				88	77	84	87	59	67	72			14%	-15%
Vessel tonnage	(thousand GT)	12.9	12.4	9.8	10.1	8.4	7.8	7.0	7.4	7.3	6.8			0%	-22%
Engine power	(thousand kW)	34.2	32.7	26.7	26.7	22.8	21.3	19.8	20.9	20.9	20.3			0%	-18%
Total employed	(person)	1,621	1,666	1,619	712	643	678	607	702	647	607	639		-8%	-37%
FTE	(#)	664	548	521	378	353	414	362	347	318	304	311		-8%	-29%
Days at sea	(thousand day)	44.2	48.0	43.6	19.6	19.5	19.4	19.2	18.3	18.1	17.2	17.6		-1%	-38%
Fishing days	(thousand day)	35.9	38.2	35.6	17.4	17.3	17.2	17.1	16.3	19.6	18.1			20%	-20%
Number of fishing trips	(thousand)	33	35	31	14	14	14	16	15	17				8%	-23%
Energy consumption	(million litre)	8.33	6.63	6.53	6.50	6.61	5.28	5.31	5.72	3.48	3.36	3.44		-39%	-45%
Live weight of landings	(thousand tonne)	86.47	78.46	74.02	63.12	57.47	60.85	59.16	62.08	59.96	66.95	70.03		-3%	-11%
Value of landings	(million €)	25.40	18.89	22.75	22.33	23.59	22.28	19.50	19.78	15.80	16.88	16.45		-20%	-28%
Income from landings	(million €)	25.40	18.89	22.75	22.33	23.59	22.28	19.50	19.78	15.80	16.88	16.45		-20%	-28%
Other income	(million €)	1.51	2.87	0.90	0.87	1.38	1.64	0.79	0.91	1.77	1.67	1.65		94%	30%
Direct income subsidies	(million €)	1.75	3.64	0.04	1.65	0.89	0.35	-	-	0.33					-69%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	4.49	3.46	3.45	3.39	3.86	4.24	3.06	3.60	2.83	3.16	2.95		-21%	-23%
Unpaid labour value	(million €)	0.08	0.07	0.05	0.02	0.02	0.01	0.05	0.22	0.14	0.13	0.14		-36%	115%
Energy costs	(million €)	4.82	3.71	3.70	4.30	4.94	4.37	3.40	2.86	1.70	1.69	1.94		-40%	-58%
Repair & maintenance costs	(million €)	1.04	0.90	0.90	0.95	1.39	1.14	1.04	1.11	0.99	0.93	0.92		-10%	-6%
Other variable costs	(million €)	2.57	2.51	2.91	2.71	3.76	4.25	3.42	2.61	2.44	2.34	2.40		-6%	-21%
Other non-variable costs	(million €)	2.92	2.62	3.84	4.35	6.36	6.00	5.23	2.75	5.27	4.89	4.79		91%	24%
Annual depreciation costs	(million €)	1.50	1.40	1.45	1.02	1.39	1.83	1.57	1.63	1.06	1.01	1.00		-35%	-28%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-					
Opportunity cost of capital	(million €)	- 5.19	5.11	5.73	0.22	0.24	0.34	0.16	0.08	0.05	- 0.21	- 0.12		-41%	-94%
Tangible asset value (replacement)	(million €)	67.6	58.2	49.0	13.4	10.7	10.0	9.0	10.9	11.0	10.3	10.1		2%	-61%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	0.3	0.3	0.4	0.4	0.5	0.7	0.8	0.2	0.4				70%	-10%
Financial position	(%)	0.01	0.01	0.02	0.05	0.13	0.15	0.25	0.12	0.4				208%	300%
Gross Value Added	(million €)	15.6	12.0	12.3	10.9	8.5	8.2	7.2	11.4	7.2	8.7	8.0		-37%	-33%
GVA to revenue	(%)	57.8	55.2	52.0	46.9	34.1	34.1	35.5	54.9	40.7	46.9	44.5		-26%	-12%
Gross profit	(million €)	11.0	8.5	8.8	7.5	4.6	3.9	4.1	7.5	4.2	5.4	5.0		-44%	-40%
Gross profit margin	(%)	40.8	39.0	37.2	32.2	18.6	16.3	20.2	36.4	23.8	29.2	27.4		-35%	-21%
Net profit	(million €)	14.7	2.0	1.6	6.2	3.0	1.7	2.4	5.8	3.1	4.6	4.1		-47%	-34%
Net profit margin	(%)	54.6	9.1	6.9	26.9	12.1	7.3	11.7	28.2	17.5	24.8	22.6		-38%	-11%
GVA per FTE (labour productivity)	(thousand €)	23.4	21.9	23.6	28.8	24.1	19.7	19.9	32.7	22.5	28.6	25.9		-31%	-7%
Return on fixed tangible assets	(%)	14.0	12.2	15.0	48.2	30.5	20.7	28.2	54.3	28.3	42.6	39.0		-48%	1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).
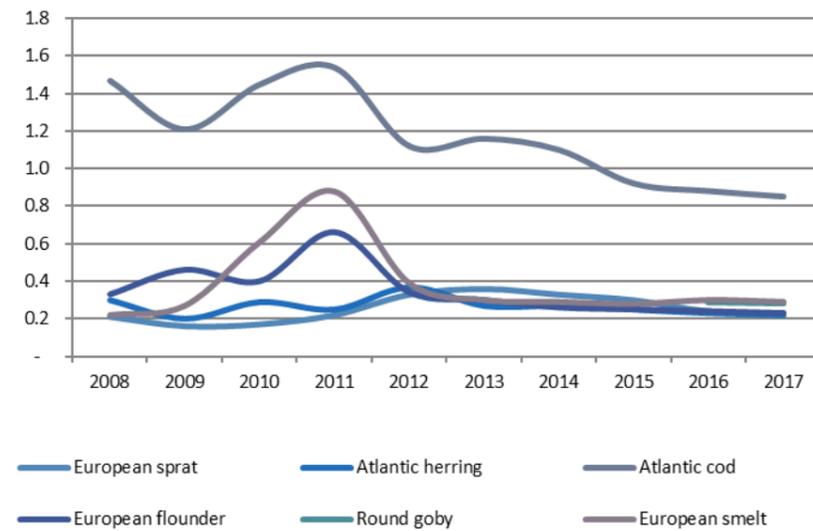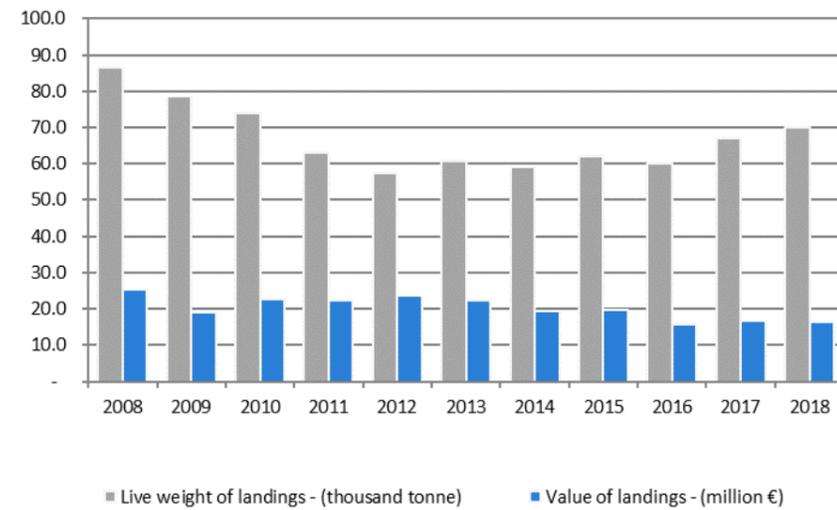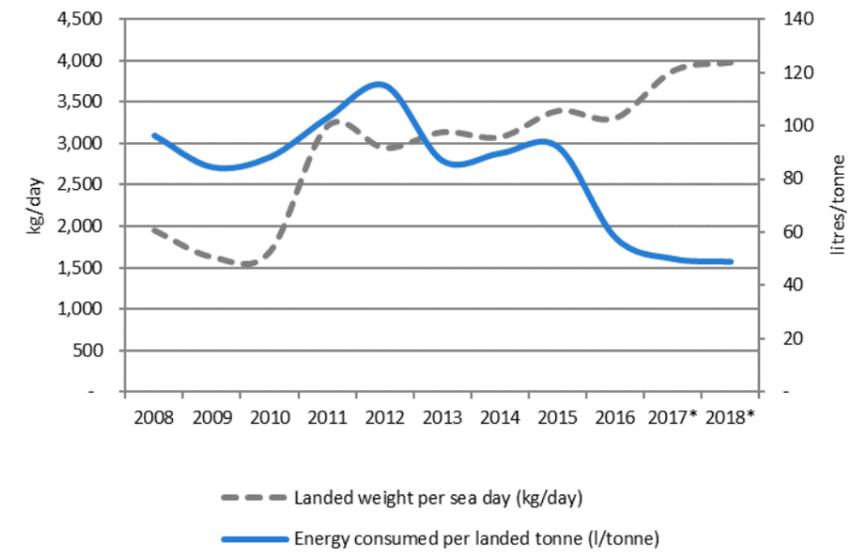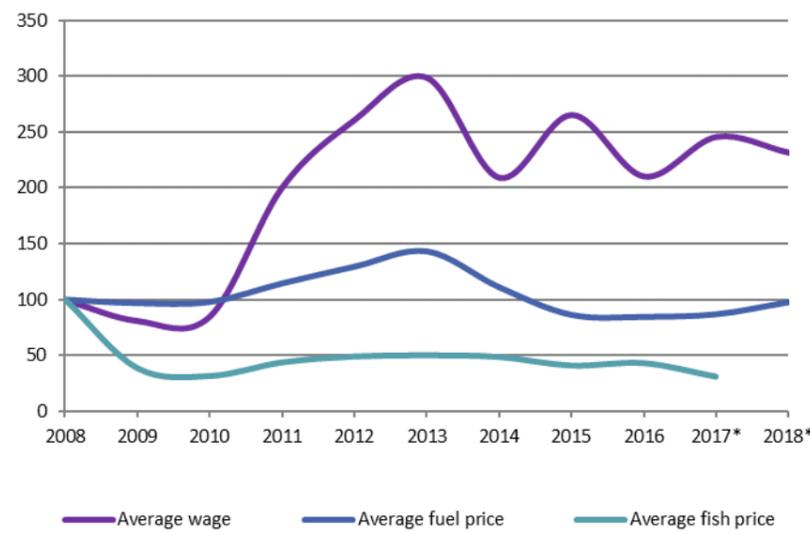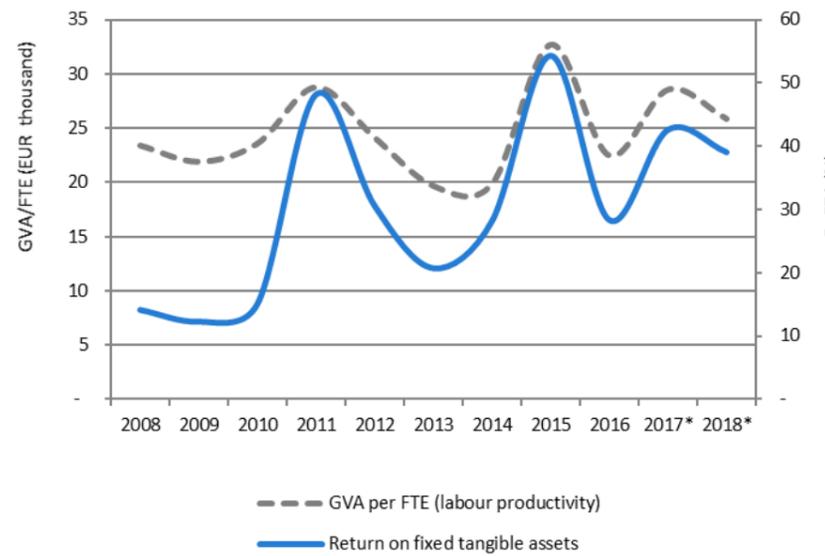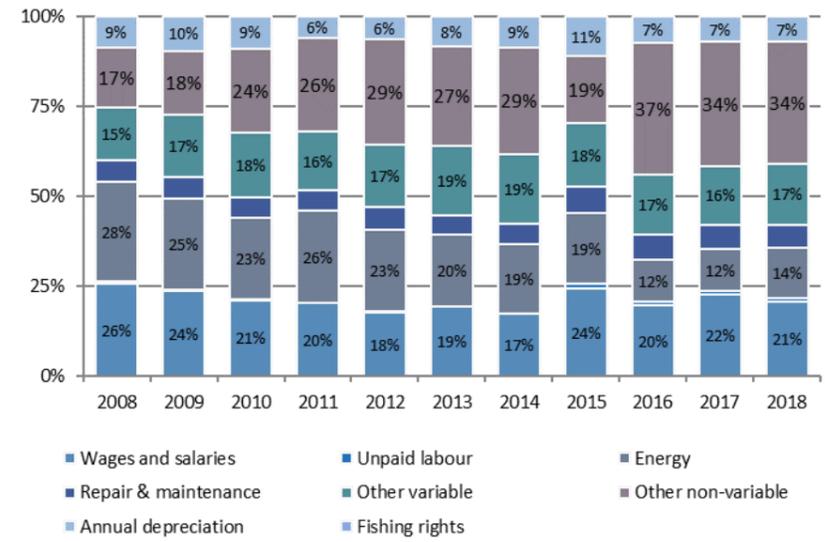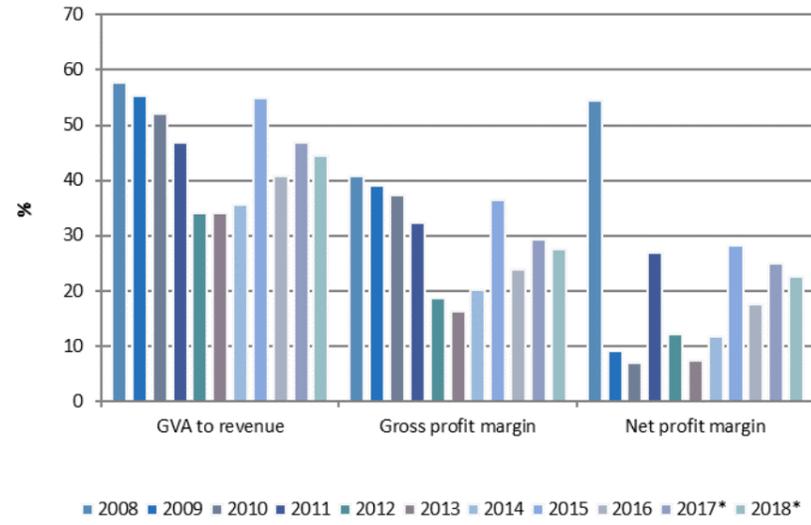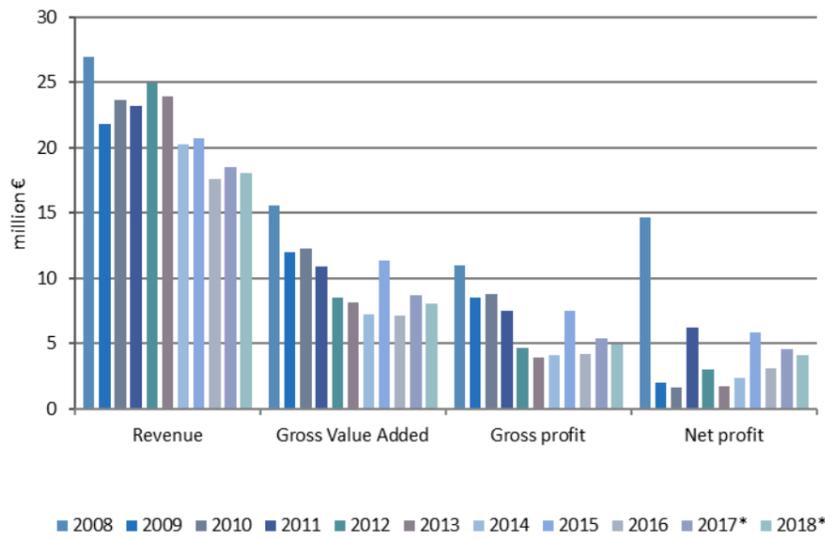
Figure 5.13 Latvia: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.59 Latvia: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	736	708	687	245	207	202	221	210	206	196	196		-2%	-49%	122	106	84	74	72	65	57	60	59	55	53.98		5%	-28%
Vessel tonnage	(thousand GT)	1.24	1.11	1.01	0.48	0.35	0.35	0.42	0.42	0.43	0.39			2%	-36%	12	11	9	8	8	7	6	7	7	6			6%	-22%
Engine power	(thousand kW)	7.25	6.52	5.91	2.80	2.19	2.16	2.63	2.81	2.73	2.47			-3%	-32%	27	26	21	19	20	19	17	17	17	17			5%	-18%
FTE	(#)	373	329	329	202	154	228	214	120	106	99	100		-12%	-56%	291	219	192	176	199	186	148	227	212	205.8	210.5		53%	13%
Total employed	(person)	992	1110	1175	321	258	325	301	315	256	244	256		-19%	-57%	629	556	444	391	385	353	306	387	391	363	383.2		26%	-12%
Days at sea	(thousand day)	30.4	37.3	34.2	10.8	10.9	11.3	12.8	10.6	10.8	10.1	20.5		2%	-45%	13.8	10.7	9.4	8.8	8.6	8.0	6.4	7.6	7.3	7.2	14.7		19%	-19%
Fishing days	(thousand day)	23.7	28.6	27.0	9.4	9.4	9.7	10.9	9.0	12.8	11.3			42%	-20%	12.2	9.6	8.5	8.1	8.0	7.5	6.3	7.3	6.7	6.8			16%	-16%
Number of fishing trips	(thousand)	22.9	27.0	24.3	7.5	7.4	7.6	10.0	9.1	10.8				19%	-25%	10.1	8.2	7.1	6.5	6.3	6.2	5.5	6.2	5.7				12%	-13%
Energy consumption	(million litre)	0.1	0.05	0.04	0.04	0.03	0.02	0.03	0.1	0.05	0.04	0.04		-25%	-4%	8.2	6.6	6.5	6.5	6.6	5.3	5.3	5.7	3.4	3.3	3.4		7%	-12%
Live weight of landings	(thousand tonne)	2.8	2.7	2.6	3.3	2.8	3.6	4.5	2.6	3.8	3.4	3.6		48%	22%	83.6	75.8	71.5	59.8	54.6	57.3	54.7	59.5	56.2	63.5	66.4		9%	-9%
Value of landings	(million €)	0.9	0.8	1.3	1.3	1.5	1.3	1.7	1.4	1.1	0.9	1.1		-26%	-17%	24.5	18.1	21.4	21.1	22.1	20.9	17.8	18.3	14.7	15.9	15.3		3%	-12%
Income from landings	(million €)	0.9	0.8	1.3	1.3	1.5	1.3	1.7	1.4	1.1	0.9	1.1		-26%	-16%	24.5	18.1	21.4	21.1	22.1	20.9	17.8	18.3	14.7	15.9	15.3		3%	-12%
Other income	(million €)	0.04	0.02	0.04	0.05	0.01	0.01	0	0.07	0	0	0		-99%	-98%	1.5	2.9	0.9	0.8	1.4	1.6	0.8	0.8	1.8	1.7	1.6		6%	-40%
Direct income subsidies	(million €)	0.00	0.17	0.00	0.11	0.03	0	0	0	0					-100%	1.7	3.5	0.0	1.5	0.9	0.4	0	0	0					-100%
Income from leasing fishing rights	(million €)	0	0	0	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0					
Wages and salaries of crew	(million €)	0.11	0.10	0.07	0.07	0.07	0.04	0.06	0.13	0.09	0.08	0.09		-36%	3%	4.4	3.4	3.4	3.3	3.8	4.2	3.0	3.5	2.7	3.1	2.9		16%	-4%
Unpaid labour value	(million €)	0.08	0.07	0.05	0.02	0.02	0.01	0.05	0.22	0.14	0.13	0.14		-36%	115%	0	0	0	0	0	0	0	0	0	0	0			
Energy costs	(million €)	0.06	0.03	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.03		-27%	-22%	4.8	3.7	3.7	4.3	4.9	4.3	3.4	2.8	1.7	1.7	1.9		-16%	-32%
Repair & maintenance costs	(million €)	0.06	0.02	0.00	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.00		-40%	-70%	1.0	0.9	0.9	0.9	1.4	1.1	1.0	1.1	1.0	0.9	0.9		6%	6%
Other variable costs	(million €)	0.04	0.04	0.14	0.05	0.04	0.03	0.03	0.06	0.06	0.05	0.05		-3%	3%	2.5	2.5	2.8	2.7	3.7	4.2	3.4	2.6	2.4	2.3	2.3		-25%	-18%
Other non-variable costs	(million €)	0.05	0.03	0.01	0.01	0.09	0.00	0.01	0.07	0.01	0.01	0.01		-91%	-80%	2.9	2.6	3.8	4.3	6.3	6.0	5.2	2.7	5.3	4.9	4.8		-49%	-40%
Annual depreciation costs	(million €)	0.03	0.03	0.01	0.04	0.03	0.02	0.02	0.02	0.03	0.03	0.03		8%	6%	1.5	1.4	1.4	1.0	1.4	1.8	1.5	1.6	1.0	1.0	1.0		4%	12%
Rights costs	(million €)	0	0	0	0	0	0	0	0	0						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Opportunity cost of capital	(million €)	-0.96	1.16	1.41	0.002	0.004	0.002	0.001	0.000	0.000	-0.002	-0.001		-24%	-100%	-4.2	3.9	4.3	0.2	0.2	0.3	0.2	0.1	0.0	-0.2	-0.1		-50%	-89%
Tangible asset value (replacement)	(million €)	12.50	13.26	12.11	0.13	0.19	0.04	0.07	0.06	0.09	0.08	0.08		31%	-98%	55.0	45.0	36.9	9.8	10.4	10.0	8.9	10.8	10.9	10.2	10.1		21%	-57%
Fishing rights	(million €)	0.00	0.00	0.00	0.00	0	0	0	0	0						0	0	0	0	0	0	0	0	0					
Investments	(million €)	0.01	0.00	0.01	0.02	0.01	0.01	0.02	0.03	0.0				-100%	-100%	0.3	0.3	0.3	0.4	0.5	0.7	0.8	0.2	0.1				-73%	-55%
Gross Value Added	(million €)	0.7	0.7	1.2	1.2	1.3	1.3	1.7	1.3	1.0	0.9	1.0		-27%	-17%	14.9	11.3	11.1	9.7	7.2	6.9	5.5	10.0	6.2	7.8	7.0		81%	5%
GVA to revenue	(%)	76.7	87.1	87.1	92.0	89.2	96.0	96.1	88.8	91.7	91.1	92.0		3%	3%	57.2	53.9	49.9	44.3	30.7	30.4	29.8	52.2	37.4	44.5	41.4		75%	23%
Gross profit	(million €)	0.5	0.6	1.1	1.1	1.2	1.2	1.6	1.0	0.8	0.7	0.8		-24%	-27%	10.5	7.9	7.7	6.4	3.4	2.7	2.5	6.5	3.4	4.8	4.2		159%	11%
Gross profit margin	(%)	55.2	67.9	78.9	84.8	82.6	91.6	89.9	65.5	70.7	69.5	71.1		8%	-8%	40.3	37.8	34.7	29.1	14.6	11.8	13.6	34.1	20.8	27.0	24.6		150%	31%
Net profit	(million €)	1.4	-0.6	-0.4	1.1	1.2	1.2	1.5	1.0	0.7	0.6	0.8		-24%	-9%	13.2	2.6	2.0	5.2	1.9	0.5	0.8	4.9	2.3	4.0	3.3		491%	30%
Net profit margin	(%)	158.8	-70.3	-26.0	81.5	79.9	90.1	88.8	63.8	68.2	66.9	68.8		7%	17%	50.9	12.4	8.9	23.9	7.9	2.4	4.4	25.4	14.2	22.6	19.6		472%	60%
Return on fixed tangible assets	(%)	3.7	4.2	8.8	831.7	622.0	2690.5	2320.1	1489.9	859.8	775.4	935.1		-42%	-14%	16.4	14.5	17.1	54.7	20.0	8.7	11.1	45.8	21.9	36.8	31.8		314%	125%
GVA per FTE (labour productivity)	(thousand €)	1.9	2.3	3.6	6.0	8.5	5.6	7.8	11.2	9.3	8.7	10.1		-17%	58%	51.1	51.5	57.9	55.0	36.3	36.9	37.3	44.1	29.1	38.1	33.4		1%	-22%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.60 Latvia: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
LVA A27 TM2440	48	176	5,662	60	48,466	12,913	14,068	5,161	36.7	2,908	20.7	2,317	16.47	12.8	29.3	27.9	Reasonable	-33%	Deteriorated	80%
LVA A27 TM1218	11	36	1,615	69	7,711	1,818	2,427	1,014	41.8	519	21.4	30	1.22	13.8	28.2	1.6	Weak	107%	Improved	14%
LVA A27 PGP0010	206	106	10,830	12	3,787	1,071	1,072	982	91.7	758	70.7	731	68.17	2.1	9.3	859.8	High	17%	Improved	6%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.61 Latvia: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
LVA A27 TM2440	44	162	5,209	49	54,134	13,757	14,818	6,597	44.5	4,125	27.8	3,771	25.45	15.3	40.7	46.6	High	80%
LVA A27 TM1218	11	44	1,967	69	9,402	2,184	2,794	1,246	44.6	633	22.7	204	7.29	14.0	28.4	6.2	Weak	15%
LVA A27 PGP0010	196	99	10,068	13	3,417	940	940	856	91.1	653	69.5	629	66.94	2.1	8.7	775.4	High	5%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.62 Latvia: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
European sprat	11.9	7.9	7.9	7.3	10.2	12.1	10.2	9.2	6.7	8.3	57.3	49.6	45.8	33.4	30.7	33.3	30.8	30.5	28.1	35.7	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	42.7%	46.9%
Atlantic herring	6.8	4.4	6.1	5.7	7.5	5.6	6.3	6.3	6.0	5.5	22.5	21.6	21.4	22.8	20.1	20.7	23.3	25.3	26.1	24.8	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.2	38.0%	43.5%
Atlantic cod	5.9	5.6	7.5	7.6	4.8	3.0	1.6	2.4	2.1	1.8	4.0	4.6	5.2	5.0	4.3	2.6	1.5	2.6	2.3	2.1	1.5	1.2	1.5	1.5	1.1	1.2	1.1	0.9	0.9	0.9	13.0%	3.9%
European flounder	0.2	0.2	0.1	0.2	0.2	0.4	0.5	0.5	0.5	0.4	0.7	0.5	0.3	0.3	0.6	1.5	1.8	2.1	1.9	1.6	0.3	0.5	0.4	0.7	0.3	0.3	0.3	0.3	0.2	0.2	2.9%	3.2%
Round goby									0.2	0.3									0.6	1.0									0.3	0.3	1.1%	1.0%
European smelt	0.4	0.5	0.7	1.3	0.6	0.8	0.4	0.3	0.2	0.4	1.8	2.0	1.1	1.5	1.5	2.5	1.5	1.1	0.6	1.2	0.2	0.3	0.6	0.9	0.4	0.3	0.3	0.3	0.3	0.3	1.1%	1.0%
Fourhorn sculpin									0.1	0.1									0.2	0.4									0.3	0.3	0.4%	0.3%
Eelpout	0.01	0.06	0.01	0.04	0.01	0.03	0.05	0.01	0.04	0.0	0.01	0.02	0.01	0.02	0.01	0.03	0.04	0.01	0.06	0.0	0.5	2.4	2.2	1.9	0.8	1.1	1.3	0.7	0.6	0.6	0.3%	0.1%
Vimba bream									0.0	0.0									0.0	0.0									1.1	1.1	0.2%	0.1%
European perch									0.0	0.0									0.0	0.0									0.9	0.9	0.1%	0.0%
																															99.7%	99.9%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.14 Lithuania

Short description of the national fleet

Fleet capacity

In 2016, Lithuanian fishing fleet consisted from 154 registered vessels and compare to 2015 it increased by 2% following with decline in 2017 to 150 vessels. The total combined gross tonnage and engine power in 2016 was 46.9 thousand GT and 53.9 thousand kW with annual decrease of 12.4% and 5.5%, respectively. Concerning capacity indicators for 2017, all positions further decreased following by 12% for GT and 9% for kW.

Fleet structure

The Lithuanian fishing fleet is represented by small-scale coastal fleet segments, fishing in coastal area of Baltic Sea (65.3% of number of active vessels, in terms of GT – 0.29%), large-scale fleet, operating in Baltic Sea (25.5% of number of active vessels, in terms of GT – 9.9%) and distant water fisheries fleet (9.2% of number of active vessels and in terms of GT 89.8%). SSCF is composed from two segments: coastal vessels under 10 m length (58 vessel), fishing with passive gears, vessels over 10 m (6 vessels) operating in coastal area including 24-40 m netters fishing in Baltic Sea (2 vessels). Large-scale fleet consists from two main segments operating in Baltic Sea: demersal trawlers 24-40 m (13 vessels) and pelagic trawlers 24m-<40 m (10 vessels). The distant water fleet was dominant in terms of landings and capacity and consists from three segments: demersal trawlers and/or demersal seiners 24m-<40 m (1 vessel), demersal trawlers and/or demersal seiners over 40 m (1 vessel), vessels using pots and/or traps over 40 m (2 vessels) and the largest segment pelagic trawlers over 40 m (5 vessels).

Employment

Employment figures for 2016 show further decline. Number of persons, employed by fishing fleet, decreased by 5.2%, compare to 2015. Total employment in 2016 was consisted from 607 jobs corresponding to 421 FTEs. Employment figures decreased in both positions, number of persons employed and especially FTE with the lowest value ever recorded. The largest decline was observed in the distant water fleet and small-scale fleet respectively corresponding to 18% and 14% annual decline.

Effort

In 2016, number of days at sea declined by 8.6% compare to 2015, whereas number of fishing days slightly increased by 5.2%. Energy consumption in 2016 increased by 22.4%, equally in large scale as well as in long distance fleet segments. Increase in energy consumption leaded by long distance fleet was related to significantly improved number of fishing days.

Production

Volume of landings for national fleet has significant annual fluctuation which mainly depends on long distance fleet performance. For example, in 2014-2015 period weight of landings declined by 43.8% to 82.2 thousand tonnes, but from 2015 to 2016 recovered by 24.5% to 102.4 thousand tonnes. In 2017 weight of landings again declined to 88.7 thousand tonnes. Distant water fleet in 2016 covered 81.3% of national total landed volume. Structure of landings in long distance fleet in terms of main species recently remains unchanged with the main volume coming from Atlantic horse mackerel (37.4% of total volume), followed by Chub mackerel (18% of total volume) and European sprat (11.3% of total volume). Value of landings of long distance fleet in 2016 increased by 46 % to EUR 83.7 million.

Concerning fisheries in Baltic Sea, in 2016 volume of landings increased by 5.4%. The main species landed from Baltic Sea in terms of volume was European sprat and Baltic herring accounting for 62.6% (11.5 thousand tonnes) and 27.5% (5.1 thousand tonnes) of total volume from this region respectively. Baltic cod covered 8.2% (1.5 thousand tonnes) of total volume of landings from Baltic Sea. Share of Baltic cod in landing structure showed a declining trend from 2010 to 2014 accounting for 19.3% and 7.1% of total volume from Baltic Sea, whereas from 2015 it slightly increased to around 9% and maintained this level till 2017. Value of landings from Baltic Sea increased by 15% in 2016 corresponding to EUR 5.1 million.

In 2016, dominant species in coastal area was round goby, accounting for 34% (228 tonnes) of total volume from small scale fisheries. This was first time when this invasive species was dominant in volume of landings in coastal fisheries. Baltic cod and European smelt shared 20.8% (140 tonnes) and 18.2%

(122.2 tonnes) of total landings from coastal area. Value of landings in small scale fleet improved by 18% to EUR 0.6 million.

Economic results for 2016 and recent trends

National fleet performance

As the economic indicators of the national fleet are strongly dependent on the activity of the distant water fleet fisheries, factors that affect the performance of other fleet segments have a minor impact at national level. Almost 91.5% of total national revenues were generated from the distant water fleet in 2016. Revenue increased by 18.8% compare to 2015. Taking into account long distance fleet segment dominance in national fleet, economic performance will be provided separately by each segment and fishing area in relevant further sections of the report.

The total amount of revenues in 2016, generated by the Lithuanian national fleet was EUR 69.9 million, with 18.8% increase compare to 2015. Total revenues consisted from 97.2% of fishing income and 2.8% of other income.

Total operating costs incurred by the Lithuanian national fleet in 2016 equated to EUR 63.5 million and were 12% lower compared to the previous year. The highest part of operational costs were variable costs and energy costs, 40.5% and 18.3%, respectively.

Gross value added (GVA) and gross profit generated by the Lithuanian national fleet in 2016 were EUR 16 million and EUR 6 million, respectively. Gross profit increased significantly as in 2015 gross losses were obtained.

Tangible asset value in 2016 decreased by 10% to EUR 120.5 million, investments increased to EUR 2.03 million.

Resource productivity and efficiency indicators

As national fleet in 2016 generated positive GVA, labour productivity improved significantly compare to 2015. GVA/FTE was EUR 37.0 thousand and recovered to highest productivity level since 2008, however in 2013 GVA/FTE was increased to EUR 36.6 thousand. Efficiency indicators are highly influenced by the distant water fleet performance, where GVA/FTE improved to EUR 50.8 thousand. Large scale fleet achieved EUR 18.2 thousand whereas small scale fleet EUR 9.9 thousand.

Return on fixed tangible assets (ROFTA) did not break even to positive returns and was -1%, however, compare to 2015, when it reached -16%, improvement is sufficient. The highest ROFTA was observed in large scale fleet operating in Baltic Sea with 5.9%. Long distance fleet and small-scale fleet incurred negative ROFTA, -1.8% and -0.5%, respectively.

Landings in weight per unit of effort (in fishing days) in 2016 increased by 18% compared to 2015. Improvement of Landings in weight per unit of effort was mainly from Baltic Sea fisheries especially from large scale fleet, pelagic trawlers corresponding to 11 thousand tonnes per fishing day (for the whole large-scale fleet). Long distance fleet slightly reduced efficiency to 43.8 thousand tonnes per fishing day (for the whole long-distance fleet).

Performance by fishing activity

Small-scale coastal fleet

Small-scale coastal fleet consists of vessels 0-10 m and another segment, with larger than 10 m coastal vessels using passive gears and due to confidentiality reasons, clustered with two vessels operating in Baltic Sea with drift and fixed nets. Due to the presence of clustered segment with larger vessels fishing with drifting nets, SSCF performance is not specifically representing small scale segment but rather the fleet fishing with passive gears. In 2016, fleet consisted of 66 vessels with 7% decrease compare to 2015. Effort, expressed in days at sea had a tendency to decrease and during 2015-2016 it declined by 10%. However, fishing days in the same period increased by 1%. Landing volume increased by 52%, mainly because of additional large-scale vessel fishing with drift nets included in this segment in 2016 which was operating in different segment in 2015. Economic indicators for this fleet are characterized by high annual volatility and strongly depends on the vessels larger than 12 m. In 2016, GVA increased by 39% to EUR 0.41 million, but 19% increase in crew wages and significantly increased annual depreciation costs had a negative impact on gross and net profit. Fleet employed 147 persons corresponding to 41 FTE. Number of persons employed and FTE declined 14% and 20% respectively, compare to 2015.

Large-scale fleets

Lithuanian large-scale fleet is consisting of two segments, with distinct characteristics and different economic performance. Large scale demersal trawler operates in Baltic Sea and targeting mainly Baltic cod, whereas large scale pelagic trawlers operates in the same area but are targeting Baltic herring and European sprat. Part of both segment also includes vessels exploiting mixed fisheries, when are able to use both demersal and pelagic gears depending on targeting stock and allocated fish quota. Number of vessels in large scale fleet remained unchanged in 2016 and was 23 vessels, corresponding to 3.7 thousand tonnes and 8 thousand kW. In 2016, large-scale fleet decreased effort by 8% in terms of fishing days and 19% in terms of days at sea. However, reduced effort was followed by 5% higher volume of landings resulting better efficiency or landings per unit effort. In relation to increase in the first sale prices, value of landings in large scale fleet improved by EUR 5.09 million. Concerning economic performance, in 2016 large scale fleet generated EUR 1 million of gross profit and EUR 0.4 million net profit with 7.4% net profit margin. Economic performance for overall large-scale fleet significantly improved compare to previous two years. However, positive returns from large-scale fisheries was achieved only in pelagic trawler segment, whereas demersal trawler segment is further declining in terms of profitability. For example, large scale pelagic trawlers in 2016 generated EUR 446 thousand net profit with 13.3% net profit margin, when demersal trawlers incurred EUR 61 thousand net loss with -3% net profit margin. In 2012 and 2013, demersal trawler segment had obtained nett loss around EUR 1 million, situation in 2016 still indicates unprofitable cod fisheries, but losses were slightly compensated by returns from catches of pelagic species in the vessels which use both pelagic and demersal trawlers but belongs to demersal trawler segment because of dominance of fishing effort for cod. In long term run, mostly influenced by pelagic fisheries profitability of large scale fleet shows recovery signs, when from 2011 constant decline of net profit with the lowest value in 2014 has recovered to positive returns. Operating costs in 2016 increased by 4%, major changes were in wages and salaries of crew which increased by 26% compare to 2015. Increase in wages was followed by national trend of growing of salaries. Increase in wages was slightly compensated by reduction of energy costs. In 2016, large-scale fleet employed 186 persons corresponding to 127 FTE with 1% and 12% annual increase, respectively.

Distant water fleet

In 2016, Lithuanian distant water fleet segment consisted from 9 vessels corresponding to 35.3 thousand tonnes of gross tonnage and 34 thousand kW engine power. In 2016 GT and kW of long distance fleet decreased by 26% and 22%, respectively. In 2015, capacity of this fleet was increased to the highest level since 2008. Current reduction was related to the sale of two vessels. With reduced capacity fleet showed higher effort by 8% increase in days at sea and 32% increase in fishing days resulting 29% growth of volume of landings to 83.27 thousand tonnes. Distant water fleet has characteristics of high annual variation of income and accordingly unstable profitability results. From 2008 capacity in terms of GT with moderate fluctuations is accounted around 40 thousand tonnes, whereas effort has a significantly high variance depending on either political or economic conditions, resulting in unstable profitability, however, since in the most years this long-distance fleet generates sufficiently high gross profit. Raise of capital in 2015 resulted in high capital related costs like depreciation costs, interest, opportunity costs of capital and etc which significantly reduced net profit. This affected also 2016 data and will likely have an effect on 2017 net profitability. In 2016 long distance fleet generated EUR 5 million gross profit and EUR -2.1 net loss. In 2016 economic efficiency in terms of GVA to revenue recovered to 20.1%, GVA/FTE increased to EUR 51 thousand and was slightly lower compare to 2013 when the highest level reaching EUR 54 thousand was achieved. Employment figures had a tendency to decline from 2014 and in 2016 reached the lowest level since 2008 corresponding to 274 total employees and 253 FTE.

Performance results of selected fleet segments

National fleet consists of five main segments, representing four type of fisheries, small-scale coastal fleet (two segments), demersal trawlers and pelagic trawlers operating in Baltic Sea and the distant water fleet. From the total fleet three main segments will be presented.

Passive Gears (PG) 00-10m – in 2016, total number of active vessels in this segment were 58 which operated entirely in coastal area of Baltic Sea with the passive gears. Compared to 2015 number of vessels decreased by 5%. The fleet targets a variety of species, in 2016 dominant was round goby, Baltic cod and European smelt. In 2016, revenue increased by 24% to EUR 0.44 million. The same tendency was observed for profitability indicators, gross profit for PG 00-10 segment increased by 27% to EUR 121 thousand, net profit increased to EUR 101 thousand with 22.5% net profit margin. In 2016, employment in this segment increased by 3% to 117 persons employed. Labour productivity improved by 35% to EUR 11.1 thousand GVA/FTE.

Demersal Trawlers and Seiners (DTS) 24-40 – in 2016, this segment consisted from 13 active vessels with 8% decrease from 2015. This fleet segment operates in Baltic Sea with demersal trawlers as the main gear. Fleet targeting mainly Baltic cod with main gear and pelagic species with second gear. In 2016 demersal trawler segment generated EUR 1.84 million revenue with 8% increase compare to 2015. Profitability of this segment constantly decreasing from 2013. Gross profit in 2016 declined by 33% to EUR 0.10 million, concerning net profit, segment incurred EUR -0.06 million net loss. Demersal trawler segment employed 110 persons corresponding to 85 FTEs.

Pelagic Trawlers (TM) 40XX, distant water fleet – In 2016, 9 vessels were fishing in distant waters. Lithuanian high sea vessels predominantly operating in CECAF (area 34) and some have efforts in NAFO and NEAFC. In terms of landings value, the distant water fleet were targeting mainly small pelagic species, such as Atlantic horse mackerel, Chilean jack mackerel and Chub mackerel. In 2016, revenue increased by 19% to EUR 64 million. The fleet generated EUR 5.46 million gross profit but a net loss of -EUR 3.3 million. This fleet was also the most important in terms of employment, providing 253 FTE in 2016. Compared to 2015 FTE decreased by 15%. Labour productivity increased to EUR 50.8 thousand.

Drivers affecting the economic performance trends

Markets and Trade

Lithuanian fishing fleet is much diversified concerning dependency on the market. Production form distant water fleet is sold in foreign markets, mostly in Mauritania, Morocco, Norway and Spain. In 2016 large-scale fleet operating in Baltic Sea landed around 8.5% of landings in national port, whereas in 2015 landings in Lithuanian port was 10% of volume. Around 91.5% of 2016 production was exported, predominantly in Denmark and was accounted for 63.5% of total Baltic Sea catches. Around 11% of total large-scale fleet production was landed in Latvia. Concerning market and trade by species, Baltic cod was landed predominantly in national Klaipėda port, corresponding to 71.6% of total Baltic cod catches. Landings of Baltic cod in national port significantly declined in 2017 and was accounted for 48% of total catches. In general, due to the recent deterioration of cod fisheries, supply of fresh cod to the market is unlikely increase. In 2016 cod prices form the vessel remained at the EUR 0.8 per kg level and in retail market it declined to EUR 2.79 per kg. In 2017 average retail price of Baltic cod in Lithuanian supermarkets was around EUR 2.6 kg, and EUR 2.7 kg in the first half of 2018. In 2016 around 49 thousand tonnes of Baltic cod were exported to Poland. Regarding small pelagic fisheries in Baltic Sea in 2016, around 62% of Baltic herring catches from Lithuanian fleet were landed in Denmark, 13.9% in Latvia, 11.5% in Estonia and 4% in national port. Concerning Baltic sprat market, 73.8% was landed in Denmark for reduction, 8.8% in Latvia and 8.6% in Estonia, whereas in Lithuania landings were negligible, accounting for 0.01%. In 2017 Baltic sprat exports structure slightly changed, moving part of volume to Sweden, around 10% of total sprat catches, consequently sales in in Estonia and Latvia decreased. Small-scale fleet operating in coastal area selling all production into internal market. Recent market distribution will likely remain unchanged in 2018.

Demand from processing industry is more important for large-scale pelagic trawlers fishing in Baltic Sea and the distant water fleet, which land production in foreign ports and mainly for the processing and for reduction. For processed sprat important market was Russia, which after trade embargo in 2014 significantly reduced demand for Baltic sprat in Riga processing plants which were destination point for pelagic species. Trade embargo also had influence on Baltic sprat prices. For example, Baltic sprat prices before the embargo in 2013 was EUR 0.33 kg, and in 2014 declined by 30% to EUR 0.23 kg. It further declined till 2015 and after recovery in 2016 dropped significantly to EUR 0.19 kg in 2017. Drop of sprat prices was influenced by market conditions in the landing ports. Increase supply of species for reduction in Denmark for example sand ell, resulted in the decline of price for sprat for reduction. According to preliminary results, in first half of 2018 Baltic sprat price recovered by 5% to EUR 0.2 kg. For long distance fleet the main species in terms of value were Atlantic horse mackerel (HOM), Chub mackerel (MAS) and European pilchard (PIL). Average first sale of HOM prices in 2016 was EUR 0.82 kg with 1.23% increase from 2015 and 3.65% growth in 2017, however average prices for MAS and PIL has a different trend. Average PIL price increased by 13.5% in 2016 and declined by 23.8% in 2017 to EUR 0.32 kg. MAS price increased in 2016 by 15.7% but decline in 2017 by 10% to EUR 0.59 kg.

SSCF landings of European smelt and Baltic cod are sold to local market for direct consumption with insignificant amounts coming for processing. Market for fresh European smelt, from which highly depends small-scale fisheries performance, during 2015-2016 performed quite well, as landings increased significantly and price at the retail market remained at high level indicating that demand for this species is growing. For example, average price at first sale in 2015 was EUR 1.55 per kg whereas retail average price in the local markets were EUR 3.9 per kg without VAT. In 2016, first sale price for European smelt increased to EUR 1.76 per kg, but retail price remained at EUR 3.9 per kg.

Management instruments (policy)

Since 2017 for Baltic Sea fisheries in Lithuanian system of transferable fishing concessions was introduced. Transfer of quota is based on historic catches, use of selective gears, and number of offenses committed and could be applied only to the economic entity which has a capacity, registered in Lithuanian Fleet Register.

Based on support measures from EMFF fund, foreseen in Lithuanian Fisheries Sector Operational Programme for 2014–2020, under Union Priority I in order to increase energy efficiency, fishing fleet companies have a possibility to modernize vessel engine. Collection of applications for this measure was started in 2017. Another currently applicable measure for fishing fleet is related with investments to the fishing gears to improve selectivity. From May of 2017 vessel owners also could apply for the EMFF funds concerning support to technological development, innovation, including energy efficiency. After enforcement of the landing obligations, vessel owners in 2017 have an open call for applications concerning processing and another use of bycatch. Coastal vessels from 2016 are using EMFF compensation for the damage caused by seals.

Starting in 2018 fishing enterprises have the possibility to apply for support for improving the organization of the market in fishery and aquaculture products. The measure supports activities aimed for the searching for new markets and improving conditions for the supply of fishery products, including species with marketing potential and supply from landing obligation. Furthermore, in 2018 collection of applications related to processing of products from fisheries was launched. The objective is to promote investment in the processing sector, to create new or improved products from fisheries and specifically from landing obligation, including products not for human consumption, new or improved marketing processes, or new or improved management and organization systems.

From 2018 measure to support partnership between fishers and researchers was launched. Aim of the support is to promote activities to foster knowledge-sharing between scientists and fishers in addressing relevant issues in the fishing industry as provided for in Article 28 of Regulation (EU) No 508/2014 - Applied research carried out under joint activity agreements.

TACs and quotas

In Mauritania and Morocco, the Lithuanian fleet operates under EU fishery partnership bilateral agreements with third countries and quotas are set for every fishing year. The new agreement with Mauritania came into force at the very end of 2015 and for each year 57.64 thousand tonnes of pelagic species were allocated to Lithuanian vessels. Agreement with Morocco is valid from mid of 2014 and 20.69 thousand tonnes are allocated. From historic point of view quotas in the most important fishing region for the Lithuanian distant water pelagic trawlers are constantly decreasing. For example, in 2008 quota for pelagic species in CECAF region in agreement with Mauritania, was 120.5 thousand tonnes. For 2016 and 2017, quotas in Mauritanian water remained unchanged – 57.6 thousand tonnes. In 2018 agreement with Morocco terminated and in 2018 July negotiation are planned.

In the Baltic Sea, Lithuania has quotas for cod, herring, sprat and salmon, while the most important species in terms of catches are cod, herring and sprat. Quotas for cod are constantly decreasing from 2014, when 4.1 thousand tonnes were available for landings. In 2016, annual Baltic cod quota decline was 20% to 2.6 thousand tonnes and further declined to 1.9 thousand tonnes in 2017 and further decreased to 1.7 thousand tonnes in 2018. The highest decline was for eastern cod, which is the main target species for Lithuanian demersal trawlers. In 2016, quota for Baltic herring increased by 8.6% to 5.2 thousand tonnes, but for Baltic sprat declined by 5.2% to 10.1 thousand tonnes. However, quotas for Baltic pelagic species significantly improved in 2017 and 2018. For example, in 2018 Baltic sprat quota increased to 13.1 thousand tonnes and Baltic herring to 6.7 thousand tonnes. Quota for salmon remained unchanged in 2016-2017 corresponding to 1.49 thousand stocks but declined by 5% in 2018.

Status of Key Stocks

For Baltic Sea fisheries, key stocks are Baltic cod, Baltic herring and Sprat. According to 2018 ICES advice on fishing opportunities, catch and effort in Baltic Sea ecoregion, ICES advises that when the precautionary approach is applied, catches in 2019 from the eastern Baltic cod stock is reduced by 36% (to 16.6 thousand tonnes) compare to 2017 advice (26.0 thousand tonnes). For example, in 2015 ICES advised eastern cod catches at 29.2 thousand tonnes. This advice applies to all catches from the stock in subdivisions 24–32. Such constant decline of eastern Baltic cod is pernicious to Lithuanian demersal fleet. Pelagic species in Baltic Sea are managed at sustainable MSY level.

Operational costs (external factors)

In 2016 depreciation cost of capital in long distance fleet declined to regular level of 11% in total cost structure after significant increase in 2015 when capital value was raised by 45% and interest for loans related to vessels as well as currency rate (EUR/USD) differences very significantly raised capital related costs. Variable costs were accounted for 38% and was the biggest cost item in total cost structure. Energy costs and fixed costs had 16% each in total costs. Energy costs further declined due to the downtrend of marine fuel price.

For large-scale fleet, operating in Baltic Sea, in 2016 the main operational cost was crew wages and salaries. Salaries increased by 26% compare to 2015. Growth of labour costs was observed also in other economic sectors at national level. Second largest costs incurred by large scale fleet was energy costs and was accounted for 20% of total costs. Compare to 2015 energy costs decreased by 13%. In total cost structure, expenditures on fuel and oil accounted for almost 25% and compare to 2014 decreased by 20%. In 2016 fuel prices were at the most favourable level since 2009. According to monthly marine gasoil prices (EUMOFA) it has a constant decline from EUR 0.87 per litre in 2012 to EUR 0.35 per litre in 2016. This tendency of fuel prices important driver in energy demanding large-scale trawler segments. However, even at this fuel price level, cod fisheries were not able to generate to positive returns. Important factor for large scale fleet performance was decrease in repair and maintenance cost. Compare to 2015 it declined by 12%.

Significant increase in salaries was observed also in small scale segments, where it improved by 19% compare to 2015. In small scale coastal fleet, fishing with passive gears, 50% of total costs were spent on salaries. Expenditures on energy products and other variable costs do not account for significant share and was 12% and 15%, respectively.

Socioeconomic impact

Significant growth of labour costs indicates positive development of socioeconomic environment in fisheries. Average wage per FTE in large scale fleet increased by 12.6% compare to 2015 and was accounted for EUR 11,2 thousand per year. In long distance fleet average wage per FTE in 2016 increased by 57% to EUR 29.2 thousand per year. In the coastal fleet below 10 metres length, average wage per FTE in 2016 increased by 36% to EUR 6.4 thousand per year. According to Lithuanian Statistics, average gross salary in I quarter of 2017 in Lithuania was EUR 818 per month (EUR 9.8 thousand per year) and compare to 2016 it increased by 9.3%. In the first quarter of 2018, average gross salary in Lithuania increased by 9.5% to EUR 895 per month (EUR 10.7 thousand per year). Constant increase in salaries at national level will likely affect fisheries as well and further growth of labour costs is expected in near term period.

One of the important socioeconomic criteria is the average age of fishers. Future expectations and business efficiency is closely related to the productive labour force. Different tendencies of age distribution among fishers was observed in separate segments. In 2016, the dominant age class in SSCF was 40-64 years old fishers and this class covered 47.7% of all small-scale employees, whereas 25-39 years old fishers were accounted for 46% of total employees. These two age groups have almost equal distribution of employees. In the large-scale fleet, operating in Baltic Sea the most dominant age class was 40-64 years old fishers and they accounted for almost 65% of total employees in this fleet, whereas 25-39 age group covered only 25%. The distant water fleet had a more proportional distribution of two most important age classes. Age class of 40-64 years represented 50% of total employees whereas 25-39 age class covered 42% of fishers in the distant water fleet.

In small scale fleet 72% of employees declared fishing as the main employment and 28% as secondary. Different situation was observed in large scale fleet operating in Baltic Sea, where 96% of employees indicated fisheries as main employment and only 4% as secondary employment. In long distance fleet 98% of employees working in fishing as main employment.

Projections for 2017 and outlook for 2018

Concerning outlook of economic performance of fleet in 2017 and 2018, increase of labour costs and recovery of fuel prices should be taken into account. Improved general economic situation and economic emigration is rising labour costs especially for qualified labour force. This tendency should be relevant also in fisheries sector, especially in large scale fleet. Increase of the fuel price in the end of 2017 from the lowest level reached at 2016 and continuous growth in 2018 will influence energy costs and have an impact on so already modest profitability.

One of the main drivers affecting economic performance of fleet is first sale fishery prices. For demersal fisheries in Baltic Sea, cod price from 2016 to 2018 has increasing trend. Following by the significant

decline in eastern Baltic cod stocks and consequently decreased quotas, first sale price for cod in 2017 increased by 19.2% to EUR 0.97 kg and in first half of 2018 average price further improved by 11%. However, current price is still significantly lower, compare to 2011, when average price for cod was EUR 1.24 kg. Furthermore, even with better cod prices and expectation level of increased operational costs for fuel and salaries as well as remaining high cost of vessel maintenance will unlikely bring cod fisheries to profitable level. Over the past several years, decreasing cod prices and volume of landings have led demersal trawler fleet to permanent loss-making fisheries. For example, in 2010-2015 average price for cod was constantly declining from EUR 1.24 kg in 2010 to EUR 0.8 kg in 2015. From 2016 average price slightly recovered by 2.5% to EUR 0.82 kg and showed further growth by 18.3% in 2017. In 2018, cod landings declined to record low levels and it indicates critical situation in demersal trawler fisheries for 2018-2019 period.

Increase supply with higher sprat and Baltic herring quotas, trending in lower first sale prices. The biggest drop in small pelagic first sale prices was after introduction of Russian trade embargo in 2014, which was important market for Baltic sprat. Lost market resulted in 30% drop of price, from EUR 0.33 kg to EUR 0.23 kg. In 2017, average first sale price for sprat declined to EUR 0.19 kg and further decreased to EUR 0.18 kg in first half of 2018. Increase supply in sand eel for reduction and sprat for reduction in fishmeal factories keep sprat prices at the relatively low EUR 0.2 kg price level and is unlikely to be improved in the second half of 2018.

Another important factor which has a negative impact of large scale fleet efficiency is constant decline of catch per unit effort (CPUE) for both, demersal and pelagic trawler segments. For example, CPUE in 2013 for large scale fleet in terms of landing weight per fishing day increased by 30% from 2013 to 2017.

Current status of average prices for small pelagic species, targeted by distant water fleet indicate good expectations as the average price of Atlantic horse mackerel (HOM) and chub mackerel (MAS), have increasing trend. These two species in 2016 amounted to 69% of total landing value for the long-distance fleet. In 2016, compared to 2015 HOM average price increased by 1% and according to preliminary data, in 2017 it increased by 4.7%. During 2015-2016 the average price for MAS increased by 15.8% and in 2017 further increased by 18%. Increase in the price for key species will rise income and taking into account relatively low energy product price, should improve profitability of long distance fleet in 2017. Economic performance of long distance fleet in 2018 could face some challenge from the increasing fuel prices and the conditions of new agreement between EU and Morocco, which is one of the major fishing area for Lithuanian long-distance fleet.

For the SSCF fleet, the situation in market will likely remain unchanged in 2018. Decline in cod stocks did not have an effect of economic performance of SSCF fleet. Value of landings of cod from 2015 to 2017 were constantly increasing after huge drop in 2014. Lost income from cod landings was compensated by increased revenues from European smelt in 2015 and 2016 and additionally from round goby in 2017. The coastal fleet will continue to receive compensation schemes for the damage, obtained by seals, compensation covers part of repairmen costs, when nets are damaged by water animals.

Data issues

Under DCF, revenues from landings reported from two distinct data sources (total value of landings as transversal variable and total income from landings as economic indicator). In Lithuania, income from landings together with other socio-economic indicators, such as expenditure, employment and capital value are collected through census with a one-year lag whereas transversal variables are collected one year prior to economic data.

Table 5.63 Lithuania: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	250	219	193	171	151	152	143	151	154	150	90		2%	-14%
Number of Inactive vessels_ms	(#)	125	95	89	68	47	55	46	46	56	59			22%	-22%
Vessel tonnage	(thousand GT)	61.0	50.5	49.3	46.0	45.0	44.0	48.5	53.6	47.0	41.3			-12%	-6%
Engine power	(thousand kW)	68.9	59.8	56.4	54.4	54.2	52.4	49.0	57.0	53.9	49.0			-6%	-5%
Total employed	(person)	1,046	712	706	768	732	763	750	691	607	591	585		-12%	-21%
FTE	(#)	617	544	512	574	566	491	573	463	421	399	400		-9%	-22%
Days at sea	(thousand day)	9.8	9.7	9.0	10.0	11.0	9.8	8.4	9.2	8.4	7.1	7.5		-9%	-12%
Fishing days	(thousand day)	7.7	7.9	7.5	8.1	8.8	8.7	6.8	7.2	7.6	6.2			5%	-4%
Number of fishing trips	(thousand)	4.7	5.2	5.1	4.7	3.7	3.7	4.0	2.9	4.5	4.0			56%	6%
Energy consumption	(million litre)	40.26	31.41	24.53	26.37	17.40	36.53	59.54	36.51	44.68	44.35	40.91		22%	31%
Live weight of landings	(thousand tonne)	180.84	209.15	108.13	114.54	58.04	89.72	146.41	82.25	102.38	88.68	86.43		24%	-17%
Value of landings	(million €)	96.14	156.81	76.95	76.69	40.61	64.33	95.29	62.43	89.39	58.72	53.29		43%	7%
Income from landings	(million €)	91.96	55.02	42.72	48.35	43.07	65.89	99.90	58.42	67.98	57.75	52.27		16%	8%
Other income	(million €)	0.26	6.22	3.31	0.44	0.68	0.53	0.44	0.41	1.92	1.85	1.65		366%	25%
Direct income subsidies	(million €)	0.01	-	0.11	0.27	0.01	0.00	0.03	0.03	0.02				-26%	-62%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	9.24	5.89	4.80	5.60	4.42	5.83	9.26	6.98	9.16	6.37	5.87		31%	41%
Unpaid labour value	(million €)	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01		-43%	-66%
Energy costs	(million €)	27.51	12.56	14.05	12.77	11.62	19.93	28.61	15.15	11.60	11.69	12.29		-23%	-35%
Repair & maintenance costs	(million €)	15.39	9.84	6.26	6.32	6.17	6.24	14.17	9.11	6.11	5.84	5.25		-33%	-34%
Other variable costs	(million €)	23.20	19.39	16.39	13.17	11.10	13.90	29.24	20.37	25.74	24.76	22.05		26%	40%
Other non-variable costs	(million €)	6.75	4.73	4.24	3.14	1.84	8.37	13.88	20.53	10.89	10.49	9.38		-47%	37%
Annual depreciation costs	(million €)	2.05	2.11	2.42	2.34	2.25	1.76	4.68	7.85	7.92	7.59	6.78		1%	149%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	- 3.09	5.22	2.37	0.57	0.81	1.12	2.45	2.76	0.27	- 3.50	- 2.41		-90%	-83%
Tangible asset value (replacement)	(million €)	62.58	55.54	54.84	56.16	51.40	43.26	95.04	134.39	120.49	107.07	95.62		-10%	74%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	0.54	0.14	22.04	20.86	1.23	0.28	5.80	0.00	2.03				113245%	-68%
Financial position	(%)	45.21	47.33	60.86	62.81	56.67	8.63	74.35	88.70	89.58				1%	61%
Gross Value Added	(million €)	19.37	14.72	5.09	13.39	13.01	17.98	14.44	- 6.33	15.57	6.83	4.95		346%	36%
GVA to revenue	(%)	21.00	24.03	11.06	27.44	29.74	27.07	14.39	- 10.76	22.28	11.45	9.19		307%	24%
Gross profit	(million €)	10.10	8.80	0.27	7.76	8.58	12.14	5.18	- 13.32	6.40	0.45	- 0.93		148%	30%
Gross profit margin	(%)	10.95	14.37	0.59	15.91	19.62	18.28	5.16	- 22.64	9.16	0.75	- 1.72		140%	18%
Net profit	(million €)	11.14	1.47	- 4.51	4.85	5.52	9.26	- 1.95	- 23.93	1.78	- 3.65	- 5.30		93%	-869%
Net profit margin	(%)	12.08	2.40	- 9.81	9.94	12.62	13.94	- 1.94	- 40.67	2.54	- 6.12	- 9.83		94%	-1318%
GVA per FTE (labour productivity)	(thousand €)	31.39	27.06	9.95	23.32	22.96	36.61	25.19	- 13.68	37.01	17.10	12.38		371%	82%
Return on fixed tangible assets	(%)	12.86	12.05	- 3.91	9.65	12.32	24.00	0.53	- 15.75	1.26	- 6.68	- 8.06		92%	-119%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
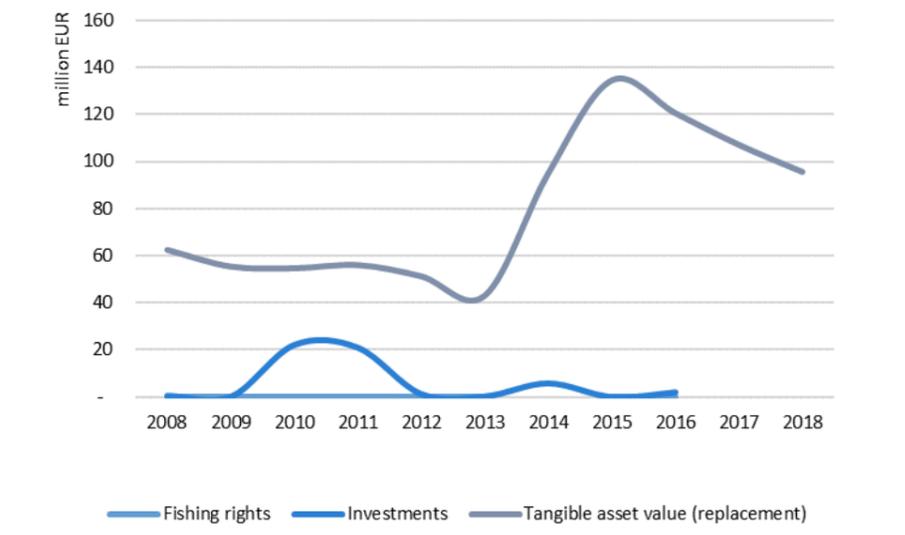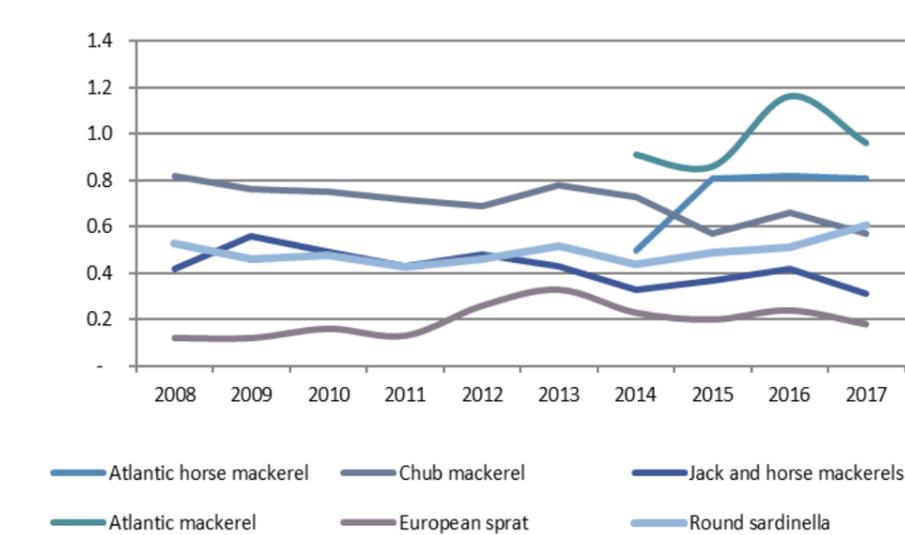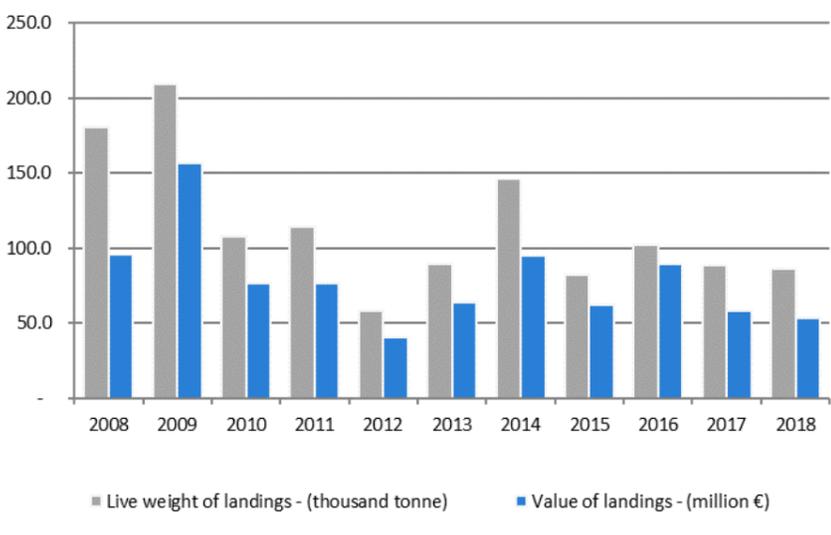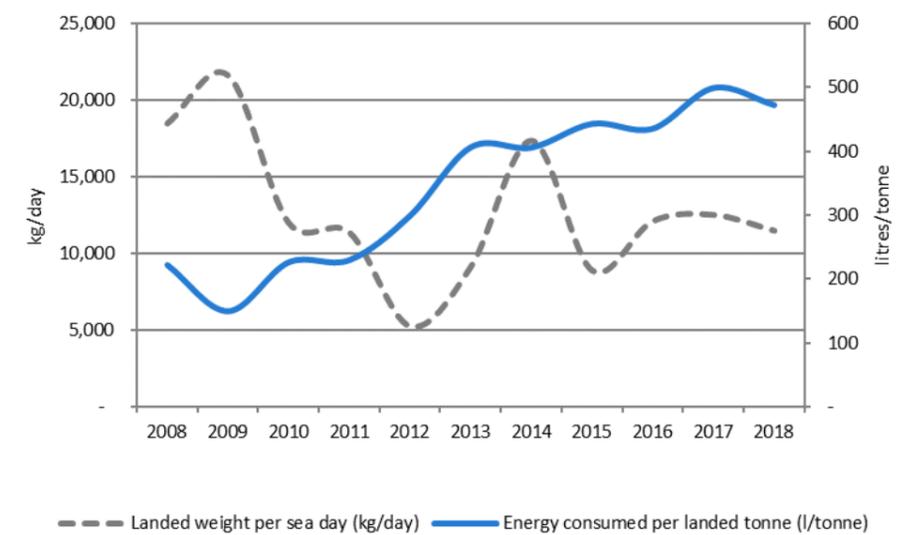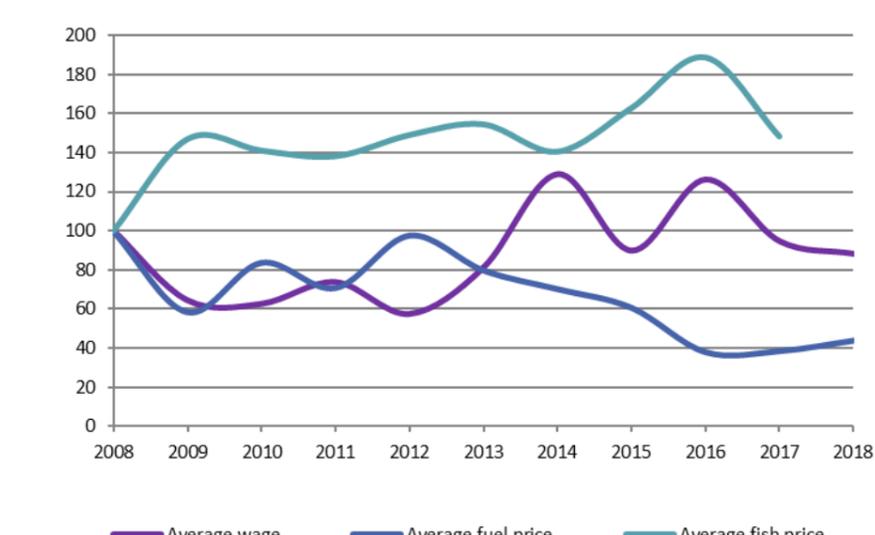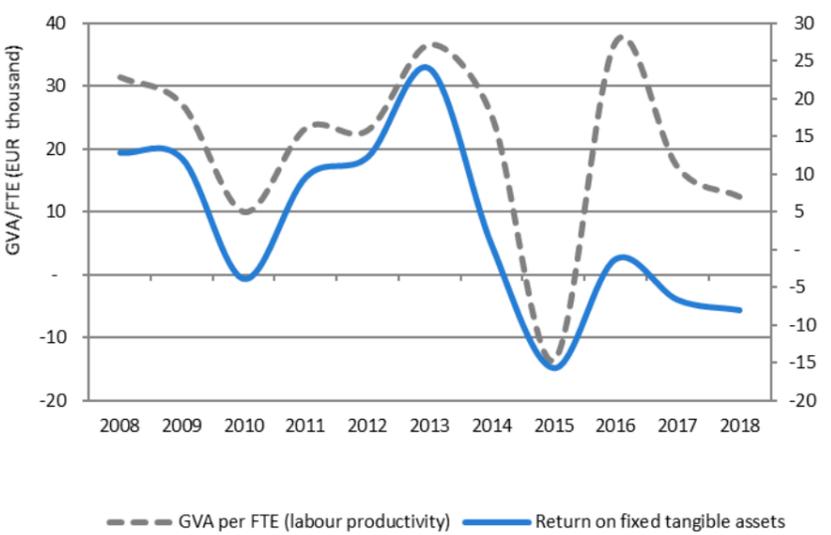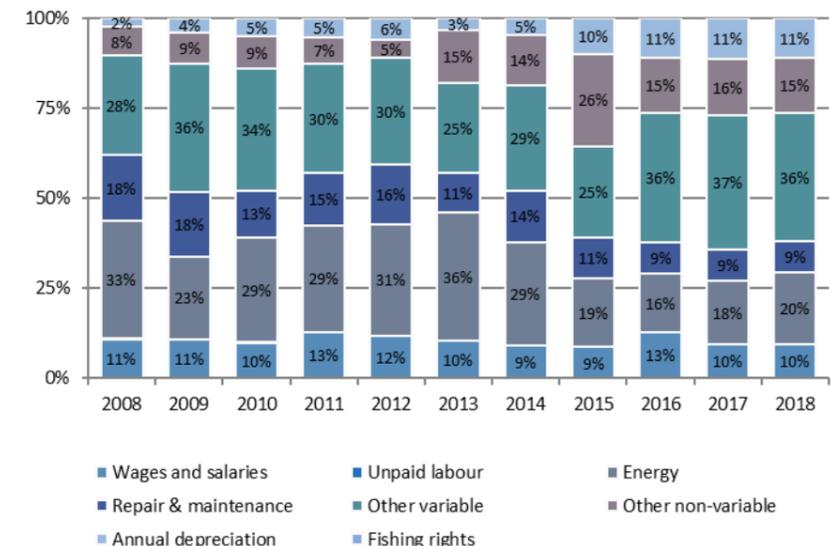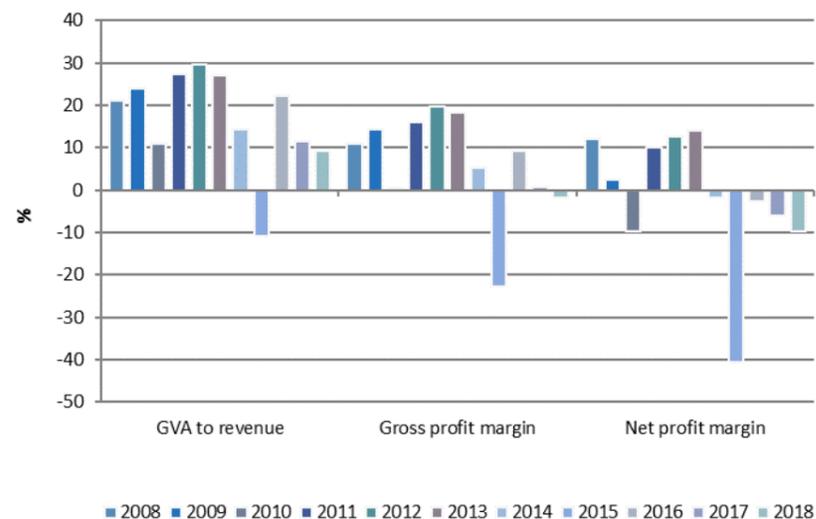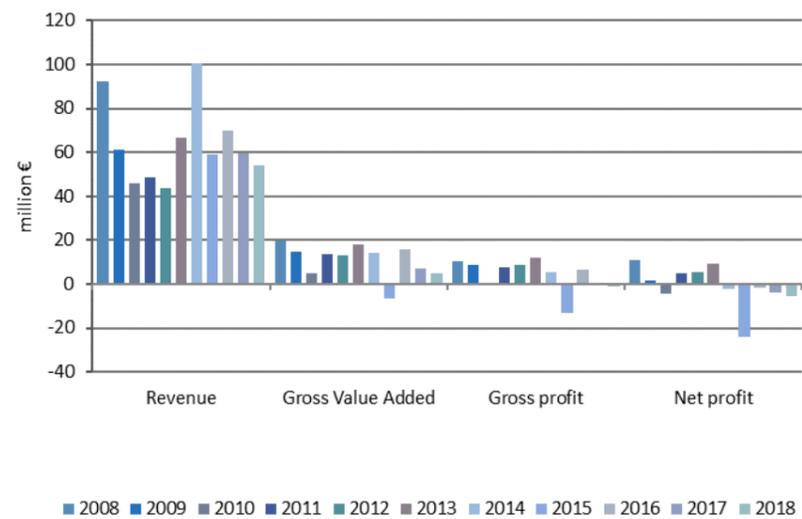
Figure 5.14 Lithuania: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital value (panel 3c). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.64 Lithuania: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	DWF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	89	91	74	69	69	65	64	71	66	63	62		-7%	-11%	24	22	22	24	25	25	24	23	23	22	23		0%	-3%	12	11	8	10	10	7	9	11	9	6	5		-18%	-8%
Vessel tonnage	(thousand GT)	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.3	0.3	0.3			-7%	-12%	3.5	3.3	3.2	3.4	3.5	3.8	3.7	3.6	3.7	3.9			3%	5%	39.5	38.7	36.5	39.7	38.8	30.9	42.2	47.9	35.3	29.4			-26%	-10%
Engine power	(thousand kW)	3	3	2	2	2	2	2	2	2	2	2		-5%	-2%	7	7	6	7	7	7	8	7	7	8	8		7%	8%	41	39	35	40	40	31	36	44	34	26			-22%	-10%
FTE	(#)	208	55	49	37	49	39	46	51	41	34	37		-20%	-39%	87	175	155	169	162	156	114	113	127	112	133		12%	-10%	322	314	308	368	356	296	413	298	253	253	230		-15%	-24%
Total employed	(person)	370	158	152	154	149	140	142	171	147	137	142		-14%	-18%	132	240	228	231	228	265	195	185	186	179	194		1%	-13%	544	314	326	383	355	358	413	335	274	274	249		-18%	-28%
Days at sea	(thousand day)	4.7	4.9	4.8	4.3	5.6	5.7	5.9	4.6	4.1	3.6	3.9		-10%	-18%	1.9	1.8	2.5	2.7	3.0	2.8	1.7	2.7	2.2	1.9	2.3		-19%	-9%	3.2	3.0	1.7	3.0	2.4	1.3	0.8	2.0	2.1	1.5	1.4		8%	-1%
Fishing days	(thousand day)	4.5	4.8	4.6	4.2	5.6	5.6	4.7	3.9	4.0	3.5			1%	-16%	1.5	1.5	1.6	2.3	2.0	1.9	1.5	1.8	1.7	1.4			-8%	-5%	1.7	1.7	1.3	1.6	1.2	1.2	0.7	1.4	1.9	1.3			32%	40%
Number of fishing trips	(thousand)	4.0	4.4	4.1	3.8	2.8	2.9	3.2	2.1	3.5	3.3			71%	4%	0.7	0.8	0.8	0.8	0.9	0.8	0.7	0.8	0.9	1			10%	10%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0			151%	26%
Energy consumption	(million litre)	0.25	0.21	0.19	0.17	0.20	0.12	0.14	0.15	0.16	0.11	0.13		3%	-12%	3.19	2.57	2.07	2.70	2.75	2.90	2.57	2.05	2.42	2.14	2.50		18%	-7%	36.8	28.6	22.3	23.5	14.5	33.5	56.8	34.3	42.1	42.1	38.3		23%	35%
Live weight of landings	(thousand tonne)	0.57	0.77	0.71	0.60	0.56	0.61	0.53	0.54	0.83	0.71	0.79		52%	35%	27.80	28.42	15.40	17.75	16.26	16.44	13.30	17.35	18.28	18.15	22.18		5%	-4%	152.5	180.0	92.0	96.2	41.2	72.7	132.6	64.3	83.3	69.8	63.5		29%	-20%
Value of landings	(million €)	0.75	0.81	0.82	0.62	0.57	0.60	0.47	0.53	0.63	0.66	0.63		18%	-3%	7.00	6.68	5.94	6.25	6.58	6.57	3.73	4.42	5.09	4.42	4.52		15%	-14%	88.4	149.3	70.2	69.8	33.5	57.2	91.1	57.5	83.7	53.6	48.1		46%	9%
Income from landings	(million €)	0.83	0.87	0.79	0.58	0.64	0.57	0.50	0.55	0.67	0.74	0.68		23%	1%	6.85	6.43	5.92	7.30	6.57	6.25	3.96	4.62	5.15	4.66	4.57		11%	-14%	84.3	47.7	36.0	40.5	35.9	59.1	95.4	53.2	62.2	52.3	47.0		17%	10%
Other income	(million €)	0.01	0.03	0.03	0.03	0.03	0.01	0.04	0.07	0.01	0.01	0.01		-82%	-59%	0.25	1.16	1.10	0.36	0.36	0.47	0.02	0.01	0.04	0.04	0.04		274%	-90%	0.0	5.0	2.2	0.1	0.3	0.0	0.4	0.3	1.9	1.8	1.6		458%	79%
Direct income subsidies	(million €)	0.01	-	0.08	-	0.01	0.00	0.03	0.03	0.02				-26%	7%	-	-	0.03	-	0.00	0.00	-	-	-	-	-				-	-	-	0.27	-	-	-	-	-	-	-			
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Wages and salaries of crew	(million €)	0.24	0.11	0.14	0.21	0.18	0.17	0.16	0.29	0.34	0.36	0.35		19%	83%	1.52	1.16	1.07	1.12	1.07	1.25	1.00	1.13	1.43	1.31	1.27		26%	22%	7.5	4.6	3.6	4.3	3.2	4.4	8.1	5.6	7.4	4.7	4.3		33%	44%
Unpaid labour value	(million €)	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01		-43%	-66%	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Energy costs	(million €)	0.18	0.08	0.12	0.14	0.15	0.10	0.09	0.09	0.08	0.07	0.08		-10%	-31%	1.30	1.00	1.17	1.80	1.99	1.90	1.55	1.10	0.95	0.86	1.14		-13%	-35%	26.0	11.5	12.8	10.8	9.5	17.9	27.0	14.0	10.6	10.8	11.1		-24%	-35%
Repair & maintenance costs	(million €)	0.07	0.03	0.08	0.07	0.03	0.02	0.06	0.05	0.03	0.03	0.03		-30%	-35%	0.77	0.57	0.72	1.18	0.72	1.00	0.40	0.72	0.63	0.57	0.59		-12%	-17%	14.6	9.2	5.5	5.1	5.4	5.2	13.7	8.3	5.4	5.2	4.6		-35%	-35%
Other variable costs	(million €)	0.13	0.18	0.17	0.06	0.05	0.04	0.06	0.13	0.10	0.08	0.09		-21%	-1%	1.96	2.12	1.49	0.91	0.80	1.36	1.05	0.60	0.63	0.56	0.65		6%	-51%	21.1	17.1	14.7	12.2	10.2	12.5	28.1	19.6	25.0	24.1	21.3		27%	47%
Other non-variable costs	(million €)	0.14	0.10	0.08	0.03	0.06	0.04	0.06	0.05	0.06	0.06	0.06		15%	-12%	1.31	1.43	1.68	1.06	0.75	0.78	0.69	0.61	0.67	0.64	0.66		10%	-36%	5.3	3.2	2.5	2.0	1.0	7.5	13.1	19.9	10.2	9.8	8.7		-49%	49%
Annual depreciation costs	(million €)	0.03	0.03	0.04	0.03	0.03	0.02	0.02	0.02	0.06	0.05	0.05		182%	128%	0.35	0.31	0.27	0.29	0.29	0.33	0.18	0.26	0.48	0.43	0.45		84%	67%	1.7	1.8	2.1	2.0	1.9	1.4	4.5	7.6	7.4	7.1	6.3		-3%	157%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	0.03	0.06	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01		-89%	-92%	0.35	0.59	0.26	0.07	0.10	0.18	0.13	0.10	0.02	0.20	0.16		-84%	-89%	1.8	3.6	1.9	0.5	0.7	0.8	2.2	2.6	0.2	3.3	2.2		-91%	-82%
Tangible asset value (replacement)	(million €)	0.6	0.6	0.8	0.6	0.5	0.3	0.3	0.5	0.5	0.4	0.3		1%	-11%	7.0	6.3	5.9	6.4	6.3	6.9	5.1	4.7	6.8	6.2	6.4		45%	12%	36.1	38.4	44.1	45.2	41.4	29.2	86.3	124.8	104.2	100.5	88.8		-16%	87%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Investments	(million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				52%	-98%	0.5	0.1	0.2	0.6	1.0	0.3	0.3	0.0	0.2				15337%	-37%	-	-	21.8	20.2	0.2	-	5.5	-	1.8					-70%
Gross Value Added	(million €)	0.3	0.5	0.4	0.3	0.4	0.4	0.3	0.3	0.4	0.5	0.4		39%	16%	1.8	2.5	2.0	2.7	2.7	1.7	0.3	1.6	2.3	2.1	1.6		43%	22%	17.3	11.7	2.8	10.4	10.0	15.9	13.9	8.2	12.9	4.2	2.9		256%	39%
GVA to revenue	(%)	39.9	57.1	44.2	48.6	54.9	64.5	48.8	47.6	59.1	68.7	62.5		24%	17%	24.7	32.4	28.0	35.4	38.5	24.9	7.2	34.9	44.4	44.1	34.1		27%	57%	20.5	22.3	7.3	25.6	27.6	26.9	14.5	15.4	20.1	7.8	6.1		231%	24%
Gross profit	(million €)	0.1	0.4	0.2	0.1	0.2	0.2	0.1	0.0	0.1	0.2	0.1		886%	-61%	0.2	1.3	0.9	1.6	1.6	0.4	-0.7	0.5	0.9	0.8	0.3		82%	21%	9.8	7.1	-0.8	6.1	6.8	11.5	5.8	-13.8	5.5	-0.5	-1.3		140%	34%
Gross profit margin	(%)	7.6	41.0	24.2	9.8	26.4	34.4	17.7	1.2	8.1	19.9	11.5		805%	-59%	3.3	17.1	12.7	20.7	23.0	6.3	-18.0	10.4	16.9	16.3	6.5		63%	79%	11.6	13.5	-2.1	15.1	18.8	19.5	6.0	-25.7	8.5	-0.9	-2.7		133%	20%
Net profit	(million €)	0.1	0.3	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.1	0.0		91%	-103%	0.2	0.4	0.4	1.2	1.2	-0.1	-1.0	0.1	0.4	0.5	0.0		208%	27%	9.9	1.8	-4.8	3.6	4.2	9.3	-0.9	-23.9	2.1	-4.3	-5.4		91%	-2087%
Net profit margin	(%)	7.6	31.6	15.7	4.0	21.4	29.9	13.4	6.0	0.5	15.1	6.3		92%	-103%	3.2	5.2	5.1	16.0	17.4	-1.2	-25.9	2.7	7.4	11.5	0.3		175%	163%	11.8	3.3	-12.6	9.0	11.7	15.8	-0.9	-44.6	3.7	-7.9	-11.0		92%	-301%
Return on fixed tangible assets	(%)	5.3	57.2	21.2	5.1	30.6	57.2	25.3	6.1	0.5	27.2	10.0		91%	-102%	1.6	15.7	10.4	20.0	20.6	1.5	-17.7	4.7	5.9	5.5	2.3		25%	-13%	22.6	14.0	-6.6	9.1	11.8	34.6	1.5	-17.1	1.8	-7.5	8.6		89%	-121%
GVA per FTE (labour productivity)	(thousand €)	1.6	9.4	7.3	8.0	7.5	9.5	5.7	5.7	9.9	15.1	11.6		73%	45%	20.2	14.0	12.6	16.0	16.4	10.8	2.5	14.2	18.2	18.5	11.8		28%	36%	53.7	37.4	9.0	28.2	28.1	53.8	33.6	-27.6	50.8	16.7	12.8		284%	88%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.65 Lithuania: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
LTU OFR TM40XX °	9	253	2,142	506	83,270	83,676	64,024	12,858	20.1	5,469	8.5	- 2,141	- 3.3	29.2	50.8	- 1.8	Weak	-301%	Deteriorated	91.6%
LTU A27 TM2440 °	10	42	832	108	13,476	3,271	3,354	1,561	46.5	778	23.2	446	13.3	18.6	37.2	10.4	Reasonable	-73%	Deteriorated	4.8%
LTU A27 DTS2440 °	13	85	1,330	201	4,809	1,819	1,836	746	40.6	101	5.5	- 61	- 3.3	7.6	8.8	- 2.3	Weak	109%	Improved	2.6%
LTU A27 PG0010	58	26	3,202	62	572	405	447	288	64.5	121	27.0	101	22.5	6.4	11.1	83.9	High	67%	Improved	0.6%
LTU A27 DFN1012 °	8	15	923	484	255	223	238	117	49.1	- 65	- 27.3	- 104	- 43.8	12.3	7.9	- 30.6	Weak	-386%	Deteriorated	0.3%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.66 Lithuania: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
LTU OFR TM40XX °	6	253	1,519	603	69,817	53,636	55,435	5,520	10.0	818	1.5	- 3,012	- 5.4	18.6	21.8	- 6	Weak	91.0%
LTU A27 TM2440 °	8	37	737	87	14,818	2,711	2,902	1,359	46.8	682	23.5	539	18.6	18.2	36.5	12	Reasonable	4.8%
LTU A27 DTS2440 °	14	75	1,173	255	3,336	1,706	1,802	717	39.8	85	4.7	1	0.1	8.4	9.6	- 3	Weak	3.0%
LTU A27 PG0010	57	25	3,042	67	503	470	539	385	71.3	182	33.7	166	30.8	8.2	15.5	136	High	0.9%
LTU A27 DFN1012 °	6	10	593	384	206	194	217	135	62.1	- 31	- 14.4	- 52	- 23.9	17.4	14.2	- 24	Weak	0.4%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.67 Lithuania: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Atlantic horse macker	1.8						0.1	19.7	31.6	17.6	2.7						0.1	24.2	38.8	21.6	0.7						0.5	0.8	0.8	0.8	35%	38%
Northern prawn	1.7		0.3	1.6	1.5	1.0		4.2	22.8	8.4	1.2		0.2	0.8	0.7	0.4		0.7	0.9	2.8	1.5		1.8	2.1	2.1	2.3		6.2	24.6	3.0	26%	1%
Chub mackerel	12.8	13.0	5.0	7.6	2.8	9.4	13.8	6.9	12.1	11.9	15.6	17.2	6.7	10.6	4.1	12.0	18.9	12.2	18.4	21.0	0.8	0.8	0.8	0.7	0.7	0.8	0.7	0.6	0.7	0.6	14%	18%
European pilchard(=Sa	4.0	4.5	5.2	9.3	1.9	1.0	3.9	1.3	4.2	0.0	9.6	8.1	10.6	21.9	4.0	2.2	11.6	3.4	10.0	0.1	0.4	0.6	0.5	0.4	0.5	0.4	0.3	0.4	0.4	0.3	5%	10%
Atlantic mackerel		0.0		0.0			8.6	0.5	2.9	-		0.1		0.0			9.4	0.6	2.5	-		0.2		1.0			0.9	0.9	1.2	1.0	3%	2%
European sprat	2.9	2.3	1.7	1.3	2.9	3.4	2.2	2.2	2.8	2.3	23.3	19.9	10.2	9.7	11.3	10.4	9.7	11.0	11.6	12.5	0.1	0.1	0.2	0.1	0.3	0.3	0.2	0.2	0.2	0.2	3%	11%
Round sardinella	11.5	6.7	6.7	13.8	5.4	4.4	10.0	0.4	2.2	0.4	21.6	14.5	14.0	31.9	11.8	8.5	22.7	0.9	4.3	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.6	2%	4%
Beaked redfish	2.3			3.9	1.9	2.4	2.1	2.1	2.5		1.4			1.0	1.4	0.8	0.5	1.0	1.7	1.6				3.7	1.4	3.1	4.0	2.2	1.5		2%	1%
Jack and horse macker	2.0	0.4	0.4	0.8	1.6		2.9	5.2	1.7		3.0	4.0	2.5	1.0	1.9		4.8	6.2	2.6		0.7	0.1	0.2	0.9	0.9		0.6	0.8	0.6		2%	3%
Tanner crabs nei								4.6	1.4									1.2	0.3									3.8	4.7		2%	0%
																															94%	88%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.15 Malta

Short description of the national fleet

Fleet capacity

During 2017, the Maltese fishing fleet consisted of 935 registered vessels, 244 of which were inactive, having a combined gross tonnage of 6.4 thousand GT, engine power of 70.1 thousand kW and an average age of 29 years. The vast majority of the inactive vessels are below 12 meters. In 2017, 79 vessels ceased their fishing activities, also 691 vessels where active in 2017 compared to the 731 recorded in 2016. The Maltese Fishing Vessel Register (FVR) did not open for new registrations during 2017, though registrations were accepted for recreational vessels. The overall capacity of the Maltese fishing fleet has been showing a declining trend since 2008, with the number of vessels falling by 8% between 2008 and 2016; the fishing capacity, in terms of GT and kW decreased by 19% and 8% respectively, for the same period.

Fleet structure

The Maltese fishery is a relatively small industry of a typically Mediterranean artisanal type, and is frequently described as a multi-species and multi-gear fishery, with the majority of the fishers switching from one gear to another several times throughout the year. The vast majority of the Maltese fishing fleet is composed of small-scale fishing vessels (93% in 2017) with an engine power of 51.4 thousand kW and a combined gross tonnage of 2.1 GT.

The total number of fishing enterprises in the Maltese fleet was 764 in 2017, 9.5% less than in 2016 (884 enterprises). The majority of fishing enterprises in 2017, 82.7%, owned a single vessel, 17% of enterprises owned two to five fishing vessels while only 0.3% of the fishing enterprises owned six or more fishing vessels.

Employment

Employment has been increasing since 2012, though in 2016 although employment is 4% higher than the 8-year average, it has decreased to 1 262 jobs, a 14% decrease from 2015. This corresponds to 774 FTEs or an average of 1.1 FTE per vessel. 66.4% of the total jobs were employed with the small-scale fishing vessels. This implies that the small-scale fishing sector is of fundamental importance to the social and economic aspects of the Maltese Fishing Fleet. It is important to note that employment in 2016 decreased in both SCF and LSF, by 13% and 15% respectively, from 2015. The average age of the fishers within the whole fleet is 45 years old.

Effort

The Maltese fleet spent a total of around 20.3 thousand days at sea in 2017, 19.2 thousand of which were fishing days. The total number of days at sea and fishing days decreased by 12% and 8% between 2016 and 2017, respectively. However, the total number of days at sea has decreased by 42% since 2008.

The quantity of fuel consumed in 2016 totalled around 4.21 million litres. Although the days at sea and number of trips have decreased by 7% and 9%, respectively, between 2015 and 2016, the fuel consumption increased since 2015. Due to a relatively high increase in fuel consumption, by 14%, fuel costs consequently increased although only by 5% due to low prices of fuel. In fact, the average price per litre of fuel has decreased by 7% from 2015 to 2016.

Production

The total weight landed by the Maltese fleet in 2017 was 2.3 thousand tonnes of seafood, with a landed value of EUR 11 million, a 12% increase on 2016. The average weight of landings has also increased during the period analysed.

The main exploited species include swordfish (*Xiphias gladius*), common dolphinfish (*Coryphaena hippurus*), Atlantic bluefin tuna (T*hunnus thynnus)*, demersal and small pelagic species and a number of additional species some of which although caught in smaller quantities have a high commercial value such as the red shrimps.

In 2017, swordfish catches produced the highest landed value (EUR 2.55 million) by the national fleet and representing 29% of the total value of landings, followed by Atlantic bluefin tuna (EUR 2.41 million),

common dolphinfish (EUR 1.15 million) and silver scabbardfish (EUR 0.70 million). In terms of landings weight, swordfish landings amounted to 390 tonnes, Atlantic bluefin tuna to 260 tonnes, and common dolphinfish to 240 tonnes.

Where in 2016 the prices of some of the key species such as swordfish, Atlantic bluefin tuna, giant red shrimp, red porgy, red scorpionfish had dropped, in 2017 all these species have increased in price. Conversely key species such as the common dolphinfish, silver scabbard fish and surmullet all dropped in price. Since most of the key species have increased in price the overall economic performance of the Maltese fleet for 2017 should improve.

Red porgy achieved the highest average price per kilo in 2017 (EUR 16.55 per kg), followed by giant red shrimp (EUR 16.38 per kg). Atlantic bluefin tuna, giant red shrimp, red scorpionfish, red porgy and surmullet attain the highest prices amongst all species landed by the Maltese fishing fleet.

Economic results for 2016 and recent trends

National fleet performance

Although the Maltese national fleet remained in a net loss making position in 2016. 2016's economic performance deteriorated from 2015 although the trend is expected to improve further in 2017, as fuel prices are expected to remain low, the average landed prices of the key species remained relatively high, and the total value of landings has increased.

The total amount of income generated by the Maltese national fleet in 2016 was around EUR 10.4 million, a decrease of 17% due to an 15% decrease in the total value of landings and a 34% decrease in other income (EUR 0.58 million). When including direct income subsidies and income from fishing rights, total income amounted to EUR 11.5 million.

The operating costs in 2016 amounted to EUR 10.6 million. Crew cost, capital costs and energy costs were the three major cost items (EUR 4.4 million, EUR 2.4 million, and EUR 2.3 million respectively). However, EUR 3 million of crew costs were estimated for the unpaid labour which remained in the hands of the fishers as working capital. Between 2015 and 2016, the operating costs increased by 2.6% due to higher energy costs and unpaid labour costs. The Maltese fleet recorded a net loss of -EUR 2.6 million in 2016.

In terms of economic performance, the total amount of gross value added (GVA), gross profit and net profit in 2016 were estimated at EUR 4.2 million, -EUR 0.2 million and -EUR 2.6 million, respectively. Between 2015 and 2016, the GVA decreased by 29%, gross profit decreased by 109% and net loss increased by 199%. This indicates that the economic situation of the Maltese fishing fleet is weak and has deteriorated from the previous year's improvements. This decline is mainly driven due to decreases in the value of landings and increases in energy and labour costs.

In 2016, the Maltese fishing fleet had an estimated (depreciated) replacement value of EUR 50.5 million and investments amounted to EUR 0.9 million, a 16% reduction on 2015. Although investment is showing a declining trend in both SCF and LSF, investment is declining more sharply for LSF than SCF.

Resource productivity and efficiency indicators

In 2016, the gross profit margin was -1.93%, a decrease of 111% when compared to previous year. This indicates a decline in the operating efficiency levels for the sector. This is also seen in the net profit margin for 2016 which was increased to -25% from -7% (2015).

The Rate of Return on Fixed Tangible Assets (RoFTA) was -5.2%, in 2016, shows a decline when compare to to the previous year. On the other hand, the labour productivity (GVA/FTE) has decreased by 20% between 2015 and 2016. This drop in labour productivity is driven from the fact that both GVA and FTE have decreased in 2016 from 2015.

Fuel consumption per landed tonne has followed an overall decreasing trend since 2008. In 2016, it is estimated at an average of 1.8 thousand litres per tonne landed. This is a standard consumption for a typical fishing vessel in the Mediterranean. Fuel efficiency has also increased by 24% from 2015.

Landings in weight per unit of effort (in days at sea) followed an increasing trend since 2008. In 2016, such indicator reported an increase of 2% when compared to 2015. It is important to note that days at sea decreased by 7% between 2015 and 2016, at the same time live weight of landings decreased by 6%, a relatively small decrease. This implies that between the 2015 and 2016 the Maltese fishing fleet operation has become more efficient.

Performance by fishing activity

Small-scale coastal fleet

In 2017, there were 629 active vessels belonging to the "small-scale coastal fleet" according to the European definition (defined as vessels less than 12 metres and not using towed gear as listed in table 3 in Annex 1 of Commission Regulation (EC) No 26/2004 of 30 December 2003). This represents 91% of the active vessels or 67% of the whole Maltese fishing fleet.

Fisheries in Malta are a relatively small industry where its social significance far outweighs its economic importance. It is in fact a traditional activity which operates on a small-scale, producing small volumes of a very valuable product. The industry is mainly artisanal and it is considered as a typical fisheries found in many Mediterranean countries. The majority of the small-scale fishing vessels conduct their coastal activities on a seasonal basis. There are no inland fisheries in Malta.

The Maltese national fishing fleet is mainly divided into two categories: The professional full-time fishing vessels and the part-time fishing vessels. 44% of the small-scale fishing vessels work on a full time basis in the fishing industry whilst 56% fish on a part time basis.

In 2016, 78% (986 employees) of the total 1,262 employed in the Maltese fishing industry worked on small-scale fishing vessels. This corresponds to 514 FTEs. In 2016, there was 13% decrease in the total jobs of the small-scale fishing vessels. The small-scale fishing sector has an overall increasing trend in jobs for the period analysed. However, there have been constant fluctuations in the crew costs across the years due to unpaid labour. In 2016, wages amounted to EUR 610 thousand while the unpaid labour cost amounted to EUR 2.26 million. The vast majority of the employees in the small-scale fishing are the owners themselves with no employees. Others have their families and friends who voluntarily help them during a fishing trip.

The landings value of the small-scale fishery decreased by 10% from 2015 to 2016 but increased by 3% in 2016 when compared to the previous year. In terms of profitability, in 2016, the economic performance of the small-scale fishery has deteriorated since it registered a gross loss of EUR 1.6 million in 2016 from a gross loss of EUR 0.6 million in 2015. Similar trend was followed for the net profit as it registered a net loss of EUR 2.3 million in 2016, a 32% increase from 2015, which registered a net loss of EUR 1.7 million in 2015.

In 2016, the economic performance, in terms of profitability, of the SCF vessels (-EUR 2.3 millions) was worse than the large-scale fishing vessels who reported a net loss of EUR 0.4 million, although it must be noted that marginally the LSF vessels' profitability deteriorated more than the SCF fleet, as LSF's net profit decreased by 139% when compared to the 32% increase in net loss for SSF. Furthermore, the LSF had a gross profit of EUR 1.0 million while the SCF vessels recorded a gross loss of EUR 1.6 million. The GVA of SCF was EUR 1.4 million while for LSF it was EUR 2.9 million. Both fishing activities have shown signs of deterioration due to the decline in live weight and the value of landings.

Large-scale fleet

The large-scale fishing vessels that were active during 2017 amounted to 62. This represents 9% of the active Maltese fishing vessels. All large-scale fishing vessels work on a full time basis in the fishing industry.

In 2016, 22% of the total jobs (276 employees) in the Maltese fishing industry worked with the large-scale fishing vessels. This corresponds to 259 FTEs. In 2016, there was 15% decrease in the total jobs of the large-scale fishing vessels. The large-scale fishing sector has an overall increasing trend in jobs since 2008.

The landings value of the large-scale fishing vessels decreased by 18% between 2015 and 2016 but increased by 18% in 2017. In 2017 the revenue of this segment contributed to 68% to total revenue. In 2016, the large-scale fishery reported a net loss of EUR 0.4 million. In terms of profitability, Gross Value Added (GVA) and gross profit decreased by 35% and 54%, respectively, between 2015 and 2016.

These results indicate that the economic performance of the large-scale fishery took a hit when compared to the improvements recorded in 2015 as LSF in 2016 have recorded lower revenues and gross profits and net losses.

Performance results of selected fleet segments

The Maltese fishing fleet is highly diversified with a broad range of vessel types targeting different species in the Mediterranean. The national fleet consisted of 21 active (DCF) fleet segments in 2016 and 5

inactive fleet segments consisting of 283 vessels. These vessels are classed as inactive if they did not land any catch in 2016. Unfortunately, not all data was provided for one of the active segments (PS2440).

Out of eleven large-scale fishing segments, five generated a net profit during 2016. On the other hand, out of ten small-scale fishing segments, only one segment made a net profit during 2016. This means that six of the active fleet segments made a net profit in 2016 whereas the remaining fourteen made an overall loss. This shows that the economic performance of all the active fleet segments of the small-scale fishery (except for one segment) is very weak. Further analysis on the performance of the fleet segments of the small-scale fishery is provided below.

Vessels using other active gears 06-12m – 14 vessels made up this segment in 2016, which operates predominantly in the Mediterranean. This segment employed 39 jobs corresponding to 30 FTEs during the same period. The fleet targets mainly common dolphinfish (*Coryphaena hippurus*) by using fish aggregating devices (FADs). In 2016, the total value of landings was about EUR 0.32 million; the segment generated 3% of the fleet's total revenue. In the same year, this segment generated a net profit of EUR 0.03 million or an average net profit of EUR 2 306 per vessel, this is a 137% increase in profits over the previous year's net loss. Such profits were mainly generated due to a decrease of 27% and 23% in energy consumed per day at sea and energy consumed per landed tonne, respectively and a 26% increase in the overall weight of landings. Another driver that helped in improved the economic performance of this segments was that the average landed value of the common dolphin fish increased by 28%. This improvement shows reasonable profitability, but most importantly an improving economic performance for this segment. Such improvement was mainly due to an overall reduction in the operating costs and an overall increase in revenues. For 2017, the average landed value of common dolphinfish decreased by 14%.

Vessels using active and passive gears 06-12m- 121 vessels made up this segment in 2016, which operates predominantly in the Mediterranean. This segment employed 231 jobs which are equivalent to 162 FTE during the same period. This fleet segment targets several species, mainly common dolphinfish (*Coryphaena hippurus*) and swordfish (*Xiphias gladius*) by using fish aggregating devices (FADs), and drifting long-lines (LLD), respectively. In 2016, the total value of landings was about EUR 0.95 million and generated a net loss of EUR 0.6 million or EUR 5 275.14 per vessel. The net loss for this segment decreased by 10% from 2015 to 2016, showing an improvement in the economic performance. Such improvement was mainly due to an overall increase in the revenue. However, the losses were mainly generated due to an increase of 35% and 15% in energy consumed per day at sea and energy consumed per landed tonne, respectively. Net loss decreased as there was an increase of 21% in the average income from landings, due to the increase in average landed price of Common dolphinfish (*Coryphaena hippurus*) and swordfish (*Xiphias gladius*) from 2015 to 2016. The segment is still in a weak position in terms of profitability, although its economic performance is improving. For 2017, the average landed value of common dolphinfish decreased by 14% whereas that of the swordfish increased by 5%.

Vessels using polyvalent passive gears only 06-12m- 141 vessels made up this segment in 2016, which operates predominantly in the Mediterranean and represents 21% of the small-scale fishery in Malta. This segment employed 211 jobs which are equivalent to 113 FTE during the same period. This fleet segment uses different metiers. In 2016, the net profit, gross profit and gross value added followed a deterioration trend. They amounted for -EUR 0.6 million, -EUR 0.5 million and EUR 0.08 million, respectively. Since the number of vessels in the segment decreased, the value of landings and weight of landings decreased by 14% and 17%, respectively. On the other hand, energy consumed per day at sea and per landed income has also increased by 14% and 13%, respectively. This resulted in a weak yet improving economic performance for 2016.

A short description of two important segments in terms of total value of landings is provided below.

Vessels using hooks 18–24m – 19 vessels made up this segment in 2016, which operates predominantly in the Mediterranean. This segment employed 88 jobs which are equivalent to 88 FTE during the same period. The fleet targets a variety of species mainly by using surface and bottom long-liners. Surface long-liners target mainly large pelagic species such as Atlantic bluefin tuna (*Thunnus, thynnus*), swordfish (*Xiphias gladius*), and common dolphinfish (*Coryphaena hippurus*) while bottom long-liners target demersal species such as bluntnose sixgill shark (*Hexanchus griseus*), red scorpion fish (*Scorpaena scrofa*), silver scabbardfish (*Lepidopus caudatus*) species amongst others. In 2016, the total value of landings was about EUR 2.08 million. After a net profit of EUR 0.4 million in 2014, this segment reported a net loss of EUR 0.08 million in 2015, this declining trend continued in 2016 as the segment recorded EUR 0.68 million as net loss. The main reason for such losses were due to an increase in energy costs, other variable cost (excluding energy costs and repairs and maintenance costs), and repairs and maintenance cost. Further to a 12% increase in total costs, in 2016 from 2015 the value of landings also decreased while the landings weight remained relatively the same. Although the average landed price of the Common dolphinfish, silver scabbardfish and swordfish increased, the efficiency of

the segment decreased, this can be noted from the increase in days at sea, the energy consumed per landed tonne and from the 19% decline in landings value per day at sea.

Demersal trawlers 18-24m – 6 vessels make up this segment in 2016, which operates predominantly in the Mediterranean. This segment employed 27 jobs/FTE in 2016. The fleet targets a variety of species but in particular demersal and deep water species, such as deep water rose shrimp (*Parapenaeus longirostris*), giant red shrimp (*Aristeomorpha foliacea*) and red mullets (*Mullus spp.*). In 2016, the total value of landings was about EUR 0.90 million. This fleet segment did not remain profitable from 2015 to 2016, with a reported gross profit of around EUR 0.34 million (-33%)and a net loss of EUR 0.04 million. This indicates weak profitability for 2016 although still there is an improved economic development trend. The main driver behind this deterioration in profitability was the fall in revenues, caused by a 27% fall in value of landings.

Drivers affecting the economic performance trends

Between 2015 and 2016, there was a decline in the value of landings by 15% while there was an increase in labour costs and energy costs. These facts were the main driving sources behind the overall decline in the economic performance between 2015 and 2016. The decrease revenue by 17%, and the increase in labour costs and energy costs by 17% and 6% respectively led to some particular segments to report a weak economic performance. Posit profitability position are present only in the large-scale fishery, profitability in SCF is still weak. Although most segments, in both LSF and SCF, are showing and improving economic performance trend.

Markets and Trade (including fish price)

Fishing in Malta is mainly a traditional artisanal activity which operates on a small-scale. The majority of the fish landed is sold in the local market. In recent years, the status of the fish stock has reduced which led to a general increase in prices for some of the key species. In 2015 Malta consumed 31.5kg per capita, the fifth largest domestic market for seafood per capita in the EU (25% over the EU average). This advancement could have been the result of a local publicity campaign which aimed at educating consumers, increasing consumer awareness, and diversifying national consumption patterns. Such campaign was co-financed by the European Fisheries Fund (EFF).

Atlantic bluefin tuna, giant red shrimp, red scorpionfish, red porgy and surmullet attain the highest prices amongst all species landed by the Maltese fishing fleet. This is due to the fact that these species are characterised by a high demand both locally and abroad. In the latter case the main export markets for Giant red shrimp is in Europe while Japan is the main export market for Atlantic bluefin tuna.

Management instruments and regulation (policy)

Currently there are three management plans in place within the 25nM FMZ. These were developed in line with Article 19 of Council Regulation 1967/2006 and include: lampara purse seine fishery, bottom otter trawler fishery and lampuki FAD fisheries. The main objectives of management plans are to ensure the sustainability of stocks through better monitoring and to ensure financial stability for fishers.

Lampara fishery targets mainly small pelagic species, including chub mackerel (*Scomber japonicus*) and round sardinella (*Sardinella aurita*). The objectives of the lampara fishery management plan are to ensure that stocks are fished at sustainable levels, ensuring financial stability for fishers and safeguarding artisanal fishing activity. Following this management plan, the lampara vessel activities are monitored by a tracking system and catch logbooks and the fishing capacity in terms of GT and dimensions of the gear is frozen. In addition, the lampara management plans established that an implementation of a 20% reduction, in line with the precautionary approach, on the current lampara capacity in terms of number of vessels is to be carried out until the end of 2015. This action was then extended up until 2017.

The bottom otter trawl fishery main targets are shared stocks including red shrimps (*Aristaeomorpha foliacea*), red mullets (*Mullus s*pp.) and deep water rose shrimp (*Parapenaeus longirostris*). The status of the latter stock together with that of European hake (*Merluccius merluccius*) is monitored annually at a regional level. The statuses of both stocks are in overexploitation. This management plan target to aid in the recovery of the stocks whilst at the same time ensuring economic returns and financial stability of fishers. The plan implemented a 20% capacity reduction, together with a temporal reduction in effort of 10%, via a one month cessation (closed season), up until the end of 2017.

The lampuki fish aggregating device (FAD) fishery targets juvenile species of *Coryphaena hippurus*. Lampuki is a highly migratory species and stocks are shared between diverse Mediterranean countries. The management plan for this fishery affects Maltese fishing fleet licensed to fish for the lampuki using FADs inside and outside the 25nM FMZ. The number of fishing vessels authorised to fish in the FAD

fishery are frozen at 130 vessels. Following this management plan, the activities of all these vessels are monitored by means of tracking system and catch logbook. Moreover, the management plan stated that the Department of Fisheries and Aquaculture will continue to enhance data collection and research on the stock. This policy tool is expected to be reviewed in 2018.

The multiannual management plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSA12 to 16) targets:

- Exploitation at MSY for the species in discussion by 2020;
- protection of nursery areas and essential fish habitats important for the stocks of species in discussion in the strait of Sicily;
- gradual elimination of discards, by avoiding and reducing unwanted catches and ensuring that catches are landed;
- implementation of measures to adjust fishing capacity of fleets to levels of fishing mortalities consistent with the MSY, whilst maintaining economic sustainability of fleets without overexploiting marine biological resources.

The plan establishes that up until three years; target fishing mortality rates to be achieved and maintained by 2020 and onwards, fisheries restricted areas in three areas if the Strait of Sicily, temporary cessation of fishing effort, that the contracting and co-operating non-contracting parties (CPCs) are to implement monitoring and management procedures, that CPCs have to establish designated ports in which landings of European hake and deep-water rose shrimp from the Strait of Sicily may take place and implement an observation and inspection programme to ensure compliance with the measures in the management plan. The plan also states that the CPCs are to carry out scientific monitoring, and ongoing adaptation and revision of the plan.

Stock status, TACs and quotas

Status of fish stocks

The status of some of the fish stocks in the Mediterranean are overexploited with 90% of the fish stocks being overfished. F and Fmsy or F0.1 are unavailable for most of the fish stocks for Malta. However, in 2016 the joint stock assessments for European hake (*Merluccius merluccius*), deep-water pink shrimp (*Parapenaeus longirostris*) in GSAs 12-16, and red mullet (*Mullus barbatus*) in GSAs 15-16 were updated by Maltese, Tunisian and Italian scientists, combining data collected throughout the Central Mediterranean. The stock assessments were conducted under the auspices of the MedSudMed project, and finalised at the 2016 GFCM demersal working group. The assessments showed that hake was in overexploitation with relative high biomass, and that current fishing mortality has to be reduced by 60-70% to reach FMSY. Deep water rose shrimp was also considered to be in overexploitation, with relative intermediate biomass. Red mullet was considered to be in overexploitation, with relative low biomass and current fishing mortality has to be reduced by 17% to reach FMSY.

Management Strategy Evaluation (MSE) was also performed taking into consideration hake and deep water rose shrimp, using the same data used for the assessments.

One of the main problems of the economic performance of the Maltese national fleet is the status of fish stocks in the Mediterranean that have been declining for many years.

TACs and quotas

The bluefin tuna fishery in Malta has been managed under an IQ system. In 2009, the transferability of quotas was allowed and the system changed from IQ to ITQ. As a consequence, data on income from leasing out quota or other fishing rights, lease/rental payments for quota or other fishing rights and the value of quota and other fishing rights was collected for the first time for the year 2009.

In 2015, for the first time since the establishment of the bluefin tuna recovery plan in 2006, there was an increase in the quota, as the EU is allowed to fish over 9 372 metric tonnes. The annual increase in quota of 20% over three years (2015-2017) is due to the progressive recovery of the stock, as demonstrated by scientific evidence. As a result, Malta has benefitted and obtained an increase in the TACs of Bluefin tuna.

In 2017, bluefin tuna represented the 3rd most important species for Maltese fleets in terms of landings (260 tonnes in 2017), just after swordfish and common dolphinfish. In terms of value, bluefin tuna is one of the most valued species targeted by the Maltese fleets achieving an average first-sale price of EUR 9.28 per kg in 2017.

In 2016, the EU announced the plan to impose the catch limits on the Swordfish. This will be the second species which is facing the catch limits in the Mediterranean. Given that the two key species in Malta will

be subject to catch limits, some fishers fear that this will impact their profitability and their survival. This will have high impacts on the profitability of those vessels that use to catch low weight of Swordfish.

Operational costs (external factors)

In 2016, the large-scale fishing vessels in Malta experienced an overall reduction in their operating costs in terms of crew costs, unpaid labour, energy costs and repairs and maintenance costs. However, there was a 20% increase in energy costs.

On the other hand, the small-scale fishing vessels in Malta experienced 10% reduction in energy costs due to lower fuel prices, although labour costs have increased due to a 39% increase in the value for unpaid labour. The number of fishing days and days at sea has decreased by 20% and 9% respectively, however wages and salaries of crew increased by 56%.

Low fuel prices in 2016, was a driver in reducing the level by which the overall economic performance of the Maltese fishing fleet deteriorated.

Innovation and Development

A number of project, co-financed by the EFF, involving upgrading of landing facilities in Gozo and designated ports in the southern regions of Malta were completed in 2016 with the aim to help fishers become more cost efficient.

A number of high standard training courses are being provided to all interested registered fishers. This investment is expected to be completed by the end of 2018 and involves courses with the aim of improving the knowledge and skills of those working in the local fishing industry, with the ultimate aim being that of increasing the overall standard of the local fishing industry

A publicity campaign "Nesploraw Flimkien it-Teżori tal-Baħar!" was launched and will be completed by the end October 2018. This publicity campaign's main aim is to communicate the importance of staying aware on the state of the local fish stocks, sustainable fish consumption, and the role of each individual in assisting conservation efforts.

A scientific study is also currently being carried to improve trawl gear selectivity so as to reduce discards of *Merluccius merluccius* and *Parapenaeus longirostris*. This study's recommendations can assist the Maltese otter board trawling fleet to be more sustainable and economically efficient.

Such innovations and developments will support coastal communities in diversifying their economies and improve economic performance.

Socioeconomic impact

Although the Maltese fishing fleet is benefiting from a number of young people who voluntarily help their family whilst at sea, on a seasonal basis, the Maltese fishing industry is experiencing the challenge to obtain the young generation into the profession of fishing. Fishing in Malta is mainly seasonal and as a consequence some of the full-time fishers own at least one small and one large vessel which enable them to practice off-shore fishing during the milder seasons and coastal activities during the winter months. Additionally, extra hands are sometimes recruited for bluefin tuna seines and common dolphinfish seasons.

91% of the active fishing vessels are small-scale fishers who fish a quarter of the total catches. These jobs are at risk as fish stocks in the Mediterranean are declining. Food security, livelihoods, and regional stability and security are all under threat.

Although the Maltese fisheries contribute a small percentage to Malta's gross domestic product, the sector creates is important to other industries of the economy, mainly tourism and catering.

Projections for 2017 and outlook for 2018

Overall, at the Maltese national fleet level, a slight decrease in landings volume and higher average prices for the high commercial value species resulted in a 11% increase in the value of landings, from EUR 9.8 million in 2016 to EUR 10.9 million in 2017. Should the fluctuations in landings remain at similar margins and trend of increasing prices of key species continue, preliminary forecasts indicate that 2018 will record and increase in landings by approximately 3%. Total operational costs for the year 2017 are expected to increase slightly, as labour costs has been recording an increasing trend since 2015. Since preliminary results are showing that income is expected to increase by a larger margin than operating costs, the economic performance for 2017 is expected to improve at gross profit level due to an increase in income from the sales of landings and slightly higher variable costs. Although effort has decreased in

2017, it is being expected that efficiency by the Maltese fleet will improve as a result, profitability from this point of view is expected to be positively affected. Forecasts are indicating that economic performance will show improvements in 2017 from indicators such as GVA (+35% from), gross profit (positive gross profit levels in 2017) and net profit (lower levels of net loss in 2017 when compared to net loss recorded in 2016)

Positive economic developments can also be observed in performance indicators such as GVA to revenue (+22% in 2017 from 2016), GVA per FTE (+49%) and net profit margins (+57%). In 2017, the average landed value per vessel increased by 9% with a 4% increase in the average landed weight. Hence, the economic performance of 2017 of the Maltese fishing fleet is expected to increase as fuel prices continued to remain relatively low, while the average landed prices of the key species appear to be remaining relatively high. Keeping in mind that currently the majority of the fish stocks remained overexploited, the economic performance of the Maltese fishing fleet for 2017 may be impaired, even though preliminary results suggest otherwise.

Given that effort is looking to be in a declining trend, average landed weight is expected to decrease going forward in 2018, consequently average landings value per vessel are forecasted to decline as well. Preliminary forecasts are showing that overall average costs in 2018 will increase, and since effort is declining, average revenue is expected to fall as well. This will impact the turnover of certain segments which in turn will impact the profitability of the Maltese fleet. Overall, forecasted economic performance for 2018 is slightly worse than 2017, but still better than 2016.

Data issues

Although no major issues were detected given that the Maltese fishing fleet is mainly composed of small-scale fisheries, it is very challenging to collect precise and complete data from the fishers. The reason being that the majority of small-scale fishery do not engage an accountant and thus they do not have professional bookkeeping. Having said this, Malta does its best to enhance the quality of the data at data collection level and also at analysis level.

Table 5.68 Malta: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,316	1,111	1,112	1,087	1,060	1,040	1,045	1,039	1,014	935	689		-2%	-8%
Number of Inactive vessels_ms	(#)	613	339	270	453	278	266	336	258	283	249			10%	-20%
Vessel tonnage	(thousand GT)	7.5	8.3	12.3	12.1	8.0	7.8	7.7	7.5	7.2	6.4			-4%	-19%
Engine power	(thousand kW)	87.5	82.2	85.5	83.4	77.9	76.1	75.5	76.1	73.9	69.9			-3%	-8%
Total employed	(person)	1,019	1,172	1,222	988	1,234	1,201	1,418	1,463	1,262	1,146	1,155		-14%	4%
FTE	(#)	830	884	887	734	410	784	1,116	872	774	702	710		-11%	-5%
Days at sea	(thousand day)	47.0	48.3	63.5	41.2	33.7	28.4	31.3	25.0	23.3	22.3	22.5		-7%	-42%
Fishing days	(thousand day)	47.0	48.2	63.5	39.6	32.3	25.3	28.6	23.3	20.9	19.6			-10%	-46%
Number of fishing trips	(thousand)	43	44	63	38	29	22	27	21	19	18			-9%	-48%
Energy consumption	(million litre)	4.91	4.96	5.18	5.96	2.93	6.83	3.68	3.69	4.21	4.21	3.85		14%	-12%
Live weight of landings	(thousand tonne)	1.28	1.59	1.84	1.92	2.20	2.35	2.40	2.44	2.30	2.26	2.34		-6%	15%
Value of landings	(million €)	8.82	9.33	10.46	12.08	13.05	12.49	10.46	11.58	9.80	10.92	11.20		-15%	-11%
Income from landings	(million €)	8.82	9.33	10.46	12.08	13.05	12.49	10.46	11.58	9.80	10.92	11.21		-15%	-11%
Other income	(million €)	0.31	0.71	-	2.20	0.50	2.49	1.22	0.88	0.58	0.56	0.57		-34%	-44%
Direct income subsidies	(million €)	0.07	0.02	0.63	0.04	0.53	0.01	0.03	0.05	0.00				-94%	-98%
Income from leasing fishing rights	(million €)		0.01	0.03	0.16	0.06	0.48	0.35	1.01	1.14				13%	284%
Wages and salaries of crew	(million €)	1.43	1.61	2.54	2.07	2.10	1.53	1.93	1.65	1.41	1.74	1.75		-15%	-24%
Unpaid labour value	(million €)	2.57	10.26	8.24	6.64	2.06	1.25	4.17	2.13	3.01	2.96	2.98		41%	-36%
Energy costs	(million €)	2.92	2.65	3.80	4.09	4.03	3.66	2.70	2.27	2.39	2.32	2.71		5%	-27%
Repair & maintenance costs	(million €)	1.54	1.21	1.09	1.14	1.21	1.16	1.79	1.81	1.77	1.61	1.63		-2%	29%
Other variable costs	(million €)	4.40	3.27	3.01	2.27	2.37	2.12	1.62	2.15	1.76	1.64	1.64		-18%	-33%
Other non-variable costs	(million €)	0.34	0.27	0.28	0.19	0.25	0.298	0.305	0.303	0.239	0.22	0.23		-21%	-15%
Annual depreciation costs	(million €)	3.45	4.36	5.49	4.59	4.61	3.87	2.94	2.81	2.41	2.24	2.27		-14%	-40%
Rights costs	(million €)		0.02	0.11	0.19	1.03	0.10	0.46	1.10	1.14	1.13	1.25		4%	165%
Opportunity cost of capital	(million €)	0.09	2.46	1.96	2.61	0.89	1.80	1.30	0.20	- 0.01	- 0.01	- 0.00		-102%	-100%
Tangible asset value (replacement)	(million €)	80.7	91.5	91.1	134.5	98.5	77.1	72.0	65.5	50.0	32.0	32.4		-24%	-44%
Fishing rights	(million €)		1.0	0.9	0.7	0.7	0.8	0.8	1.3	0.7				-40%	-15%
Investments	(million €)	1.0	1.0	1.5	1.8	2.2	1.5	1.2	1.1	0.9				-16%	-36%
Financial position	(%)	24.2	47.8	42.3	50.6	5.0	31.6	31.4	19.3	2.2				-89%	-93%
Gross Value Added	(million €)	- 0.1	2.6	2.3	6.6	5.7	7.7	5.3	5.9	4.2	5.7	5.6		-29%	-6%
GVA to revenue	(%)	- 0.9	26.3	21.8	46.1	42.0	51.7	45.0	47.5	40.6	49.6	47.3		-14%	16%
Gross profit	(million €)	- 4.1	- 9.2	- 8.5	- 2.1	1.5	5.0	- 0.8	2.1	- 0.2	1.0	0.8		-109%	90%
Gross profit margin	(%)	- 44.7	- 92.0	- 81.2	- 14.9	11.3	33.1	- 7.3	17.2	- 1.9	8.6	7.1		-111%	91%
Net profit	(million €)	- 7.6	- 16.1	- 15.9	- 9.3	- 4.0	0.7	- 5.1	- 0.9	- 2.6	- 1.2	- 1.4		-201%	65%
Net profit margin	(%)	- 83.5	- 160.0	- 152.5	- 65.3	- 29.3	4.8	- 43.5	- 6.9	- 25.1	- 10.8	- 12.2		-261%	63%
GVA per FTE (labour productivity)	(thousand €)	- 0.1	3.0	2.6	9.0	13.9	9.9	4.7	6.8	5.5	8.1	7.9		-20%	-12%
Return on fixed tangible assets	(%)	- 9.3	- 14.9	- 15.4	- 5.0	- 3.1	1.4	- 5.3	- 1.0	- 5.2	- 3.9	- 4.4		-416%	21%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
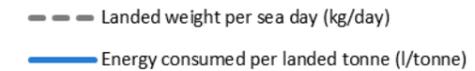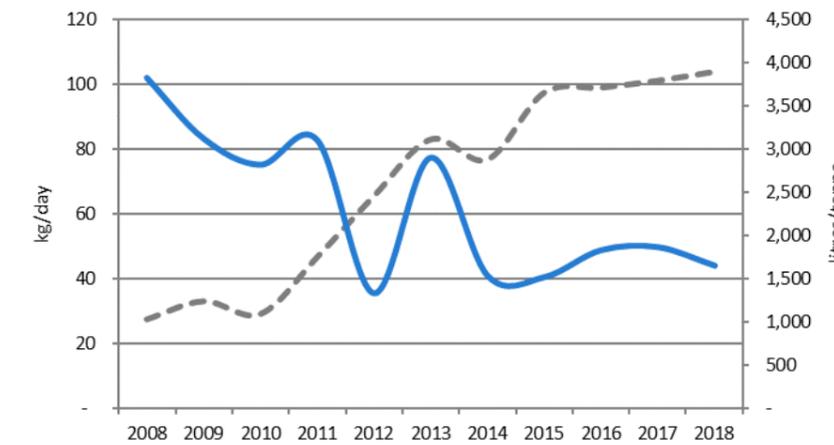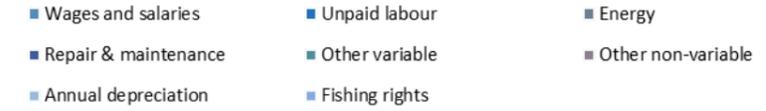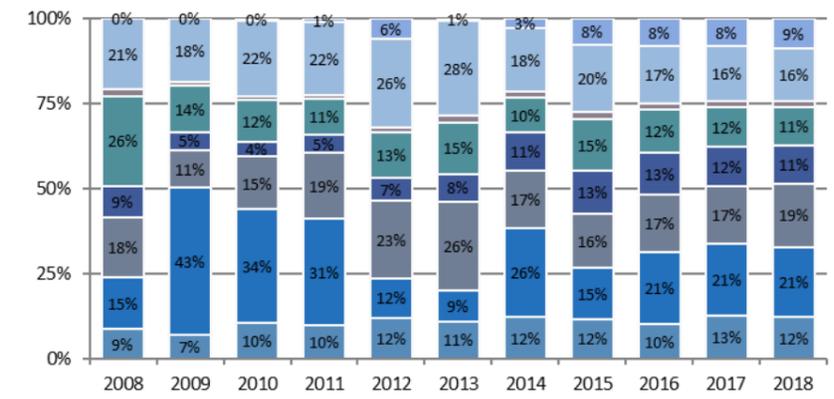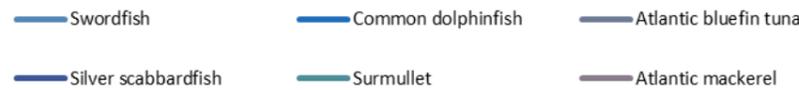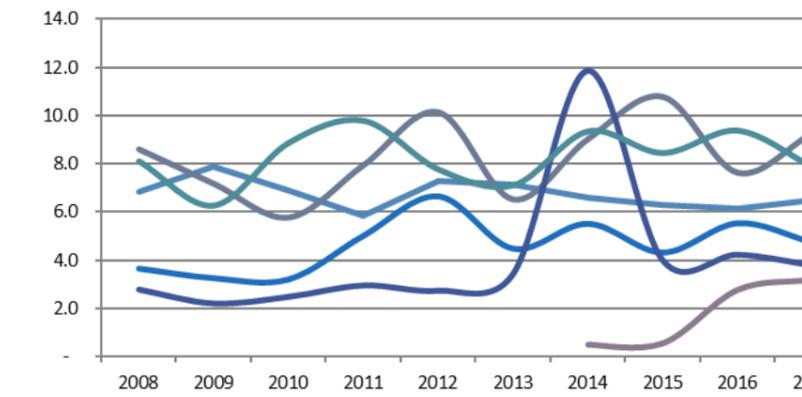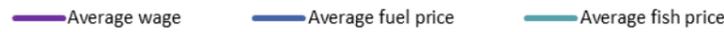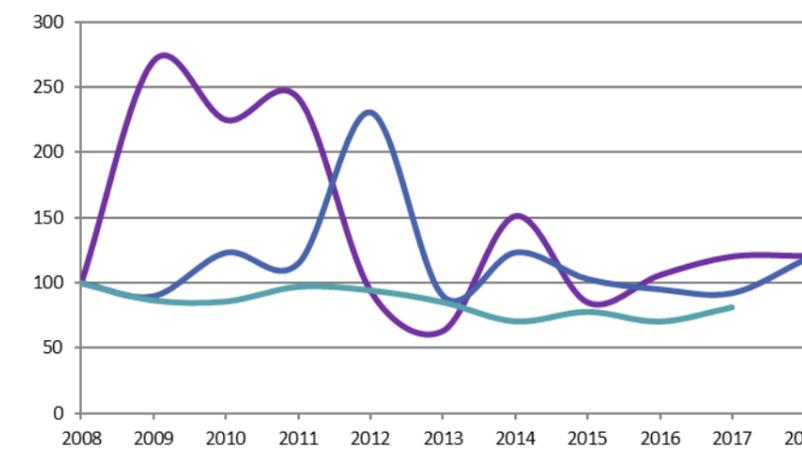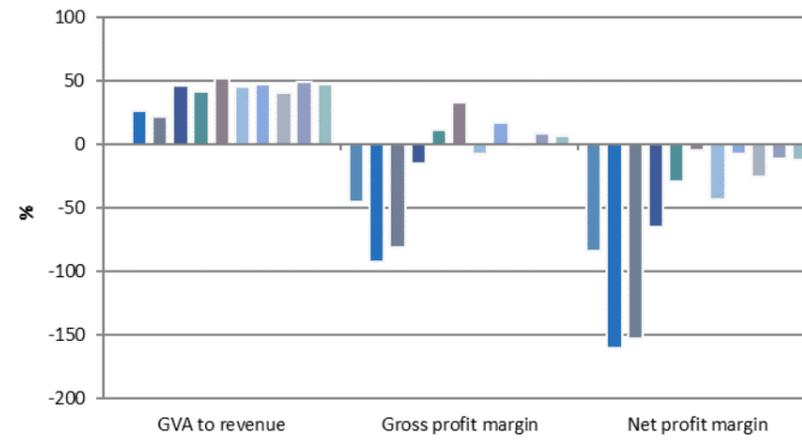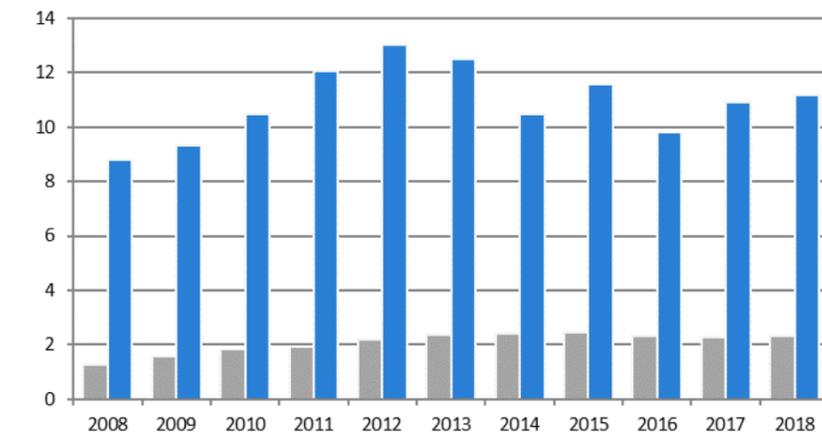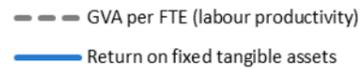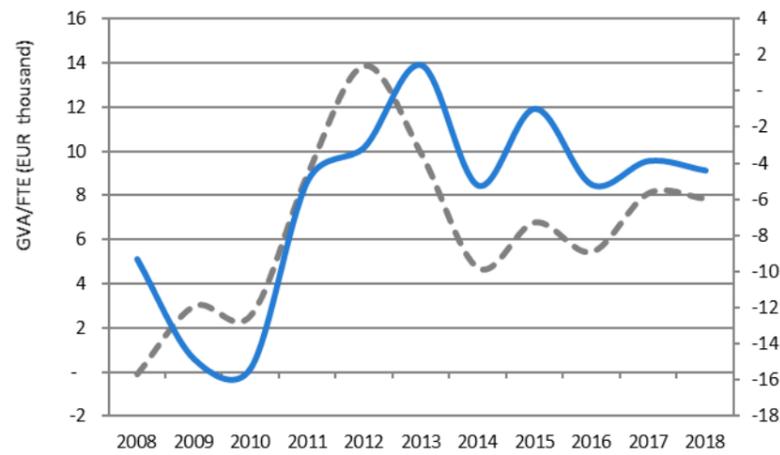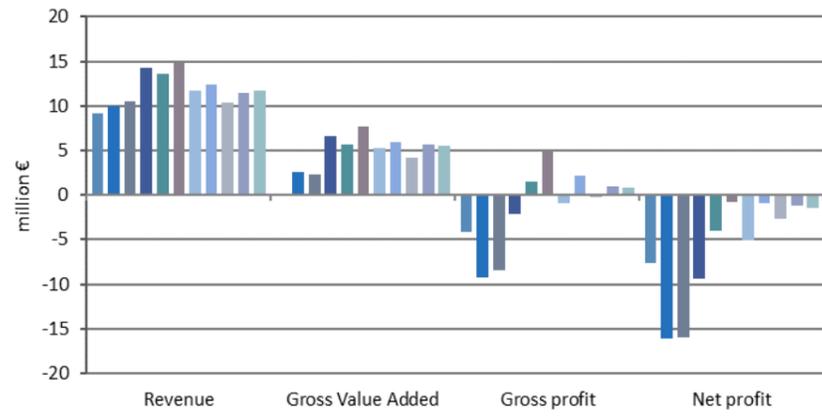
Figure 5.15 Malta: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.69 Malta: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Total number of vessels	(#)	622	679	760	533	708	707	648	721	663	624	626		-8%	-1%	81	93	82	101	74	67	61	60	68	62	64		13%	-12%
Vessel tonnage	(thousand GT)	1.6	1.7	1.8	1.4	1.7	1.7	1.5	1.7	1.5	1.5			-8%	-5%	3.5	4.0	4.7	5.1	4.4	4.5	3.6	3.4	3.7	3.3			7%	-12%
Engine power	(thousand kW)	36	38	43	31	40	41	36	41	38	36			-9%	-2%	19	20	21	25	20	19	17	16	18	16			8%	-10%
FTE	(#)	696	713	765	594	289	648	804	567	514	468	471		-9%	-19%	134	171	122	139	121	135	312	305	259	234	239		-15%	44%
Total employed	(person)	850	863	925	670	956	911	1,098	1,138	986	897	900		-13%	6%	169	309	297	318	278	290	320	325	276	249	255		-15%	-4%
Days at sea	(thousand day)	43.1	43.6	59.9	35.9	28.3	22.6	26.6	20.4	18.5	18.3	18.3		-9%	-47%	3.9	4.7	3.6	5.3	5.4	5.8	4.7	4.6	4.8	4.1	4.1		5%	1%
Fishing days	(thousand day)	43.1	43.6	59.9	35.7	28.0	21.4	26.1	19.9	17.8	17.1			-11%	-49%	3.9	4.6	3.6	3.9	4.3	3.8	2.4	3.4	3.1	2.5			-8%	-16%
Number of fishing trips	(thousand)	41.4	42.0	61.6	35.4	27.5	20.8	25.7	19.3	17.3	16.5			-11%	-50%	1.9	2.0	1.7	2.2	1.8	1.6	1.5	1.5	1.5	1.3			6%	-12%
Energy consumption	(million litre)	1.39	2.08	1.65	1.11	1.06	1.58	1.22	1.40	1.58	1.43	1.44		13%	10%	3.51	2.87	3.52	4.85	1.87	5.25	2.46	2.30	2.63	2.36	2.41		15%	-21%
Live weight of landings	(thousand tonne)	0.43	0.35	0.76	0.83	0.72	0.69	0.60	0.63	0.57	0.58	0.59		-11%	-10%	0.85	1.24	1.08	1.09	1.48	1.67	1.80	1.80	1.74	1.68	1.75		-4%	26%
Value of landings	(million €)	2.82	2.23	4.42	4.60	4.49	3.80	3.68	3.95	3.57	3.71	3.73		-10%	-5%	6.00	7.10	6.04	7.48	8.56	8.69	6.78	7.62	6.23	7.20	7.47		-18%	-15%
Income from landings	(million €)	2.82	2.23	4.42	4.60	4.49	3.80	3.68	3.95	3.57	3.71	3.73		-10%	-5%	6.00	7.10	6.04	7.48	8.56	8.69	6.78	7.62	6.23	7.20	7.47		-18%	-15%
Other income	(million €)	0.01	-	-	-	0.11	1.43	0.01	0.13	0.07	0.06	0.06		-47%	-68%	0.30	0.71	-	2.20	0.39	1.06	1.21	0.75	0.51	0.50	0.51		-32%	-38%
Direct income subsidies	(million €)	0.04	-	0.001	0.003	0.04	0.01	0.02	0.03	0.002				-94%	-90%	0.03	0.02	0.63	0.04	0.49	0.01	0.01	0.03	0.002				-93%	-99%
Income from leasing fishing rights	(million €)		-	0.03	0.003	0.02	0.04	0.06	0.18	0.21				14%	339%		0.01	0.00	0.15	0.04	0.44	0.29	0.83	0.94				13%	273%
Wages and salaries of crew	(million €)	0.17	0.21	0.27	0.36	0.45	0.20	0.38	0.39	0.61	1.00	1.01		56%	101%	1.26	1.40	2.26	1.72	1.66	1.34	1.55	1.26	0.80	0.74	0.75		-37%	-49%
Unpaid labour value	(million €)	2.12	7.43	6.39	5.14	1.48	0.74	3.53	1.63	2.26	2.27	2.28		39%	-37%	0.45	2.83	1.85	1.50	0.58	0.52	0.64	0.50	0.75	0.69	0.70		49%	-32%
Energy costs	(million €)	0.85	1.11	1.34	1.05	1.37	1.31	1.11	1.06	0.94	0.92	1.06		-11%	-18%	2.07	1.54	2.46	3.03	2.66	2.36	1.60	1.21	1.44	1.39	1.65		19%	-32%
Repair & maintenance costs	(million €)	0.49	0.54	0.53	0.35	0.59	0.30	0.69	0.76	0.77	0.69	0.69		2%	46%	1.06	0.67	0.56	0.78	0.62	0.86	1.11	1.06	1.00	0.92	0.94		-5%	19%
Other variable costs	(million €)	1.52	1.34	1.34	0.93	1.23	0.60	0.58	0.76	0.55	0.50	0.49		-28%	-47%	2.88	1.93	1.67	1.34	1.14	1.52	1.04	1.39	1.21	1.14	1.15		-13%	-25%
Other non-variable costs	(million €)	0.11	0.12	0.16	0.09	0.13	0.12	0.09	0.11	0.09	0.08	0.08		-19%	-23%	0.23	0.15	0.12	0.10	0.12	0.18	0.21	0.19	0.15	0.14	0.15		-22%	-9%
Annual depreciation costs	(million €)	1.23	1.26	1.59	1.03	1.39	1.18	0.95	1.04	0.67	0.60	0.60		-36%	-44%	2.23	2.99	3.90	3.56	3.21	2.69	2.00	1.76	1.74	1.64	1.67		-1%	-38%
Rights costs	(million €)		0.02	0.02	0.08	0.73	0.08	0.04	0.01	-	-	-		-100%	-100%		0.00	0.10	0.11	0.30	0.02	0.41	1.09	1.14	1.13	1.3		4%	293%
Opportunity cost of capital	(million €)	0.02	0.49	0.49	0.30	0.18	0.39	0.25	0.05	- 0.00	0.00	- 0.00		-102%	-100%	0.04	1.23	1.25	1.07	0.49	1.05	0.61	0.09	- 0.00	0.00	0.00		-103%	-100%
Tangible asset value (replacement)	(million €)	17.3	18.3	23.0	15.3	20.1	16.6	13.7	15.2	10.0	8.9	8.9		-34%	-43%	36.7	45.9	58.0	55.1	54.1	44.8	34.2	30.4	24.5	23.1	23.5		-20%	-46%
Fishing rights	(million €)		0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2				2%	69%		0.8	0.8	0.6	0.6	0.6	0.6	1.0	0.5				-51%	-32%
Investments	(million €)	0.3	0.5	0.9	1.0	1.4	0.8	0.7	0.7	0.6				-5%	-17%	0.7	0.5	0.7	0.8	0.8	0.7	0.5	0.4	0.3				-35%	-59%
Gross Value Added	(million €)	- 0.14	0.88	1.04	2.17	1.29	2.91	1.22	1.4	1.3	1.6	1.5		-8%	14%	0.1	3.5	1.2	4.0	4.4	4.5	4.0	4.5	2.9	2.7	2.5		-35%	-10%
GVA to revenue	(%)	- 5.0	39.6	23.6	47.2	28.0	55.5	33.0	34.1	35.1	41.9	38.7		3%	59%	1.0	45.1	20.4	43.0	49.2	48.0	50.5	54.1	43.6	43.6	40.0		-19%	12%
Gross profit	(million €)	- 2.43	8.52	- 5.62	3.32	0.65	1.97	- 2.70	0.6	1.6	2	2		-153%	42%	- 1.64	0.71	2.88	0.83	2.17	2.65	1.85	2.8	1.3	1.3	1.1		-54%	103%
Gross profit margin	(%)	- 86.2	382.8	- 127.2	72.2	14.1	37.7	- 73.0	15.4	43.6	44.8	47.9		-184%	52%	- 26.1	9.1	47.7	9.0	24.3	28.3	23.1	33.1	19.5	20.7	17.2		-41%	346%
Net profit	(million €)	3.7	10.3	7.7	4.6	2.2	0.4	3.9	1.7	2.3	2.3	2.4		-32%	46%	3.9	4.9	8.0	- 3.6	- 1.5	- 0.9	0.8	0.9	0.4	0.2	0.5		-139%	87%
Net profit margin	(%)	130.1	461.3	174.2	101.0	48.3	7.8	105.3	42.0	62.0	60.7	63.7		-48%	53%	62.0	63.2	132.9	- 38.6	- 17.1	- 10.0	9.6	10.9	- 5.5	3.7	7.4		-150%	86%
Return on fixed tangible assets	(%)	21.3	53.5	31.4	28.5	10.1	4.8	26.5	11.0	22.7	25.7	27.2		-106%	-2%	10.5	8.1	11.7	4.9	1.9	0.2	0.4	3.3	- 1.6	1.1	2.1		-147%	63%
GVA per FTE (labour productivity)	(thousand €)	- 0.2	1.2	1.4	3.7	4.4	4.5	1.5	2.5	2.5	3.4	3.1		2%	21%	0.5	20.5	10.0	28.6	36.5	33.9	13.0	14.8	10.9	11.6	10.6		-27%	-45%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.70 Malta: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
MLT A37 HOK1824	19	88	1,647	3,118	387	2,078	2,384	682	28.6	-101	-4.2	-689	-28.92	8.9	7.7	-8.0	Weak	11%	Improved	23.0%
MLT A37 HOK0612	37	88	1,732	3,042	170	1,051	1,096	408	37.3	-233	-21.3	-371	-33.86	7.3	4.6	-19.6	Weak	54%	Improved	10.6%
MLT A37 HOK1218	9	42	769	906	178	1,049	1,069	744	69.6	449	41.9	338	31.62	7.0	17.7	21.6	High	551%	Improved	10.3%
MLT A37 DTS1824	6	27	865	3,850	107	897	993	410	41.3	340	34.3	42	4.20	2.6	15.2	0.8	Weak	91%	Improved	9.6%
MLT A37 PMP0612	121	162	3,675	2,937	169	950	969	405	41.8	437	45.1	638	65.84	5.2	2.5	21.4	Weak	32%	Improved	9.3%
MLT A37 PGP0006	321	135	7,736	1,998	133	880	883	372	42.2	-244	-27.6	385	43.59	4.6	2.8	18.3	Weak	93%	Improved	8.5%
MLT A37 PGP0612	141	113	4,226	3,157	84	621	621	82	13.2	-458	-73.8	-630	-101.41	4.8	0.7	-23.5	Weak	88%	Improved	6.0%
MLT A37 MGO1218	6	20	296	1,934	70	414	414	264	63.9	171	41.3	113	27.42	4.6	13.1	17.1	High	342%	Improved	4.0%
MLT A37 DTS2440	4	11	257	6,721	43	318	407	-155	-38.2	-166	-40.9	-462	-113.60	1.0	-14.1	-12.1	Weak	73%	Improved	3.9%
MLT A37 PS1824	1	10	77	115	172	338	338	319	94.4	311	91.8	282	83.53	0.9	31.9	57.4	High	802%	Improved	3.3%
MLT A37 PMP1824	2	13	219	2,188	105	318	318	143	44.9	-2	-0.5	-52	-16.31	11.1	11.0	-7.7	Weak			3.1%
MLT A37 MGO0612	14	30	410	1,715	59	315	315	185	58.6	94	29.8	32	10.24	3.0	6.1	3.6	Reasonable	114%	Improved	3.0%
MLT A37 PS2440	2		52		361	200	200	116	58.2											1.9%
MLT A37 MGO1824	1	6	54	349	127	172	172	141	82.5	131	76.6	109	63.57	1.7	23.6	31.2	High	173%	Improved	1.7%
MLT A37 PS1218	3	9	71	220	126	112	112	93	82.4	84	74.5	56	50.25	1.0	10.3	15.2	High	199%	Improved	1.1%
MLT A37 PMP0006	25	13	806	3,318	7	49	49	12	25.7	-64	-131.3	-74	-152.75	6.0	1.0	-46.0	Weak	-285%	Deteriorated	0.5%
MLT A37 PMP1218	1	3	51	2,947	3	15	15	4	28.1	-37	-246.5	-44	-291.84	11.0	1.4	-48.8	Weak			0.1%
MLT A37 HOK0006	8	2	175	4,326	1.5	13.2	13.2	-1.3	-10.0	-9	-65.3	13	94.95	4.8	-0.9	-22.0	Weak	97%	Improved	0.1%
MLT A37 DFN0612	1	1	32	1,605	0.6	5.1	5.1	3	54.1	-139	-2,740.1	-141	-2,780.49	282.9	5.5	-579.0	Weak	-122%	Deteriorated	0.0%
MLT A37 DFN0006	8	2	85	3,455	0.7	4.1	4.1	-2.3	-55.7	-5	-117.7	-7	-181.05	1.3	-1.1	-16.0	Weak	86%	Improved	0.0%
MLT A37 FPO0006	1	0	19	2,751	0.1	1.2	1.2	0.6	48.7	-0	-15.9	-0	-5.33	5.9	8.7	-1.3	Weak	99%	Improved	0.0%

Table 5.71 Malta: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
MLT A37 HOK1824	17	88	1,259	2,914	414	2,284	2,587	859	33.2	1	0.1	-579	-22.37	9.8	9.8	-7	Weak	22.5%
MLT A37 PS2440	1		49		389	1,455	1,455											12.7%
MLT A37 HOK0612	37	80	2,021	2,169	216	1,385	1,425	788	55.3	-54	-3.8	-178	-12.47	10.5	9.9	-10	Weak	12.4%
MLT A37 HOK1218	11	38	870	726	201	1,184	1,202	906	75.4	573	47.7	475	39.48	8.8	23.8	34	High	10.5%
MLT A37 DTS1824	8	27	1,006	3,854	107	934	1,028	431	41.9	359	34.9	18	1.73	2.7	16.0	0	Weak	9.0%
MLT A37 PMP0612	130	147	4,215	2,530	178	1,007	1,024	498	48.6	392	38.3	572	55.86	6.0	3.4	21	Weak	8.9%
MLT A37 PGP0006	303	123	7,158	2,653	91	643	646	169	26.1	-281	-43.5	408	63.17	3.7	1.4	21	Weak	5.6%
MLT A37 PGP0612	124	103	3,843	2,867	84	590	590	92	15.6	-420	-71.2	-573	-97.16	5.0	0.9	-24	Weak	5.1%
MLT A37 PS1824	2	10	155	85	232	488	488	468	95.9	455	93.4	428	87.73	1.2	46.8	88	High	4.2%
MLT A37 MGO1218	5	18	224	1,809	68	376	376	239	63.4	154	40.8	102	27.17	4.7	13.1	17	High	3.3%
MLT A37 MGO0612	11	27	266	2,744	33	177	177	55	31.2	4	2.2	-51	-29.04	1.9	2.0	-6	Weak	1.5%
MLT A37 DTS2440	3	11	106	20,960	14	87	175	-403	-230.1	-406	-231.9	-697	-398.29	0.3	-36.6	-18	Weak	1.5%
MLT A37 PS1218	3	8	70	157	159	112	112	94	83.5	85	75.5	60	53.88	1.1	11.5	18	High	1.0%
MLT A37 MGO1824	1	6	54	751	59	105	105	74	70.0	68	64.2	46	43.26	1.0	12.3	13	High	0.9%
MLT A37 PMP0006	21	12	912	2,439	9	66	66	32	49.0	-72	-108.4	-81	-122.56	9.0	2.8	-56	Weak	0.6%
MLT A37 DFN0612	1	0	54	200	4.3	16.7	16.7	15	87.3	-453	-2,709.0	-455	-2,719.98	1,039.7	32.5	-2,087	Weak	0.1%
MLT A37 DFN0006	5	2	40	4,310	0.5	3.0	3.0	-3.0	-100.0	-5	-161.5	-7	-240.02	1.0	-1.6	-17	Weak	0.0%
MLT A37 HOK0006	3	1	37	26,496	0.2	2.3	2.3	-11.3	-493.4	-12	-547.2	-16	-701.83	0.9	-8.1	-31	Weak	0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.72 Malta: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Swordfish	1.77	2.10	2.91	3.10	3.67	3.28	2.49	3.08	2.52	2.50	0.26	0.27	0.42	0.53	0.50	0.46	0.38	0.49	0.41	0.39	6.84	7.88	6.87	5.83	7.28	7.13	6.60	6.29	6.15	6.48	26%	18%
Common dolphinfish	0.86	1.28	1.69	1.75	1.20	1.71	1.15	1.44	1.31	1.15	0.24	0.39	0.53	0.35	0.18	0.38	0.21	0.33	0.24	0.24	3.64	3.24	3.19	5.01	6.65	4.47	5.51	4.31	5.53	4.73	13%	10%
Atlantic bluefin tuna	2.55	1.89	0.89	1.13	1.39	1.01	1.41	1.94	0.74	2.40	0.30	0.26	0.15	0.14	0.14	0.16	0.16	0.18	0.10	0.26	8.61	7.18	5.78	7.95	10.15	6.53	9.03	10.79	7.64	9.28	8%	4%
Silver scabbardfish	0.01	-	-	-	0.05	0.42	0.44	0.33	0.47	0.69	-	-	-	-	0.02	0.12	0.04	0.08	0.11	0.18	2.78	2.20	2.48	2.95	2.73	3.43	11.88	3.99	4.23	3.79	5%	5%
Surmullet	0.13	0.23	0.47	0.63	0.59	0.16	0.44	0.25	0.40	0.25	0.02	0.04	0.05	0.06	0.08	0.02	0.05	0.04	0.04	0.03	8.13	6.29	8.89	9.81	7.79	7.13	9.37	8.47	9.40	7.90	4%	2%
Atlantic mackerel	-						0.01	0.04	0.39	0.50							0.02	0.08	0.14	0.16		1.39					0.48	0.54	2.77	3.20	4%	6%
Chub mackerel	0.04		0.19	0.44	0.52	0.74	0.39	0.29	0.37	0.26	0.02		0.06	0.12	0.25	0.31	0.83	0.54	0.66	0.51	2.46		3.10	3.66	2.08	2.41	0.48	0.54	0.55	0.50	4%	29%
Giant red shrimp	0.60	0.77	0.59	1.10	0.95	0.89	0.47	0.61	0.33	0.46	0.03	0.04	0.03	0.04	0.05	0.04	0.03	0.03	0.02	0.03	21.96	19.47	21.69	26.57	19.71	22.30	18.50	20.93	15.03	16.38	3%	1%
Red scorpionfish	0.23	0.29	0.28	0.28	0.39	0.28	0.34	0.34	0.31	0.29	0.01	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	15.79	15.92	14.38	14.58	12.75	12.91	13.10	13.79	13.36	13.78	3%	1%
Red porgy	0.14	0.16	0.24	0.37	0.40	0.21	0.38	0.35	0.28	0.29	0.01	0.01	0.02	0.02	0.03	0.01	0.02	0.02	0.02	0.02	18.01	17.37	15.70	16.90	15.86	15.74	16.04	16.72	16.41	16.16	3%	1%
																															73%	76%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.16 Netherlands

Short description of the national fleet

Fleet capacity

In 2017, the Dutch fishing fleet consisted of 736 registered vessels, 211 of which were inactive, with a combined gross tonnage of 116 thousand GT, a total power of 259 thousand kW and an average age of 32 years. Within the last 10 years the size of the fishing fleet fluctuated between 713-739 vessels. In 2017, the number of fishing enterprises totalled 575, with the vast majority (83%), owning a single vessel. Around 17% of the enterprises owned two to five fishing vessels and only a few enterprises owned more than 5 vessels.

Fleet structure

According to the EU standards the Dutch fishing fleet can be divided into a small-scale coastal fleet (vessels under 12m using passive gears; 34% of the vessels in 2016) and a large-scale fleet (66% of the vessels in 2016). Nationally, the fishing fleet is divided into an active cutter fleet (active vessels with a minimum vessel length of 12m and landings value of 50 000 euro or more using an active fishing gear), a trawler fleet (targeting pelagic fish species) and the other coastal fisheries fleet (fisheries that do not fit in above mentioned fleets).

The cutter fleet can be divided into 4 kW-categories. The first category is the ≤191 kW (≤260 Hp) shrimp vessels fishing with beam trawls or demersal trawls. The second category, vessels with 192-221 kW (261-300 Hp) engines, fish with pulse/SumWing/beam trawls or demersal trawls on shrimps and/or flatfish and are called 'Eurokotters'. The largest kW-category, vessels with 1 105-1 472 kW (1 500-2 000 Hp) engines, mainly fish with pulse/SumWing/beam trawls on flatfish. The vessels between the Eurokotters and the largest kW-category, vessels with engines between 222-1 104 kW (301-1 500 Hp), fish mainly with Danish/Scottish seines (flyshoot) or demersal trawls. Within the two largest kW categories the number of vessels are increasing over the period 2014-2017. Former fishing vessels return from activities for the offshore industry to flatfish fisheries or flyshoot fisheries, foreign vessels are being bought and new vessels are build.

The trawler fleet fish with midwater trawls on pelagic fish species. The number of vessels in this fleet has decreased in recent years from 14 vessels in 2012 down to 7 vessels in 2016. In 2017 the number of vessels in the trawler fleet increased to 8. The other small-scale fisheries fleet can be subdivided into inactive vessels, static gear vessels, and other coastal fisheries like dredges, pole and line fisheries, etcetera.

Employment

Total employment in 2017 was estimated around 2 000 jobs, corresponding to around 1 700 FTEs. Around 20% of the jobs come from the small coastal fleet, whereas the rest comes from the large-scale fleet (60% from cutter fleet and 20% from the trawler fleet). The number of jobs slightly increased in the active cutter fisheries and trawler fleet. If expressed in FTE, the contribution of the small coastal fleet is much lower: about 6% of the total.

Effort

In 2017, the Dutch fleet spent a total of 51.1 thousand days at sea, a decrease of 2% from 2016 (52.4 thousand days at sea). Compared with 2008-2016 average the effort increased by 1% in 2017. The quantity of fuel consumed in 2017 is estimated around 170.0 million litres, an increase of 6% from 2016 but a decrease of 10% compared with the 2008-2016 average. The increase in fuel consumption in 2017 (+6%) can be linked to the increased days spent at sea by the large scale vessels in this year including the pelagic trawler fleet (+13%), TBB40XX fleet (+7%) and DTS2440 fleet (+19%). The major factors causing the overall decrease in fuel consumption over years include the results of innovation programmes (introduction of new technics in fishing gear) that commenced in 2008 and the decrease of effort in kW-days. Transition to sustainable fisheries is an ongoing process. In 2017, most of the EU allowances for pulse technique were in effect in the Netherlands. This resulted in up to 60% less fuel consumption per vessel per day at sea. It is estimated that the total fuel consumption will increase in the next few years, caused by an increase in the number of (larger) active flatfish and flyshoot vessels and a possible restriction of pulse allowances by the EU in 2019.

The average Landings per unit of Effort (LpuE) for the Dutch large-scale fisheries estimated around 8.02 tonne per DaS in 2017, an increase of 7% compared to 2016. The reason of this increase can be found

in the increased landings of pelagic fish by the pelagic trawler fleet. The average LpuE for the trawler fleet amounted 145.8 tonne per DaS. Without the trawler fleet, the large-scale LpuE amounted 1.80 tonne per DaS. The small-scale coastal fleet amounted 0.10 tonnes per DaS.

Production

The total weight of fish and shellfish landed by the Dutch fleet in 2017 was 382.7 thousand tonnes, with a value of EUR 434.1 million. Compared to 2016, the total landings weight increased by 4% and landings value decreased by 7%. The increase in weight is mainly caused by the increased landings weight of pelagic fish species. The total landings of pelagic fish fluctuate from year to year. Due to decreased volume of common shrimps (-4.7 thousand tonnes; -25%) there was a great decrease in landings value of this species in 2017 (-EUR 33,0 million; -28%).

The demersal fleet targets mainly flatfish and common shrimp. The top landed flatfish species are European plaice and sole. Due to a great decrease in landings volume of common shrimp, sole generated the largest share of landings in value in 2017. The landed value of sole was EUR 96.6 million, common shrimp was "only" EUR 83.7 million. These species represent respectively 22% and 19% of the total landings value. European plaice is most important species for the demersal fleet in terms of the landings weight. European plaice (30.5 thousand tonnes) generated the third highest landed value (EUR 54.3 million, or 13% of total landings value).

The trawler fleet targets pelagic species. In 2017 the most important species were Atlantic herring (EUR 34.4 million), Atlantic mackerel (EUR 28.6 million), blue whiting (EUR 24.5 million), Atlantic horse mackerel (EUR 11.1 million), and pilchard (EUR 9.5 million).

Economic results for 2016 and recent trends

National fleet performance

The economic performance of the Dutch national fleet improved in 2016 and it is expected to stay on a high level in 2017 and 2018.

The total amount of income generated by the Dutch national fleet in 2016 was EUR 471.7 million. This consisted of EUR 469.3 million landings value and around EUR 2.4 million in non-fishing income. When including income from leasing fishing rights and direct income subsidies, total income amounted to EUR 476.5 million. Total income increased strongly between 2015 and 2016 due to increased fish prices and landings. Total income is expected to decrease again in 2017 due to decreased landings of especially common shrimp.

Total costs in 2016 were EUR 392 million. Total costs for 2016 increased 10% from 2015. Labour and energy costs, normally the two major fishing expenses, amounted to EUR 137 and EUR 51 million, respectively in 2016. Especially labour costs strongly increased in 2016 (+EUR 30 million; 28%). Wages increased that much, because they are linked to the total income (income increased by EUR 95 million).

Gross Value Added (GVA), gross profit and net profit generated by the Dutch national fleet in 2016 were estimated at EUR 284 million, EUR 132 million and EUR 96 million, respectively. GVA increased by 54%, gross profit and net profit increased 91% and 82%. These results indicate a highly improved economic situation compared to previous years. All indicators are expected to decrease a bit in 2017, but will stay at high levels. The major factors causing the improvement in economic performance include higher landings of more valuable species, higher fish prices and lower costs mainly because of decreasing fuel prices and fuel saving (e.g. pulse) techniques in the flatfish fleet.

In 2016, the Dutch fleet had a (depreciated) replacement value of EUR 272 million, which was lower than the year before, and a value of fishing rights of EUR 450 million. Fishing rights and quota are transferable in the Netherlands. Selling/buying and leasing these rights are quite common and prices fluctuate substantially from year to year, depending on market availability (e.g. quota for sole or plaice available or not). Since the introduction of the pulse (high selectivity for sole) sole prices grew substantially (lease prices of around EUR 3.35 in 2015) but dropped again in 2016 due to a higher TAC and national quota. Investments amounted to EUR 15 million in 2016 and did not change significantly compare to 2015. Dutch vessels are old: the average age is 31 years. The annual increase in age was less than half a year due to some fleet renewal. The improved economic performance stimulates further fleet renewal in the cutter fleet. New flyshoot, twinrig and shrimp vessels are expected in 2017 and 2018. Uncertainties like Brexit, multiple use of the North Sea (windmill parks for instance), the landing obligation, European policy for pulse fishery and the capacity at shipbuilding companies to build new vessels have an inhibiting effect on the speed of the fleet renewal.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 28.0%, indicating a very high operating efficiency of the sector. This percentage increased yearly since 2011 (gross profit margin of 5.8%). Net profit margin was estimated at 20.4%, a 128% increase on 2015. The Rate of Return on Fixed Tangible Assets (RoFTA) improved substantially in comparison with previous years and moved further positive in 2016, from 13% to 36%.

Labour productivity (GVA/FTE) increased substantially in 2016: EUR 172 thousand per FTE. Both GVA and FTE increased, however GVA increased more strongly (54% increase in GVA and 2% increase in FTE) indicating efficiency gains.

Fuel consumption per landed tonne increased a bit compared to 2015 and amounted 0.46 thousand litres per tonne landed in 2016. LpuE (in days at sea) also showed an increase compared to 2015 due to increased catches in pelagic fisheries (+13%). The landed weight per DaS amounted 7.95 tonne.

Performance by fishing activity

Small-scale coastal fleet

In 2016, there were 181 vessels belonging to the small-scale coastal fleet according to the European definition (vessels under 12m using passive gears). The segment accounts only for <1% of the national total volume of landings. The segment employs 17% of total number of fishers and 5% in terms of FTE.

The segment generated EUR 2.3 million of gross value added (EUR 3.3 million in 2015), EUR 1.8 million of gross profit (EUR 2.5 million in 2015) and EUR 1.1 million of net profit (EUR 1.8 in 2015).

Large-scale fleet

In 2016, there were 346 vessels belonging to the large-scale fleet. The large-scale fleet is dominated by the pelagic trawler fleet and demersal beam trawl fleet. However, the number of flyshoot vessels are increasing. The segment accounts over 99% of the national total volume of landings. The segment employs 84% of total number of fishers and 95% in terms of FTE.

The segment generated EUR 281.5 million of gross value added (EUR 181.1 million in 2015), EUR 130.2 million of gross profit (EUR 66.3 million in 2015) and EUR 95.0 million of net profit (EUR 32.1 in 2015).

Performance results of selected fleet segments

The Dutch fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the North Sea (demersal fleet) and North East Atlantic Ocean (pelagic fleet), around the UK and Ireland. Besides that, a small part of the pelagic fleet operates in African waters and in the Pacific.

The economic performance of the fleet relies heavily on innovation and technical/structural development. The Dutch government and the EU supported the fisheries sector to produce fish in a more sustainable way with economic perspectives. Projects started a few years ago (e.g. 'knowledge networks') helped to improve entrepreneurship in fisheries so that fishers will be able to compete in international fish business in future. In 2016 this project ended. New projects focus more on the approaching landing obligation.

The national fleet consisted of 14 (DCF) fleet segments in 2016. Almost all of the larger active fleet segments made profits in 2016. Table 5.69 provides a breakdown of key performance indicators for all 14 fleet segments in 2016. A short description of the five most important segments in terms of total value of landings is provided below.

Beam trawl over 40m – 55 vessels make up this segment which operates predominantly in the North Sea. The fleet targets a variety of species but in particular flatfish, such as sole, plaice and turbot. In 2016, the total value of landings was over EUR 133 million and around 398 FTEs were employed in this fleet segment, contributing to 29% and 24% of the total income from landings and FTEs generated by the Dutch fishing fleet, respectively. This fleet segment was profitable in 2016, with a reported GVA, gross profit and net profit of EUR 80.0 million, EUR 42.1 million and EUR 38.1 million, respectively.

Due to low fuel prices and high flatfish prices conventional beam trawl vessels, SumWing vessels and Pulse vessels made high profits.

Beam trawl 18-24m – 155 vessels made up this segment which operated predominantly in the North Sea and in the coastal zone. The fleet mainly targeted common shrimp and some vessels targeted langoustines (seasonally) and flatfish, such as sole, plaice and turbot. In 2016, the total value of landings

was around EUR 123.2 million and around 428 FTEs were employed in this fleet segment, contributing 26% of both the total income from landings and FTEs generated by the Dutch fishing fleet. Total value of landings increased by 80% especially due to the increased prices for common shrimp (+108%).

This fleet segment was profitable in 2016, with a reported GVA, gross profit and net profit of EUR 89.0 million, EUR 42.3 million and EUR 36.9 million, respectively.

Pelagic trawl over 40m – 7 vessels made up this segment which operated predominantly in the North East Atlantic Ocean and to a lesser extend in the North Sea. The fleet targeted pelagic species, particularly herring, mackerel, horse mackerel, blue whiting, pilchard and sardinella. The total estimated value of landings was over EUR 110 million and around 346 FTEs were employed in this fleet segment, representing 24% of the total Dutch value of landings and 21% of the FTEs of the Dutch fishing fleet. It should be noted that the prices used to calculate the value of landings of the pelagic trawlers are obtained from the pelagic sector (see data issues). They are internal prices used to calculate the wage of the crew of the fishing vessel. The integrated companies cover the whole production chain from fishing to the consumer and there are no real ex-vessel prices available.

This fleet segment was profitable in 2016, with a reported GVA, gross profit and net profit of EUR 54.6 million, EUR 26.3 million and EUR 7.7 million, respectively. Information about the economic performance of the overall companies is not available, so it is hard to evaluate whether those profits resemble reality.

Beam trawl 24-40m – 28 vessels made up this segment which operated predominantly in the North Sea. The fleet targeted in particular flatfish, such as sole, plaice and turbot. In 2016, the total value of landings was over EUR 38 million and around 133 FTEs were employed in this fleet segment, contributed to 8% of both the total income from landings and FTEs generated by the Dutch fishing fleet.

This fleet segment was profitable in 2016, with a reported GVA, gross profit and net profit of EUR 23.8 million, EUR 11.9 million and EUR 10.5 million, respectively.

Demersal trawls and seiners 24-40m – 23 vessels made up this segment which operated predominantly in the North Sea. The fleet targeted a variety of species like mullet, gurnard, squid and sea bass (mainly fly shoot method) but also flatfish, such as plaice and turbot. In 2016, the total value of landings was over EUR 32 million and around 135 FTEs were employed in this fleet segment, contributing to 7% and 8% of the total income from landings and FTEs generated by the Dutch fishing fleet, respectively.

This fleet segment was profitable in 2016, with a reported GVA, gross profit and net profit of EUR 20.2 million, EUR 9.1 million and EUR 6.7 million respectively.

Drivers affecting the economic performance trends

High fish prices, increased fishing opportunities and low fuel costs and further introduction of innovative fuel saving fishing gears were the main driving forces behind the overall improvement in economic performance. The Dutch demersal fishing fleet is dominated by trawlers, beam trawlers and demersal trawlers. As trawling is typically fuel intensive, fluctuations in fuel consumption and fuel prices are therefore key drivers of the fleet's profitability.

Markets and Trade

European plaice generally compete with other (non-)European flatfish species. However, they also compete with whitefish species on the same market in and outside Europe. An increased dollar exchange rate helped this flatfish to become more competitive, where important non-European whitefish species became less competitive due to relatively higher import prices. On the other hand, the total availability of (non-) European flatfish species and substitutes for these species dropped. As effect of the increased competitiveness and the relatively low availability the plaice price went up.

Most flatfish caught by the Dutch fishing sector is consumed in southern Europe in countries like Italy, Spain and France. In northern Europe, Germany is an important country for the consumption of flatfish.

In 2016 common shrimp landings prices increased explosively by 108% due to a growing unbalance between demand and supply due to global landings volumes dropping significantly. Where landings volumes in the Netherlands kept more or less the same (18.7 thousand tonnes), the volumes in Germany decreased by 45% (-7.2 thousand tonnes). Due to pending contracts high prices are paid to fulfil the contracted volumes.

Nigeria, an important export market for small pelagics, started a structural fish embargo at the start of 2014. In this same year Russia introduced a ban on seafood imports from Europe. These changes

decreased the market opportunities for the pelagic trawler sector. Pelagic trawler sector is investing in new markets.

Management instruments

The Dutch fleet is managed mainly through ITQs for the most important species, together with a range of input controls.

In the context of the recovery of cod stocks, a number of effort measures (including real time closures) were implemented depending on the fishing gear in the North Sea, the Irish Sea, Skagerrak and west of Scotland. Many additional yearly restrictions exist, depending on the fleet segment, the species and area. In 2015, the North Sea cod management plan was discontinued and limits on days at sea in the North Sea stopped.

Due to Natura 2000 demersal trawl fisheries are facing many area closures. Besides that, other activities in the North Sea such as windmill parks claim more and more space. As a result, fisheries are forced to change their fishing grounds.

The Landing Obligation

There is much concern about discarding in mixed fisheries, especially in terms of sustainability of fish populations which is in turn a threat to the future of fisheries. This led to the implementation of a landing obligation (or discard ban) for European fisheries in the latest CFP reform in 2013. The landing obligation will prohibit discarding all species with a TAC by 2019, with a gradual implementation. The aim is to incentivise fishers to avoid non-target species, juvenile fish and catches that exceed quota through better selectivity. Measures were put into place to allow for some flexibility, such as quota uplifts. Furthermore, in the Netherlands a *de minimis* exemption was set in 2016 in the sole fisheries that allows for a 7% discard of the catch in the North Sea.

Different projects, partly funded by the EMFF, are started in the Netherlands for finding solutions for a workable landing obligation. The projects mainly focus on increasing survivability of quoted unwanted fish species and improving selectivity of nets. By increasing survivability species like sole and turbot could be excluded from the landing obligation. Improving selectivity will reduce the amount of unwanted bycatch. Especially in *nephrops* fisheries net adjustments improved selectivity. The new developed SEPNEP, a net with two cod ends that separate the *nephrops* from the other fish, reduces unwanted bycatch up to 65% (unwanted plaice and dab by -69% and -78% respectively) without losing (too much) marketable fish.

Fishers fear that the discard ban will not be workable. Beside of the extra costs and the need of additional crew, the most important concern is related to choke species[24], i.e. losing catches of species where quota are still available. Discards are highly variable depending on the fishery in terms of quantity and composition. It is expected that a quota uplift may not be sufficient in some fisheries to prevent a "choke". In such a situation, the fishing activities are halted regardless of the available quota for other species. Particularly in a mixed fishery where the stocks and quotas of the target species are high, this could be an issue as many species are caught at the same time and multiple choke species may occur. Rays, turbot and brill are potential choke species candidates in mixed demersal fisheries (Batsleer, 2016).

TACs and quotas

Total initial available quota for the Dutch fleet in 2018 is 321 thousand tonnes. For the most important species, quota is managed through ITQs.

The Dutch quota for sole from ICES area IV and union waters of IIa, which is especially important for the Dutch fleet, increased by 15% (including 810 tonnes top up for the purpose of the landing obligation) to 12 122 tonnes in 2017. The Dutch quota for European plaice from ICES area IV, union waters of area IIa and area III (excluding Skagerrak and Kattegat) stayed on the same level (including 551 tonnes top up for the purpose of the landing obligation), on 46 471 tonnes.

The Netherlands conducts quota swaps with other member states. This, together with the transferable quota from 2016 to 2017, allowed for a sufficient amount of quota for important fish species like sole, plaice and *nephrops* in 2017. In total sole quota increased in 2017 by 4%, amounting to a total of 12 591 tonnes. For European plaice this amounted to a total of 57 585 tonnes (+24%).

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[24] A choke species is a species for which available quota is insufficient to cover catches.

In 2016, Lease prices for sole were around EUR 2.75 per kg. Sole quota was not fully utilised in 2016 (80%). In 2017 sole TACs increased again which increased the availability of sole quota. This fact, together with an increased effort in shrimp fisheries (due to good shrimp prices) brought back the lease price for sole to below EUR 1.50 per kg in 2017.

The utilisation of plaice quota was low in 2015, 2016 and 2017 and lease prices were also very low.

Status of Key Stocks

Most of the imported stocks fished by the Dutch fleet such as sole and plaice in the North Sea are fished at sustainable levels, below or at MSY. Some other stocks (like cod) are still overfished. These species (like cod) are caught as bycatch or a target for only a couple of vessels.

Innovation and Development

Around 80 commercial vessels are currently using pulse technique. Pulse technique reduce fuel consumption up to 60%. Most of these vessels target flatfish. In the EU, Trialogue pulse technique will be discussed in 2018. If and in what form pulse fisheries will be an acknowledged fishing technique depends on the outcome of this Trialogue. The topic of pulse fishing is highly controversial at the moment, which makes the future of this gear as a potential alternative for beam trawl fisheries uncertain.

Projections for 2017 and outlook for 2018

The number of vessels within the trawler fleet will increase from 7 to 8 in 2017. The pelagic vessels are more efficient (faster freezing technics) and have enough capacity to fish their quota. Increased landings of pelagic fish species in 2017 (+9%) will improve economic performances in this year. For 2018 it is expected that economic performance will also be higher than 2016. Almost all important fishing rights increase except of mackerel (-20%).

Decreased fish prices for sole (-1% to EUR 10.32 per kg) and common shrimp -5% to EUR 5.97 per kg) in 2017, together with decreased landing volumes for plaice (-9% to 30.5 thousand tonnes), sole (-3% to 9.4 thousand tonnes) and common shrimp (-25% to 14.0 thousand tonnes) will decrease the landings income for the demersal flatfish and shrimp fisheries. Increased fish prices for plaice (+11% to EUR 1.78 per kg) and increased landing volumes for blue whiting (+40% to 81.6 thousand tonnes) will inhibit the decrease in landings income a bit. These changes in income, together with the increased fuel prices (+7% to EUR 0.34 per litre), let the economic performances across fleet types and for the Dutch demersal fishery overall decrease a bit.

It is expected that profitability in 2017 will not as historical as 2016 but still very high. Projections for 2017 show an overall increase of 4% in landed weight and a 7% decrease in landed value. Together with a increase in most notably fuel costs (-+12%) and decrease of wages and salaries of crew (-7%), gross profits and net profits are expected to decrease up to 6% and 8%, respectively. Gains are expected in 2018 if fish and fuel prices do not fluctuate too much in the 2nd half of the year and quota are optimally used.

Vessels that do not own sole quota (e.g. static gear vessels) may see their situation improve in 2017 and 2018, compared to 2016. The increased amount of fishing rights for sole will increase the availability of sole quota (and further reduce lease prices). The lease price for sole increased substantially over the last years due to optimal use of sole TAC. The relatively high lease price (around EUR 3.35/kg) caused an increase in total costs for some vessels. In 2017 lease price dropped to around EUR 1.50 per kg.

There are different future drivers that could influence the performance of the (Dutch) fisheries. Dutch fisheries are highly dependent on the UK waters. It is still very unclear what the UK exit will imply, however, the most important fleet segments are getting up to 60% of their landings value from fishing areas in UK waters. It is known that a transitional period will come first in which the UK will actually remain a Member State of the EU. This period runs from 29 March 2019 to 1 January 2021. In the transitional period, everything will actually remain as it is. The UK will remain part of the Common Fisheries Policy (CFP), but it will not have any voice in determining quotas and other changes. So until the end of 2020 no big changes are expected. However, British political leaders have made clear that Britain will take back control on its fisheries. Therefore, it is not unreasonable to expect that Brexit may potentially have large negative consequences on the current Dutch fishing fleet after the transitional period.

Beside Brexit it is still not clear if fishing with pulse technique will be permitted in future. If (a part of) the fleet needs to fall back on the traditional way of fishing (conventional beam trawl fisheries), these

vessels fuel consumption (and amount of unwanted bycatch) shall increase again (up to 60%) and will influence the fleet performance especially in years with high fuel prices.

Another important future driver is that the fisheries sector is preparing to meet the requirements with respect to landing obligation which will be fully introduced in 2019. Fishers started projects (supported by the Dutch government and EU) to decrease unwanted bycatch and to improve survivability. It is expected that quota for especially Turbot/Brill and Rays (for demersal fisheries) and boarfish (pelagic fisheries) are not sufficient in some fisheries to prevent a "choke". In these situation, the fishing activities will be halted regardless of the available quota for other species.

MODEL FORECAST

Preliminary results for 2017 forecast an 4% increase in landed weight, with a 7% decrease in landed value. Projections suggest that a decrease in effort and an increase in fuel consumption will be translated in part to a <1% decrease in operating costs, and, together with an <1% reduction in capital costs the economic performance will decrease a bit in 2017: GVA (-14%), gross profit (-21%) and net profit (-29%).

Projection results suggest that the Dutch fleet operated at a profit in 2017: with an estimated gross and net profit margin of 23% and 15%, respectively despite a projected increase of fuel costs (+10%) in 2017. Positive economic developments can also be seen in performance indicators GVA to revenue (55%), GVA per FTE (EUR 146 thousand) and a gross value added of EUR 245 million.

The 2016 gains are slightly less in 2017 as an increasing landings weight is counteracted by low prices, resulting in a 6% decrease in revenue (income from landings). For 2018, it is forecasted a better economic performance than 2017, but without reaching the high profitability levels achieved in 2016.

Data issues

Most of the segments in the Dutch fishing fleet were well covered. In some of the smaller segments (DRB 0-10 m, DRB 24-40 m, DTS 0-10 m and TBB 12-18 m) variation in activity levels was high resulting in high uncertainty in the economic indicators estimates and large fluctuations from year to year. Moreover, the smaller fleet segments are clusters of vessels using different fishing techniques:

- Drift and/or fixed netters 12-18m include drift and/or fixed netters 12-18m and vessels using pots and/or traps 12-18m;
- Drift and/or fixed netters 18-24m include drift and/or fixed netters 18-24m, vessels using pots and/or traps 18-24m and vessel using other active gears 18-24m;
- Dredgers 24-40m include drift and/or fixed netters 24-40m, dredgers 24-40m and dredgers 40m or larger;
- Beam trawlers 0-10m include demersal trawlers and/or demersal seiners 10-12m, purse seiners 0-10m, beam trawlers 0-10m, beam trawlers 10-12m, pelagic trawlers 0-10m and pelagic trawlers 10-12m;
- Beam trawlers 12-18m include demersal trawlers and/or demersal seiners 12-18m, beam trawlers 12-18m and pelagic trawlers 12-18m.

Because of low response rates for the data collection in the segments above in 2016, clusters were combined in order to estimate the economic parameters: Demersal trawlers and/or demersal seiners 0-< 10 m, Beam trawlers 0-< 10 m and Beam trawlers 12-< 18 m were combined and Dredgers 24-< 40 m and Drift and/or fixed netters 12-< 18 m were combined. Therefore, these figures should be viewed as indicative for the size of the sector rather than describing the exact trends. Currently work is being carried out to improve the estimation procedures.

Prices of pelagic fish

The prices of pelagic fish used to calculate the fishing revenue of the pelagic trawler fleet are not real prices. They are internal prices used within the fishing companies to calculate the wage of the fishing crew. The integrated companies cover the whole production chain from fishing to the consumer and there are no real ex-vessel prices available. Those prices probably underestimate the value of landings of pelagic fish.

Table 5.73 Netherlands: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	712	725	737	736	740	735	719	717	733	736	530		2%	1%
Number of inactive vessels_ms	(#)	142	139	159	175	192	184	174	191	206	211			8%	22%
Vessel tonnage	(thousand GT)	138.8	137.2	130.5	135.5	128.8	134.1	126.1	110.2	114.7	116.4			4%	-12%
Engine power	(thousand kW)	295.9	294.0	288.8	288.1	276.3	280.1	266.7	247.2	254.7	259.0			3%	-9%
Total employed	(person)	2,205	2,087	2,095	2,050	2,040	2,087	2,014	1,970	1,972	2,039	2,005		0%	-5%
FTE	(#)	1,883	1,964	1,795	1,707	1,720	1,729	1,684	1,623	1,648	1,681	1,670		2%	-7%
Days at sea	(thousand day)	50.9	54.3	51.3	47.0	51.8	50.7	48.7	49.0	52.4	51.1	51.2		7%	4%
Fishing days	(thousand day)	44.6	47.7	45.0	41.1	45.6	44.6	42.9	43.2	46.2	45.0			7%	4%
Number of fishing trips	(thousand)	28	29	30	27	28	28	28	28	30	30			7%	6%
Energy consumption	(million litre)	238.3	232.8	227.8	203.4	170.1	170.4	152.9	140.1	160.1	170.1	168.0		14%	-17%
Live weight of landings	(thousand tonne)	416	356	387	353	344	345	382	331	368	383	448		11%	1%
Value of landings	(million €)	421	365	379	360	368	369	373	371	467	434	475		26%	24%
Income from landings	(million €)	430	370	384	367	370	369	378	376	469	443	478		25%	23%
Other income	(million €)	1.6	1.9	2.7	1.9	2.4	2.0	6.0	2.4	2.5	2.6	2.7		3%	-3%
Direct income subsidies	(million €)	-	-	1.3	0.4	1.2	1.7	2.4	-	2.6					193%
Income from leasing fishing rights	(million €)	2.0	2.5	2.4	1.6	1.2	2.6	2.7	2.8	2.1				-26%	-5%
Wages and salaries of crew	(million €)	98.7	91.8	90.8	86.6	91.0	93.2	98.0	106.8	136.6	128.2	138.9		28%	44%
Unpaid labour value	(million €)	10.8	9.9	8.3	6.8	8.0	9.2	8.8	8.7	15.2	12.5	15.2		76%	73%
Energy costs	(million €)	126.1	81.6	105.9	118.6	109.6	98.3	79.0	54.3	51.4	56.4	63.9		-5%	-47%
Repair & maintenance costs	(million €)	58.8	61.1	51.2	60.2	62.2	50.9	51.0	63.5	55.0	58.2	59.5		-13%	-4%
Other variable costs	(million €)	41.4	37.3	40.5	37.8	33.7	34.3	33.8	34.3	31.0	32.7	32.4		-10%	-15%
Other non-variable costs	(million €)	41.9	40.0	38.4	37.4	35.3	37.0	38.1	42.0	50.5	53.5	54.6		20%	30%
Annual depreciation costs	(million €)	52.6	43.0	47.1	53.4	46.1	55.3	40.6	33.8	35.4	38.2	39.1		5%	-24%
Rights costs	(million €)	7.3	7.4	7.1	6.8	3.1	3.0	15.7	11.2	16.2				45%	110%
Opportunity cost of capital	(million €)	9.21	13.19	9.99	1.97	- 2.85	- 1.65	3.62	1.32	0.49	- 2.01	- 1.15		-63%	-89%
Tangible asset value (replacement)	(million €)	462.6	495.8	482.8	409.6	335.8	265.5	315.0	275.7	271.9	260.5	266.6		-1%	-29%
Fishing rights	(million €)	210.1	269.6	240.2	240.5	227.1	256.7	273.1	349.5	449.6	458.9			29%	74%
Investments	(million €)	18.7	60.7	26.0	31.6	34.2	9.3	18.8	14.9	15.1				2%	-43%
Financial position	(%)	50.4	50.3	50.7	54.3	57.1	52.9	50.3	54.1	50.6				-6%	-4%
Gross Value Added	(million €)	163.7	152.2	151.2	114.7	131.8	150.8	182.6	184.4	283.8	245.2	270.3		54%	84%
GVA to revenue	(%)	37.9	40.9	39.1	31.1	35.4	40.6	47.5	48.7	60.2	55.0	56.2		24%	50%
Gross profit	(million €)	54.1	50.5	52.1	21.3	32.8	48.4	75.7	68.9	132.0	104.5	116.1		92%	161%
Gross profit margin	(%)	12.5	13.6	13.5	5.8	8.8	13.0	19.7	18.2	28.0	23.4	24.2		54%	113%
Net profit	(million €)	- 7.7	- 5.6	- 5.0	- 34.1	- 10.5	- 5.3	31.5	33.8	96.1	68.3	78.2		185%	27686%
Net profit margin	(%)	- 1.8	- 1.5	- 1.3	- 9.2	- 2.8	- 1.4	8.2	8.9	20.4	15.3	16.3		128%	17784%
GVA per FTE (labour productivity)	(thousand €)	86.9	77.5	84.2	67.2	76.6	87.2	108.4	113.6	172.2	145.8	161.8		52%	96%
Return on fixed tangible assets	(%)	0.3	1.5	1.0	- 7.8	- 4.0	- 2.6	11.2	12.7	35.5	25.4	28.9		179%	2197%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).
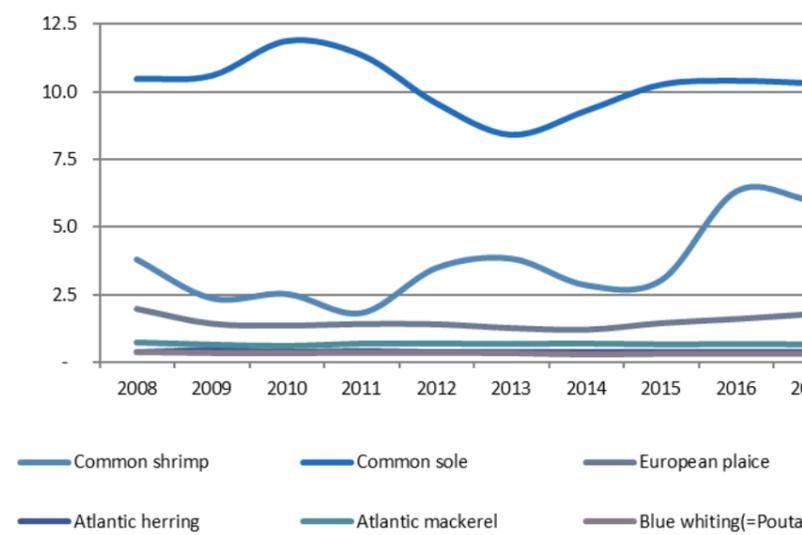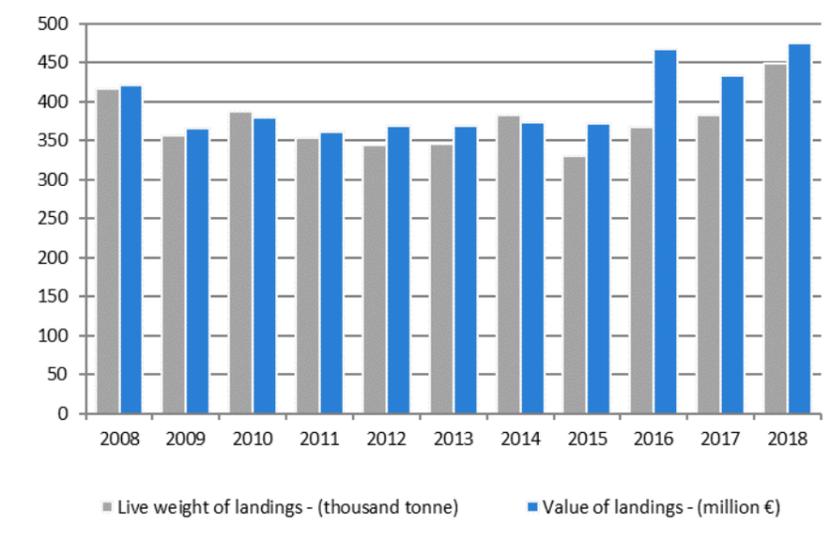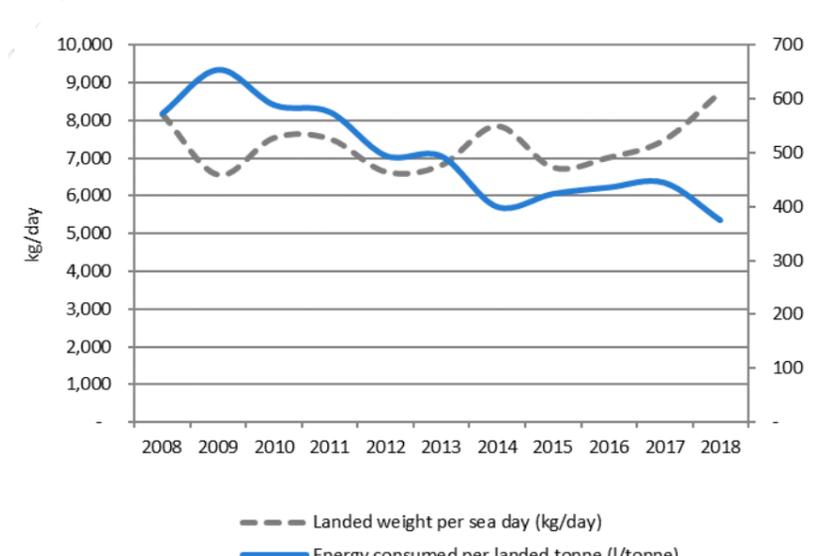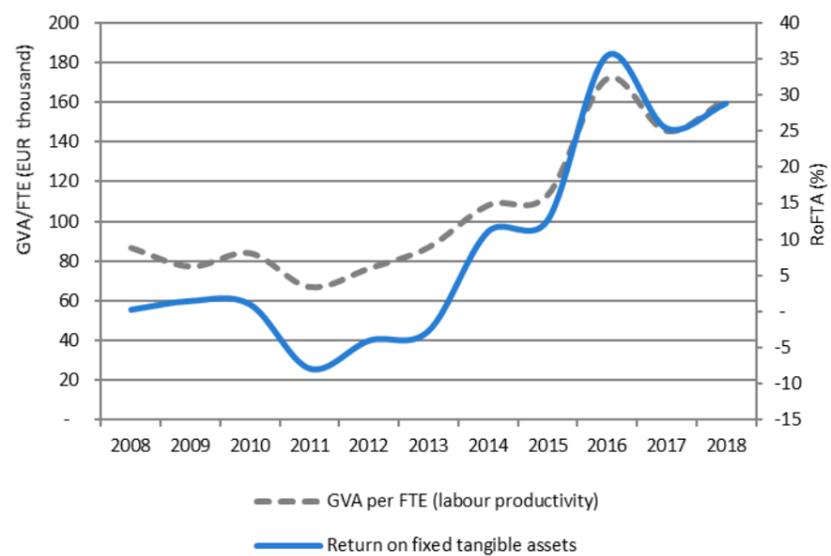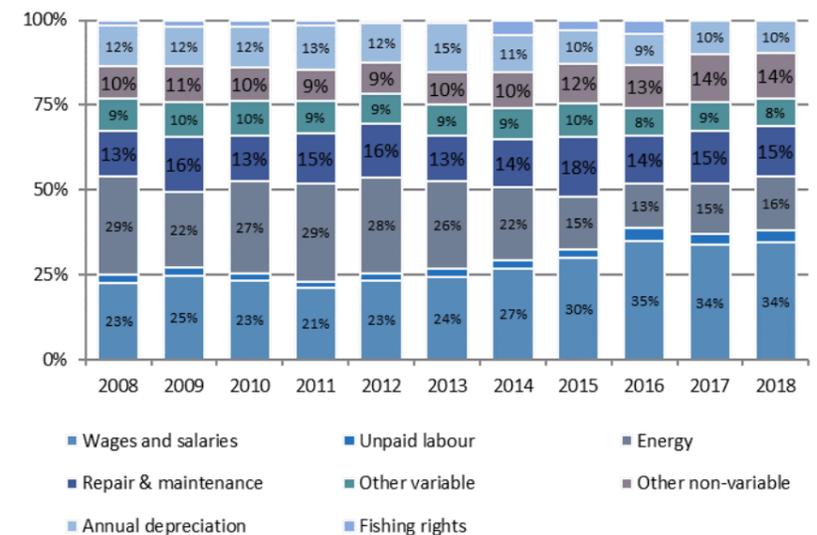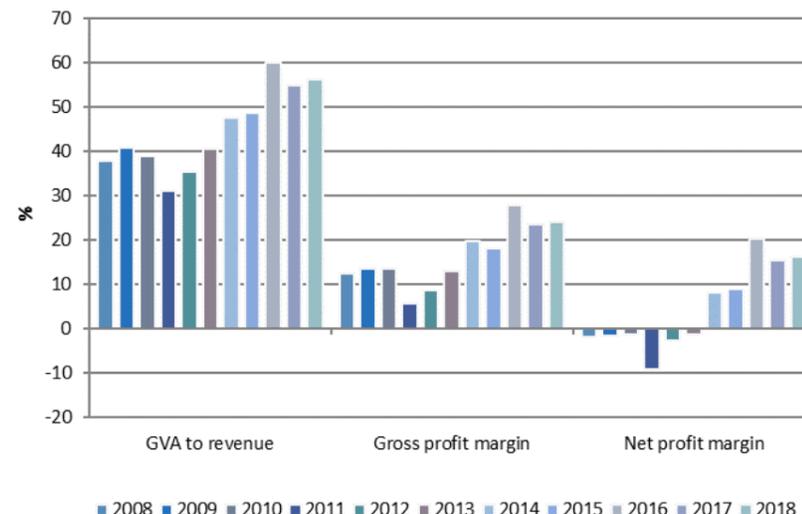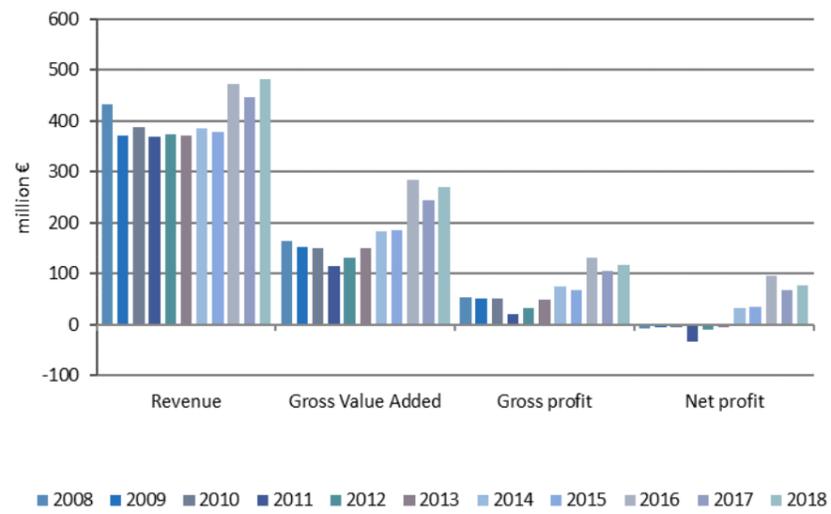
Figure 5.16 Netherlands: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.74 Netherlands: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

Indicator	Unit	SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	SCF Trend 2008-2018	SCF Δ2016 to 2015	SCF Δ2016 to avg.08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	LSF Trend 2008-2018	LSF Δ2016 to 2015	LSF Δ2016 to avg.08-15
Total number of vessels	(#)	180	182	180	176	184	191	184	182	181	179	182		-1%	-1%	390	404	398	385	364	360	361	344	346	346	348		1%	-8%
Vessel tonnage	(thousand GT)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4			-5%	-9%	132.5	130.8	123.5	129.5	122.3	128.3	119.8	104.4	106.0	110.8			2%	-14%
Engine power	(thousand kW)	12	13	14	16	18	18	18	20	18	19			-9%	11%	265	261	251	251	235	239	224	206	210	217			2%	-13%
FTE	(#)	135	235	125	76	109	104	88	98	87	83	81		-11%	-28%	1,748	1,729	1,670	1,631	1,611	1,625	1,596	1,525	1,561	1,598	1,589		2%	-5%
Total employed	(person)	352	302	324	302	335	383	321	362	329	325	334		-9%	-2%	1,853	1,785	1,771	1,748	1,705	1,704	1,693	1,608	1,644	1,714	1,670		2%	-5%
Days at sea	(thousand day)	2.5	2.6	2.7	2.4	2.9	2.8	2.9	3.0	3.6	3.4	3.4		19%	32%	48.4	51.7	48.6	44.6	48.9	47.9	45.7	46.0	48.8	47.7	47.9		6%	2%
Fishing days	(thousand day)	2.4	2.4	2.5	2.2	2.7	2.6	2.7	2.8	3.4	3.2			19%	32%	42.2	45.3	42.5	38.9	42.9	42.0	40.1	40.4	42.8	41.8			6%	3%
Number of fishing trips	(thousand)	5	4	4	4	5	4	4	5	5	4			4%	9%	24	25	26	23	24	24	24	23	25	25			8%	6%
Energy consumption	(million litre)	0.9	0.6	0.8	1.3	0.8	0.8	1.0	0.4	0.4	0.4	0.4		-2%	-50%	237.4	232.2	226.9	202.2	169.2	169.6	151.4	139.8	162.8	169.7	167.6		16%	-15%
Live weight of landings	(thousand tonne)	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.5		-10%	-8%	415.5	355.3	386.2	352.8	343.2	344.6	382.0	330.0	367.1	382.4	447.9		11%	1%
Value of landings	(million €)	3.4	3.1	3.6	3.7	3.9	3.3	3.1	3.2	3.4	2.6	3.2		4%	-1%	417.9	362.3	375.3	356.7	364.5	365.3	370.0	368.0	463.1	431.6	472.1		26%	24%
Income from landings	(million €)	9.0	5.6	4.8	4.7	5.9	4.9	4.0	3.9	3.2	2.5	2.9		-19%	-40%	421.2	364.6	379.7	362.1	364.4	364.5	374.5	372.1	466.1	440.7	475.2		25%	24%
Other income	(million €)	0.1	0.0	-	0.0	0.2	0.1	0.3	0.7	0.3	0.3	0.3		-52%	86%	1.5	1.9	2.7	1.9	2.2	1.8	5.7	1.8	2.2	2.3	2.3		25%	-10%
Direct income subsidies	(million €)	-	-	-	-	0.0	0.0	0.2	-	-					-100%	-	-	1.3	0.4	1.2	1.7	2.3	-	2.6					200%
Income from leasing fishing rights	(million €)	0.3	0.0	-	-	-	0.2	0.5	0.1	0.1				-15%	-40%	1.7	2.5	2.4	1.6	1.2	2.4	2.2	2.8	2.0				-26%	-3%
Wages and salaries of crew	(million €)	1.6	0.6	0.4	0.4	0.9	0.6	0.4	0.4	0.2	0.1	0.2		-53%	-74%	97.1	91.1	90.4	86.2	90.0	92.6	97.6	106.4	136.4	128.0	138.8		28%	45%
Unpaid labour value	(million €)	1.1	0.8	0.5	0.5	0.8	0.7	0.6	0.4	0.4	0.3	0.4		14%	-39%	9.8	9.1	7.8	6.2	7.2	8.5	8.2	8.3	14.8	12.2	14.8		78%	82%
Energy costs	(million €)	0.8	0.4	0.6	0.5	0.7	0.6	0.5	0.4	0.4	0.4	0.4		-19%	-37%	125.3	81.2	105.3	118.0	109.0	97.7	78.6	53.9	51.1	56.0	63.5		-5%	-47%
Repair & maintenance costs	(million €)	1.2	0.6	0.8	0.6	0.8	1.1	0.6	0.4	0.4	0.4	0.4		-13%	-50%	57.5	60.5	50.4	59.6	61.3	49.9	50.3	63.1	54.6	57.8	59.2		-13%	-3%
Other variable costs	(million €)	0.7	0.5	0.6	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2		-19%	-55%	40.7	36.8	39.8	37.5	33.5	34.0	33.6	34.1	30.9	32.5	32.2		-10%	-15%
Other non-variable costs	(million €)	0.9	0.4	0.6	0.3	0.5	0.4	0.3	0.3	0.3	0.3	0.3		4%	-38%	41.0	39.6	37.8	37.1	34.8	36.7	37.7	41.7	50.2	53.2	54.3		20%	31%
Annual depreciation costs	(million €)	1.8	1.0	1.4	1.0	1.0	0.9	0.8	0.7	0.6	0.6	0.6		-14%	-41%	50.8	42.0	45.6	52.5	45.1	54.4	39.8	33.1	34.8	37.6	38.5		5%	-23%
Rights costs	(million €)	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0				-80%	-81%	7.2	7.3	7.0	6.7	3.0	2.9	15.6	11.1	16.2				46%	113%
Opportunity cost of capital	(million €)	0.4	0.3	0.3	0.1	-0.1	0.1	0.1	0.0	0.0	-0.1	-0.0		-65%	-88%	8.6	12.1	9.0	1.8	-2.5	-1.5	3.2	1.2	0.4	-1.9	-1.1		-65%	-89%
Tangible asset value (replacement)	(million €)	21.7	12.2	14.3	12.1	12.3	11.2	9.7	10.1	9.3	9.3	9.4		-7%	-28%	432.0	455.5	435.6	367.8	299.7	238.8	277.4	248.8	233.4	251.3	257.2		-6%	-32%
Fishing rights	(million €)	3.2	3.7	4.5	2.5	3.4	2.4	2.7	3.1	3.8				22%	20%	160.1	205.2	183.6	172.6	156.8	173.8	188.5	233.0	292.9				26%	59%
Investments	(million €)	1.3	0.6	0.7	0.6	0.6	0.6	0.5	0.5	0.4				-10%	-34%	17.4	60.1	25.3	31.0	33.6	8.7	18.3	14.4	14.7				2%	-44%
Gross Value Added	(million €)	5.5	3.7	2.2	3.0	3.9	2.6	2.7	3.3	2.3	1.7	2.0		-28%	-30%	158.2	148.5	149.0	111.7	127.9	148.2	179.9	181.1	281.5	243.5	268.3		55%	87%
GVA to revenue	(%)	60.0	66.5	45.8	64.4	63.4	52.7	62.5	70.4	66.1	58.6	61.6		-6%	9%	37.4	40.5	39.0	30.7	34.9	40.4	47.3	48.4	60.1	55.0	56.2		24%	51%
Gross profit	(million €)	2.8	2.3	1.3	2.1	2.1	1.4	1.6	2.5	1.8	1.2	1.5		-31%	-13%	51.3	48.2	50.8	19.2	30.6	47.0	74.1	66.3	130.2	103.3	114.7		96%	169%
Gross profit margin	(%)	30.5	40.7	26.9	44.3	34.8	27.1	38.2	54.8	49.6	42.4	45.3		-9%	34%	12.1	13.2	13.3	5.3	8.4	12.8	19.5	17.7	27.8	23.3	24.0		57%	117%
Net profit	(million €)	0.6	1.0	-0.4	1.1	1.2	0.5	0.8	1.8	1.1	0.7	0.9		-37%	37%	8.1	-5.9	-3.8	-35.0	-11.9	5.9	31.1	32.1	95.0	67.6	77.3		196%	10370%
Net profit margin	(%)	6.3	17.5	-8.9	22.6	19.8	10.6	18.1	37.8	31.2	23.1	26.7		-17%	102%	1.9	-1.6	-1.0	-9.6	-3.2	-1.6	8.2	8.6	20.3	15.3	16.2		136%	7389%
Return on fixed tangible assets	(%)	4.6	10.7	-0.9	9.3	8.9	4.1	9.2	17.9	12.0	6.4	8.7		-33%	50%	0.1	1.4	1.2	-9.0	-4.8	3.1	12.3	13.4	40.9	26.2	29.6		206%	2753%
GVA per FTE (labour productivity)	(thousand €)	40.4	15.9	17.6	39.9	35.3	25.5	30.6	33.3	26.9	20.2	24.5		-19%	-10%	90.5	85.9	89.2	68.5	79.4	91.2	112.7	118.7	180.3	152.4	168.8		52%	96%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.75 Netherlands: Landed value, weight and average price of principal species

| | Value of landings (real) (thousand €) | | | | | | | | | | Live weight of landings (thousand tonne) | | | | | | | | | | Average landed price (real) (€) | | | | | | | | | | % over total (2016) | |
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Common shrimp	58.3	45.3	43.5	29.1	50.8	76.8	66.4	57.3	117.7	83.7	15.4	19.2	17.3	16.0	14.6	20.1	23.4	18.9	18.7	14.0	3.8	2.4	2.5	1.8	3.5	3.8	2.8	3.0	6.3	6.0	25%	5%
Common sole	98.7	101.7	104.4	90.7	87.0	83.9	85.4	94.4	100.6	96.6	9.4	9.6	8.8	8.0	9.1	10.0	9.2	9.2	9.7	9.4	10.5	10.6	11.9	11.4	9.6	8.4	9.3	10.3	10.4	10.3	22%	3%
European plaice	40.8	33.4	38.3	40.8	45.3	42.7	35.5	46.8	53.9	54.3	20.7	23.4	28.3	28.8	32.2	33.8	29.3	32.2	33.7	30.5	2.0	1.4	1.4	1.4	1.4	1.3	1.2	1.5	1.6	1.8	12%	9%
Atlantic herring	21.8	22.1	20.8	18.6	32.8	31.8	31.2	27.3	37.2	34.0	56.7	47.7	55.8	45.4	85.1	88.0	85.2	75.9	103.4	95.6	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	8%	28%
Atlantic mackerel	14.4	15.1	14.8	19.2	17.5	14.5	32.0	25.7	24.8	28.2	20.1	23.4	24.9	28.4	25.7	21.6	46.8	39.4	37.5	43.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	5%	10%
Blue whiting(=Poutassou)	29.5	12.2	11.5	1.6	9.4	17.1	10.5	16.9	17.5	24.2	78.5	35.7	35.0	4.6	27.2	51.6	38.6	56.4	58.4	81.6	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	4%	16%
Turbot	18.3	15.7	15.4	14.9	13.8	13.8	15.2	15.2	16.0	18.3	1.8	1.7	1.5	1.5	1.8	1.8	1.6	1.8	1.9	2.0	10.4	9.3	10.4	10.0	7.8	7.7	9.4	8.5	8.4	9.2	3%	1%
Atlantic horse mackerel				0.0	0.0	0.1	17.2	15.5	15.7	10.9				0.0	-	0.2	36.4	30.3	30.7	21.7				3.9	4.9	0.7	0.5	0.5	0.5		3%	8%
European pilchard(=Sardine)	4.3	7.6	9.2	17.4	11.0	2.1	13.9	4.3	11.4	9.4	11.4	27.2	27.1	48.2	27.0	4.6	46.8	13.1	34.5	28.7	0.4	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.3	2%	9%
Norway lobster	4.1	3.7	4.0	7.3	7.2	5.9	6.7	6.9	10.1	9.9	0.7	0.9	0.7	1.0	1.0	0.9	1.1	1.1	1.5	1.5	5.6	4.4	5.6	7.1	7.0	6.5	5.8	6.5	6.9	6.6	2%	0%
																															87%	90%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.76 Netherlands: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
NLD A27 TBB40XX °	55	398	11,449	1,415	37,409	133,104	133,408	79,977	59.9	42,072	31.5	38,072	28.54	95.2	200.9	137.0	High	249%	Improved	28.3%
NLD A27 TBB1824 °	155	428	22,759	1,219	21,029	123,183	123,164	89,022	72.3	42,277	34.3	36,880	29.94	109.3	208.2	102.2	High	320%	Improved	26.1%
NLD A27 TM40XX °	7	346	1,825	182	275,322	110,369	110,349	54,643	49.5	26,331	23.9	7,783	7.05	81.8	157.9	6.4	Weak	-49%	Deteriorated	23.4%
NLD A27 TBB2440 °	28	133	4,930	1,352	9,791	38,324	38,286	23,815	62.2	11,948	31.2	10,505	27.44	88.9	178.5	103.3	High	9746%	Improved	8.1%
NLD A27 DTS2440 °	23	135	4,026	663	13,274	31,911	35,592	20,159	56.6	9,057	25.4	6,709	18.85	82.5	149.8	71.1	Reasonable	806%	Improved	7.5%
NLD A27 DRB2440 °	8	12	657	1,250	6,782	11,863	12,077	5,576	46.2	- 3,901	- 32.3	- 5,085	- 42.11	819.8	482.4	51.7	Weak	-43%	Deteriorated	2.6%
NLD A27 DTS1824 °	9	53	1,563	1,081	2,455	9,366	9,681	4,850	50.1	1,830	18.9	916	9.46	57.3	92.1	94.4	Weak	782%	Improved	2.1%
NLD A27 TBB1218 °	19	31	994	1,194	666	3,804	3,949	2,508	63.5	933	23.6	457	11.56	50.4	80.2	11.7	Reasonable	44%	Improved	0.8%
NLD A27 PG0010 °	162	78	3,146	1,227	311	2,438	3,179	2,102	66.1	1,577	49.6	993	31.24	6.7	26.9	12.0	High	209%	Improved	0.7%
NLD A27 DFN1824 °	7	7	236	1,541	110	410	700	177	25.3	- 362	- 51.8	- 809	- 115.55	76.5	25.1	- 19.6	Weak	-27%	Deteriorated	0.1%
NLD A27 TBB0010 °	15	8	193	514	101	416	663	491	74.1	- 7	- 1.0	- 248	- 37.39	59.5	58.7	- 8.5	Weak	244%	Improved	0.1%
NLD A27 PG1012 °	19	9	460	341	127	933	362	239	66.1	179	49.6	113	31.24	6.7	26.9	12.0	High	197%	Improved	0.1%
NLD A27 DTS0010 °	12	7	65	354	60	118	272	177	65.2	- 27	- 9.9	- 220	- 80.90	30.5	26.5	- 9.4	Weak	57%	Improved	0.1%
NLD A27 DFN1218 °	8	4	115	226	81	267	152	101	66.1	76	49.6	48	31.24	6.7	26.9	12.0	High	220%	Improved	0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.77 Netherlands: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
NLD A27 TBB40XX °	58	424	12,201	1,583	35,654	133,373	135,562	77,831	57.4	39,317	29.0	35,373	26.09	90.8	183.5	120	High	30.4%
NLD A27 TM40XX °	8	390	2,059	188	300,347	118,580	120,224	56,014	46.6	25,171	20.9	5,312	4.42	79.0	143.5	3	Weak	27.0%
NLD A27 TBB1824 °	155	384	20,461	1,475	15,626	90,736	92,059	58,809	63.9	23,894	26.0	18,835	20.46	90.8	153.0	51	High	20.6%
NLD A27 DTS2440 °	27	160	4,773	791	13,197	32,820	37,159	18,735	50.4	7,157	19.3	4,503	12.12	72.6	117.4	40	Reasonable	8.3%
NLD A27 TBB2440 °	27	127	4,695	1,591	7,923	34,659	35,113	21,001	59.8	10,118	28.8	8,819	25.12	85.6	165.3	89	High	7.9%
NLD A27 DRB2440 °	6	10	571	1,108	6,655	11,521	11,843	6,588	55.6	- 2,744	- 23.2	- 3,564	- 30.09	927.7	654.9	49	Weak	2.7%
NLD A27 DTS1824 °	8	47	1,406	1,263	1,891	6,505	6,833	2,472	36.2	345	5.1	- 460	- 6.73	44.9	52.2	- 54	Weak	1.5%
NLD A27 PG0010 °	161	76	3,057	1,413	262	1,933	2,613	1,535	58.8	1,114	42.6	612	23.41	5.6	20.2	7	High	0.6%
NLD A27 TBB1218 °	17	31	986	1,196	659	2,294	2,450	1,104	45.1	140	5.7	- 252	- 10.30	31.1	35.6	- 8	Weak	0.5%
NLD A27 TBB0010 °	22	9	205	474	116	266	738	503	68.2	180	24.4	- 135	- 18.29	36.5	56.7	- 4	Weak	0.2%
NLD A27 DFN1824 °	7	5	160	667	173	360	642	150	23.3	- 330	- 51.4	- 738	- 114.91	100.6	31.4	19	Weak	0.1%
NLD A27 PG1012 °	18	7	384	452	80	633	258	146	56.6	105	40.6	50	19.51	5.5	19.6	5	Reasonable	0.1%
NLD A27 DFN1218 °	6	4	121	228	84	341	190	143	75.6	111	58.4	93	48.80	8.3	36.4	30	High	0.0%
NLD A27 DTS0010 °	5	6	59	330	58	112	178	127	71.6	- 69	- 38.7	- 140	- 78.89	32.3	21.0	- 15	Weak	0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)	(2017)	
NLD A27 TBB40XX °	58	424	12,201	1,583	35,654	133,373	135,562	77,831	57.4	39,317	29.0	35,373	26.09	90.8	183.5	120	High	30.4%
NLD A27 TM40XX °	8	390	2,059	188	300,347	118,580	120,224	56,014	46.6	25,171	20.9	5,312	4.42	79.0	143.5	3	Weak	27.0%
NLD A27 TBB1824 °	155	384	20,461	1,475	15,626	90,736	92,059	58,809	63.9	23,894	26.0	18,835	20.46	90.8	153.0	51	High	20.6%
NLD A27 DTS2440 °	27	160	4,773	791	13,197	32,820	37,159	18,735	50.4	7,157	19.3	4,503	12.12	72.6	117.4	40	Reasonable	8.3%
NLD A27 TBB2440 °	27	127	4,695	1,591	7,923	34,659	35,113	21,001	59.8	10,118	28.8	8,819	25.12	85.6	165.3	89	High	7.9%
NLD A27 DRB2440 °	6	10	571	1,108	6,655	11,521	11,843	6,588	55.6	- 2,744	- 23.2	- 3,564	- 30.09	927.7	654.9	49	Weak	2.7%
NLD A27 DTS1824 °	8	47	1,406	1,263	1,891	6,505	6,833	2,472	36.2	345	5.1	- 460	- 6.73	44.9	52.2	- 54	Weak	1.5%
NLD A27 PG0010 °	161	76	3,057	1,413	262	1,933	2,613	1,535	58.8	1,114	42.6	612	23.41	5.6	20.2	7	High	0.6%
NLD A27 TBB1218 °	17	31	986	1,196	659	2,294	2,450	1,104	45.1	140	5.7	- 252	- 10.30	31.1	35.6	8	Weak	0.5%
NLD A27 TBB0010 °	22	9	205	474	116	266	738	503	68.2	180	24.4	- 135	- 18.29	36.5	56.7	- 4	Weak	0.2%
NLD A27 DFN1824 °	7	5	160	667	173	360	642	150	23.3	- 330	- 51.4	- 738	- 114.91	100.4	31.4	19	Weak	0.1%
NLD A27 PG1012 °	18	7	384	452	80	633	258	146	56.6	105	40.6	50	19.51	5.5	19.6	5	Reasonable	0.1%
NLD A27 DFN1218 °	6	4	121	228	84	341	190	143	75.6	111	58.4	93	48.80	8.3	36.4	30	High	0.0%
NLD A27 DTS0010 °	5	6	59	330	58	112	178	127	71.6	- 69	- 38.7	- 140	- 78.89	32.3	21.0	15	Weak	0.0%

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Common shrimp	58.3	45.3	43.5	29.1	50.8	76.8	66.4	57.3	117.7	83.7	15.4	19.2	17.3	16.0	14.6	20.1	23.4	18.9	18.7	14.0	3.8	2.4	2.5	1.8	3.5	3.8	2.8	3.0	6.3	6.0	25%	5%
Common sole	98.7	101.7	104.4	90.7	87.0	83.9	85.4	94.4	100.6	96.6	9.4	9.6	8.8	8.0	9.1	10.0	9.2	9.2	9.7	9.4	10.5	10.6	11.9	11.4	9.6	8.4	9.3	10.3	10.4	10.3	22%	3%
European plaice	40.8	33.4	38.3	40.8	45.3	42.7	35.5	46.8	53.9	54.3	20.7	23.4	28.3	28.8	32.2	33.8	29.3	32.2	33.7	30.5	2.0	1.4	1.4	1.4	1.4	1.3	1.2	1.5	1.6	1.8	12%	9%
Atlantic herring	21.8	22.1	20.8	18.6	32.8	31.8	31.2	27.3	37.2	34.0	56.7	47.7	55.8	45.4	85.1	88.0	85.2	75.9	103.4	95.6	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	8%	28%
Atlantic mackerel	14.4	15.1	14.8	19.2	17.5	14.5	32.0	25.7	24.8	28.2	20.1	23.4	24.9	28.4	25.7	21.6	46.8	39.4	37.5	43.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	5%	10%
Blue whiting(=Poutass)	29.5	12.2	11.5	1.6	9.4	17.1	10.5	16.9	17.5	24.2	78.5	35.7	35.0	4.6	27.2	51.6	38.6	56.4	58.4	81.6	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	4%	16%
Turbot	18.3	15.7	15.4	14.9	13.8	13.8	15.2	15.2	16.0	18.3	1.8	1.7	1.5	1.5	1.8	1.8	1.6	1.8	1.9	2.0	10.4	9.3	10.4	10.0	7.8	7.7	9.4	8.5	8.4	9.2	3%	1%
Atlantic horse mackerel				0.0	0.0	0.1	17.2	15.5	15.7	10.9				0.0	-	0.2	36.4	30.3	30.7	21.7				3.9	4.9	0.7	0.5	0.5	0.5	0.5	3%	8%
European pilchard(=Sa	4.3	7.6	9.2	17.4	11.0	2.1	13.9	4.3	11.4	9.4	11.4	27.2	27.1	48.2	27.0	4.6	46.8	13.1	34.5	28.7	0.4	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.3	2%	9%
Norway lobster	4.1	3.7	4.0	7.3	7.2	5.9	6.7	6.9	10.1	9.9	0.7	0.9	0.7	1.0	1.0	0.9	1.1	1.1	1.5	1.5	5.6	4.4	5.6	7.1	7.0	6.5	5.8	6.5	6.9	6.6	2%	0%
																															87%	90%

5.17 Poland

Short description of the national fleet

Fleet capacity

In 2017 the number of Polish fishing vessels slightly decreased, with a total of 843 (-4%), 56 of which were inactive. However, combined gross tonnage (GT) engine power increased by 2% and amounted to 34.9 thousand tonnes and 83.2 thousand kilowatts (kW) respectively.

Majority of the inactive vessels belong to the two smallest length classes (<10, and 10-12m). In 10-12m length class 9% of the registered vessels reported no activity in 2017 (16% in 2006). Similar share of inactive vessels was noticeable in 12-18 m length class (8%). 35 (6.5% of the population) of inactive vessels were in the 0-10 m length class. The share of inactive vessels in the fleet slightly decreased.

There were 5 Polish distant water trawlers in the fleet in 2017 (three vessels operating in North Atlantic and two vessels in African waters). Two of them were removed from the registry in the mid of the year. The distant fleet is excluded from the analysis except for capacity, employment and weight of landings data as practically the entire segment is owned by one parent company. For confidentiality reasons the data cannot be published.

Fleet structure

In 2017, the Polish large-scale fishing fleet (length >12m) consisted of 167 vessels (=20%), whereas 617 vessels (=73%) were accounted for the small-scale coastal fleet (<12m passive gears).

Employment was estimated at 2 481 jobs, corresponding to 2 276 FTEs or an average of 2.6 FTE per vessel in 2016.

Effort was estimated at 75.2 thousand days at sea in 2016 (71.8 thousand days in 2015) an 5% increase, while the amount of energy consumed decreased by 3%. Higher energy consumption was observed in small-scale fisheries (vessels below 12 meters). For the large scale fisheries fuel consumption slightly decreased by 3%. The highest relative changes in energy were observed for demersal trawlers 12-18 metres length (-16%) and 18-24% length (-10%). Number of days at sea for these two segment has decreased by 11% and 25% respectively.

Polish vessels operate mainly in the Baltic Sea. In 2017, there were five vessels (in 2016, four vessels) fishing outside Baltic Sea, two operating in African waters i.e. Morocco, Mauritania and Namibia (FAO 34 and 47), and two (one joined the fishery in mid of the year) operating in North East Atlantic (FAO 27.I, II, IV, VI, and VII). Because of the low number of vessels, they contribute negligible to the total effort but substantially to the total production.

The total Production in 2017, increased compared to 2016, with a weight of landings of 208.7 thousand tonnes (compared to 198.6 thousand tonnes in 2016). The main species in the Baltic in 2017 were European sprat, Atlantic herring, Atlantic cod, and European flounder. In terms of weight sprat is by far the dominant species (71.9 thousand tonnes), whereas the highest revenue was generated by Atlantic herring (EUR 14.7 million and 43.4 thousand tonnes) following by sprat (EUR 13.4 million).

Economic results for 2016 and recent trends

National fleet performance

Polish Baltic fleet generated EUR 7.68 million net profit in 2016 (EUR 5.58 million net profit in 2015). Economic performance of the Polish had gradually deteriorated since 2012 up to 2014, improved in 2015 and remained good in 2016, mainly thanks to lower energy costs (lower consumption) and lower labour costs.

Based on the available information on catches value in 2017 and the effort deployed the overall performance in 2017 is expected to deteriorate, however the small-scale segments as well as other segments significantly dependant on cod (like 12-18 DFN and DTS) will deteriorate as a consequence of tough situation with Baltic cod. Baltic cod landings volume and value decreased in 2017 by 28% and 26% respectively.

Revenue, estimated at EUR 51.6 million in 2016, increased by 4%, however is expected to drop by 8% in 2017 due to lower landings income. When including direct income subsidies, total income (no income from fishing rights) amounted to EUR 52.25 million. Direct income subsidies accounted for just EUR 0.65

million, ten times less than in 2015 (EUR 6.6 million). The significant decrease was caused by late implementation of Polish Operational Programme and delayed payments to fishers from EMFF (mostly for temporary stopping activity).

When including opportunity capital costs, total costs amounted to EUR 43.9 million, not exceeding total revenue and generating a net profit of EUR 7.7 million. Total operating costs decreased due to the 15% decrease in energy costs, lower repair and maintenance costs (-5%) as well as labour (-2%) while other variable costs increased by 7%.

Gross Value Added (GVA) and gross profit in 2016 were estimated at EUR 31 million and EUR 17 million respectively, compared to 2015 (EUR 28 million, EUR 13.5 million) GVA increased 11% and gross profit increased by 23%. These results indicate a continued improved economic situation compared to previous years mainly due to higher volume and value of fish landed and lower energy costs and labour costs. Preliminary 2017 data shows that the situation worsened that year mainly due to lower landings income.

The (depreciated) replacement value of the Polish fleet was estimated at EUR 124.4 million (compared to EUR 94.4 million in 2016). The significant increase was caused by higher scrapping premium values paid from EMFF by Poland to fishers leaving permanently fisheries.

Investments amounted to EUR 1 million (EUR 1.4 million in 2016), a decrease compared to previous year what can be explained by reduced amount of money paid from EU founds (EFF/EMFF).

Generally, the cost structure has remained relatively constant over the years, with some apparent increase in depreciation costs and reduced share of energy costs as well as wages.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 32,3% compared to 27,2% in 2015 and 16.2% in 2014, indicating an improvement in the efficiency of the sector. Net profit margin was estimated at 15%, an increase compared to 2015 (11%).

The Rate of Return on Fixed Tangible Assets (RoFTA) remained unchanged compared to previous years and amounted to 9%.

After an overall improved development trend since 2008, labour productivity (GVA/FTE) decreased in 2014 by 23%; however, in 2015, returned to 2013 level of EUR 12 thousand and increased again in 2016 (EUR 14).

Fuel consumption per landed tonne has fluctuated in analysed period. In 2016, amounted to 122 litres per landed ton (129 litres in 2015), a 5% decrease compared to 2015.

Landings in weight per unit of effort (in days at sea) indicator remained unchanged and amounted to 2.6 tonnes per day.

Performance results of selected fleet segments

Pelagic trawlers (24-40)

Based on economic output Polish pelagic trawlers 24-40 m length is the most important segment, operating in the Baltic Sea. In 2016 and 2017, 44 vessels make up this segment. The number of vessels and employment in the segment increased slightly compared to 2015 (7% and 12%, respectively). In 2017, the segment contribution to the total volume of landings and income from landings generated by the Polish Baltic fishing fleet increased to 63% and 44% respectively (from 54% and 39% in 2016). The fleet targets particular pelagic species, such as sprat and herring. In 2016 and 2017, sprat had 56% and 62% share in catch composition of the segment landings, following by herring (39% and 48%). In 2016, the total value of landings was EUR 20.2 (9.7% more compared to 2015) and 239 FTEs were employed. Despite of lower herring prices in 2017 (-10%) value of landings of the segment increased by 6% mainly as a consequence of higher weight of landings (+15%)

As a consequence of TAC cuts in 2016 individual sprat quota available for vessels belonging to the segment were slightly lower (-6%) than the year before. However, significantly increased in 2017 (+32%). Individual sprat quotas for the segment followed TAC allocation to Poland for sprat in 2018.

Herring (the second most important species) quota during 2015-2017 has was raised by 43%, 7% and 35% respectively. At the end in 2017, the 24-40 TM vessels were allocated twice higher quota that they had in 2014. Herring quota allocated for Poland in 2018 is again higher, so it is expected that individual limits available for the segment will go up by 16-20%.

Increased herring landings had no negative effect on first sale prices. In 2017 they remained at the average level of 2016. In the first quarter of 2018 however a sharp decline (up to 25%) in herring prices and -20% in sprat prices were observed on the first sale market. Taking account that the majority (over 70%) of the segment herring catches is landed in the second half of the year final economic effect of the price decline will depend on the further developments on market. The sprat price dropped however, which caused that fishing income for the first quarter of the year was already about EUR 1.5 million lower (7% of the annual revenues).

In 2016 the fleet segment was profitable, with a reported gross profit of around EUR 7.5 million, (EUR 6.3 million in 2015), and produced a net profit of EUR 3.9 million (EUR 2.7 million in 2015). Most of segment's economic indicators have again improved in 2016 compared to 2015. The segment generated higher GVA in total (18%) but also per FTE (6%). Net profit margin was positive (19%). Profitability indicator was again at "reasonable" level in 2016 and economic development is improved.

Passive gears 0-10 m

The passive gears segment constituted of 511 in 2016 (in 2015, 508 vessels) operating in the Baltic Area including lagoon brackish waters. The segment is the biggest one in terms of people engaged. In 2015, there were 912 FTEs (or 1 064 total jobs). The number of fishers remained stable.

The fleet targets a variety of saltwater species: Atlantic herring, European flounder, Atlantic cod and a variety of freshwater species, such as freshwater bream, pike perch and pike. In 2017, the provisional total volume of landings was 6.4 thousand tonnes (-24% compared to 2016) worth EUR 7.1 million (-13% compared to 2016). According to provisional data in 2016 landed volume was again lower by 4%, however value of landings increased by as much as 20%. The deterioration was due to lower value of pike perch (-50%), cod (-28%) and herring landings (-11%), since eel landing value increased by almost 50%.

The segment produced net profit of EUR 0.7 million and a gross profit of EUR 1.7 million compared to net loss of EUR 1.4 million. The economic indicators generally improved. Gross value added increased totally and in relation to FTE by about 40%, net profit margin was 8% compared to negative value in 2015.

The segment is affected by poor condition and availability of Baltic cod. Before 2012 cod had been the most important species in terms of landings value (over EUR 2 million) in the segment. In 2015, cod landings dropped to EUR 1.1 million and in 2016 to EUR 0.8 million what is less than half of the 2009 value. In 2017 the segment produced again smaller landings value (EUR 0.6 million). Relatively better economic condition of the segment in 2016 was cause by significantly higher prices for herring (+37%), eel (+32%) and freshwater bream (+44%). In 2017, the prices went again up for herring and eel but decreased for freshwater bream (by 18%).

Drivers affecting the economic performance trends

Polish fleet is dominated by trawlers, so the fuel price has always a major impact on the overall economic performance. Fuel prices decreased slightly from 2013 to 2014 and remained in 2015 at similar lever but increased slightly in 2016, thus it has limited negative effect on the fleet.

Poor condition of Baltic cod (skinny fish) had still negative impact on the performance of the demersal fleet segments targeting cod (DTS, DFN, HOK and PG1012). The situation did slightly improve in 2017. In case of PG0012 - the segment which contributing the most in cod fisheries, cod CPUE increased by 10% but remained over 40% lower than in 2011. Additionally, the small-scale fleet is affected by limited abundance of cod in coastal waters which is commonly attributed to environmental changes in the Baltic Sea.

On the other hand, small pelagic species were in sound condition what, combined with good market situation for that fish, creates good perspectives for the segments dependant on sprat and herring (18-24 and 24-40 TM). In 2017 average CPUE achieved by vessels over 25 metres length was higher than a year before by 8%, unfortunately herring CPUE decreased by 8% same time for the same group of vessels.

Since the EU accession (2004) subsidies for fisheries became a substantial part of the Polish fisheries sector incomes. In 2014 however due to termination of EFF (2007-2013) the inflow of money to the fisheries has decreased significantly what affected direct incomes as well as funds that used to be available mainly for repairs and investments. The new EMFF program has not been lunched yet so in 2015 and 2016 most of the funds were not available.

Polish fish market is characterised by very well developed fish processing sector with total annual output exceeding EUR 2 billion and generating a total demand close to million tonnes of raw material (live weight). Taking this into account the Polish market is dominated by imported fish and highly dependent on global market prices. This has indirect impact on the fisheries incomes by influencing first sale prices offered to fishers.

Markets and Trade

Fish and fish products consumption in Poland amounted to 12-23 kg per capita (live weight) in 2014-2016 and has been stable for many years. Alaska Pollock (2.7 kg), Atlantic herring (2.7 kg), Atlantic cod (1.1 kg), Atlantic salmon (0.9 kg) and Atlantic mackerel (0.8 kg) dominate in the fish consumption pattern.

What is positive and attract consumers is increasing availability of fresh Baltic cod, herring and flounder in discount supermarkets. Super, hypermarkets and discounts have 50% share in marketing of fresh fish products in Poland as well as 65% share in distribution of canned products. About 30% of fresh fish products are distributed by fishmongers, alimentary shops, local markets and through direct sells.

The fish processing sector in Poland is highly developed. Its annual production capacity amounts to about half million tonnes and is not satisfy by national supplies. Poland imported 470 thousand tonnes of fish and fish products worth EUR 1.8 billion in 2016. It is expected that it will rise to 490 thousand tonnes (EUR 1.9 billion) in 2017. Alaska salmon and herring were two most important species imported to Poland in 2016, contributing to 18% and 15% respectively or, in monetary value, 54% and 9%. Atlantic cod (imported mostly from Norway) is the third most important species. In 2016 Poland imported 20 thousand tonnes of cod products worth EUR 113 million (over twice more than total Polish fisheries annual revenue). In the first half of 2017, 7.3 thousand of fresh cod was imported to Poland which equalled to annual production of Polish Baltic fisheries. The prices of imported fresh cod differ significantly depending on exporting country, i.e., EUR 3.8 Euro/kg for Norwegian products and EUR 1.33 for Danish cod.

An upward trend in retail prices of fish and fish products observed on Polish market in 2016 was continued in 2017. In the first eight months of 2017 the prices increased by 4.2%, the increase was slightly lower than in case of meat and meat products (by 0.6%).

Price increases primarily for dried, salted and smoked fish (+7.6%), mostly due to jump in smoked salmon prices (+25%) in January-August 2017 compared to January-August 2016. In the same period fresh and chilled fish products prices increased by 6.3% and frozen fish by 1.9%.

In the 1st quarter of 2018 first sale prices for herring were significantly lower compared to 2017 (-25%). Similar unfavourable situation took place in sprat fisheries where prices dropped by 17% in the first quarter of 2018. Both species are however fish for human consumption and for reduction, so different proportion of landings in 2016 and 2017 between these two products might contributed to observed price changes. First sale price for Baltic cod slightly recovered (+8%) in the same time.

Management instruments

The Polish Baltic fleet is managed mainly through TACs and subsequently - individual quotas imposed for all TAC species (sprat, herring, cod, and salmon) except for plaice. The quotas are allocated to fishing vessels based mainly on their historical catches. The allocation key based on length classes and mostly remained unchanged in 2015-2018. Small-scale fisheries (vessels under 8 m length, 12 meters in sprat fisheries) has been exempted form quota system.

In 2017 new regulation on individual catch or days quota exchange were implemented. The regulation limited possibility to exchange quotas to vessels belonging to the same fishing operator. On the other hand, fishing vessel owners get possibility to exchange the quota with foreign operators (which used to be limited to Producer Organisation).

Regulation (EU) No 1380/2013 introduced a landing obligation, including for all catches of species which are subject to catch limits. In the Baltic Sea it came into force since 1 January 2015 for salmon, sprat, cod, and herring and, since 1 January 2017 also plaice.

A multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks was adopted by European Parliament and the council on 6 July 2016. According to the regulation a target fishing mortality for the stocks concerned shall be achieved as soon as possible and, on a progressive, incremental basis, by 2020. The regulation set up mortality ranges for six Baltic fish stocks while left undefined for two (Eastern Baltic cod and Bothnian Bay herring).

TACs and quotas

The 2016 and 2017 quotas allocated to Poland on the Baltic Sea amounted to about 120 thousand tonnes and 138 thousand tonnes respectively. In 2017 available quotas for sprat and herring were higher than in 2014 (by 7% and 49% respectively) since cod quota decreased by 16%. In 2016, combined Central and Western Baltic herring quota available for Poland were higher by 8% while sprat increased as much as 29%. Poor condition of Baltic cod resources caused that Eastern and Western cod quotas were cut by 25% and 56%. The 2018 cod quotas were again reduced – for Eastern Baltic by as much as -8% and unchanged for the Western Baltic. Quotas for small pelagic were increased again by 20% for Central herring and 1% for sprat.

Relative changes in individual quotas followed the changes in TAC available for Poland. The system of individual quota allocation remained unchanged in 2018 compared to 2017.

Performance by fishing activity

Small-scale coastal fleet

In 2016 and 2017, 617 vessels were assigned to the small-scale fleet according to the European definition (vessels under 12m using passive gears). These vessels operate exclusively in the Baltic Sea and two brackish water lagoons, targeting mainly herring, cod, flounder and various kinds of freshwater species which are not managed under a TAC regime. Weight and value of landings of the small-fleet has not changed significantly over the past years and varied between 10-13 thousand tonnes or EUR 10-12 million. The effort of the fleet increased in 2016 by 7% however it is expected to be lower (-20%) in 2017.

According to preliminary data in 2017 value and volume of landings will decrease by 9% and 17%. The reason behind that is poor condition of Baltic cod stocks to be especially evident in the shallow coastal areas. In 2017, volume and value of cod landing decreased by 29% and 23% respectively. The fleet were affected by sharp decline of value and volume of Pike perch catches that decreased by 53% and 50% respectively. Pike perch contributed to as much as 12% of the total landings value in 2016.

In 2016, GVA of the fleet amounted to EUR 8 million, 32% more than in 2015. According to forecast it expected to decline in 2017 to EUR 3 million.

The sector maintained gross profit of EUR 2 million and 2.5 million and close to "0" net profit in 2016. The number of people working in the fleet change insignificantly in 2016 and amounted to 1394 total jobs or 1208 FTE. The wages (that are major cost item) did not follow the almost unchanged number of engaged people and were 20% lower than in 2015. The segment is characterised by high unpaid labour.

Large-scale fleet

In 2016, 192 active vessels and in 2017, 167 active vessels were assigned to the large-scale fleet. These vessels mainly operated in the Baltic Sea, while one large trawler fished in the North Atlantic. The Baltic vessels targeting mainly sprats, herring, cod and flounder. The landings value and volume continued upward trend in 2016. In 2017, higher landings volume is expected again however landings revenues may decline as a result of smaller cod and flounder catches.

The fleet is dependent substantially on small pelagic species. Sprat and herring contributed to 64% and 70% of total landing revenues in 2016 and 2017, respectively.

The costs of the fleet generated in 2016 were higher than in the previous year for most of important cost item like wages, fuel or depreciation cost.

The fleet generated GVA EUR 23 million, produced EUR 15 million gross and EUR 7.7 million net profit. All economic parameters didn't change remarkably. The number or people employed in the large-scale fleet change insignificantly.

Projections for 2017 and outlook for 2018

MODEL FORECAST

Forecasts for 2017 report a 5% increase in landed weight and an 8% decrease in landed value. Fishing effort deployed is expected to decrease remarkably by even 20%. The decline will concern only smaller vessels once the biggest one (over 24 meter) reported higher effort. The forecasted energy costs are higher in 2018 than in 2017. This is again caused by expected higher fuel prices and continued higher effort deployed by pelagic vessels over 24 meters. According to projection the net profit in 2017 will

increase to EUR 8.5 million and then decrease in 2018 to EUR 7.4 million. The projections are justified by lower value of landings expected in 2017 and 2018 as a result of decline in small pelagic fish prices as well as lower Baltic cod landings. The gross profit margin is expected to remain at reasonable high level of 32% and 31% in 2017 and 2018, respectively. The poor condition of Baltic stock will affect small scale fisheries the most so it is expected than the decline in forecasted number of vessels will mostly concern the vessel below 12 meters.

Data issues

Similar to previous years, due to confidentiality reasons, distant water fleet (vessels over 40m fishing outside Baltic Sea) were excluded from the economic analysis. However, transversal data (except for value of landings) and employment data were provided for all fleet segments. In order to ensure consistency with data provided for previous years, premiums paid by government for scrapped vessels were taken into account when calculating invested capital (not the PIM method). Effort and landings data are underestimated for 2017 for 0010PG segment due to incomplete information from the vessels under 8 m (these vessels were exempted from reporting catches as of July 2017).

Table 5.78 Poland: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	864	832	806	793	790	798	838	873	875	843	774		0%	6%
Number of Inactive vessels_ms	(#)	41	109	99	84	38	43	42	68	63	56			-7%	-4%
Vessel tonnage	(thousand GT)	30.0	41.0	38.2	37.3	33.4	33.4	33.9	34.0	34.2	34.9			1%	-3%
Engine power	(thousand kW)	96.6	99.0	90.7	86.9	82.9	81.9	81.4	81.5	81.5	83.2			0%	-7%
Total employed	(person)	3,026	2,699	2,590	2,548	2,601	2,515	2,703	2,491	2,481	2,432	2,424		0%	-6%
FTE	(#)	2,822	2,552	2,433	2,400	2,487	2,361	2,550	2,280	2,276	1,928	1,886		0%	-8%
Days at sea	(thousand day)	66.4	62.1	58.1	58.7	67.2	71.3	74.6	71.8	75.2	60.1	60.0		5%	13%
Fishing days	(thousand day)	62.5	59.8	55.5	56.8	64.1	68.1	71.2	68.7	71.3	56.8			4%	13%
Number of fishing trips	(thousand)	54	52	47	48	54	59	62	60	64	50			5%	17%
Energy consumption	(million litre)	15.97	12.52	17.07	17.63	20.20	19.28	18.37	17.52	17.04	15.31	15.05		-3%	-2%
Live weight of landings	(thousand tonne)	126.15	212.13	170.77	179.54	179.24	194.96	171.31	187.92	198.50	208.72	198.85		6%	12%
Value of landings	(million €)	40.04	41.28	43.10	47.37	55.41	56.51	47.90	48.72	51.37	47.48	47.32		5%	8%
Income from landings	(million €)	40.04	41.28	43.16	47.37	55.41	56.51	47.90	48.72	51.40	47.48	47.35		5%	8%
Other income	(million €)	0.84	0.47	0.17	0.38	0.18	0.09	0.16	0.86	0.16	0.14	0.13		-81%	-59%
Direct income subsidies	(million €)	24.75	19.90	16.01	17.91	15.37	11.54	6.68	6.56	0.65				-90%	-96%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	11.16	10.21	12.28	9.98	12.54	13.51	10.69	10.09	9.92	10.17	9.09		-2%	-12%
Unpaid labour value	(million €)				4.67	5.21	5.63	4.92	4.37	4.66	3.44	4.25		7%	-6%
Energy costs	(million €)	11.56	7.26	8.39	10.69	14.17	12.78	11.07	9.03	7.69	7.27	8.10		-15%	-28%
Repair & maintenance costs	(million €)	4.01	3.11	3.32	4.54	3.96	5.26	4.58	4.21	3.58	3.36	3.33		-15%	-13%
Other variable costs	(million €)	4.73	3.75	3.99	4.87	4.86	4.98	3.90	4.20	4.49	3.96	3.91		7%	2%
Other non-variable costs	(million €)	5.48	3.85	3.59	4.62	5.28	5.27	4.97	4.19	4.56	4.36	4.30		9%	-2%
Annual depreciation costs	(million €)	1.82	1.56	1.81	2.22	3.39	3.80	3.61	4.66	4.92	4.46	4.44		6%	72%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-					
Opportunity cost of capital	(million €)	2.17	2.95	3.20	1.88	1.25	3.11	3.40	3.25	4.05	2.12	2.62		25%	53%
Tangible asset value (replacement)	(million €)	121.4	144.8	106.8	94.5	99.6	97.0	99.3	94.4	124.5	118.5	116.8		32%	16%
Fishing rights	(million €)														
Investments	(million €)	8.7	2.2	3.8	8.6	6.9	6.1	2.5	1.4	1.4				-2%	-72%
Financial position	(%)	8.0	6.0	5.0	14.5	12.9	10.5	4.6	7.7	3.7				-52%	-57%
Gross Value Added	(million €)	15.1	23.8	24.0	23.0	27.3	28.3	23.5	28.0	31.2	28.7	27.8		12%	29%
GVA to revenue	(%)	36.9	57.0	55.5	48.2	49.1	50.0	49.0	56.4	60.6	60.2	58.6		7%	20%
Gross profit	(million €)	3.9	13.6	11.8	8.4	9.6	9.2	7.9	13.5	16.6	15.0	14.5		23%	71%
Gross profit margin	(%)	9.6	32.5	27.1	17.6	17.2	16.2	16.5	27.2	32.3	31.6	30.5		19%	58%
Net profit	(million €)	- 0.1	9.1	6.7	4.3	4.9	2.3	0.9	5.6	7.7	8.5	7.4		38%	82%
Net profit margin	(%)	- 0.1	21.7	15.6	9.0	8.9	4.0	1.9	11.3	14.9	17.8	15.7		32%	65%
GVA per FTE (labour productivity)	(thousand €)	5.4	9.3	9.9	9.6	11.0	12.0	9.2	12.3	13.7	14.9	14.8		12%	40%
Return on fixed tangible assets	(%)	1.7	8.3	9.3	6.5	6.2	5.5	4.3	9.4	9.4	8.9	8.6		1%	47%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
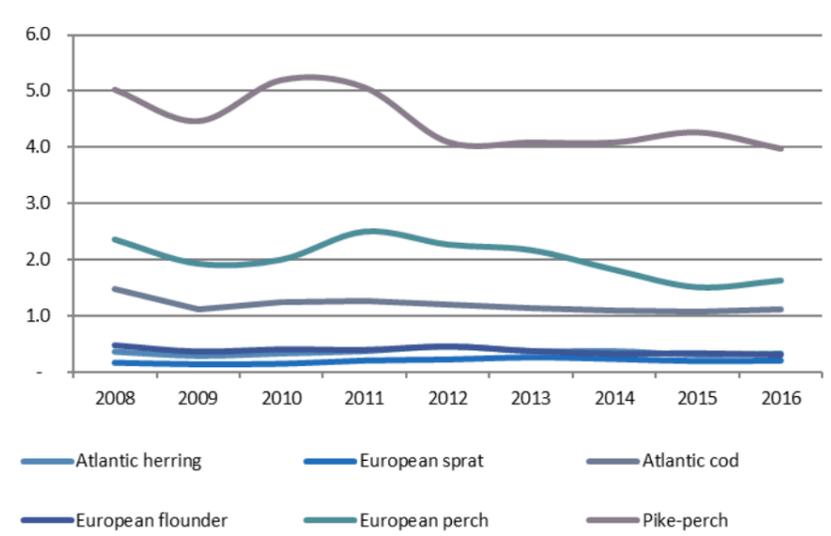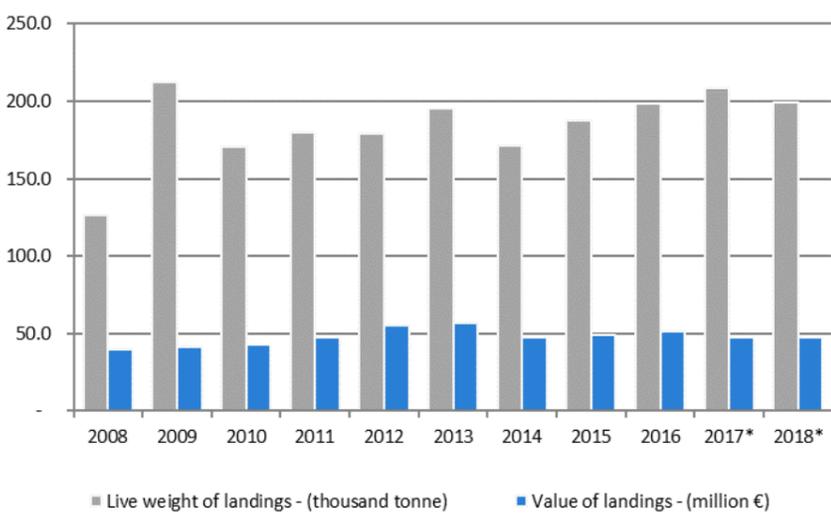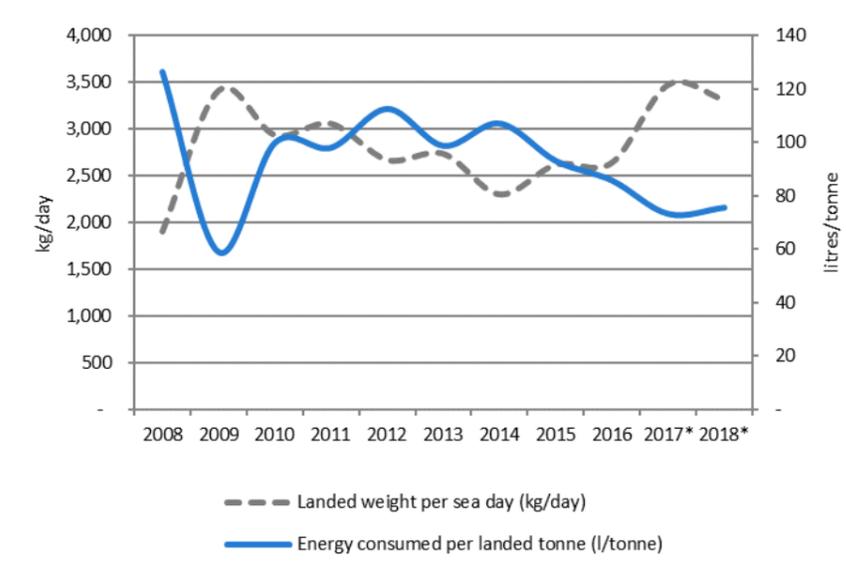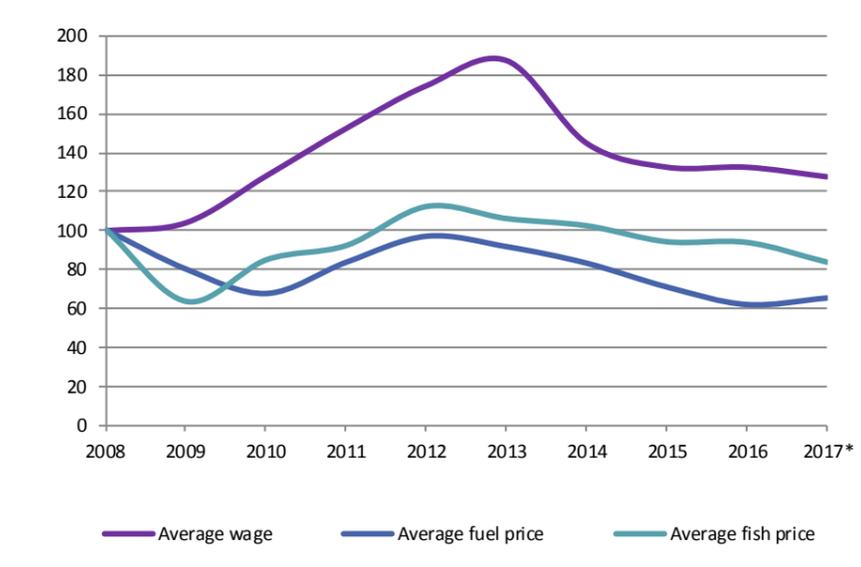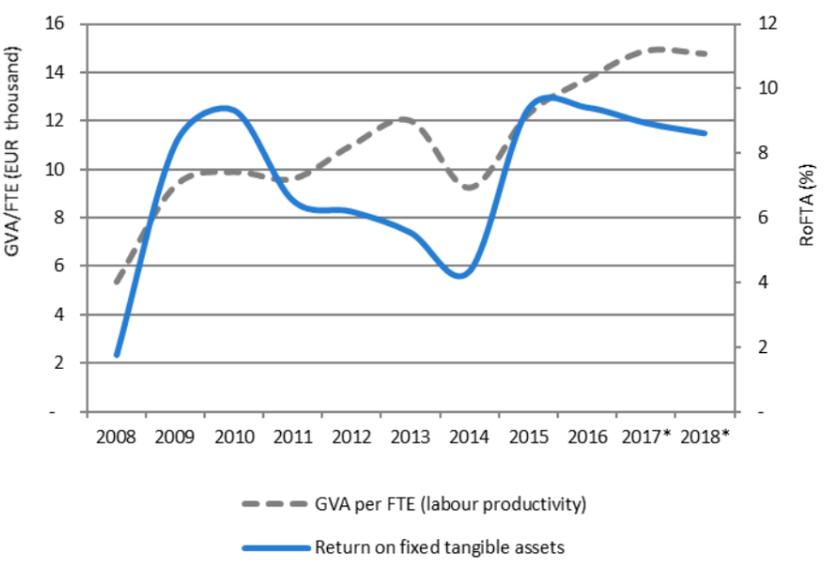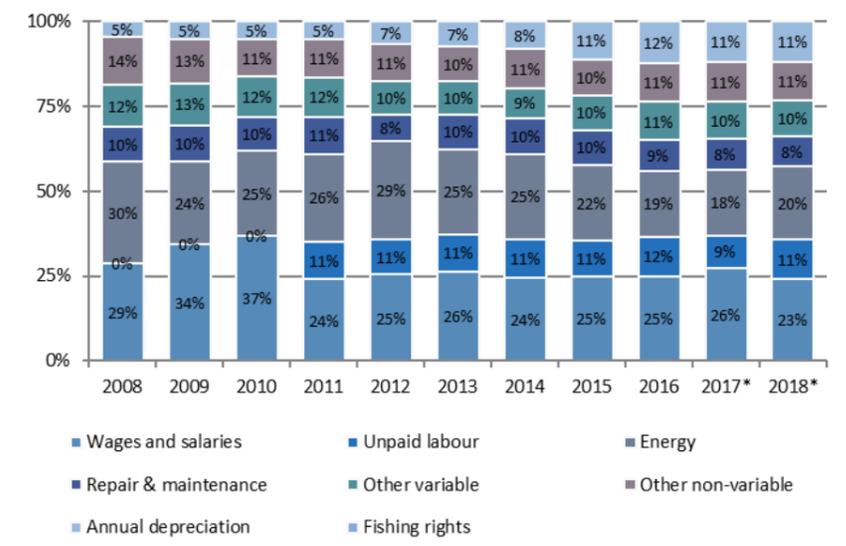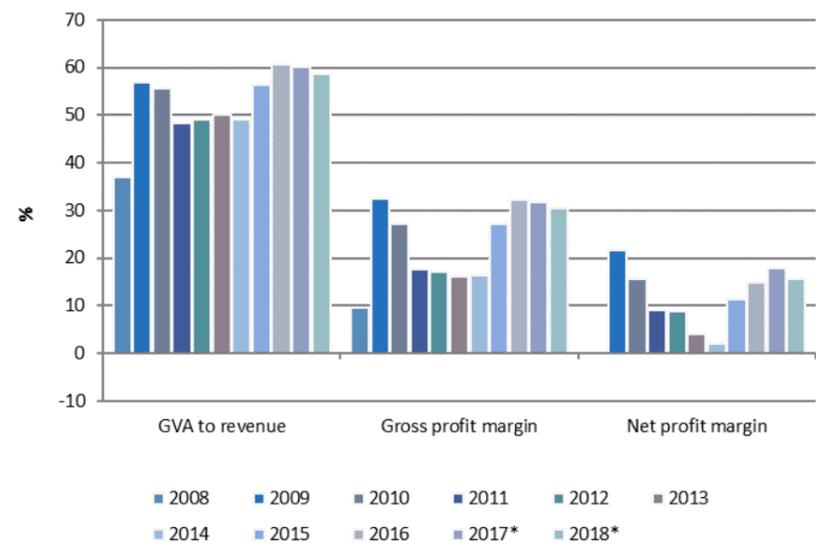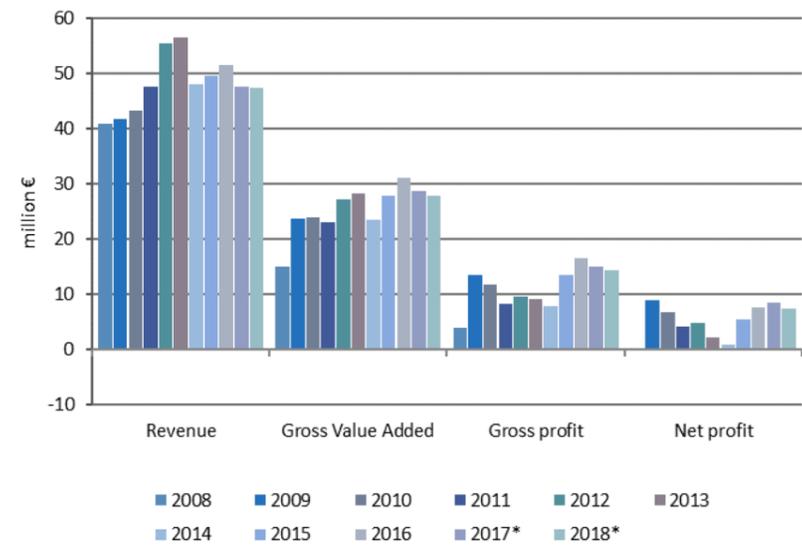
Figure 5.17 Poland: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.79 Poland: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

	(units)	SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	DWF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	563	509	517	518	545	553	595	611	617	617	612		1%	12%	259	211	187	188	205	200	199	192	193	167	160		1%	-6%	1	3	3	3	2	2	2	2	2	3	2		0%	-11%
Vessel tonnage	(thousand GT)	2.7	2.3	2.3	2.4	2.6	2.6	2.7	2.7	2.7	2.7	2.7		1%	6%	22.8	16.5	14.1	13.8	14.6	14.8	15.4	15.0	15.2	14.4			1%	-5%	3.9	19.4	19.5	19.5	15.6	15.6	15.4	15.4	15.4	16.9			0%	-1%
Engine power	(thousand kW)	24	20	20	20	21	21	21	21	21	21	21		1%	1%	67	54	47	45	47	47	47	45	46	42			1%	-9%	3	14	15	15	12	12	11	11	11	17			0%	-4%
FTE	(#)	1,201	1,202	1,121	1,163	1,271	1,290	1,420	1,267	1,208	961	960		-5%	-3%	1,351	1,093	1,043	966	1,036	934	990	866	877	728	736		1%	-15%	270	258	270	270	180	137	140	147	191	239	191		30%	-9%
Total employed	(person)	1,379	1,313	1,264	1,301	1,372	1,389	1,519	1,417	1,394	1,402	1,381		-2%	2%	1,377	1,116	1,056	977	1,049	946	1,003	899	896	791	852		0%	-15%	270	270	270	270	180	180	180	175	191	239	191		9%	-15%
Days at sea	(thousand day)	45.6	42.8	39.5	40.0	43.5	48.1	51.2	49.4	52.8	41.8	41.5		7%	17%	20.3	18.4	17.8	17.9	23.3	22.7	22.8	22.0	21.8	17.8	18.1		-1%	6%	0.5	0.9	0.9	0.8	0.5	0.5	0.5	0.4	0.7	0.5	0.4		77%	7%
Fishing days	(thousand day)	45.0	42.4	38.7	39.5	42.6	47.4	50.5	48.8	52.1	41.0			7%	17%	17.3	16.8	16.3	16.7	21.1	20.3	20.3	19.6	18.7	15.4			-4%	1%	0.3	0.7	0.5	0.6	0.4	0.5	0.4	0.3	0.5	0.4			80%	14%
Number of fishing trips	(thousand)	44	42	38	38	42	46	50	48	51	40			7%	18%	10	10	9	9	12	12	12	12	12	10			-1%	11%	0.02	0.05	0.04	0.03	0.02	0.03	0.03	0.02	0.04	0			52%	17%
Energy consumption	(million litre)	2.13	1.48	1.90	1.73	1.75	2.03	2.17	1.77	1.85	1.50	1.52		4%	-1%	13.8	11.0	15.2	15.9	18.5	17.2	16.2	15.7	15.2	13.8	13.5		-3%	-2%														
Live weight of landings	(thousand tonne)	9.89	11.50	10.95	11.41	12.60	12.97	12.76	12.69	12.46	10.41	11.16		-2%	5%	90.2	124.1	104.5	104.2	112.8	127.9	113.3	129.3	133.0	147.7	147.2		3%	17%	26.1	76.5	55.4	63.9	53.8	54.1	45.3	45.9	53.1	50.7	40.5		16%	1%
Value of landings	(million €)	10.44	10.65	10.44	11.29	11.99	11.96	11.09	10.01	11.42	10.39	10.44		14%	4%	29.6	30.6	32.7	36.1	43.4	44.6	36.8	38.7	39.9	37.1	36.9		3%	9%														
Income from landings	(million €)	10.44	10.65	10.44	11.29	11.99	11.96	11.09	10.01	11.43	6.85	10.44		14%	4%	29.6	30.6	32.7	36.1	43.4	44.6	36.8	38.7	40.0	40.6	36.9		3%	9%														
Other income	(million €)	0.29	0.16	0.05	0.10	0.04	0.04	0.06	0.30	0.05	0.05	0.05		-82%	-58%	0.6	0.3	0.1	0.3	0.1	0.1	0.1	0.6	0.1	0.1	0.1		-81%	-60%														
Direct income subsidies	(million €)	12.80	9.14	6.70	7.27	10.56	8.71	5.48	5.99	0.33				-94%	-96%	11.9	10.8	9.3	10.6	4.8	2.8	1.2	0.6	0.3				-44%	-95%														
Income from leasing fishing rights	(million €)	-	-	-	-																																							
Wages and salaries of crew	(million €)	0.97	2.48	3.62	3.14	3.73	4.26	3.86	3.97	3.17	2.77	2.87		-20%	-3%	10.2	7.7	8.7	6.8	8.8	9.2	6.8	6.1	6.8	7.4	6.2		10%	-16%														
Unpaid labour value	(million €)				3.27	3.36	3.82	3.25	3.12	3.14	1.59	2.88		1%	-7%				1.4	1.9	1.8	1.7	1.2	1.5	1.9	1.4		22%	-5%														
Energy costs	(million €)	1.54	0.94	1.08	1.18	1.31	1.42	1.40	1.13	1.05	0.90	1.02		-6%	-16%	10.0	6.3	7.3	9.5	12.9	11.4	9.7	7.9	6.6	6.4	7.1		-16%	-29%														
Repair & maintenance costs	(million €)	0.46	0.56	0.42	0.73	0.63	0.88	0.71	0.77	0.47	0.48	0.47		-39%	-27%	3.5	2.6	2.9	3.8	3.3	4.4	3.9	3.4	3.1	2.9	2.9		-10%	-10%														
Other variable costs	(million €)	1.23	1.01	0.99	1.17	1.32	1.52	1.46	1.53	1.21	0.97	0.98		-20%	-5%	3.5	2.7	3.0	3.7	3.5	3.5	2.4	2.7	3.3	3.0	2.9		23%	5%														
Other non-variable costs	(million €)	1.04	0.74	0.68	0.76	1.01	0.87	0.73	0.92	0.88	0.90	0.89		-5%	3%	4.4	3.1	2.9	3.9	4.3	4.4	4.2	3.3	3.7	3.5	3.4		13%	-3%														
Annual depreciation costs	(million €)	0.18	0.29	0.40	0.38	0.29	0.40	0.34	0.45	0.32	0.33	0.32		-28%	-6%	1.6	1.3	1.4	1.8	3.1	3.4	3.3	4.2	4.6	4.1	4.1		9%	83%														
Rights costs	(million €)	-	-	-	-											-	-																										
Opportunity cost of capital	(million €)	0.6	0.7	0.8	0.5	0.4	0.9	1.0	1.0	1.2	0.7	0.8		26%	74%	1.5	1.9	2.0	1.2	0.8	2.1	2.3	2.3	2.8	1.4	1.8		24%	60%														
Tangible asset value (replacement)	(million €)	30.7	32.8	25.6	24.2	28.4	27.5	28.4	28.2	37.7	38.3	37.9		34%	34%	86.2	91.0	66.0	60.1	67.1	66.0	67.8	66.2	86.8	80.1	78.9		31%	22%														
Fishing rights	(million €)																																											
Investments	(million €)	0.3	0.7	1.2	0.5	1.3	0.8	0.7	0.7	0.3				-59%	-64%	8.4	1.5	2.6	8.2	5.7	5.3	1.7	0.8	1.1				47%	-74%														
Gross Value Added	(million €)	6.4	7.6	7.3	7.5	7.8	7.3	6.9	6.0	7.9	3.7	7.1		32%	11%	8.7	16.2	16.7	15.5	19.6	21.0	16.7	22.0	23.4	25.0	20.7		6%	37%														
GVA to revenue	(%)	60.1	69.9	69.7	66.3	64.5	60.9	61.5	57.9	68.6	53.0	68.0		18%	7%	28.7	52.4	50.9	42.6	44.9	47.1	45.2	56.0	58.3	61.4	56.0		4%	27%														
Gross profit	(million €)	0.5	5.1	3.7	1.1	0.7	0.8	0.3	1.1	1.6	0.7	1.4		240%	41%	-1.5	8.5	8.0	8.9	10.0	8.2	14.6	15.1	15.7		13.1		3%	89%														
Gross profit margin	(%)	18.2	47.0	35.3	10.0	5.5	6.5	2.2	10.8	13.7	10.1	13.2		226%	13%	-5.1	27.4	24.6	19.9	20.4	22.3	22.1	37.2	37.6	38.7	35.5		1%	78%														
Net profit	(million €)	0.2	4.1	2.5	0.3	0.0	2.1	1.6	2.5	0.0	1.7	0.2		101%	-83%	-4.7	5.4	4.7	4.2	5.0	4.4	2.6	8.1	7.7	10.2	7.2		-6%	107%														
Net profit margin	(%)	9.6	38.2	24.1	2.5	0.2	17.2	14.0	24.6	0.2	24.8	2.0		101%	-92%	-15.7	17.3	14.2	11.6	11.4	10.0	7.0	20.7	19.1	25.0	19.6		-8%	100%														
Return on fixed tangible assets	(%)	4.5	14.6	12.9	3.2	1.3	4.3	2.1	5.5	3.3	2.7	2.8		160%	8%	3.7	7.9	10.1	9.0	8.6	9.9	7.2	15.7	12.1	14.5	11.4		-23%	49%														
GVA per FTE (labour productivity)	(thousand €)	5.4	6.3	6.5	6.5	6.1	5.7	4.8	4.7	6.5	3.8	7.4		38%	13%	6.8	15.4	16.7	16.7	19.6	23.4	17.5	26.4	27.7	35.5	29.1		5%	56%														

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.80 Poland: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
POL A27 TM2440 °	44	263	5,462	104	75,163	20,261	20,277	11,320	55.8	7,552	37.2	3,906	19.26	14.3	43.0	12.6	Reasonable	172%	Improved	39.3%
POL A27 PG0010	511	912	43,667	103	8,482	8,188	8,236	6,093	74.0	1,655	20.1	693	8.41	4.9	6.7	6.2	Weak			16.0%
POL A27 DTS1218 °	66	245	7,154	184	18,706	7,840	7,935	4,666	58.8	2,711	34.2	1,543	19.44	8.0	19.1	13.1	Reasonable	0%	Stable	15.4%
POL A27 TM1824	27	103	3,292	70	20,339	5,765	5,777	4,067	70.4	3,151	54.5	2,585	44.74	8.9	39.6	26.0	High	38%	Improved	11.2%
POL A27 DTS1824 °	28	114	2,840	184	11,015	4,615	4,618	2,559	55.4	1,657	35.9	-91	-1.96	7.9	22.5	2.4	Weak	-108%	Deteriorated	9.0%
POL A27 PG1012	106	295	9,090	246	3,974	3,235	3,250	1,781	54.8	-87	-2.7	-671	-20.64	6.3	6.0	-1.4	Weak	-1047%	Deteriorated	6.3%
POL A27 DFN1218 °	27	119	2,789	308	1,468	1,462	1,465	742	50.7	4	0.3	-287	-19.57	6.2	6.3	-0.8	Weak			2.8%
POL OFR TM40XX	2	191	669		53,086											-				0.0%
POL A27 DTS40XX	1	34	251		6,263											-				0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.81 Poland: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
POL A27 TM2440 °	44	280	5,809	82	102,310	21,120	21,124	11,645	55.1	7,665	36.3	4,634	21.94	14.2	41.6	12.9	High	44.4%
POL A27 DTS1218 °	49	153	4,478	201	10,692	5,357	7,096	4,863	68.5	3,086	43.5	2,391	33.69	11.6	31.8	22.3	High	14.9%
POL A27 PG1012	114	246	7,587	205	3,974	3,363	5,370	3,983	74.2	849	15.8	447	8.32	12.7	16.2	4.7	Weak	11.3%
POL A27 TM1824	31	99	3,164	67	20,547	5,223	5,233	3,418	65.3	2,577	49.2	2,119	40.49	8.5	34.6	18.1	High	11.0%
POL A27 DFN1218 °	20	80	1,876	230	1,322	1,489	3,901	3,389	86.9	1,395	35.8	1,256	32.19	25.0	42.5	26.0	High	8.2%
POL A27 DTS1824 °	22	92	2,288	187	8,750	3,900	3,363	1,686	50.1	1,019	30.3	-225	-6.69	7.3	18.4	-0.8	Weak	7.1%
POL A27 PG0010	503	715	34,198	106	6,435	7,029	1,530	-323	-21.1	-1,548	-101.2	-2,158	-141.11	1.7	-0.5	-7.6	Weak	3.2%
POL OFR TM40XX	3	239	471		50,660											-		0.0%
POL A27 DTS40XX	1	25	181	-	4,032	-										-		0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.82 Poland: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Atlantic herring	6.2	6.6	8.2	11.2	12.0	8.7	10.4	11.7	14.6	14.7	17.0	22.5	24.8	30.0	27.0	23.6	28.3	38.0	43.8	43.4	0.4	0.3	0.3	0.4	0.5	0.4	0.4	0.3	0.3	0.3	29%	22%
European sprat	9.3	11.7	8.5	11.6	14.6	21.9	13.9	13.0	13.0	13.4	55.4	84.6	58.8	56.1	62.8	80.3	58.3	64.0	60.6	71.9	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	25%	31%
Atlantic cod	15.0	12.6	15.1	14.9	17.9	14.6	13.1	14.7	11.6	8.6	10.1	11.2	12.2	11.8	14.9	12.6	11.8	13.7	10.4	7.5	1.5	1.1	1.2	1.3	1.2	1.2	1.1	1.1	1.1	1.2	23%	5%
European flounder	4.3	3.6	4.6	3.9	4.6	4.5	4.1	3.2	4.6	4.1	9.1	9.7	11.2	9.7	10.1	11.8	12.6	9.3	14.6	10.5	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.4	9%	7%
European perch	1.8	1.3	1.7	2.0	2.3	2.1	2.1	1.3	1.6	1.6	0.7	0.7	0.8	0.8	1.0	1.0	1.1	0.9	1.0	0.9	2.4	1.9	2.0	2.5	2.3	2.2	1.8	1.5	1.6	1.7	3%	0%
Pike-perch	1.0	0.8	0.8	0.7	1.3	1.7	1.2	1.0	1.4	0.7	0.2	0.2	0.2	0.1	0.3	0.4	0.3	0.2	0.4	0.2	5.0	4.5	5.2	5.1	4.1	4.1	4.1	4.3	4.0	4.2	3%	0%
Sea trout	0.5	1.9	2.1	1.1	0.7	0.7	0.6	0.7	1.1	1.3	0.1	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.2	4.1	5.2	5.5	5.4	4.9	5.8	5.1	5.9	6.2	8.1	2%	0%
Sandeels(=Sandlances)	-	-	-	-	0.4	0.3	0.5	0.7	1.0	0.1	-	-	-	-	2.3	1.6	3.6	4.2	5.2	0.9	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	2%	3%
European eel	0.6	0.5	0.5	0.4	0.5	0.7	0.5	0.4	0.8	1.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	12.0	9.3	9.4	12.1	15.3	14.8	12.9	10.0	13.2	13.9	2%	0%
Freshwater bream	0.3	1.2	0.4	0.7	0.3	0.4	0.4	0.4	0.8	0.4	0.6	0.8	0.6	0.7	0.5	0.6	0.5	0.8	1.0	0.7	0.5	1.4	0.7	1.0	0.5	0.6	0.7	0.5	0.8	0.6	2%	1%
																															98%	69%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.18 Portugal

Short description of the national fleet

Fleet capacity

In 2016, the national fleet capacity is composed by 8 100 vessels, having a combined gross tonnage (GT) of 95 thousand tonnes and engine power of 360 thousand kilowatts (kW), distributed by Mainland Fleet, Azores and Madeira. In 2016, 46 new vessels entered the Portuguese fleet, while 104 ceased their fishing activities. The national fleet is characterized by a prevalence of small fishing vessels, representing 90% of the all fleet, have a length of less than 12 meters, with small gross tonnage, representing about 13% of the national total. The average vessel length is 7m and the average age of the registered fleet is around 32 years but in terms of active fleet is around 23 years. The active fleet represents 47% of the national fleet.

Fleet structure

The Portuguese fishing fleet includes the Mainland Fleet, Azores and Madeira and developing the respective fisheries in accordance with the operating areas and gears. The national fleet contains vessels from the small-scale, large-scale and vessels which operate in distant waters and are grouped into 11 major segments (DFN, DRB, DTS, FPO, HOK, MGO, PS, TBB, MGP, PGP and PMP). The most important segments in terms of value from landings are: Demersal Trawl and Seine over 40m (DTS40XX), Polyvalent Passive Gears only above 10m (PGP0010), DTS2440, and Purse Seiners 18-24 metres (PS1824) that together represents 59% in value landings.

Employment

Employment was estimated at 15 396 jobs, corresponding to 8 230 FTEs or an average of 2.1 FTE per active vessel. Although the results show a part time structure of the employment, many fishers work full time on fisheries but in part time on more than one vessel. The average FTE per vessel increased from 1.9 to 2.1 in the 2000-16 period. The average wage per FTE remained stable on the same period, at around EUR 17 200. According to the 2011 census of the population, the average age of the fishers was 43.6 years. In 2016, the average wage was estimated to increase to around 44.5 years.

The Portuguese official statistics reports three different age-classes to classify the annual trends in the age of the fishers': below 35, between 35 and 55 and over 55 (55 years is the retirement age in Portugal for the fishers). Comparing 2015 to 2016 revels a slightly decrease in the younger class (23.7% in 2015 and 23.4% in 2016) and a stabilized value in the older ones (18.5% in 2015 and 2016). This trend can be explained due to the age of the fishing vessels (in the last 10 years the renewal of fishing vessels was practically inexistent) and the correspondent poor working conditions not compatible to the other working activities. DTS fleet segment is the one who employs a higher percentage of younger fishers (24.8%) and lower percentage for older ones (8.9%), this can be explained by higher values of days in sea for this fleet segment and corresponding better crew wages.

Effort

An estimated 339 thousand days were spent at sea, similar to the 2014 value, which represents a 4.5% decrease related with 2015, confirms the decreasing trend of the period 2008-14 (13% decrease over the period). The average days at sea per vessel shows also the same trend: 2014 achieved the lowest value of 85 days of activity per vessel, and in 2016 the observed value was 88. Landed weight per sea day seems to be increasing over the period, albeit the normal fluctuations from year to year; at 511 kg/sea day, it was 1,8% lower than the 2015 value. The energy consumption increase 17% compared to 2015.

Vessels operate mainly in the Northwest Atlantic, with some important activities in the NAFO and Savlbard/Irminger areas (Demersal trawlers), Indian and Pacific oceans (Surface longliners) and near Madeira coast, for the Madeiran fleet.

Production

Despite the production in 2016 is estimated to a value of 178 thousand tonnes of seafood is similar to the lowest observed values, then total landed value reached the value of EUR 395 million which represents a 11% increase related to 2015. The increasing of landed value resulted mainly from the improvement of common octopus landings in 2016 to a value of EUR 47.8 million (35.6 in 2015) and

European anchovy to a value of EUR 12 million (4.9 in 2015). These two species reached the maximum value in the time series period.

In terms of landed weight, 27.9 thousand tonnes of chub mackerel were landed in 2016, followed by Atlantic horse mackerel (24.3 thousand tonnes). Due to the limitations imposed by the Iberian sardine management plan, catches of European pilchard reaches the lowest historical volume of 13.8 thousand tonnes representing a decrease of 78% between 2008 and 2015. This strong reduction affects in an important manner not only the fleet segments that catch this specie but also the processing industry. In order to overcome the strong reduction in the European pilchard catches the importations of these specie increases between 2010 and 2016 something like 11% in each year. In 2016, the European pilchard importations represents 2 times more than the national production.

Fortunately, average price of the European pilchard increase from 0.7 EUR /kg in 2008 to a sustainable value in 2014-2016 of 2.1 EUR /kg (in 2015 the price reaches the maximum value of 2.2 EUR /kg). The fish stock shows some recuperation and new values for the Portuguese catches limitation are expect in near future which will appoint to a good direction to the optimal values in terms of sustainability/economics and necessary catches to feed the internal consumption and industry needs. These three species represent 38% of the total Portuguese landings.

Economic results for 2016 and recent trends

National fleet performance

In 2016, the Portuguese national fleet improved its economic performance, recovering from the minimum low of 2012 where it achieved a net loss, into a positive net profit of EUR 85.6 million in 2016. This trend tends to stabilised in 2017 and 2018, as fuel prices and rate of interest (opportunity costs) remained low and the expecting landing values tends also to be constant.

Revenue, estimated at EUR 397.1 million, contradicts the historical declining trend with a positive variation of EUR 41 million compared with 2015, achieving one of the best time series results due to increase of average fish price, with lower catches in volume of small pelagic fish with low value (like chub mackerel) and a significant increase of landed values of common octopus (EUR 12 million).

Total operating costs decreased mainly due to the decreasing of and energy costs. From 2012 to 2016 energy costs decreased 28%. When including capital costs, total costs amounted to EUR 309 million representing a 11% reduction compared to 2012.

Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 268 million, EUR 126 million and EUR 77 million, respectively. Over the 2008-16 period, GVA, gross profit and net profit increased 12%, 29% and 181%, respectively. These results indicate an improving economic situation compared to previous years, benefiting mainly from observed low energy costs in the recent years.

Overall, the cost structure has remained relatively constant over the years, with a slight increase in labour costs and a decrease in the energy cost.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 31%, indicates a satisfactory operating efficiency of the sector. Net profit margin was estimated at 19.4%, a similar value to the one achieved in 2015.

The Rate of Return on Fixed Tangible Assets (RoFTA) has been improving since 2012, where it achieved a minimum of 7.1% due to drop of landings revenue and very high fuel prices. Since then, decreasing operational costs were observed. Due to the reduction of fishing effort and lower fuel prices. This decreasing have been contributing to the better economic performance of the fishing fleet. In 2016, RoFTA achieved 22.6%.

Labour productivity (GVA/FTE) follows the recent trend increased in 2016 to 32.5 thousand euros (+6% by comparison with the previous year), reversing the decreasing trend of 2012 and 2013. This was due to the combination of improving GVA and a decrease in FTE.

Fuel consumption of 535 litres per tonne landed is similar to the mean value observed in 2008-2016. It should be stressed that its increase compared to 2015 is mainly related with the differences of catch composition between the two time periods, with lower catches in volume but with high value.

Landings in weight per unit of effort (in days at sea) slightly decrease to 514 kg/day and still close to the maximum value achieved in 2013. The indicator shows some mixed results, increasing in 2010 and remained stable after that year, due to the decreasing of both effort and landings.

Performance by fishing activity

Small-scale coastal fleet

In 2016, the small-scale coastal fleet (SSCF) comprised 3 004 vessels, corresponding to 79% of the total active fleet, with a combined gross tonnage of 7.27 thousand units and a total power of 99.5 thousand kW. The majority of SSCF, up to 49.7%, operates along the coast using several gears (PGP - nets, longlines, pots and traps) catching a diverse amount of species, being the cephalopods (octopus and cuttlefish) the major group achieving 35% of SSCF landings. Demersal and pelagic species like conger and chub mackerel are the following species that with cephalopods represents 42% of SSCF landings. In 2016, this fleet generated 7 851 jobs, corresponding about 51% of the national employment and a decrease of 12% in FTE by comparison with the previous year. The average fleet activity in 2016 reaches a value of 75 days at sea/vessel.

Landings in value increase, following the trend of the whole fleet but with improved prices of fish it achieved a higher level of value. In 2016, landings from the SSCF represented 10.5% in weight and 21.8% in value of the total Portuguese landings, revealing high quality of the fresh product catch by this fleet segment.

In terms of economic performance, the total amount of Gross Value Added (GVA), gross profit and net profit generated by the SSCF in 2016 were EUR 68.5 million, EUR 34.5 million and EUR 25 million, respectively. The performance of the fleet improved consistently since 2012. Furthermore, this part of the national fleet contributes significantly to the economic and social sustainability of local fishing communities. Projections for 2017 and 2018, suggest that the SSCF continued to decrease in capacity (number, GT and kW) but in terms of economic performance, a further improvement is expected.

The cost structure of the fleet remained stable over the period 2008-16 with Wages and salaries of the crew being the major cost and highly linked to the income from landings.

Large-scale Fleet

The large-scale fleet comprised 789 vessels and it represents 21% of the active Portuguese fleet. The majority of large-scale fleet use mobile gears (purse seine, demersal trawl and dredges) and in 2016 generated 7 272 jobs, representing 47% of total fleet employment. In 2016, the activity and landings of this fleet decreased but income reaches the maximum value for all period-2008-2016. That can be explained with the significant increase of the landing of the common octopus (OCT) with a landed price of 4.5 EUR /kg and the decrease of landings of chub mackerel (MAS) with a landed price of 0.4 EUR /kg. The economic performance shows an improvement, with better indicators for Gross Value Added (GVA), gross and net profit.

Distant water fleet

The distant water fleet comprised 18 surface longliners and 7 pole and line vessels operated in Madeira. It must be stressed that the 12 demersal trawlers included in the previous years in this fleet were reclassified for the Large-scale fleet, so it is not appropriated to compare the economic and social indicators with the previous years. In 2016, the fleet generated 358 jobs. In terms of economic performance, the fleet showed an estimated Gross Value Added (GVA), gross profit and net profit of EUR 12.8 million, EUR 8.9 million and EUR 5.7 million, respectively. The economic performance of this fleet segment reveals a significant improvement when compared to 2015.

Outermost region fleets

Madeira

The Madeiran fleet consisted of 433 vessels in 2016, having a combined gross tonnage (GT) of 4 thousand and an engine power of 16.5 thousand kW. The majority of this fleet had an overall length of 12 meters or less and the active fleet amounted to only 93 vessels in 2016. The Madeiran fleet develops its activity mainly in Subarea 2 ZEE-Madeira, with vessels operating in certain seasons of the year in Azorean waters and the Canary Islands, under reciprocity agreements. The majority of the active vessels operated with long-lines and the most representative species are tunas and Black scabbardfish, representing 47% and 33% of total landings, respectively.

Azores

In 2016, the fleet of Azores consisted of 763 vessels, having a combined gross tonnage of 10.2 thousand GT and an engine power of 54.7 thousand kW. 83.7% of this fleet had an overall length of 12 meters or less and the active fleet represents 74% of the fleet. The Azorean fleet develops its activity mainly in Sub-area Azores EEZ, and is licensed mostly for longliners (HOK) and nets (DFN). The most representative species are; tunas (19.4%), blue jack mackerel (10.5%), blackspot seabream (9.0%), conger (8.9%) that in total are representing around 48% of the total of landings.

Performance results of selected fleet segments

The Portuguese fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Portuguese Exclusive Economic Zone (27.IX.a for the mainland fleet, 27.X for the Azores's fleet and CECAF 34.1.2 for the Madeira's fleet). The national fleet consisted of 53 (DCF) fleet segments in 2016 and 6 inactive length classes. A short description of the most important segments is provided below.

Demersal trawl and seine over 40m (mainland fleet) – 11 vessels made up this segment which operates predominantly in Area 27 and 21 (NAFO, Norway, Banana hole and Irminger). The fleet targets a variety of species but in particular Atlantic Cod, Atlantic redfish and Greenland halibut. In 2016, the total value of landings was around EUR 67.4 million and around 322 FTEs were employed in this fleet segment, contributing to 17.0% and 3.9% of the total income from landings and FTEs generated by the Portuguese fishing fleet, respectively. This fleet segment shows a significant improvement in the economic performance, with a reported gross profit of around EUR 26.5 million and net profit of EUR 20.4 million in 2016.

Demersal trawl and seine 24-40m (mainland fleet) – 58 vessels made up this segment in 2016; the fleet targets a variety of species but in particular deep water rose shrimp, Atlantic horse mackerel and Atlantic mackerel. In 2016, the total value of landings was around EUR 45.8 million and around 479 FTEs were employed in this fleet segment, contributing to 12.2% and 5.8% of the total income from landings and FTEs generated by the Portuguese fishing fleet, respectively. The fleet segment reported a gross profit of around EUR 9.4 million and net profit of EUR 4.1 million.

Purse seine 18-24m (mainland fleet) – 52 vessels made up this segment in 2016, which operates predominantly in Area 27 (27.IX.a and 27.VIII.c). The fleet targets a variety of species but in particular small pelagic fishes, such as Atlantic pilchard, chub mackerel and Atlantic horse mackerel. In 2016, the total value of landings was EUR 29.1 million and the fleet segment employed around 602 FTEs, contributing 7.6% and 7.3% of the total income from landings and FTEs, respectively. The fleet segment achieved a reported gross profit of around EUR 6.0 million and net profit of EUR 3.4 million. The average price per kg continued its upward trend in 2016, contributing to the stability of the segment.

Hooks 24-40m (Azores) – This fleet segment generates over 26% of total landings value and around 36% of total weight in Azores. It's composed by 29 vessels operating exclusively in Area 27.X.a. The fleet targets mainly tuna fishes (big eye tuna, albacore and skipjack). In 2016, the total value from landings was EUR 8.9 million and the fleet segment employed 313 FTEs. Albeit the importance of the fleet segment, its going through difficult years with weak profitability, achieving a reported gross profit of EUR 0.8 million and net profit of -EUR 1.8 million.

Hooks 12-18m (Madeira) – This fleet segment generates over 51% of total landings value and around 40% of total weight in Madeira. It's composed by 17 vessels operating exclusively in Madeiran waters (34.1.2). The fleet targets mainly black scabbard fish (BSF), which constitutes over 64% of the fleet segment landings value. In 2016, the total value from landings was EUR 7.8million and the fleet segment employed 156 FTEs. The fleet segment remained profitable over the period 2008-2016, generating a reported gross profit of EUR 2.2 million and a net profit of EUR 1.9 million.

Drivers affecting the economic performance trends

Higher average fish prices, lower fuel costs and further effort reduction were the main driving forces behind the overall improvement.

The increase in the average prices was a consequence of the lower availability of fish due to decreasing catches. The decrease on landings on sardine, traditionally the most caught specie in Portugal, due to the restrictions imposed on catches, made the average price of this species go up from EUR 0.8 per kg in 2011 to EUR 2.1 per kg in 2016 and mitigating the economic effects on purse seiners.

Markets and Trade

About 23% of landings occur in foreign harbours. Of the Portuguese harbours, Sesimbra, Matosinhos, Sines, Aveiro, Olhão, Peniche and Figueira da Foz are the most important with about 17.2%, 16.1%, 10.5%, 9.6%, 9.4%, 8.3% and 7.9% of domestic landings, respectively.

Around 70% of landings in foreign harbours occur in Spain, 8% in Uruguay,7% in Germany, 6% in Cape Verde and the remaining in several third countries.

The number of recognized Producers organizations is 16 (15 in 2015), in which 13 are based on mainland. These organizations account for 1 753 vessels, increasing for 43% of total licensed vessels. Purse seiners are the most represented segment in those structures and sardine and chub mackerel the main species landed. Around 99.1% of sardine and 82.7% of chub mackerel landed in Portugal were accounted to producer's organizations.

The average price of fresh fish landed in 2016 in national harbours increased in relation to 2014, from EUR 1.81 per kg to EUR 2.10 per kg. This was force by the increase of average price in mainland (43.1%, from EUR 1.65 per kg to EUR 1.93 per kg) and Azores (34.1%, from EUR 3.43 per kg to EUR 4.50 per kg). The average price in Madeira slightly decreased (-3.2%, from EUR 2.77 per kg to EUR 2.68 per kg).

Management instruments

In 2017, fishing permits constraints have been pursued on the use of certain gear for the most vulnerable species. In specific circumstances, the administration has allowed gear transfers between vessels providing that the receiving vessel achieves a better economic profitability without increasing fishing effort. The allocation of new gear permits is strongly restricted to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources and in order to keep the existing balances between fleet segments.

In 2017, the following recovery plans / adjustment of fishing effort or capacity control schemes were applied:

- Recovery plan for Southern hake and Norway lobster stocks in the Cantabrian Sea and South Western Iberian waters with the aim of rebuilding those stocks to within safe biological limits. This recovery plan sets TAC constraints and progressive adjustments to the maximum number of fishing days available to vessels subject to a system of fishing effort limitations (reducing fishing mortality rate of 10% per year). The vessels under this recovery plan are identified with a special fishing permit;

- Fishing effort rules as a method to ensure the precautionary management of deep sea stocks. The system in place includes the limitation of the global fishing effort for those stocks and the issuing of a special fishing permit to vessels targeting deep-sea species;

- Management plan to promote the recovery of the Iberian sardine stock. This plan establishes several harvesting rules for seiners, total allowed catches, actions to protect juveniles and to greatly decrease the fishing effort in order to reach MSY in a short period;

- Adjustment of fishing effort for surface longline vessels targeting swordfish in the north Atlantic with the aim to maintain the sustainability of the fishery. The capacity reduction has been defined as a goal in order to allow an adequate balance between fishing effort and available quotas;

- Recovery plan for bluefin tuna, freezing fishing capacity. Catching vessels are not authorized to fish actively for bluefin tuna. Only by-catches of bluefin tuna not exceeding 5% of the total catch on board are authorized;

- Eel management plan, including fishing gear restrictions, limited catching seasons and a complete ban in recreational fishing.

- Considering the fleet capacity adjustment, it was published the Regulation to support definitive stops on fisheries activities of vessels included on the recovery plan for Southern hake and Norway lobster (Portaria nº 381-A/2017, of 19 December)

TACs and quotas

Fishing opportunities increased by 12% in 2016 (+22% in 2015). In all species subject to catch limitations the more relevant increases were in the quota of horse mackerel (+ 15%, + 70% in 2015), anchovy (+ 10% initially reviewed exceptionally by the Commission to +46%, + 10% in 2015) and Norway lobster (+ 26%; + 15% in 2015). The quotas for redfish, hake, mackerel, blue whiting and monkfish fall, compared to 2015, by 49%, 23%, 15%, 8% and 14%, respectively.

The state of exploitation of the resources captured by the fleet in national waters has shown a positive evolution, in particular with regard to the horse mackerel, monkfish, hake (despite the reduction of quota) and particularly this year for anchovy. There are still some concerns about the Norway lobster, with regard to the functional unit of the North, and with the sardine, that despite presenting a slight recovery, continues with a low recruitment level.

During 2016, it was still possible to increase the quotas available for the monkfish and megrim through the mechanism of exchange quotas between Member States, as provided for in 8 of Article 16 of the Regulation. (EC) No 1380/2013, and to benefit from an increase in quotas (megrins, horse mackerel, Norway lobster, hake, monkfish, blue whiting, ling, seabass, black swordfish, mackerel, Alfonsinos and Forkbeard) from the quantities initially allocated, through the mechanism provided for in Article 4 (2) of Regulation (EC) No 847/96 allowing the transfer to the following year up to 10% of the allocated and unused quota.

Portugal also has fishing possibilities within the framework of Regional Fisheries for international waters and Protocols fisheries agreements annexed to the Partnership Agreements European Union and third countries, for Exclusive Economic Zones. In case Regional Fisheries Organizations, the activity of the national fleet is traditionally developed NAFO, NEAFC, ICCAT and IOTC areas. How much fishing activity within the framework of the Partnership, were used in 2016 by the fishing opportunities within the framework of the Fisheries Protocols with Guinea-Bissau, Morocco, Cape Verde and Madagascar.

In the North Atlantic, the initial fishing opportunities have remained at the same level as in 2015 once the reductions observed in 2016 face to 2015 in quotas for Svalbard and Norway cod and in NEAFC redfish and Greenland halibut in NAFO, were compensated by the increases in North swordfish, albacore North, horse mackerel, blue whiting and cod in 3M of NAFO quotas.

With regard to the South Atlantic, Portuguese quotas of tuna and related species decreased by 11% due, above all, the reduction of national quotas for bigeye tuna and blue marlin.

As for the partnership agreements with third countries, the situation has changed since last year. In 2016, one more licence was issued to Cabo Verde uplifting for 3 the number of vessels, confirming the growing interest of the national armaments in this fishery, by the possibility of making shark catches introduced by the Fisheries Protocol in force, namely blue sharks and Shortfin mako, species that are particularly interesting for this sector.

It is also worth mentioning the return of the Portuguese fleet waters of Guinea-Bissau with one fishing license for shrimp trawling.

With regard to the Fisheries Protocol with Morocco, in 2016, it was possible to license three Portuguese vessels for Moroccan waters, (minus 2 than in 2015).

With regard to Partnership Agreements in the Indian Ocean, in 2016 there was a resumption of in this area. Indeed, although negotiated a new Protocol of Fisheries with Mozambique, completed on January 31/2015, which is of particular interest to the Portuguese vessels caused a departure from the remaining Indian Association Agreements, it is clear that, in 2016, a return of the national fleet to the Indian Ocean, with the activity of three longliners area under the Partnership Agreement EU / Madagascar.

Projections for 2017 and outlook and for 2018

Preliminary results for 2017 forecast reveal a 7% decrease in landed weight. The landings in fresh fish in national ports, which represents 68% of the overall landings, decrease 5% in weight, but the overall value increase 1%. According to the Statistics Portugal report for 2017 the fish average price increases EUR 0.13 per kg representing an increase of 6.1% in the landing value when compared with 2016.

In relating of costs for 2017 the structure is expecting to remain constant and the main costs (labour and fuel) prediction is to be similar to the ones achieved in 2016, so it will be expected slightly higher values for the global economic indicators.

It should be stressed that since 2005 (year when the public support to new vessel construction stops) the investment costs with new vessels construction are very close to zero, since the fleet renewal represents only 0.1% of the total capacity (GT and kW) per year. Maintaining the renewal indicators in the observed levels for 2005-2017 can compromise all the fishing activity in the future. The main factors related to that are the instability for the TACs and quotas for the future, the problems with the past financial sector in Portugal and the difficulty of new investors enter in this activity, since if a new investor wants get in this business with a new production unit (new vessel), first he has to buy an old equivalent one and after that scrap the vessel, which will represent a large investment. It is observed also that the ship owners tend to keep the vessel to an over age limit, doing only some repairs, since they have size

constrains for the new vessel, which represents a large investment that for one unit that will be equivalent in terms of GT to the one they own.

MODEL FORECAST

Preliminary results for 2017 forecast that landings in weight can slightly increase compared to 2016 (+1%) with a higher increase on their value (+3%). Projections suggest that the economic performance of the fleet better than 2016, with GVA (+4%) and gross profit (+6%).

Forecast for 2018 suggest a decrease in the weight and value of landings (-7% and 3%, respectively), that together with an increase in energy costs, will lead to a worsening of the economic performance.

Data issues

Some minor differences were detected in the total value of landings and income from landings, as they are the result of two different data collection procedures, the first from administrative sources, the second from the annual economic survey to the fleet. Differences are less than 5%, according to the survey specifications.

Table 5.83 Portugal: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2017	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	8,770	8,731	8,655	8,507	8,399	8,311	8,256	8,205	8,100	8,022	3,602		-1%	-4%
Number of Inactive vessels_ms	(#)	4,016	4,105	4,178	4,260	4,316	4,287	4,311	4,334	4,282	4,222			-1%	1%
Vessel tonnage	(thousand GT)	107.2	107.7	104.4	102.2	101.1	100.1	100.4	100.3	94.9	93.7			-5%	-8%
Engine power	(thousand kW)	389.2	393.2	383.6	374.9	371.2	368.0	368.1	367.7	359.9	357.0			-2%	-5%
Total employed	(person)	17,239	17,860	16,583	18,258	16,754	17,867	16,992	16,086	15,396	14,917	14,603		-4%	-11%
FTE	(#)	9,155	9,260	9,155	9,614	9,241	9,748	8,515	8,130	8,230	8,157	7,935		1%	-10%
Days at sea	(thousand day)	441.1	425.0	402.3	390.9	385.4	368.8	335.6	352.5	339.5	339.0	336.4		-4%	-12%
Fishing days	(thousand day)	399.6	383.7	362.1	351.9	348.9	331.5	321.5	338.2	325.1				-4%	-8%
Number of fishing trips	(thousand)	382.0	370.9	357.1	343.1	336.1	312.6	310.9	320.6	312.8				-2%	-8%
Energy consumption	(million litre)	107.7	108.6	108.5	106.1	103.6	100.4	82.9	69.2	92.8	94.7	91.5		34%	-6%
Live weight of landings	(thousand tonne)	193.9	171.6	194.7	197.7	189.1	196.0	163.4	183.4	173.2	175.3	160.4		-6%	-7%
Value of landings	(million €)	400.8	361.0	399.2	408.9	386.8	367.7	353.4	351.9	390.1	402.6	366.9		11%	3%
Income from landings	(million €)	402.9	367.2	402.5	412.7	382.6	362.9	363.7	355.9	394.6	405.9	371.0		11%	3%
Other income	(million €)	1.3	0.9	3.6	3.8	3.4	1.9	1.2	0.8	0.8	0.7	0.7		-6%	-64%
Direct income subsidies	(million €)	-	4.2	3.3	1.9	1.0	0.1	4.2	3.8	1.0				-73%	-56%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	151.6	134.9	144.8	151.9	144.7	131.1	130.4	127.8	140.45	143.12	132.37		10%	1%
Unpaid labour value	(million €)	5.8	5.7	6.0	6.0	8.7	4.8	5.6	5.3	5.22	5.31	5.21		-2%	-13%
Energy costs	(million €)	76.5	66.7	65.1	77.0	80.4	71.7	60.3	48.2	49.13	51.25	56.46		2%	-28%
Repair & maintenance costs	(million €)	21.5	23.6	24.4	23.9	22.8	22.5	24.8	18.8	25.12	24.05	23.49		34%	10%
Other variable costs	(million €)	40.5	37.7	44.3	41.6	38.2	35.7	34.2	32.4	40.38	41.02	38.54		25%	6%
Other non-variable costs	(million €)	15.8	14.9	20.8	12.1	13.1	15.9	12.8	8.3	12.7	12.15	11.82		53%	-10%
Annual depreciation costs	(million €)	45.8	52.7	51.2	45.9	45.6	41.1	41.5	36.0	35.9	34.6	33.7		0%	-20%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	8.32	27.26	19.63	31.43	36.21	27.53	18.10	8.58	9.60	3.83	2.92		12%	-57%
Tangible asset value (replacement)	(million €)	469.8	528.3	498.3	490.4	480.2	469.1	457.2	451.3	382.3	268.0	260.8		-15%	-20%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	9.4	21.1	22.5	14.4	11.5	13.3	17.9	14.4	15.8				9%	2%
Financial position	(%)	-	-	-	-	-	-	-	-	-					
Gross Value Added	(million €)	249.8	225.3	251.4	261.9	231.6	219.0	232.9	249.1	268.0	278.2	241.4		8%	12%
GVA to revenue	(%)	61.8	61.2	61.9	62.9	60.0	60.0	63.8	69.8	67.8	68.4	64.9		-3%	8%
Gross profit	(million €)	92.4	84.6	100.6	104.1	78.2	83.1	96.9	115.9	122.3	129.7	103.8		5%	29%
Gross profit margin	(%)	22.9	23.0	24.8	25.0	20.2	22.8	26.6	32.5	30.9	31.9	27.9		-5%	25%
Net profit	(million €)	38.3	4.6	29.7	26.7	- 3.7	14.5	37.3	71.4	76.8	91.3	67.1		8%	181%
Net profit margin	(%)	9.5	1.3	7.3	6.4	- 1.0	4.0	10.2	20.0	19.4	22.5	18.1		-3%	169%
GVA per FTE (labour productivity)	(thousand €)	27.3	24.3	27.5	27.2	25.1	22.5	27.4	30.6	32.6	34.1	30.4		6%	23%
Return on fixed tangible assets	(%)	9.9	6.0	9.9	11.9	6.8	9.0	12.1	17.7	22.6	35.5	26.9		28%	117%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
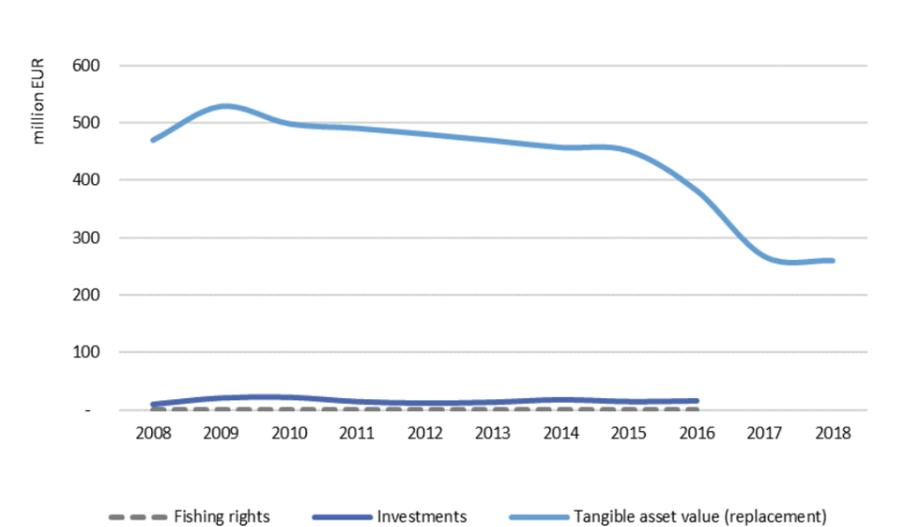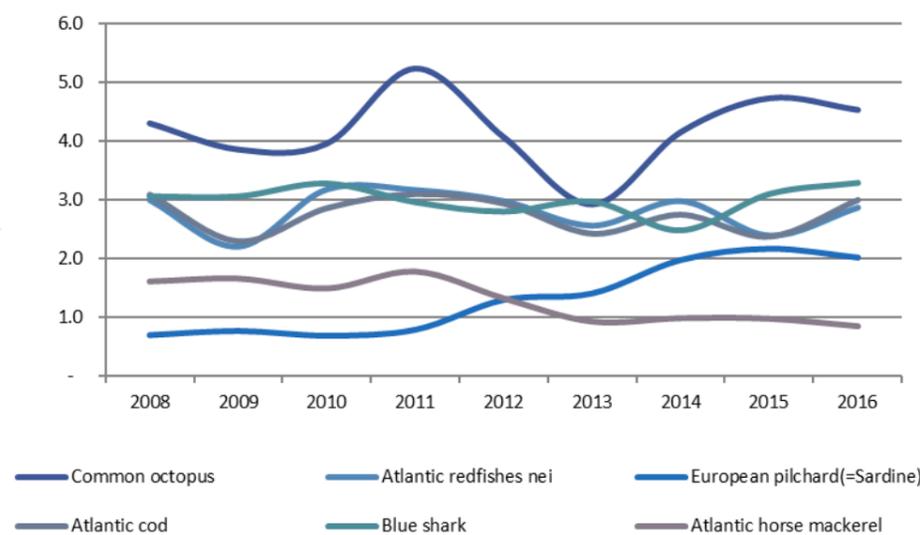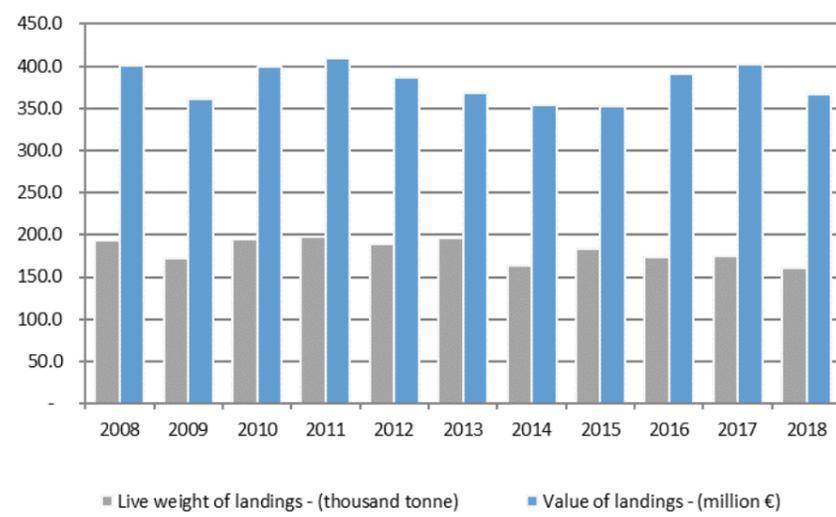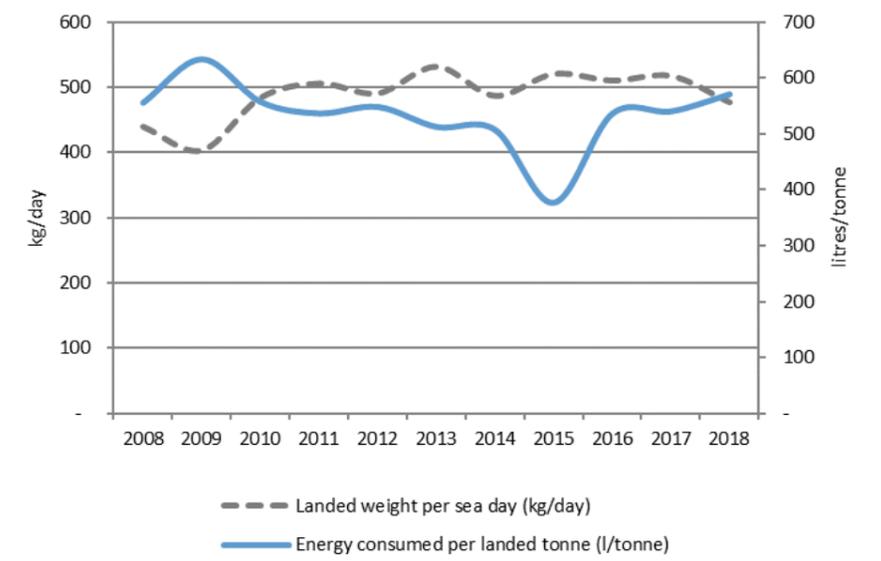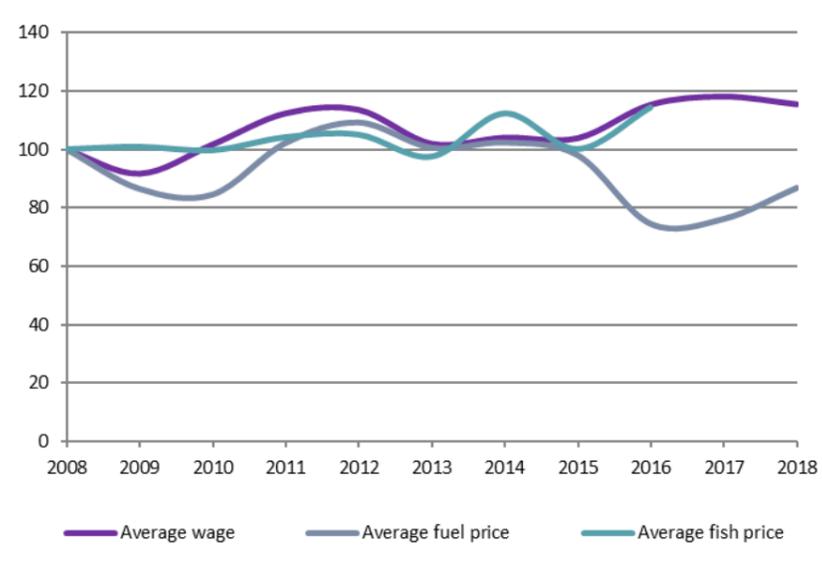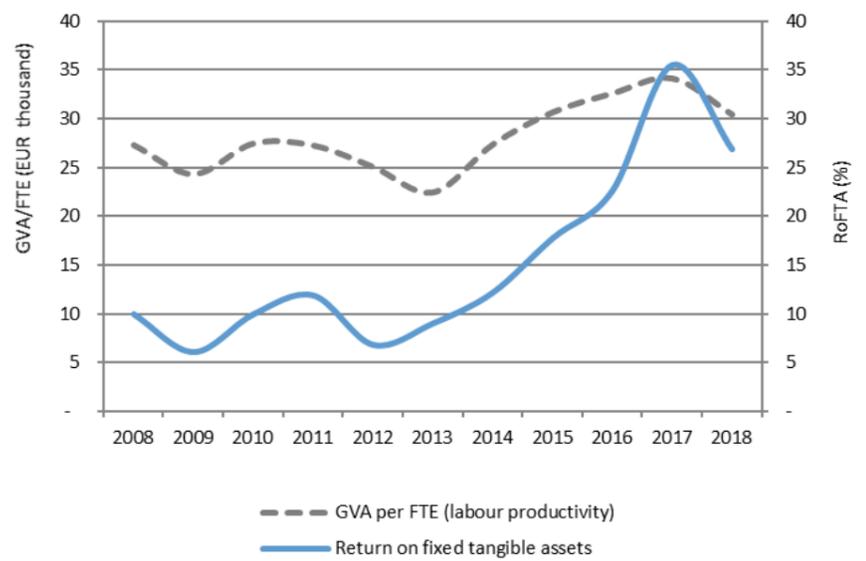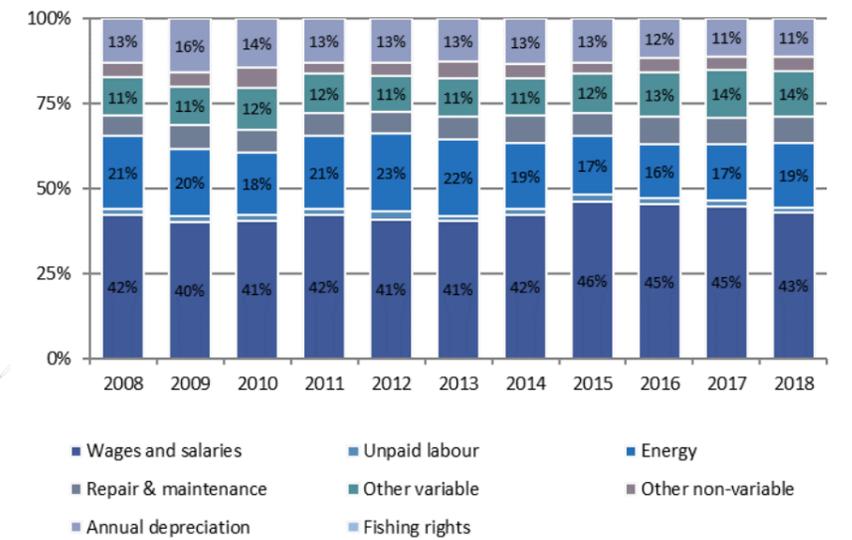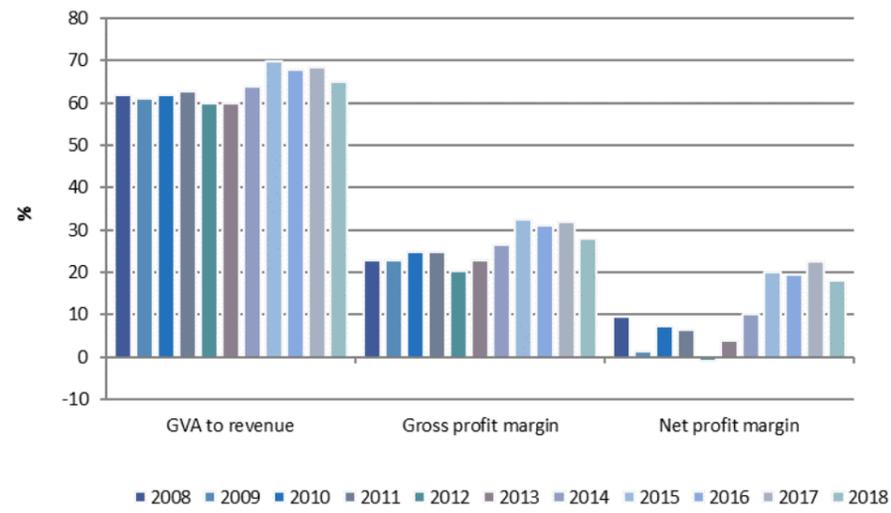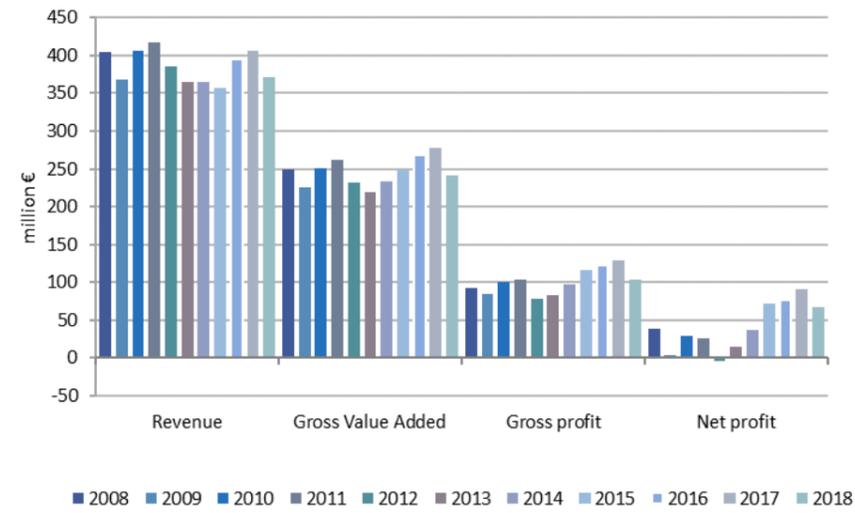
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Figure 5.18 Portugal: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b) and capital value (panel 3c). Nowcast figures for 2017 and 2018

Table 5.84 Portugal: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

SCF

Indicator	Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2017	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	3,792	3,665	3,540	3,338	3,230	3,185	3,097	3,044	3,004	2,948	2,821		-1%	-11%
Vessel tonnage	(thousand GT)	7.9	7.8	7.7	7.5	7.5	7.4	7.4	7.2	7.3	7.1			0%	-4%
Engine power	(thousand kW)	108	108	107	104	103	101	100	98	100	99			1%	-4%
FTE	(#)	3,246	3,063	2,827	3,370	3,022	3,413	2,967	2,923	2,578	2,527	2,520		-12%	-17%
Total employed	(person)	9,397	9,321	8,523	10,075	8,862	9,857	8,957	8,522	7,735	7,537	7,225		-9%	-16%
Days at sea	(thousand day)	285.1	272.0	253.6	245.8	248.5	236.4	213.8	225.6	215.4	214.0	213.4		-5%	-13%
Fishing days	(thousand day)	264.8	253.7	236.2	228.4	231.2	218.8	212.1	225.3	212.9				-6%	-9%
Number of fishing trips	(thousand)	256	245	232	224	227	213	215	222	213				-4%	-7%
Energy consumption	(million litre)	12.34	12.55	12.70	11.74	12.06	10.83	7.72	5.63	8.08	7.99	7.97		44%	-25%
Live weight of landings	(thousand tonne)	22.0	19.4	21.9	17.8	20.5	22.1	20.2	20.5	18.2	18.2	18.1		-11%	-11%
Value of landings	(million €)	95.8	76.6	79.6	76.6	76.7	76.1	82.3	81.6	86.8	87.8	86.4		6%	8%
Income from landings	(million €)	97.5	79.1	79.8	76.6	76.4	75.7	83.0	81.7	87.1	88.1	86.7		7%	7%
Other income	(million €)	0.1	0.1	0.8	0.4	0.5	0.2	0.0	0.1	0.0	0.0	0.0		-29%	-81%
Direct income subsidies	(million €)	-	0.1	0.2	0.0	0.0	0.0	0.0	0.0	-				-100%	-100%
Income from leasing fishing rights	(million €)														
Wages and salaries of crew	(million €)	37.5	30.1	30.7	29.4	29.9	28.9	30.9	27.7	29.7	29.9	29.5		7%	-3%
Unpaid labour value	(million €)	4.3	4.8	4.0	4.8	8.2	4.2	4.9	4.7	4.4	4.4	4.3		-8%	-13%
Energy costs	(million €)	8.7	7.9	8.0	8.9	9.1	8.4	7.6	6.9	7.2	7.3	8.3		4%	-12%
Repair & maintenance costs	(million €)	3.0	3.3	3.3	3.1	3.1	3.1	3.2	3.0	3.1	3.0	2.9		3%	-2%
Other variable costs	(million €)	6.3	5.4	5.2	5.0	4.9	4.8	5.5	6.5	6.3	6.2	6.2		-3%	16%
Other non-variable costs	(million €)	2.7	1.8	2.8	1.9	1.9	2.2	1.8	1.3	2.1	2.0	1.9		58%	1%
Annual depreciation costs	(million €)	8.7	9.7	9.6	9.0	9.2	9.1	8.8	8.5	8.0	7.7	7.5		-6%	-12%
Rights costs	(million €)														
Opportunity cost of capital	(million €)	1.3	4.1	3.1	4.7	5.5	4.2	2.7	1.2	1.5	0.8	0.6		21%	-56%
Tangible asset value (replacement)	(million €)	72.8	79.8	78.7	73.7	73.1	71.7	68.1	64.7	59.5	58.3	55.8		-8%	-18%
Fishing rights	(million €)														
Investments	(million €)	2.7	4.6	2.9	4.3	1.3	1.2	1.6	1.7	1.2				-27%	-44%
Gross Value Added	(million €)	77.0	60.7	61.3	58.1	57.8	57.2	64.9	64.0	68.5	69.6	67.5		7%	9%
GVA to revenue	(%)	78.9	76.7	76.0	75.5	75.2	75.5	78.2	78.3	78.6	79.0	77.7		0%	2%
Gross profit	(million €)	35.2	25.9	26.5	23.8	19.8	24.1	29.1	31.5	34.5	35.3	33.7		9%	28%
Gross profit margin	(%)	36.1	32.7	32.9	31.0	25.7	31.8	35.0	38.6	39.5	40.0	38.8		2%	20%
Net profit	(million €)	25.2	12.1	13.8	10.1	5.1	10.8	17.6	21.8	25.0	26.6	25.5		15%	72%
Net profit margin	(%)	25.8	15.3	17.1	13.2	6.7	14.3	21.2	26.7	28.7	30.2	29.4		8%	64%
Return on fixed tangible assets	(%)	36.4	30.3	21.5	20.2	14.5	20.9	29.7	35.6	44.5	47.0	46.7		25%	79%
GVA per FTE (labour productivity)	(thousand €)	23.7	19.8	21.7	17.2	19.1	16.8	21.9	21.9	26.6	27.6	26.8		21%	31%

LSF

Indicator	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2017	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	922	923	898	874	819	812	822	807	789	775	760		-2%	-8%
Vessel tonnage	63.8	65.6	63.2	63.0	60.9	61.7	61.3	55.8	57.2	54.9			2%	-8%
Engine power	178	179	172	170	164	166	165	158	159	155			1%	-6%
FTE	5,537	5,835	5,949	5,835	5,825	6,037	5,199	4,928	5,352	5,405	5,219		9%	-5%
Total employed	7,431	8,124	7,651	7,751	7,478	7,668	7,653	7,234	7,303	7,130	7,159		1%	-4%
Days at sea	146.5	144.5	138.9	136.4	130.2	126.7	116.4	122.4	119.1	120.9	119.4		-3%	-10%
Fishing days	127.8	123.7	118.9	116.7	111.5	107.5	104.5	108.8	107.8				-1%	-6%
Number of fishing trips	125.8	125.2	124.5	119.0	109.1	99.3	95.8	98.0	99.1				1%	-12%
Energy consumption	78.7	81.1	78.9	78.7	78.9	79.0	65.1	57.1	76.5	78.9	76.9		34%	2%
Live weight of landings	162.5	142.7	160.4	168.3	155.7	166.3	134.5	156.4	146.8	149.9	136.0		-6%	-6%
Value of landings	277.5	253.5	278.3	295.4	273.7	265.4	249.2	252.4	279.2	291.2	259.3		11%	4%
Income from landings	277.8	255.5	279.3	297.5	277.5	258.0	255.4	253.7	282.4	294.4	263.3		11%	5%
Other income	1.2	0.7	2.4	2.9	2.7	1.6	0.9	0.6	0.6	0.6	0.6		1%	-61%
Direct income subsidies	-	3.9	2.7	1.9	1.0	0.1	4.2	3.8	1.0				-73%	-53%
Income from leasing fishing rights														
Wages and salaries of crew	108.9	100.1	107.1	115.6	110.0	96.7	94.5	97.2	106.8	109.8	99.8		10%	3%
Unpaid labour value	1.5	1.0	2.0	1.1	0.5	0.6	0.6	0.6	0.8	0.9	0.9		41%	-15%
Energy costs	56.5	49.9	47.4	57.1	61.5	55.6	46.3	37.0	37.7	39.9	44.3		2%	-27%
Repair & maintenance costs	15.7	17.5	17.7	17.7	17.2	17.1	19.5	14.3	20.2	19.4	19.2		41%	18%
Other variable costs	28.6	26.8	29.7	30.2	28.0	25.5	24.8	22.0	29.0	29.8	28.0		32%	7%
Other non-variable costs	11.6	11.4	15.2	9.3	10.0	11.8	10.1	6.5	9.6	9.3	9.1		47%	-1%
Annual depreciation costs	31.6	37.5	35.7	31.7	31.6	27.9	29.2	24.7	25.3	24.6	24.3		2%	-19%
Rights costs														
Opportunity cost of capital	4.23	14.50	10.23	16.67	19.09	14.82	9.68	4.41	4.97	2.75	2.13		13%	-58%
Tangible asset value (replacement)	238.8	281.0	259.6	260.1	253.2	252.5	244.5	232.2	198.2	192.2	189.9		-15%	-22%
Fishing rights														
Investments	6.0	14.4	18.1	11.9	9.2	11.3	15.5	11.9	14.3				20%	16%
Gross Value Added	166.7	150.7	171.7	186.0	163.4	149.5	155.7	174.6	186.6	196.7	163.3		7%	13%
GVA to revenue	59.7	58.8	61.0	61.9	58.3	57.6	60.7	68.7	65.9	66.7	61.9		-4%	8%
Gross profit	56.3	49.7	62.7	69.3	52.9	52.2	60.6	76.8	78.9	86.0	62.6		3%	31%
Gross profit margin	20.2	19.4	22.2	23.1	18.9	20.1	23.6	30.2	27.9	29.2	23.7		-8%	26%
Net profit	20.5	2.3	16.8	20.9	2.1	9.6	21.7	47.7	48.6	58.5	35.9		2%	184%
Net profit margin	7.3	0.9	5.9	7.0	0.8	3.7	-8.5	18.8	17.2	19.9	13.7		-8%	169%
Return on fixed tangible assets	10.4	4.3	10.4	14.5	8.4	9.7	12.8	22.5	27.0	31.9	20.0		20%	133%
GVA per FTE (labour productivity)	30.1	25.8	28.9	31.9	28.0	24.8	30.0	35.4	34.9	36.4	31.3		-2%	19%

DWF

Indicator	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2017	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	40	38	39	35	34	27	26	20	25	24	21		25%	-23%
Vessel tonnage	13.5	12.0	12.7	11.5	11.1	9.1	8.9	6.7	7.8	8.4			17%	-27%
Engine power	26	24	25	22	22	18	17	13	15	15			20%	-29%
FTE	371	362	381	410	396	301	348	278	300	226	196		8%	-16%
Total employed	411	415	410	433	416	345	381	327	358	249	219		9%	-9%
Days at sea	9.4	8.4	9.8	8.7	6.7	5.6	5.4	5.0	4.1	3.6			10%	-32%
Fishing days	7.0	6.3	7.1	6.8	6.2	5.2	4.9	4.1	4.5				10%	-25%
Number of fishing trips														
Energy consumption	16.6	14.9	16.9	15.6	12.7	10.6	10.1	6.5	8.2	7.8	6.6		27%	-37%
Live weight of landings	9.5	9.5	12.4	11.6	11.5	7.5	8.7	6.5	8.2	7.2	6.3		25%	-15%
Value of landings	27.5	30.9	41.3	36.9	30.5	25.8	21.9	18.0	24.2	23.6	21.2		34%	-17%
Income from landings	27.5	32.6	43.4	38.7	28.8	29.3	25.3	20.5	25.1	23.4	20.9		22%	-19%
Other income	-	0.1	0.8	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.1		-30%	-62%
Direct income subsidies	-	0.1	0.3	0.0	-	-	-	-	-					-100%
Income from leasing fishing rights														
Wages and salaries of crew	5.2	4.8	7.0	6.9	4.9	5.5	5.0	2.8	3.9	3.4	3.1		38%	-25%
Unpaid labour value	-	-	-	-	-	-	-	-	0.00	0.0	0.0			
Energy costs	11.3	9.0	9.8	11.0	9.8	7.7	6.4	4.3	4.2	4.1	3.9		0%	-51%
Repair & maintenance costs	2.8	2.8	3.4	3.0	2.5	2.2	2.1	1.5	1.9	1.6	1.4		22%	-26%
Other variable costs	5.7	5.5	9.4	6.5	5.2	5.4	3.8	3.9	5.1	5.0	4.3		31%	-10%
Other non-variable costs	1.6	1.7	2.7	0.9	1.2	1.8	0.9	0.5	1.1	0.9	0.7		126%	-23%
Annual depreciation costs	5.5	5.6	5.9	5.3	4.8	4.1	3.5	2.7	2.6	2.1	1.9		-4%	-44%
Rights costs														
Opportunity cost of capital	0.8	2.2	1.7	2.9	3.1	2.0	1.1	0.4	0.6	0.3	0.2		36%	-69%
Tangible asset value (replacement)	44.3	42.8	44.3	44.5	41.6	34.6	28.9	21.3	22.0	17.5	15.1		3%	-42%
Fishing rights														
Investments	0.6	2.1	1.4	1.2	1.0	0.8	0.8	0.9	0.3				-64%	-70%
Gross Value Added	6.1	13.8	18.4	17.8	10.4	12.3	12.2	10.4	12.8	11.9	10.7		23%	1%
GVA to revenue	22.2	42.3	42.1	45.4	35.7	41.8	48.0	50.6	51.0	50.6	50.8		1%	24%
Gross profit	3.4	9.0	11.4	11.0	5.5	6.8	7.3	7.6	8.9	8.4	7.6		17%	20%
Gross profit margin	3.4	27.7	26.1	28.0	19.0	23.2	28.5	36.8	35.4	36.0	36.1		-4%	47%
Net profit	5.4	1.3	3.8	2.8	2.5	0.6	2.6	4.4	5.7	6.1	5.5		29%	495%
Net profit margin	19.5	3.9	8.6	7.1	8.6	2.2	10.3	21.6	22.8	25.9	26.2		6%	611%
Return on fixed tangible assets	10.4	8.2	12.4	12.7	1.6	7.7	13.0	22.8	28.6	36.0	37.6		25%	236%
GVA per FTE (labour productivity)	16.5	38.2	48.3	43.5	26.1	40.8	35.1	37.5	42.7	52.5	54.3		14%	20%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.85 Portugal: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)									Live weight of landings (thousand tonne)									Average landed price (real) (€)									% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	in value	in weight
Common octopus	39.8	26.7	41.7	38.5	40.4	37.9	44.5	35.6	47.8	9.2	6.9	10.5	7.3	9.9	13.0	10.7	7.5	10.5	4.3	3.9	4.0	5.3	4.1	2.9	4.2	4.7	4.5	12%	6%
Atlantic redfishes nei	18.4	20.4	29.8	29.5	24.8	22.5	24.3	28.7	28.8	6.2	9.3	9.4	9.3	8.3	8.8	8.2	12.0	10.0	3.0	2.2	3.2	3.2	3.0	2.6	3.0	2.4	2.9	7%	6%
European pilchard(=Sa	44.2	41.1	38.9	42.5	41.1	39.8	31.8	30.2	27.9	63.3	53.7	56.5	53.9	31.6	28.3	16.0	13.9	13.8	0.7	0.8	0.7	0.8	1.3	1.4	2.0	2.2	2.0	7%	8%
Atlantic cod	9.8	8.8	12.4	14.9	14.4	20.0	17.0	15.6	26.0	3.2	3.8	4.3	4.8	4.9	8.2	6.2	6.5	8.6	3.1	2.3	2.9	3.1	3.0	2.4	2.8	2.4	3.0	7%	5%
Blue shark	20.1	20.9	27.0	25.3	22.4	16.2	15.4	16.6	23.5	6.6	6.8	8.2	8.5	8.0	5.4	6.2	5.3	7.1	3.1	3.1	3.3	3.0	2.8	3.0	2.5	3.1	3.3	6%	4%
Atlantic horse macker	15.6	17.5	15.8	17.0	21.5	17.6	20.4	22.2	20.8	9.6	10.5	10.5	9.5	16.1	18.8	20.6	22.7	24.3	1.6	1.7	1.5	1.8	1.3	0.9	1.0	1.0	0.9	5%	14%
Black scabbardfish	17.1	14.6	14.1	14.5	13.9	11.8	12.4	15.5	14.3	6.0	5.2	4.7	4.9	4.8	4.1	4.1	4.7	4.4	2.9	2.8	3.0	3.0	2.9	2.9	3.0	3.3	3.3	4%	3%
Swordfish	4.3	5.4	7.2	6.1	6.3	7.2	8.3	10.7	13.5	1.1	1.3	1.7	1.6	1.9	1.9	2.5	3.0	3.3	3.8	4.3	4.1	3.8	3.3	3.9	3.4	3.6	4.1	3%	2%
European anchovy	1.3	0.3	0.4	5.5	2.4	1.2	2.0	4.9	12.0	0.3	0.1	0.1	2.9	0.8	0.4	0.8	2.6	7.1	4.6	4.4	3.1	1.9	3.0	3.1	2.5	1.9	1.7	3%	4%
Chub mackerel	8.4	3.8	6.8	14.6	13.9	19.0	7.9	12.7	9.9	24.8	14.6	23.7	32.8	38.7	46.1	29.2	46.0	27.9	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	3%	16%
																												58%	68%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015

Table 5.86 Portugal: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity) (thousand €)	Return on fixed tangible assets (%)	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
PRT A27 DTS40XX IWE	11	322	2,003	684	22,555	67,415	65,273	43,879	67.2	26,560	40.7	20,391	31.24	53.8	136.3	51	High	262%	Improved	16.5%
PRT A27 DTS2440	58	479	14,149	783	33,928	45,796	48,093	24,571	51.1	9,390	19.5	4,140	8.61	31.7	51.3	14	Weak	319%	Improved	12.2%
PRT A27 PGP0010	1,622	1,356	125,154	358	9,661	41,318	41,371	32,866	79.4	16,081	38.9	11,510	27.82	12.4	24.2	42			Improved	10.5%
PRT A27 PS1824	52	602	7,342	148	28,570	29,088	29,675	22,232	74.9	6,027	20.3	3,408	11.49	26.9	36.9	25	Reasonable	41%	Improved	7.5%
PRT A27 PS2440	20	263	2,940	147	14,170	14,540	14,743	11,385	77.2	3,691	25.0	2,092	14.19	29.3	43.3	25	Reasonable	113%	Improved	3.7%
PRT OFR HOK2440 IWE°	12	131	2,604	925	4,408	14,710	14,389	7,974	55.4	5,782	40.2	3,913	27.20	16.7	60.9	41	High			3.6%
PRT A27 HOK2440	17	188	3,871	1,280	3,226	13,587	13,533	8,061	59.6	3,913	28.9	2,470	18.25	22.1	42.9	30	Reasonable	257%	Improved	3.4%
PRT A27 FPO1218	60	455	10,139	489	3,425	12,915	12,962	10,001	77.2	4,581	35.3	3,072	23.70	11.9	22.0	37	High	105%	Improved	3.3%
PRT A27 HOK1824	19	241	3,763	623	2,671	9,521	10,443	6,703	64.2	2,288	21.9	1,437	13.76	18.3	27.8	29	Reasonable	1%	Stable	2.6%
PRT A27 FPO0010	160	135	13,973	370	1,741	9,274	9,286	7,788	83.9	4,527	48.8	3,824	41.18	24.2	57.7	87	High		Improved	2.3%
PRT A27 HOK0010 P3	346	247	20,806	579	1,404	8,971	9,023	6,973	77.3	3,773	41.8	2,971	32.93	13.0	28.2	130	High	38%	Improved	2.3%
PRT A27 HOK2440 P3°	29	313	3,379	1,316	3,064	8,769	8,926	4,540	50.9	810	9.1	- 1,788	20.03	11.9	14.5	- 8	Weak	-1159%	Deteriorated	2.3%
PRT OFR HOK40XX IWE	5	78	1,246	1,347	2,517	8,024	8,024	3,355	41.8	2,314	28.8	1,702	21.21	13.3	43.0	28	High	164%	Improved	2.0%
PRT A27 DFN1218	52	278	8,530	796	1,708	7,838	7,887	5,616	71.2	2,180	27.6	1,064	13.49	12.4	20.2	17	Reasonable	335%	Improved	2.0%
PRT A27 PS1218	36	219	5,222	135	8,101	7,386	7,507	5,421	72.2	1,667	22.2	1,051	14.00	17.1	24.8	29	Reasonable	1%	Stable	1.9%
PRT A27 HOK1218	21	198	3,825	495	2,085	6,771	6,936	4,463	64.3	1,393	20.1	1,013	14.60	15.5	22.5	29	Reasonable	-4%	Stable	1.8%
PRT OFR HOK1218 P2	17	156	4,152	561	1,810	6,535	6,680	5,244	78.5	2,209	33.1	1,958	29.31	19.5	33.6	120	High	55%	Improved	1.7%
PRT A27 DFN1824	25	295	6,074	923	2,134	6,282	6,324	4,071	64.4	1,469	23.2	383	6.05	8.8	13.8	8	Weak	165%	Improved	1.6%
PRT A27 PGP1218	36	252	6,271	767	1,825	6,018	6,062	4,099	67.6	1,787	29.5	942	15.55	9.2	16.3	18	Reasonable	93%	Improved	1.5%
PRT A27 HOK1012 P3	69	227	7,243	852	1,089	6,030	6,042	4,297	71.1	2,003	33.1	1,170	19.36	10.1	18.9	24	Reasonable	22%	Improved	1.5%
PRT A27 FPO1012	52	104	6,588	489	1,140	5,489	5,491	4,280	77.9	2,363	43.0	1,707	31.09	18.4	41.2	36	High	24%	Improved	1.4%
PRT A27 DFN0010	425	153	16,232	446	903	5,423	5,436	4,412	81.2	2,004	36.9	1,158	21.29	15.7	28.8	23	High	860%	Improved	1.4%
PRT A27 PS1012	29	131	3,539	144	4,449	4,935	4,987	3,862	77.4	1,277	25.6	939	18.83	19.7	29.5	42	Reasonable	6%	Improved	1.3%
PRT A27 HOK1218 P3	40	193	4,443	665	1,166	4,702	4,981	3,063	61.5	1,001	20.1	369	7.41	10.7	15.9	12	Weak	-47%	Deteriorated	1.3%
PRT A27 DTS1824	7	47	1,712	4,456	426	4,328	4,411	2,576	58.4	882	20.0	430	9.75	36.0	54.8	18	Weak		Improved	1.1%
PRT A27 DRB1218	13	41	1,429	238	1,239	2,994	3,002	2,427	80.8	1,409	46.9	1,161	38.66	24.8	59.2	64	High	943%	Improved	0.8%
PRT OFR HOK2440 P2	8	91	1,111	609	1,230	1,433	2,711	1,491	55.0	796	29.3	107	3.94	7.6	16.4	5	Weak	118%	Improved	0.7%
PRT A27 HOK0010	133	61	9,120	204	618	2,395	2,572	2,177	84.6	1,104	42.9	930	36.17	17.6	35.7	84	High		Improved	0.7%
PRT A27 DTS1218	7	42	1,450	1,050	860	2,299	2,406	1,527	63.5	697	29.0	472	19.62	19.8	36.4	46	Reasonable	75%	Improved	0.6%
PRT A27 DFN1012	21	62	2,570	907	357	1,979	1,996	1,508	75.6	831	41.6	573	28.71	10.9	24.3	33	High	84%	Improved	0.5%
PRT A27 DRB1012	24	44	3,112	717	1,071	1,822	1,830	1,153	63.0	454	24.8	224	12.24	15.9	26.2	13	Reasonable	149%	Improved	0.5%
PRT A27 PS0010	21	35	1,429	135	1,308	1,763	1,793	1,445	80.6	560	31.3	392	21.86	25.3	41.3	34	High	-1%	Stable	0.5%
PRT A27 MGO0010	33	81	2,288	51	2,132	1,746	1,783	1,458	81.8	796	44.6	643	36.08	8.2	18.0	60	High	148%	Improved	0.5%
PRT A27 FPO1824	7	81	1,528	633	650	1,714	1,716	1,195	69.7	517	30.1	205	11.97	8.4	14.8	16	Reasonable	73%	Improved	0.4%
PRT OFR HOK0010 P2°	55	85	4,196	601	331	1,504	1,515	984	64.9	305	20.1	164	10.82	8.0	11.6	19	Reasonable	-55%	Deteriorated	0.4%
PRT A27 DTS0010	5	22	1,141	936	382	1,487	1,492	1,132	75.8	604	40.5	528	35.37	24.0	51.4	126	High	37%	Improved	0.4%
PRT A37 FPO2440	2	18	567	4,392	116	1,245	1,273	828	65.0	251	19.7	81	6.34	32.0	46.0	12	Weak	158%	Improved	0.3%
PRT A27 PMP0010	47	33	2,901	420	335	1,165	1,165	855	73.4	254	21.8	105	9.05	18.2	25.9	14	Weak	47%	Improved	0.3%
PRT A27 TBB0010	36	47	2,896	862	264	956	1,155	848	73.4	554	48.0	456	39.48	6.2	18.0	65	High	951%	Improved	0.3%
PRT A27 DTS1012	3	16	708	1,291	270	1,077	1,087	743	68.4	390	35.9	319	29.33	22.0	46.4	48	High			0.3%
PRT OFR HOK1824 P2	3	26	531	664	340	1,073	1,073	709	66.1	157	14.6	9	0.86	21.2	27.3	4	Weak			0.3%
PRT A27 PS1012 P3°	11	73	1,778	477	474	1,066	1,068	823	77.1	411	38.5	287	26.91	5.6	11.3	38	High	105%	Improved	0.3%
PRT A27 TBB1012 °	11	29	1,254	883	269	537	959	745	77.7	466	48.6	352	36.68	9.6	25.7	39	High			0.2%
PRT A27 DFN0010 P3	35	35	3,116	301	270	936	936	714	76.2	415	44.3	376	40.16	8.5	20.4	309	High	60%	Improved	0.2%
PRT A27 HOK1012	6	13	646	1,004	117	856	856	658	76.8	328	38.3	274	32.03	25.4	50.6	68	High	27%	Improved	0.2%
PRT A27 PGP0010 P3°	16	43	1,813	1,055	134	779	779	571	73.3	288	37.0	218	27.92	6.6	13.3	71	High	105%	Improved	0.2%
PRT A27 DRB0010	43	39	3,775	864	431	750	751	373	49.7	114	15.2	- 35	4.70	6.6	9.6	- 0	Weak	77%	Improved	0.2%
PRT A27 PGP1012	17	24	1,025	1,011	136	691	694	437	62.9	192	27.7	29	4.11	10.2	18.2	5	Weak	-45%	Deteriorated	0.2%
PRT A27 PGP1824	3	27	494	747	168	657	659	432	65.6	168	25.5	49	7.38	9.8	16.0	10	Weak			0.2%
PRT OFR MGP1824 P2°	3	41	599	98	952	509	509	263	51.7	- 8	- 1.6	- 40	- 7.94	6.6	6.4	- 8	Weak	42%	Improved	0.1%
PRT A27 PS0010 P3	20	25	1,628	580	197	425	425	315	74.2	142	33.5	114	26.81	6.9	12.6	115	High	181%	Improved	0.1%
PRT OFR MGP0010 P2	7	16	658	347	97	350	350						11.7						0.1%
PRT A27 MGO1012	8	17	508	88	272	276	280	164	58.8	50	17.9	- 22	- 7.95	6.7	9.7	- 2	Weak	-149%	Deteriorated	0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.87 Portugal: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
PRT A27 DTS40XX IWE	10	342	2,127	661	24,780	74,965	72,580	50,585	69.7	31,326	43.2	26,098	35.96	56.3	147.9	69.1	High	17.8%
PRT A27 DTS2440	56	501	14,787	796	34,893	49,296	51,741	27,294	52.8	10,952	21.2	6,232	12.04	32.6	54.5	19.1	Reasonable	12.7%
PRT A27 PGP0010	1,629	1,381	127,435	357	9,885	42,916	42,971	34,217	79.6	16,782	39.1	12,484	29.05	12.6	24.8	43.3	High	10.6%
PRT A27 PS1824	53	569	6,938	141	28,215	27,054	27,603	20,285	73.5	5,213	18.9	2,693	9.76	26.5	35.7	18.9	Weak	6.8%
PRT OFR HOK2440 IWE°	12	131	2,604	925	4,408	14,781	14,457	8,034	55.6	5,832	40.3	4,100	28.36	16.8	61.3	42.5	High	3.6%
PRT A27 PS2440	20	250	2,790	142	13,976	13,559	13,749	10,446	76.0	3,272	23.8	1,765	12.84	28.7	41.9	20.0	Reasonable	3.4%
PRT A27 FPO1218	48	469	10,447	486	3,554	13,627	13,670	10,792	78.9	5,075	37.1	3,936	28.79	12.2	23.0	57.0	High	3.4%
PRT A27 HOK2440	16	188	3,871	1,280	3,226	13,678	13,623	8,160	59.9	3,985	29.3	2,710	19.90	22.2	43.4	33.1	Reasonable	3.4%
PRT A27 HOK1824	17	241	3,763	623	2,672	9,585	10,510	6,827	65.0	2,382	22.7	1,668	15.88	18.4	28.3	35.5	Reasonable	2.6%
PRT A27 DFN1218	77	327	10,029	796	2,008	9,679	9,740	6,815	70.0	2,572	26.4	1,027	10.54	13.0	20.9	10.9	Reasonable	2.4%
PRT A27 FPO0010	158	135	13,991	370	1,744	9,354	9,366	7,851	83.8	4,563	48.7	3,912	41.77	24.3	58.1	88.0	High	2.3%
PRT A27 HOK0010 P3	361	245	20,597	579	1,390	8,948	9,001	6,909	76.8	3,717	41.3	2,901	32.24	13.1	28.3	119.6	High	2.2%
PRT A27 HOK2440 P3°	28	313	3,379	1,316	3,064	8,825	8,983	4,589	51.1	836	9.3	- 1,518	- 16.90	12.0	14.7	- 8.1	Weak	2.2%
PRT OFR HOK40XX IWE	5	83	1,329	1,347	2,685	8,601	8,627	3,620	42.0	2,503	29.0	1,933	22.41	13.4	43.5	29.5	High	2.1%
PRT A27 DFN1824	31	361	7,431	992	2,428	7,985	8,037	5,232	65.1	1,924	23.9	659	8.20	9.2	14.5	9.3	Weak	2.0%
PRT A27 PS1218	36	217	5,178	133	8,112	7,288	7,408	5,307	71.6	1,604	21.7	1,027	13.87	17.1	24.4	26.8	Reasonable	1.8%
PRT A27 HOK1218	20	200	3,857	494	2,106	6,908	7,074	4,598	65.0	1,466	20.7	1,141	16.13	15.7	23.0	32.7	Reasonable	1.7%
PRT A27 PGP1218	21	266	6,626	760	1,945	6,612	6,643	4,829	72.7	2,288	34.4	1,830	27.55	9.5	18.1	53.9	High	1.6%
PRT A27 HOK1012 P3	69	221	7,065	851	1,063	5,930	5,941	4,202	70.7	1,945	32.7	1,167	19.63	10.2	19.0	22.6	Reasonable	1.5%
PRT A27 DFN0010	412	155	16,468	444	919	5,599	5,613	4,575	81.5	2,088	37.2	1,323	23.57	16.0	29.5	25.2	High	1.4%
PRT A27 FPO1012	44	105	6,651	488	1,154	5,611	5,613	4,439	79.1	2,479	44.2	1,967	35.05	18.7	42.3	47.0	High	1.4%
PRT OFR HOK1218 P2	18	121	3,229	561	1,407	5,107	5,235	4,114	78.6	1,754	33.5	1,575	30.08	19.5	33.9	125.3	High	1.3%
PRT A27 HOK1218 P3	43	189	4,358	664	1,144	4,651	4,927	2,979	60.5	939	19.1	299	6.08	10.8	15.7	8.9	Weak	1.2%
PRT A27 PS1012	30	129	3,473	141	4,481	4,752	4,803	3,663	76.3	1,173	24.4	849	17.67	19.4	28.5	35.7	Reasonable	1.2%
PRT A27 DTS1824	8	48	1,766	3,887	503	4,588	4,677	2,704	57.8	908	19.4	422	9.03	37.1	55.8	14.8	Weak	1.2%
PRT A27 DRB1218	14	41	1,429	238	1,239	3,013	3,022	2,427	80.3	1,403	46.4	1,156	38.24	25.0	59.2	57.6	High	0.7%
PRT A27 DTS1218	8	45	1,538	924	1,036	2,589	2,709	1,745	64.4	811	29.9	565	20.86	21.0	39.2	46.8	High	0.7%
PRT A27 HOK0010	129	61	9,152	204	621	2,424	2,602	2,204	84.7	1,118	43.0	961	36.92	17.7	36.0	88.1	High	0.6%
PRT A27 DFN1012	20	73	3,016	899	422	2,441	2,458	1,912	77.8	1,077	43.8	849	34.54	11.5	26.3	48.5	High	0.6%
PRT A27 DRB1012	24	44	3,112	717	1,071	1,834	1,842	1,152	62.6	449	24.4	241	13.07	16.0	26.2	12.7	Reasonable	0.5%
PRT A27 FPO1824	1	84	1,577	628	677	1,821	1,823	1,437	78.8	716	39.3	674	36.95	8.6	17.2	301.4	High	0.4%
PRT A27 MGO0010	32	81	2,301	51	2,158	1,762	1,800	1,470	81.7	801	44.5	664	36.90	8.2	18.0	61.9	High	0.4%
PRT A27 PS0010	18	35	1,440	132	1,348	1,715	1,742	1,411	81.0	551	31.6	417	23.95	24.4	40.0	40.1	High	0.4%
PRT A27 DTS0010	5	23	1,210	938	404	1,617	1,623	1,238	76.3	664	40.9	592	36.50	24.6	53.1	139.4	High	0.4%
PRT A37 FPO2440	2	18	567	4,392	116	1,251	1,278	827	64.7	247	19.3	89	6.95	32.2	45.9	11.9	Weak	0.3%
PRT A27 DTS1012	3	18	783	1,294	298	1,242	1,252	873	69.7	466	37.2	402	32.08	23.0	49.4	57.8	High	0.3%
PRT A27 TBB0010	34	48	2,978	855	273	1,010	1,219	904	74.1	594	48.7	508	41.66	6.4	18.7	74.2	High	0.3%
PRT A27 PMP0010	46	34	2,960	419	342	1,201	1,202	884	73.5	263	21.9	128	10.62	18.4	26.2	15.0	Reasonable	0.3%
PRT A27 TBB1012 °	10	31	1,347	875	291	606	1,082	858	79.3	543	50.2	448	41.44	10.1	27.6	52.7	High	0.3%
PRT A27 DFN0010 P3	36	35	3,112	301	270	942	942	715	75.9	414	43.9	375	39.80	8.6	20.5	297.0	High	0.2%
PRT A27 HOK1012	6	13	650	999	119	875	875	673	76.9	336	38.4	287	32.76	25.8	51.5	69.7	High	0.2%
PRT A27 PS1012 P3°	13	34	822	298	350	866	868	675	77.8	341	39.2	204	23.52	9.9	20.0	22.6	High	0.2%
PRT A27 PGP1012	22	26	1,126	996	151	791	796	493	62.0	213	26.8	15	1.90	10.6	18.7	2.5	Weak	0.2%
PRT A27 PGP0010 P3°	16	43	1,795	1,054	132	778	778	568	73.1	286	36.8	218	28.07	6.6	13.4	69.8	High	0.2%
PRT A27 DRB0010	36	39	3,775	864	431	755	755	392	51.9	132	17.4	17	2.20	6.7	10.0	3.1	Weak	0.2%
PRT OFR HOK1824 P2	3	17	354	664	226	719	722	479	66.3	109	15.2	19	2.57	21.3	27.6	4.7	Weak	0.2%
PRT A27 PGP1824	3	28	506	742	173	690	693	459	66.3	182	26.3	69	9.97	10.0	16.6	11.4	Weak	0.2%
PRT OFR MGP0010 P2	5	29	1,175	347	173	628	630						11.8					0.2%
PRT OFR HOK2440 P2	6	11	139	609	154	180	354	198	55.8	109	30.7	31	8.72	7.8	17.4	6.2	Weak	0.1%
PRT OFR MGP1824 P2°	3	27	399	98	635	341	342	178	51.9	- 4	1.1	- 22	- 6.48	6.6	6.5	- 7.2	Weak	0.1%
PRT A27 PS0010 P3	20	17	1,075	448	168	341	342	265	77.5	126	36.8	98	28.76	8.4	16.0	97.4	High	0.1%
PRT A27 MGO1012	9	16	481	83	275	271	275	155	56.6	43	15.7	- 32	- 11.78	7.0	9.7	4.1	Weak	0.1%
PRT OFR DTS40XX IWE	1																	0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

5.19 Romania

NOT AVAILABLE

Table 5.88 Romania: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	441	440	429	488	261	196	158	151	147	155	165		-3%	-54%
Number of Inactive vessels_ms	(#)	36	280	223	288	78	84	35	24	26	20			8%	-80%
Vessel tonnage	(thousand GT)	2.3	2.3	1.0	1.0	0.7	0.6	0.8	0.9	1.1	1.4			27%	-8%
Engine power	(thousand kW)	8.7	8.2	5.4	7.0	5.9	6.2	6.1	6.0	5.8	6.2			-3%	-13%
Total employed	(person)	875	289	444	454	471	304	330	331	345	757	926		4%	-21%
FTE	(#)	42	31	38	28	39	37	41	42	48	97	126		14%	28%
Days at sea	(thousand day)	3.7	4.1	4.3	2.6	3.3	2.8	2.8	4.0	4.1	4.9	6.0		1%	18%
Fishing days	(thousand day)	3.7	3.9	4.1	2.5	3.3	2.7	2.7	3.7	3.7	4.8			2%	13%
Number of fishing trips	(thousand)	3.6	4.0	4.1	2.6	3.4	2.9	2.7	3.6	3.4	4.4			-5%	2%
Energy consumption	(million litre)	0.11	0.05	0.19	0.26	0.17	0.36	0.55	0.71	0.74	0.77	1.01		5%	148%
Live weight of landings	(thousand tonne)	0.44	0.29	0.23	0.54	0.81	1.62	2.20	4.84	6.84	9.55	12.59		41%	399%
Value of landings	(million €)	0.93	0.71	0.55	1.53	0.98	1.45	2.46	4.28	3.88	4.52	5.84		-9%	141%
Income from landings	(million €)	0.93	0.71	0.55	1.53	0.98	1.45	2.46	4.28	3.88	4.52	5.83		-9%	141%
Other income	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Direct income subsidies	(million €)	-	-	-	-	-	-	-	-	-	-				
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-				
Wages and salaries of crew	(million €)	0.60	0.25	0.24	0.50	0.29	0.40	0.80	0.51	0.62	0.74	0.94		22%	39%
Unpaid labour value	(million €)	-	-	-	-	0.04	0.16	0.24	0.04	0.06	0.07	0.09		56%	-1%
Energy costs	(million €)	0.17	0.07	0.25	0.28	0.17	0.36	0.55	0.52	0.53	0.57	1.59		1%	77%
Repair & maintenance costs	(million €)	0.06	0.03	0.03	0.09	0.06	0.09	0.14	0.10	0.21	0.44	0.53		106%	183%
Other variable costs	(million €)	0.07	0.02	0.02	0.24	0.13	0.11	0.19	0.03	0.05	0.12	0.14		83%	-47%
Other non-variable costs	(million €)	0.03	0.02	0.02	0.03	0.02	0.04	0.09	0.11	0.14	0.31	0.36		33%	220%
Annual depreciation costs	(million €)	0.06	0.01	0.02	0.11	0.07	0.11	0.21	0.14	0.18	0.37	0.47		33%	99%
Rights costs	(million €)	-	-	-	-	-	0.03	0.05	0.07	0.07	0.15	0.19		7%	319%
Opportunity cost of capital	(million €)	-0.02	0.34	0.04	0.06	0.11	0.07	0.10	0.24	0.36	0.42	0.10		51%	205%
Tangible asset value (replacement)	(million €)	9.93	8.77	3.38	4.17	3.59	3.27	3.17	6.07	8.03	14.73	18.98		32%	52%
Fishing rights	(million €)	0.06	0.02	0.03	0.03	0.02	0.01	0.02	0.07	0.05				-36%	41%
Investments	(million €)	0.20	0.12	0.07	0.06	0.13	0.11	0.18	0.21	0.68				223%	401%
Financial position	(%)	40.0	28.0	31.0	34.0	45.0	59.0	11.0	2.0	8.0				300%	-74%
Gross Value Added	(million €)	0.6	0.6	0.2	0.9	0.6	0.8	1.5	3.5	2.9	3.1	3.2		-16%	170%
GVA to revenue	(%)	64.3	79.4	44.2	58.7	60.6	57.7	60.4	82.2	75.9	68.3	55.0		-8%	20%
Gross profit	(million €)	- 0.0	0.3	0.0	0.4	0.3	0.3	0.4	3.0	2.3	2.3	2.2		-24%	288%
Gross profit margin	(%)	- 0.8	43.5	1.6	26.3	26.8	19.0	18.1	69.4	58.3	50.2	37.2		-16%	129%
Net profit	(million €)	- 0.1	- 0.0	- 0.1	0.2	0.1	0.1	0.1	2.6	1.7	1.5	1.6		-34%	361%
Net profit margin	(%)	- 5.6	- 6.2	- 9.5	15.2	8.0	6.8	5.4	60.6	44.4	32.9	27.4		-27%	375%
GVA per FTE (labour productivity)	(thousand €)	14.2	18.1	6.4	31.6	15.4	22.5	36.4	84.0	61.8	31.8	25.4		-26%	117%
Return on fixed tangible assets	(%)	- 0.7	3.4	- 0.4	7.0	5.4	5.1	7.3	46.7	25.9	12.9	8.9		-44%	181%

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015).
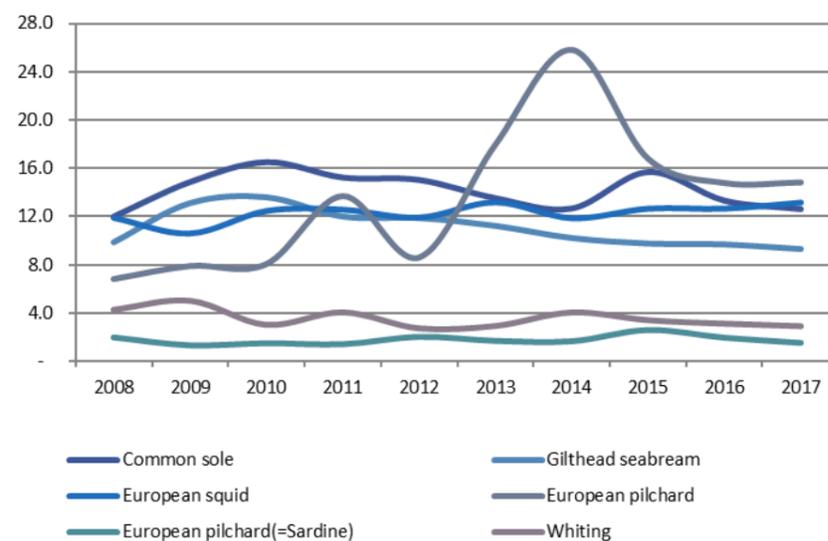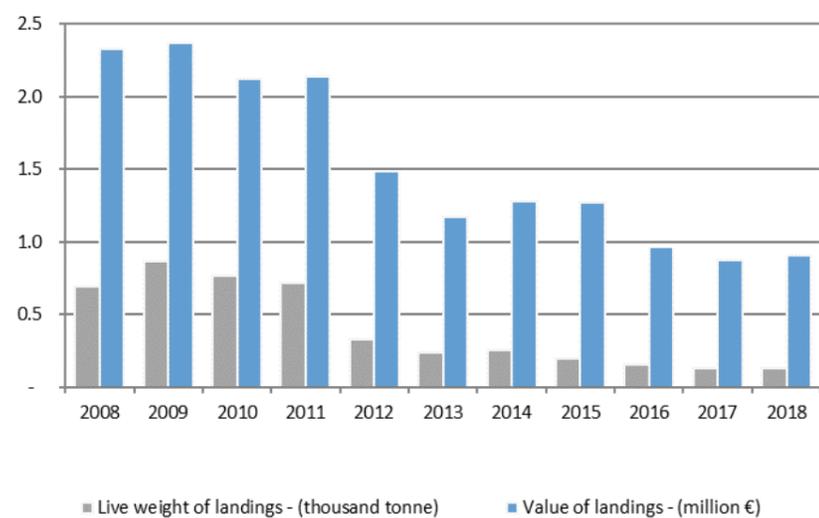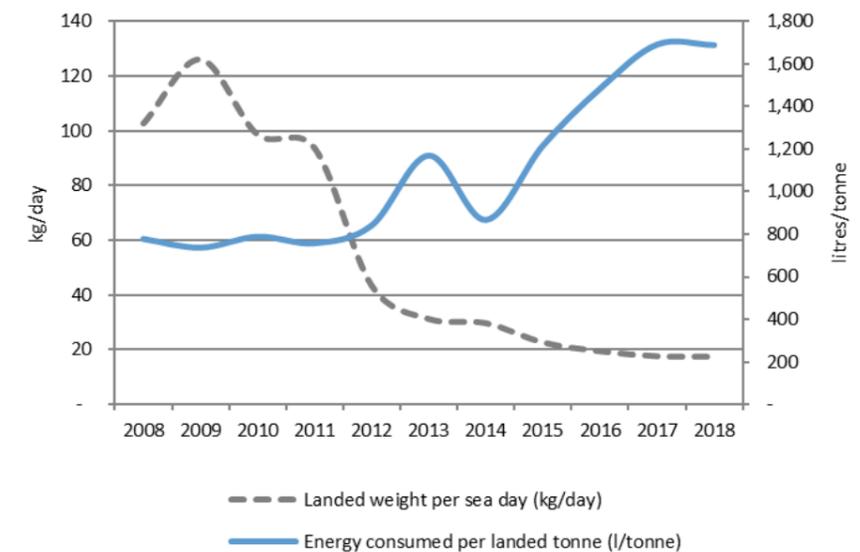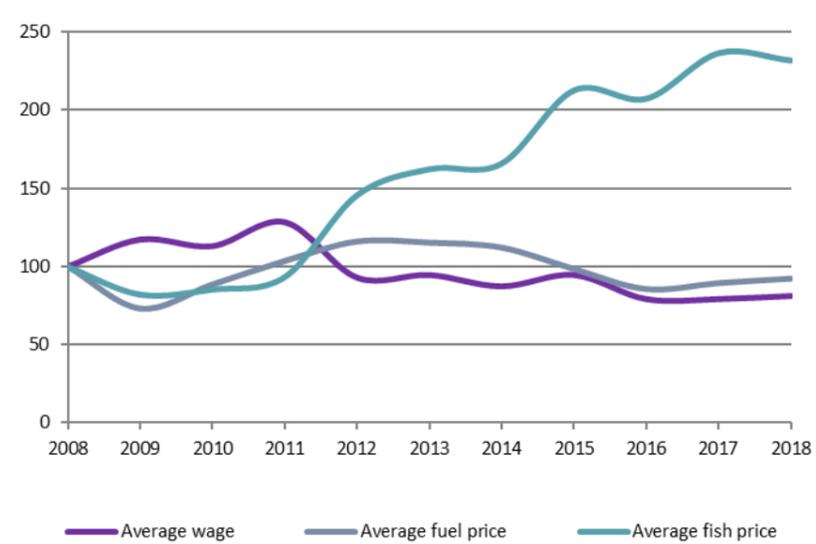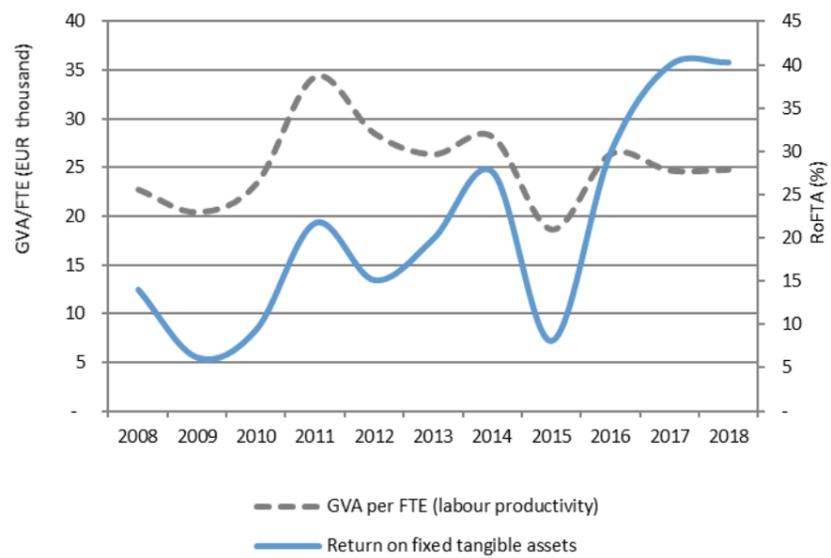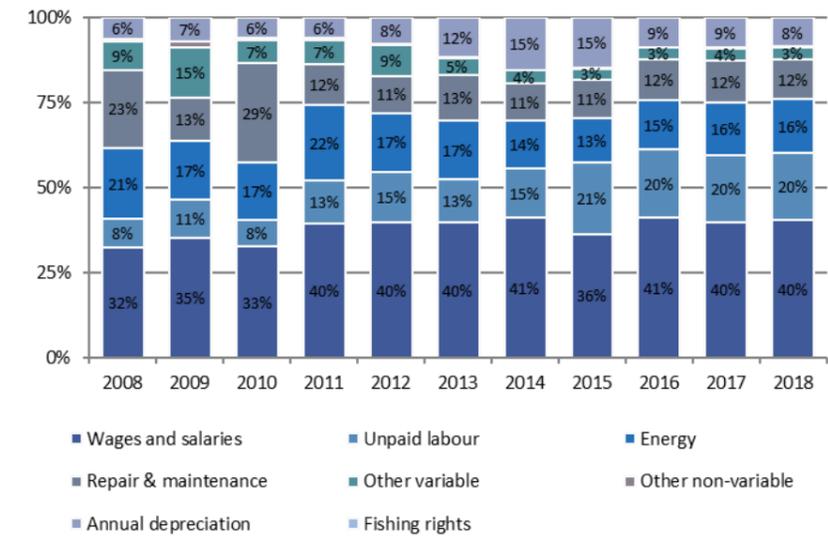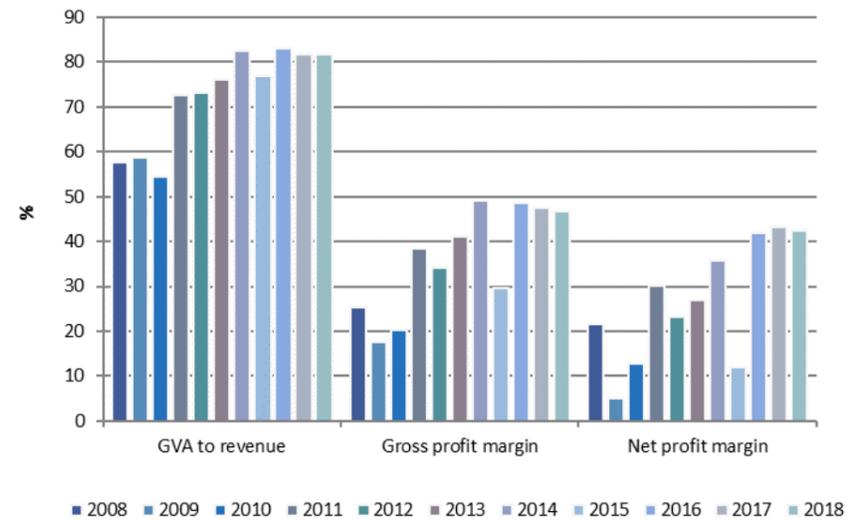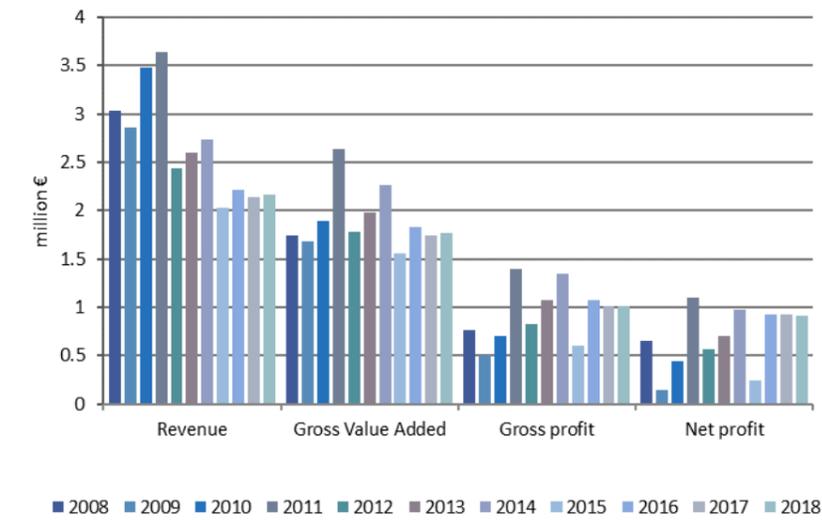Number of vessels in 2016 and 2017 include active vessels only.
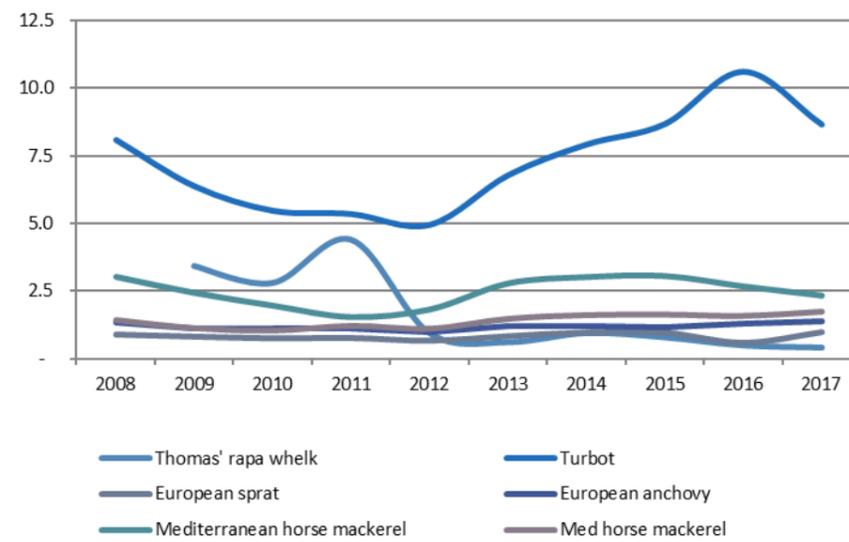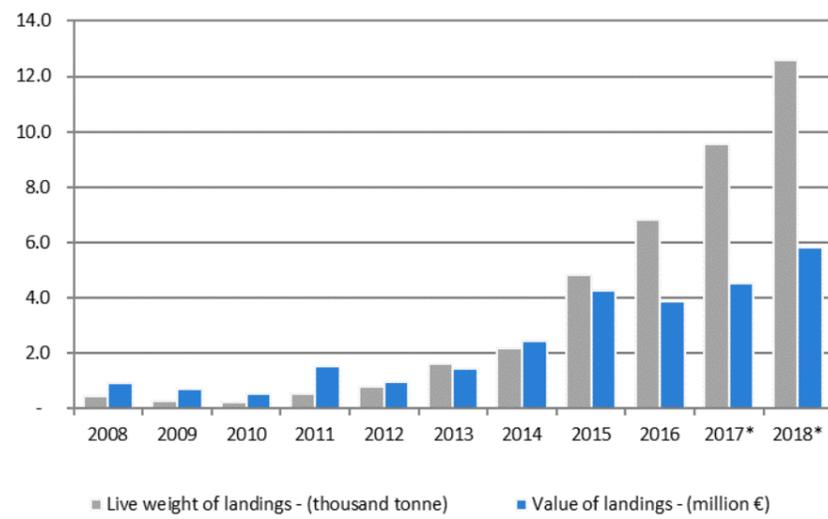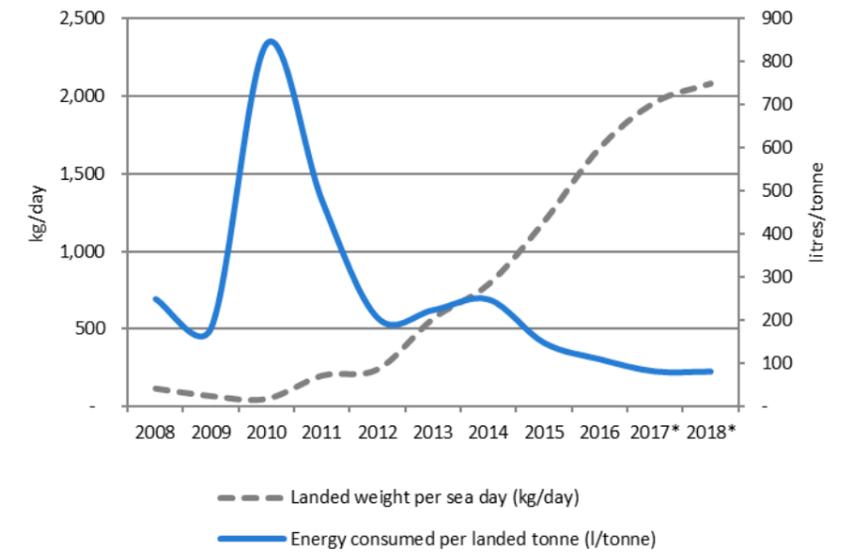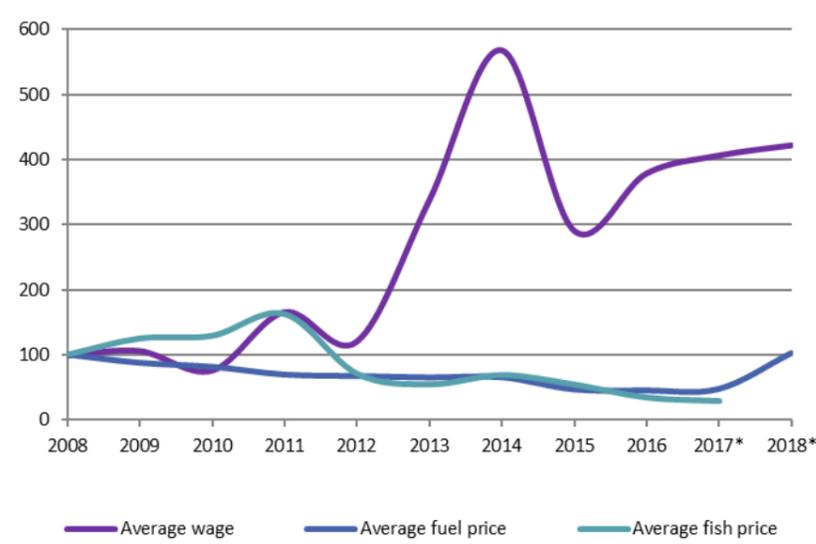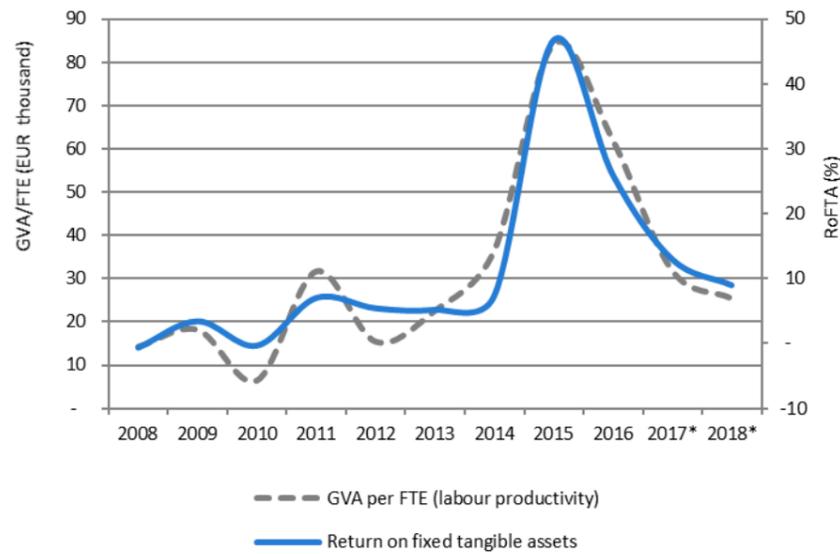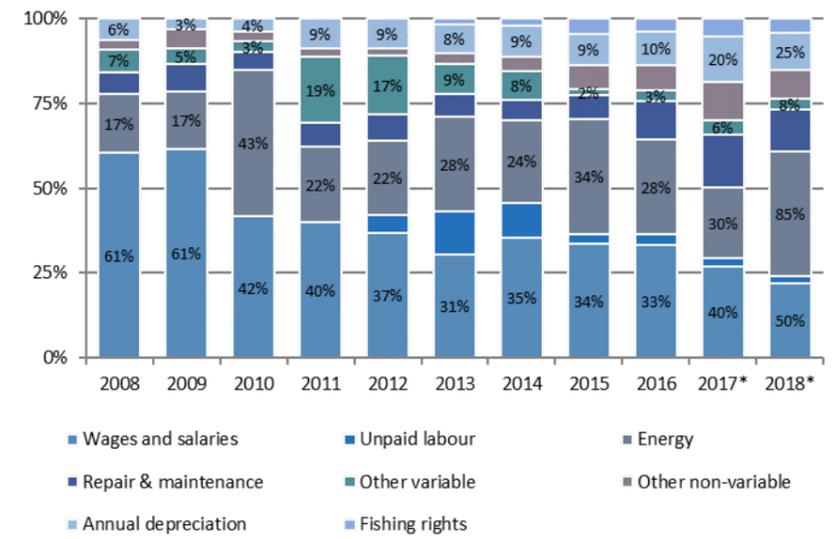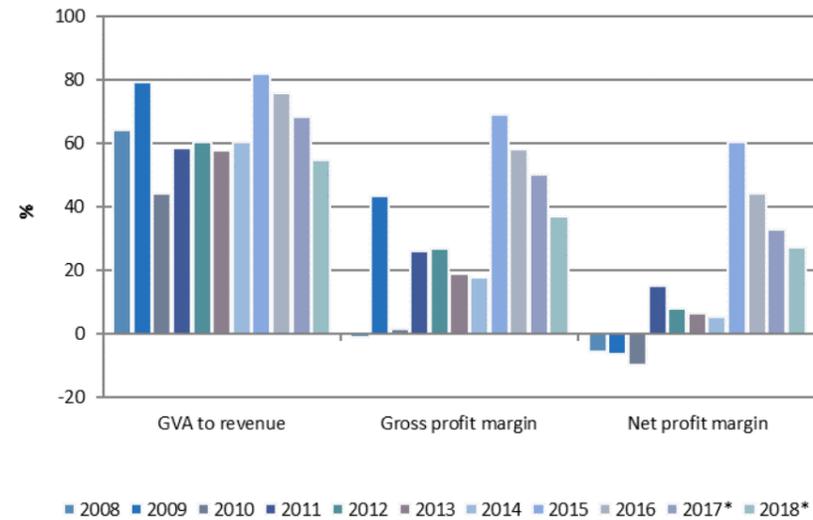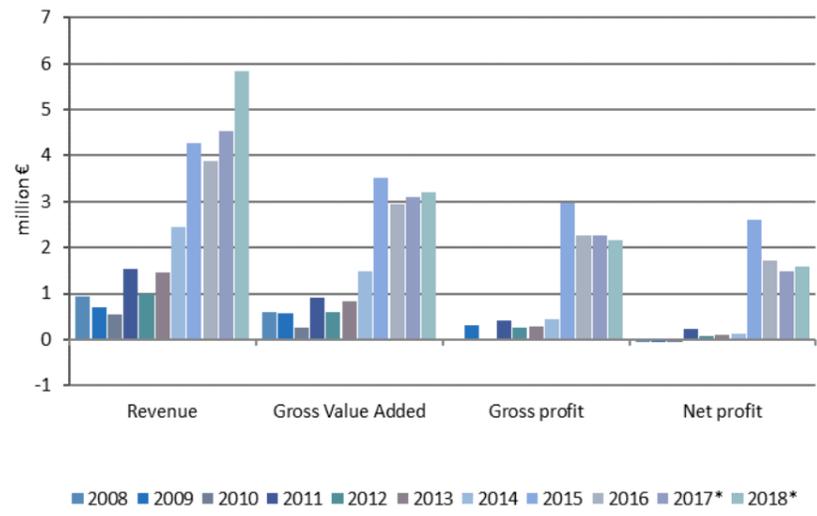
Figure 5.19 Romania: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

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Table 5.89 Romania: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF											Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Total number of vessels	(#)	395	153	205	197	179	106	111	113	104	111	131		-8%	-43%	10	7	1	3	4	6	12	14	17	24	33		21%	139%
Vessel tonnage	(thousand GT)	0.4	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2			-1%	-15%	0.8	0.5	0.1	0.4	0.3	0.4	0.5	0.7	0.8	1.2			26%	83%
Engine power	(thousand kW)	3	1	2	3	4	3	2	2	1	1			-32%	-44%	2	2	0	1	1	2	3	4	4	5			6%	99%
FTE	(#)	31	28	38	26	35	27	26	19	17	38	45		-13%	-42%	11	4	0	3	4	10	15	23	31	60	82		36%	259%
Total employed	(person)	790	242	436	434	445	278	279	271	266	599	709		-2%	-33%	85	47	8	20	26	26	51	60	79	158	217		32%	96%
Days at sea	(thousand day)	3.4	3.9	4.3	2.6	3.2	2.5	2.2	3.1	2.9	3.3	3.9		-7%	-8%	0.3	0.1	0.0	0.1	0.1	0.4	0.6	0.9	1.2	1.5	2.1		29%	291%
Fishing days	(thousand day)	3.4	3.8	4.1	2.5	3.2	2.4	2.2	2.8	2.6	3.3			-8%	-15%	0.2	0.1	0.0	0.1	0.1	0.3	0.6	0.9	1.2	1.5			34%	314%
Number of fishing trips	(thousand)	3.4	3.9	4.1	2.5	3.3	2.5	2.2	3.0	2.8	3.3			-7%	-10%	0.1	0.1	0.0	0.1	0.1	0.4	0.5	0.6	0.6	1.2			7%	164%
Energy consumption	(million litre)	0.04	0.03	0.19	0.21	0.13	0.24	0.25	0.28	0.25	0.23	0.27		-10%	47%	0.07	0.02	0.00	0.05	0.04	0.12	0.30	0.43	0.50	0.54	0.73		14%	282%
Live weight of landings	(thousand tonne)	0.15	0.20	0.23	0.41	0.73	1.04	1.00	1.61	1.62	2.72	3.21		1%	142%	0.30	0.09	0.00	0.12	0.08	0.57	1.20	3.23	5.22	6.84	9.38		61%	646%
Value of landings	(million €)	0.39	0.59	0.55	1.42	0.88	0.99	1.18	1.60	1.24	1.61	1.88		-23%	30%	0.54	0.12	0.00	0.11	0.10	0.46	1.28	2.68	2.64	2.92	3.96		-1%	300%
Income from landings	(million €)	0.39	0.59	0.55	1.42	0.88	0.99	1.18	1.60	1.24	1.61	1.88		-23%	30%	0.54	0.12	0.00	0.11	0.10	0.46	1.28	2.68	2.64	2.92	3.95		-1%	300%
Other income	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Direct income subsidies	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Wages and salaries of crew	(million €)	0.42	0.21	0.24	0.46	0.26	0.27	0.39	0.23	0.27	0.35	0.41		17%	-13%	0.18	0.04	0.00	0.04	0.03	0.13	0.42	0.28	0.35	0.40	0.54		25%	153%
Unpaid labour value	(million €)	-	-	-	-	0.04	0.12	0.12	0.03	0.03	0.04	0.05		28%	-11%	-	-	-	-	0.04	0.11	0.01	0.02	0.03	0.03	0.04		121%	19%
Energy costs	(million €)	0.06	0.04	0.24	0.23	0.14	0.24	0.25	0.20	0.17	0.16	0.51		-16%	-3%	0.11	0.03	0.00	0.05	0.04	0.13	0.30	0.32	0.36	0.41	1.08		12%	191%
Repair & maintenance costs	(million €)	0.02	0.02	0.03	0.08	0.05	0.07	0.07	0.06	0.11	0.24	0.27		82%	110%	0.04	0.01	-	0.01	0.01	0.03	0.07	0.05	0.11	0.20	0.26		136%	331%
Other variable costs	(million €)	0.02	0.01	0.02	0.23	0.13	0.08	0.10	0.02	0.03	0.07	0.08		55%	-59%	0.04	0.01	0.00	0.01	0.01	0.04	0.10	0.01	0.02	0.05	0.06		139%	-12%
Other non-variable costs	(million €)	0.01	0.02	0.02	0.03	0.01	0.03	0.04	0.08	0.11	0.25	0.28		43%	282%	0.02	0.00	0.00	0.00	0.00	0.02	0.05	0.03	0.03	0.06	0.08		7%	107%
Annual depreciation costs	(million €)	0.00	0.00	0.02	0.10	0.06	0.08	0.11	0.02	0.04	0.08	0.09		43%	-29%	0.06	0.01	0.00	0.01	0.01	0.03	0.11	0.11	0.15	0.29	0.38		31%	252%
Rights costs	(million €)	-	-	-	-	-	0.02	0.02	0.03	0.03	0.06	0.06		-3%	208%	-	-	-	-	-	0.01	0.03	0.04	0.05	0.09	0.12		13%	417%
Opportunity cost of capital	(million €)	- 0.00	0.03	0.01	0.01	0.03	0.02	0.01	0.03	0.05	0.07	0.01		43%	189%	- 0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.1		45%	373%
Tangible asset value (replacement)	(million €)	1.74	0.68	0.88	0.93	0.96	0.79	0.28	0.89	1.12	2.49	2.83		25%	25%	3.3	2.3	0.6	1.5	1.6	2.0	2.8	5.1	6.5	12.2	16.1		27%	172%
Fishing rights	(million €)	0.06	0.02	0.03	0.02	0.02	0.01	0.01	0.04	0.03				-32%	7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-41%	277%
Investments	(million €)	0.09	0.03	0.05	0.03	0.09	0.07	0.10	0.17	0.15				-16%	84%	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5				1417%	1457%
Gross Value Added	(million €)	0.27	0.50	0.24	0.85	0.55	0.58	0.72	1.25	0.82	0.89	0.74		-34%	32%	0.3	0.1	-	0.0	0.0	0.3	0.8	2.3	2.1	2.2	2.5		-7%	352%
GVA to revenue	(%)	70.08	84.80	44.25	60.16	62.63	58.70	61.38	77.72	66.43	55.35	39.42		-15%	2%	60.2	51.7	24.8	40.3	42.1	55.7	59.5	85.0	80.3	75.5	62.3		-5%	74%
Gross profit	(million €)	- 0.15	0.29	0.01	0.39	0.25	0.19	0.21	0.99	0.52	0.49	0.28		-47%	90%	0.1	0.0	-	0.0	0.0	0.1	0.2	2.0	1.7	1.8	1.9		-12%	464%
Gross profit margin	(%)	-38.43	48.85	1.65	27.82	28.73	19.37	18.08	61.65	41.92	30.82	14.93		-32%	100%	26.4	16.2	56.9	7.3	9.2	18.0	18.1	74.0	66.0	60.9	47.8		-11%	370%
Net profit	(million €)	- 0.15	0.26	- 0.02	0.28	0.16	0.10	0.10	0.93	0.43	0.35	0.18		-53%	110%	0.1	- 0.1	- 0.0	- 0.0	- 0.0	0.0	0.0	1.7	1.3	1.1	1.4		-22%	535%
Net profit margin	(%)	-38.37	44.16	- 3.75	19.50	18.04	10.05	8.24	57.95	35.07	21.52	9.37		-39%	142%	16.4	- 70.3	- 1,996.8	- 16.6	- 48.3	1.9	3.0	62.4	49.5	39.1	36.0		-21%	119%
Return on fixed tangible assets	(%)	- 8.75	42.65	- 1.18	31.00	19.73	14.71	37.69	108.26	43.42	16.71	6.72		-60%	42%	2.5	0.3	- 0.5	0.1	0.2	2.6	4.4	36.8	24.7	12.1	9.3		-33%	325%
GVA per FTE (labour productivity)	(thousand €)	8.88	18.20	6.41	32.85	15.81	21.49	28.12	64.98	49.35	23.64	16.63		-24%	101%	28.7	17.1	- 1.3	18.5	11.1	25.2	50.4	100.0	68.6	36.9	30.1		-31%	120%

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.90 Romania: National fleet statistics and economic performance results by fleet segment, 2015

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
ROU A37 PMP1218 °	14	20	925	84	4,158	2,077	2,077	1,738	83.7	1,482	71.4	1,200	57.8	12.9	87.8	34.2	High	689%	Improved	53.5%
ROU A37 PG0612 °	94	15	2,622	152	1,606	1,211	1,211	803	66.3	511	42.2	434	35.9	19.5	53.6	46.3	High	146%	Improved	31.2%
ROU A37 PMP2440 °	3	11	270	138	1,058	567	567	386	68.1	262	46.2	109	19.2	11.1	34.6	8.9	Reasonable	324%	Improved	14.6%
ROU A37 PG0006 °	10	2	276	269	18	29	29	21	72.3	9	29.3	0.8	2.6	7.3	12.3	5.4	Weak	-82%	Deteriorated	0.8%

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.91 Romania: National fleet statistics and economic performance results by fleet segment, 2016*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
ROU A37 PMP1218 °	20	43	1,131	69	5,217	2,236	2,236	1,762	78.8	1,486	66.5	1,021	45.6	6.4	41.1	15	High	49.5%
ROU A37 PG0612 °	99	34	3,113	85	2,687	1,567	1,567	864	55.2	487	31.1	352	22.4	11.2	25.5	18	High	34.7%
ROU A37 PMP2440 °	4	17	411	108	1,618	679	679	438	64.5	290	42.6	120	17.6	8.9	26.1	6	Reasonable	15.0%
ROU A37 PG0006 °	12	4	204	125	32	38	38	24	63.7	8	20.8	- 6.0	- 15.9	4.4	6.5	- 1	Weak	0.8%

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.92 Romania: Landed value, weight and average price of principal species

	Value of landings (real)											Live weight of landings											Average landed price (real)											% over total (2016)	
	(thousand €)											(thousand tonne)											(€)													
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Thomas' rapa whelk		0.01	0.03	0.96	0.55	0.78	1.83	3.48	3.09	3.70		-	0.01	0.22	0.59	1.31	1.95	4.46	6.50	9.24		3.43	2.80	4.41	0.94	0.60	0.94	0.78	0.48	0.40	79.6%	95.0%
Turbot	0.38	0.31	0.26	0.23	0.21	0.29	0.34	0.27	0.31	0.37	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.04	8.09	6.37	5.46	5.34	4.94	6.78	7.92	8.68	10.62	8.66	8.0%	0.4%
European sprat	0.21	0.07	0.02	0.10	0.06	0.05	0.08	0.10	0.03	0.03	0.23	0.09	0.03	0.13	0.09	0.06	0.08	0.11	0.05	0.03	0.89	0.81	0.75	0.76	0.66	0.83	0.97	0.96	0.58	0.98	0.8%	0.7%
European anchovy	0.02	0.02	0.05	0.05	0.02	0.13	0.07	0.13	0.13	0.04	0.02	0.02	0.05	0.04	0.02	0.11	0.06	0.11	0.10	0.03	1.35	1.10	1.13	1.11	0.98	1.19	1.22	1.18	1.31	1.38	3.3%	1.5%
Mediterranean horse	0.04	0.04	0.01	0.03	0.04	0.07	0.02	0.04	0.09	0.08	0.01	0.02	0.01	0.02	0.02	0.03	0.01	0.01	0.03	0.03	3.01	2.42	1.95	1.53	1.81	2.77	3.00	3.04	2.66	2.32	2.3%	0.4%
Gobies nei	0.02	0.02	0.01	0.02	0.02	0.01	0.02	0.04	0.03	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.01	1.43	1.12	1.03	1.21	1.10	1.48	1.62	1.64	1.59	1.75	0.8%	0.3%
Bluefish		-	-	-	0.01	-	0.02	0.01	0.04	-		-	-	-	-	-	-	-	0.01	-		2.58	2.45	2.41	3.41	4.10	4.46	4.71	4.56	4.11	1.0%	0.1%
Mediterranean mussel		-	-	-	-	0.01	0.07	0.08	0.21			-	-	-	-	-	-	0.01	0.05	0.07	0.14		3.01	2.85	2.28	1.78	0.84	1.29	1.53	1.20	1.51	2.1%	1.0%
Pontic shad	0.17	0.16	0.11	0.10	0.05	0.04	0.01	0.04	0.03	0.03	0.05	0.06	0.05	0.05	0.02	0.01	-	0.01	0.01	0.01	3.55	2.60	2.47	2.22	2.23	3.17	3.34	3.40	3.32	3.27	0.8%	0.1%
Garfish		-	-	-	0.01	-	0.01	0.01	0.01			-	-	-	-	-	-	-	-	-		5.67	2.44	2.35	2.30	3.78	4.35	4.47	5.38	5.07	0.3%	0.0%
																															99%	100%

Data source: MS data submissions under the DCF 2017 Fleet Economic (MARE/A3/AC(2017)); All monetary values have been adjusted for inflation; constant prices (2015).

5.20 Slovenia

Short description of the national fleet

Fleet capacity

In 2017, the Slovenian fishing fleet consisted of 172 registered vessels, with a combined gross tonnage of 605.07 GT, a total power of 8.8 thousand kW and an average age of 39.3 years. The average length of the fishing vessels was 6.99 metres in the same year. The size of the fleet decreased between 2008 and 2017; the number of vessels by 4% and GT and kW by 38% and 18%, respectively. The major factors causing the fleet to decrease include the scrapping of vessels, including two of the largest vessels in Slovenian fishing fleet.

In 2017, there were 80 active vessels which represent 46.5% of all fishing vessels in the same year. The number of all active vessel increase for 7% from 2008-2015, while a decrease of 9% was recorded in 2017 to 2015. One of the reasons for increased number of active vessels (2008-2015) is scrapping of some large vessels. Many fishers lose their jobs and decided to starts fishing on his own. Also the economic crisis over the past few years had the similar effect on increased number of active vessels. One of the reasons for drop in 2016 and 2017 is crisis in Purse seiners sector where the number of vessels decreased by half in the last few years. Regardless of increased number of active vessels, the number of passive vessels is still very high. The case is complex and there are several reasons for this situation. One of the reasons is high age of these vessels. Many vessels are very old and they are no longer suitable for fishing. Also many owners cannot fish anymore because they are retired but they do not have a successor who would continue with the fisheries. In many cases the fisher found a new job, because he could no longer earn a living from fishing, but still own the fishing vessel.

Fleet structure

The Slovenian fishing flees nationally divided into a small-fleet segment (86% of all active vessels in 2017) with an engine power of 3.1 thousand kW and a large-fleet segment (14% of all active vessels in 2017) with an engine power of 1.7 thousand kW. The number of vessels in the SSCF increase for 7% from 2008-2017, while the number of large-scale vessels decrease for 44% in the same period. Scrapping is the major factor for decreased large-scale fleet. On the other hand, those fishers who lost their jobs because of scrapping, starts to fish on their own, which results in a higher, number of small-scale vessels.

The Slovenian national economy is insignificantly influenced by the marine fisheries sector. However, the sector has a particular social impact in terms of employment. The watershed moment for Slovenian marine fisheries began with Slovenian independency in the year 1991. This period marked a decrease in the extent of fishing regions and a substantial loss of market for fish products. A large number of poorly equipped small-scale fishers, inadaptability of large-scale fisher, along with discordance among fishing, producing and marketing capabilities brought the sector into crisis. Landings of almost 6 thousand tonnes in 1990 have decreased to less than 200 tonnes in 2017.

The existence of two sea fishery reserves where all fishing activities are banned (Portorož and Strunjan fishery reserves) further limit the reduced Slovenian fishing area. Moreover, there is an important industrial port in the Gulf of Koper. Due to the safety and international rules, a common routing system and traffic separation scheme was established in the Northern Adriatic, which also has an important impact on fisheries. For the last few years, this has had a negative impact, particularly on those fishers who are engaged only in small-scale coastal fishing.

Employment

In 2016, the number of fishing enterprises totalled 87, with the majority (73%), owning a single vessel. 27% of the enterprises owned two to five fishing vessels and none of the enterprises owned six or more vessels. Total employment in 2016 was estimated at 110 jobs, corresponding to 70 FTEs. The level of employment decreased between 2008 and 2016, with total employed decreasing by 4%, whiles the number of FTEs decreased by 10 %.

The Slovenian fishing fleet consists predominantly of small vessels of less than 12 meters (mainly vessels of 6 meters). Self-employed fishers who own one fishing vessel about six meters long represent a typical Slovenian fishing enterprise.

Effort

In 2016, the fleet spent a total of around 7.9 thousand days at sea. Effort, in days at sea, increased 29% between 2008 and 2015, while in 2016 decrease for 9% comparing 2015. The fisheries in the Adriatic Sea is very intense, consequently most of the fish stocks are overexploited. Although small Slovenian fisheries have a negligible effect on fish stocks, feels the effects of intensive fishing, which resulting in lower landings and increased effort. Furthermore, the fisheries sector, particularly the SSCF, is affected by the limited size of marine fishing area. Most of the fleet is poorly equipped and unable to operate in international waters. One of the reasons for increased days at sea, in the period 2008 – 2015, is also the high price of fuel in the past few years, which encourages the fishers to do shorter and more frequent trips. On the other hand, the reason for the declined fishing days after 2015 can be attributed to the crisis in Purse seiners sector and reduced effort in DFN 00-06m segment. Fluctuation in number of vessels and number of fishing days in small scale sector is manly related with activity of occasional fisher, i.e., those whom fishing is not the only source of income. During the economic crises, when incomes were lower, they went to the sea more often to earn some additional income. Also effort increase when the season for fishing of some ''high market price'' species, i.e. sole, turbot, is very good.

The quantity of fuel consumed in 2016 was around 226 thousand litres, a decrease of around 58% from 2008. The major factor causing this decrease includes the scrapping of several vessels in the fleet, including two of the largest vessels.

Production

The total weight of seafood landed in 2016 was around 150 tonnes, with a landed value of EUR 0,97 million. The total weight and value of landings decreased by 70% and 45%, respectively, over the period analysed. In 2009, the national fleet generated the highest landed value (EUR 2.4 million), followed by 2008 (EUR 2.3 million). In terms of landings weight, in 2009 the fleet landed around 866 tonnes, 2010 (764 tonnes) and 2011 (719 tonnes). The major factor causing the decrease in landed weight and value, especially for European anchovy and sardine, include scrapping of fishing vessels. In the last quarter of 2011, Slovenia sent the two largest ships to be scrapped (pelagic trawlers 24-40m); those vessels targeted mainly sardine and anchovy and represented around 50% of the Slovenian landed weight. The climate changes could be also one of the reason for reduce landings. The Northern Adriatic Sea was very warm over the past few years, which could be the reason for the reduced presence of certain fish species, e.g. whiting. The landings volume of whiting decreased from 2012 to 2016 for more than 75%.

Prices obtained for the key species targeted by the fleet generally remain stable between 2008 and 2016. Slight annual variations of the prices are the results of increased or decreased volume of landings over the period. European pilchard accounted for 26% of the total landings value obtained by the Slovenian fleet in 2008, decreasing to only 6% of income in 2016, while European anchovy decreased from 23% in 2008 to less than 2% in 2016. On the other hand, gilthead sea bream, Common sole and European squid records increased value of landings from 2008-2016 for 275%, 88% and 20%, respectively. Slovenia, in the last period, invested a large amount of money in marine aquaculture, especially in shellfish farming. Increased production of shellfish could be one of the reasons for more frequent occurrence of Gilthead sea bream in the Slovenian sea since it is mainly fed with shellfish.

Economic results for 2016 and recent trends

National fleet performance

The amount of income generated by the Slovenian national fleet in 2016 was EUR 2.35 million. This consisted of EUR 0.97 million in landings value, EUR 1.25 million in non-fishing income and EUR 0.14 in subsidies. The Slovenian fleet's landings income decreased 58% between 2008 and 2016, while other income increased almost 80% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

Large increase in subsidies was recorded in 2015. The reason for increase are payments to fishers that were implemented by Slovenia through the measure ''Socio-economic compensation for the management of the Community fishing fleet in the framework of OP EFF 2007-2013'' which were a consequence of Croatia's accession to the EU. Through Croatia's Accession Treaty which entered into force on 1 July 2013, the provision became applicable in EU legal order that Slovenia may finance a scheme of individual premiums for fishers who would benefit from the access regime laid down in Part 11 of Annex I to Regulation (EC) No 2371/2002 (this access regime is now provided for in point 8 of Annex I to Regulation (EU) No 1380/2013) as amended by the Act of Accession of Croatia. The scheme may only apply during the period 2014 to 2015 or, if this occurs earlier, up until the date of the full implementation of the

arbitration award resulting from the Arbitration Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Croatia, signed in Stockholm on 4 November 2009.

Total operating costs incurred by the fleet in 2016 equated to EUR 1.28 million, amounting to 55% of total income. Crew cost and unpaid labour value, the two major fishing expenses, were EUR 0.51 and EUR 0.25 million, respectively. Between 2008 and 2016, total operating costs decreased 46%, largely due to scrapping of several vessels. In the last few years, especially in 2012 and 2013, Slovenian fisheries sector records an increased value of direct income subsidies. It has been intended primarily to diversify their activities. The results of these investments are also increased depreciation costs (period 2013-2015) and other income.

In terms of economic performance, the amount of Gross Value Added (GVA), gross profit and net profit generated by the Slovenian fleet in 2016 were EUR 1.84 million, EUR 1 million and EUR 0.9 million, respectively. Between 2008 and 2016, GVA, gross profit and net profit increased 5%, 39% and 43%, respectively. Although the Slovenian fishing fleet was in a poor economic condition because of old and poorly equipped fleet and reduced catches, still records positive trend of economic indicators. The reason for the positive trend is primarily because of higher revenues from other sources.

In 2016, the Slovenian fleet had an estimated (depreciated) replacement value of EUR 3.23 million. Investments by the fleet amounted to EUR 0.11 million in 2016.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 48.7%, a 90% increase from 2008. Net profit margin was estimated at 42% in 2016, resulting in 93% increase from 2008.

The Rate of Return on Fixed Tangible Assets (RoFTA) improved in comparison to previous and amounted 30% in 2016. Labour productivity (GVA/FTE) also record increase in period 2008- 2016 for 13%: GVA increased for 5% while the number of FTE decreased by 9% in the period analysed.

Fuel consumption per landed tonne has followed an overall increasing trend since 2008, and amounted 1 485 litres per tonne landed in 2016. On the other hand, the landed weight per sea day decreased significantly for more than 80% from 2008-2016. One of the reasons for that is scrapping of some large vessels with high volume of landings and, subsequently, changed composition of the fleet consisting now in majority of smaller vessels with lower landed weight per sea day. Lower volume of landings of Purse Seiners segment in last few years also affect productivity and efficiency indicators since this segment has the best ratio between the weight of catches and fuel consumption.

Performance by fishing activity

The Slovenian fleet has a range of vessel types targeting different species predominantly in the Adriatic Sea. The fleet consisted of 8 (DCF) fleet segments in 2017, with 4 inactive length classes consisting of 92 vessels. Two of active segments (DFN VL00-06, DFN VL06-12) belongs to SSCF and two (DTS VL12-18, PS VL12-18) belongs to the large-scale fleet.

Small-scale coastal fleet

In 2016, there were 83 active vessels of which around 72 (87% of all active vessels) are classified as small-scale (an increase for 20% from 2008). The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian SSCF in 2016 was EUR 1.54 million. This consisted of EUR 0.53 million in landings value, EUR 0.96 million in non-fishing income and EUR 0.06 million in direct subsidies. Landings income increased 36% between 2008 and 2016, while other income increased for more than 400% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

In terms of economic performance, the amount of Gross Value Added (GVA), gross profit and net profit generated by the SSCF in 2016 were EUR 1.28 million, EUR 0.79 million and EUR 0.68 million, respectively. Between 2008 and 2016, GVA, gross profit and net profit following the positive trend although the substantial fall was recorded in 2015. The major factors causing the improvement in economic performance in period analysed included increases in landing income and income from other sources while, on the other hand, operation costs remain relative stabile during the period analysed. In 2016, the SSCF had an estimated (depreciated) replacement value of EUR 1.56 million. Investments by the fleet amounted to EUR 0.08 million in 2016.

Large-scale fleet

11 vessels (13% of all active vessels) represents Slovenian large-scale sector in 2016. The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian large-scale fleet in 2016 was EUR 0.81 million. This consisted of EUR 0.44 million in landings value, EUR 0.08 million in direct subsidies and EUR 0.29 million in non-fishing income. Landings income decreased 77% between 2008 and 2016. The major factor for decreased value of landing income is scrapping of some vessels and in the last few years a crisis in PS segment, which is deeper from year to year.

In terms of economic performance, the amount of Gross Value Added (GVA), gross profit and net profit generated by the large-scale fleet in 2016 were EUR 0.55 million, EUR 0.28 million and EUR 0.25 million, respectively. Between 2008 and 2016, GVA, gross profit and net profit decreased 63%, 68% and 67%, respectively. The major factor causing for decreasing in economic performance is lover income from landings of PS sector and scrapping of some vessels. In 2016, the large-scale fleet had an estimated (depreciated) replacement value of EUR 0.73 million. Investments by the fleet amounted to EUR 0.02 million in 2016.

Performance results of selected fleet segments

The entire active fleet made an overall profit in 2016. All fleet segments, except PS 12 – 18m, also revealed an improving economic trend in 2016.

Demersal trawlers and demersal seiners 12-18m - 9 vessels make up this segment and are based predominantly in the Adriatic. The fleet targets a variety of species, the most important being whiting, musky octopus and European squid. The value of landings was EUR 0.39 million and 11 FTEs were employed in this fleet segment in 2016, contributing to 40% and 16% of the total income from landings and FTEs generated by the MS fishing fleet respectively. This fleet segment made a profit in 2016.

Purse seiners 12-18m - 2 vessels make up this segment and are based predominantly in the Adriatic. The most important targeting species are European anchovy and European pilchard. The value of landings was EUR 0.05 million and 2 FTEs were employed in this fleet segment in 2016, contributing to 5% and 3% of the total income from landings and FTEs generated by the MS fishing fleet respectively. This fleet segment made a profit in 2016. Regardless of profit made in 2016 this segment is in crises for past few years. The profit is results of other income (EUR 0.056 million) which represents 52% of total income. The value of landings decreased from EUR 0.8 million in 2008 to just EUR 0.05 million in 2016. Also other economic and social indicators, except other income, decrease substantially in the period mentioned. The main reasons are that the targeting fish is too small for fishing, problems with employees which are hard to get because of the seasonal nature of work and high tax on occasional work in Slovenia and because of large Italian and Croatian fleet which are more cost effective and landed large amount of sardine and anchovy at a lower price.

Drift and fixed netters 0-6m – Around 31 vessels make up this segment which operate in Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as sole, sea bass and sea bream. The total value of landings was EUR 0.14 million and around 20 FTEs were employed in this fleet segment in 2016, contributing 14% and 29% of the total income from landings and FTEs generated by the national fleet respectively. This fleet segment made a profit in 2015.

Drift and fixed netters 6-12m – Around 41 vessels make up this segment which operate in Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as sole, Mullets, turbot and sea bream. The total value of landings was EUR 0.39 million and around 36 FTEs were employed in this fleet segment in 2016, contributing 41% and 52% of the total income from landings and FTEs generated by the national fleet respectively. This fleet segment made a profit in 2016.

Drivers affecting the economic performance trends

Lower income from landings which depends, mainly, on the status of fish stocks, operating costs and higher income from other sources were the main driving forces behind the overall deteriorated trend.

The Slovenian fleet's landings income decreased 45% between 2008 and 2016. Other income increased 80% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc. In the last few years, especially in 2012 and 2013, Slovenian fisheries sector records an increased value of direct income subsidies. It has been intended primarily to diversify their activities.

Markets and Trade

The Slovenian seafood trade balance is relatively stable over the years and it is significantly negative. Slovenia is a net importer of fish and fish products. In 2016, imports were approximately four times larger than export and amounted to 17 285 tonnes (EUR 90.4 million) of fish and other fish product. On the other hand, export amounted to 4 789 tonnes (EUR 26 million) in the same year. The majority of the imported fish and fish products come mainly from European Union. The largest Slovenian seafood import partners are Italy, Spain and Croatia. Concerning export, the largest partners are Austria, Croatia and Bosnia and Herzegovina.

The Slovenian volume of landings for 2016 amounted less than 200 tonnes. In the same year Slovenian aquaculture sector has produced 1 825 tonnes of fish and shellfish. Slovenian market for marine products is fragmented and disorganized. A large number of producers and dealers are unorganized and acting individually. Most of the catches are sold directly to known customers. Part of landed catches is sold also on the fish market in Trieste, Italy.

Prices obtained for the key species targeted by the fleet generally remain stable between 2008 and 2016. Slight annual variations of the prices are the results of increased or decreased volume of landings thru the period.

Management instruments

In Slovenia the field of fisheries, together with relevant legislation and management, is currently the responsibility of the Fisheries Sector at the Ministry of Agriculture, Forestry and Food (MAFF). The Ministry developed a new information system (InfoRib) which collects data on marine species, landings, register of fishing vessels and socio-economic data. The data are linked to each fishing vessel and enable assessment of the socio-economic status in marine fisheries. Those data provide the basis for adopting measures in favour of sustainable development and for the common European fisheries policy.

Fisheries management is regulated mostly by capacity limitations and spatial restrictions. Capacity limitation is related to increase of vessel power and GT in terms of total national fleet capacity. Spatial restrictions are related with the existence of two sea fishery reserves where all fishing activities are banned (Portorož and Strunjan fishery reserves). Moreover, there is an important industrial port in the Gulf of Koper. Due to the safety and international rules, a common routing system and traffic separation scheme was established in the Northern Adriatic, which also has an important impact on fisheries.

From 2014 GFCM management plan for small pelagic fish in GSA 17 has been in force. By the provisions of this plan maximum number of fishing days for targeting sardine and anchovy has been set, as well as temporal closure period.

TACs and quotas

Slovenia does not have any TACs and/or quotas.

Status of Key Stocks

According to the GFCM Working Group on Stock Assessment of Small Pelagic Species (WGSASP) held in November 2017, anchovy and sardine in the Adriatic Sea (GSA17-18 combined) were considered overexploited and in overexploitation.

According to the GFCM Working Group on Stock Assessment of Demersal Species (WGSAD) held on November 2017, out of the 37 stock assessments validated by the WGSAD, 7 were found in a state of sustainable exploitation and 30 were assessed as in overexploitation.

Operating costs

Between 2008 and 2016, total operating costs decreased 46%, largely due to scrapping of several vessels. In the last few years, especially in 2012 and 2013, Slovenian fisheries sector records an increased value of direct income subsidies. It has been intended primarily to diversify their activities. The results of these investments are also increased depreciation costs and other income. In the period 2013-2016, i.e., after the scraping, operating costs remained relatively stable, with slight annual variations as a result of increased or decreased number of active vessels in the fleet. One of the drivers which effect on the economic situation of the fleet are repair & maintenance costs which are relatively high and represented 12% of total operating costs in 2016. In the future an increase in the value of repair & maintenance costs is expected because of old fleet. Energy costs are one of the key drivers only for Demersal trawlers and demersal seiners 12-18m segment. Reduced energy costs helped this segment to a quite good economic performance in 2016.

Innovation and Development

Slovenia has a derogation regards the minimum distance from coast and the minimum sea depth for the ''volantina'' trawlers; Article 13(1) of Regulation (EC) No 1967/2006 shall not apply in territorial waters of Slovenia, irrespective of the depth, between 1.5 and 3 nautical miles from the coast, to 'volantina' trawlers which are used by vessels:

> (a) bearing the registration number mentioned in the Slovenian management plan;

> (b) having a track record in the fishery of more than five years and not involving any future increase in the fishing effort deployed;

> (c) holding a fishing authorisation and operating under the management plan adopted by Slovenia in accordance with Article 19(2) of Regulation (EC) No 1967/2006.

The derogation shall apply until 27 March 2020.

For this purpose, Slovenia will have to implement a study in order to display the structure of catch with ''volantina'' trawlers in the zone between 1.5 and 3 nautical miles from the coast.

Social impact

Although the marine fishing sector is numerically small and has an insignificant influence on national economy, it is still considered to have a strong social impact on the Slovene coastal region in terms of employment. Besides, this activity is also important for maritime identity and tourism. In addition to directly creating employment opportunities, it is linked to the economy of the entire region, especially to tourism and catering. As said before, the value and volume of landings, as key drivers do not have affect only on fishers but also to the people on shore. Slovenian fish processing industry, on the other hand, less depends on Slovenian fisheries because most of the raw materials are imported from another, mostly EU, countries. However, the crisis in Purse seiners segment has negative impact on some smaller processors which produce Salted fillets of anchovies.

Projections for 2017 and outlook for 2018

National Fleet

Due to scrapping the size of the fleet decreased between 2008 and 2017; the number of vessels by 4% and GT and kW by 38% and 18%, respectively. Because of that and because of poor landing volume of Purse Seiners segment, the weight of landings decreases in 2017 by more than 80% regarding 2008. Also in 2018 the positive trend regarding volume of landings it cannot be expected. Landing volume and income, which depends on the status of fish stocks, are the main drivers in Slovenian fishing fleet. They have the effect on all others economic and social indicators. If the fish stocks in the Adriatic Sea will recover in the future, we can expect also an increased trend in economic and social situations of the sector.

As the fleet is generally old and poorly equipped we can expect that repair and maintenance costs will continue to increase in the future furthermore, because of old fleet increase in inactive vessels is expected.

Small-scale coastal fleet

The same issues regarding age and equipment of the fleet apply also to the SSCF. The economic situation of SSCF is largely dependent on the landing volume of migratory species, such as sole, see bream, turbot or European flounder so it is very difficult to predict the volume of landings. It depends on a variety of factors, such as sea temperature, other climatic factors, condition of the stock, fishing effort in neighbouring countries etc. Based on current data the volume of landings increase in 2017 for 16% regarding 2016, mostly because of increased landings of sea bream and sole.

MODEL FORECAST

Preliminary results for 2018 forecast a stable landed weight and value. Projections suggest operating costs in general will remain stable, except energy costs which are estimated to increase by 5% due to the higher fuel prices in 2018. Together with a stable capital costs, fostered mixed economic performance results in 2018: GVA, gross profit and net profit will also remain stable.

Results indicate that the Slovenian fleet operated at a profit in 2018: with an estimated net profit margin of 42%.

However, the net indicators are affected by negative estimated opportunity costs because of negative real interest rates.

Data issues

No major issues detected. The economic data on the fishing sector were collected mostly from accounting records – AJPES, from data base 'InfoRib', through questionnaires and sales notes. In the monitoring programme all fishing vessels were included. The data collected from all sources were combined in such a way that a complete set of accounting items is compared for each business enterprise. The target population was all fishing sector in Slovenia. There were approx. 100 companies or fishers in Slovenia. In March 2017 the questionnaires for 2016 were sent to all users of fishing vessels in Slovenia. Where the questionnaire was the only source used, the response rate was around 90%. Where the data from annual accounts of business enterprises was used the response rate was 100%, because there are economic reports for all investigated companies or fishers.

Table 5.93 Slovenia: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	181	185	185	186	181	171	170	169	171	172	81		1%	-4%
Number of Inactive vessels_ms	(#)	96	98	94	102	92	88	79	81	88	92			9%	-4%
Vessel tonnage	(thousand GT)	1.0	1.0	1.0	1.0	0.8	0.6	0.6	0.6	0.6	0.6			-1%	-29%
Engine power	(thousand kW)	10.7	11.0	11.0	10.9	10.1	8.5	8.5	8.5	8.5	8.8			0%	-14%
Total employed	(person)	109	117	116	114	107	107	126	119	110	111	112		-8%	-4%
FTE	(#)	77	82	81	77	63	75	80	84	70	70	71		-17%	-10%
Days at sea	(thousand day)	6.8	6.9	7.7	7.7	7.6	7.6	8.6	8.7	7.9	7.3	7.4		-9%	3%
Fishing days	(thousand day)	6.8	6.9	7.7	7.7	7.6	7.6	8.6	8.7	7.9	7.3			-9%	3%
Number of fishing trips	(thousand)	5.6	5.6	5.8	5.9	5.5	5.4	6.1	6.0	5.3				-12%	-8%
Energy consumption	(million litre)	0.54	0.64	0.60	0.55	0.28	0.28	0.22	0.24	0.23	0.22	0.22		-5%	-46%
Live weight of landings	(thousand tonne)	0.69	0.87	0.76	0.72	0.33	0.24	0.25	0.20	0.15	0.13	0.13		-22%	-70%
Value of landings	(million €)	2.33	2.37	2.12	2.14	1.49	1.17	1.28	1.27	0.97	0.87	0.91		-24%	-45%
Income from landings	(million €)	2.33	2.37	2.12	2.14	1.49	1.17	1.28	1.27	0.97	0.87	0.91		-24%	-45%
Other income	(million €)	0.70	0.49	1.35	1.50	0.96	1.43	1.46	0.76	1.25	1.23	1.22		65%	15%
Direct income subsidies	(million €)	0.24	0.27	0.24	0.28	0.41	0.53	0.07	0.32	0.14				-58%	-54%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Wages and salaries of crew	(million €)	0.78	0.89	0.96	0.94	0.69	0.69	0.68	0.61	0.51	0.49	0.51		-16%	-34%
Unpaid labour value	(million €)	0.20	0.29	0.22	0.30	0.26	0.22	0.24	0.35	0.25	0.24	0.25		-30%	-5%
Energy costs	(million €)	0.51	0.44	0.50	0.53	0.30	0.30	0.23	0.22	0.18	0.18	0.19		-18%	-52%
Repair & maintenance costs	(million €)	0.55	0.32	0.86	0.28	0.19	0.23	0.18	0.19	0.15	0.15	0.14		-22%	-57%
Other variable costs	(million €)	0.20	0.38	0.20	0.18	0.16	0.09	0.06	0.06	0.04	0.04	0.04		-23%	-74%
Other non-variable costs	(million €)	0.01	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00		-26%	-77%
Annual depreciation costs	(million €)	0.15	0.18	0.17	0.14	0.13	0.20	0.25	0.25	0.11	0.11	0.10		-57%	-42%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	-0.04	0.19	0.10	0.16	0.14	0.17	0.11	0.11	0.04	- 0.01	- 0.01		-61%	-64%
Tangible asset value (replacement)	(million €)	4.4	5.4	5.7	5.8	4.6	4.4	3.9	4.4	3.3	2.2	2.2		-26%	-33%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	0.26	0.34	0.38	0.22	0.32	0.19	0.22	0.17	0.11				-38%	-60%
Financial position	(%)	50.6	59.8	57.3	54.8	68.7	51.8	42.9	63.8	87.5				37%	56%
Gross Value Added	(million €)	1.7	1.7	1.9	2.6	1.8	2.0	2.3	1.6	1.8	1.7	1.8		18%	-6%
GVA to revenue	(%)	57.8	58.8	54.5	72.5	73.1	76.1	82.5	76.8	83.0	82.4	82.4		8%	20%
Gross profit	(million €)	0.8	0.5	0.7	1.4	0.8	1.1	1.3	0.6	1.1	1.0	1.0		80%	19%
Gross profit margin	(%)	25.4	17.7	20.3	38.4	34.1	41.2	49.0	29.5	48.7	47.6	46.8		65%	52%
Net profit	(million €)	0.7	0.1	0.4	1.1	0.6	0.7	1.0	0.2	0.9	0.9	0.9		279%	54%
Net profit margin	(%)	21.7	5.1	12.7	30.1	23.1	27.0	35.7	12.1	42.0	43.3	42.5		248%	101%
GVA per FTE (labour productivity)	(thousand €)	22.7	20.4	23.3	34.3	28.5	26.4	28.2	18.6	26.4	24.7	24.8		42%	4%
Return on fixed tangible assets	(%)	14.0	6.2	9.4	21.7	15.1	19.9	27.6	8.1	29.8	39.9	40.3		269%	96%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2017 and 2018 include active vessels only.

Figure 5.20 Slovenia: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.94 Slovenia: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	60	62	67	62	67	69	77	76	72	69	70		-5%	7%	25	25	24	22	22	14	14	12	11	11	11		-8%	-44%
Vessel tonnage	(thousand GT)	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2			-3%	6%	0.6	0.6	0.6	0.6	0.5	0.2	0.2	0.2	0.2	0.2			-11%	-61%
Engine power	(thousand kW)	3	2	3	3	3	4	4	4	3	3			-20%	-4%	4.6	4.4	4.4	4.1	3.6	1.9	1.9	1.8	1.5	1.7			-14%	-54%
FTE	(#)	48	45	49	42	44	50	60	66	57	58	59		-14%	12%	29.3	37.4	32.4	35.4	18.8	24.7	20.3	17.8	13.1	12.1	12.1		-27%	-52%
Total employed	(person)	67	64	72	62	68	71	89	90	87	89	91		-3%	19%	42.0	53.0	44.0	52.0	39.0	36.0	37.0	29.0	23.0	21.2	21.2		-21%	-45%
Days at sea	(thousand day)	4.8	4.7	5.4	5.7	6.2	6.4	7.4	7.6	6.9	6.6	6.7		-10%	14%	2.0	2.2	2.4	2.0	1.4	1.3	1.2	1.1	1.0	0.8	0.8		-7%	-40%
Fishing days	(thousand day)	4.8	4.7	5.4	5.7	6.2	6.4	7.4	7.6	6.9	6.6			-10%	14%	2.0	2.2	2.4	2.0	1.4	1.3	1.2	1.1	1.0	0.8			-7%	-40%
Number of fishing trips	(thousand)	3.6	3.4	3.7	4.0	4.2	4.2	5.0	5.0	4.3				-14%	3%	1.9	2.1	2.1	1.9	1.4	1.1	1.1	1.0	1.0				-2%	-38%
Energy consumption	(million litre)	0.08	0.07	0.07	0.06	0.06	0.07	0.06	0.09	0.07	0.08	0.08		-19%	4%	0.47	0.57	0.53	0.49	0.22	0.20	0.16	0.15	0.15	0.14	0.14		3%	-56%
Live weight of landings	(thousand tonne)	0.06	0.05	0.05	0.05	0.06	0.06	0.07	0.08	0.06	0.07	0.07		-22%	8%	0.64	0.81	0.71	0.66	0.27	0.18	0.19	0.11	0.09	0.06	0.06		-23%	-80%
Value of landings	(million €)	0.39	0.47	0.49	0.50	0.52	0.51	0.61	0.74	0.53	0.58	0.61		-29%	0%	1.94	1.90	1.64	1.64	0.97	0.67	0.67	0.53	0.44	0.29	0.30		-17%	-65%
Income from landings	(million €)	0.39	0.47	0.49	0.50	0.52	0.51	0.61	0.74	0.53	0.58	0.61		-29%	0%	1.94	1.90	1.64	1.64	0.97	0.67	0.67	0.53	0.44	0.29	0.30		-17%	-65%
Other income	(million €)	0.19	0.26	0.86	0.94	0.38	0.74	0.85	0.40	0.96	0.97	0.97		140%	66%	0.52	0.23	0.49	0.56	0.58	0.69	0.61	0.36	0.29	0.26	0.26		-19%	-43%
Direct income subsidies	(million €)	0.03	-	-	0.04	0.07	0.01	-	0.19	0.06				-69%	34%	0.21	0.27	0.24	0.24	0.34	0.51	0.07	0.14	0.08				-43%	-69%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Wages and salaries of crew	(million €)	0.26	0.26	0.31	0.28	0.37	0.48	0.33	0.34	0.35	0.39	0.41		3%	6%	0.52	0.63	0.65	0.66	0.33	0.21	0.35	0.27	0.16	0.10	0.11		-40%	-64%
Unpaid labour value	(million €)	0.09	0.07	0.10	0.16	0.09	0.12	0.15	0.25	0.14	0.16	0.17		-44%	9%	0.11	0.22	0.12	0.14	0.18	0.10	0.09	0.10	0.11	0.08	0.08		8%	-19%
Energy costs	(million €)	0.09	0.08	0.09	0.08	0.09	0.10	0.09	0.11	0.08	0.09	0.09		-25%	-9%	0.42	0.36	0.41	0.45	0.22	0.20	0.15	0.11	0.10	0.10	0.10		-11%	-65%
Repair & maintenance costs	(million €)	0.13	0.11	0.21	0.08	0.09	0.12	0.11	0.13	0.10	0.10	0.10		-23%	-20%	0.42	0.21	0.65	0.21	0.10	0.11	0.07	0.06	0.05	0.05	0.05		-19%	-78%
Other variable costs	(million €)	0.10	0.11	0.11	0.09	0.09	0.05	0.05	0.04	0.02	0.02	0.02		-49%	-72%	0.10	0.27	0.09	0.09	0.07	0.03	0.02	0.01	0.02	0.02	0.02		74%	-76%
Other non-variable costs	(million €)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		-9%	38%	0.01	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00		-50%	-93%
Annual depreciation costs	(million €)	0.03	0.04	0.06	0.05	0.06	0.15	0.19	0.22	0.09	0.09	0.09		-62%	-15%	0.12	0.14	0.11	0.09	0.07	0.05	0.06	0.02	0.02	0.02	0.02		-11%	-75%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Opportunity cost of capital	(million €)	-	0.01	0.03	0.02	0.03	0.04	0.06	0.04	0.04	0.02	-0.01		-46%	-37%	-	0.02	0.09	0.05	0.09	0.05	0.04	0.04	0.03	-0.00	-0.00		-70%	-79%
Tangible asset value (replacement)	(million €)	1.1	1.0	1.4	1.1	1.3	1.5	1.5	1.5	1.6	1.6	1.6		3%	19%	2.8	2.6	2.8	3.2	1.6	1.2	1.3	1.3	0.7	0.7	0.7		-43%	-65%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-			
Investments	(million €)	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1				-41%	-32%	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.0				-24%	-76%
Gross Value Added	(million €)	0.2	0.4	0.9	1.2	0.6	1.0	1.2	0.9	1.3	1.3	1.4		49%	58%	1.5	1.3	1.0	1.4	1.2	1.0	1.0	0.7	0.6	0.4	0.4		-20%	-51%
GVA to revenue	(%)	42.8	59.0	69.5	82.9	69.9	77.7	83.2	75.3	86.2	86.4	86.4		14%	23%	61.3	58.7	45.0	65.7	75.0	74.6	81.7	78.8	76.4	71.0	71.0		-3%	13%
Gross profit	(million €)	-0.1	0.1	0.5	0.8	0.2	0.4	0.7	0.3	0.8	0.8	0.8		193%	124%	0.9	0.4	0.2	0.6	0.7	0.7	0.6	0.3	0.3	0.2	0.2		-13%	-48%
Gross profit margin	(%)	-18.8	14.2	38.5	52.5	19.3	30.0	50.0	23.7	53.3	50.9	50.0		125%	104%	35.7	18.9	8.8	29.2	42.6	51.5	47.8	37.0	39.2	38.3	37.6		6%	15%
Net profit	(million €)	-0.1	0.0	0.4	0.7	0.1	0.2	0.5	0.0	0.7	0.7	0.7		6040%	213%	0.8	0.2	0.0	0.5	0.5	0.6	0.5	0.3	0.3	0.2	0.2		-7%	-40%
Net profit margin	(%)	-22.1	4.4	32.4	46.7	8.1	12.9	33.8	1.0	46.2	46.0	45.2		4631%	215%	31.7	8.2	1.5	21.0	35.1	44.7	40.4	30.8	35.0	35.6	34.9		14%	31%
Return on fixed tangible assets	(%)	-12.0	6.6	33.6	62.0	8.6	14.3	35.8	3.2	45.3	44.4	44.8		1307%	138%	27.1	10.3	2.8	17.3	36.6	55.7	43.3	23.9	36.3	29.1	29.4		52%	34%
GVA per FTE (labour productivity)	(thousand €)	5.1	9.6	19.2	28.8	14.3	19.2	20.2	13.1	22.6	23.1	23.1		73%	40%	51.4	33.5	29.6	40.8	61.9	41.0	51.6	39.3	42.6	32.6	32.9		9%	-2%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.95 Slovenia: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
SVN A37 DFN0612 °	41	36	4,084	1,211	49	390	1,067	906.6	85.0	517.9	48.5	432.4	40.53	10.7	24.9	32.5	High	83%	Improved	48.2%
SVN A37 DTS1218 °	9	11	918	2,327	64	390	622	460.2	73.9	217.6	35.0	193.4	31.07	22.7	43.1	35.9	High	30%	Improved	28.1%
SVN A37 DFN0006 °	31	20	2,806	902	16	137	418	374.3	89.5	274.2	65.5	254.1	60.72	5.0	18.6	147.2	High	419%	Improved	18.9%
SVN A37 PS1218 °	2	2	90	149	23	49	105	95.8	90.9	67.7	64.2	61.5	58.30	11.8	40.3	37.4	High	-6%	Deteriorated	4.8%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.96 Slovenia: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
SVN A37 DFN0612 °	39	38	3,990	1,151	53	463	1,153	986.2	85.6	523.1	45.4	463.2	40.19	12.3	26.1	32.2	High	54.7%
SVN A37 DTS1218 °	8	10	755	2,390	58	283	495	343.2	69.4	166.3	33.6	154.2	31.16	18.0	34.8	29.7	High	23.5%
SVN A37 DFN0006 °	30	21	2,571	1,035	14	121	403	357.8	88.8	269.1	66.8	252.3	62.61	4.3	17.5	143.9	High	19.1%
SVN A37 PS1218 °	3	2	11	1,043	3	7	58	49.1	84.8	45.3	78.1	42.6	73.52	1.8	22.3	26.9	High	2.7%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.97 Slovenia: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total 2016	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Common sole	0.08	0.16	0.14	0.20	0.13	0.20	0.18	0.21	0.15	0.16	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	12.0	14.9	16.5	15.2	15.0	13.5	12.7	15.7	13.3	12.6	16%	7%
Gilthead seabream	0.04	0.03	0.07	0.06	0.13	0.12	0.20	0.28	0.15	0.18	-	-	0.01	-	0.01	0.01	0.02	0.03	0.02	0.02	9.9	13.1	13.6	12.0	11.9	11.2	10.2	9.7	9.7	9.3	16%	13%
European squid	0.10	0.11	0.30	0.22	0.15	0.13	0.14	0.13	0.12	0.09	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	11.9	10.6	12.5	12.6	11.9	13.2	11.9	12.7	12.7	13.2	12%	7%
Caramote prawn	-	-	-	-	-	-	0.03	0.02	0.08	-	-	-	-	-	-	-	-	-	0.01	-	6.8	7.9	8.0	13.7	8.6	17.9	25.8	16.8	14.7	14.8	8%	7%
European pilchard(=Sa	0.61	0.58	0.61	0.44	0.04	0.05	0.13	0.11	0.06	0.01	0.31	0.43	0.40	0.31	0.02	0.03	0.08	0.04	0.03	0.01	2.0	1.4	1.5	1.4	2.0	1.7	1.7	2.6	2.0	1.6	6%	20%
Whiting	0.22	0.27	0.21	0.23	0.22	0.17	0.08	0.04	0.05	0.06	0.05	0.05	0.07	0.06	0.08	0.06	0.02	0.01	0.02	0.02	4.3	5.1	3.1	4.1	2.8	3.0	4.1	3.4	3.2	2.9	5%	13%
Common cuttlefish	0.08	0.09	0.04	0.05	0.06	0.02	0.04	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	-	0.01	-	0.01	-	5.4	6.8	5.6	6.0	6.3	6.7	6.9	6.8	7.2	7.8	4%	7%
European seabass	0.04	0.10	0.06	0.06	0.05	0.04	0.04	0.06	0.04	0.05	-	0.01	-	-	-	-	-	-	-	-	9.7	13.8	16.5	16.0	17.1	16.4	16.2	15.8	14.1	13.8	4%	0%
Musky octopus	0.06	0.13	0.05	0.10	0.09	0.08	0.06	0.03	0.04	0.04	0.01	0.02	0.02	0.03	0.03	0.02	0.02	0.01	0.01	0.01	4.6	5.5	2.7	3.8	3.7	4.4	3.6	4.0	3.3	3.6	4%	7%
Common pandora	0.04	0.04	0.04	0.05	0.12	0.05	0.03	0.04	0.02	0.03	0.01	-	0.01	0.01	0.02	0.01	-	0.01	-	-	6.7	8.0	7.7	7.9	7.3	8.5	8.0	6.8	7.7	7.4	2%	0%
																															78%	79%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.21 Spain

Short description of the national fleet

Fleet capacity

In 2017, the Spanish fishing fleet consisted of 9 356 registered vessels, with a combined gross tonnage of 341 thousand tonnes, engine power of 800 thousand kW, and an average age of 29 years.

The Spanish fishing fleet has decreased significantly in number of vessels, engine power and gross tonnage over the last years in order to bring fishing capacity in balance with fishing opportunities. From 2008 till 2016, 3 759 vessels stopped their fishing activities this trend may change after 31.12.2017 where the measure established on The European Maritime and Fisheries Fund for the Final-exit aid for scrapping of vessels in order to reduce capacity and fishing effort of the fleet (targeted at segments of fleet at overcapacity).

In 2017, 1 061 vessels were inactive which represents 11.3% of the Spanish fleet (looking back to 2008, the restructuring of the Spanish fleet sector is evident, notably the decrease of inactive vessels: in 2008, 25% of the Spanish fleet was inactive); almost 90% of these inactive vessels are small coastal vessels, less than 12 meters in length.

If we have a look to the number of vessels with more than 90 fishing days, which can be consider to be real professional vessels, the 66% of the active fleet is professional.

Fleet structure

The Spanish fleet, with 9 356 vessels registered in 2017, is one of the largest MS fleet, and the one that carries out fishing activities in more fishing zones.

More than 71% of the Spanish fleet are vessels under 12 meters in length (with activity always on domestic waters, of Atlantic, Mediterranean, and Canary Island Waters) without any doubt the Coastal Spanish fleet is the larger in number of vessels, and the activity of this type of vessel is carried out on trips that last less than one day. 19% of the Spanish fleet are vessels with a length 12 to 24 meters, and only 7.8% of the vessels are over 24 meters in length.

Even though the average vessel age is 31 years old, the oldest is the SSCF under 12 meters of length using static gears (33 years old). The fleet comprised in the range of 12-24 meter vessels is 19 years, and for those vessels that are over 24 meters, the average vessel age is 17 years. From 2012, the average vessel age shows this year a change on the trend that had increased since 2012, as the Spanish economic situation is starting to recover, more inversion or replacement is been done and so, the average vessel age maintain the 31 years as in 2016.

Around 97% of the 8 295 active vessels have carried out the **fishing activity on Spanish waters** (FAO 27.VIII, 27.IX.a, 37.1, and the Canary Island waters 34.1.2), with a combined gross tonnage of 42.5% of the total of the Spanish GT, and 66.3% of the total engine power (kW).

The rest of the Spanish fleet is integrated by vessels that carry out their **fishing activities on EU waters** (103 of the active fleet, 8.74% of GT and 5.83% of the total kW); the main gear they are using are trawl nets, drift and/or fix netters, and bottom-set longline and **vessels on international fishing areas**, with a capacity of 48.7% GT and 27.79% out of the total kW, that carry out their activity under international agreement, Regional Fishery Bodies, or private licenses; these vessels are mainly demersal trawlers, tuna purse seiners, and surface longliners.

The classification presented in this report, shows distorted image for the Spanish fleet, as the activity of this fleet is complex, fishes in very different fishing grounds. Also, as the data are aggregated at a Supra region level, this report is giving for the North Atlantic area the same profitability for NAFO drift and/or fix netters, CIEM drift and/or fix netters, or for the drift and/or fix netter vessels that fish in domestic waters, which have different target species, different fuel consumption, and therefore incomes, costs, profitability very different. So the economical results do not reflect the reality of the Spanish fleet, as the data are aggregated on big boxes and cover very different types of activities, this makes the analysis of the real economic situation very complex.

Also, it has to be taken into account that with the data uploaded to the Fleet Economic Data Call (based on 6 length section, main gears, and three supra regions) the fleet is reclassified as:

- Small-scale coastal fleet (SSCF) - includes all vessels under 12m using static gears.

- Large-scale fleet (LSF) - segment includes all vessels using towed gears, and vessels over 12 meters using static gears operating in EU fishing regions.
- And distant water fleet (DWF) - includes EU registered vessels over 24 meters operating in 'other fishing regions' including EU outermost regions.

With this definition of the fleet, 1 828 Spanish dredgers (towed gear which are under 12 meters in length) with coastal activity in Spanish waters should be classified as SSCF and instead of that, they are evaluated at the LSF group, which results as a distortion on the data analysis, the same situation is suffer by the 18 Spanish Purse Seiners with coastal activity, this situation can be seen year after year, and will not be solved until the current classification changes

Employment

The number of fishing enterprises reached 8 683 in 2017 If we look back to 2008 we can see that the small enterprises (with one vessel, and with two till five vessels) decreased, due to the decrease of the number of vessels, while the enterprises with 5 or more vessels are more stable. This trend will continue the following years, with a decrease of 100 enterprises in this year.

Total employment in the Spanish fishing fleet for 2016 was estimated at 31 597 jobs, corresponding to 29 399 FTEs, with an average wage per employee of EUR 19 709 in 2016 and an average wage per FTE of EUR 21 183 in 2016.

Effort

In 2016, the Spanish fleet spent around 1.08 million days at sea, (no mayor difference related to the year before), and 1.03 million fishing days (lightly increase of 1%. This slightly increase is due to the small scale coastal fleet that spent 416.8 thousand fishing days.

The quantity of fuel consumed in 2016 was 582 million litres, which shows a decrease of 18% from 2015. These decrease is mainly due to the DWF, the fuel consumed by this fleet decrease 15% compare to 2015, as the number of days at sea, and fishing days for this Distance Water Fleet is less than the year before, so the fuel consumed decreased.

Production

Despite the production in 2016 decrease in terms of weight of landings 3%, reaching the value of 897.7 thousand tonnes, the value of landings shows an increase of 12%.

During 2016 the weight and value of landings have fallen to 897.7 thousand tonnes and 2.086 million euros (-3%, and 12%, respectively)

In terms of live weight and value of landings, the main species for the Spanish fleet are: highly migratory stocks (Yellowfin Tuna, swordfish, skipjack tuna, Big eye Tuna), landed by 26 tuna purse seiners that belong to the distant water fleet and small pelagic species (European anchovy and European pilchard) which are mainly fished by purse seiners of Spanish fisheries of north Atlantic and Mediterranean Spanish waters.

It is important to pay attention to the total amount of the weight of landings, more than 50% of which is landed by the DWF, representing only 1% of the total number of vessels in the Spanish fleet

Economic results for 2016 and recent trends

National fleet performance

On this point as explained before, it is important to clarify the improvement done during the last years by the Spanish authorities in order to segment the Spanish fleet on the most precise way possible, due to the complexity of the Spanish fleet in terms of the gears, but also on the regions where the fishing activity is carried out.

In 2016, the economic performance of the Spanish fleet shows an improve over 2015. Income from landings and value of landings increase 1% and 12% respectively. Revenue estimated at EUR 1 986 billion.

Gross Value Added (GVA), gross profit and net profit for the Spanish fleet in 2016 were estimated at EUR 1088 million, EUR 465 million and EUR 384.2 million, respectively. These figures show a better profitability of the sector (ROFTA). Even though the income remains as the year before, total operational costs decreased, mainly annual depreciation cost (-45%), energy costs (-28%) and other non-variable cost (-15%)

The trend of the unpaid labour value maintains, and so, keeps decreasing, with a decrease of 25% on the average of the period 2008-2016. The main reason is the professionalization of the sector, as the wages and salaries increase their values.

The tangible asset value of the Spanish fleet was estimated at EUR 455.4 million, and investments reaches EUR 31 million in 2016, a 9% and 53% decrease, respectively. The (depreciated) replacement value keeps with the downward trend for the LSF segment seen from 2011. For DWS indicators, TAV and investments shows a decrease on

However, if the period 2008-2016is analysed, several facts can be checked. First of all, the investments data has a high variability and no clear trend; second the decrease on investment on 2015 does not seem to be realistic, as the information on the last three years (2014, 2015, and 2016 EUR 33.6 million, EUR 65 million, EUR 31 million, shows a variability that has to be analyse with care

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 23.4%, showing an increase (30%) on profitability for 2016. On the same way, net profit margin was estimated on 19%, as the capital cost decrease 33%. This, added to higher incomes and less operational costs, leads to an increase of net profit margin.

Labour productivity (GVA/FTE) breaks the downward trend of 2015 and is estimated on EUR 37 thousand (14% higher than the year before).

Fuel efficiency (litter/tonne) decrease on 2016, 0.64 thousand litres per tonne, 12% less than 2015

Performance by fishing activity

The Spanish fleet is highly diversified, not only on the number of catches species, but also on the gears and fishing areas. This diversity can be seen on the high number of segments that make it up, 59 fleet segments.

The SSCF represents 49% of the total fleet (4 123 active vessels in 2016), while 48 of the fleet (4 023 active vessels) belong to the large-scale fleet, and the remaining 3% are covered by the distant water fleet (208 active vessels).

Even though the SSCF has the higher number of vessels, the live weight of landings, are higher for the vessels that belonging to the LSF segment (45%) and DWF (52%) and the incomes from landings follow the same trend, LSF segment (51%), DWF (41%) and SSCF (8%).

A common fact must be highlighted for all the segments and for the total fleet collectively: the decrease in energy costs, showing the same behaviour for all the segments and for the national total.

Small-scale coastal fleet

On 2016, 4 123 vessels were covered by the fishing activity "small-scale coastal fleet" in accordance with the European definition. However, this classification differs from the Spanish classification that includes on this fishing activity the mobile gears of 12 meters (DTS, DRB, and PS). This type of vessels is covered under the EU classification on the activity "Large-scale Fleet", so the result is that the information that emanates from this report will show some distorted data with the reality of the Spanish small and the large-scale fleet. However, the analysis of this fleet is carried out according to the European definition, but using as the beginning of the period of reference 2011 (first year in which the Spanish classification included mobile gears belong 12 meters on the Large-scale fleet).

Economic data need to be treated with caution, as almost 50% of this fleet carried out their activity on partial time (less than 90 days/year).

In 2016, related to the average 2011-2015, the decrease on the number of vessel reaches the 1.3%, while the power related to the same period keeps stable; one of the reason is that a power control and verification is been carried out under the Spanish regulation, in order to adjust the registered data for all the Spanish fleet with the real power for each vessel.

This segment has suffered an increase on total employed (12 %) and FTE (10%) compared to 2015; probably due to the mild recovery of the Spanish economy. This fleet generated 7 308 jobs (23% of the total jobs generated for fisheries), this figure must be carefully studied, as explained before, 1 846 vessels (and so the employment of this "segment" is included on the LSF even though the economic activity is more similar to the SSCF.

During 2016, the number of days at sea increase compared to 2015 (4%) the same increase took place for the fishing days, the average fleet activity in 2016 reaches a value of 101 days at sea/ vessel.

Life Weight of landings increase 47% if we compare the landings catches on 2015, we can also see an increase referred to the period 2011-2015 (18%).Value of landings and the income from landings for SCF increase with respect to2015, 81% and 4% respectively, while value of landings increases 27% and income from landings increase 16% of the period 2011-2015,

Wages and salaries of crew increase with EUR 13 million more in 2016, also increase the total employed of this fleet.

In terms of GVA, this is a segment economically profitable, EUR 118 million, even though due to the increase on wages and salaries, both gross profit and net profit decrease compared to 2015, but still shows a profitable behaviour

The labour productivity as GVA grows on higher figures than FTE, productivity increase, leading to the same benefits with less FTE, keeping the growing trend that started on 2012.

Large-scale fleet

In 2016, 4 023 vessels were included on the "Large-scale fleet" segment, according to the European definition (1 881 DRB vessels are included in this fishing activity). The decrease on the number of vessels, vessel tonnage, and engine power continues. This reduction is more marked than on the average of the period 2011-2015.

With a decrease of 3% on the number of vessels, the number of days at sea decreased 1%, the incomes increase 6% referred to 2016, as the weight of landings, and the value of landings are also showing an increase in 2016.

An increase on salaries and decrease on total employment compared to 2015, probably due to the professionalization of this fleet, with less people employed but with better salaries. This added to the high decrease on the energy costs (20%), leads to that even though the other costs have been increased, the result is a GVA positive, contributing to the total national GVA on 59% (EUR 645.2 million). This higher contribution to the national GVA is due to several issues, one is the balance achieve by the Spanish fleet that carry out their fishing activities on EU waters and also due to the decrease of the GVA on the DWF segment.

The energy consumption has decreased, this segment is profitable, with an increase on the gross profit margin (33%) and an increase on the labour productivity of 16%, due to a higher GVA.

Distant water fleet

In 2016, 208 vessels were included on the "distant water fleet" less than 2.5% of the total Spanish fleet, but with a contribution to the total weight of landings in more than 51%, almost half of the incomes, and a high participation on the National Gross Value Added, even though for 2016 the contribution to the national GVA is less than the year before.

The Days at sea, as seen on the LSF have been reduced 3,8% referred to 2015, and 15% referred to the averaged period 2008-2015. The fishing days have also been reduced (4%), and so the number of fishing trips shows a decrease.

In terms of landings, the live weight of landings and the income from landings have been less than 2015, 4% and 5% respectively. However, the value of landings increased 22% compared to 2015.

In terms of costs, only repair and maintenance costs have increased (5%), energy costs keep the trend seen over the last period, with a decrease of 37%

The economic performance shows an improvement with better indicators for Gross and net profit (+30%, and +86%), and Gross Value Added (+10%)

Outermost regions (Canarias)

The Spanish outermost region, Canary Islands (FAO 34.1.2) has a fleet with the following main characteristics: is the oldest Spanish fleet, with an average vessel age of 35 years; mainly small size of vessels, 561 vessels are below 12 meters in length, 62.5% of the active vessels carried out their fishing activity less than 90 days/year, these vessels carry out the polyvalent fishing activity (polyvalent gears, for more than one specie as target).

This fleet is not quota species dependent, and do not fish high risk species, in terms of stock status.

Only 4.9% of the total Canary Island fleet carry out the fishing activity outside Canary Waters. These 5.6% vessels are DTS and tuna hooks that fish on COPACE waters, under different agreements.

The income of this fleet has suffered a decrease of 2% from the average of the period 2011-2015; opposite behaviour can be seen on the GVA and the value of landings, that increase 25.4% and 27.3% related to the average 2011-2015.

On the other hand, labour productivity (GVA/FTE) keeps the trend that started on 2012, the results of 2015 must be analyse with care, as the results of 2016 shows the same trade that the period analyse.

The main problem for this fleet is the inactivity; fisheries are partial time and complementary activity. 18.4% of the Canary Island fleet is inactive so a plan for this fleet is being carried out.

Performance results of selected fleet segments

Distant Water Fleet

Purse seiners over 40m: 26 active vessels (freezer tuna seiners), (12.5% of the total DWF), the total weight of landing of this segments reaches the 461.9 thousands of tonnes, that represents 50% of the total weight of landings of the DWF, 48,2% of revenue and 52% of GVA of DWF.

This segment that had an income of EUR 396 million, GVA of EUR 168 million and EUR 81 million in net profit GVA to revenue (42.5%), Gross profit margin (28.7%), net profit margin (20.54%) shows better results than in 2015

The economic development of this fleet segment has improved, several reason can be highlighted, the number of vessels of this fleet segment has decrease, from 30 in 2015, till 26 in 2016, but, the live weight of landing has increased, and even more increase can be seen on the value of landings, probably due to the species

Drifting longliners fleet

As the Spanish drifting longlines fleet is so particular, the Spanish authorities consider that the information of this fleet should be split from the information of the rest of the hooks, and so decided to assigned the gear PGO only for the longlines fleet, so the analysis of the economic behaviour can be done just looking at the fleet segment with PGO gear.

The management of this fishery is carried out by national regulation that covers the drifting longline fleet for highly migratory species (mainly swordfish, tunas and pelagic sharks). A unified census of drifting longline is developed. In this census the right to carry out the fishing activity is set down, for each vessel and fishery area, also the percentage of quota for those areas subject to TACs (South and North Atlantic swordfish) for each of the 7 areas in which this fishery is split:

Zone 1: Mediterranean

Zone 2: waters covered by the sovereignty or jurisdiction of Spain till 80 miles on Atlantic

Zone 3: Waters of the Atlantic Ocean north of latitude 5° N and outside sovereignty or jurisdiction of Spain till 80 miles of base lines.

Zone 4: Waters of the Atlantic Ocean south of latitude 5° N.

Zone 5: Waters of the Indian Ocean (IOTC)

Zone 6: Waters of the Pacific Ocean (IATTC)

Zone 7: Western & Central Pacific Ocean (WCPFC)

1. Drifting longlines (Large-scale Fleet)

110 vessels are part of this subgroup (65 of the Mediterranean, 45 North Atlantic), with a GVA of EUR 31.2 million, 54.5% of this amount belongs to Surface LL North Atlantic 24-40m (EUR 17 million) the same can be seen with Gross profit (EUR 11.6 million) where half of it belongs to Surface LL North Atlantic 24-40m, and with Net profit (EUR 10 million) where EUR 5.3 million belongs to Surface LL North Atlantic 24-40m.

The results of the performance indicators in 2016 for the fleet segments that take part of this drifting longlines (LSF) are:

North Atlantic 24-40 GVA to revenue (51%) and gross and net profit margins 18.5% and 15.63%, the performance has improved, and this fleet segment is profitable.

North Atlantic 18-24 GVA to revenue (57%) and gross and net profit margins 29.3% and 27%, the performance has improved, and this fleet segment is profitable.

For the Mediterranean we have two fleet segments, the segment 12-18 has the following behaviour: GVA to revenue (59%) and gross and net profit margins 20.4% and 19.27%, the performance has improved, and this fleet segment is profitable; the segment 18-24 GVA to revenue (55.6%) and gross and net profit margins 14.5% and 10.77%, the performance has improved, and this fleet segment is profitable

2. Drifting longlines (distant water fleet)

87 active vessels are part of this subgroup (64 vessels 24-40m, and 23 over 40m) represent 42 percent of the total DWF, but only 14% of the total weight of landings, 19% of revenue and 18% of GVA of the DWF, with a GVA of EUR 59.8 million, net profit of EUR 22.9 million, the labour productivity reaches 35 thousand EUR per FTE.

The results of the performance indicators in 2016 were: GVA to revenue (37.6%) and gross and net profit margins 20.5% and 14.4%, so this fleet segment is profitable.

If we split the two lengths that are part of this group (24-40 and over 40), the one with the largest number of vessels, people employed, and incomes is 24-40, the net profit is higher on this length (EUR 8.6 million). We can appreciate that even though both are profitable, the economic development trend of the subgroup 24-40 has improved, while the behaviour of the subgroup over 40 shows an economic development trend deteriorated

Drivers affecting the economic performance trends

Markets and Trade

During 2016, the Spanish DWF fleet has continued under by fisheries agreements with Third Countries

Whit the restarted of the Morocco agreement on 2014, 70 vessels had licence on 2016, under the different parts of the agreement, three species are especially important for the Spanish fleet: *Engraulis encrasicolus*, *Pagellus bogaraveo* and *Lepidopus caudatus*.

The main agreements of the Spanish fleet with third countries are Mauritania, Cape Verde, Guinea Bissau, Côte d'Ivoire, São Tomé and Príncipe, Gabon, Mozambique, Comoros Islands, Madagascar, Seychelles, Kiribati and Mauritius islands. These agreements have allowed 83 vessels of the Spanish fleet to carry out their fishing activities on many different places, and for different target species.

In 2016, 1 726 569 tonnes of fishery products were imported into Spain (1 777 329 tonnes in 2017). The main origins of these products (69%) were: Morocco, China, Ecuador, Argentina Peru and Chile

In the EU framework, the main countries of origin of the imports were: Portugal, France, the Netherlands, United Kingdom, Italy Sweden and Ireland.

On the other hand, the exports of Spanish products reached the total of (1 109 022 tonnes in 2016 (1 186 996tonnes, in 2017), with a value of EUR 3 710.4 million 2016 (EUR 4 124,1 million in 2017), the main Spanish destination of the products was the EU market (61%). Italy, Portugal and France were the main EU destinations, while for third countries, the main destinations were Ecuador, Egypt, and Morocco.

The main fishery product exported was the Tuna Frozen, and the canned Tuna

Management instruments, Regulation Policy

The Spanish fleet is managed through several management tools, such as fishing license, engine power limited, time at sea, TACs and quotas related to the area and fishing stock. Under national regulations there are managements plans set down; each plan covers species, gears allowed for the fisheries, additional prohibited days, and technical requirements (such as power, Vessel tonnage, length). In several cases the management or recovery plans have also a reduction objective that is funded by the European Maritime and Fisheries Fund (EMFF).

As an example, on 2017 there were (among others) management plans for Mediterranean affecting trawls.

The recovery plan for Mediterranean swordfish (SWO) that started in 2017, introduced a Total Allowable Catch (with gradually reduction over the years), control measures as the increase of the minimum size

to protect juveniles are also included on this plan, this plan will affect not only to the longliner fleet, but also to some trawlers and netters that catch SWO on the Mediterranean waters.

Landing obligation: the number of fleets that are under the landing obligation Regulation has increased in 2017, Spain is making big efforts in order to full comply with the regulation. The big challenge for 2018 will definitely be meet the problematic of the choke species, practical solutions will have to be found, in order to avoid that the Spanish fleet stop the activities due to the lack of quota for some species.

TACs and quotas, Status of Key stocks

Spain has fishing quotas on national and international waters and through partnership fisheries agreements with third countries and thanks to RFMOS EU´s membership, such as NAFO, NEAFC, ICCAT, CGFM, IOTTC and WCPFC areas.

Total initial available quota for the Spanish fleet in 2017, included in the regulation for fishing opportunities, were maintained the relevant species for the Spanish fleet, and increase in most relevant species like megrim, European hake, ling and horse mackerel.

European hake has increased by 10%, with 31 781 tonnes, available for the Spanish fleet. Regarding monkfish, where a very restrictive proposal was based, the same 2016 quota will be maintained.

Also the megrim has improved by 5%, increasing the quota to 6,483 tonnes and in the case of angler the same share of last year is maintained

The Atlantic and Gulf of Cadiz stocks have improved their situation, with increases of 10% in anchovy and 26% in Norway lobster, a Spanish request based on the stability of resources.

Another species in which there has been an important rise is the horse mackerel, both of waters of the north (Grand Sole) and in the Iberian waters, where the Spanish quota reaches 15 441 tonnes in the North and 17 744 tonnes in Iberian waters, which goes to benefit, basically, the coastal fleet, and trawling of the Northwest Bay of Biscay.

Likewise, two other important stocks for these fleets, such as horse mackerel and blue whiting, have had remarkable results.

In relation to blue whiting, after the negotiations with Norway, and taking into account the sensitive situation of the stock, a quota is maintained very similar to last year, respecting the principles of long-term sustainability.

For horse mackerel the quota increased in 27% with a final quota of, whiting decrease a 20%, anglerfishes of Grand Sole and Bay of Biscay had an increase of 20%, while quota for megrims of Spanish fishery has had a low increase (5%).

The Cantabrian Sea jack and horse mackerel quota increase 27%, jack and horse mackerel quota of zone IX increase 19%, and Norway lobster (NEP) north stock quota decreased and south stock increased quota.

Status of Key stocks

The latest assessment for the main small pelagic stocks in Mediterranean waters indicated that they are exploited unsustainably. Spanish fleet operates mainly within four GSAs (excluding GSA2, which only supports a deep trawl fishery around Alboran Island). The following species have been chosen taking into account the landing weight and landing value, these species are under quota, and they can be divided according their distribution to the ICES zone in different stocks by North and South.

Hake in division IIIa, sub areas IV, VI y VII and in division VIIIa,b,d (North stock). Biological indicators point to the good health of this stock. Fishing mortality (F) is below FMSY, and there is an increase of capacity reproductive (SSB). In addition, the good evolution of recruitment, which experienced an upturn from the last calculated

Megrim Divisions IVa y VI a (North stock). Stock status is healthy with a decline in F which lies clearly below Fmsy, and a biomass well above MSY despite a slight decline last year.

Megrim in divisions VIII c y IX a (South stock). The two species of megrims (*Lepidorhombus boscii* and *Lepidorhombus whiffiagonis*) have a joint recommendation of TAC. The approach is to give the advice based on the worst situation of each of the two species; the southern megrim stock is almost exclusively caught in mixed bottom-trawl fisheries targeting demersal fish, including four-spot megrim, southern hake, anglerfish, and *Nephrops*. Management measures aimed at reducing fishing mortality on any of these stocks should also reduce fishing pressure on megrim. Since 2000, the Spanish trawl fleet has

changed its main target species, focusing more often on pelagic species such as horse mackerel, blue whiting, or mackerel, and normally not taking megrim in the catch.

Megrim: *Lepidorhombus boscii*)**.** Fishing mortality increase, but SSB became to recover and recruitment maintains.

Megrim: *Lepidorhombus whiffiagonis*. After significant declines in previous years in mortality, a significant upturn occurs, placing the current F significantly above the Fmsy. The spawning biomass falls but still remains above Bpa. Stock status is worse than last year by fishing mortality.

Monkfish in divisions VIIb-k y VIIIa, b, d (North stock). The management of the two species of anglerfishes under a combined TAC prevents effective control of the single species and could lead to overexploitation of the two species. However, biomass has increased. In the case of *L. piscatorius* (white monkfish) the average stock in the period 2012-2013 is 60% higher than the previous years, while the abundance index suggests average levels of recruitment (maintained) since 2008 with a decline in 2013. In the case of *L. budegassa* (black monkfish) biomass has fluctuated but with the average value of the indicator from 2012 to 2013 at a 33% higher than the average for the preceding three years (2009-2011).

Monkfish in divisions VIIIc y IXa (South stock). Anglerfish species, *Lophius piscatorius* and *L. budegassa*, are caught together in bottom trawl and gillnet fisheries. These fisheries also catch hake, *Nephrops*, and megrim. The white anglerfish situated in recent years slightly below the Fmsy. In addition, it is observed a slight decrease of biomass for the last year, while recruitment points to a slight increase. By contrast, in the case of black monkfish, all parameters are favourable, resulting in a further decline of F placing it clearly below Fmsy, while increasing the biomass

Lophius piscatorius: It has an increase in biomass. Fishing mortality (F) is still below FMSY (which is positive), while recruitment remains at low levels, but regains positions after the significant decline last year.

L. budegassa: Fishing mortality continues to fall and is below FMSY. The biomass of the stock continues to increase and remains clearly above the limits of sustainability.

Hake in divisions VIIIc & IXa (South stock). In 2006, started to apply a recovery plan which main measure contemplate annual reductions of fishing effort of 10% for those fleets that generate a significant fishing mortality (F) on this population. Until 2009, these reductions had no significant effect on F, which remained relatively stable above 0.9. However, from 2010 these reductions of effort had a gradual impact in fishing mortality, which started to decrease. This decrease continued over the time, despite the slight increase observed in the last year. **Recruitment is still maintained at the same levels as in recent years, there is a further decrease in fishing mortality (although it is still far from the FMSY (0.52 against 0.25), and the spawning biomass describes a new increase clearly exceeding the limits of the stock**

Mackerel (MAC-NEA) (*Scomber scombrus*) in Subareas I–VII & XIV and divisions VIIIa–e & IXa (North Atlantic). Traditionally, the fishing areas with higher catches of mackerel have been in the northern North Sea (along the border of Divisions IVa and IIa), around the Shetland Islands, and off the west coast of Scotland and Ireland. The southern fishery off Spain's northern coast has also accounted for significant catches. In recent years, significant catches have also been taken in Icelandic and Faroese waters, areas where almost no catches were reported prior to 2008. In 2013, catches in this area constituted approximately half of the total reported landings. In the Icelandic and Faroese fisheries, in the north-western part of the distribution area, mackerel are sometimes caught together with herring. In the southern part of the distribution area, Atlantic mackerel (*Scomber scombrus*) can be caught together with Spanish mackerel (*Scomber colias*). Catches of both species are reported separately. It is estimated that the spawning stock biomass (SSB) has increased since the 2000s and it has been above the MSY -Btrigger since 2009. Fishing mortality (F) has been declining since the mid-2000s, but still higher than the Fpa. Stock biomass is considered to have been situated above Btrigger, Bpa and Blim in the last three years. Recruitment has a slight upward trend. So stock still maintained a very good productivity and that translates into good recruitments.

Horse mackerel (*Trachurus trachurus*) in Division IXa (Atlantic Iberian Waters). Horse mackerel is caught in mixed fisheries. Changes in the availability of other species caught in the same fisheries could affect the targeting of horse mackerel. Traditionally, horse mackerel catches have a large proportion of juveniles. The Spanish bottom trawl fleet, targeting mainly adult fish increased in importance until 2010 and has subsequently declined. Other species of horse mackerel are caught together with *T. trachurus* in Division IXa, in particular *T. picturatus* of which 300–800 t were caught annually in the past. The advice for Southern horse mackerel applies to the southern stock of *T. trachurus* only.

Fishing mortality is clearly below Fmsy, while biomass has increased significantly due to the high level of recruitment experienced in previous years.

Horse mackerel (*Trachurus trachurus*) in Subarea VIII and Divisions IIa, IVa, Vb, VIa, and VIIa–c, e–k (Northeast Atlantic). The TAC is calculated based on gender (JAX) and not by discriminating the dominant species. Therefore, this TAC includes *T. trachurus, T. mediterraneus* and *T. picturatus*. The stock and the fishery are very dependent on occasional high recruitments. The very high 1982 recruitment showed a peak in SSB in 1988, and the relatively high one in 2001 gave a moderate increase in SSB up to 2009. In recent years, SSB has been declining and is currently just above MSY Btrigger. Fishing mortality has been increasing since 2007, but remains just below FMSY. Recruitment has been low from 2002 onwards.

Anchovy in Subarea VIII (Bay of Biscay). There are no clear trends on this stock, and its biomass is very variable as it is a small pelagic that reaches sexual maturity and is incorporated into the fishery in one year. In this case the scientific campaigns "take a still picture" of laying, or nursery, which will be the next year will be incorporated into the fishery. Anchovy is targeted by trawlers and purse-seiners. The Spanish and French fleets fishing for anchovy in subarea VIII are spatially and temporally well separated. The Spanish fleet operates mainly in Divisions VIIIc and VIIIb in spring, while the French fleets operate in Division VIIIa in summer and autumn and in Division VIIIb in winter and summer. Since 2003 the fleets of both countries have decreased. The evaluation recently published by ICES shows abundance of historical biomass, having expanded the stocks to areas where it was not present since the 60's. The operating ratio is below average (catch / biomass) which is an example of the good situation of the stock. Due to management plan this stock of anchovy, the biomass has been recuperated.

Anchovy (*Engraulis encrasicolus*) in Division IXa (Atlantic Iberian Waters)

Most of the fishery for this anchovy stock takes place in Subdivision IXa South. The fleets in the northern and western parts of Division IXa (targeting European Pilchard) occasionally target anchovy when abundant, which occurred in 1995, 2011 and 2014. Recent studies on genetics indicate that the stock inhabiting Division IXa South (Algarve and Cadiz) is different genetically from the one inhabiting the remaining parts of Division IXa (Zarraonaindia et al., 2012). This stock has a qualitative assessment because there is no reference points to reach an analytical assessment of the stock. The responsible for the biological evaluation of the stock, with the latest results obtained independent indices of the fishery (research surveys at sea will be presented: Pelacus spring, Ecocadiz Summer and Ecocádiz recruits in autumn, being the latter two that analyse the Gulf of Cadiz.

Blue whiting (*Micromesistius poutassou*) in Subareas I–IX, XII, and XIV (Northeast Atlantic)

Blue whiting is widely distributed in the eastern part of the North Atlantic from Norway to the south of Portugal, with the highest concentrations along the edge of the continental shelf between 300 and 600 m from the coast. The population is comprised of at least two components (a northern and a southern component) within this region (ICES, 2014c). Both components spawn along the shelf edge and on banks west of the British Islands. Juveniles are also widely distributed, including in the Bay of Biscay and Iberian waters, with the main nursery area believed to be in the Norwegian Sea. The main fisheries on blue whiting in 2013 were conducted west of Scotland, around the Porcupine Bank, and south of the Faroe Islands. Most blue whiting catches occurred in the first half of the year and are mainly used for industrial purposes. Fishing mortality (F) has increased since 2011, which was relatively low to be above FMSY in 2014. The spawning stock biomass (SSB) increased from 2010 to 2014 and is above MSY Btrigger. Recently recruitment is estimated above average, but with an uncertainty. Additional information indicates an above average recruitment in 2014 and 2015 and this is taken into account in the short-term prognosis.

Sardine VIIIc –IXa (Atlantic Iberian waters) It is not a stock subject to TACs and quotas. But there is a Spain-Portugal management plan, with a catch limit based on an exploitation rule that is based on the estimated biomass.

This year at the request of Spain and Portugal, ICES not only makes a recommendation for next year, but also a re-evaluation of its recommendation for 2016 when the data from the last campaigns are incorporated into the analysis in the scientific group.

Current situation: 14 000 tonnes in 2016 by the Spain-Portugal agreement.

RECOMMENDATION ICES 2016: 12 000 tonnes

RECOMMENDATION ICES 2017: 23 000 tonnes.

The biomass of the stock for individuals of one year and later, follows its decline, as does the recruitment. However, fishing mortality has declined and is at the minimum of the historical series.

Analysing the ICES capture projections, scenarios similar to the 14 000 tonnes agreed between Spain and Portugal, would imply positive evolution of biomass.

Operational costs (external factors)

The energy costs keep the downtrend that started on 2012, but any oscillation on prices has a high impact on the profitability of the Spanish fleet, as the contribution to the profitability of the total Spanish fleet is mainly due to the DWF, with half of the total volume of landings.

As the year previsions the wages and salaries represents the most important issue of the operational costs, (34% in 2016) the trend is maintained, as this item has been the most important operational cost during the last years.

The Investments carried out by the Spanish fleet in order not only to adapt the vessels to the regulations, but also to meet private certification requirements that are being demanded by the consumers, like the standard UNE which promotes a responsible extractive activity of tropical tunas worldwide.

Innovation and Development

In the field of technological development and innovation in the Spanish fishing sector, new projects are being developed with a specific target, women in fisheries, the association ANMUPESCA started activities in May 2016, in order to help the society to have a better knowledge of the women activities in fisheries, more visibility, and specific women-oriented projects in order to integrate the local fisheries activities.

Spain has adopted the so-called Strategic Plan for Innovation and Technological Development in Fisheries and Aquaculture, covering the period from 2014 to 2020. Its main objective is to increase the competitiveness of Spanish fisheries and aquaculture sectors through innovation and technological development, optimizing resources in the context of the European Union and considering economic, social, and environmental and health requirements.

As regards fishing technologies, priorities and specific strategic objectives were established, highlighting priority. Among all of them, the following:

Innovation in more selective gear, in order to avoid non-target catches, reducing the environmental impact of fishing, capture reduction of sensitive species and by catch, promotion of energy audits, to promote energy savings, design of energy efficient fishing gear, automation of fishing practices, adaptation of fuel cells for marine use (fuel cells are an energy alternative that should be raised in the medium term).

Complementarily, it has been established other priorities in the field of marine resources:

Quantification of socioeconomic exploitation of fisheries and integration in all studies on the state of resources and exploitation models, conservation of marine and coastal ecosystems, study of profitability of the fleet, genetic characterization of biodiversity, determination of the impact of aquaculture on the marine environment, recovery of discards and new species.

Socioeconomic impact

The entry in force of several agreements that have the main objective of improve the labour conditions of the fishers could be one of the challenge for the following years, better conditions is a must if the Spanish fleet wants to maintain the fishery activities, as a lack of professionals is increasing, on the other hand more space for the fishers may led to less room for storage, as the EU regulation stablish limits on capacity, so may the improve on the labour conditions predetermine less incomes for the vessels, and so the profitability could be worse.

Landing obligation, is without any doubt another point to consider, as the consequences are not clear yet, the choke species could end the vessel activity, for the north Spanish fleet anglerfish, and cod are choke species, as the quota may not be enough.

31 of December 2017 is the last day that EMFF may support measures for the permanent cessation of fishing activities through the scrapping of fishing vessels, this date may determinate that some imbalance segments, will not be able to leave the activity with economic support.

And Brexit, the consequences of the final negation should affect not only the fleet, but also de industry.

The implications of a possible decrease of activity on those waters could consider to be minor if we refer only to figures, interpreted in a wrong way as the number of vessels may appear to be few, the truth is that for the 80 vessels that are allowed to carry out their activities on UK waters, preliminary analysis are estimating that the loss of incomes could be over 25% of the total of incomes of this vessels, if we

also consider the fleet that carry out the activity on distant waters under private licences on UK waters (Maldives) almost 50% of the economic value of the landings of this fleet could be affected.

In terms of trade of fish if we have a look to the average 2013-2016, from the total import fish products from EU countries to Spain, 7.6% of volume and 12% of value comes from UK, and on the other hand, from the total fish products exports from Spain to EU countries, 3% of volume, and 3.4% of value have as final destination UK, so not only for the Spanish fleet that carry out their fishing activities on UK waters, but also for the industry the Brexit is going to be a big challenge, and we will have to see the final results of the negotiation, in order to clarify the future.

Projections for 2017 and outlook

Preliminary results for 2017 suggest that the structural policy carried out to reduce the number of vessel will continue, not only on number of vessels but also in tonnage and power. Of the total 9 356 vessels, 8 274 were active during 2017. Most of the inactive vessels (more than 90% of them) were below 12 meters of length.

In terms of Life weight of landings, the main species for the Spanish fleet in 2017 were big migratory fish (skipjack tuna, yellowfin tuna).

For demersal species hake is again the most important specie.

MODEL FORECAST

Preliminary results for 2017 forecast a 2% increase in landed weight, matched with a 1% increase in landed value. Projections suggest operating costs decrease, even if energy costs are estimated to increase by 5% due an increase in fuel prices. A reduction of capital costs is also estimated. This will lead to a slight increase in the economic performance compared to 2016: GVA (+2%), gross profit (+4%) and net profit (+8%).

Results indicate that the Spanish fleet operated at a profit in 2017: with an estimated net profit of EUR 414 million and margin of 21%. Positive economic developments can also be seen in performance indicators GVA to revenue (+3%), gross profit margin (+3%) and GVA per FTE, estimated at EUR 38 thousand in 2017 (+3%).

The 2017 gains are expected to continue in 2018 as increased landings (+4% compared to projected 2017 figures) are matched by a 9% increase in value. The 16% increase in energy costs due to expected higher fuel prices and fishing effort (days at sea, +3%) in 2018, is counteracted by low capital costs. The fleet remains profitable with gross and net profit margins of 25% and 22%, respectively.

Data issues

The economic data collection on the Spanish fleet is carried out by statistical sampling; such sampling does not differentiate the fleet according to the days of activity, so the sampling can include vessels with few days of activity. When these results are raised for the total of the fleet segment, the profitability of the segment can be influenced, obtaining worse results than the reality and vice versa.

In this regard, Spanish authorities are designing a new sampling plan, where the main variable will be the fishing days and the vessel tonnage, in order to bring over the statistical results to the fleet reality.

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Table 5.98 Spain: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	13,115	11,501	11,209	10,900	10,544	10,167	9,921	9,686	9,459	9,356	8,086		-2%	-13%
Number of Inactive vessels_ms	(#)	3,312	1,818	854	1,784	1,606	1,372	1,228	1,185	1,105	1,061			-7%	-33%
Vessel tonnage	(thousand GT)	470.1	459.5	439.7	415.4	400.1	384.9	379.4	366.7	343.9	341.0			-6%	-17%
Engine power	(thousand kW)	1,067.9	1,027.3	983.2	937.7	903.6	873.9	867.0	842.1	802.8	799.7			-5%	-14%
Total employed	(person)	36,765	38,045	39,281	35,808	34,399	33,129	33,121	32,059	31,597	30,930	30,499		-1%	-11%
FTE	(#)	34,921	35,844	33,678	33,210	30,302	28,782	28,629	30,015	29,399	29,206	32,035		-2%	-8%
Days at sea	(thousand day)	1,105.0	1,122.3	1,208.9	1,150.7	1,149.1	1,096.9	1,117.7	1,078.0	1,083.3	1,070.7	1,125.3		0%	-4%
Fishing days	(thousand day)	1,049.9	1,068.0	1,153.6	1,100.0	1,102.3	1,049.0	1,073.4	1,030.8	1,037.8				1%	-4%
Number of fishing trips	(thousand)	861	886	978	964	941	890	900	866	904				4%	-1%
Energy consumption	(million litre)	674.94	745.93	719.20	653.35	683.29	695.42	641.07	709.34	582.20	576.72	606.53		-18%	-16%
Live weight of landings	(thousand tonne)	775.9	798.9	873.4	861.0	871.1	898.1	932.7	922.2	897.7	918.8	959.0		-3%	4%
Value of landings	(million €)	1,864.4	1,907.0	1,885.0	1,861.6	1,942.4	1,970.0	2,074.8	1,861.1	2,086.1	2,109.3	2,303.9		12%	9%
Income from landings	(million €)	1,526.3	1,988.2	1,868.1	2,036.0	1,920.9	1,884.7	1,997.6	1,952.2	1,968.1	1,980.3	2,181.8		1%	4%
Other income	(million €)	-	-	16.75	45.46	0.12	12.74	23.28	24.33	18.00	17.50	17.27		-26%	17%
Direct income subsidies	(million €)	60.89	68.11	34.63	30.86	22.82	11.42	12.26	13.92	4.76				-66%	-85%
Income from leasing fishing rights	(million €)	- 0	- 0	0.6	0.1	0.8	6.6	14.3	6.7	1.5				-77%	-57%
Wages and salaries of crew	(million €)	460.1	649.3	554.9	548.5	493.8	486.2	514.0	536.5	545.1	550.8	634.1		2%	3%
Unpaid labour value	(million €)	89.8	149.2	116.8	102.9	87.3	107.1	100.8	78.6	77.6	76.2	83.3		-1%	-25%
Energy costs	(million €)	411.2	375.7	378.0	448.4	441.0	409.3	345.7	300.7	215.2	225.4	262.6		-28%	-45%
Repair & maintenance costs	(million €)	118.0	153.3	141.5	163.6	122.2	127.7	121.0	137.1	143.5	138.6	136.3		5%	6%
Other variable costs	(million €)	303.8	405.5	384.8	423.9	341.2	362.5	367.6	433.7	425.3	413.2	415.6		-2%	13%
Other non-variable costs	(million €)	107.4	169.3	130.7	134.9	133.4	119.0	126.9	134.6	114.2	110.5	109.0		-15%	-14%
Annual depreciation costs	(million €)	188.8	219.0	140.8	134.8	126.8	104.1	97.8	125.9	73.0	70.5	69.8		-42%	-49%
Rights costs	(million €)	- 0.0	- 0.0	8.7	7.7	9.7	11.7	13.8	16.2	7.7	3.0	3.0		-53%	-10%
Opportunity cost of capital	(million €)	2.54	35.93	14.85	12.11	17.46	15.07	14.38	11.88	7.92	- 1.83	1.17		-33%	-49%
Tangible asset value (replacement)	(million €)	978.7	857.6	671.8	533.4	518.1	500.5	490.6	501.5	455.4	425.6	417.8		-9%	-28%
Fishing rights	(million €)	- 0.0	- 0.0	71.5	64.5	56.2	114.5	221.5	197.8	124.3				-37%	37%
Investments	(million €)	105.1	29.2	47.2	34.2	23.1	87.1	33.6	65.4	30.9				-53%	-42%
Financial position	(%)	8.5	7.9	9.6	7.9	8.6	5.9	6.4	6.3	4.0				-36%	-47%
Gross Value Added	(million €)	585.8	884.4	849.9	910.7	883.2	879.0	1,059.6	970.4	1,087.8	1,110.1	1,275.7		12%	24%
GVA to revenue	(%)	38.4	44.5	45.1	43.8	46.0	46.3	52.4	49.1	54.8	55.6	58.0		12%	20%
Gross profit	(million €)	35.9	86.0	178.2	259.4	302.1	285.7	444.8	355.3	465.1	483.1	558.3		31%	91%
Gross profit margin	(%)	2.4	4.3	9.5	12.5	15.7	15.1	22.0	18.0	23.4	24.2	25.4		30%	89%
Net profit	(million €)	- 155.4	- 168.9	22.5	112.4	157.9	166.5	332.6	217.5	384.2	414.4	487.3		77%	349%
Net profit margin	(%)	- 10.2	- 8.5	1.2	5.4	8.2	8.8	16.5	11.0	19.3	20.7	22.2		76%	378%
GVA per FTE (labour productivity)	(thousand €)	16.8	24.7	25.2	27.4	29.1	30.5	37.0	32.3	37.0	38.0	39.8		14%	33%
Return on fixed tangible assets	(%)	- 15.6	- 15.5	5.6	23.3	33.8	36.3	70.7	45.7	86.1	96.9	116.9		88%	274%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
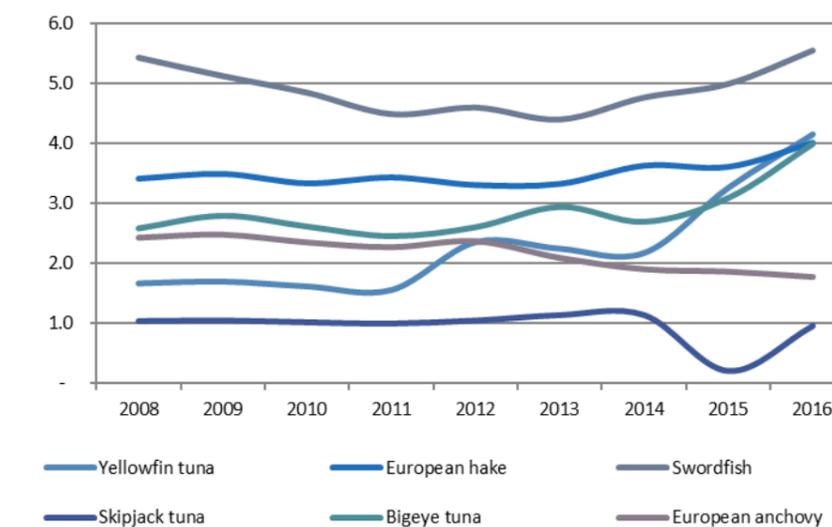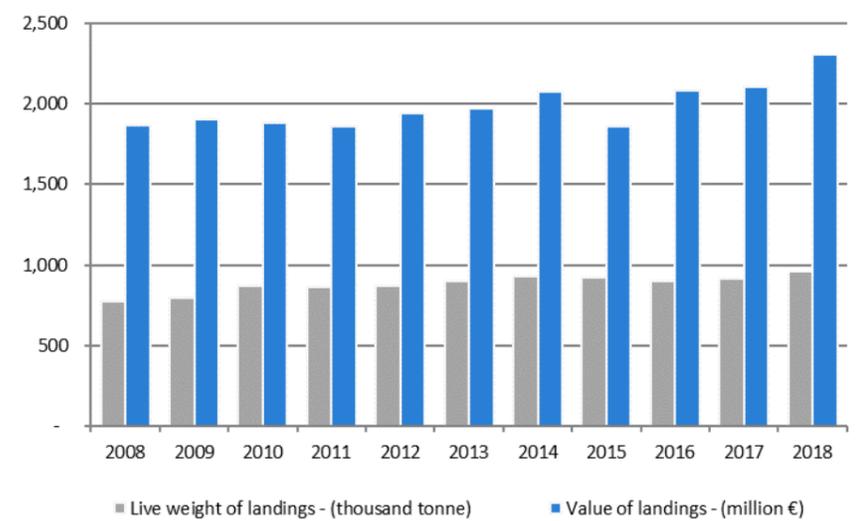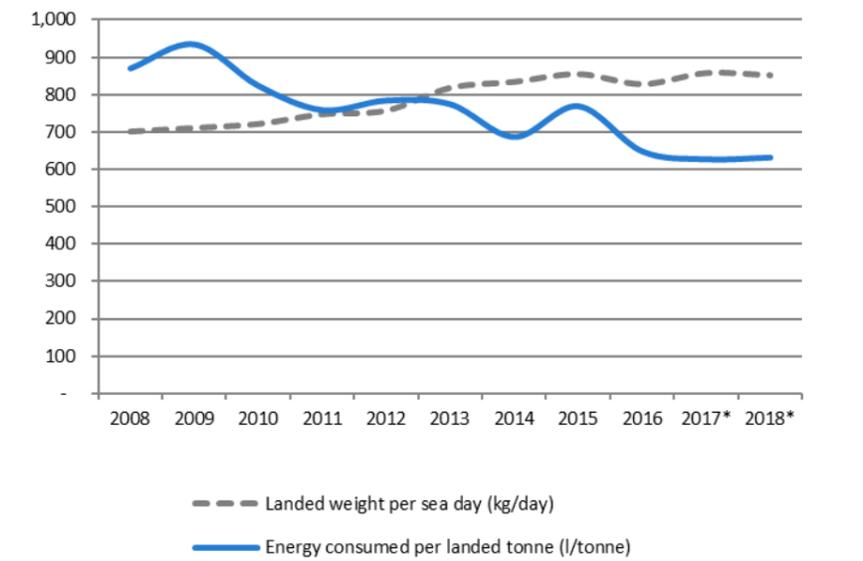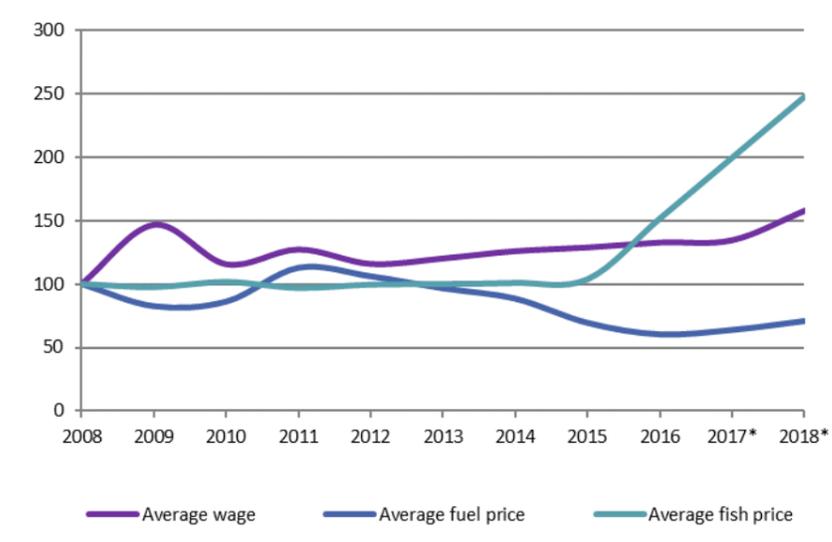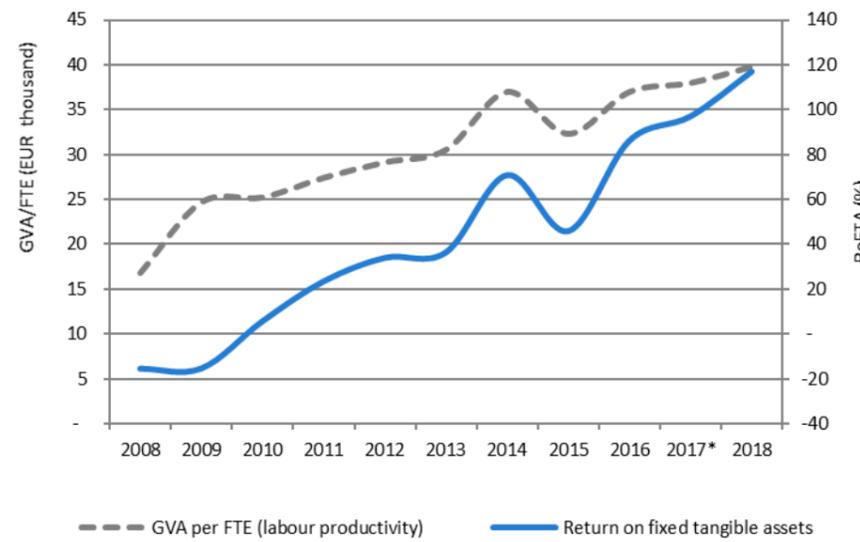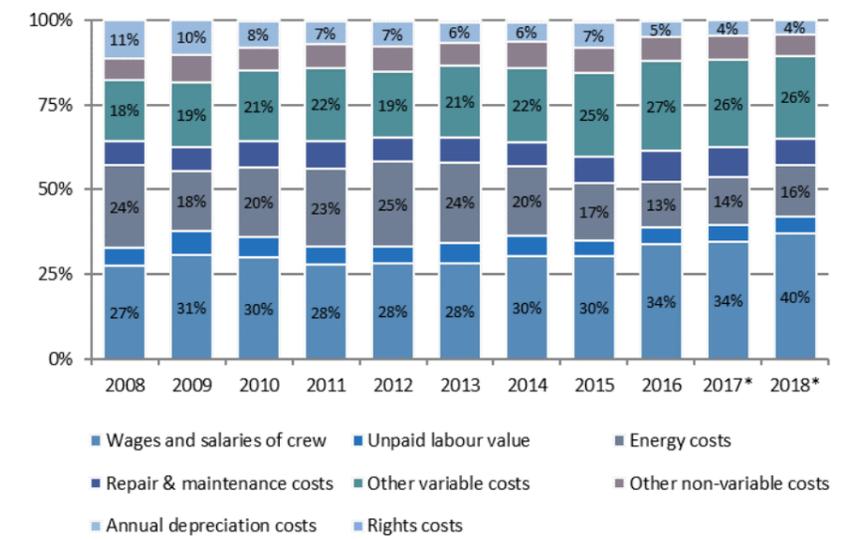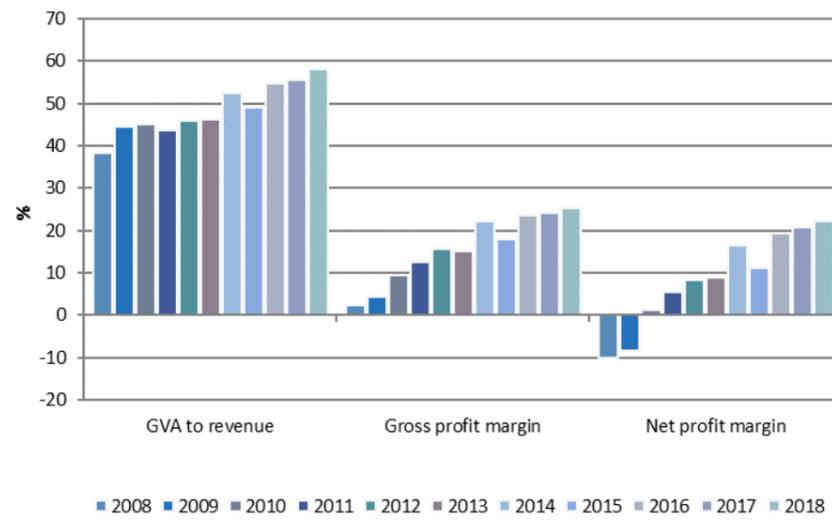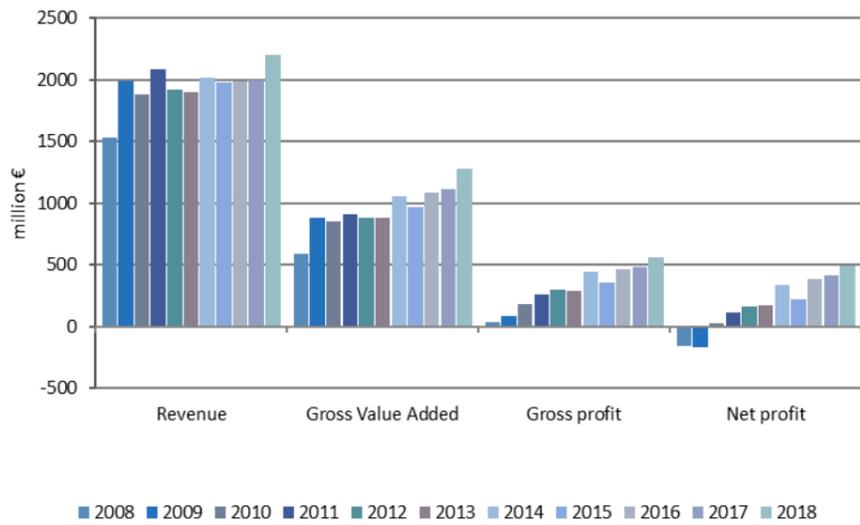
Figure 5.21 Spain: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.99 Spain: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

SCF

Indicator	Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Δ2016 to 2015	Δ2016 to avg 08-15
Total number of vessels	(#)	6,420	6,315	7,102	4,214	4,188	4,215	4,156	4,129	4,123	3,988	3,884	0%	-19%
Vessel tonnage	(thousand GT)	14	14	15	13	12	12	11	11	12	10		1%	-10%
Engine power	(thousand kW)	139	135	147	115	109	110	110	111	111	111	94	0%	-9%
FTE	(#)	7,059	7,261	8,222	6,695	5,378	7,317	5,546	5,662	6,208	6,132	6,322	10%	-7%
Total employed	(person)	11,878	11,797	12,697	8,803	8,601	9,484	8,251	7,902	8,869	8,634	8,593	12%	-11%
Days at sea	(thousand day)	515.1	532.2	624.3	393.1	392.2	391.1	406.7	402.0	417.0	411.9	420.0	4%	-9%
Fishing days	(thousand day)	515.1	532.1	624.3	392.7	392.2	390.9	406.5	401.8	416.8			4%	-9%
Number of fishing trips	(thousand)	504.2	521.6	613.6	391.2	383.3	381.1	392.7	380.8	410.5			8%	-8%
Energy consumption	(million litre)	26.2	33.9	34.7	21.6	21.3	28.4	22.8	30.2	21.0	20.7	21.4	-30%	-23%
Live weight of landings	(thousand tonne)	25.9	25.3	28.1	25.5	28.5	26.0	29.6	20.9	30.8	30.8	30.6	47%	17%
Value of landings	(million €)	129.9	128.2	137.9	112.2	100.9	94.7	104.4	67.4	122.0	122.0	128.9	81%	11%
Income from landings	(million €)	121.1	195.6	198.0	129.5	113.2	158.8	126.2	151.2	157.7	155.6	167.1	4%	9%
Other income	(million €)	-	-	1.8	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	286%	-92%
Direct income subsidies	(million €)	0.5	4.8	0.6	1.3	1.2	1.0	0.2	0.1	0.4			460%	-64%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	0.6	-			-100%	-100%
Wages and salaries of crew	(million €)	32.6	53.1	45.7	39.3	35.2	50.0	41.4	35.4	48.3	47.7	51.8	36%	16%
Unpaid labour value	(million €)	50.7	88.9	79.5	63.3	35.7	62.1	47.1	40.3	41.5	41.1	43.7	3%	-29%
Energy costs	(million €)	15.5	19.6	25.9	16.2	15.8	17.7	12.6	12.4	10.8	11.2	13.0	-13%	-36%
Repair & maintenance costs	(million €)	8.5	16.3	13.7	6.0	7.0	10.7	6.1	8.4	7.7	7.5	7.3	-8%	-19%
Other variable costs	(million €)	18.2	25.6	30.0	18.5	14.5	23.2	16.4	16.5	16.1	15.7	15.9	-2%	-21%
Other non-variable costs	(million €)	3.2	6.1	6.8	7.9	4.4	7.4	4.4	6.0	5.1	4.9	4.8	-16%	-12%
Annual depreciation costs	(million €)	6.8	9.4	8.6	8.3	4.4	4.9	5.3	3.5	0.3	0.3	0.3	-90%	-95%
Rights costs	(million €)	3.0	-	-	0.0	0.0	0.1	0.0	0.0	-			-100%	-100%
Opportunity cost of capital	(million €)	0.1	2.2	1.2	0.8	1.1	1.0	0.9	0.8	0.6	0.1	0.1	-25%	-40%
Tangible asset value (replacement)	(million €)	51.8	52.5	55.0	34.2	33.3	33.9	32.3	34.5	35.5	34.2	33.2	3%	-13%
Fishing rights	(million €)	-	-	-	-	-	44.5	25.0	7.4	0.3			-96%	-98%
Investments	(million €)	7.4	4.7	5.0	7.8	1.8	10.5	3.3	2.2	0.1			-96%	-98%
Gross Value Added	(million €)	75.7	128.1	123.5	81.4	71.4	99.9	86.7	107.9	118.0	116.3	126.2	9%	22%
GVA to revenue	(%)	62.5	65.5	61.8	62.6	63.1	62.9	68.7	71.4	74.8	74.7	75.5	5%	15%
Gross profit	(million €)	7.5	14.0	1.2	21.2	0.5	14.9	4.4	32.2	28.1	27.4	30.7	-13%	901%
Gross profit margin	(%)	6.2	7.1	0.6	16.3	0.5	9.7	3.6	21.3	17.8	17.6	18.4	-16%	796%
Net profit	(million €)	14.9	25.2	-4.6	29.9	1.0	20.7	12.2	26.1	19.7	19.8	21.9	-24%	296%
Net profit margin	(%)	-12.7	13.2	-2.4	24.9	1.1	14.0	-10.7	19.5	24.0	24.3	25.6	23%	435%
Return on fixed tangible assets	(%)	30.4	45.5	-7.2	92.7	7.1	66.3	38.3	87.1	116.4	116.3	135.2	34%	600%
GVA per FTE (labour productivity)	(thousand €)	10.7	17.6	15.0	12.2	13.3	13.7	15.6	19.1	19.0	19.0	20.0	0%	30%

LSF

Indicator	Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Δ2016 to 2015	Δ2016 to avg 08-15
Total number of vessels	(#)	3,089	3,101	2,956	4,622	4,486	4,340	4,307	4,150	4,023	4,075	3,993	-3%	4%
Vessel tonnage	(thousand GT)	268	263	237	203	190	185	178	172	163	143		-5%	-23%
Engine power	(thousand kW)	624	610	557	513	488	472	465	453	435	414		-4%	-17%
FTE	(#)	21,266	21,266	17,140	19,802	19,033	16,110	17,179	17,693	17,356	17,314	19,991	-2%	-7%
Total employed	(person)	19,982	20,714	19,524	21,545	21,085	18,991	19,809	19,151	18,425	18,049	17,687	-4%	-8%
Days at sea	(thousand day)	514.0	516.5	504.8	680.0	684.9	640.5	647.3	613.0	605.7	598.9	646.0	-1%	1%
Fishing days	(thousand day)	469.9	473.0	460.7	639.7	647.6	600.9	610.7	574.7	568.8			-1%	2%
Number of fishing trips	(thousand)	344.5	355.9	357.0	565.3	553.2	505.9	505.5	482.5	491.5			2%	7%
Energy consumption	(million litre)	439.4	439.3	388.4	366.3	373.5	378.3	350.0	301.9	296.1	294.7	324.8	-2%	-22%
Live weight of landings	(thousand tonne)	431.5	477.6	442.3	400.3	394.7	390.0	409.5	365.5	405.0	431.7	473.4	11%	-2%
Value of landings	(million €)	1,075.8	1,158.8	1,048.4	947.2	895.6	855.1	869.4	849.6	958.9	980.8	1,151.0	13%	0%
Income from landings	(million €)	915.0	1,200.8	926.5	1,070.9	980.2	876.9	933.4	945.9	998.3	1,008.4	1,184.0	6%	6%
Other income	(million €)	-	-	3.5	18.8	-	6.2	8.1	10.1	8.9	8.6	8.5	-12%	52%
Direct income subsidies	(million €)	45.7	56.4	19.7	17.8	8.3	4.1	6.4	10.3	3.4			-67%	-84%
Income from leasing fishing rights	(million €)	-	-	0.6	0.1	0.8	5.6	13.6	5.3	1.2			-78%	-73%
Wages and salaries of crew	(million €)	327.7	466.3	349.8	358.2	323.7	300.5	348.3	351.2	360.0	365.0	442.0	3%	2%
Unpaid labour value	(million €)	38.3	58.4	36.7	38.1	50.2	44.4	53.3	38.2	35.5	34.5	39.0	-7%	-21%
Energy costs	(million €)	257.9	216.8	187.6	251.4	240.9	212.0	176.9	133.4	107.0	112.1	136.3	-20%	-49%
Repair & maintenance costs	(million €)	76.4	92.1	76.9	97.9	56.8	56.1	62.9	72.4	76.7	73.8	72.7	6%	4%
Other variable costs	(million €)	145.9	192.1	125.3	165.9	115.7	125.8	115.2	124.5	131.8	128.9	135.1	-6%	-5%
Other non-variable costs	(million €)	59.7	100.2	63.8	65.7	56.8	55.1	59.9	57.6	46.6	45.0	44.4	-19%	-28%
Annual depreciation costs	(million €)	119.9	144.7	77.8	82.7	77.4	50.1	53.0	57.2	26.2	25.2	25.1	-54%	-68%
Rights costs	(million €)	-	-	6.6	4.6	8.5	10.8	12.8	12.5	4.5	0.0		-64%	-51%
Opportunity cost of capital	(million €)	1.6	21.3	8.3	6.5	9.0	8.0	6.8	5.2	3.7	0.9	0.6	-29%	-56%
Tangible asset value (replacement)	(million €)	613.8	508.3	377.4	287.6	266.7	266.3	233.4	221.5	213.7	209.7	205.4	-3%	-38%
Fishing rights	(million €)	-	-	60.7	64.5	56.2	61.0	177.8	180.7	113.8			-37%	14%
Investments	(million €)	74.2	15.9	16.2	17.8	14.7	63.9	15.6	27.3	6.2			-77%	-80%
Gross Value Added	(million €)	375.1	599.6	476.4	508.8	510.0	434.1	526.6	568.1	645.2	657.2	804.1	14%	29%
GVA to revenue	(%)	41.0	49.9	51.2	46.7	52.0	49.2	55.9	59.4	64.1	64.6	67.4	8%	26%
Gross profit	(million €)	9.1	74.9	89.7	111.9	136.1	89.2	125.0	178.8	249.6	257.7	323.1	40%	145%
Gross profit margin	(%)	1.0	6.2	9.6	10.3	13.9	10.1	13.3	18.7	24.8	25.3	27.1	33%	139%
Net profit	(million €)	-112.6	91.0	8.7	22.2	50.1	30.5	63.9	115.6	217.3	231.4	294.3	88%	1892%
Net profit margin	(%)	-12.3	7.6	1.0	2.1	5.3	3.5	6.9	12.2	21.9	23.1	25.1	81%	1497%
Return on fixed tangible assets	(%)	-18.1	13.9	4.7	10.1	23.2	14.5	31.0	54.9	105.8	112.5	147.0	93%	695%
GVA per FTE (labour productivity)	(thousand €)	17.6	28.2	27.8	25.7	26.8	26.9	30.7	32.1	37.2	38.0	40.2	16%	38%

DWF

Indicator	Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Δ2016 to 2015	Δ2016 to avg 08-15
Total number of vessels	(#)	294	267	297	280	264	240	230	222	208	211	210	-6%	-21%
Vessel tonnage	(thousand GT)	252	246	255	238	240	225	229	225	207	100		-8%	-13%
Engine power	(thousand kW)	177	173	179	169	174	163	164	162	151	78		-7%	-11%
FTE	(#)	6,596	7,317	8,316	6,713	5,891	5,355	5,905	6,661	5,835	5,760	5,722	-12%	-12%
Total employed	(person)	4,905	5,534	7,060	5,460	4,713	4,654	5,061	5,007	4,303	4,248	4,219	-14%	-19%
Days at sea	(thousand day)	75.9	73.7	79.8	77.6	72.0	65.3	63.7	63.0	60.6	59.8	59.3	-4%	-15%
Fishing days	(thousand day)	64.9	62.9	68.7	67.6	62.6	57.1	56.1	54.3	52.1			-4%	-16%
Number of fishing trips	(thousand)												-15%	-67%
Energy consumption	(million litre)	209.3	272.7	296.0	265.4	288.5	288.7	268.2	377.3	264.6	261.3	260.3	-30%	-7%
Live weight of landings	(thousand tonne)	318.5	296.0	403.0	435.0	447.8	482.2	493.6	482.1	461.9	456.3	455.0	-4%	10%
Value of landings	(million €)	658.7	620.1	698.7	799.4	945.9	1,020.2	1,100.9	826.5	1,005.3	1,008.1	1,024.0	22%	21%
Income from landings	(million €)	490.3	591.7	743.5	835.6	827.5	849.0	938.0	855.0	812.2	816.3	830.7	-5%	6%
Other income	(million €)	-	-	11.4	26.1	0.1	6.4	15.2	14.2	9.1	8.8	8.7	-36%	-1%
Direct income subsidies	(million €)	14.6	6.9	14.3	11.7	13.3	6.4	5.7	3.6	0.9			-75%	-91%
Income from leasing fishing rights	(million €)	-	-	-	-	0.0	0.9	0.7	0.8	0.4			-50%	-5%
Wages and salaries of crew	(million €)	99.9	129.8	159.4	151.0	134.9	135.7	124.3	149.9	136.8	138.1	140.3	-9%	1%
Unpaid labour value	(million €)	0.8	1.8	0.5	1.5	1.4	0.7	0.4	0.2	0.6			243%	-38%
Energy costs	(million €)	137.8	139.3	164.6	180.8	184.3	179.6	156.3	154.9	97.4	102.1	113.4	-37%	-40%
Repair & maintenance costs	(million €)	33.1	44.9	50.9	59.7	58.4	60.8	52.0	56.3	59.1	57.2	56.3	5%	14%
Other variable costs	(million €)	138.9	187.8	239.4	239.4	210.9	213.5	236.0	292.7	277.5	268.6	264.5	-1%	27%
Other non-variable costs	(million €)	44.6	63.0	60.1	61.4	72.2	56.5	62.7	71.0	62.6	60.6	59.7	-12%	2%
Annual depreciation costs	(million €)	62.1	65.0	54.4	43.9	44.9	49.1	39.6	65.1	46.4	44.9	44.4	-29%	-13%
Rights costs	(million €)	-	-	2.1	3.1	1.2	0.8	1.0	3.6	3.1	3.0	3.0	-13%	59%
Opportunity cost of capital	(million €)	0.8	11.8	5.1	4.3	6.4	5.2	5.7	5.1	3.3	0.8	0.5	-36%	-41%
Tangible asset value (replacement)	(million €)	291.4	280.6	230.1	187.7	190.8	172.3	193.9	216.5	187.7	181.7	179.3	-13%	-15%
Fishing rights	(million €)	-	-	10.8	-	-	9.0	18.7	9.7	10.2			5%	26%
Investments	(million €)	23.5	8.6	26.0	8.5	6.5	12.7	14.7	35.9	24.6			-31%	44%
Gross Value Added	(million €)	135.0	156.7	250.0	320.5	301.8	345.0	446.3	294.4	324.7	336.6	345.4	10%	15%
GVA to revenue	(%)	27.5	26.5	33.1	37.2	36.5	40.3	46.3	33.9	39.5	40.8	41.2	17%	12%
Gross profit	(million €)	34.3	25.1	90.0	168.0	165.5	208.6	321.5	144.3	187.3	197.9	204.5	30%	29%
Gross profit margin	(%)	7.0	4.2	11.9	19.5	20.0	24.4	33.7	16.6	22.8	24.0	24.4	37%	33%
Net profit	(million €)	28.6	51.7	30.5	119.9	114.2	154.3	276.3	74.0	137.7	153.8	159.6	86%	60%
Net profit margin	(%)	5.8	8.7	4.0	13.9	13.8	18.0	29.0	8.5	16.8	18.6	19.0	97%	84%
Return on fixed tangible assets	(%)	9.5	14.2	15.5	66.1	63.2	92.5	145.4	36.6	75.1	84.2	89.3	105%	52%
GVA per FTE (labour productivity)	(thousand €)	20.5	21.4	30.1	47.7	51.2	64.4	75.6	44.2	55.7	58.4	60.4	26%	25%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.100 Spain: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)									Live weight of landings (thousand tonne)									Average landed price (real) (€)									% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	2008	2009	2010	2011	2012	2013	2014	2015	2016	in value	in weight
Yellowfin tuna	134.5	115.2	136.2	148.0	241.8	221.0	195.3	302.3	371.4	81.1	68.0	84.7	95.7	103.1	98.6	90.1	92.8	89.5	1.7	1.7	1.6	1.6	2.4	2.2	2.2	3.3	4.2	17.9%	10.0%
European hake	145.8	161.4	130.4	99.3	96.3	100.3	125.0	137.7	160.5	42.8	46.3	39.2	29.0	29.2	30.2	34.4	38.1	39.9	3.4	3.5	3.3	3.4	3.3	3.3	3.6	3.6	4.0	7.7%	4.4%
Swordfish	130.2	130.1	126.0	114.0	133.6	134.2	105.7	120.6	156.5	23.9	25.3	26.0	25.4	29.0	30.5	22.2	24.1	28.1	5.4	5.1	4.9	4.5	4.6	4.4	4.8	5.0	5.6	7.5%	3.1%
Skipjack tuna	127.6	117.7	132.4	139.0	153.8	182.3	167.0	26.6	122.0	122.4	111.8	130.3	138.8	147.1	159.3	146.1	124.7	126.7	1.0	1.1	1.0	1.0	1.1	1.1	1.1	0.2	1.0	5.9%	14.1%
Bigeye tuna	47.8	57.8	48.6	68.1	58.1	95.8	81.7	77.8	118.7	18.5	20.7	18.6	27.7	22.4	32.6	30.4	25.2	29.7	2.6	2.8	2.6	2.5	2.6	2.9	2.7	3.1	4.0	5.7%	3.3%
European anchovy	17.0	35.0	46.7	61.5	57.1	75.9	81.6	58.0	82.7	7.0	14.1	19.7	27.0	24.0	36.1	42.6	30.9	46.4	2.4	2.5	2.4	2.3	2.4	2.1	1.9	1.9	1.8	4.0%	5.2%
Albacore	61.9	49.2	65.5	38.8	51.8	40.0	37.0	50.2	56.3	13.1	9.5	13.4	9.0	14.5	11.1	11.7	14.6	17.0	4.7	5.2	4.9	4.3	3.6	3.6	3.2	3.4	3.3	2.7%	1.9%
Blue shark	11.2	11.4	36.4	31.2	26.5	27.9	32.1	55.4	46.8	22.9	23.9	84.3	76.1	54.7	51.4	47.8	54.1	52.0	0.5	0.5	0.4	0.4	0.5	0.5	0.7	1.0	0.9	2.3%	5.8%
Argentine hake	27.0	27.9	31.3	25.1	44.5	74.0	72.8	42.1	45.8	13.3	13.8	15.8	13.0	18.2	38.5	36.4	46.5	52.2	2.0	2.0	2.0	1.9	2.5	1.9	2.0	0.9	0.9	2.2%	5.8%
Atlantic cod	18.8	21.8	29.6	26.4	29.4	43.7	55.6	60.2	43.8	7.9	9.2	12.5	11.3	12.8	17.6	18.6	20.8	15.9	2.4	2.4	2.4	2.4	2.3	2.5	3.0	2.9	2.8	2.1%	1.8%
																												57.9%	55.4%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.101 Spain: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels (#)	FTE (#)	Days at sea (day)	Energy consumed per landed tonne (litre/tonne)	Live weight of landings (tonne)	Value of landings (thousand €)	Revenue (thousand €)	Gross Value Added (thousand €)	GVA to revenue (%)	Gross profit (thousand €)	Gross profit margin (%)	Net profit (thousand €)	Net profit margin (%)	Average wage per FTE (thousand €)	GVA per FTE (labour productivity) (thousand €)	Return on fixed tangible assets (%)	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-16)	Economic development trend	As a % of total revenue
ESP OFR PS40XX	26	1,466	8,330	536	230,355	580,559	396,368	168,570	42.5	113,636	28.7	81,407	20.54	37.5	115.0	61.8	High	89%	Improved	20.0%
ESP OFR DTS40XX	30	1,136	8,142	455	121,341	145,960	146,673	54,563	37.2	21,523	14.7	15,861	10.81	29.1	48.0	161.0	Reasonable	91%	Improved	7.4%
ESP A27 PGP2440 °	56	1,019	14,851	701	27,978	108,586	122,164	77,087	63.1	35,673	29.2	28,401	23.25	40.7	75.7	164.9	High	97%	Improved	6.2%
ESP OFR PGO2440 °	64	1,079	19,349	718	44,414	106,842	104,235	38,262	36.7	19,958	19.1	15,763	15.12	17.0	35.5	96.7	Reasonable	8%	Improved	5.2%
ESP A27 DTS2440	107	915	27,642	827	64,928	135,474	103,233	61,126	59.2	28,585	27.7	25,108	24.32	35.6	66.8	72.2	High	891%	Improved	5.2%
ESP A27 DTS40XX °	17	499	3,723	412	36,351	96,665	98,034	64,326	65.6	39,501	40.3	32,927	33.59	49.7	128.9	625.1	High	26%	Improved	4.9%
ESP OFR DTS2440	40	1,228	11,448	1,098	29,344	80,543	92,998	27,039	29.1	14,421	15.5	13,219	14.21	10.3	22.0	112.4	Reasonable	350%	Improved	4.7%
ESP A37 DTS1824	301	1,414	61,127	3,811	11,825	75,045	77,467	41,532	53.6	11,348	14.6	10,656	13.76	21.3	29.4	47.8	Reasonable	375%	Improved	3.9%
ESP A27 PMP0010	2,043	2,949	206,165	819	11,281	53,864	65,165	49,064	75.3	6,086	9.3			14.6	16.6					3.3%
ESP OFR PGO40XX	23	609	7,760	893	18,939	62,243	54,775	21,577	39.4	12,614	23.0	7,126	13.01	14.7	35.4	90.0	Reasonable	-6%	Deteriorated	2.8%
ESP A27 PS2440	57	802	10,628	212	34,961	44,482	53,952	41,134	76.2	17,417	32.3	16,509	30.60	29.6	51.3	146.1	High	568%	Improved	2.7%
ESP A27 DTS1824	74	525	14,261	3,106	7,132	22,878	49,075	27,842	56.7	13,326	27.2	12,056	24.57	27.6	53.0	303.4	High	9618%	Improved	2.5%
ESP A37 DTS2440	130	709	27,116	4,417	5,647	43,523	47,707	28,649	60.1	8,780	18.4	7,412	15.54	28.0	40.4	45.3	Reasonable	271%	Improved	2.4%
ESP A27 HOK2440	50	971	8,638	395	20,400	45,245	45,615	34,974	76.7	14,026	30.7	13,739	30.12	21.6	36.0	253.8	High			2.3%
ESP A27 PS1824	99	1,066	18,753	167	46,071	43,284	42,556	30,605	71.9	8,714	20.5	8,513	20.00	20.5	28.7	82.1	High	2032%	Improved	2.1%
ESP A37 PMP0612	951	1,210	99,860	908	4,815	26,231	36,991	27,251	73.7	10,862	29.4	10,595	28.64	13.5	22.5	126.7	High	1912%	Improved	1.9%
ESP A27 PGO2440	33	436	9,680	510	19,980	31,419	33,984	17,316	51.0	6,272	18.5	5,313	15.63	25.3	39.7	60.6	Reasonable	84%	Improved	1.7%
ESP A27 DTS1218 °	66	405	11,457	5,304	3,790	15,470	33,265	18,076	54.3	6,412	19.3	5,438	16.35	28.8	44.6	165.5	Reasonable	1379%	Improved	1.7%
ESP A27 PS1218	116	896	17,239	156	28,737	25,661	31,944	24,346	76.2	7,935	24.8	7,219	22.60	18.3	27.2	132.4	High	121%	Improved	1.6%
ESP A37 PS1824	86	1,031	19,958	296	23,353	38,741	30,657	20,305	66.2	4,298	14.0	3,834	12.51	15.5	19.7	49.0	Reasonable	119%	Improved	1.5%
ESP A27 DRB0010	1,731	1,667	178,062	1,032	3,546	29,570	27,033	21,634	80.0	4,861	18.0	4,573	16.92	10.1	13.0	93.3	Reasonable	374%	Improved	1.4%
ESP OFR HOK2440 °	25	317	5,616	271	17,502	29,116	26,235	14,720	56.1	5,185	19.8	4,306	16.41	30.1	46.4	79.9	Reasonable	170%	Improved	1.3%
ESP A37 DTS1218	147	426	27,658	2,143	4,438	21,725	24,226	14,832	61.2	5,624	23.2	5,444	22.47	21.6	34.8	73.1	High	1899%	Improved	1.2%
ESP A27 DFN1218	145	695	25,470	645	5,637	17,734	20,825	14,316	68.7	3,077	14.8	2,827	13.58	16.2	20.6	54.9	Reasonable	298%	Improved	1.0%
ESP OFR HOK1824	11	199	2,321	1,730	1,760	4,882	19,614	10,606	54.1	5,253	26.8	4,495	22.92	26.9	53.3	376.9	High			1.0%
ESP A37 PS2440 °	25	196	4,398	321	5,595	14,562	19,139	14,887	77.8	5,851	30.6	4,172	21.80	46.2	76.1	100.2	High	201%	Improved	1.0%
ESP A37 PS1218	85	712	17,534	219	14,262	22,290	18,668	13,484	72.2	2,486	13.3	2,413	12.93	15.5	18.9	70.7	Reasonable	16%	Improved	0.9%
ESP OFR PMP0010	488	477	35,281	355	3,454	8,981	11,101	8,552	77.0	1,067	9.6	987	8.89	15.7	17.9	45.1	Weak			0.6%
ESP A27 HOK1218	74	352	12,090	330	4,613	11,316	10,479	6,492	62.0	1,547	14.8	1,477	14.09	14.0	18.4	41.2	Reasonable	570%	Improved	0.5%
ESP A37 FPO1218 °	24	137	3,735	3,893	416	4,689	9,285	5,688	61.3	2,761	29.7	2,567	27.64	21.3	41.5	318.4	High	360%	Improved	0.5%
ESP A27 DFN1012 °	106	374	16,125	498	2,314	6,939	9,280	7,895	85.1	3,590	38.7	3,513	37.85	11.5	21.1	169.7	High	499%	Improved	0.5%
ESP A27 HOK1012 °	64	260	7,122	398	2,154	4,798	9,263	6,318	68.2	2,342	25.3	2,282	24.63	15.3	24.3	145.6	High	273%	Improved	0.5%
ESP A27 PGO1824 °	12	102	2,411	786	2,393	5,124	9,238	5,349	57.9	2,705	29.3	2,494	26.99	26.0	52.5	292.5	High	231%	Improved	0.5%
ESP A27 HOK1824	33	240	6,278	567	3,698	9,430	8,512	4,964	58.3	540	6.3	442	5.19	18.4	20.7	15.3	Weak			0.4%
ESP A27 DRB1218	84	250	10,450	1,310	2,286	7,438	8,155	4,392	53.9	1,180	14.5	1,125	13.80	12.8	17.6	42.9	Reasonable	225%	Improved	0.4%
ESP A37 PS2440 °	44	187	6,202	1,241	1,224	6,835	7,775	4,584	59.0	1,588	20.4	1,498	19.27	16.0	24.5	87.8	Reasonable	978%	Improved	0.4%
ESP A27 DFN1824 °	23	189	5,045	710	2,634	8,558	7,224	4,249	58.8	562	7.8			19.5	22.5					0.4%
ESP A37 PGO1824 °	21	146	3,606	326	4,779	27,514	7,149	3,973	55.6	1,039	14.5	770	10.77	20.1	27.2	42.1	Reasonable	104%	Improved	0.4%
ESP A37 PMP1218 °	32	122	5,384	965	2,132	5,727	6,223	4,235	68.1	1,156	18.6	913	14.66	25.2	34.7	52.5	Reasonable			0.3%
ESP A27 PMP1218 °	47	184	7,390	411	2,894	6,704	5,718	4,007	70.1	1,756	30.7	1,697	29.68	12.2	21.8	51.4	High	125%	Improved	0.3%
ESP OFR HOK1012 °	49	177	3,797	193	2,169	4,432	5,470	3,985	72.9	317	5.8	297	5.43	20.7	22.5	36.5	Weak	-51%	Deteriorated	0.3%
ESP OFR HOK1824	43	154	4,798	517	2,725	7,168	5,451	3,551	65.1	-126	-2.3	-174	-3.20	23.9	23.1	-7.6	Weak	44%	Improved	0.3%
ESP A37 DFN0612	84	149	12,682	1,366	630	3,605	4,892	3,728	76.2	1,080	22.1			17.7	25.0					0.2%
ESP A37 DFN1218	54	128	9,190	3,986	633	4,058	4,655	2,825	60.7	932	20.0			14.8	22.1					0.2%
ESP A27 FPO1012	71	175	11,850	723	1,061	4,917	4,386	3,247	74.0	515	11.7	491	11.20	15.6	18.6	51.4	Reasonable	156%	Improved	0.2%
ESP OFR PS1218 °	14	93	2,282	101	2,134	2,455	4,289	3,728	86.9	2,421	56.4	2,409	56.17	14.1	40.1	625.4	High			0.2%
ESP A37 HOK0612	52	71	6,036	1,623	312	2,105	4,163	2,773	66.6	1,687	40.5	1,671	40.14	15.4	39.3	221.2	High			0.2%
ESP A27 PMP1012	70	189	7,925	584	1,877	2,971	3,561	2,614	73.4	390	11.0			11.8	13.8					0.2%
ESP A27 FPO1218	56	141	9,610	838	1,366	5,090	3,419	2,440	71.4	382	11.2	329	9.61	14.6	17.3	26.1	Weak	170%	Improved	0.2%
ESP A27 PS1012 °	20	130	1,802	194	2,227	1,828	2,349	1,977	84.2	527	22.4			11.2	15.2					0.1%
ESP A37 HOK1218 °	21	43	3,034	711	276	1,975	1,771	1,249	70.5	156	8.8	133	7.52	25.2	28.8	12.8	Weak	150%	Improved	0.1%
ESP A37 PS0612	20	89	3,130	205	1,308	2,070	1,694	1,364	80.5	319	18.8			11.7	15.3					0.1%
ESP A27 DRB1012	14	27	1,616	1,616	294	982	1,620	1,129	69.7	299	18.5	283	17.45	30.6	41.7	89.8	Reasonable	60%	Improved	0.1%
ESP A37 PMP0006	109	67	7,317	263	349	2,166	1,526	1,356	88.9	255	16.7			16.4	20.1					0.1%
ESP A37 DRB1218	14	30	2,684	4,050	168	1,075	1,507	891	59.1	88	5.8	77	5.14	26.5	29.3	22.9	Weak			0.1%
ESP OFR PMP1012 °	20	92	1,362	1,050	229	554	1,435	871	60.7	-8	-0.5	-106	-7.38	9.6	9.5	-62.1	Weak			0.1%
ESP A37 DTS0612	19	23	3,144	1,249	277	1,320	1,086	734	67.6	260	23.9	246	22.63	20.7	32.0	62.6	High	273%	Improved	0.1%
ESP OFR FPO1012 °	16	19	1,458	1,195	123	412	453	311	68.8	54	11.9			19.1	16.2					0.0%
ESP A37 DRB0612 °	18	8	1,286	300	160	290	380	252	66.3	84	22.1			21.1	31.7					0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.102 Spain: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
ESP OFR PS40XX	26	1,449	8,233	536	227,676	582,547	398,361	174,075	43.7	118,623	29.8	90,255	22.66	38.3	120.2	68	High	19.9%
ESP OFR DTS40XX	33	1,123	8,047	455	119,930	146,459	147,144	56,375	38.3	23,024	15.6	17,748	12.06	29.7	50.2	184	Reasonable	7.4%
ESP A27 PGP2440 °	55	1,115	16,256	769	27,921	111,390	125,291	76,811	61.3	34,326	27.4	27,579	22.01	38.1	68.9	161	High	6.3%
ESP A27 DTS40XX °	17	560	4,177	405	41,418	112,836	114,205	77,962	68.3	48,985	42.9	42,622	37.32	51.8	139.2	819	High	5.7%
ESP OFR PGO2440 °	62	1,063	19,072	718	43,778	106,915	104,751	40,034	38.2	21,558	20.6	17,853	17.04	17.4	37.7	111	Reasonable	5.2%
ESP A27 DTS2440	108	883	26,660	687	75,376	134,195	102,279	60,354	59.0	28,120	27.5	25,400	24.83	36.5	68.4	70	High	5.1%
ESP OFR DTS2440	41	1,211	11,284	1,098	28,924	80,598	93,452	28,674	30.7	15,937	17.1	15,026	16.08	10.5	23.7	130	Reasonable	4.7%
ESP A37 DTS1824	303	1,421	61,419	3,811	11,881	76,552	78,629	42,032	53.5	11,268	14.3	11,080	14.09	21.7	29.6	48	Reasonable	3.9%
ESP A27 PMP0010	1,954	2,932	204,967	808	11,368	53,140	64,288	48,201	75.0	5,801	9.0			14.5	16.4			3.2%
ESP A27 PS2440	81	903	11,975	208	40,223	51,674	62,785	46,482	74.0	18,931	30.2	17,996	28.66	30.5	51.5	111	High	3.1%
ESP OFR PGO40XX	25	602	7,670	893	18,719	62,456	55,031	22,362	40.6	13,315	24.2	8,169	14.84	15.0	37.1	104	Reasonable	2.8%
ESP A27 HOK2440	25	1,040	9,250	363	23,776	50,079	50,413	41,480	82.3	18,293	36.3	18,209	36.12	22.3	39.9	670	High	2.5%
ESP A27 DTS1824	75	520	14,114	2,862	7,660	22,819	48,957	27,432	56.0	12,954	26.5	11,758	24.02	27.9	52.8	291	High	2.5%
ESP A37 DTS2440	132	705	26,956	4,417	5,614	43,923	47,946	28,705	59.9	8,647	18.0	7,675	16.01	28.5	40.7	46	Reasonable	2.4%
ESP A27 PS1824	100	1,172	20,629	167	50,674	48,329	47,513	34,827	73.3	10,384	21.9	10,413	21.92	20.8	29.7	97	High	2.4%
ESP A37 PMP0612	913	1,187	98,023	908	4,726	26,140	36,802	27,308	74.2	10,925	29.7	10,845	29.47	13.8	23.0	132	High	1.8%
ESP A27 PS1218	112	979	18,834	157	31,129	28,019	34,880	26,807	76.9	8,887	25.5	8,314	23.84	18.3	27.4	156	High	1.7%
ESP A27 PGO2440	30	436	9,680	510	19,980	31,312	33,869	17,409	51.4	6,402	18.9	5,711	16.86	25.3	39.9	69	Reasonable	1.7%
ESP A27 DTS1218 °	66	403	11,399	5,242	3,815	15,342	32,992	17,570	53.3	6,002	18.2	5,104	15.47	28.7	43.6	154	Reasonable	1.7%
ESP A37 PS1824	88	1,036	20,054	296	23,465	39,518	31,123	20,724	66.6	4,409	14.2	4,125	13.25	15.8	20.0	51	Reasonable	1.6%
ESP A27 DRB0010	1,814	1,667	178,059	1,032	3,547	29,469	26,952	21,357	79.2	4,641	17.2	4,454	16.53	10.0	12.8	85	Reasonable	1.3%
ESP OFR HOK2440 °	25	312	5,536	271	17,252	29,136	26,357	15,087	57.2	5,461	20.7	4,728	17.94	30.8	48.3	88	Reasonable	1.3%
ESP A37 DTS1218	147	423	27,462	2,143	4,406	21,898	24,348	14,944	61.4	5,648	23.2	5,634	23.14	22.0	35.3	76	High	1.2%
ESP A37 PS2440 °	26	195	4,372	321	5,562	14,696	19,178	14,983	78.1	5,862	30.6	4,316	22.51	46.9	77.0	104	High	1.0%
ESP A37 PS1218	84	707	17,410	219	14,161	22,468	18,758	13,625	72.6	2,522	13.4	2,526	13.46	15.7	19.3	74	Reasonable	0.9%
ESP A27 DFN1218	139	621	22,775	597	5,453	15,219	17,889	11,882	66.4	2,238	12.5	2,109	11.79	15.5	19.1	41	Reasonable	0.9%
ESP OFR PMP0010	485	474	35,071	355	3,433	9,064	11,157	8,639	77.4	1,083	9.7	1,053	9.44	15.9	18.2	47	Weak	0.6%
ESP A27 HOK1218	84	325	11,154	308	4,556	10,208	9,452	5,416	57.3	955	10.1	968	10.24	13.7	16.7	22	Reasonable	0.5%
ESP A37 FPO1218 °	31	136	3,709	3,893	413	4,727	9,332	5,785	62.0	2,831	30.3	2,659	28.50	21.7	42.5	337	High	0.5%
ESP A27 PGO1824 °	11	102	2,411	786	2,393	5,106	9,206	5,433	59.0	2,797	30.4	2,621	28.47	25.9	53.3	334	High	0.5%
ESP A27 DFN1012 °	115	363	15,665	479	2,335	6,627	8,862	7,434	83.9	3,324	37.5	3,289	37.11	11.3	20.5	145	High	0.4%
ESP A27 HOK1012 °	64	251	6,895	373	2,224	4,578	8,839	5,941	67.2	2,147	24.3	2,121	24.00	15.1	23.6	134	High	0.4%
ESP A27 DRB1218	84	250	10,450	1,310	2,286	7,413	8,127	4,329	53.3	1,129	13.9	1,133	13.95	12.8	17.3	41	Reasonable	0.4%
ESP A37 PGO1218 °	42	186	6,158	1,241	1,215	6,889	7,812	4,670	59.8	1,645	21.1	1,595	20.42	16.3	25.1	94	High	0.4%
ESP A27 HOK1824	29	224	5,867	521	3,763	8,572	7,737	4,468	57.7	446	5.8	422	5.46	17.9	19.9	14	Weak	0.4%
ESP A37 PGO1824 °	22	147	3,623	326	4,802	28,066	7,245	4,071	56.2	1,080	14.9	856	11.82	20.3	27.7	45	Reasonable	0.4%
ESP A37 PMP1218 °	34	121	5,346	965	2,117	5,772	6,255	4,265	68.2	1,157	18.5	958	15.31	25.7	35.2	54	Reasonable	0.3%
ESP A27 DFN1824 °	25	155	4,133	643	2,380	6,849	5,782	3,070	53.1	119	2.1			19.1	19.8			0.3%
ESP OFR HOK1012 °	49	176	3,787	193	2,163	4,487	5,553	4,087	73.6	349	6.3	347	6.25	21.2	23.2	41	Weak	0.3%
ESP A27 PMP1218 °	42	178	7,162	378	3,050	6,328	5,397	3,781	70.1	1,657	30.7	1,670	30.95	11.9	21.2	54	High	0.3%
ESP A37 DFN0612	85	147	12,449	1,366	619	3,592	4,867	3,724	76.5	1,077	22.1			18.1	25.4			0.2%
ESP A37 DFN1218	53	127	9,125	3,986	629	4,091	4,678	2,836	60.6	924	19.8			15.1	22.3			0.2%
ESP A27 FPO1012	71	174	11,803	720	1,062	4,867	4,341	3,197	73.6	493	11.4	490	11.30	15.5	18.3	49	Reasonable	0.2%
ESP OFR PS1218 °	14	91	2,239	101	2,093	2,445	4,267	3,720	87.2	2,413	56.6	2,410	56.49	14.3	40.8	649	High	0.2%
ESP A37 HOK0612	47	69	5,925	1,623	307	2,098	4,141	2,791	67.4	1,704	41.2	1,705	41.17	15.7	40.3	232	High	0.2%
ESP A27 PMP1012	60	185	7,759	566	1,895	2,849	3,414	2,491	73.0	358	10.5			11.5	13.5			0.2%
ESP A27 FPO1218	58	141	9,565	831	1,369	5,030	3,379	2,378	70.4	344	10.2	319	9.44	14.5	16.9	23	Weak	0.2%
ESP A27 PS1012 °	18	130	1,802	200	2,163	1,818	2,335	1,971	84.4	530	22.7			11.1	15.2			0.1%
ESP A37 HOK1218 °	23	43	3,013	711	274	1,991	1,780	1,266	71.1	163	9.1	166	9.33	25.6	29.4	14	Weak	0.1%
ESP A37 PS0612	18	87	3,072	205	1,284	2,062	1,685	1,361	80.7	316	18.8			12.0	15.6			0.1%
ESP A27 DRB1012	14	27	1,616	1,616	294	979	1,614	1,117	69.2	290	18.0	280	17.35	30.5	41.2	87	Reasonable	0.1%
ESP A37 DRB1218	14	30	2,665	4,050	167	1,083	1,515	896	59.2	85	5.6	83	5.47	26.9	29.7	23	Weak	0.1%
ESP OFR PMP1012 °	20	92	1,358	1,050	228	561	1,457	896	61.5	1	0.1	- 91	- 6.27	9.8	9.8	- 57	Weak	0.1%
ESP A37 PMP0006	109	62	6,751	263	322	2,029	1,426	1,270	89.1	234	16.4			16.7	20.4			0.1%
ESP A37 DTS0612	18	23	3,086	1,249	272	1,316	1,080	733	67.8	258	23.9	253	23.43	21.0	32.5	65	High	0.1%
ESP OFR FPO1012 °	16	19	1,454	1,195	122	417	460	318	69.2	- 54	- 11.8			19.5	16.6			0.0%
ESP A37 DRB0612 °	39	8	1,262	300	157	289	378	253	67.0	85	22.6			21.5	32.5			0.0%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

5.22 Sweden

Short description of the national fleet

Fleet capacity

The national fleet capacity decreased, with 43 vessels, 16 of which were inactive, in 2016, having a combined gross tonnage (GT) of 31.9 thousand tonnes and engine power of 170.6 thousand kilowatts (kW). In 2016, there were 1 255 vessels, 280 of these were inactive. Sweden changed definition for the fleet from including vessels in the fleet by 1 January to include all vessels active during the year. The change has created an increased fleet in 2015 but since the fleet is rapidly decreasing in size the effect is hardly noticeable already in 2016. The general trend of the Swedish fleet is still that the number of vessels is decreasing. In 2017, the number of vessels were 1 211, which is well below even 2014 figures, despite introducing the new definition.

Fleet structure

The Swedish fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Baltic Sea, Skagerrak, and Kattegat regions. The national fleet consisted of 10 fleet segments in 2008-2016 with a total of 1 255 vessels including 7 clustered active length classes and 3 un-clustered inactive length classes, consisting of 975 and 280 vessels in 2016, respectively.

Employment

Employment in 2016, was estimated at 1 485 jobs, corresponding to 798 FTEs or an average of 0.82 FTE per active vessel. The level of employment decreased between 2008 and 2016, with total employed decreasing by 25% and the number of FTEs decreasing by 30% over the period. The major factors causing employment to decrease include the decreasing fleet size and less labour intensive vessels. Total employment decreased less than FTE indicating that the share of part-time fishers is increasing slightly in Sweden. In 2016 there were on average 0.54 FTE per employed. The average wage per employed and per FTE has increased heavily over the period 2008 to 2016, 103% and 116%, respectively. Thus, average wage has increased well above the Swedish national average for all employees over the same period (slightly under 2% per year). Compared to 2015, the average wage per employed and per FTE in 2016 has decrease by 4% and 5%, respectively.

Effort

An estimated 73.6 thousand days were spent at sea during 2016, a slight increase compared to 2015. The amount of energy consumed increased but the general trend since 2009 is that energy consumption is decreasing, 24%. The decrease is driven by fewer vessels, days at sea and increased fuel efficiency. The quantity of fuel consumed in 2016 totalled around 48.6 million litres.

Production

The total weight landed in 2016 was 198 thousand tonnes of seafood (222 thousand tonnes; 2017), with a landed value of EUR 125 million (EUR 128 million; 2017). The total weight and the value of landings vary over the period analysed due to quotas, prices and currency, especially the pelagic. In 2012 for example, the catch was exceptionally low due to low quotas.

The fleet targets both pelagic and demersal species, with herring remaining the dominant species, generating the highest landed value with EUR 45 million (EUR 47 million; 2017) and representing about 36% of the total landings value in 2016. Other important species in value for the Swedish fleet in 2016 were Norway lobster EUR 18 million (EUR 17 million; 2017), Northern prawn EUR 17 million (EUR 14 million; 2017), sprat EUR 14 million (EUR 12 million; 2017) and then cod EUR 9 million (EUR 8 million; 2017).

Economic results for 2016 and recent trends

National fleet performance

The Swedish national fleet continued the positive trend from 2015, and further increased the net profit in 2016, mainly due to higher profitability in the large scale fleet but also due to a smaller net loss for the small scale fleet. The pelagic fishery has been profitable since 2014 but in recent years (2015 and 2016) the profits have been higher than the losses in the passive fishery, resulting in a positive result

when aggregated. The economic performance was driven by both higher incomes and lower costs, especially annual depreciation costs and fuel costs. This positive trend is expected to continue into 2017 and 2018, since landings and fish prices has increased, and as fuel prices remained low.

Revenue in 2016, estimated at EUR 136 million, increased 5% due to an 8% increase in landings income while other income (EUR 10.7 million) decreased by 21%. Total operating costs decreased by 2%, mainly due to a decrease in energy costs as well as a decrease in labour costs (wages decreased and unpaid labour increased) and other variable costs. Repair & maintenance and other non-variable costs increased slightly during the same time-period. When including capital costs, total costs amounted to EUR 112 million, deducted from total revenue, it generates a net profit of EUR 24 million.

Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 76 million, EUR 46 million and EUR 24 million, respectively. Compared to 2015 GVA and gross profit in 2016 increased by 12% and 22%, respectively. The positive trend seen in 2015 continued in 2016 with the highest profits seen in the period 2008-2016. These results indicate a good year, yet to be seen the profit are still not evenly distributed.

The (depreciated) replacement value of the Swedish fleet was estimated at EUR 149 million, a decrease by 10%. Investments amounted to EUR 6.7 million in 2016, a decrease by 3%.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 34.2%, indicating a relatively high operating efficiency of the sector. Net profit margin was estimated at 18%, compared to 8% in 2015.

The Rate of Return on Fixed Tangible Assets (RoFTA) increased from 7% in 2015 to 15% in 2016. An overall improved development trend can be seen since 2008, labour productivity (GVA/FTE) further increased in 2016: GVA increased (12%) and the number of FTE also increased (1%). Although the GVA increase was bigger than the increase in FTE yielding a higher labour productivity.

Fuel consumption per landed tonne has followed an overall decreasing trend since 2009, and is relatively low at 0.246 thousand litres per tonne landed in 2016. Landings in weight per unit of effort (in days at sea) has been relatively stable since 2008 at around 2 tonnes per day. In 2015, it increased due to less demersal in relation to pelagic fishing and it amounted to 2.685 tonnes/day in 2016, and increased even further to 3.3 tonnes/day in 2017.

Performance by fishing activity

Small-scale coastal fleet

The number of small-scale vessels decreased from 819 in 2008 to 738 in 2016 (680 in 2017), a decrease of 10%, following the general trend of the Swedish fleet but a relatively lower yearly percentage decrease compared to large-scale vessels. Close to half of the decrease in number of vessel between 2008 and 2017 stems from vessels with main income from fishing European eel. The Swedish authorities, through different management actions, such as permits, have tried to diminish effort in the threatened European eel fishery.

The numbers employed in the small-scale fisheries follows the same decreasing trend as the fleet in general over the period 2008-2016, with FTE decreasing more rapidly. Although the decrease between 2015 and 2016 is very small, indicating that the decreasing trend have stagnated. Vessel tonnage as well as engine power has decreased slightly during 2016, the former with a larger increase, 3.3% compared to 0.9%.

Overall, the SSCF is not profitable, generating a net loss of EUR 5.1 million in 2016. Gross value added is positive but relatively low per FTE at EUR 29.9 thousand. As tangible assets are, in most cases, probably paid off, these vessels can afford to continue to fish. Low GVA estimates signal that there are other reasons for fishing than just profit, such as part-time employment or a way of life. Fishers whom do not have profit as main reason for fishing raises the competition on the market, which makes it harder for new firms/individuals to enter the market.

Additionally, increased seal populations along the Swedish coastline are still heavily affecting both income, by taking and eating fish directly from the gears, and costs, by destroying gears as well as creating extra work.

The outlook for the small-scale is positive, due to the discard ban a new management system were introduced in 2017. Despite still missing transferability like a proper ITQ system the individual quotas

now introduced with some transferability during the year (not permanent) is by performance a step forward.

Large-scale fleet

For the large-scale fleet, the number of vessels decreased from 329 in 2008 to 237 in 2016 (231 in 2017), a decrease of 28%. More than half of this decrease stems from vessels with main income from the Norwegian lobster fishery. The Swedish authorities have promoted fishing lobster with passive gears and as cod populations are in bad conditions, mixed fisheries with cod and lobster are no longer a profitable option. Vessels fishing for cod as main source of income have also decreased. Some of these vessels also fished pelagic species and after the introduction of fishing-rights in the pelagic fishery they sold their rights and left the fishery.

The numbers employed in the large-scale fisheries follows the same decreasing trend as the fleet in general, while FTE is increasing, indicating a decreasing portion of part-time fishers, meaning more fishers doing just fishing. Vessel tonnage and power has decreased heavily but seems to have stabilised during the last three years.

The weight and value of landings for the large-scale vessels from 2008 to 2017 is more dependent on the quotas than the same measure for the small-scale. The landings weight decreased substantially in the first half of the period. Although, with recent increase in quotas the landings weight is higher and almost back at the same level as in 2008. The landing values follow the same trend but with more variation due to changes in fish prices. Despite, the large-scale fleet seems to perform fairly well but the variation is large. Vessels fishing pelagic species and those that fish in the north Baltic for vendace rom are performing well while those fishing for cod are performing poorly.

The large-scale fleet has slightly decreased their operational costs, mainly due to lower energy costs, labour costs and other variable costs. Increasing total incomes together with decreasing costs result in substantially higher net profits in 2016 compared to 2015. Overall, the large-scale fleet is profitable, generating a net profit of EUR 28.9 million in 2016. Gross value added per FTE is relatively high at EUR 136 thousand. Even higher net profits can be expected for 2017 and 2018 since landing values has increased due to better prices and higher landing weights.

Performance results of selected fleet segments

The Swedish fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Baltic Sea, Skagerrak, and Kattegat regions. None of the four fleet segments using active gear made losses in 2016 , two segments using passive gear made losses while one was profitable. This is a positive sign as previous year all three segments using passive gear made losses.

It can further be observed that the vessels with active gears account for the main part of the landed value and the landed weight. During the time period 2008-2016, the vessels with active gears annually accounted for 96-97% of the total catch measured in weight, and 85-89% of the total catch value. Thus, the vessels with passive gears only accounts for 3-4% of the total catch measured in weight, and 11-15% of the total catch value. A short description of the two most important segments in terms of total value of landings is provided below.

Demersal trawl seine 18-24 meters: In 2016, 39 vessels made up this clustered segment that uses different types of active fishing gear. It operates predominantly in the Baltic Sea, Skagerrak and Kattegat. The fleet segment targets a variety of species but in particular demersal species such as cod, lobster and prawn and pelagic species such as herring and sprat. In 2016, the total value of landings was EUR 18.5 million and around 119 FTEs in this fleet segment, contributing 15% of the total income from landings as well as FTEs in the Swedish fishing fleet. This fleet segment was profitable, with a reported net profit of around EUR 5.3 million in 2016. There are some differences in performance within the segment. The vessels in the segment fishing Norwegian lobster and vessels fishing pelagic species have the highest profit, while the vessels fishing for cod have significantly lower profit.

Demersal trawl seine 24-40 meters: There were 37 vessels in this clustered segment in 2016, which also contains vessels using purse seiners (2 vessels) and 18 pelagic trawlers (nine of the pelagic trawlers are over 40 m). This segment is operating in the Baltic Sea, Kattegat, Skagerrak, and North Sea. The fleet targets a variety of species, in particular pelagic species such as herring and sprat but also demersal species such as cod and prawn. In 2016, the total value of landings was EUR 68.3 million and around 217 FTEs in this fleet segment, contributing to 55% and 27% of the total income from landings and FTEs in the Swedish fishing fleet, respectively. This segment dominates the Swedish fishing fleet with 85% of the total landings in weight.

This fleet segment was profitable, with a reported gross profit of around EUR 34.9 million and a net profit of EUR 29.5 million in 2016. There is a distinct difference in performance within the segment. The profit is generated from vessels fishing mainly pelagic species. Vessels with more than 50% cod or Norwegian lobster in landing value are making losses.

Drivers affecting the economic performance trends

Higher quotas for pelagic species and low fuel prices were still the main driving forces behind profitability and the high profitability increase in 2016. The Swedish fleet's income is dominated by trawlers, both pelagic and demersal trawlers. As trawling is typically fuel intensive, fluctuations in fuel prices are therefore a key driver of the fleet's profitability. The pelagic fleet is the driving factor regarding income for the Swedish fleet while the diminishing fleet for the small scale fisheries has a positive effect on the operational costs in the overall fleet, due to fewer less efficient vessels. The effect is small relative to the effect from the pelagic fisheries but it is worth mentioning that the small scale fisheries are in some sense getting more efficient. This trend could very well be due to the government's recent extra focus on promoting the small scale fisheries.

Markets and Trade

A well-known market characteristic is that during the last decades, the consumption of frozen fish, seafood products (including dried and salted items), and prepared and preserved items has shown an increase while fresh fish has declined. The number of market places for landed fish has also decreased. In Sweden, the market places for fishers have been concentrated to the west coast of Sweden, resulting in logistical problems for selling and also distributing fresh fish to the rest of Sweden. This problem is especially evident for the small-scaled fishery. A new fish market, government funded, recently opened in Stockholm, on the east coast, not only to solve the structural problem but also to offer consumers environmental sustainable fresh fish.

Good economic performance for the Swedish fishing fleet is highly dependent on fish prices for pelagic species. High prices but more importantly stable prices are key to good economic performance. The prices are driven by the supply and demand on the local and for some species, the global market. The supply on the market is highly dependent on quotas, which can have a big impact on prices in the end due to sudden supply shocks or lack of supply. The demand on the other hand is not as volatile as the supply, although community trends, such as recent health trends can have an impact on the demand in the short run. Furthermore, changes in seasonal fishing, e.g. shorter fishing period for certain species, can have an effect on the fish price. Due to the fact that fishing is concentrated to a shorter period, which will produce a sudden supply shock on the market.

Management instruments

The entry-exit scheme for vessel capacity in gross tonnes and kilowatts has resulted in a continued reduction in fleet capacity. The kilowatt day system, which was introduced as a result of the cod recovery plan for the North Sea, Skagerrak and Kattegat, has continued to provide an incentive for further structural change within cod fishing on the Swedish west coast as it restricts the vessels' fishing effort. Furthermore, the system of individual transferable fishing rights within the pelagic segment has had a major impact on the structural change within this segment.

A major challenge regarding fleet management is the adjustment to the landing obligation, which is gradually introduced between 2015 and 2019. An obligation to land all catches of quota species requires a system to allocate fishing opportunities that as far as possible help facilitates this obligation and creates conditions for the Swedish fleet to comply with it. A system that is compatible with the landing obligation must for example consider the challenge of choke species and allow some flexibility so that it is possible to match catches and fishing opportunities. Therefore, a new system to allocate fishing opportunities was developed and proposed during 2016. From 1st January 2017, the new system replaced the previous system which was based on weekly or monthly catch limits in the North Sea in which the possibility to transfer fishing possibilities was lacking. The new system is based on yearly allocation of individual fishing opportunities. The fishing opportunities can be transferred between individual fishers during the year. In 2018, an analysis will be carried out to analyse and see if the new system had the desired effect.

During 2016, the prawn fishery was administrated through monthly rations. A possibility to temporarily redistribute the ration from one vessel to another vessel (under certain conditions) was introduced during 2015. The intention was to facilitate a more efficient capital use in the prawn fishery, which in turn will imply higher profitability for individual fishing firms and thereby reduced incentives for illegal discards.

Status of Key Stocks, TACs and quotas

Most of the important stocks fished by the Swedish fleet are fished at MSY. In 2016, Sweden had a total quota of 230 thousand tonnes, compared to 243 thousand tonnes in 2015. In 2017 the quota increased to 272 thousand tonnes.

The quota for herring and sprat, which is especially important for the Swedish fleet, remained at the same level as in 2015 in Skagerrak, Kattegat, and North Sea. In the Baltic Sea herring and sprat were managed at MSY level, the quota decreased by 2% and 5%, respectively. For 2017, the quotas for herring and sprat increased by 10% and 29%, respectively.

The Baltic cod stock was depleted and overexploited for decades until the mid-2000s when fishing mortality rapidly declined and biomass started to increase, as shown by stock assessments. These positive developments were partly assigned to effective management measures. In contrast to this optimistic view, the analytical stock assessment failed in 2014, leaving the present stock status unclear. A number of adverse developments such as low nutritional condition and disappearance of larger individuals indicate that the stock is in distress.

In 2016, the important quota for cod in the Baltic continued to decrease significantly, the total quota decreased by 20% in both the western and eastern stock. Total available cod quota for the Swedish Baltic fleet in 2016 in eastern and western stocks was 9.6 thousand tonnes and 2 thousand tonnes, respectively (in 2015; 11.9 thousand tonnes and 2.5 thousand tonnes, respectively). Small sized and bad conditioned cods resulted in a poor economic performance. The Eastern Baltic cod TAC is in line with the precautionary approach, but due to a missing biological advice no MSY level can be defined.

Innovation and Development

Towards the end of 2009, Sweden introduced a tradable fishing right system for pelagic quotas. Pelagic vessels in the system and outside are clustered together with other vessels, mostly in the demersal trawl/seine 18-24m and 24-40m segments. The reason, in addition to confidentiality issues, is that many of the pelagic vessels also fish cod and vice-versa. A clear positive economic effect of the pelagic system can be seen. The first transactions took place in early 2010 and the first effects of these transactions became visible in late 2010 in terms of profitability for the pelagic fisheries. But the effect of the new system can be better seen in the profitability of 2012 and forward, once capacity had been removed. However, decreases in quotas for pelagic species (most importantly for herring and sprat) and increases in fuel prices have had a chilling effect on the expected profitability the first years after introduction. Now the situation is different, higher quotas and better prices, and the pelagic fleet is performing very well. There have also been investments in new vessels (replacement); these investments cannot be seen in the statistics, although the new capital gives an increased capital cost when new vessels are introduced.

In the beginning of 2017, Sweden introduced a tradable fishing right system for non-pelagic fishers, in order for fishers to comply with the landing declaration. Fishers can temporarily, trade quotas, which will allow fishers to be more flexible and efficient, which in turn can have an impact on the profitability in the small scale fisheries. The system will be evaluated in 2018 to see if it had the desired market effect.

The increasing seal population around the Swedish coastline has caused a growing conflict between seals and inshore fisheries. Seals damage the fisher's catch and fishing gear, which causes significant economic losses to the fishing industry. In some areas, it is even impossible to conduct a profitable fishery. The development of seal-safe fishing gear is at present the only long lasting and sustainable solution to the conflict. The fishing gear also needs to catch fish effectively, be easy to handle by the fishers and cause low environmental impact. The development mainly focuses on improving traditional fixed gear, such as push-up traps for salmon and by developing new alternatives to the net fisheries, such as cod pots.

Also in the shrimp and lobster fisheries, research for new and more sustainable fishing techniques is on-going. In general, transition towards the implementation of these new techniques in the sector is slow as fishers are hesitant due to high investments, the uncertainty of the impact of the techniques and the possible market effects.

During 2017, Sweden started the work with preparing the data collection for social data. Surveys will be sent out during 2018 to collect data for reference year 2017.

Projections for 2017 and outlook for 2018

Preliminary results for 2017 and 2018 suggest an annually increase of 0-12% in landed weight, matched by a 2-4% increase in value, respectively. Projections for 2017 suggest an increase in salary and energy costs and a decrease in repair & maintenance costs, variable costs and non-variable costs as well as

unpaid labour. A decrease in operating costs, together with a reduction in capital costs, will make 2017 and 2018 to be better years than 2016: GVA (+4% and +2%, respectively), gross profit (+8%, and 0%, respectively) and net profit (+29%, and -1%, respectively). Positive economic developments can also be seen in performance indicators GVA to revenue, GVA per FTE and gross and net profit margins. In addition, Swedish profit margins are among the highest in the EU with gross profit margins reaching 34% and net profit margins reach 18% in 2016, and projections shows an increase to 37% and 22% in 2017, respectively.

The general trend since the beginning of the 2000s is a decrease in Swedish fleet capacity, i.e. in the number of vessels that also reflects reduction of total engine power and gross tonnage. This is partly due to management efforts directed at decreasing fleet size in order to bring it in balance with the resources. Another explanation for the decrease is due to the fact that many fishers have left the sector since they can no longer make a living from fishing. Some of the fishers operating inside the pelagic fishing rights system sold their rights and left the sector while others just left the sector without being compensated. The analysis of economic performance shows that all Swedish segments with vessels using active gear are making positive net profits. Two segments with vessels using passive gear are making losses while one segment is making a net profit. These segments are heavily affected by increasing populations of seals in recent years.

There is also a crew recruitment problem as jobs on board fishing vessels is not a particularly attractive way of making a living for younger people due to the low wages and relatively poor working conditions compared to other land-based jobs. This poor recruitment is reflected in the increasing average age of Swedish fishers. This coupled with a decreasing fleet size is expected to continue for some time but will lead to a better economic performance in the long run.

Furthermore, there are other reasons than profit for some of the fishers in small scale fisheries, e.g. a way of life or a part-time employment. It can have a huge impact on the market in terms of higher competition, due to fishers don't have to make a profit from their business, thus making it harder for new firms/individuals to enter the market. Higher barriers for entering the market have an effect on the wages and in turn crew recruitment. In the long run, this problem will disappear when the older fishers are crowded out from the market.

A crucial problem is seen in the context of Brexit, depending on the outcome of the negotiations between the UK and the EU. The pelagic fleet substantially depends on catch opportunities in British waters, in value around 10%, mainly for sandeels, herring, and mackerel. The demersal fleet is today not affected, but could indirectly be affected if fishing by other member states in UK-economic zone today is moved into SE-economic zone.

In late 2017 and early 2018, it was decided to close the commercial fishing for eel for a certain time period in the Baltic Sea. In the Swedish fleet, 90 vessels have eel as their main income (>50% of total value). The ban will have an economic impact on the small scale fisheries and might have some negative externalities on other species-specific markets, due to fishers being forced to change their target species.

Data issues

There are no major data issues in the Swedish DCF data. Most of the Swedish data comes from registers, only cost data is collected separately. Sweden uses mandatory questionnaires for data on costs (combined with tax declarations from registers). Previously, Sweden used probability sampling when sending out the questionnaires. Since 2012, questionnaires requesting 2011 data are sent to all vessels (census). Instead of getting 60% response from a 50% sample, Sweden now gets more than 85% response from a census sample, i.e., the number of data points has increased threefold.

An important issue is clustering. With a small and diminishing fleet, Sweden is forced to cluster all of the economic data and also report cluster definitions. At the same time Sweden is recommended to report un-clustered transversal data on capacity, landings etc. Previously Sweden used different clusters for different years but has now worked around this problem, back-calculating all data, and is now using the same clusters for the whole DCF period. This makes it easier to follow trends and since the sampling is done in census, it's easy to re-cluster for analytical reasons.

Sweden changed definition for the fleet from including vessels in the fleet by 1 January to include all vessels active during the year. The change has created an increased fleet in 2015 but since the fleet is rapidly decreasing in size the effect is hardly noticeable already in 2016.

Table 5.103 Sweden: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	1,507	1,471	1,415	1,359	1,322	1,299	1,266	1,298	1,255	1,211	876		-3%	-8%
Number of Inactive vessels_ms	(#)	359	339	351	328	303	315	288	296	280	300			-5%	-13%
Vessel tonnage	(thousand GT)	43.0	41.7	38.6	32.9	29.5	30.5	29.0	30.8	31.9	28.2			3%	-8%
Engine power	(thousand kW)	211.8	207.9	196.4	178.1	169.1	170.7	163.9	167.9	170.6	159.4			2%	-7%
Total employed	(person)	1,980	1,758	1,765	1,679	1,663	1,577	1,568	1,487	1,485	1,385	1,423		0%	-12%
FTE	(#)	1,133	1,019	990	974	942	886	845	792	798	755	661		1%	-16%
Days at sea	(thousand day)	102.7	96.6	85.1	83.7	78.9	77.7	77.7	73.4	73.6	67.2	61.4		0%	-13%
Fishing days	(thousand day)	102.7	96.6	85.1	83.7	78.9	77.7	77.7	73.4	73.6	67.2			0%	-13%
Number of fishing trips	(thousand)	88	83	74	73	70	70	71	68	68	61			0%	-9%
Energy consumption	(million litre)	41.38	62.22	54.13	40.90	47.37	48.11	41.07	49.30	48.57	48.35	40.32		-1%	1%
Live weight of landings	(thousand tonne)	213.20	199.30	204.40	173.34	136.46	177.62	166.10	202.66	197.67	221.75	210.36		-2%	7%
Value of landings	(million €)	120.41	101.66	113.05	125.63	122.39	126.45	106.67	115.96	125.08	127.54	99.09		8%	7%
Income from landings	(million €)	120.41	101.66	113.05	125.63	122.39	126.45	106.67	115.96	125.08	127.54	99.09		8%	7%
Other income	(million €)	5.24	18.08	39.09	8.81	5.70	17.42	5.34	13.41	10.66	-	9.49		-21%	-25%
Direct income subsidies	(million €)	1.80	-	-	-	-	-	-	-	-	-				-100%
Income from leasing fishing rights	(million €)	-	-	-	-	-	-	-	-	-	-				
Wages and salaries of crew	(million €)	11.77	11.05	14.21	12.61	16.32	19.10	17.26	18.63	17.90	18.79	14.07		-4%	18%
Unpaid labour value	(million €)	18.41	15.15	14.79	16.71	14.43	14.48	15.25	11.28	11.90	11.19	10.00		6%	-21%
Energy costs	(million €)	28.14	26.19	29.28	28.65	34.16	32.00	24.48	22.55	20.48	21.31	20.26		-9%	-27%
Repair & maintenance costs	(million €)	21.88	24.63	23.82	21.44	20.61	21.63	16.48	20.83	21.56	20.32	19.28		4%	1%
Other variable costs	(million €)	5.98	6.96	8.99	12.67	10.07	8.76	8.79	10.14	9.11	8.89	7.55		-10%	1%
Other non-variable costs	(million €)	8.38	10.20	10.13	9.58	9.43	9.937	8.365	7.931	8.327	7.84	7.45		5%	-10%
Annual depreciation costs	(million €)	36.04	31.69	28.64	29.32	22.44	25.10	20.41	27.27	23.46	21.76	20.46		-14%	-15%
Rights costs	(million €)	-	-	-	-	-	-	-	-	-					
Opportunity cost of capital	(million €)	1.00	2.22	1.59	2.00	0.88	2.53	1.82	0.05	- 0.88	- 1.56	- 1.05		-1874%	-158%
Tangible asset value (replacement)	(million €)	174.8	167.8	163.6	167.7	129.5	148.0	119.7	164.8	148.6	127.0	119.2		-10%	-4%
Fishing rights	(million €)	-	-	-	-	-	-	-	-	-					
Investments	(million €)	13.6	4.7	8.4	5.4	7.3	5.9	17.7	6.9	6.7				-3%	-24%
Financial position	(%)	62.0	63.4	87.7	72.9	102.4	105.8	109.6	77.5	80.7				4%	-5%
Gross Value Added	(million €)	61.3	51.8	79.9	62.1	53.8	71.5	53.9	67.9	76.3	69.2	54.0		12%	21%
GVA to revenue	(%)	48.8	43.2	52.5	46.2	42.0	49.7	48.1	52.5	56.2	54.2	49.8		7%	17%
Gross profit	(million €)	31.1	25.6	50.9	32.8	23.1	38.0	21.4	38.0	46.5	39.2	30.0		22%	43%
Gross profit margin	(%)	24.7	21.3	33.5	24.4	18.0	26.4	19.1	29.4	34.2	30.7	27.6		17%	39%
Net profit	(million €)	- 5.9	- 8.4	20.7	1.5	- 0.2	10.3	- 0.8	10.7	23.9	19.0	10.6		123%	587%
Net profit margin	(%)	- 4.7	- 7.0	13.6	1.1	- 0.2	7.2	- 0.7	8.3	17.6	14.9	9.7		113%	705%
GVA per FTE (labour productivity)	(thousand €)	54.1	50.8	80.8	63.8	57.1	80.7	63.8	85.8	95.5	91.7	81.8		11%	42%
Return on fixed tangible assets	(%)	- 2.8	- 3.7	13.6	2.1	0.5	8.7	0.8	6.5	15.5	13.7	8.0		137%	381%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2017 and 2018 include active vessels only.
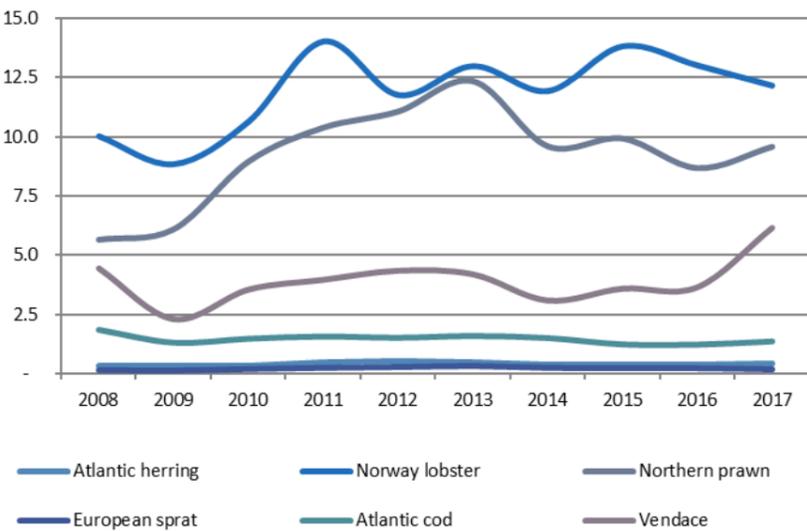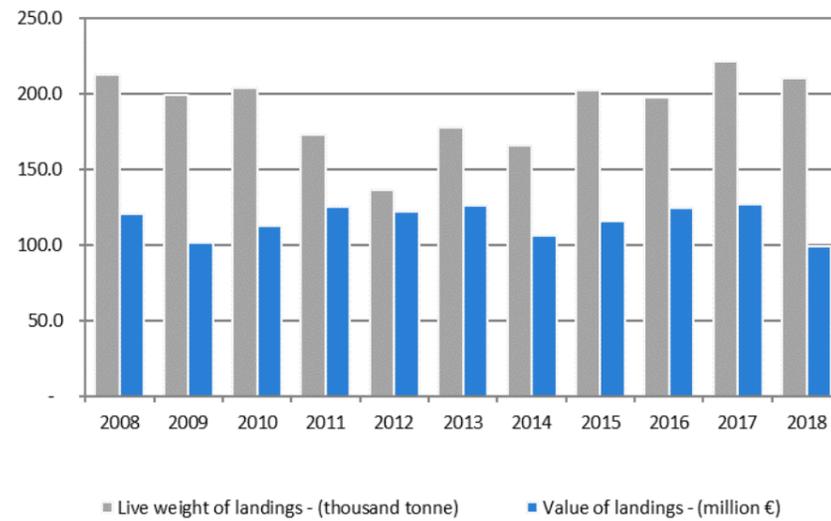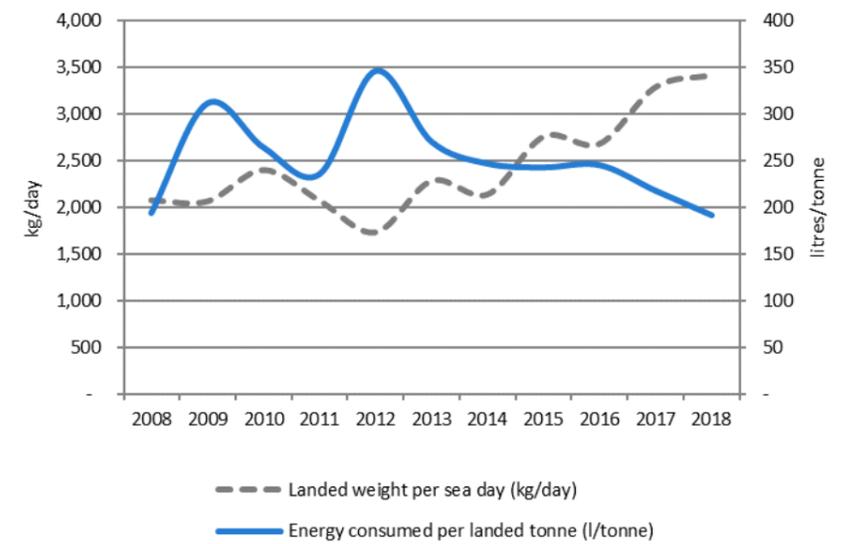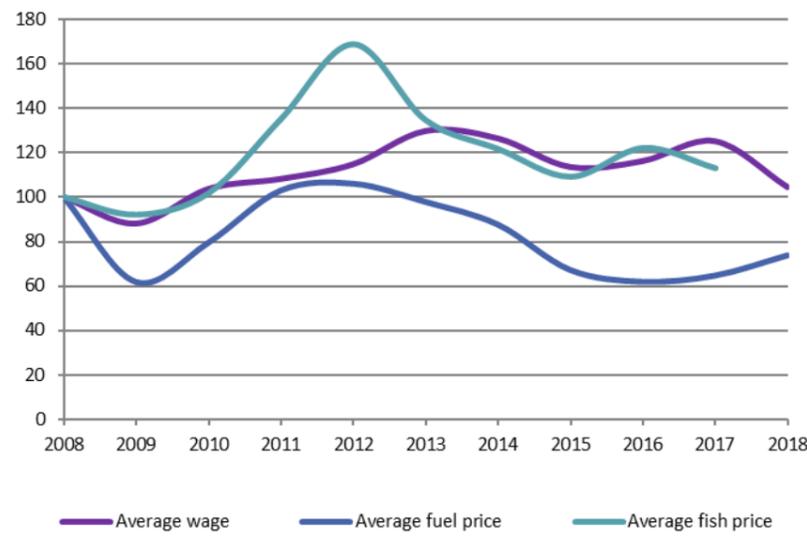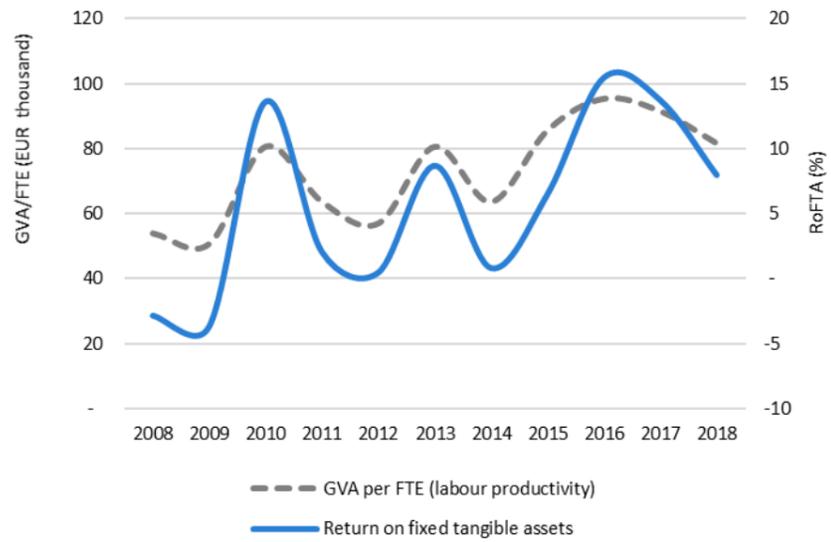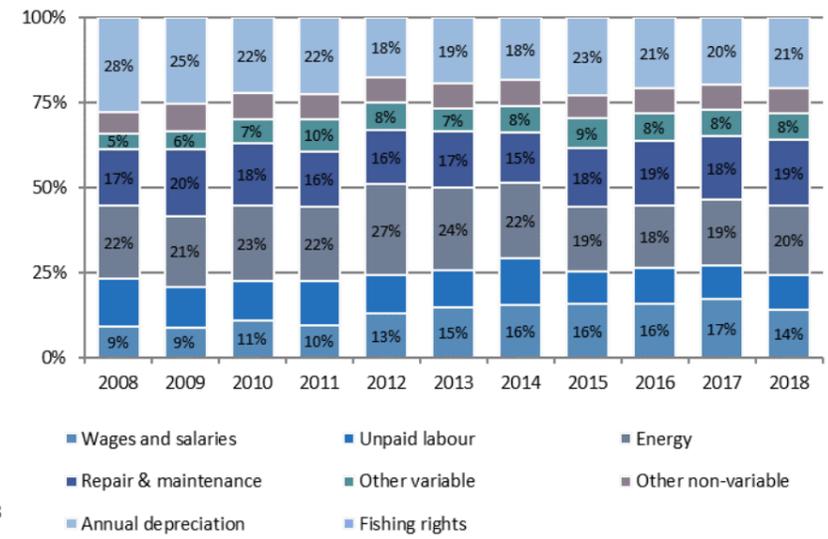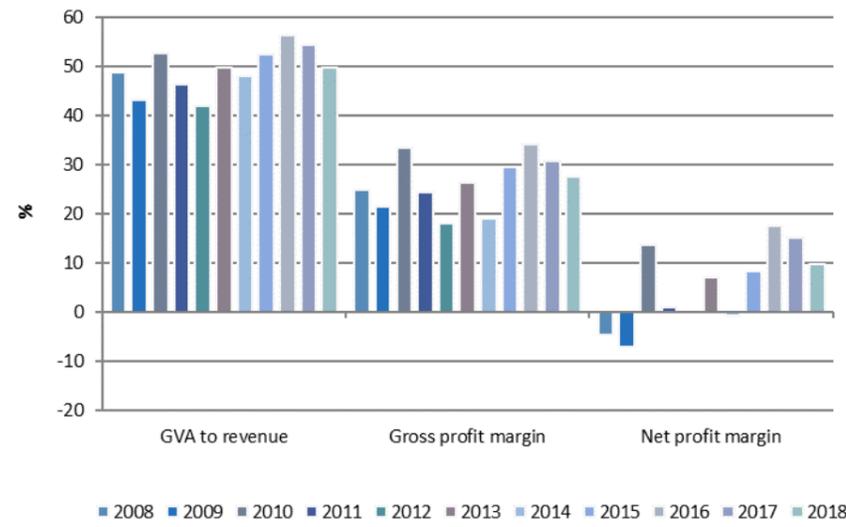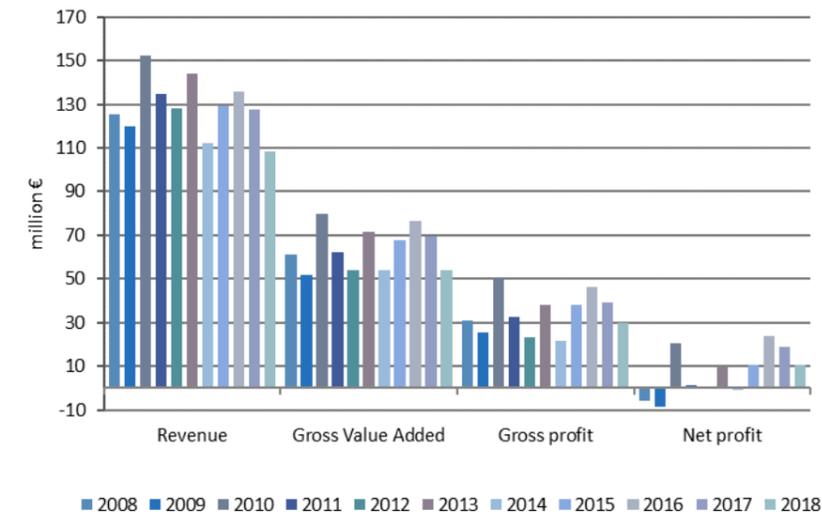
Figure 5.22 Sweden: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.104 Sweden: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

	SCF											Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15	LSF											Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
(#)	819	818	776	754	754	729	731	758	738	680	655		-3%	-4%	329	314	288	277	265	255	247	244	237	231	222		-3%	-15%
(thousand GT)	3.8	3.8	3.6	3.5	3.6	3.5	3.3	3.3	3.2	3.0			-3%	-9%	33.7	32.4	29.5	26.6	24.8	25.4	23.6	24.8	23.8	23.1			-4%	-14%
(thousand kW)	54	54	52	52	53	53	52	52	52	49			-1%	-1%	129	125	113	105	98	98	92	95	92	91			-3%	-14%
(#)	470	383	384	367	340	321	332	307	305	272	258		-1%	-16%	663	636	606	606	602	565	513	485	493	483	403		2%	-16%
(person)	1,073	929	951	925	920	902	914	891	889	818	856		0%	-5%	907	829	813	754	743	675	655	596	596	567	567		0%	-20%
(thousand day)	66.5	63.4	56.2	53.6	49.3	48.1	50.4	48.0	48.0	42.8	40.8		0%	-12%	36.3	33.2	28.9	30.1	29.6	29.6	27.3	25.3	25.6	24.4	20.6		1%	-15%
(thousand day)	66.5	63.4	56.2	53.6	49.3	48.1	50.4	48.0	48.0	42.8			0%	-12%	36.3	33.2	28.9	30.1	29.6	29.6	27.3	25.3	25.6	24.4			1%	-15%
(thousand)	66	63	55	53	49	48	50	48	48	43			0%	-11%	21	20	18	20	22	22	21	20	20	18			2%	-2%
(million litre)	3.24	4.44	4.23	4.92	4.30	3.82	3.96	4.43	4.39	3.90	3.65		-1%	5%	38.14	57.78	49.90	35.98	43.07	44.29	37.12	44.87	44.18	44.45	36.68		-2%	1%
(thousand tonne)	6.57	6.61	5.40	5.10	5.18	4.47	4.68	4.43	4.46	3.52	3.17		1%	-16%	206.64	192.68	199.00	168.25	131.28	173.15	161.42	198.23	193.21	218.23	207.18		-3%	8%
(million €)	17.16	14.16	14.05	14.70	15.96	14.88	14.34	14.99	14.92	12.78	12.43		0%	-1%	103.25	87.49	99.00	110.92	106.43	111.57	92.33	100.97	110.16	114.76	86.65		9%	9%
(million €)	17.16	14.16	14.05	14.70	15.96	14.88	14.34	14.99	14.92	12.78	12.43		0%	-1%	103.25	87.49	99.00	110.92	106.43	111.57	92.33	100.97	110.16	114.76	86.65		9%	9%
(million €)	3.99	2.68	2.93	6.05	3.07	2.67	1.91	2.93	3.40	3.16	3.05		16%	4%	1.25	15.40	36.16	2.77	2.63	14.75	3.44	10.48	7.26	6.73	6.44		-31%	-33%
(million €)	0.99	-	-	-	-	-	-	-	-					-100%	0.80	-	-	-	-	-	-	-	-					-100%
(million €)																												
(million €)	0.40	0.60	0.80	0.90	1.05	1.12	1.31	1.22	1.52	1.33	1.25		24%	64%	11.37	10.45	13.41	11.71	15.27	17.98	15.95	17.41	16.38	17.46	12.83		-6%	15%
(million €)	10.42	8.03	8.94	9.11	8.76	8.81	9.67	8.87	8.43	7.63	7.33		-5%	-7%	7.99	7.12	5.85	7.61	5.67	5.67	5.57	2.41	3.47	3.55	2.67		44%	-42%
(million €)	2.39	2.23	2.67	3.54	3.27	2.82	2.74	2.63	2.26	2.11	2.25		-14%	-19%	25.75	23.96	26.61	25.11	30.89	29.18	21.74	19.92	18.23	19.20	18.01		-9%	-28%
(million €)	3.79	3.06	2.95	3.34	3.23	3.32	2.94	3.09	3.33	3.08	2.98		8%	3%	18.09	21.57	20.87	18.10	17.38	18.31	13.54	17.74	18.24	17.24	16.30		3%	0%
(million €)	1.24	1.29	1.34	1.98	1.89	1.59	1.34	1.64	1.62	1.46	1.36		-1%	6%	4.74	5.67	7.64	10.69	8.18	7.17	7.46	8.49	7.48	7.43	6.19		-12%	0%
(million €)	1.63	1.93	2.11	2.44	2.15	2.10	2.25	2.10	1.98	1.83	1.77		-6%	-5%	6.75	8.27	8.02	7.14	7.28	7.84	6.12	5.83	6.35	6.00	5.68		9%	-11%
(million €)	8.53	7.77	5.17	4.92	3.42	3.80	3.71	4.94	4.43	4.11	3.97		-10%	-16%	27.51	23.91	23.47	24.41	19.02	21.30	16.69	22.33	19.03	17.65	16.49		-15%	-15%
(million €)	-	-	-	-	-	-	-	-	-						-	-	-	-	-	-	-	-	-					
(million €)	0.23	0.52	0.25	0.30	0.12	0.35	0.29	0.01	- 0.14	0.27	- 0.19		-2010%	-154%	0.69	1.53	1.24	1.58	0.72	2.07	1.42	0.04	- 0.67	1.29	- 0.86		-1801%	-158%
(million €)	41	39	26	26	18	20	19	24	24	22	21		-3%	-12%	120	116	128	133	106	121	94	132	114	105	98		-13%	-4%
(million €)	-	-	-	-	-	-	-	-	-						-	-	-	-	-	-	-	-	-					
(million €)	0.6	1.2	1.4	1.5	1.6	1.5	1.2	1.3	1				-1%	1%	13.1	3.5	7.0	4.0	5.8	4.4	16.5	5.6	5				-3%	-28%
(million €)	12.11	8.34	7.90	9.45	8.49	7.73	6.99	8	9	7	7		8%	5%	49.17	43.42	72.02	52.66	45.33	63.81	46.91	59	67	72	47		13%	24%
(%)	57.2	49.5	46.5	45.5	44.6	44.0	43.0	47.2	49.8	46.8	46.1		6%	6%	47.1	42.2	53.3	46.3	41.6	50.5	49.0	53.4	57.2	58.9	50.4		7%	19%
(million €)	1.29	- 0.30	- 1.84	- 0.56	- 1.32	- 2.20	- 3.99	- 1.6	- 0.8	1	- 1		50%	38%	29.81	25.85	52.76	33.34	24.39	40.16	25.38	39.7	47.3	51	31		19%	39%
(%)	6.1	- 1.8	- 10.9	- 2.7	- 6.9	- 12.5	- 24.6	- 9.2	- 4.5	- 9.4	- 9.4		51%	43%	28.5	25.1	39.0	29.3	22.4	31.8	26.5	35.6	40.3	41.6	33.7		13%	35%
(million €)	- 7.5	- 8.6	- 7.3	- 5.8	- 4.9	- 6.4	- 8.0	- 6.6	- 5.1	- 5.3	- 5.2		22%	26%	1.6	0.4	28.0	7.4	4.7	16.8	7.3	17.3	28.9	34.2	15.8		67%	177%
(%)	- 35.3	- 51.0	- 42.8	- 27.9	- 25.6	- 36.2	- 49.2	- 36.8	- 27.9	- 33.5	- 33.8		24%	27%	1.5	0.4	20.7	6.5	4.3	13.3	7.6	15.5	24.6	28.2	17.0		59%	182%
(%)	- 18	- 20	- 27	- 21	- 26	- 30	40	- 27	- 22	- 26	- 26		18%	15%	2	2	23	7	5	16	9	13	25	31	15		88%	160%
(thousand €)	26	22	21	26	25	24	21	28	30	27	28		9%	25%	74	68	119	87	75	113	91	123	136	148	116		11%	45%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.105 Sweden: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(€)	(thousand €)	(%)				
SWE A27 DTS2440 °	37	217	6,444	173	168,403	68,313	71,918	44,071	61.3	34,857	48.5	21,230	29.52	42.6	203.6	23.4	High	178%	Improved	53%
SWE A27 DTS1824 °	39	119	6,223	559	14,434	18,481	21,452	11,306	52.7	6,905	32.2	5,274	24.58	36.9	94.9	59.7	High	134%	Improved	16%
SWE A27 DTS1218 °	73	99	6,995	695	7,106	16,082	16,082	7,307	45.4	3,043	18.9	1,354	8.42	42.9	73.6	14.4	Weak	93%	Improved	12%
SWE A27 DFN0010 °	610	232	38,957	1,251	2,161	8,591	11,321	5,432	48.0	- 2,140	- 18.9	- 4,913	- 43.40	32.6	23.4	- 32.8	Weak	16%	Improved	8%
SWE A27 DFN1012 °	128	73	9,021	736	2,295	6,327	6,994	3,695	52.8	1,321	18.9	- 200	- 2.87	32.6	50.8	- 3.0	Weak	82%	Improved	5%
SWE A27 DTS1012 °	75	49	4,661	613	2,885	6,503	6,681	3,562	53.3	1,890	28.3	616	9.22	34.0	72.4	8.4	Weak	192%	Improved	5%
SWE A27 DFN1218 °	13	9	1,315	740	386	785	1,290	887	68.8	586	45.5	450	34.88	32.6	96.2	59.3	High	3870%	Improved	1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.106 Sweden: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(€)	(thousand €)	(%)		
SWE A27 DTS2440 °	33	227	6,756	156	195,024	73,065	76,317	48,363	63.4	38,211	50.1	26,429	34.63	44.7	213.1	31.9	High	56%
SWE A27 DTS1824 °	38	110	5,720	503	14,756	18,426	21,354	11,532	54.0	7,012	32.8	5,459	25.57	41.3	105.3	62.1	High	16%
SWE A27 DTS1218 °	71	92	6,485	891	5,138	16,342	16,342	7,805	47.8	3,342	20.4	1,737	10.63	48.5	84.8	18.3	Reasonable	12%
SWE A27 DFN0010 °	565	208	34,956	1,314	1,846	7,712	10,269	4,773	46.5	- 2,230	- 21.7	- 4,736	- 46.11	33.6	22.9	- 34.4	Weak	7%
SWE A27 DTS1012 °	80	49	4,614	571	3,070	6,579	6,771	3,487	51.5	1,744	25.8	416	6.15	35.8	71.6	4.4	Weak	5%
SWE A27 DFN1012 °	115	63	7,868	880	1,673	5,072	5,679	2,694	47.4	733	12.9	- 601	- 10.58	30.9	42.4	- 9.1	Weak	4%
SWE A27 DFN1218 °	9	6	836	752	241	344	698	423	60.7	287	41.2	195	27.98	23.2	72.2	35.9	High	1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.107 Sweden: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Atlantic herring	30.5	23.2	24.3	28.1	33.1	37.9	30.0	35.2	45.2	47.0	91.0	76.0	70.1	58.6	60.7	77.9	77.1	97.0	117.2	103.2	0.3	0.3	0.4	0.5	0.6	0.5	0.4	0.4	0.4	0.5	36%	59%
Norway lobster	14.8	11.6	13.1	13.2	15.8	14.6	15.0	15.7	17.8	17.3	1.5	1.3	1.2	0.9	1.4	1.1	1.3	1.1	1.4	1.4	10.0	8.8	10.6	14.0	11.8	13.0	11.9	13.8	13.0	12.2	14%	1%
Northern prawn	13.2	13.7	14.4	17.0	15.7	13.6	12.2	15.0	16.8	14.4	2.3	2.3	1.6	1.6	1.4	1.1	1.3	1.5	2.0	1.5	5.6	6.1	8.9	10.4	11.1	12.3	9.6	9.9	8.7	9.6	13%	1%
European sprat	14.2	12.2	16.0	14.9	13.4	17.4	13.0	12.0	13.6	11.6	83.9	80.1	77.8	56.9	45.9	52.9	49.5	51.1	56.4	58.5	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	11%	29%
Atlantic cod	22.8	17.1	17.9	20.9	20.0	12.4	10.4	10.0	9.2	8.4	12.5	13.1	12.2	13.4	13.3	7.9	6.9	8.0	7.4	6.2	1.8	1.3	1.5	1.6	1.5	1.6	1.5	1.2	1.2	1.4	7%	4%
Vendace	2.7	2.0	3.6	4.5	5.5	6.1	5.6	6.7	6.0	6.1	0.6	0.8	1.0	1.1	1.3	1.5	1.8	1.9	1.6	1.0	4.5	2.3	3.6	4.0	4.4	4.2	3.1	3.6	3.7	6.2	5%	1%
Atlantic mackerel	6.0	6.9	3.7	6.5	5.0	3.5	4.6	3.3	4.6	6.1	3.6	7.4	3.4	3.5	4.4	2.9	4.5	4.0	3.8	3.9	1.6	0.9	1.1	1.8	1.1	1.2	1.0	0.8	1.2	1.6	4%	2%
Saithe(=Pollock)	1.5	1.6	2.1	2.1	2.0	1.8	1.8	1.6	1.8	1.5	1.6	1.4	1.6	1.3	1.3	1.4	1.3	1.2	1.2	1.2	1.0	1.2	1.4	1.6	1.6	1.3	1.4	1.4	1.5	1.2	1%	1%
Sandeels(=Sandlances)	1.9	1.8	8.5	7.3	1.1	8.1	3.5	6.6	1.2	6.2	12.3	12.5	33.1	32.4	3.9	27.5	19.1	33.4	4.3	42.3	0.2	0.1	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.2	1%	2%
European eel	2.2	1.5	1.6	1.7	1.3	1.6	0.9	0.9	1.2	1.0	0.4	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	5.5	5.2	5.9	7.5	10.3	10.1	7.1	7.8	8.4	9.4	1%	0%
																															94%	99%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

5.23 United Kingdom

Short description of the national fleet

Fleet capacity

In 2016, the UK fishing fleet consisted of 6 304 registered vessels of which 1 667 were inactive. The fleet had a combined gross tonnage (GT) of 194 thousand tonnes and engine power of 791 thousand kilowatts (Kw). Estimates for 2017 show the size of the overall fleet was largely static but with a very slight decrease in the number of active vessels.

Fleet structure

The UK fleet can be divided into a small-scale coastal fleet (70% of the active fleet in 2016) made up of vessels under 12m in length using passive gears and large-scale fleet (30% of the active fleet in 2016) made up of vessels greater than 12m in length using passive gears and vessels of any length using active gears.

Of the active fleet 1 700 vessels (37%) had annual landings with a value of less than £10 000. These vessels are termed as 'low activity' in UK-specific analysis and the vast majority of these vessels are from the small coastal fleet.

Employment

Total employment in 2016 was estimated at 11 757 jobs, corresponding to 8 888 FTEs or 1.9 FTE per active vessel. The SSCF represented 46% of total jobs but only 24% of FTEs; a large number of vessels in this fleet operate on a part-time basis.

Many UK fishers are paid a share of landed value of fish, hence crew share is strongly linked with fishing income; therefore, crew shares across fleet segments reflect the variability in fishing income.

Effort

An estimated 431 thousand days were spent at sea in 2016, no change from the previous year. At the same time energy consumption increased by 1%. This, coupled with static vessel numbers, indicates fleet efficiency remained at the same levels as the previous year.

The reduction in energy costs was due to a significant decrease in fuel price first seen in the second half of 2014 but continuing into 2015 and the first half of 2016. Energy costs in 2016 fell 15% compared to the previous year.

Vessels operate mainly in the North Sea, West of Scotland, English Channel and Western Approaches.

Production

Between 2015 and 2016, production decreased 1% to 701 thousand tonnes of seafood (live-weight equivalent) with a landed value of EUR 1.13 billion, a 6% increase on 2015.

The UK fleet is extremely diverse with a wide variety of fleet segments targeting different species. In terms of landings value, demersal species and shellfish species each represented 36% of total fishing revenues by the fleet in 2016 with pelagic species representing 28%. In terms of the weight, pelagic species represented 53% of total landings. Having benefitted from increased quotas for key species in 2014, pelagic landings decreased by 5% since 2015 and 15% compared to 2014 yet are 26% higher than landings in 2013.

In 2016, the dominant species was Atlantic mackerel generating the highest landings value (EUR 223 million) and landed weight (218 thousand tonnes), representing 20% of the total value of landings and 31% of the total weight of landings by the UK fleet. Norway lobster generated the second highest landings value (EUR 126 million), representing 11% of the total value of landings but only 4% of the weight.

Economic results for 2016 and recent trends

National fleet performance

The UK national fleet as a whole remained in a profit-making position in 2016 and profits were higher than in 2015. This increase in operating profit can be attributed to high average prices across species

groups and the continued decrease in energy costs. In 2017 the fleet is expected to have remained profitable, driven by continued strong prices across a number of important species group and increased landings weight.

In 2016, revenue, estimated at EUR 1.173 billion, increased 5% due to increased landings income and is despite other income (EUR 38 million) decreasing 9%. When including income from fishing rights, total income amounted to EUR 1.178 billion.

Total operating costs decreased by 2% thanks in part to the continued fall in energy costs. When including capital costs, total costs amounted to EUR 880 million generating a net profit of EUR 292 million.

Gross Value Added (GVA), gross profit and net profit in 2016 were estimated at EUR 651 million, EUR 351 million and EUR 292 million, respectively. GVA increased 16%, gross profit and net profit increased 27% and 854%, respectively. These results indicate the economic situation has improved compared to 2015.

The (depreciated) replacement value of the UK fleet was estimated at EUR 588 million and investments amounted to EUR 107 million, a 7% increase on 2015.

Overall, the cost structure has remained relatively constant over the years even with variations in landings and fuel price influencing crew and energy costs respectively.

Resource productivity and efficiency indicators

The gross profit margin in 2016 was 30%, indicating a high operating efficiency of the sector. Net profit margin was estimated at 25%.

The Rate of Return on Fixed Tangible Assets (RoFTA) was 50%, a large increase from 2015.

GVA increased by 16% whilst the number of FTE increased by 8% ensuring that labour productivity (GVA/FTE) increased in 2016. Despite a decrease in 2015 there is an overall improved development trend since 2008 indicating efficiency gains within the fleet.

Fuel consumption per landed tonne was relatively high at 402 litres per tonne. This indicator had followed an overall decreasing trend since 2008 however 2015 and 2016 both showed increases on the previous year.

Landings weight per unit of effort (in days at sea) had followed an increasing trend since 2008 but in 2015 decreased by 7% as landings fell whilst days at sea remained static. This was mainly driven by decrease of pelagic fleet's landings and change in landing composition per species of the UK fleet. In 2016 landings in weight per unit of effort were static as both weight of landings and days at sea were largely the same as the previous year.

Performance by fishing activity

Small-scale coastal fleet

In 2016, there were 3 257 active vessels belonging to the 'small-scale coastal fleet' (vessels under 12m using passive gears). Like the UK fleet as a whole, estimates suggest the fleet was more profitable in 2016.

Weight of landings for the SSCF increased by 13% whilst the value of landings increased by 8% as the fleet continued to benefit from the strong price achieved by a number of key species.

Costs decreased by 3% whilst effort (days at sea) also fell by 3% and FTE jobs remained static. Energy costs decreased by 16% due to the continued low fuel price. GVA, gross profit and net profit in 2016 were estimated at EUR 86 million, EUR 33 million and EUR 25 million, respectively. GVA increased 22%, gross profit increased by 59% and net profit increased by 219%.

In the past couple of years, vessels included in the small coastal fleet have benefitted from a reallocation of quota from the over 10m sector to the under 10m sector and the introduction of marine conservation zones in England, Wales and Northern Ireland and marine protected areas in Scotland.

Large-scale fleet

In 2016, there were 1 380 vessels belonging to the 'large-scale fleet' (all vessels using active gears and vessels over 12m using passive gears). Although landings weight decreased by 2%, the value of landings increased by 5% and total costs decreased meaning the fleet was more profitable than in 2015.

Wages and salaries increased in line with the value of landings but all other major costs decreased in 2016. Energy costs decreased by 15% and total costs excluding rights costs were estimated to be EUR 703 million.

GVA increased by 15% to EUR 565 million while gross profit increased by 24% and net profit by 47% to EUR 318 million and EUR 268 million, respectively.

The large-scale fleet is extremely diverse and it needs to be taken into account that profitability can be driven by a relatively small number of larger vessels targeting pelagic and certain demersal species. Despite overall increases in profitability there were some DCF segments that only experienced small increases in profitability or in a few cases became less profitable.

Performance results of selected fleet segments

The UK fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Bering Sea, North Sea, West of Scotland and English Channel and Western Approaches. These overlapping areas of interest make it difficult to provide a simple explanation of fleet structures across the UK. For example, the Scottish fleet has moved toward higher capacity vessels that can cover large sea areas and catch several hundred tonnes of fish per trip whilst a greater proportion of the English fleet is engaged in inshore areas remaining economically viable by catching smaller quantities of more valuable fish.

Pelagic trawlers (>40m)

This fleet is made up of 28 large-scale trawlers, responsible for more than half of the total weight of fish landed by the UK fishing fleet in 2016. This volume of fish equated to 27% of the total value of landings with the segment making a net profit of EUR 119 million in 2016. This segment has been consistently profitable and in 2016 profit margins increased significantly as revenues increased, despite a decrease in the weight of landings, and costs decreased.

These vessels generally operate out of Scottish ports and target pelagic species in the North Sea and West of Scotland. Mackerel and herring are the two main species landed by the UK pelagic fleet, accounting for around 85% by weight and 95% by value of this fleet's total landings in 2016. Mackerel is by far the most expensive pelagic fish and prices were at a record high in 2011 but have since fallen. In 2016, the average annual price for Mackerel was 15% higher than in 2015 contributing to the fleet's improved profitability. The average price of herring has also fallen during the time series as volume of landings has increased however in 2016 the price of herring increased significantly (even as the total volume of landings decreased slightly) with the average annual price at its highest across the time series.

More than half of the pelagic species caught by the UK fishing fleet are landed abroad with Norway and the Netherlands the main locations.

Pot and traps (<10m)

This fleet is a main employer for the UK fishing fleet with 1 235 FTEs generated in 2016. There are 1 814 vessels in the segment although around 725 of these vessels would be termed as low activity (annual landings less than £10 000).

Excluding the lower activity vessels, whelks account for the majority of the weight of landings however higher priced lobster species are more important to the fleet in terms of value. Lobsters had some of the highest average price of all species landed by the UK fleet in 2016.

The fleet as a whole made a net profit of EUR 14 million in 2016 having previously made a small loss in 2015. Landings weight and value both increased by 10% and the net profit margin was 15%. If low activity vessels are excluded from consideration, then this net profit margin increases further.

Demersal trawlers and seiners

This segment represented 17% (786 vessels) of the total UK fishing fleet in 2016. It landed 26% (181 thousand tonnes) of the total weight and 37% (EUR 421 million) of the total value of landings of the UK fishing fleet. Of particular importance are the 167 vessels between 18 and 24 m and the 87 vessels between 24 and 40 m with net profits of EUR 27 million and EUR 58 million respectively in 2016. Together these two segments generate 26% of total UK fleet FTEs and EUR 170 million in GVA.

The fleet targets a variety of species but in particular the demersal species, such as monkfish, cod, haddock and whiting, and the shellfish species, Norway lobster. The fleet received lower prices for a

number of key demersal species in 2016 yet with higher prices for key shellfish species and lower total costs profitability increased.

There are however differences in the economic performance of vessels in this fleet operating in different areas of UK waters. For example, *Nephrops* trawlers operating mainly in Area VIIA, North Sea and the West of Scotland all saw profitability increase in 2016 but on average the net profit of those mainly fishing in the North Sea was significantly higher than their counterparts in these other areas. The demersal whitefish fleet followed the same trend with vessels operating mainly in the North Sea recording on average greater net profits however vessels operating mainly in Area VIIA had a higher profit margin than those operating mainly in either the North Sea or the West of Scotland.

Drivers affecting the economic performance trends

Similar to the previous two years, the fleet benefitted from higher average fish prices for a number of prominent species and significantly lower energy costs thanks to a decline in the price of marine grade diesel that began in 2014 and continued through until the middle of 2016.

The increase in landings value in 2016 was mainly driven by the pelagic sector and the increase in prices of a number of important species. Possible reasons for the changes in the pelagic sector are an increase in demand following the Russian trade ban as mackerel and herring prices recovered due to strong demand in the Far East (exports of mackerel to China and South Korea increased significantly in weight and value in 2016 compared to 2015) and lower quotas and landings weight.

There were, however, some fleets that saw a reduction in profitability as fishing opportunities reduced due to deterioration in the stock status, or efficiency in terms of landings per unit of effort reduced. With a fleet as diverse as the UK fishing fleet it is difficult to define main drivers of economic performance as different factors will have varying levels of impact on different fleets.

Markets and Trade (including fish price)

Generally, shellfish and demersal species are the most valuable, reaching average prices approximately three times higher than those of pelagic species. The overall average price per tonne landed for the UK fleet increased by 7% in 2016 therefore had a significant impact on fleet profitability.

Atlantic mackerel is a key species for the UK fishing fleet representing 20% of total landings by value and 31% by weight therefore the average price per tonne received for the species will significantly impact on overall fleet performance. In 2016 the average landed price (real) increased 15% from EUR 890 per tonne to EUR 1 020 per tonne which meant that, despite a 12% fall in landings weight, the value of landings of Atlantic mackerel increased by EUR 3million.

Five of the top ten species landed by the UK fleet by value actually saw the average price per tonne decrease in 2016 compared to 2015 however none of these falls were particularly significant. The higher prices for four of the top five species and increased weight of landings helped drive increased profitability for the UK fishing fleet in 2016.

Management instruments and regulation (policy)

The fleet is managed mainly through TACs and quotas, together with a range of input controls. The highest profile regulation is the landing obligation which is being phased in over a number of years.

There was no obvious economic impact of the landing obligation observed in the first two years of implementation (2015-2016). In general, the pelagic fishery was not expected to be affected too much, as in most of the cases fish is not sorted at sea and usually landed directly to processing plants where sorting takes place. Due to the phasing of the landing obligation in demersal fisheries there hasn't been any major issues recorded yet but this may change when it starts to include the main potential choke stocks.

Restrictions on effort have been set in certain areas with the introduction of a number of marine conservation zones in England, Wales and Northern Ireland and marine protected areas in Scotland. In addition, sole and cod recovery zones as well as limitations to activity in the Western Waters have been in place since the early years of the 21st century.

Although it will not significantly impact on 2016 results it should be noted that the effort controls of the cod recovery zone were repealed in November 2016 by EU Parliament and Council Regulation No 2016/2094. Under this amended regulation individual vessels' effort with regulated gears is unlimited but the combined engine power capacity of the fleet is capped at 2006 or 2007 levels in each of the four

management areas. In July 2017, North Sea Cod was certified as sustainable by the Marine Stewardship Council.

Stock status, TACs and quotas

Total initial available quota for the UK fleet in 2016 was 796 thousand tonnes.

In 2014 the large increase in quota for Atlantic mackerel was the main driver of increased economic performance and in 2015 the subsequent decrease in quota was a key driver for overall fleet performance. In 2016, the quota for Atlantic mackerel decreased further and again the weight of landings decreased however in this instance the value of landings increased due to the 15% price increase for this key species.

A number of key demersal species including Atlantic cod and haddock received quota increases but in these cases the total value of landings decreased even as the weight of landings increased as prices fell. From the list of top landed demersal species anglerfish was the exception as quota, weight of landings and the value of landings all increased.

Pelagic species were the main driver of increased economic performance despite quota decreases.

Operating costs (external factors)

For a huge percentage of the UK fleet fuel costs are perceived to be one of the key drivers for economic performance. From mid-2014 there has been a significant decline in the price of marine grade diesel with the average price in 2016 estimated at 34 pence per litre, a 5% decrease from 2015. However, in 2016 prices began to rise again and by the final quarter of 2016 the daily estimated UK average was consistently higher than 40 pence per litre. Overall in 2016 total energy costs for the fleet decreased 15% to EUR 115 million despite effort levels remaining static.

Wages and salaries increased with the value of landings but other costs including repair and maintenance costs and other variable and non-variable costs decreased.

A further external factor to consider is the exchange rate. Vessels which made direct sales to Europe would have found the increasing strength of the euro against the pound increased their profit margins.

The reductions in costs along with the exchange rate were important factors in the UK fleet's strong profitability in 2016. Substantial changes in exchange rate also impact on our analysis due to the fact all economic variables are calculated in pounds and then converted to euros, this is covered further in the data issues section.

Innovation and Development

With the landing obligation being phased in, the need for innovation and development of new types of gear technology has become more important than ever before. From mesh panels to strategically placed lights, there are various different methods for reducing bycatch being trialled and it is clear that there won't be a simple 'one size fits all' solution. Investing in innovation would appear to be necessary for the continued survival of the industry but achieving these improvements must be balanced with the economic realities of the situation with many vessel owners unable to access the required capital.

If the gear has not been approved by the government, it can be a lengthy process and depending on the scale of alterations could incur significant costs. So far the four national governments have supported a number of projects including the Scottish industry-led Gear Innovation and Technology Advisory Group, a two-year gear trial project in Northern Ireland and the fully documented fishing scheme.

Participants in the recent Seafish strategic intentions survey expressed an inability to make long-term plans due to a climate of uncertainty linked to changes in regulation amongst other things. This focus on day-to-day operations, whilst necessary for the survival of a large number of vessels, can hinder innovation and development.

Social impact

According to the findings of Seafish's pilot survey of employment in the UK fishing fleet the majority of fisherman in the UK (74%) are paid via a share of the value of fish landed after deducting operating costs otherwise known as crew share. Economic performance and revenue is therefore strongly linked to salary and in 2016 average salary increased as the value of landings did. One of the major challenges faced by fishing businesses is recruiting reliable and skilled crew and as a result maintaining economic performance is important to ensure salaries offered by vessel businesses are competitive.

The increase in average price per tonne has impacted on the activities of processing companies in the UK. With perceived increased competition between companies for raw materials many have acted to secure their supply by either strengthening relationships with vessel owners to outright purchasing fishing vessels. This can be a mutually beneficial relationship as it both secures supply for the processor and provides security for the fishers when they come to sell their catch.

Projections for 2017 and outlook for 2018

MODEL FORECAST

Preliminary results for 2017 forecast a 2% increase in landed weight, with a 7% decrease in landed value. Projections suggest total operating costs will remain stable or even decrease, as energy costs increase 2% and wages and salaries and other major operating costs decrease. Overall economic performance is forecast to worsen in 2017: GVA (6%), gross profit (-9%) and net profit (-6%).

Results indicate that the UK fleet operated at a profit in 2017: with an estimated gross and net profit margin of 28% and 24%, respectively.

The model forecasts that the economic performance in 2018 will be similar to 2017, as decreased landings (-2% compared to projected 2017 figures) are counteracted by high prices, resulting in a 3% increase in value. With fuel costs also increasing in 2018 (+9%), the fleet remains profitable with gross and net profit margins of 28% and %, respectively.

Data issues

No major issues detected. In 2017, some changes were made to segmentation in order to provide a more relevant picture of fleet performance and the methodology used to estimate data on capital values was updated. In 2018, the method for calculating energy cost was updated to take into account monthly fuel prices (as opposed to annual), also updated was the method for calculating depreciation. As a result of these changes values and figures may differ from previous reports.

Exchange rates also affect the trend analysis due to the fact that the UK calculates all economic variables in pounds and then converts to euro amounts. Between 2014 and 2016 there were substantial changes in the exchange rate which would certainly impact this analysis.

The reader should note that UK fleet revenues and costs do not include trade in quota. Quota trades take two forms; transfer in perpetuity and transfers for a defined period, usually one year – generally called leasing. There are two components within each of these. First, there is windfall accruing to those enjoying the initial allocation of the resource in 1999 and secondly the normal capital gain or loss arising on the transfer of the asset. Only the latter should be included in the accounts used in this report. However, it is impossible to identify the contribution of each component, but as the proportion of the total value is declining with each transfer of the original allocation, the problem will disappear as time goes by. Initially, however, the windfall component will be by far the greater proportion and hence for the time being omission of transfers limits any distortion of the fleet profitability figures.

Table 5.108 United Kingdom: National fleet statistics and economic performance results. Nowcast figures for 2017 and 2018

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ 2016 to 2015	Δ 2016 to avg. 08-15
Total number of vessels	(#)	6,706	6,681	6,531	6,467	6,435	6,376	6,338	6,307	6,304	6,263	*4,630*		0%	-3%
Number of Inactive vessels_ms	(#)	1,807	1,843	1,757	1,669	1,673	1,746	1,773	1,723	1,667	1,597			-3%	-5%
Vessel tonnage	(thousand GT)	215.9	209.9	216.8	204.0	202.7	202.1	198.3	195.8	193.5	200.5			-1%	-6%
Engine power	(thousand kW)	868.6	849.4	847.9	816.3	810.4	808.2	799.1	794.2	790.9	798.4			0%	-4%
Total employed	(person)	12,614	12,212	12,703	12,405	12,445	12,235	11,845	12,107	11,757	11,774	*11,617*		-3%	-5%
FTE	(#)	8,699	9,549	9,245	9,034	8,563	7,870	7,769	8,223	8,888	8,395	*8,481*		8%	3%
Days at sea	(thousand day)	456.2	433.3	429.2	420.0	411.6	401.3	428.2	431.7	431.0	379.6	*379.5*		0%	1%
Fishing days	(thousand day)	377.5	348.4	343.2	337.3	337.2	323.4	325.1	304.1	321.0	324.6			6%	-5%
Number of fishing trips	(thousand)	202	231	229	231	231	227	226	219	231	217			5%	3%
Energy consumption	(million litre)	318.7	312.4	310.5	285.7	279.8	273.3	281.4	279.3	281.7	278.0	*279.4*		1%	-4%
Live weight of landings	(thousand tonne)	575.0	582.8	608.4	603.7	634.4	628.5	758.9	709.0	700.6	715.2	*702.2*		-1%	10%
Value of landings	(million €)	932.7	880.3	938.7	1,026.8	1,010.6	887.8	1,072.1	1,070.6	1,130.1	1,053.1	*1,082.2*		6%	16%
Income from landings	(million €)	933.1	881.3	940.6	1,028.7	1,022.5	892.9	1,072.2	1,070.7	1,134.4	1,092.9	*1,086.0*		6%	16%
Other income	(million €)	32.3	27.3	29.5	27.0	41.7	43.7	47.4	41.8	38.2	39.1	*37.9*		-9%	5%
Direct income subsidies	(million €)	-	-	-	-	-	-	-	-	-					
Income from leasing fishing rights	(million €)	0.8	5.1	5.4	1.8	4.2	4.4	6.0	10.2	5.5				-46%	16%
Wages and salaries of crew	(million €)	239.8	227.9	216.3	229.6	239.8	203.4	254.4	272.9	285.2	275.7	*274.3*		5%	21%
Unpaid labour value	(million €)	14.7	14.1	12.2	12.8	12.7	10.2	11.6	11.2	14.3	13.3	*13.5*		28%	15%
Energy costs	(million €)	216.2	129.6	166.6	192.3	203.5	180.5	176.2	135.5	114.6	117.1	*128.2*		-15%	-35%
Repair & maintenance costs	(million €)	94.1	92.4	89.6	93.4	89.4	77.0	110.5	126.6	121.9	121.6	*116.3*		-4%	26%
Other variable costs	(million €)	168.2	161.0	151.6	175.2	173.0	158.2	178.0	217.5	219.7	217.4	*216.2*		1%	27%
Other non-variable costs	(million €)	88.2	83.6	130.6	127.3	119.2	108.8	70.4	71.7	65.6	65.7	*64.2*		-9%	-34%
Annual depreciation costs	(million €)	80.7	73.5	73.5	72.0	68.9	67.2	71.4	74.4	56.0	55.7	*53.8*		-25%	-23%
Rights costs	(million €)	30.8	38.2	30.3	36.5	36.1	41.0	35.5	50.8	46				-9%	24%
Opportunity cost of capital	(million €)	6.0	6.9	0.4	- 8.6	- 5.1	- 2.7	4.0	13.5	3.1	- 8.0	- 5.3		-77%	71%
Tangible asset value (replacement)	(million €)	692.6	601.3	631.3	553.2	492.1	483.8	627.2	774.1	588.2	543.5	*522.6*		-24%	-3%
Fishing rights	(million €)	1,078	1,081	1,078	1,264	1,435	1,064	1,379	1,854	1,276				-31%	0%
Investments	(million €)	52.8	74.9	104.6	49.6	60.2	100.8	83.8	99.6	107.0				7%	37%
Financial position	(%)	53.8	56.9	47.8	41.8	46.5	28.8	27.8	29.0	32.6				13%	-21%
Gross Value Added	(million €)	398.6	442.0	431.6	467.5	479.0	412.0	584.5	561.3	650.9	610.1	*599.0*		16%	38%
GVA to revenue	(%)	41.3	48.6	44.5	44.3	45.0	44.0	52.2	50.5	55.5	53.9	*53.3*		10%	20%
Gross profit	(million €)	144.1	200.1	203.2	225.1	226.5	198.4	318.5	277.2	351.3	321.1	*311.3*		27%	57%
Gross profit margin	(%)	14.9	22.0	20.9	21.3	21.3	21.2	28.4	24.9	30.0	28.4	*27.7*		20%	37%
Net profit	(million €)	57.3	119.8	129.3	161.8	162.6	133.9	243.2	189.3	292.3	273.4	*262.8*		54%	95%
Net profit margin	(%)	5.9	13.2	13.3	15.3	15.3	14.3	21.7	17.0	24.9	24.2	*23.4*		46%	72%
GVA per FTE (labour productivity)	(thousand €)	45.8	46.3	46.7	51.7	55.9	52.4	75.2	68.3	73.2	72.7	*70.6*		7%	32%
Return on fixed tangible assets	(%)	9.1	21.1	20.5	27.7	32.0	27.1	39.4	26.2	50.2	48.8	*49.3*		92%	98%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). Number of vessels in 2018 include active vessels only.
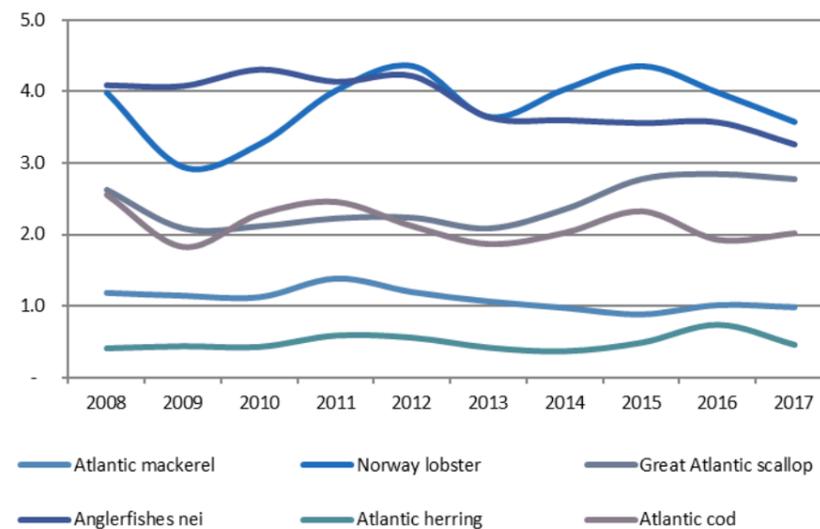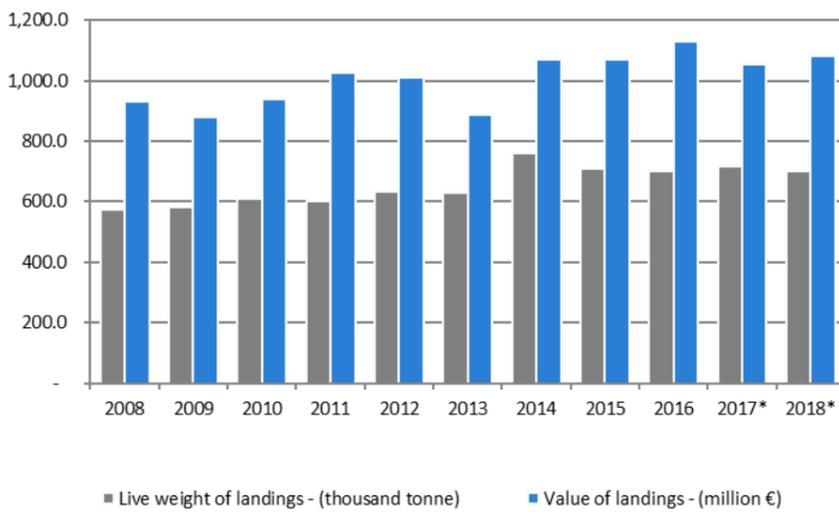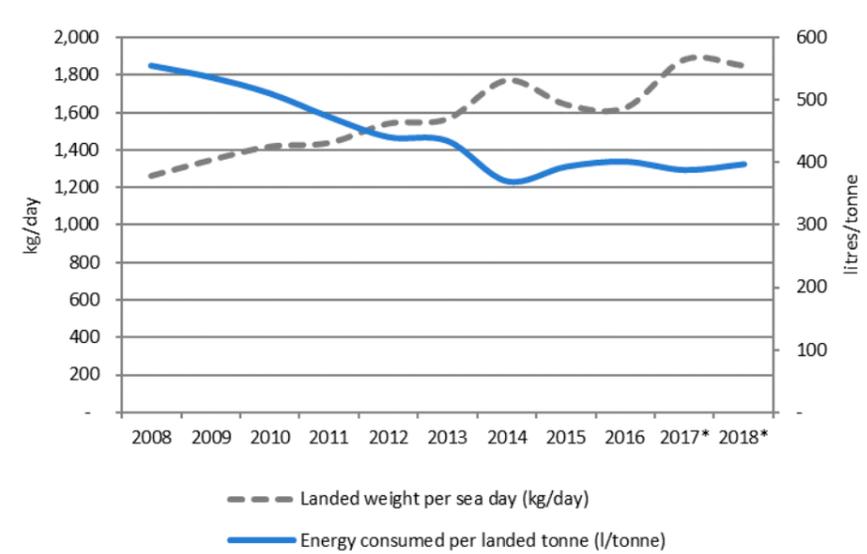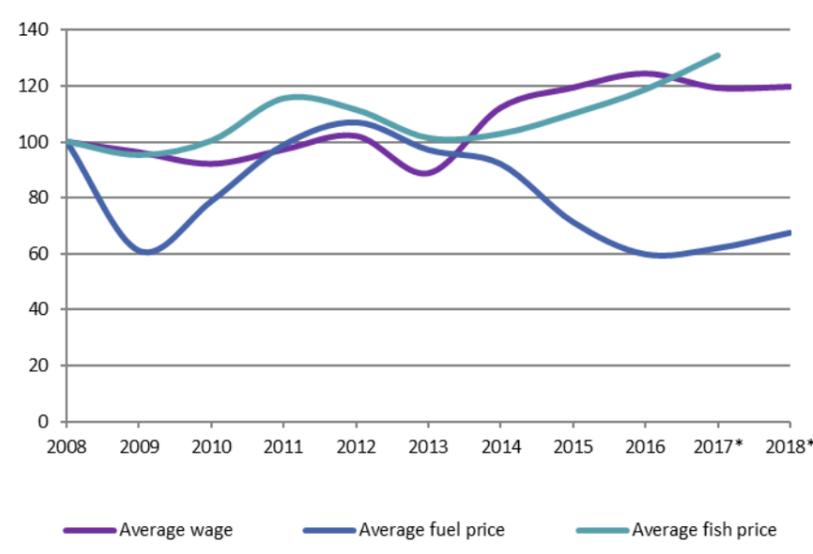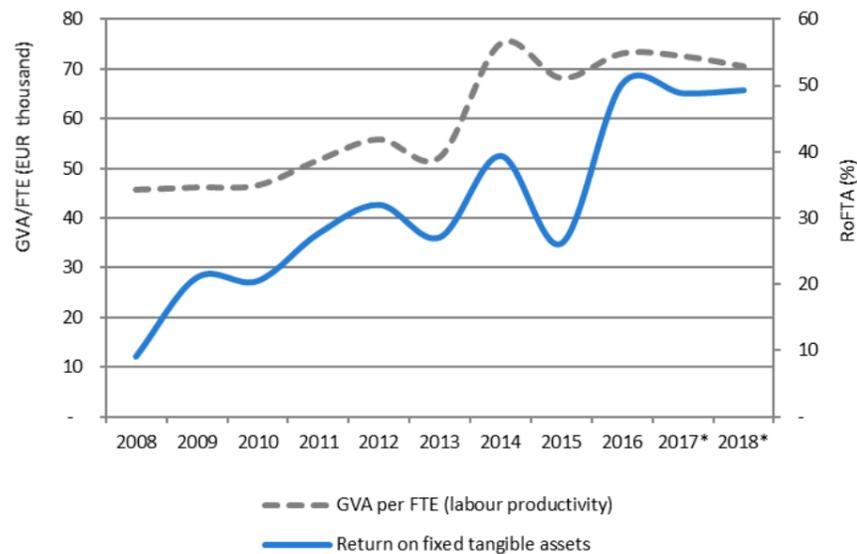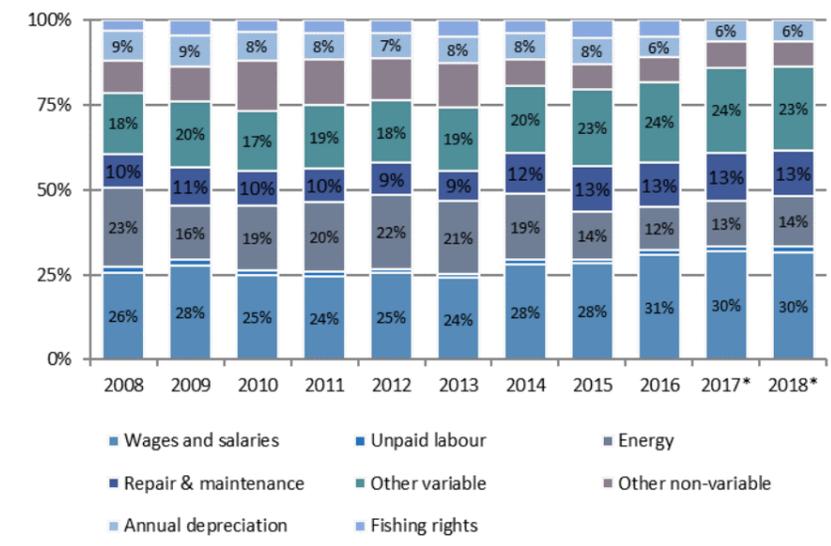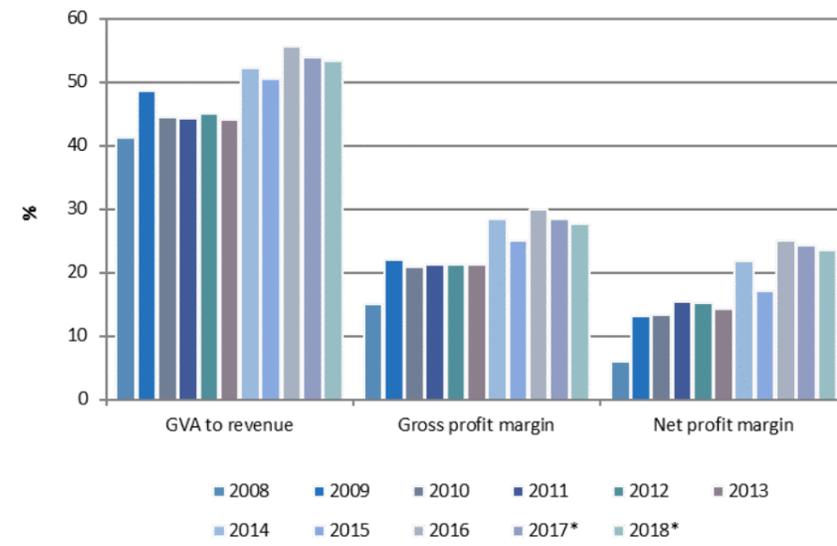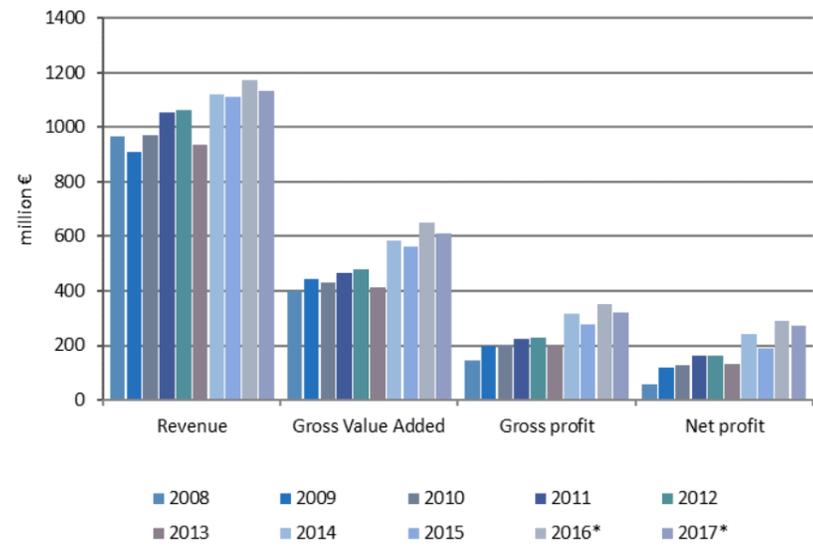
Figure 5.23 United Kingdom: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR /kg) of top species (panel 3b). Nowcast figures for 2017 and 2018

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.109 United Kingdom: National fleet statistics and economic performance results by fishing activity. Nowcast figures for 2017 and 2018

		SCF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15	LSF 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Trend 2008-2018	Δ2016 to 2015	Δ2016 to avg. 08-15
Total number of vessels	(#)	3,271	3,256	3,277	3,338	3,320	3,205	3,149	3,164	3,257	3,300	3,281		3%	0%	1,628	1,582	1,497	1,460	1,442	1,425	1,416	1,420	1,380	1,366	1,348		-3%	-7%
Vessel tonnage	(thousand GT)	13.6	13.3	13.3	13.5	13.2	13.0	13.5	13.1	13.4	13.6	13.6		3%	1%	185.3	180.9	191.1	177.0	177.9	172.7	170.2	169.9	168.2	173.8			-1%	-6%
Engine power	(thousand kW)	195	195	194	200	199	198	197	195	204	204	208		5%	4%	555	537	548	515	514	505	499	495	488	494			-2%	-6%
FTE	(#)	1,823	2,021	2,053	2,130	1,848	1,837	2,037	2,103	2,106	1,755	1,708		0%	6%	6,875	7,528	7,192	6,904	6,715	6,033	5,732	6,120	6,782	6,640	6,773		11%	2%
Total employed	(person)	5,429	5,617	5,958	6,092	5,797	5,910	5,738	5,743	5,422	5,467	5,386		-6%	-6%	7,185	6,595	6,745	6,313	6,648	6,325	6,107	6,364	6,335	6,307	6,231		0%	-3%
Days at sea	(thousand day)	239.4	221.0	224.8	228.3	221.2	215.6	238.8	244.9	238.3	195.5	190.6		-3%	4%	216.8	212.4	204.4	191.7	190.4	185.7	189.4	186.7	192.8	184.0	188.9		3%	-2%
Fishing days	(thousand day)	183.3	158.0	159.8	166.1	169.6	160.9	163.3	147.3	157.2	167.6			7%	-4%	194.2	190.4	183.5	171.1	167.6	162.5	161.8	156.8	163.8	157.0			4%	-6%
Number of fishing trips	(thousand)	99	127	131	135	134	129	132	126	134	128			7%	6%	102.4	104.4	98.4	95.6	97.0	98.1	94.8	93.4	96.4	89.1			3%	-2%
Energy consumption	(million litre)	29.6	27.4	28.5	28.4	28.1	27.5	30.3	30.7	30.6	25.1	24.4		0%	6%	289.1	284.9	282.0	257.3	251.7	245.8	251.2	248.5	251.1	252.9	254.9		1%	-5%
Live weight of landings	(thousand tonne)	40.1	39.2	42.7	44.6	48.9	50.7	50.3	44.5	50.3	45.9	40.5		13%	11%	534.9	543.7	565.7	559.2	585.5	577.7	708.5	664.5	650.3	669.2	661.7		-2%	10%
Value of landings	(million €)	133.7	110.3	119.5	123.4	128.1	116.3	129.2	132.7	143.6	127.4	132.9		8%	16%	799.0	769.9	819.0	903.4	882.5	771.6	943.0	937.9	986.5	925.7	949.3		5%	16%
Income from landings	(million €)	132.9	109.7	119.5	124.2	129.3	117.6	129.2	132.8	143.6	131.7	133.0		8%	15%	800.2	771.6	821.1	904.5	893.2	775.3	943.0	937.9	990.7	961.1	953.0		6%	16%
Other income	(million €)	6.7	3.2	4.3	4.8	6.1	5.6	6.8	3.5	7.0	7.1	7.0		99%	37%	25.6	24.1	25.3	22.3	35.6	38.1	40.7	38.2	31.2	32.0	30.9		-18%	0%
Direct income subsidies	(million €)	-	-	-	-	-	-	-	-	-						-	-	-	-	-	-	-	-	-					
Income from leasing fishing rights	(million €)	-	0.24	0.05	0.03	0.01	0.04	0.05	0.23	0.05				-80%	-45%	0.8	4.9	5.3	1.8	4.1	4.3	6.0	10.0	5.5				-45%	17%
Wages and salaries of crew	(million €)	42.8	31.4	34.5	32.2	35.0	33.7	37.6	40.1	39.6	36.1	36.7		-1%	10%	197.0	196.5	181.8	197.5	204.8	169.8	216.8	232.8	245.6	239.6	237.6		5%	23%
Unpaid labour value	(million €)	12.8	12.0	10.6	11.3	11.1	8.9	10.2	9.4	13.1	12.0	12.2		39%	21%	1.9	2.0	1.7	1.5	1.6	1.3	1.3	1.8	1.2	1.3	1.3		-34%	-26%
Energy costs	(million €)	20.6	11.4	15.4	19.3	20.3	18.1	18.9	14.9	12.5	10.7	11.3		-16%	-28%	195.5	118.1	151.2	173.0	183.2	162.5	157.4	120.6	102.0	106.5	116.9		-15%	-35%
Repair & maintenance costs	(million €)	11.2	7.5	9.1	10.9	10.3	8.4	9.2	10.1	8.3	8.4	8.4		-17%	-13%	82.9	84.8	80.5	82.5	79.1	68.6	101.3	116.5	113.6	113.2	107.9		-3%	30%
Other variable costs	(million €)	20.2	19.2	20.3	28.0	27.7	26.4	27.6	28.8	31.9	27.3	26.5		11%	29%	148.0	141.8	131.3	147.2	145.3	131.9	150.4	188.7	187.8	190.1	189.7		0%	27%
Other non-variable costs	(million €)	12.3	11.0	14.2	10.5	12.5	11.0	11.5	12.3	12.1	12.1	12.0		-2%	1%	76.0	72.6	116.5	116.8	106.7	97.8	58.9	59.4	53.5	53.5	52.1		-10%	-39%
Annual depreciation costs	(million €)	13.3	10.6	8.6	8.5	10.8	10.8	11.3	11.5	8.1	8.1	8.1		-29%	-24%	67.4	62.8	64.9	63.4	58.2	56.3	60.1	62.9	47.9	47.6	45.7		-24%	-23%
Rights costs	(million €)	0.1	0.0	1.2	0.6	0.1	0.5	0.1	0.2	0.3				97%	-7%	30.8	38.2	29.0	35.8	36.1	40.5	35.3	50.6	46.1				-9%	24%
Opportunity cost of capital	(million €)	0.80	0.91	0.05	1.20	-0.82	-0.52	0.57	1.64	0.46	1.31	-0.89		-72%	155%	4.71	5.41	0.31	-6.82	3.80	-2.02	3.15	11.14	2.36	6.74	4.44		-79%	56%
Tangible asset value (replacement)	(million €)	92.5	80.1	80.9	77.1	79.6	93.0	90.4	94.3	88.0	88.2	87.6		-7%	2%	541	474	510	437	369	360	500	640	454	455	435		-29%	-5%
Fishing rights	(million €)	102.2	96.0	93.2	103.4	89.6	74.4	98.1	109.4	80.2				-27%	-16%	912	927	931	1,107	1,275	941	1,224	1,616	1,139				-30%	2%
Investments	(million €)	1.1	11.3	15.9	8.5	16.5	24.9	16.1	9.5	16.5				75%	27%	51.7	63.6	88.7	41.1	43.7	75.9	67.7	90.1	90.4				0%	38%
Gross Value Added	(million €)	75.3	63.8	64.8	60.3	64.6	59.4	68.7	70.3	85.8	80.3	81.8		22%	30%	323.3	378.3	366.9	407.2	414.5	352.6	515.8	491.0	565.1	529.8	517.2		15%	39%
GVA to revenue	(%)	53.9	56.5	52.3	46.7	47.7	48.2	50.6	51.6	56.9	57.9	58.4		10%	12%	39.2	47.5	43.3	43.9	44.6	43.4	52.4	50.3	55.3	53.3	52.6		10%	21%
Gross profit	(million €)	19.6	20.4	19.7	16.8	18.4	16.8	20.9	20.8	33.1	32.2	32.9		59%	72%	124.5	179.7	183.5	208.3	208.1	181.6	297.6	256.3	318.3	288.9	278.3		24%	55%
Gross profit margin	(%)	14.0	18.0	15.9	13.0	13.6	13.7	15.4	15.3	21.9	23.2	23.5		43%	48%	15.1	22.6	21.7	22.5	22.4	22.3	30.3	26.3	31.1	29.1	28.3		19%	36%
Net profit	(million €)	5.5	8.8	11.0	9.5	8.5	6.5	9.0	7.7	24.5	25.4	25.8		219%	195%	52.4	111.5	118.3	151.7	153.7	127.3	234.4	182.3	268.1	248.0	237.1		47%	90%
Net profit margin	(%)	3.9	7.8	8.9	7.3	6.3	5.3	6.6	5.6	16.2	18.3	18.4		189%	151%	6.3	14.0	14.0	16.4	16.5	15.6	23.8	18.7	26.2	25.0	24.1		40%	67%
Return on fixed tangible assets	(%)	6.8	12.2	13.6	10.7	9.6	6.5	10.6	9.9	28.3	27.3	28.4		187%	184%	10.6	24.7	23.2	33.2	40.7	34.8	47.5	30.2	59.5	53.0	53.5		97%	95%
GVA per FTE (labour productivity)	(thousand €)	41.3	31.5	31.5	28.3	34.9	32.3	33.7	33.4	40.7	45.8	47.9		22%	22%	47.0	50.2	51.0	59.0	61.7	58.5	90.0	80.2	83.3	79.8	76.4		4%	34%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015)

Table 5.110 United Kingdom: National fleet statistics and economic performance results by fleet segment, 2016

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2016)	Net profit margin %Δ 2016 - average (2008-15)	Economic development trend	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)				
GBR A27 TM40XX °	28	103	1,906	118	354,753	303,712	309,527	203,108	65.6	137,404	44.4	118,636	38.33	640.3	1,979.2	73.5	High	47%	Improved	26.4%
GBR A27 DTS2440	87	1,099	18,069	588	79,914	176,486	185,054	107,816	58.3	63,636	34.4	58,217	31.46	40.2	98.1	134.6	High	130%	Improved	15.8%
GBR A27 DTS1824	167	1,177	29,410	860	43,212	113,233	118,677	62,251	52.5	32,323	27.2	26,747	22.54	25.4	52.9	45.8	High	106%	Improved	10.1%
GBR A27 FPO0010	1,814	1,235	161,032	720	28,213	85,399	90,613	52,232	57.6	18,591	20.5	13,758	15.18	27.2	42.3	29.5	Reasonable	267%	Improved	7.7%
GBR A27 DTS1218 °	201	844	31,799	905	21,083	58,157	60,152	30,370	50.5	14,370	23.9	11,255	18.71	19.0	36.0	51.3	Reasonable	73%	Improved	5.1%
GBR A27 DTS40XX °	9	181	2,058	549	27,399	46,302	55,237	21,953	39.7	8,998	16.3	8,246	14.93	71.4	121.0	25.9	Reasonable	2%	Stable	4.7%
GBR A27 TBB2440 °	33	385	7,117	1,553	17,293	47,729	47,735	23,310	48.8	9,692	20.3	7,101	14.88	35.3	60.5	50.5	Reasonable	3307%	Improved	4.1%
GBR A27 DRB1218	111	424	15,647	645	16,436	34,757	35,661	15,141	42.5	5,730	16.1	2,947	8.26	22.2	35.7	11.9	Weak	-33%	Deteriorated	3.0%
GBR A27 FPO1218	80	487	13,599	496	16,697	33,246	34,071	17,530	51.5	7,276	21.4	5,680	16.67	21.1	36.0	50.3	Reasonable	81%	Improved	2.9%
GBR A27 FPO1012	178	420	26,788	364	11,349	28,860	29,921	17,136	57.3	9,927	33.2	8,589	28.70	17.2	40.8	67.0	High	60%	Improved	2.6%
GBR A27 HOK2440 °	14	245	3,367	570	9,311	29,680	29,766	12,535	42.1	9,163	30.8	8,760	29.43	13.7	51.1	155.6	High	342%	Improved	2.5%
GBR A27 DRB2440 °	30	276	6,016	613	13,394	26,117	26,150	11,333	43.3	3,196	12.2	1,591	6.08	29.5	41.1	15.3	Weak	-61%	Deteriorated	2.2%
GBR A27 DRB1824	24	163	4,750	581	9,521	18,348	18,372	8,063	43.9	2,346	12.8	1,203	6.55	35.0	49.3	11.8	Weak	-58%	Deteriorated	1.6%
GBR A27 DFN2440 °	14	270	3,365	389	5,189	16,916	16,918	10,022	59.2	4,595	27.2	2,847	16.83	20.1	37.1	29.0	Reasonable	13%	Improved	1.4%
GBR A27 FPO1824 °	15	187	3,487	319	8,198	16,162	16,563	9,097	54.9	4,111	24.8	3,330	20.11	26.7	48.7	49.2	High	44%	Improved	1.4%
GBR A27 TBB1824	17	95	4,257	1,279	4,263	16,471	16,472	9,448	57.4	4,902	29.8	3,947	23.96	47.7	99.1	73.9	High	241%	Improved	1.4%
GBR A27 DTS0010	237	337	20,871	784	5,212	15,858	16,375	8,067	49.3	3,905	23.8	2,952	18.03	12.4	24.0	28.7	Reasonable	180%	Improved	1.4%
GBR A27 DFN0010	590	185	24,195	531	4,204	12,064	12,473	7,296	58.5	1,705	13.7	447	3.58	30.2	39.4	3.2	Weak	-35%	Deteriorated	1.1%
GBR A27 DTS1012	85	181	10,157	861	4,136	10,956	11,260	5,807	51.6	3,167	28.1	2,661	23.63	14.6	32.0	52.8	High	100%	Improved	1.0%
GBR A27 HOK0010	541	112	19,159	517	2,743	9,134	9,413	5,092	54.1	1,295	13.8	806	8.56	34.0	45.6	11.8	Weak	394%	Improved	0.8%
GBR A27 DRB0010	112	114	6,962	906	2,657	6,694	6,992	2,796	40.0	792	11.3	189	2.70	17.6	24.5	5.2	Weak	0%	Stable	0.6%
GBR A27 DRB1012	31	88	3,911	1,001	2,077	5,868	6,122	2,439	39.8	996	16.3	462	7.55	16.4	27.7	8.4	Weak	-25%	Deteriorated	0.5%
GBR A27 DFN1012 °	16	78	1,860	250	2,822	4,762	4,765	2,765	58.0	1,237	26.0	745	15.63	19.6	35.5	28.0	Reasonable	24%	Improved	0.4%
GBR A27 MGP1218 °	14	38	1,639	120	7,657	3,656	4,257	1,758	41.3	826	19.4	718	16.86	24.7	46.7	11.7	Reasonable	77%	Improved	0.4%
GBR A27 TBB1218	24	56	2,484	2,168	1,096	3,997	4,253	1,285	30.2	450	10.6	287	6.74	15.0	23.1	46.8	Weak	152%	Improved	0.4%
GBR A27 PGP0010 °	99	37	3,428	772	603	1,823	1,919	1,027	53.5	248	12.9	106	5.53	21.1	27.8	14.4	Weak	2790%	Improved	0.2%
GBR A27 HOK1012 °	19	39	1,798	3,743	355	1,571	1,576	230	14.6	50	3.2	20	1.24	4.6	5.9	5.9	Weak	106%	Improved	0.1%
GBR A27 TBB0010 °	31	15	936	1,423	362	1,390	1,479	571	38.6	256	17.3	187	12.63	20.5	37.1	34.7	Reasonable	222%	Improved	0.1%
GBR A27 MGP0010 °	16	16	970	445	463	792	820	397	48.5	165	20.1	108	13.16	14.3	24.5	13.9	Reasonable	150%	Improved	0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).

Table 5.111 United Kingdom: National fleet statistics and economic performance results by fleet segment, 2017*

	Total number of vessels	FTE	Days at sea	Energy consumed per landed tonne	Live weight of landings	Value of landings	Revenue	Gross Value Added	GVA to revenue	Gross profit	Gross profit margin	Net profit	Net profit margin	Average wage per FTE	GVA per FTE (labour productivity)	Return on fixed tangible assets	Profitability (2017)	As a % of total revenue
	(#)	(#)	(day)	(litre/tonne)	(tonne)	(thousand €)	(thousand €)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(%)	(thousand €)	(thousand €)	(%)		
GBR A27 TM40XX °	27	105	1,946	111	384,776	279,212	294,266	187,677	63.8	125,220	42.6	110,153	37.43	596.1	1,791.3	68.3	High	26.0%
GBR A27 DTS2440	93	1,187	19,520	614	82,638	179,510	194,836	110,475	56.7	64,009	32.9	59,111	30.34	39.1	93.1	125.0	High	17.2%
GBR A27 DTS1824	163	1,153	28,817	822	44,257	112,752	121,937	65,902	54.0	35,088	28.8	30,769	25.23	26.7	57.1	51.5	High	10.8%
GBR A27 FPO0010	1,813	940	122,504	602	25,660	74,764	82,553	49,925	60.5	19,472	23.6	15,564	18.85	32.4	53.1	31.1	Reasonable	7.3%
GBR A27 DTS40XX °	9	192	2,173	535	29,690	51,039	61,771	26,644	43.1	11,879	19.2	11,776	19.06	77.1	139.1	34.5	Reasonable	5.5%
GBR A27 DTS1218 °	196	769	28,973	924	18,809	51,127	54,824	26,623	48.6	12,078	22.0	9,455	17.25	18.9	34.6	41.9	Reasonable	4.8%
GBR A27 TBB2440 °	36	416	7,686	1,942	14,935	42,610	44,065	17,083	38.8	4,512	10.2	1,978	4.49	30.2	41.1	11.2	Weak	3.9%
GBR A27 FPO1218	78	491	13,728	498	16,785	34,346	36,325	19,596	53.9	8,642	23.8	7,300	20.10	22.3	39.9	63.7	High	3.2%
GBR A27 FPO1012	176	406	25,921	380	10,525	26,759	28,725	16,142	56.2	9,231	32.1	8,156	28.39	17.0	39.7	61.9	High	2.5%
GBR A27 DRB1218	117	378	13,931	809	11,674	26,263	28,116	8,405	29.9	1,052	3.7	- 1,351	- 4.81	19.5	22.3	- 6.4	Weak	2.5%
GBR A27 DRB2440 °	23	227	4,950	724	9,331	22,671	23,468	11,425	48.7	4,121	17.6	3,049	12.99	32.2	50.3	35.1	Reasonable	2.1%
GBR A27 HOK2440 °	14	249	3,414	691	7,790	18,484	19,195	1,577	8.2	- 595	- 3.1	- 886	- 4.62	8.7	6.3	- 17.1	Weak	1.7%
GBR A27 DRB1824	25	179	5,209	784	7,735	17,222	17,833	6,592	37.0	1,044	5.9	68	0.38	31.0	36.8	- 0.9	Weak	1.6%
GBR A27 TBB1824	17	95	4,226	1,299	4,166	16,808	17,380	10,284	59.2	5,489	31.6	4,635	26.67	50.7	108.6	84.1	High	1.5%
GBR A27 FPO1824 °	16	212	3,950	390	7,600	14,576	15,502	7,123	45.9	2,473	16.0	1,782	11.50	22.0	33.6	22.8	Reasonable	1.4%
GBR A27 DTS0010	213	267	16,532	681	4,753	14,156	15,105	8,100	53.6	4,259	28.2	3,587	23.75	14.4	30.4	36.4	High	1.3%
GBR A27 DFN2440 °	13	234	2,919	363	4,820	11,617	12,013	5,841	48.6	1,987	16.5	540	4.49	16.5	24.9	4.3	Weak	1.1%
GBR A27 DTS1012	80	161	9,014	793	3,985	11,126	11,793	6,792	57.6	4,020	34.1	3,637	30.84	17.2	42.2	73.9	High	1.0%
GBR A27 HOK0010	647	124	21,201	525	2,990	9,807	10,477	5,529	52.8	1,313	12.5	897	8.56	34.1	44.7	8.9	Weak	0.9%
GBR A27 DFN0010	534	150	19,597	587	3,080	9,383	10,074	5,652	56.1	1,155	11.5	310	3.08	30.0	37.6	0.6	Weak	0.9%
GBR A27 DRB0010	117	111	6,785	852	2,753	6,868	7,416	3,172	42.8	1,045	14.1	496	6.69	19.1	28.5	10.2	Weak	0.7%
GBR A27 DRB1012	29	71	3,154	920	1,824	5,079	5,491	2,322	42.3	1,031	18.8	638	11.61	18.2	32.8	10.1	Reasonable	0.5%
GBR A27 MGP1218 °	21	42	1,846	147	7,039	4,062	5,108	2,019	39.5	948	18.6	978	19.15	25.2	47.6	8.6	Reasonable	0.5%
GBR A27 DFN1012 °	16	68	1,618	220	2,791	3,567	3,690	1,854	50.2	670	18.2	229	6.21	17.5	27.3	6.9	Weak	0.3%
GBR A27 TBB1218	22	53	2,381	2,960	769	2,983	3,321	455	13.7	- 190	- 5.7	- 329	- 9.89	12.1	8.5	- 58.9	Weak	0.3%
GBR A27 MGP0010 °	36	32	1,906	140	2,894	2,289	2,430	1,544	63.5	850	35.0	757	31.16	21.8	48.5	39.9	High	0.2%
GBR A27 PGP0010 °	96	33	3,074	804	520	1,548	1,694	861	50.8	178	10.5	54	3.21	20.7	26.0	5.8	Weak	0.1%
GBR A27 HOK1012 °	18	35	1,626	3,398	354	1,560	1,618	370	22.9	186	11.5	164	10.11	5.3	10.6	46.1	Reasonable	0.1%
GBR A27 TBB0010 °	21	16	952	2,495	210	862	952	104	10.9	- 98	- 10.3	- 138	- 14.45	12.9	6.7	- 38.4	Weak	0.1%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015). * projected values

Table 5.112 United Kingdom: Landed value, weight and average price of principal species

	Value of landings (real) (thousand €)										Live weight of landings (thousand tonne)										Average landed price (real) (€)										% over total (2016)	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	in value	in weight
Atlantic mackerel	152.0	198.5	180.9	253.2	203.2	174.9	281.8	220.2	223.0	224.8	128.0	172.3	160.7	182.2	168.8	163.8	288.0	248.0	217.6	226.5	1.2	1.2	1.1	1.4	1.2	1.1	1.0	0.9	1.0	1.0	20%	31%
Norway lobster	173.7	127.0	126.6	138.9	143.0	104.1	123.5	113.2	125.7	106.7	43.6	43.0	38.7	34.5	32.8	28.5	30.5	25.9	31.5	29.8	4.0	3.0	3.3	4.0	4.4	3.7	4.0	4.4	4.0	3.6	11%	4%
Great Atlantic scallop	58.7	57.7	65.4	67.2	77.0	65.3	67.2	79.0	80.8	73.0	22.3	27.6	30.9	30.1	34.4	31.2	28.5	28.4	28.3	26.3	2.6	2.1	2.1	2.2	2.2	2.1	2.4	2.8	2.9	2.8	7%	4%
Anglerfishes nei	63.0	61.4	61.9	62.6	56.6	49.4	56.9	64.5	72.8	63.5	15.4	15.1	14.4	15.2	13.5	13.6	15.9	18.2	20.5	19.5	4.1	4.1	4.3	4.1	4.2	3.6	3.6	3.6	3.6	3.3	6%	3%
Atlantic herring	27.6	29.6	29.0	36.3	50.6	39.8	35.7	45.6	68.4	38.3	67.1	67.1	66.9	61.6	90.4	93.8	97.7	93.7	92.3	83.7	0.4	0.4	0.4	0.6	0.6	0.4	0.4	0.5	0.7	0.5	6%	13%
Atlantic cod	49.6	41.3	59.1	57.1	56.2	55.4	62.2	67.6	63.8	72.5	19.3	22.5	25.8	23.2	26.5	29.6	30.7	28.9	33.0	35.9	2.6	1.8	2.3	2.5	2.1	1.9	2.0	2.3	1.9	2.0	6%	5%
Edible crab	41.0	32.8	38.6	41.0	45.2	45.8	55.3	54.2	57.4	58.6	22.8	22.6	24.8	26.8	28.4	29.3	33.2	29.8	33.8	32.0	1.8	1.5	1.6	1.5	1.6	1.6	1.7	1.8	1.7	1.8	5%	5%
Haddock	54.0	46.2	49.7	45.1	47.6	53.4	62.7	62.1	54.2	56.4	33.1	36.3	33.6	29.8	35.2	39.8	36.4	33.3	34.0	34.0	1.6	1.3	1.5	1.5	1.4	1.3	1.7	1.9	1.6	1.7	5%	5%
European lobster	46.0	35.0	35.4	40.5	40.2	36.1	41.9	44.7	48.1	47.4	2.7	2.8	2.8	3.2	3.2	3.0	3.4	3.1	3.3	3.3	17.1	12.5	12.9	12.6	12.7	12.1	12.3	14.3	14.6	14.4	4%	0%
European hake	15.9	20.0	16.4	18.1	22.7	27.3	32.2	41.2	41.2	34.8	6.1	7.9	6.9	8.0	8.4	9.0	11.3	12.7	14.4	14.6	2.6	2.5	2.4	2.3	2.7	3.0	2.9	3.3	2.9	2.4	4%	2%
																															74%	73%

Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)); All monetary values have been adjusted for inflation; constant prices (2015).
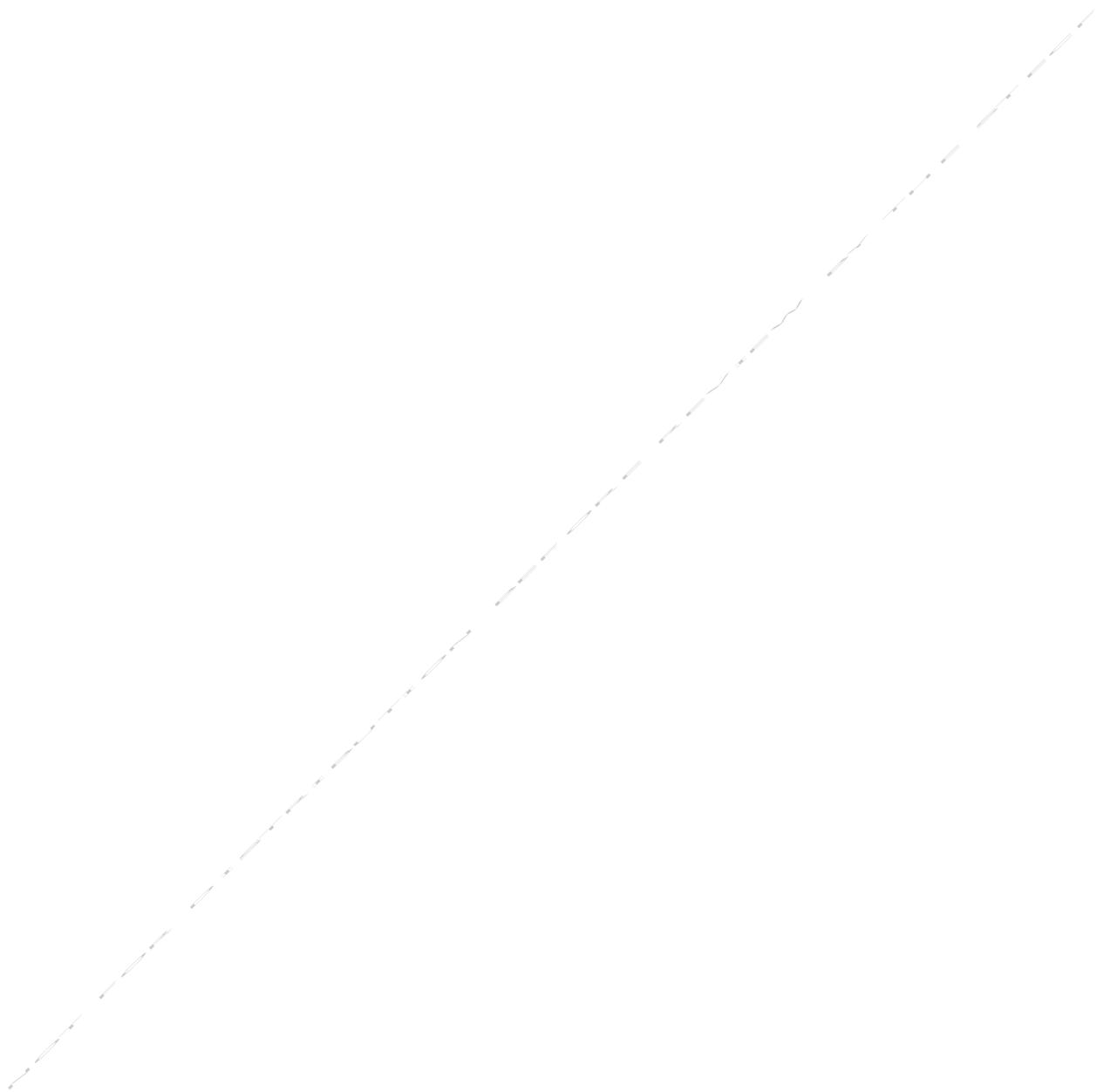
Background

The data used to compile the various analyses contained within the report were collected under the Data Collection Framework (DCF), cf. Council regulation (European Commission (EC) No 199/2008 of 25th February 2008). The 2018 data call for economic data on the EU fishing fleet for EU Member States was the tenth data call requested under the DCF.

This year's fleet economic data call was issued by DG MARE on the 30 January 2018 with a one-month deadline (1 March 2018). The call requested transversal and economic data for the years 2008 to 2016/2017. Capacity data were requested up to and including 2017, while employment and economic parameters were requested up to and including 2016.

Days at sea, fishing days, landings in value and weight were requested up to and including 2017, as well as, income from landings (all non-mandatory) to allow for economic performance nowcasts to be estimated at fleet segment and national level for 2017 and 2018.

The table below outlines all the DCF economic and transversal variables to be submitted for the years 2008-2016/17, along with their uploading acronyms and corresponding aggregation levels. All the various definitions for variables, aggregation levels, gear types, length classes, DCF supra regions, FAO sub regions, species, sampling strategies and precision levels can be found by navigating through the data collection website.

See https://datacollection.jrc.ec.europa.eu

DCF Variables Requested

Table 6.1 2018 DCF Fleet economic data call contents for years 2008-2016/17

Variable group	Variable	Years	Aggregation level
Fishing Enterprises	Enterprises consisting of 1 vessel	2008 - 2017	Yearly, by 1) National totals
	Enterprises consisting of 2-5 vessels	2008 - 2017	
	Enterprises consisting of > 5 vessels	2008 - 2017	
Employment	Number of engaged crew	2008 - 2016	Yearly, by 1) Fleet segment, Supra-region, 2) National totals
	FTE national	2008 - 2016	
	FTE harmonised	2008 - 2016	
Income	Income from landings	2008 – 2017*	Yearly, by 1) Fleet segment, Supra-region, 2) National totals
	Income from fishing rights	2008 - 2016	
	Direct subsidies	2008 - 2016	
	Other income	2008 - 2016	
Costs	Crew wages	2008 - 2016	Yearly, by 1) Fleet segment, Supra-region, 2) National totals
	Value of unpaid labour	2008 - 2016	
	Energy costs	2008 - 2016	
	Repair and maintenance costs	2008 - 2016	
	Other variable costs	2008 - 2016	
	Other non-variable costs	2008 - 2016	
	Rights costs	2008 - 2016	
	Annual depreciation costs	2008 - 2016	
Capital and Investments	Vessel replacement value	2008 – 2016	Yearly, by 1) Fleet segment, Supra-region, 2) National totals
	Value of fishing rights	2008 - 2016	
	In-year investments	2008 - 2016	
	Financial position	2008 - 2016	
	Vessel historical value**	2008 - 2016	
Capacity	Number of vessels	2008 - 2017	Yearly, by 1) Fleet segment, Supra-region, 2) National totals
	Mean length overall	2008 - 2017	
	Total GT	2008 - 2017	
	Total kW	2008 - 2017	
	Mean age	2008 - 2017	
	Number of vessels by region	2008 - 2016	Yearly, by 1) Fleet segment, Supra-region, Region (level 2)

Variable group	Variable	Years	Aggregation level
Effort	Fishing days	2008 – 2017*	Yearly, by 1) National Totals, 2) Fleet segment, Supra-region, FAO Area level 4 (Baltic), GFCM-GSA (Mediterranean & Black Sea), FAO Area level 3 (All other regions), and 3) (2) + gear type
	kW fishing days	2008 – 2016	
	GT fishing days	2008 – 2016	
	Hours at sea***	2008 – 2016	Yearly, by 1) Fleet segment, Supra-region, FAO Area level 4 (Baltic), GFCM-GSA (Mediterranean & Black Sea), FAO Area level 3 (All other regions)
	GT hours at sea***	2008 – 2016	
	kW hours at sea***	2008 – 2016	
	Days at sea	2008 – 2017*	Yearly, by 1) Fleet segment, Supra-region, FAO Area level 4 (Baltic), GFCM-GSA (Mediterranean & Black Sea), FAO Area level 3 (All other regions) 2) National Totals
	Number of trips	2008 – 2016	Yearly, by 1) Fleet segment, Supra-region, 2) National totals
	Energy Consumption	2008 - 2016	
	Maximum days at sea ***	2008-2016	Yearly, by 1) Fleet segment, Supra-region
Landings	Weight of landings per species	2008 – 2017*	Yearly, by 1) Fleet segment, Supra-region, FAO Area level 4 (Baltic), GFCM-GSA (Mediterranean & Black Sea), FAO Area level 3 (All other regions), and gear type 2) National Totals
	Value of landings per species	2008 – 2017*	
Recreational Catches	Weight of catch	2008-2017	Yearly, by Region (level 2)

* 2017 data not mandatory but requested from MS wherever possible in order to estimate economic projections for 2017. These data, if provided, are flagged as preliminary in the 2018 Annual Fleet Economic Report and corresponding data tables.

** Optional

***Non-mandatory under the DCF

Concepts, Terms and Definitions

Revenue

Revenue – the value of production (sale of landed seafood products) and income generated from the use of the vessel in other, non-commercial fishing activities, such as recreational fishing, transport, tourism, oil rig duty, research, etc., may also include insurance payment for gear damage/loss /vessel. Income from direct subsidies and fishing rights are excluded.

Gross Value Added (GVA)

Gross Value Added - net output of a sector after deducting intermediate inputs from all outputs. It is a measure of the contribution to GDP made by an individual producer, industry or sector. The Gross Value Added indicator calculated in this report is similar, but does not fully correspond to the Value added at factor cost of the Structural Business Statistics.

GVA to Revenue

Gross value added to revenue ratio - indicates the share of revenue that contributes to the economy through factors of production (returns to labour and returns to capital). Indicator is calculated as the ratio between gross value added and revenue and expressed as a percentage.

Gross profit

Gross profit – the normal profit after accounting for operating costs, excluding capital costs. Also referred to as gross cash flow, i.e. the flow of cash into and out of a sector or firm over a period of time.

Gross profit margin (%)

Gross profit margin - a measure of profitability that can be used to analyse how efficiently a sector is using its inputs to generate profit. Calculated as the ratio between gross profit and revenue. Expressed as a percentage.

Gross profit margin indicates the normal profitability of a firm and is of most interest to fishers as it represents the share of income they are left with at the end of the year. For managers, it may be used as an indication of the viability of an industry in terms of its commercial profitability by measuring the share of cash coming in and out of an industry. A high gross profit margin indicates that the sector has a low-cost operating model; reflects efficiency in turning inputs into outputs. A low percentage value can indicate a low margin of safety, i.e. a higher risk that declines in production or increases in costs may result in a net loss, or negative profit margin.

Net profit

Net profit is the difference between revenue and explicit costs and opportunity costs. Explicit costs include all operational costs, such as wages, energy, repair and other variable and non-variable costs. Net profit differs from gross profit in that it includes depreciation and opportunity costs of capital. It measures the efficiency of a producer in society's view by evaluating the total costs of inputs (excluding natural resource costs) in comparison to outputs or revenue.

Economic profit is the primary indicator of economic performance and is often used as a proxy of resource rent in fisheries. Economic profits emerge as the excess of revenue over the opportunity cost of producing the good. Also referred to as supernormal or abnormal profits. Abnormal profits in a sector is an incentive for other firms to enter the industry (if they can). Zero or a negative profit margin may indicate high competition in the sector and can be used as one of the indicators of overcapacity.

Net profit margin (%)

Economic profit margin - a measure of profitability after all costs have been accounted for, and reflects the percentage of revenue that a sector retains as profit. It measures the relative performance of the sector compared to other activities in the economy and provides an indication of the sector's operating efficiency as it captures the amount of surplus generated per unit of production.

Labour productivity (GVA/FTE):

Labour productivity - defined as output per unit of labour. Calculated as Gross Value Added (measure of output) by full-time equivalent (FTE) employment (unit of labour input). Labour productivity can be used as a measure of economic growth, competitiveness, and living standards within a sector. An increase in labour productivity indicates that a unit of input labour is producing more output or that the same amount of output is being produced with fewer units of labour. Labour productivity may also provide an indicator

of worker's wellbeing or living standards, assuming that increases in productivity are matched by wage increases.

Capital productivity

Capital productivity - the return of the investment divided by the cost of the investment, also referred to as ROI (Rate on Investment). It measures profits in relation to capital invested, i.e. indicates how profitable a sector is relative to its total assets. The higher the return, the more efficient the sector is in utilising its asset base.

As data on intangible assets (e.g. fishing rights, natural resource) are not always available in fisheries, the Return on Fixed Tangible Assets (ROFTA) is used as an approximation of ROI.
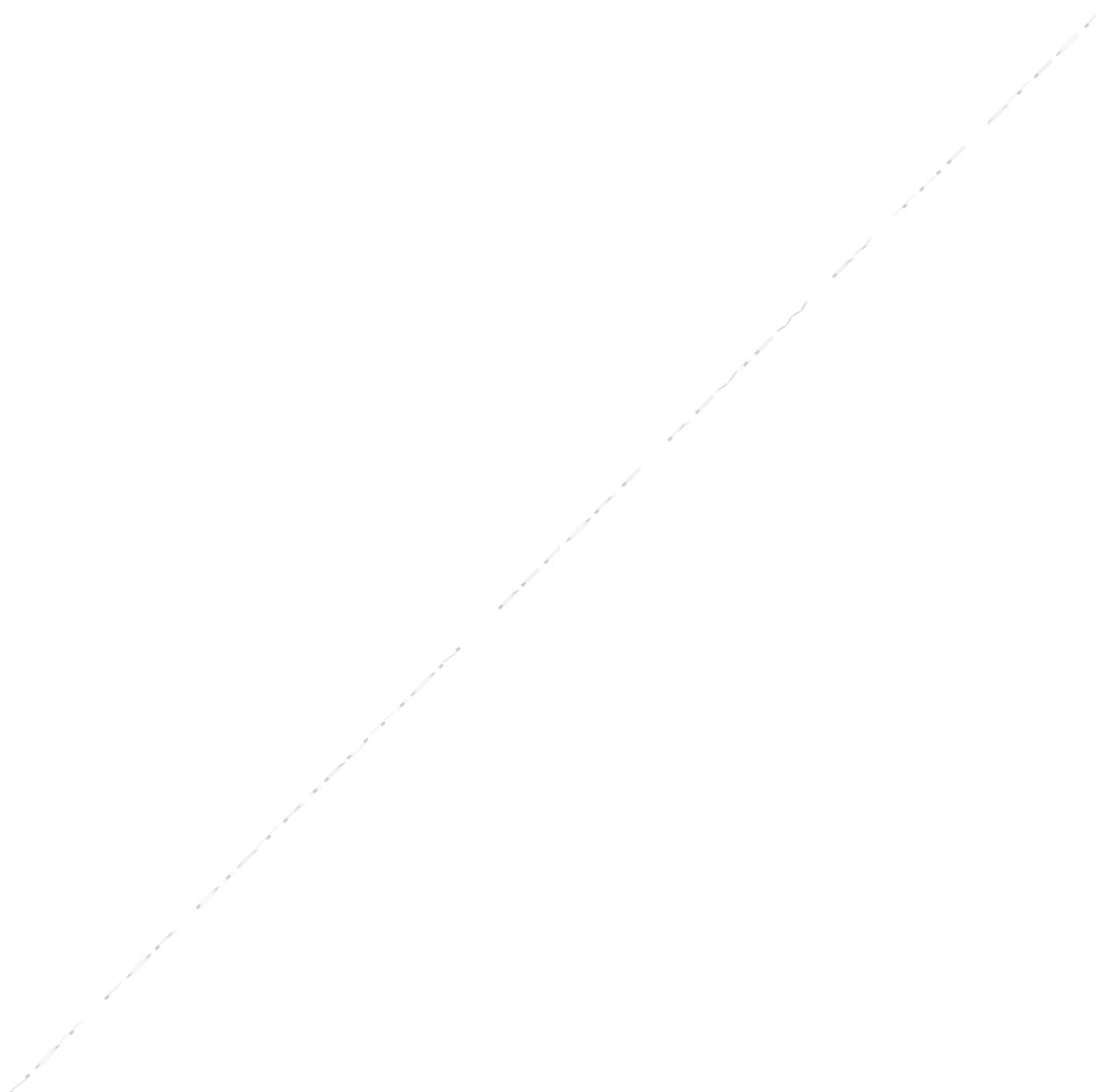
Economic performance indicator calculations

From the data submitted by Member States, indicators were calculated in order to assess the economic performance of fleet segments, national fleets, regional fleets and the EU fleet as a whole.

In order to account for inflation over the given time-period, all nominal values (i.e., the actual price in a given year) were converted to real values before estimating indictors.

For this conversion from nominal to real values, a Consumer Price Index (CPI) 'deflator' for each MS was applied to nominal values. Annual CPI data from taken from Eurostat's time-series of harmonised CPI http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database (Table 6.2).

$$Real\ value_i = \frac{Nominal\ value_i}{\frac{CPI_i}{CPI_{2015}}}$$

where i represents the year for which the nominal value is converted into 2015 real value

All values in this report are therefore given in real 2015 EUR, rather than nominal EUR.

Table 6.2 Harmonised index of consumer prices (HICP) by EU Member State, 2008-2018

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BEL	90.00	89.99	92.09	95.18	97.68	98.90	99.38	100.00	101.77	104.03	105.68
BGR	91.55	93.81	96.66	99.94	102.33	102.72	101.08	100.00	98.68	99.85	101.45
DNK	91.20	92.10	94.10	96.60	98.90	99.40	99.80	100.00	100.00	101.10	101.63
DEU	91.90	92.10	93.20	95.50	97.50	99.10	99.90	100.00	100.40	102.10	103.47
EST	85.45	85.62	87.96	92.43	96.33	99.46	99.93	100.00	100.80	104.48	107.75
IRL	99.50	97.80	96.20	97.40	99.20	99.70	100.00	100.00	99.80	100.10	100.40
GRC	93.55	94.81	99.27	102.36	103.42	102.54	101.11	100.00	100.02	101.15	101.49
ESP	92.41	92.19	94.08	96.94	99.31	100.83	100.63	100.00	99.66	101.69	102.79
FRA	92.34	92.44	94.05	96.20	98.33	99.31	99.91	100.00	100.31	101.47	103.08
HRV	89.56	91.56	92.55	94.59	97.76	100.04	100.26	100.00	99.37	100.67	101.86
ITA	90.40	91.10	92.60	95.30	98.40	99.70	99.90	100.00	99.90	101.30	102.07
CYP	92.55	92.71	95.09	98.40	101.45	101.84	101.57	100.00	98.78	99.45	98.81
LVA	91.14	94.11	92.96	96.88	99.09	99.11	99.79	100.00	100.10	103.00	105.11
LTU	87.69	91.34	92.43	96.24	99.28	100.44	100.68	100.00	100.68	104.42	107.41
MLT	88.33	89.95	91.79	94.10	97.13	98.08	98.84	100.00	100.90	102.18	103.51
NLD	90.32	91.20	92.05	94.32	96.99	99.47	99.79	100.00	100.11	101.40	102.54
POL	86.80	90.30	92.70	96.30	99.80	100.60	100.70	100.00	99.80	101.40	102.40
PRT	92.78	91.95	93.22	96.54	99.22	99.65	99.50	100.00	100.64	102.20	102.94
ROU	78.33	82.70	87.73	92.84	95.98	99.04	100.41	100.00	98.93	100.00	103.86
SVN	91.13	91.92	93.85	95.81	98.50	100.39	100.76	100.00	99.85	101.40	103.04
FIN	87.89	89.32	90.83	93.85	96.81	98.96	100.16	100.00	100.39	101.23	102.03
SWE	92.83	94.63	96.43	97.75	98.66	99.10	99.30	100.00	101.14	103.02	104.81
GBR	84.70	86.60	89.40	93.40	96.10	98.50	100.00	100.00	100.70	103.40	105.93

HICP (2015 = 100) - annual data (average index and rate of change) Source: Eurostat[25]

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[25] Starting with the release of January 2016 data, the reference year of the HICP changed to 2015=100. The change of reference year caused revisions to a number of previously published inflation rates because of rounding effects. Thus, inflation rates for European and country aggregates calculated from the 2015=100 series can differ from the rates calculated from the 2005=100 series.

For economic performance calculations the following formulas were used:

Total Income:

Total Revenue = Income from landings + income from fishing rights + other income + direct subsidies

Revenue:

Revenue = Income from landings + other income

Gross Value Added (GVA)

GVA = Income from landings + other income – energy costs – repair costs – other variable costs – non variable costs

Net Value Added (NVA)

NVA = Income from landings + other income – energy costs – repair costs – other variable costs – non variable costs – depreciation cost – opportunity cost of capital

Gross Profit (GRP)

GRP = Income from landings + other income – crew costs – unpaid labour - energy costs – repair and maintenance costs – other variable costs – non variable costs

Net Profit/Loss

Net Profit = Income from landings + other income – crew costs – unpaid labour - energy costs – repair costs – other variable costs – non variable costs – depreciation cost – opportunity cost of capital

Where opportunity cost of capital = fixed tangible asset value * real interest

Where real interest $(r) = [(1 + i)/ (1 + п)] -1$.

Where i is the nominal interest rate of the Member State in the year concerned and п is the inflation rate of the Member State in the year concerned. See Table 6.3.

Rate of Return on Fixed Tangible Assets (RoFTA)

RoFTA = (net profit + opportunity cost of capital) / tangible asset value (vessel depreciated replacement value)

Rate of Return on Investment (RoI)

RoI = (net profit + opportunity cost of capital) / capital asset value

Where net profit is calculated as:

Net Profit = Income from landings + other income + income from fishing rights – crew costs – unpaid labour - energy costs – repair costs – other variable costs – non variable costs – fishing rights costs – depreciation cost – opportunity cost of capital

And capital asset value as:

Capital asset value = vessel depreciated replacement value + estimated value of fishing rights

Break-even revenue (BER)

BER = (Fixed costs + opportunity costs of capital +depreciation) / (1-(crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs)/Revenue)

Revenue to Break-even Revenue Ratio (CR/BER)

CR/BER = revenue / break-even revenue = Income from landings + other income / BER

CR/BER gives an indication of the short-term profitability of the fleet/fleet segment (or over/under capitalised): if the ratio is greater than 1, then enough cash flow is generated to cover fixed costs (economically viable in the short term). If the ratio is less than 1, insufficient cash flow is generated to cover fixed costs (indicating that the segment is economically unviable in the short to mid-term).

For energy use and other productivity and efficiency indicators, the following formulas were used:

Energy use – fuel efficiency and intensity

Fuel intensity - quantity of fuel consumed per quantity of fish landed (litre per tonne),

Fuel efficiency - ratio between fuel costs and the income from landings expressed as a percentage (%).

Table 6.3 Inflation and nominal LT interest rates by EU Member State 2008-2017

MS	Inflation										Interest rate									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
BEL	4.5	0	2.3	3.4	2.6	1.2	0.5	0.6	1.8	2.2	4.42	3.90	3.46	4.23	3.00	2.41	1.71	0.84	0.48	0.72
BGR	12	2.5	3	3.4	2.4	0.4	-1.6	-1.1	-1.3	1.2	5.38	7.22	6.01	5.36	4.50	3.47	3.35	2.49	2.27	1.60
CYP	4.4	0.2	2.6	3.5	3.1	0.4	-0.3	-1.5	-1.2	0.7	4.60	4.60	4.60	5.79	7.00	6.50	6.00	4.54	3.77	2.62
DEU	2.8	0.2	1.2	2.5	2.1	1.6	0.8	0.1	0.4	1.7	3.98	3.22	2.74	2.61	1.50	1.57	1.16	0.50	0.09	0.32
DNK	3.6	1.1	2.2	2.7	2.4	0.5	0.3	0.2	0.0	1.1	4.29	3.59	2.93	2.73	1.40	1.75	1.33	0.69	0.32	0.48
ESP	4.1	-0.2	2	3.1	2.4	1.5	-0.2	-0.6	-0.3	2.0	4.37	3.98	4.25	5.44	5.85	4.56	2.72	1.73	1.39	1.56
EST	10.6	0.2	2.7	5.1	4.2	3.2	0.5	0.1	0.8	3.7	8.16	7.98	5.97	:	:				0.37	
FIN	3.9	1.6	1.7	3.3	3.2	2.2	1.2	-0.2	0.4	0.8	4.29	3.74	3.01	3.01	1.89	1.86	1.45	0.72	0.00	0.55
FRA	3.2	0.1	1.7	2.3	2.2	1	0.6	0.1	0.3	1.2	4.23	3.65	3.12	3.32	2.54	2.20	1.67	0.84	0.47	0.81
GBR	3.6	2.2	3.3	4.5	2.8	2.6	1.5	0.0	0.7	2.7	4.50	3.36	3.36	2.87	1.74	2.03	2.14	1.78	1.22	1.18
GRC	4.2	1.3	4.7	3.1	1	-0.9	-1.4	-1.1	0.0	1.1	4.80	5.17	9.09	15.75	22.50	10.05	6.93	9.67	8.36	5.98
HRV	5.8	2.2	1.1	2.2	3.4	2.3	0.2	-0.3	-0.6	1.3	6.04	7.83	6.29	6.54	6.13	4.68	4.05	3.55	3.49	2.77
IRE	3.1	-1.7	-1.6	1.2	1.9	0.5	0.3	0.0	-0.2	0.3	4.53	5.23	5.74	9.60	6.17	3.79	2.37	1.18	0.74	0.80
ITA	3.5	0.8	1.6	2.9	3.3	1.3	0.2	0.1	-0.1	1.3	4.68	4.31	4.04	5.42	5.49	4.32	2.89	1.71	1.49	2.11
LTU	11.1	4.2	1.2	4.1	3.2	1.2	0.2	-0.7	0.7	3.7	5.61	14.00	5.57	5.16	4.83	3.83	2.79	1.38	0.90	0.31
LVA	15.3	3.3	-1.2	4.2	2.3	0.0	0.7	0.2	0.1	2.9	6.43	12.36	10.34	5.91	4.57	3.34	2.51	0.96	0.53	0.83
MLT	4.7	1.8	2	2.5	3.2	1	0.8	1.2	0.9	1.3	4.81	4.54	4.19	4.49	4.13	3.36	2.61	1.49	0.89	1.28
NLD	2.2	1	0.9	2.5	2.8	2.6	0.3	0.2	0.1	1.3	4.23	3.69	2.99	2.99	1.93	1.96	1.45	0.69	0.29	0.52
POL	4.2	4	2.7	3.9	3.7	0.8	0.1	-0.7	-0.2	1.6	6.07	6.12	5.78	5.97	5.00	4.03	3.52	2.70	3.04	3.42
PRT	2.7	-0.9	1.4	3.6	2.8	0.4	-0.2	0.5	0.6	1.6	4.52	4.21	5.40	10.24	10.55	6.29	3.75	2.42	3.17	3.05
ROU	7.9	5.6	6.1	5.8	3.4	3.2	1.4	-0.4	-1.1	1.1	7.70	9.69	7.34	7.29	6.68	5.41	4.48	3.47	3.32	3.96
SVN	5.5	0.9	2.1	2.1	2.8	1.9	0.4	-0.8	-0.2	1.6	4.61	4.38	3.83	4.97	5.81	5.81	3.27	1.71	1.15	0.96
SWE	3.3	1.9	1.9	1.4	0.9	0.4	0.2	0.7	1.1	1.9	3.89	3.25	2.89	2.61	1.59	2.12	1.72	0.72	0.54	0.65

Annual average rate of change (%) HICP - Inflation rate – Source: Eurostat

http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/main_tables

Harmonised long-term interest rates for convergence assessment purposes - Source: ECB

http://www.ecb.int/stats/money/long/html/index.en.html

Economic Performance Indicator Classifications

Development trend

The development trend, calculated as the change between 2016 and the average value 2008-2015, for the economic performance indicators analysed, such as GVA, gross profit, net profit and GVA/FTE were classified as High, Reasonable or Weak according to the criteria in Table 6.4.

Table 6.4 Development trend classification

Development - change 2016/2008-2015 average	
>5%	Improved

-5% - 5%	Stable	
< -5%	Deterioration	

Based on: Pavel, AER 2005

Profitability

Profitability, as net profit (or net profit as a % of income, where income includes income from the sale of fish and other non-fishing income and excludes direct income subsidies and income from fishing rights) was classified as *High*, *Reasonable* or *Weak* according to the criteria in Table 6.5.

Table 6.5 Profitability classification

Profitability: Net profit margin in 2016		
>10%	High	Profitability is good and segment is generating a good amount of resource rent
0-10%	Reasonable	Segment is profitable generating some resource rents
<0%	Weak	The segment is making losses; economic overcapacity

Disaggregation of economic data

Fleet economic data cannot be collected at higher resolution than defined in the DCF. Only landings (value and weight) and effort data (days at sea, fishing days, etc.) are provided by Member States at the sub-region level by fleet segment. Therefore, the correlation with transversal data is the only viable way for disaggregating economic data at the sea basin level (Baltic Sea, North Sea, NE Atlantic, Mediterranean & Black Sea and Other Fishing Regions).

Several assumptions can be made based on correlations between transversal and economic data, which were previously examined during the PGECON workshop in Hamburg 2012. However, these analyses are still preliminary and considered as work in progress. PCEGON (2013) strongly recommended a study on the disaggregation that delivers a comprehensive analysis of different approaches and methods, while also addressing the availability of individual data which varies by MS.

This year, the effort based approach was again used to disaggregate economic data. Seeing that the methodology is still to be validated, this exploratory exercise set out to estimate the economic performance indicators at the sea basin level by MS and fleet segment.

For this exercise, transversal and economic data by fleet segment were disaggregated based on either the number of active vessels in a region, value of landings or effort (days at sea), as:

- (1) Number of vessels in region (N_{Reg}) – used to estimate fleet capacity, non-variable costs and capital costs (annual depreciation and opportunity costs of capital)
- (2) Value of landings (VaL) – used to allocate income from landings;
- (3) Effort in days at sea (DAS) – used to allocate all variable costs, including labour, energy, repair & maintenance, and fuel consumption. DAS was also used to estimate the number of vessels when N_{Reg} was not available.

The number of vessels operating in each region (N_{Reg}) was again requested in the 2016 data call. However, not all Member States were able to provide this information.

In cases where N_{Reg} was not available, the estimated number of vessels in the region (N_{Reg*}) was calculated based on DAS and using the total number of vessels (N_{tot})*, as:

$$N_{\mathrm{Re}g*} = \frac{DAS_{\mathrm{Re}g}}{\sum DAS_{\mathrm{Re}g}} \times N_{Tot}$$

When available, the number of vessels operating in a given region (N_{Reg}) was used to disaggregate other capacity variables (GT and kW), as:

Gross tonnage (GT): $GT_{reg} = \dfrac{N_{Reg}}{\sum N_{Reg}} \times GT_{Tot}$, if N_{Reg} is missing, $GT_{reg} = \dfrac{GT_{Tot}}{N_{Tot}} \times N_{Reg*}$

Engine power (kW): $kW_{Reg} = \dfrac{N_{Reg}}{\sum N_{Reg}} \times kW_{Tot}$, if N_{Reg} is missing, $kW_{reg} = \dfrac{kW_{Tot}}{N_{Tot}} \times N_{Reg*}$

The number of vessels in the region was also used to disaggregate employment, *other income* (OInc), *non-variable costs* and capital costs (*opportunity cost of capital* and *annual depreciation*), as:

Total employed (JOB): $JOB_{reg} = \dfrac{N_{Reg}}{\sum N_{Reg}} \times JOB_{Tot}$

If N_{Reg} is missing, $JOB_{Reg}(OInc) = \dfrac{N_{Reg*}}{N_{Tot}} \times JOB_{tot}$

Other income as: $Other\ Income_{Reg}(OInc) = \dfrac{N_{Reg}}{\sum N_{Reg}} \times OInc_{tot}$

If N_{Reg} is missing, $Other\ Income_{Reg}(OInc) = \dfrac{N_{Reg*}}{N_{Tot}} \times OInc_{tot}$

Opportunity cost of capital as: $Opportunity\ Cost\ of\ Capital_{Reg}(OPC) = \dfrac{N_{Reg}}{\sum N_{Reg}} \times OPC_{tot}$

If N_{Reg} is missing, $Opportunity\ Cost\ of\ Capital_{Reg}(OPC) = \dfrac{N_{Reg*}}{N_{Tot}} \times OPC_{tot}$

Annual Depreciation costs as: $Annual\ Depreciation\ Costs_{Reg}(DEP) = \dfrac{N_{Reg}}{\sum N_{Reg}} \times DEP_{tot}$

If N_{Reg} is missing, $Annual\ Depreciation\ Costs_{Reg}(DEP) = \dfrac{N_{Reg*}}{N_{Tot}} \times DEP_{tot}$

Income from Landings was disaggregated based on the value of landings (VaL) in the region and the total value of landings for the fleet segment multiplied by Income:

Income from landings: $Landings\ Income_{Reg}(LInc) = \dfrac{VAL_{Reg}}{\sum VAL_{Reg}} \times LInc_{Tot}$

If N_{Reg} is missing, $Landings\ Income_{Reg}(LInc) = \dfrac{VAL_{Reg}}{VAL_{Tot}} \times LInc_{Tot}$

Crew wage (CW), unpaid labour, fuel costs (FC), repair & maintenance (REP) and other variables costs (VAR) were allocated based on effort (DAS) as:

Crew wages:

$$CW_{reg} = \frac{DAS_{Reg}}{\sum DAS_{Reg}} \times CW_{Tot}$$

Unpaid labour costs:

$$ULab_{reg} = \frac{DAS_{Reg}}{\sum DAS_{Reg}} \times ULab_{Tot}$$

Fuel costs:

$$FC_{reg} = \frac{DAS_{Reg}}{\sum DAS_{Reg}} \times FC_{Tot}$$

Repair costs:

$$REP_{reg} = \frac{DAS_{Reg}}{\sum DAS_{Reg}} \times REP_{Tot}$$

Other variable costs:

$$VAR_{reg} = \frac{DAS_{Reg}}{\sum DAS_{Reg}} \times VAR_{Tot}$$

This method was also used to disaggregate fuel consumption.

Fuel consumption: $FCon_{reg} = \frac{DAS_{Reg}}{\sum DAS_{Reg}} \times FCon_{Tot}$

Full Time Equivalent (FTE): $FTE_{reg} = \frac{DAS_{Reg}}{\sum DAS_{Reg}} \times FTE_{Tot}$

Data Limitations

Complete estimates were not possible due to fleet segments with incomplete or missing data sets submitted by MS (i.e. number of vessels by region, landings and efforts variables by sub-region).

Fleet segments for which days at sea or landings in value were not available at the sub-region level, could not be completely disaggregated. Information on these MS fleet segments is provided, when either the days at sea or landings values that were available, occurred on only one region. In all other cases, only incomplete results could be provided. This affects the entire Spanish fleet as days at sea were not available, although fishing days were and used as a proxy to days at sea. Greece is excluded due to missing DCF data on effort and landings, as well as income. Additional information to fill gaps is provided where possible.

Nowcasting economic variables

Context and background

EU member states (MS) submitted economic and transversal (e.g. number of vessels, days at sea) data up to 2016 for the generation of the 2018 Annual Economic Report on the EU Fishing Fleet (AER), while some MS also provided transversal data for 2017. This timing and coverage has been the standard proceeding for the past several years, where submitted economic data has a two-year time lag and transversal data has a one or two-year time lag in relation to the publication date of the Annual Economic Report.

This data lag occurs because data is collected, processed and quality checked at the MS level before submission to the DCF. In order to have data for a particular year, for example 2016, it is necessary to wait until the end of the year (e.g. 2017) to collect it.

In order to properly inform the management of EU fisheries, the most recent information on the EU fishing fleet is required. For this requirement the lag in data processing thus presents a major challenge. To address this issue, estimates of the economic performance of the EU fishing fleet for t+1 and t+2 using 'nowcasting' techniques. This approach has been used in several editions of the AER.

The following section details the methodology used to produce the nowcasts for the 2018 AER. Much of this approach follows standard practice in nowcasting by integrating known data that has a proven relationship with the dependent variables that are being reported. For this section, 't' refers to 2016, 't+1' to 2017, and 't+2' to 2018. This typology allows the equations to take a more familiar format.

Where no 2017 data was reported by MS and for all 2018 data, those explanatory variables that provided the most robust estimates were used to generate nowcasts. The robustness of different transversal variables (e.g. number of vessels, days at sea, and value of landings) were investigated by a modelling sub-group at the 2017 AER EWG for their explanatory power of other, generally 'economic' variables that are reported (e.g. employment, income and input costs).

For most variables, the same nowcasting methodology was used for the North-East Atlantic (A27), the Mediterranean and Black Sea (A37) and Other Fishing Regions (OFR). However, for some variables (landings weight, energy cost, other variable costs, FTE employment) different relationships were used for the A27 fleet segments to those in A37 and OFR. The reason for this divergence in methodology is that total allowable catches (TACs), a key driver for fishing behaviour in the North-East Atlantic, are reported for both t+1 and t+2. This extra information, as well as biomass estimates for t+1 and quota uptake for TAC species, are used to improve the nowcasting capacities for the North-East Atlantic. Where there was no significant difference in explanatory power than a consistent methodology was used across the regions.

In the following section, the nowcasting relationships apply across all regions and fleet segments unless otherwise indicated. The nowcasts for A37 and OFR fleet segments were completed by the JRC directly through the DCF database, whereas the nowcasts for A27 fleet segments were completed using the BEMEF model during the AER working group meetings.

Nowcasting methodology

In the general case, a variable "A" in year t+1 is estimated by the same variable "A" in year t and the change variable "B" between year t and t+1, when we know the value in year t+1. Thus, the following equation is used:

$$A_{t+1} = A_t \frac{B_{t+1}}{B_t} \quad \text{(eq. 1)}$$

Where data is already reported in the DCF for t+1, this data is automatically selected rather than the estimation. Unless otherwise noted (generally for the TAC-based equations), the relation between t+2 and t+1 is identical to the relation between t+1 and t.

Nowcasting relations

Landings weight (A37 and OFR fleet segments)

$$Landings\_weight_{t+1,f} = Landings\_weight_{t,f}\frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 2a)}$$

Where f represents a fleet segment

Where m represents an EU member state

Where l represents a length class

The number of vessels for t+1 and t+2 is based on the change in the *number of vessels* from one year to the other, obtained from the evolution of active vessel in the EU Fleet Register. The ratio $Number\_vessels_{t+1,m,l}$/$Number\_vessels_{t,m,l}$ by country, vessel length, supra region and geo-indicator is reported in Table 6.1; while the ratio $Number\_vessels_{t+2,m,l}$/$Number\_vessels_{t+1,m,l}$ is reported in Table 6.2. This was made possible by coding the EU Fleet Register ports by region. Due to reporting issues in the EU Fleet Register for Portugal in t+1, the change in the number of vessels is calculated as half the change from t to t+2.

Landings weight (A27 fleet segments)

$$Landings\_weight_{t+1,f} = TAC\_Landings_{t+1,f} + Non\_TAC\_Landings_{t+1,f} \qquad \text{(eq. 2b)}$$

$$TAC\_Landings_{t+1,f} = TAC_{t+1}Relative\_stability_m Swaps_{t,m} Uptake_{t+1,m} Segment\_Share_{t,f}$$

$$Non\_TAC\_Landings_{t+1,f} = Non\_TAC\_Landings_{t,f}\frac{Sea\_days_{t+1,f}}{Sea\_days_{t,f}} \qquad \text{(eq. 2d)}$$

$$TAC\_Landings_{t+2,f} = TAC_{t+2,f}Relative\_stability_m Swaps_{t+1,m} Uptake_{t+1,m} Segment\_Share_{t,f} \qquad \text{(eq. 2e)}$$

The TACs are reported in Council regulations and relative stability is calculated as the relative shares in year t. Quota swaps are calculated using the difference with adapted quota in the FIDES dataset, which also indicates quota uptake. Fleet segment share is calculated based on the DCF landings.

Sea days (A27 fleet segments)

$$Sea\_days_{t+1,f} = Sea\_days_{t,f}\left(\left(Activity\_Coefficient_{t+1,f} - 1\right)\frac{TAC\_Landings_{t,f}}{Landings\_weight_{t,f}} + 1\right) \qquad \text{(eq. 3a)}$$

$$Sea\_days_{t+2,f} = Sea\_days_{t+1,f}\left(\left(Activity\_Coefficient_{t+2,f} - 1\right)\frac{TAC\_Landings_{t,f}}{Landings\_weight_{t,f}} + 1\right) \qquad \text{(eq. 3b)}$$

$$Activity\_Coefficient_{t+1,f} = \Sigma\left(\left(\frac{TAC\_Landings_{t,f,a}Price_{t+1,f,s}\theta_{f,a}}{\Sigma TAC\_Landings_{t,f,a}Price_{t,f,s}\theta_{f,a}}\left(\frac{TAC_{t+1,f,a}}{TAC_{t,f,a}}\right)^{\chi_a}\left(\frac{SSB_{t+1,f,a}}{SSB_{t,f,a}}\right)^{-\gamma_a}\right)\right) \text{(eq. 3c)}$$

$$Activity\_Coefficient_{t+2,f} = \Sigma\left(\left(\frac{TAC\_Landings_{t+1,f,a}Price_{t+2,f,s}\theta_{f,a}}{\Sigma TAC\_Landings_{t+1,f,a}Price_{t+1,f,s}\theta_{f,a}}\left(\frac{TAC_{t+2,f,a}}{TAC_{t+1,f,a}}\right)^{\chi_a}\left(\frac{SSB_{t+2,f,a}}{SSB_{t+1,f,a}}\right)^{-\gamma_a}\right)\right) \text{(eq. 3c)}$$

Where a represents a total allowable catch (TAC)

Where s represents a quota species

Where θ represents a fleet segment effort driver for the TACs that influence fishing activity

Where χ represents an activity-landing flexibility rate (1/catch-effort coefficient)

Where γ represents an activity-stock flexibility rate (stock-catch coefficient/catch-effort coefficient)

Effort drivers were defined as a function of percentage catch composition and quota uptake and confirmed or adjusted by member state experts. Stock-catch coefficients are set at 0.8 for demersal species and 0.1 for pelagic species. Catch-effort coefficients are set at 1 as a default parameter (constant catch per unit effort). Sustainable stock biomass (SSB) data comes from ICES stock assessments. For the Baltic Sea stocks SSB is available to t+1, whereas the North Sea and North Atlantic stocks are only available to t.

Landings value (A37 and OFR fleet segments)

$$Landings\_value_{t+1,f} = Landings\_value_{t,f} \frac{Landings\_weight_{t+1,f}}{Landings\_weight_{t,f}} \times \frac{Fish\_price_{t+1,m}}{Fish\_price_{t,m}} \qquad \text{(eq. 4a)}$$

Landings value (A27 fleet segments)

$$Landings\_value_{t+1,f} = Landings\_value_{t,f} \frac{Landings\_weight_{t+1,f}}{Landings\_weight_{t,f}} \times \frac{Fish\_price_{t+1,m,s}}{Fish\_price_{t,m,s}} \qquad \text{(eq. 4a)}$$

For A37 and OFR fleet segments, the percentage change in fish prices is obtained from the Consumer Price Index on fish and seafood products reported by Eurostat. Table 6.3 reports the ratio $Fish\_price_{t+1}$/ $Fish\_price_t$ by country and $Fish\_price_{t+2}$/ $Fish\_price_t$. For A27 fleet segments, the percentage change in fish prices is obtained at the species level for TAC species from EUMOFA using data on first sale prices for each member state averaged with the EU wide price (as not all landings are made to a fleet segment's flagged member state). The 2016 EU wide herring price was considered unreliable and set at the 2015 level.

Landings income

$$Landings\_income_{t+1,f} = Landings\_income_{t,f} \frac{Landings\_value_{t+1,f}}{Landings\_value_{t,f}} \qquad \text{(eq.5)}$$

Other income

$$Other\_income_{t+1,f} = Other\_income_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 6)}$$

For the few fleet segments that do not report costs (most notably DEU TM40XX), landings income is not reported based on landings value as it would skew the economic indicators (e.g. gross profits).

Crew costs

$$\left(Crew\_wages_{t+1,f} + Unpaid\_labour_{t+1,f}\right) = \left(Crew\_wages_{t,f} + Unpaid\_labour_{t,f}\right) \frac{Landings\_value_{t+1,f}}{Landings\_value_{t,f}} \qquad \text{(eq. 7)}$$

Energy consumption (A37 and OFR fleet segments)

$$Energy\_consumption_{t+1,f} = Energy\_consumption_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 8a)}$$

Energy consumption (A27 fleet segments)

$$Energy\_consumption_{t+1,f} = Energy\_consumption_{t,f} \frac{Sea\_days_{t+1,f}}{Sea\_days_{t,f}} \qquad \text{(eq. 12b)}$$

Energy costs

$$Energy\_costs_{t+1,f} = Energy\_costs_{t,f} \frac{Energy\_consumption_{t+1,f}}{Energy\_consumption_{t,f}} \times \frac{Fuel\_price_{t+1,m}}{Fuel\_price_{t,m}} \qquad \text{(eq. 13)}$$

Fuel prices are obtained from EUMOFA website for each member state. The ratio $Fuel\_price_{t+1}$/ $Fuel\ price_t$ and $Fuel\_price_{t+2}$/ $Fuel\_price_{t+1}$ by country are reported in Table 6.3.

Other variable costs (A37 and OFR fleet segments)

$$Other\_variable\_costs_{t+1,f} = Other\_variable\_costs_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 14a)}$$

Other variable costs (A27 fleet segments)

$$Other\_variables\_costs_{t+1,f} = Other\_variable\_costs_{t,f} \frac{Sea\_days_{t+1,f}}{Sea\_days_{t,f}} \quad \text{(eq. 14b)}$$

Repair (and maintenance) costs

$$Repair\_costs_{t+1,f} = Repair\_costs_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 15)}$$

Non-variable costs

$$Non\_variable\_costs_{t+1,f} = Non\_variable\_costs_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 16)}$$

Investment

$$Investment_{t+1,f} = Investment_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 17)}$$

Depreciation

$$Depreciation_{t+1,f} = Depreciation_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 18)}$$

Assets value

$$Asset\_value_{t+1,f} = Asset\_value_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 19)}$$

Opportunity cost of capital

$$\text{Opportunity cost of capital} = Assets\_value \times real\_interest \quad \text{(eq. 20)}$$

Where

$$real\_interest = \frac{(1+i)}{(1+\pi)} - 1 \quad \text{(eq. 21)}$$

Where i represents the (nominal) interest rate and π for the inflation.

The inflation by country are obtained from the general Consumer Price Index reported by Eurostat. The nominal interest rates by country are obtained from the European Central Bank. Nominal interest rates are reported in Table 6.6; while inflation rates are reported in Table 6.5.

Employment

$$Employment_{t+1,f} = Employment_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 22)}$$

FTE (A37 and OFR fleet segments)

$$FTE_{t+1,f} = FTE_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 23a)}$$

FTE (A27 fleet segments)

$$FTE_{t+1,f} = FTE_{t,f} \frac{Sea\_days_{t+1,f}}{Sea\_days_{t,f}} \quad \text{(eq. 23b)}$$

Estimation of uncertainty

To further develop the nowcast results, an estimate of uncertainty is provided to accommodate the issue of 'false precision'. To estimate uncertainty error for variable A in year t (eA_t) for each fleet segment (f), a similar approach was used to measuring the strength of relationships between variables. As before, 't' refers to 2015 in the 2017 AER exercise. Uncertainty is measures through the 'error margin'.

$$eA_{ft} = A_{ft-1} \frac{B_{ft}}{B_{ft-1}} \qquad \text{(eq. 24)}$$

Where,

$$eA_t = \sum eA_{ft} \qquad \text{(eq. 25)}$$

Standard deviation for each variable in 2015 was estimated by comparing the error between variable A in year t (A_t) and the estimated variable A in year t (eA_t) estimated for each fleet as follows.

$$Variance_t = \sum_{f=1}^{n} (eA_{ft} - A_{ft})^2 \qquad \text{(eq. 26)}$$

$$S\tan dard\_deviation_t = \sqrt{Variance_t} = \sqrt{\sum_{f=1}^{n} (eA_{ft} - A_{ft})^2} \qquad \text{(eq. 27)}$$

The estimation of variable A for 2016 (year t+1) follows the general criteria

$$A_{ft+1} = A_{ft} \frac{B_{ft+1}}{B_{ft}} \qquad \text{(eq. 28)}$$

Where,

$$A_{t+1} = \sum A_{ft+1} \qquad \text{(eq. 29)}$$

The standard deviation in 2015 is used to obtain the error margin so that can be computed the upper and lower boundaries of the 2016 estimation with a 95% confidence[26]:

$$Error\_m\arg in_t = 1.96 \frac{s\tan dard\_deviation_t}{\sqrt{n}} \qquad \text{(eq. 30)}$$

$$Error\_m\arg in_{t+1} = Error\_m\arg in_t \frac{A_{t+1}}{A_t} \qquad \text{(eq. 31)}$$

$$A_{t+1}^{+} = A_{t+1} + (error\_m\arg in_{t+1}) \qquad \text{(eq. 32)}$$

$$A_{t+1}^{-} = A_{t+1} - (error\_m\arg in_{t+1}) \qquad \text{(eq. 33)}$$

Similarly, in order to estimate the variables for 2017 (y+2), variable A in year t+2 is estimated using the following the general criteria

$$A_{ft+2} = A_{ft+1} \frac{B_{ft+2}}{B_{ft+1}} \qquad \text{(eq. 34)}$$

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[26] Instead of the 1.96 factor, for a 90% confidence interval it is used 1.645.

Where,

$$A_{t+2} = \sum A_{ft+2} \qquad \text{(eq. 35)}$$

The estimation error in 2015 is used, but accounting also for the potential 2016 estimation error, in order to obtain the upper and lower boundaries of the prediction interval for the 2017 estimation.

$$A_{t+2}^{+} = A_{t+2}\left(\left(1 + \frac{error\_m\arg in_{t+1}}{A_{t+1}}\right) \times \left(1 + \frac{error\_m\arg in_{t+1}}{A_{t+1}}\frac{A_{t+2}}{A_{t+1}}\right)\right) \qquad \text{(eq. 36a)}$$

$$A_{t+2}^{-} = A_{t+2}\left(\left(1 - \frac{error\_m\arg in_{t+1}}{A_{t+1}}\right) \times \left(1 - \frac{error\_m\arg in_{t+1}}{A_{t+1}}\frac{A_{t+2}}{A_{t+1}}\right)\right) \qquad \text{(eq. 36b)}$$

Estimation and prediction interval in the indicators

The (central values of) GVA, Gross profit and Net profit for 2016 (t+1) and 2017 (t+2) are calculated with the estimated values following the common formulas:

Gross value added (GVA)

GVA = Landings Income + Other Income – energy costs – Repair and maintenance costs – Other variable costs – Non-variable costs   (eq. 37)

Gross profit

Gross profit is equal to the GVA minus the labour costs:

Gross profit = GVA – crew costs – unpaid labour   (eq. 38)

So,

Gross profit = Landings Income + Other Income – crew costs – unpaid labour – energy costs – Repair and maintenance costs – Other variable costs – Non-variable costs   (eq. 39)

Net profit

Net profit is equal to the gross profit minus the capital costs:

Net profit = Gross profit – Depreciation – Opportunity cost of capital   (eq. 40)

So:

Net profit = Landings Income + Other Income – crew costs – unpaid labour – energy costs – Repair and maintenance costs – Other variable costs – Non-variable costs – Depreciation – Opportunity cost of capital   (eq. 41)

The (central values of) GVA, Gross profit and Net profit for 2016 (t+1) and 2017 (t+2) are estimated according to these formulas. While the prediction interval for 2016 (t+1) is obtained as the weighted average of the confidence interval (i.e. error margin, estimated as in equation 14) of all variables, as follows:

$$Error\_m\arg in(ind_{t+1}) = \frac{(Ind_{t+1})(((Error\_margin(A_{t+1})) + (Error\_margin(B_{t+1})) + ... + (Error\_margin(N_{t+1})))}{(A_{t+1} + B_{t+1} + ... + N_{t+1})}$$

<div align="center">(eq. 42)</div>

Where stands Ind_{t+1} for the indicator (i.e., GVA, gross profit or net profit) and $(A_{t+1} + B_{t+1} + ... + N_{t+1})$ for all variables that are used in the calculation of the indicator (e.g. Landings Income + Other Income + energy costs + Repair and maintenance costs + Other variable costs + Non-variable costs; for the calculation of GVA)

$$Ind_{t+1}^{+} = Ind_{t+1} + (error\_m\arg in(ind_{t+1})) \qquad \text{(eq. 43)}$$

$$Ind_{t+1}^{-} = Ind_{t+1} - (error\_m\arg in(ind_{t+1})) \qquad \text{(eq. 44)}$$

Instead, the prediction interval for 2017 (t+2) is obtained as follows:

$$Ind_{t+2}^{+} = Ind_{t+2}(1 + \partial_{t+2}) \qquad \text{(eq. 45)}$$

$$Ind_{t+2}^{-} = Ind_{t+2}(1 - \partial_{t+2}) \qquad \text{(eq. 46)}$$

Where ∂ is defined as:

$$\partial_{t+2} = \frac{(A_{t+2}(1 + \frac{error\_m\arg in_{t+1}}{A_{t+1}}) \times (1 + \frac{error\_m\arg in_{t+1}}{A_{t+1}} \frac{A_{t+2}}{A_{t+1}}) + B_{t+2}(1 + \frac{error\_m\arg in_{t+1}}{B_{t+1}}) \times}{(A_{t+2} + B_{t+2} + ... + N_{t+2})}$$

$$\frac{\times (1 + \frac{error\_m\arg in_{t+1}}{B_{t+1}} \frac{B_{t+2}}{B_{t+1}}) + ... + (N_{t+2}(1 + \frac{error\_m\arg in_{t+1}}{N_{t+1}}) \times (1 + \frac{error\_m\arg in_{t+1}}{N_{t+1}} \frac{N_{t+2}}{N_{t+1}})}{} \quad \text{(eq. 47)}$$

Similarly, equations 40 to 45 should be used when estimating the prediction interval for the sum of different variables, for example for estimating EU or regional totals based on national totals.

Changes to nowcasting methodology from the 2018 Annual Economic Report.

There are no significant changes to the nowcasting methodology from the 2018 Annual Economic Report for the A37 or OFR fleet segments. For the A27 fleet segments three minor changes were made. First, quota uptake (used to calculate landings weight and the activity coefficient) for t+1 and t+2 now uses report data for t+1. Second, non-TAC landings as a proportional change in sea days rather than half the change in days at sea. And third, as there is no longer a TAC for dab it has been removed from the modelling of A27 fleet segments.

Previous formulas fully developed:

eq. 42:

$$Error\_margin(ind_{t+1}) = \frac{(Ind_{t+1})}{(A_{t+1} + B_{t+1} + ... + N_{t+1})}(((\text{Error\_margin}(A_{t+1})) + (\text{Error\_margin}(B_{t+1})) + ... + (\text{Error\_margin}(N_{t+1}))))$$

eq. 47:

$$\partial_{t+2} = \frac{(A_{t+2}(1+\frac{error\_margin_{t+1}}{A_{t+1}}) \times (1+\frac{error\_margin_{t+1}}{A_{t+1}}\frac{A_{t+2}}{A_{t+1}}) + B_{t+2}(1+\frac{error\_margin_{t+1}}{B_{t+1}}) \times (1+\frac{error\_margin_{t+1}}{B_{t+1}}\frac{B_{t+2}}{B_{t+1}}) + ... + (N_{t+2}(1+\frac{error\_margin_{t+1}}{N_{t+1}}) \times (1+\frac{error\_margin_{t+1}}{N_{t+1}}\frac{N_{t+2}}{N_{t+1}})}{(A_{t+2} + B_{t+2} + ... + N_{t+2})}$$

Table 6.1: Variation in the number of vessels from t to t+1 (Vessels t+1 / Vessels t)

country	Supra region	Geo indicator	VL0006	VL0010	VL0612	VL1012	VL1218	VL1824	VL2440	VL40XX
BEL	AREA27	NGI				1	0.67	0.91	1	
BGR	AREA37	NGI	1		1		1	1	1	
CYP	AREA37		1.04		1.04		1.08	1.5	1	
DEU	AREA27			0.98		0.99	0.99	1	1	1
DNK	AREA27	NGI		0.97		0.88	0.94	0.92	1	1
ESP	AREA27			0.99		1	0.98	1.01	0.99	0.99
ESP	AREA37		0.92		0.98		0.99	1	0.99	1
ESP	OFR			0.99		1	0.98	1.01	0.99	0.99
ESP	OFR	CN		0.98		0.98	1	1	1.06	0.93
EST	AREA27	NGI		1.01		1	1	1	1	1
EST	OFR	NGI		1.01		1	1	1	1	1
FIN	AREA27			1.15		1	1.03	0.93	0.95	1.5
FRA	AREA27			0.99		0.99	0.97	0.97	1.03	1
FRA	AREA37		0.97		0.99		0.97	1.03	0.98	0.88
FRA	OFR			0.99		0.99	0.97	0.97	1.03	1
FRA	OFR	GF		0.92						
FRA	OFR	GP		0.99						
FRA	OFR	MQ		1						
FRA	OFR	RE		1.04						
FRA	OFR	YT		0.98						
GBR	AREA27	NGI		1.01		1.01	1.01	0.97	0.98	0.94
GBR	OFR	NGI		1.01		1.01	1.01	0.97	0.98	0.94
GRC	AREA37	NGI	0.98		0.99		1	1	1	1
HRV	AREA37	NGI	1.53		0.69		0.93	0.96	1	1
IRL	AREA27			0.98		1.01	1.01	1.02	1.03	1
ITA	AREA37	NGI	0.99		1		1	1	1	1
ITA	OFR	IWE	1.99		1		1	1	1	1
LTU	AREA27			0.99		1	1	1	1	1
LTU	OFR			0.99		1	1	1	1	1
LVA	AREA27	NGI		1		1	1	1	0.88	1.09
LVA	OFR	NGI		1		1	1	1	0.88	1.09
MLT	AREA37	NGI	0.91		0.91		0.9	1	1	
NLD	AREA27	NGI		1.03		1.06	1.07	0.98	0.99	1.02
NLD	OFR	NGI		1.03		1.06	1.07	0.98	0.99	1.02
POL	AREA27			0.99		0.95	0.74	1	1	1.25
POL	OFR			0.99		0.95	0.74	1	1	1.25
PRT	AREA27	IWE								1.07
PRT	AREA27	NGI		0.93		0.96	0.96	1	1	
PRT	AREA27	P3		0.94		0.93	0.84	1	1.19	1
PRT	AREA37	NGI	1		1		1	1	1	
PRT	OFR	IWE		0.93		0.96	0.96	1	1	1.07
PRT	OFR	P2		1.79		1.25	0.78	0.67	0.13	
ROU	AREA37	NGI	2.17		2.26		2.17	1	1.5	
SVN	AREA37	NGI	1.02		1.03		0.92			
SWE	AREA27	NGI		0.97		0.95	0.96	1	0.87	0.91

Source: Number of active vessels reported in the EU Fleet register at the first of January.

Table 6.2: Variation in the number of vessels from t+1 to t+2 (Vessels t+2/Vessels t+1)

country	Supra region	Geo indicator	VL0006	VL0010	VL0612	VL1012	VL1218	VL1824	VL2440	VL40XX
BEL	AREA27	NGI				1	1	0.97	1	
BGR	AREA37	NGI	1		1		1	1	1	
CYP	AREA37		0.95		0.94		1.07	1.33	1	
DEU	AREA27			0.97		0.95	0.99	0.99	0.91	0.94
DNK	AREA27	NGI		0.97		0.93	0.98	0.92	1.09	1
ESP	AREA27			0.99		0.99	0.98	1	0.99	1
ESP	AREA37		0.93	0.98	0.96		0.98	0.97	0.98	1
ESP	OFR			0.98		0.99	0.98	1	0.99	1
ESP	OFR	CN		0.98		1.02	0.98	1	0.95	1.08
EST	AREA27	NGI		1.03		0.95	0.82	1	0.95	1
EST	OFR	NGI		1.03		0.95	0.82	1	0.95	1
FIN	AREA27			1.15		0.99	1.03	0.92	1	1
FRA	AREA27			1		1	1	1	1.02	1.04
FRA	AREA37		0.99		0.98		0.93	0.97	1	1
FRA	OFR			1		1	1	1	1.02	1.04
FRA	OFR	GF		1.05						
FRA	OFR	GP		0.75						
FRA	OFR	MQ		0.94						
FRA	OFR	RE		1.01						
FRA	OFR	YT		0.99						
GBR	AREA27	NGI		1		0.99	0.99	0.97	1.01	0.93
GBR	OFR	NGI		1		0.99	0.99	0.97	1.01	0.93
GRC	AREA37	NGI	0.97		0.99		0.99	0.98	1	1
HRV	AREA37	NGI	1.12		0.89		0.98	0.99	0.98	1
IRL	AREA27			0.95		0.96	1.02	0.94	1	1
ITA	AREA37	NGI	0.99		1		0.99	1.01	0.99	1
ITA	OFR	IWE	0.99		1		0.99	1.01	0.99	1
LTU	AREA27			1		0.9	1	1	1	0.91
LTU	OFR			1		0.9	1	1	1	0.91
LVA	AREA27	NGI		1		1	1	0.67	0.98	0.92
LVA	OFR	NGI		1		1	1	0.67	0.98	0.92
MLT	AREA37	NGI	1		1.01		1.05	1	1.13	
NLD	AREA27	NGI		1		1.05	0.98	0.98	1.02	1.04
NLD	OFR	NGI		1		1.05	0.98	0.98	1.02	1.04
POL	AREA27			1		0.99	0.88	1.04	1	0.8
POL	OFR			1		0.99	0.88	1.04	1	0.8
PRT	AREA27	IWE								0.75
PRT	AREA27	NGI		1.05		0.99	1.05	0.97	0.94	
PRT	AREA27	P3		1.06		1.1	1.22	2	1.04	1
PRT	AREA37	NGI	1		1		1	1	1	
PRT	OFR	IWE		1.05		0.99	1.05	0.97	0.94	0.75
PRT	OFR	P2		1.04		0.8	1.07	1.5	7	
ROU	AREA37	NGI	1.23		1.18		1.38	1	1.33	
SVN	AREA37	NGI	1.04		1		1			
SWE	AREA27	NGI		0.96		0.98	0.97	0.97	0.92	0.8

Source: Number of active vessels reported in the EU Fleet register at the first of January.

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Table 6.3: Variation in the fish and seafood price from t to t+1 (e.g. Prices t+1 / Prices t) and from t+1 to t+2

	2017/2016	2018/2017
Belgium	1.047	1.027
Bulgaria	1.003	0.993
Croatia	1.057	1.019
Cyprus	1.039	1.016
Denmark	1.070	0.992
Estonia	0.958	0.979
Finland	0.994	0.991
France	1.036	1.031
Germany	1.041	1.015
Greece	0.994	1.008
Ireland	1.017	1.028
Italy	1.026	0.979
Latvia	1.057	1.009
Lithuania	1.040	1.015
Malta	1.021	1.011
Netherlands	1.096	1.044
Poland	1.034	1.011
Portugal	1.020	1.035
Romania	1.014	1.028
Slovenia	1.030	1.053
Spain	1.073	1.006
Sweden	1.046	1.024
United Kingdom	1.088	1.060
Total average	1.035	1.016

Source: Fish and seafood prices from Eurostat's Consumer Price index

Note: For A27 fleet segments, first sale prices by species and country are used from EUMOFA. The results are too large to include as a supplementary table.

Table 6.4: Change in fuel prices from t to t+1 (e.g. Prices t+1 / Prices t) and from t+1 to t+2

	2017/2016	2018/2017
Belgium	1.065	1.157
Bulgaria*	1.059	1.139
Croatia	1.058	1.140
Cyprus	1.055	1.148
Denmark	1.050	1.152
Estonia	1.061	1.138
Finland	1.048	1.137
France	1.079	1.093
Germany	1.016	1.152
Greece	1.067	1.152
Ireland	1.039	1.135
Italy	1.088	1.111
Latvia	1.058	1.144
Lithuania	1.055	1.146
Malta	1.071	1.159
Netherlands	1.067	1.157
Poland	1.075	1.148
Portugal	1.036	1.140
Romania*	1.059	1.139
Slovenia	1.058	1.140
Spain	1.070	1.130
Sweden	1.058	1.144
United Kingdom	1.058	1.109
Total average	1.059	1.139

Source: Fuel prices from the EUMOFA website

*Fuel price data not reported by member state. EU average used.

Table 6.5: Inflation for t, t+1, t+2 (%)

	2016	2017	2018
Belgium	1.8	2.2	1.6
Bulgaria	-1.3	1.2	1.6
Croatia	-0.6	1.3	1.2
Cyprus	-1.2	0.7	-0.6
Denmark	0.0	1.1	0.5
Estonia	0.8	3.7	3.1
Finland	0.4	0.8	0.8
France	0.3	1.2	1.6
Germany	0.4	1.7	1.4
Greece	0.0	1.1	0.3
Ireland	-0.2	0.3	0.4
Italy	-0.1	1.3	0.8
Latvia	0.1	2.9	2.0
Lithuania	0.7	3.7	2.9
Malta	0.9	1.3	1.3
Netherlands	0.1	1.3	1.1
Poland	-0.2	1.6	1.0
Portugal	0.6	1.6	0.7
Romania	-1.1	1.1	3.9
Slovenia	-0.2	1.6	1.6
Spain	-0.3	2.0	1.1
Sweden	1.1	1.9	1.7
United Kingdom	0.7	2.7	2.5

Source: Harmonised Indices of Consumer Prices (HICP) from Eurostat (Available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_mmor&lang=en)

Table 6.6: Nominal interest rate for t, t+1, t+2 (%)

	2016	2017	2018
Belgium	0.48	0.72	0.84
Bulgaria	2.27	1.60	0.99
Croatia	3.49	2.77	2.23
Cyprus	3.77	2.62	1.89
Denmark	0.32	0.48	0.63
Estonia	0.37	0.62	0.37
Finland	0.00	0.55	0.73
France	0.47	0.81	0.87
Germany	0.09	0.32	0.54
Greece	8.36	5.98	4.06
Ireland	0.74	0.80	1.00
Italy	1.49	2.11	1.95
Latvia	0.53	0.83	0.75
Lithuania	0.90	0.31	0.31
Malta	0.89	1.28	1.29
Netherlands	0.29	0.52	0.67
Poland	3.04	3.42	3.26
Portugal	3.17	3.05	1.83
Romania	3.32	3.96	4.43
Slovenia	1.15	0.96	1.01
Spain	1.39	1.56	1.38
Sweden	0.54	0.65	0.81
United Kingdom	1.22	1.18	1.45

Source: European Central Bank. Harmonised long-term interest rates. Percentages per annum; period averages; secondary market yields of government bonds with maturities of close to ten years.

Changes to nowcasting methodology from the 2016 AER

As a result of analysing the explanatory power between variables during the AER working group meetings, some changes were made to the nowcasting methodology used in previous editions of the AER as some economic variables were found to have stronger relations than previously hypothesised. These variables include: crew cost for all fleet segments, and energy cost and other variable costs for A37 and OFR fleet segments. The analysis of explanatory power between variables also resulted in a change in the length of the base period from three years to one year. This higher level of accuracy from a one-year base period is likely due to the gradual and steady improvement in the quality of data reporting by MS.

Table 6.6 Variation in the number of vessels from 2015 to 2016 (Vessels 2016 / Vessels 2015)

Country	SupraReg	GeoInd	VL0006	VL010	VL612	VL1012	VL1218	VL1824	VL2440	VL40XX
BEL	ATL					0.00	1.00	0.97	0.97	
BGR	MED		1.00		1.00		1.07	0.94	1.00	
CYP	MED		0.91		0.82		1.09	0.67	0.88	
DEU	ATL			0.96		0.98	0.97	1.01	1.00	1.06
DNK	ATL			0.98		0.97	0.93	0.94	0.88	1.00
ESP	ATL			0.98		0.96	0.97	0.95	0.93	0.92
ESP	OFR			0.97		1.00	1.00	1.00	0.97	1.00
ESP	MED		0.92		0.98		0.98	0.98	0.98	1.00
EST	ATL			1.02		1.00	1.00	0.83	1.05	1.00
FIN	ATL			0.85		0.85	0.88	0.93	1.00	1.00
FRA	ATL			0.98		0.99	0.98	0.98	1.01	1.00
FRA	OFR			0.90		0.90	0.90	0.85	0.00	1.00
FRA	MED		1.01		1.01		0.94	0.97	0.98	1.00
GBR	ATL			1.03		0.99	0.99	0.98	0.98	0.94
GRC	MED		0.98		0.99		0.98	0.95	0.88	1.00
HRV	MED		1.03		1.00		1.00	0.93	0.97	1.00
IRL	ATL			1.00		1.00	1.01	0.93	0.98	0.89
ITA	MED		0.99		1.00		0.99	0.98	0.93	1.00
LTU	ATL			1.09		1.00	1.00	1.33	1.00	1.22
LVA	ATL			0.98		0.90	0.92	1.00	1.00	1.22
MLT	MED		0.99		1.00		0.88	1.03	0.89	
NLD	ATL			1.01		1.00	1.00	1.00	0.99	0.97
POL	ATL			1.00		1.03	0.99	1.02	1.00	1.00
PRT	ATL			1.01		1.02	0.94	1.04	0.98	0.94
PRT		AZO		0.90		0.86	0.91	0.50	0.80	
PRT		MAD		0.97		1.00	1.00	1.00	1.33	
ROU	MED		0.83		0.93		1.18	1.00	1.50	
SVN	MED		0.98		0.98		1.00			
SWE	ATL			0.98		0.98	0.99	0.95	0.91	1.00

Source: Number of active vessels reported in the EU Fleet register at the first of January.

Several additional changes were made to the BEMEF methodology for this edition of the AER. Whereas the BEMEF methodology for the 2016 AER contained estimates of additional costs and revenues from the landing obligation and quota top-ups based on initial trials, this was dropped from the methodology for this report. Reported data shows little economic impact from the landing obligation thus far and so there is little reason to complicate the estimations. TACs before top-ups were used in BEMEF as many Member States are not allocating quota through top-ups through the standard mechanisms of quota allocation but instead using the top-up quota for specific purposes. The fish prices used in BEMEF, while still from EUMOFA, have changed from import/export prices to price of first sale as more data is now available at

this stage in the supply chain. The source of fuel prices was changed from the EIA to EUMOFA so as to better align the sources used for the different regions. Lastly, non-TAC landings were changed from a constant amount to a weak correlation (see previous section) with days-at-sea.

Table 6.7 Variation in the number of vessels from 2016 to 2017 (Vessels 2017 / Vessels 2016)

Country	SupraReg	GeoInd	VL0006	VL010	VL612	VL1012	VL1218	VL1824	VL2440	VL40XX
BEL	ATL						0.67	0.91	1.00	
BGR	MED		1.00		1.00		1.07	0.94	1.00	
CYP	MED		1.04		1.04		1.08	1.50	1.00	
DEU	ATL			0.98		0.99	0.99	1.00	1.00	1.00
DNK	ATL			0.97		0.88	0.94	0.92	1.00	1.00
ESP	ATL			0.99		1.00	0.98	1.01	0.99	0.99
ESP	OFR			0.98		0.98	1.00	1.00	1.06	0.93
ESP	MED		0.92		0.98		0.99	1.00	0.99	1.00
EST	ATL			1.01		1.00	1.00	1.00	1.00	1.00
FIN	ATL			1.15		1.00	1.03	0.93	0.95	1.50
FRA	ATL			0.99		0.99	0.97	0.97	1.03	1.00
FRA	OFR			1.00		1.05	1.00	0.93		1.00
FRA	MED		0.97		0.99		0.97	1.03	0.98	0.88
GBR	ATL			1.01		1.01	1.01	0.97	0.98	0.94
GRC	MED		0.98		0.99		1.00	1.00	1.00	1.00
HRV	MED		1.53		0.69		0.93	0.96	1.00	0.00
IRL	ATL			0.98		1.01	1.01	1.02	1.03	1.00
ITA	MED		0.99		1.00		1.00	1.00	1.00	1.00
LTU	ATL			0.99		1.00	1.00	1.00	1.00	1.00
LVA	ATL			1.00		1.00	1.00	1.00	0.88	1.09
MLT	MED		0.91		0.91		0.90	1.00	1.00	
NLD	ATL			1.03		1.06	1.07	0.98	0.99	1.02
POL	ATL			0.99		0.95	0.74	1.00	1.00	1.25
PRT	ATL			0.93		0.95	0.96	1.00	1.00	1.07
PRT		AZO		0.94		0.94	0.85	1.00	1.20	
PRT		MAD		1.79		1.25	0.78	0.67	0.13	
ROU	MED		1.30		1.01		1.00	1.00	1.00	
SVN	MED		1.02		1.03		0.92			
SWE	ATL			0.97		0.95	0.96	1.00	0.87	0.91

Source: Number of active vessels reported in the EU Fleet register at the first of January.

Table 6.8 Variation in the fish and seafood price from 2015 to 2016 (e.g. Prices 2016 / Prices 2015) and from 2016 to 2017

	2016/2015	2017/2016
Belgium	1.08	1.02
Bulgaria	1.00	0.99
Croatia	1.03	1.00
Cyprus	1.02	1.02
Denmark	1.02	1.06
Estonia	1.06	1.09
Finland	1.08	1.12
France	1.04	1.05
Germany	1.03	1.04
Greece	1.01	1.00
Ireland	1.00	1.01
Italy	1.03	1.02
Latvia	1.03	1.09
Lithuania	1.04	1.04
Malta	1.04	1.04
Netherlands	1.03	1.09
Poland	1.04	1.04
Portugal	1.01	1.02
Romania	0.97	1.01
Slovenia	1.00	1.05
Spain	1.04	1.04
Sweden	1.05	1.04
United Kingdom	0.98	1.11
Total average	1.03	1.04

Source: Fish and seafood prices from Eurostat's Consumer Price index

Note: For A27 fleet segments, first sale prices by species and country are used from EUMOFA. The resulting is too large to include as a supplementary table.

Table 6.9 Change in fuel prices from 2015 to 2016 (e.g. Prices 2016 / Prices 2015) and from 2016 to 2017

	2016/2015	2017/2016
BEL	0.81	1.21
BGR*	0.80	1.13
CYP	0.76	1.04
DEU	0.78	1.14
DNK	0.80	1.15
ESP	0.79	1.07
EST	0.78	1.15
FIN	0.80	1.11
FRA	0.84	1.11
GBR	0.80	1.10
GRC*	0.80	1.13
HRV	0.80	1.13
IRL	0.84	1.10
ITA	0.81	1.14
LTU	0.78	1.16
LVA	0.78	1.16
MLT	0.80	1.17
NLD	0.81	1.21
POL	0.79	1.17
PRT	0.80	1.12
ROU*	0.80	1.13
SVN	0.80	1.09
SWE	0.79	1.16
EU average	0.80	1.13

*Fuel price data not reported for that country, so EU average is used instead.
Source: Fuel prices from the EUMOFA website

Table 6.10 Inflation (%)

	2016	2017
Belgium	1.77	2.0
Bulgaria	-1.32	0.8
Croatia	-0.63	1.7
Cyprus	-1.22	1.2
Denmark	0	1.4
Estonia	0.8	2.8
Finland	0.39	1.5
France	0.31	1.5
Germany	0.4	1.9
Greece	0.02	1.3
Ireland	-0.2	0.9
Italy	-0.1	1.4
Latvia	0.1	1.9
Lithuania	0.68	2.1
Malta	0.9	1.6
Netherlands	0.11	1.4
Poland	-0.2	2.0
Portugal	0.64	1.3
Romania	-1.07	1.6
Slovenia	-0.15	1.1
Spain	-0.34	1.9
Sweden	1.14	1.7
United Kingdom	0.7	2.5

Source: Harmonised Indices of Consumer Prices (HICP) from Eurostat (Available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_mmor&lang=en)
2017 estimates from: European Commission. 2017. European Economic Forecast - Winter 2017. EUROPEAN ECONOMY Institutional Paper 048. Directorate-General for Economic and Financial Affairs. https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/winter-2017-economic-forecast_en#economic-forecast-by-country

Table 6.11 Nominal interest rate evolution for the period 2015-17 (%)

	2015	2016	2017
Belgium	0.84	0.48	0.80
Bulgaria	2.49	2.27	1.75
Croatia	3.55	3.49	2.85
Cyprus	4.54	3.77	3.28
Denmark	0.69	0.32	0.42
Estonia	1.17	0.72	0.62
Finland	0.72	0.37	0.48
France	0.84	0.47	0.92
Germany	0.50	0.09	0.28
Greece	9.67	8.36	6.86
Ireland	1.18	0.74	0.97
Italy	1.71	1.49	2.24
Latvia	0.96	0.53	0.92
Lithuania	1.38	0.90	0.31
Malta	1.49	0.89	1.37
Netherlands	0.69	0.29	0.51
Poland	2.70	3.04	3.58
Portugal	2.42	3.17	3.81
Romania	3.47	3.32	3.85
Slovenia	1.71	1.15	0.99
Spain	1.74	1.39	1.61
Sweden	0.72	0.54	0.63
United Kingdom	1.79	1.22	1.16

Source: European Central Bank. Harmonised long-term interest rates. Percentages per annum; period averages; secondary market yields of government bonds with maturities of close to ten years.

Data quality and coverage checking procedures – AER Exercise

Quality and Coverage checking procedures on the data submitted under the 2018 fleet economic data call

Although the quality and coverage of the fleet economic data reported under the Data Collection Framework (DCF) are a responsibility of the EU Member States, JRC has undertaken quality and coverage checking procedures on the data submitted, some carried out during the data uploading phase and some afterwards. The quality and coverage of the data has also been checked by national fisheries experts during the STECF EWG 18-03 meeting on the 2018 Annual Economic Report of the EU fishing fleet which took place in Ispra, during the week 9 to 13 April 2018.

Fleet data submitted under the 2018 fleet economic data and to be used for the present report have been checked in four subsequent steps. This section provides a synthetic description of each of them. More information of the quality and coverage checking procedures undertaken on DCF fleet data are available in the JRC technical report available at:

http://datacollection.jrc.ec.europa.eu/

Step 1- Data checks before and during uploading procedure to the JRC/DCF database

Several data checks are already embedded in the excel templates which the Member States are required to use for uploading data on their national fleets. In specific cells of these files, the data entry is restricted to certain records (e.g. acceptable codes, value types and ranges) through an embedded Data Validation Tool (DVTool). This tool consists in a set of macros developed in Visual Basic for Applications (VBA) which allow the MS to detect possible errors in the data before submission.

Furthermore, during the data uploading procedure, a number of automatic syntactic checks are carried out on the data before it is accepted by the DCF database hosted by JRC. Syntactic checks are carried out without any specific knowledge of what the data contains or its meaning. They tell if the data is present or not and in the correct format. These checks automatically reject data that do not confirm to specific restrictions, such as ensuring textual data is validated against defined parameters lists (e.g. Species types and FAO code). In addition, numeric data are checked to make sure they contain numbers and not strings. Member States receive immediate feedback when attempting to upload their data submissions.

Step 2 - Results of the data quality checks/analyses are assessed by JRC experts

Once the datasets with the fleet data are successfully uploaded by the Member States, JRC produces different analyses on the data submitted in order to facilitate the assessment of its quality and coverage. Some of these analyses are presented in interactive online dashboards created using the software Tableau. The same software is also used for analyses not specifically related to data quality, i.e. analyses on the structure and economic performance of the EU Fleets and overviews of the uploading status of DCF fleet data.

All the analyses performed by JRC in Tableau are available in interactive online dashboards, which are refreshed every morning and are accessible (only after authentication), on the following link:

https://datacollection.jrc.ec.europa.eu/da/fleet/data-and-quality

Besides developing the checks and analyses, JRC experts actively participate in the analysis of their results. All quality issues (e.g. inconsistencies, outliers and missing data) concerning the data submitted, identified through the analyses performed in Tableau or with manual checks are listed by JRC in excel files, one for each MS, including the most relevant information concerning the problems identified (e.g. description of the problem, structural and economic indicators affected and assessed impact on the analyses of the Annual Economic Report), together with comments and actions recommended by JRC to solve the issues.

Step 3 – National correspondents receive a list of data transmission issues and may resubmit revised data

The excel files listing the data quality issues (and including JRC experts' comments and opinions on the action to undertake) are sent to the national correspondents (each national correspondent receives information only about the country he/she represents).

MS are requested to consider the potential anomalies listed in the excel file, amend and re-submit the data as necessary. They are also requested to go over the quality analyses performed in order to detect additional (if any) problems and add them to the list. Finally, they are asked to provide feedback (i.e. whether or not the problem has been resolved, which actions have been taken and possible comments) in designated columns of the excel file.

Step 4 – The quality and coverage of the data have been checked by the STECF Expert Working Groups

In addition to being analysed by JRC's experts, the quality and coverage of fleet data submitted under the DCF is also checked by national fisheries experts during the STECF EWGs meetings. Data submitted under the 2018 fleet economic data call has been checked during the EWG meeting 18-03 which took place during the week 9 – 13 April 2018.

Data for each country are analysed by two experts. At the beginning of the meeting, the experts received the excel files with the list of data transmission issues of the MS assigned to them, which also included for each specific issue comments by JRC and feedback sent by the MS. MS have been contacted whenever an inconsistency was found and the expert attending the meeting could not solve it by resubmitting data. Furthermore, all experts have been given access to the tableau dashboards. This has allowed them to visualise changes in the data whenever the MS have uploaded revised data during the meeting or submitted new templates.

The comments provided by the experts are added in designated columns of the excel files and used to decide on the exclusion of part of the data submitted from the analyses of the AERs, due to data coverage or quality issues.

Data issues

In terms of the completeness of the Member States data submissions, most countries submitted the majority of the parameters requested under the call. Overall, there has been an improvement in the data quality and coverage compared to previous years. In many cases missing data relates to fleet segments with low vessel numbers for which data is hard to obtain.

In terms of data quality, inevitably some 'abnormal' estimates for various parameters were detected by the JRC or the EWG and in most cases rectified by the Member States. However, some quality issues remain outstanding.

Incomplete time series data due to either the non-submission of data, questionable data and/or new MS additions, make trend analysis at the EU level impossible without excluding the MS fleets that are incomplete. These discrepancies make an evaluation of the overall economic performance of the EU fishing fleet in 2016 impossible (Greece had to be excluded).

Under the DCF, Member States provide transversal and economic data on their fleets at the national level and by fleet segments (combination of main fishing technology and vessel length group at the supra-region level). For this report, national level datasets were used for the EU and Member State level analyses while data submitted at the fleet segment level were used to analyse performance by fleet segment and fishing activity. While in theory both national level and fleet segment datasets submitted by MS should equate, this is not always the case and some discrepancies may exist between the two. These discrepancies are mainly due to missing/incomplete datasets at the fleet segment level or the non-submission of data due to confidentiality issues.

Due to these and other data related issues, a complete overview of the EU fishing fleet for all reference years was not possible.

Fleets for MS that were unable to deliver all the required and reliable data had to be excluded from the analyses at the EU and Regional levels.

To mitigate data deficiencies, a status quo of the EU fleet in 2016 was provided considering only Member State fleets for which reliable data were provided and trend analyses included only the MS that provided the necessary data over the entire period (2008-2016/17). The National Chapters present all the DCF data provided by MS (some questionable data may be highlighted).

All MS were included in the EU overview analyses for 2016, with the exception of Greece, which needed to be excluded from all economic analyses due to incomplete data sets.

Submission from France and Spain continue to be incomplete, especially for the period 2008-2010 and some minor data quality issues remain for several other Member States.

For confidentiality reasons, Member States may aggregate fleet segments into clusters to provide sensitive economic data. In several cases, clustering may not be enough to guarantee confidentiality,

and hence, parts of MS fleets are not completely covered, these include MS such as Germany and Lithuania. Other MS, such as Estonia and Latvia, simply do not provide any data on part of their fleet (high sea fleet).

When fleet segments are clustered to provide economic data, one result may be that some MS fleet segments appear to be missing but these have just been grouped together with other segments, becoming part of a cluster.

Another result of clustering may be that fleet segments with different characteristics, such as different vessel length groups or fishing gears, are grouped together which could bias results when assessing by type of fishing gear or activity, such as small-scale versus large-scale fleet. For example, a fleet segment that would otherwise be considered as small-scale (i.e. vessel under 12m using non-towed gears) may be clustered into a large-scale fleet segment (i.e. vessel under 12m using towed gears), and vice-versa. Hence, results at the fishing activity level should be considered as only indicative of each fishing type. Furthermore, although clustering of fleet segment should be applied consistently, as far as possible, over the period, this is not always the case, making time-series hard to follow.

Member State specific data issues and developments

Although the coverage and quality of the data submitted by Member States has improved significantly over the years, some data issues remain. These include, but may not be limited to, the following:

Belgium: No major data transmission issues to report. The overestimated FTE values for 2015 detected last year appear to have been corrected in the 2018 data call. The small size of the national fleet creates some problems in reporting sensitive economic data. Yet, Belgium has made some significant efforts in establishing a consistent clustering scheme over the time series. Capital value (*Tangible asset value (replacement)*) for inactive vessels missing for all years.

Bulgaria: Significant effort has been made by Bulgaria over the last two years to improve on the data quality and coverage. A few minor issues remain, including some missing expenditure variables for the fleet segment HOK VL1218 in 2016 for. In addition, there are significant differences between the figures provided for fleet capacity in the DCF and what is reported in the EU fleet register.

Croatia: No major data transmission issues to report. As a new Member State, Croatia submits data from 2012 onwards. Croatia made a significant effort to provide preliminary (landings and effort) data for y-1, in this year's data-call.

Cyprus: Capital value (*Tangible asset value (replacement)*) missing for inactive segments in most years. Significant amount of missing data (such as, employment, effort, landings, income, expenditure and capital value) for PGO VL0006 and PGO VL0612 in 2009 to 2012 and for PS VL1824 in 2012.

Denmark: No major data transmission issues to report. However, DCF datasets requested (capacity, fishing enterprises and recreational fishing) for the latest year (i.e. year 2017 for the 2018 call) continue not to be provided. Capital value (tangible assets replacement value) for inactive vessels not provided for all years. Some effort variables (days at sea and fishing days) requested at both FS and FAO levels were not provided at FS level for the years 2008 to 2011. This was most probably an undetected uploading issue and MS is recommended to check the data transmission reports after submitting data to avoid a reoccurrence.

Estonia: No major data transmission issues to report. For confidentiality reasons, Estonia only provides DCF data for its Baltic Sea fleet, i.e., no data are provided for the distant water fleet; this impacts on the AER as a complete coverage of the EU fleet is not possible.

Finland: No major data transmission issues to report. Fishing days at gear level missing in 2015 and 2016 for the TM segments but this is currently not an issue for the AER.

France: A significant amount of missing data for essential parts of the data call still remain. In the 2017 data call, France made strides to improve the coverage of the data submitted, by providing data on its outermost region fleet (OFR), yet data only available for a limited time-series (2014 and 2015) and many economic variables were still missing. In the 2018 data call, France made some additional progress in providing more complete data sets and further advances are expected next year (in particular for the missing effort data). See Data coverage report for more details on missing values by fleet segment, variable and year.

Germany: No major data transmission issues to report. For confidentiality reasons, Germany only provides partial data on its distant water fleet. This year, in addition to weight of landings, data on the value of landings were also provided. Yet other important variables, such as days at sea and employment

continue to be omitted for the pelagic trawler segment. This impacts on the AER as a complete coverage of the EU fleet is not possible. Additionally, datasets provided at the national total level are not consistent, affecting the estimation of indicators at this level and requiring additional data processing.

Greece: most variables missing for the entire time series; partial and questionable economic data available only for 2014 and 2015. Greece provides capacity data for the entire time series. However, most transversal data is provided for 2014 and 2015 only (partial effort data at FS level is also provided for 2013) and economic data from 2012 onwards. Both the transversal and economic datasets are significantly incomplete, not only regarding the variables but do not relate to the entire year (e.g. income may cover only 3 months of activity in 2015). Due to these data issues, the Greek fleet cannot be included in any of the AER aggregated analyses. At the national level, data is not representative of the entire fleet and/or year.

Ireland: Improvements have been made (for data related to the years 2015 and 2016) but still there is a significant amount of missing data (transversal and economic data) for the under 10 m segments, for all years but in particular for 2008 and 2009, related to difficulties in data collection. Some other missing variables (e.g. energy consumption, financial position, tangible asset value, etc.), also missing for several other fleet segments and years. See JRC online tool and data coverage report for more details on missing values by fleet segment, variable and year.

Italy: No major data transmission issues to report. Due to confidentiality reasons, Italy only provides partial data on its distant water pelagic trawler fleet (PS VL40XX IWE). This impacts on the AER as only incomplete coverage of the EU fleet is possible.

Latvia: No major data transmission issues to report. For confidentiality reasons, Latvia does not provide any DCF data on its distant water fleet; this impacts on the AER as a complete coverage of the EU fleet is not possible.

Lithuania: No major data transmission issues to report. Missing capital value for the inactive group 1824 that was missing for 2010-2012 and for 40XX in 2012, in last year's data call has been corrected.

Malta: Some missing economic data for earlier years, mainly energy consumption, energy costs and expenditure, for several fleet segments with low number of vessels, such as PGP 1218 (in 2013), PGP 1824 (in 2013), PMP 2440, PS2440, etc. Employment and energy consumption missing for PS VL2440 in 2016 and cost items in 2013. See JRC online tool and data coverage report for more details on missing values by fleet segment, variable and year.

Netherlands: No major data transmission issues to report. 'Other variable costs' missing for DTS0010 in 2010, 2013 and 2015. Revised data resubmitted in June, after the final deadline and second AER EWG.

Poland: No time-series analyses possible for many fleet segments due to inconsistent clustering. Both Wages and unpaid labour costs missing for PG 0010 in 2008. Employment and economic data missing for DTS VL0010 in 2009, for PG VL1218 in 2011. Due to confidentiality reasons, Poland only provides partial data on its distant water fleets. This impacts on the AER as a complete coverage of the EU fleet is not possible.

Portugal: No major data transmission issues to report. Significant improvements have been made in the coverage and quality of the data submitted over the last few years; fleet segment data is also provided by region (mainland, Azores and Madeira). Some missing data (employment, income and expenditure) for the Madeira HOK VL1824 P2 fleet segment in 2015 and effort in 2016. Significant amount of missing data for MGP VL1012 P2 for 2008-2011 and in 2015. See JRC online tool and data coverage report for more details on missing values by fleet segment, variable and year.

Romania: No major data transmission issues to report. However, at the time of finalising the 2018 AER, the Romanian national chapter had still not been provided by the expert that attended AER 1 (EWG 1803).

Slovenia: No major data transmission issues to report. Transversal and economic data not provided for TM 2440 in 2012 due to confidentiality reasons (only one active vessel).

Spain: Significant discrepancies between the Value of landings and Income from landings. Significant amount of missing data for essential parts of the data call for most fleet segments and for most of the time period, such as effort at FAO level and annual depreciation. See Data transmission report in Annex for more details by fleet segment, variable and year.

Sweden: No major data transmission issues to report.

United Kingdom: No major data transmission issues to report.

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9   LIST OF ANNEXES

Electronic annexes are published on the meeting's web site on:

http://stecf.jrc.ec.europa.eu/web/stecf/

10 LIST OF BACKGROUND DOCUMENTS

Background documents are published on the EWG-18-03 meeting's web site on:

http://stecf.jrc.ec.europa.eu/web/stecf/ewg1803

Background documents are published on the EWG-18-07 meeting's web site on:

http://stecf.jrc.ec.europa.eu/web/stecf/ewg1807

List of background documents:

EWG-18-03 and 18-07 – Doc 1 - Declarations of invited and JRC experts (see also section 8 of this report – List of participants)

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A1 - Socio-economic contribution of fisheries to local communities

The socioeconomic contribution of fisheries to society can be analysed comprehensively with the aid of data available from the DCF and AER. Indicators available include the following: Employment, Full-time employment (FTE), Gross Value Added (GVA), Net Value Added (NVA).

The Gross value added describes the contribution of the fishing sector to the national economy (in terms of Gross Domestic Product). Net value added indicates the income from fisheries to people involved in the sector in wages and salaries, and profits to owners of vessels. Furthermore, the value added may be compared between segments and countries and in relative terms in relation to Full Time Equivalent. The suggested indicators are: GVA, GVA per FTE, NVA and NVA per FTE.

EWG 1807 suggests that socioeconomic impact of fisheries should be highlighted in national and regional chapters as well as in the EU overview of future reports. The overall socioeconomic impact of fishing, however, requires additional research to estimate the multiplier effects of fishing on upstream and downstream activities.

With regard to multiplier effects in upstream and downstream activities there has been research carried out at the EU level on estimating these multiplier effects in the economy, however, these are outdated and require updating. Therefore the overall socioeconomic impact of fishing is only possible after further research carried on these multipliers effects[27] [28].

Recent research has described a methodology to assess the social impact of the EU TAC setting procedure at the regional level for the Irish seafood sector (Curtin and Keatinge 2018[29]). The authors describe the following steps to apply this methodology at the EU level;

• DCF data submission guidelines would require adaptation so that landings (and value) by vessel administrative unit (county, province, etc.) and by port are submitted.
• The Community Fleet Register would require more accurate homeport/residence of vessel owner to assign values to the correct areas.
• Up-to-date multiplier estimates would be required at an EU regional level

To achieve these steps data submission through the data collection framework would require modification, a process that requires time. Likelihood of achieving this for next year's report is low. However, as already mentioned, analysing the social impact of EU fisheries and fishing fleets is possible with the data that is already collected. Some general examples of social analysis are provided below that may be incorporated into the structure of next year's report at the overall EU level and at the regional level (Northeast Atlantic is used here as an example).

In 2016 the total revenue generated by EU fleet was EUR 7.7 billion employing 91 700 in terms of FTE. The Gross value added describes the contribution of the fishing sector to the national economy (in terms of Gross Domestic Product). In 2016 the GVA of the EU fleet added up to EUR 4.5 billion. Therefore, the direct contribution of the EU fishing fleet to total production (GDP) in the EU in 2016 was 0.03%.

Net value added indicates the income from fisheries to people involved in the sector in wages and salaries, and profits to owners of vessels. In 2016 the EU fleet generated a NVA total of EUR 3.7 billion.

Large scale fisheries accounted for the highest share of the total GVA, 75%, followed by small scale fisheries and distant water fisheries, with 16% and 9% respectively.

Also the labour productivity in terms of GVA per full time equivalent was highest in LSF, EUR 60 000, followed by DWF, EUR 57 000. Small scale fisheries generated EUR 24 000 GVA per FTE and EUR 20 000 NVA per FTE.

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	Fishing activity			
	SCF	LSF	DWF	EU Total
Revenue (EUR billion)	1.0	5.6	1.1	7.8
GVA (EUR billion)	0.7	3.4	0.4	4.5
NVA (EUR billion)	0,6	2.8	0.3	3.7
Employment in FTE	36 342	15 137	274	51 753
GVA per FTE	EUR 24 300	EUR 60 700	EUR 57 900	EUR 49 000
NVA per FTE	EUR 20 400	EUR 50 600	EUR 45 900	EUR 40 700

A2- Structural support to fisheries

Policies to support fisheries are applied by most countries globally to help achieve government objectives for their fishers and fishing communities. At the same time, and since the recognition that subsidisation in global fisheries was a major driver behind their decline (FAO, 1993), concerns that some forms of support can promote excess fishing capacity and overfishing have resulted in calls for greater transparency and greater attention being paid to how support is applied and the incentives they create. Understanding how different forms of support impact fisheries and to whom the benefits accrue is thus important and necessary if the policies are to be effective in achieving the goals.

As fisheries support distorts the relationship between costs and revenues, by either lowering costs or increasing revenues, they temporarily make the act of fishing more profitable and can facilitate a build-up of effort or capacity. From an environmental perspective, increased capacity or effort is potentially harmful as it accelerates the rate at which resources are depleted and can lead to overexploitation. In addition to threatening the long-term sustainability of a fishery's target species, excessive fishing pressure can also result in higher total levels of non-target bycatch (e.g. other commercial stocks, or threatened species such as sharks, turtles, seabirds), damage to habitats, and increased pollution (through excessive consumption of inputs such as fuel, oil and gear).

Fisheries support that accrues to individual fishers, as opposed to the industry as a whole, is more likely to facilitate increases in fishing capacity and effort. In particular, policies that reduce the cost of inputs (e.g. fuel, equipment, labour, vessels) create an incentive to use relatively more of these inputs in the production process. The benefits of the policy consequently accrue more to input suppliers than fishers as more inputs are purchased and their price increases, making these forms of policy relatively ineffective if the objective is to provide income benefits to fishers and not the supply chain of inputs to the fisheries sector. Recent work by the OCED (2017a) investigating the relative impacts of alternative forms of support to fisheries suggests the following set of general outcomes:

- Support directed at the use of variable inputs (such as for equipment, fuel or bait) is the most likely to increase fishing effort and the potential of overfishing, and is the least likely to deliver real income benefits to fishers.
- Support directed at the use of fixed inputs (vessels and other durable investments) is the most likely to encourage expansion of capacity as this lowers the cost of investment. The benefits of this support disperse into input values and therefore accrue to factor owners at that point in time.
- Support based on fisher's income provides the greatest benefit to fishers and is relatively less likely to increase capacity or fishing effort.
- Support for management, enforcement, infrastructure investments and R&D, appears to be the least likely to increase capacity or fishing effort. Moreover, management, enforcement, and R&D are crucial to guarantee sustainability in fisheries.

For the 38 fishing nations covered by the OECD's fisheries support estimates (FSE) database, which includes 18 EU member states (Belgium, Czech Republic, Denmark, Estonia, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, and the United Kingdom), there has been a general movement away from support at the individual level and towards activities that promote the sustainability of the resource (OECD, 2017b). This is reflected in the EUs European Maritime and Fisheries Fund (EMFF), where most support is assigned to the objective of making fisheries and aquaculture more sustainable and profitable.

Support outcomes and management measures

How support measures ultimately manifest within a fishery is directly dependent upon the management system in place and this system will determine the ultimate effect of support on capacity, effort, stocks

and economic performance. Consequently, the interaction between fisheries support and the overall management system influences the extent to which support achieves the policy goal. In an unregulated open access fishery, or where effort is not effectively constrained, fisheries support facilitates the inefficient use of inputs in the production process, excessive capital investment and a build-up of effort beyond the point where it would otherwise be economically feasible. As a consequence, this scenario can result in excessive levels of catch, increased pollution, and the dissipation of rents to input suppliers.

Management that limits total catch prevents overfishing and protects the biological resource but on its own is not sufficient to reduce incentives for excess capacity to accumulate in the fishery, so the benefits of support again mostly accrue to input suppliers. When the management system is effective at constraining both catch and effort and provides the incentive for fishers to operate at an optimal level of capital investment and effort, direct impacts such as overfishing and excessive capital investment will not arise. This then allows more support to accrue as rents that are transferred to producers or consumers. Such a situation could potentially be achieved by setting total allowable catches and allocating individual quotas. Under these conditions, support to measures such as management and enforcement has greater potential to improve stock status the economic performance of the fishery as a consequence.

Note: the initial common property of the fish resources is into a certain extent converted into private (fishers) property of the resource with the establishment of individual quotas. Thus, there is less justification for fisheries support at the individual level, and there is only sense for activities that promote the sustainability of the resource. Moreover, in this case, it seems fair that fishers pay back part of the support costs (i.e., cost-recovery mechanisms).

Yet, even in such an ideal situation, fisheries support still has the potential to facilitate behaviour such as high-grading, if it is landings rather than catch being controlled. The ability of management to control catch rather than landings is a motivation behind the EU landing obligation. Furthermore, regardless of the management system in place, fisheries support can put pressure on fisheries by giving incentives to increase desired effort above allowed levels, encouraging illegal, unregulated and unreported (IUU) fishing and lobbying to increase allowable catch and effort.

Decommissioning schemes are a specific form of fisheries support that falls into the category of transfers to individual fishers, the impacts of which are highly dependent upon how they are implemented. When used as part of a package of transitional assistance and management changes, they can potentially speed up the process of transitioning a fishery to appropriate levels of capacity, however success is conditioned by the extent to which the political economy influences the design and implementation of the decommissioning scheme and any associated policy measures (OECD, 2009). Past experiences with these schemes demonstrates that there are a number of potential hazards associated with their use and careful planning and management is required in both the development and implementation of such schemes, as initial benefits can easily be eroded away and open-ended schemes risk inflating vessel and license prices (OECD, 2009). On the basis of previous experiences, the OECD developed a set of best practice guidelines for implementing capacity reduction through decommissioning policies to assist policy makers ensure that schemes meet their goals efficiently and cost-effectively (OECD, 2009). Reports by the European Court of Auditors considering previous attempts to reduce capacity in the Community fleet via support for structural adjustment found a number of significant weaknesses in their design and implementation and that they had been ineffective at reducing capacity (European Court of Auditors, 1994; 2011).

A3 - Fish price analysis

According to the economic theory, under general conditions, market price is determined by the forces of demand and supply at a point of time. However, according to Marshall, market prices for perishable products are determined differently than market prices for durable commodities. The price of a perishable product, such as fish, is mainly determined by its demand. Supply has no influence on price because it is fixed. If demand increases, sellers and producers cannot increase the production of fish, especially in the short-term. In the medium to long-term, the ability to increase fish production is also rather constrained by biological factors. Thus, the price of a fish rises with the increase in its demand, and falls with the decrease in its demand.

The price of a product depends on the: i) level of necessity; ii) availability of substitutes; iii) available income; iv) proportion of budget spent on the product; v) the market and its spatial location; and vi) time.

Stigler (1969) defined the 'market' as the area within which the price is determined, allowances being made for quality differences and transport costs. So, if prices of different goods are determined within the same market, prices develop together over time.

Commonly, economists look at how price changes affect quantity bought in the market (own-price elasticity of demand). For example, Muhammad et al. (2013) estimated the unconditional own-price elasticities of demand for different food subcategories. For fish products the average elasticities for high, middle- and low-income countries are -0.278, -0.382 and -0.48, respectively. For high-income countries, the demand for fish products is more inelastic (close to 0). In other words, changes in price will have less impact on demand, so that quantity consumed is more or less constant. Demand for other food categories is also inelastic in high-income countries, with elasticities varying between -0.234 and -0.467 (Muhammad et al., 2013).

For EU countries, the own-price elasticity for fish in the United Kingdom, France, Spain, Portugal and Hungary are estimated -0.258, -0.273, -0.281, -0.316 and -0.352, respectively; while the expenditure elasticity for fish are 0.351, 0.372, 0.384, 0.431, and 0.480 (Muhammad et al., 2013). In Muhammad et al. (2013), fish is considered a homogenous product. On the other hand, Singh, Dey and Surathkal (2012,2014) found own-price, cross-price and expenditure (income) elasticities to vary considerably across species in the US, which shows the importance of analysing consumer demand at a disaggregated level. Poorer consumers tend to have higher income elasticities than wealthier consumers. However, for perishable products, how quantity changes affect price (price flexibility coefficient) is also investigated.

The relationships between variables have traditionally been studied with ordinary regression analysis. Such methodology can only be used when variables (i.e., prices) are stationary (Squires, Herrick Jr., and Hastie, 1989; Asche, Gordon and Hannesson, 2004), but many economic variables are non-stationary (i.e., have trends). The use of co-integration methodology is required to estimate real long-run relationships between non-stationary variables, in order to avoid obtaining spurious relations with regressions (Ardeni, 1989; Whalen, 1990; Goodwin and Schroeder, 1991).

Moreover, depending on the availability of substitute products and the level of substitutability, prices of products may be affected by the quantity of other products supplied. Considering that there are more than 800 aquatic organisms and plants considered commercially important, in contrast with the only 10-15 species of commercially active birds and mammals (Anderson, 2003), the existence of substitute products for many seafood products is to be expected.

Market integration analysis investigates whether prices of different products follow each other over time (Ravallion, 1986). This implies that if the prices of different fish species are integrated, EU catch limits on specific species will have limited price effects. If the markets for different fish species are separated, the effects on prices might be larger (Nielsen et al., 2009).

Co-integration is currently the most commonly used empirical tool to test for market integration, including seafood products (e.g. Norman-López and Asche, 2008), in particular the multivariate Johansen co-integration test (Johansen 1988, 1991; Johansen and Juselius, 1990).

Some studies indicate that markets for some species are formed within the same market. Gordon and Hannesson (1996) identified strong integration of markets for frozen cod fillets in the UK, France and Germany; for frozen haddock (UK and France), redfish (Germany and France), and fresh cod (France, the UK and Germany). Asche et al. (2004) concluded that the whitefish market (cod, haddock and saithe) in France is highly integrated and whitefish can be represented as a single species. Nielsen (2005) identified strong integration of European cod markets and partially integrated saithe markets. Nielsen (2004) found strong integration between the Norwegian and Danish herring markets. Nielsen et al. (2009) reported a series of own-price and cross-price flexibilities for different species in EU markets. Own-price flexibilities for single EU countries underestimate price changes at the European level. Nielsen et al. (2012) estimated the average own-price flexibility about −1.1, where own-price flexibilities focusing on single countries ranged between −0.06 to −0.49. In addition, aquaculture can influence wild capture fisheries prices (see for e.g. Bjørndal & Guillen, 2016).

Using hedonic analysis, Asche and Guillen (2012) and Guillen and Maynou (2014, 2015), estimate that fish prices in Catalonia (Spain) depend on gear, size, origin, month and day. Demand for low-valued seafood is often more inelastic, while demand for high-valued seafood is more elastic.

Overall our understanding of these factors and how they may be used to better predict changes in fish price over time are, at best, sporadic not least because only a fraction of species and markets have been analysed so far.

Changes in fish prices over time

In their study, Guillen et al (2015) present the results of a price study of several different fish species based on information from daily fresh fish transactions for a fleet based in Catalonia between 2000 to 2013. The fleet utilised a number of fishing gears (DTS, PS, HOK and DFN) and targeted eight different species (pelagic and demersal fish and crustaceous). From this study the author concluded that fish price was affected by several factors including demand variation, landings, fishing gear (e.g. fish species caught with longline tends to receive a higher prices), and many displayed weekly and/or annual seasonality (e.g. shrimp during the Christmas period).

In many cases the volume landed played an important role especially when dealing with fresh fish. For example, Guillen found that most seafood prices decreased between 0.03 to 0.10% when the quantity landed increased by 1%. *Nephrops* was an important exception, and price was seen to increase by 0.90% when landings increased by 1%.

Significant variations in price can also be observed in local markets, particularly those in small ports supplying fresh fish for local consumption especially where the species had particular relevance to the local community. These markets are often supplied by small-scale coastal fleets in contrast to large scale fleets that more often supply fish processors. In the latter case prices are more often related to global trade and fish prices tend to be more insensitive to the local effects noted above. It should be stressed, however, that the price of fish obtained by larger vessels was often – though not always - lower than the price paid at the local market.
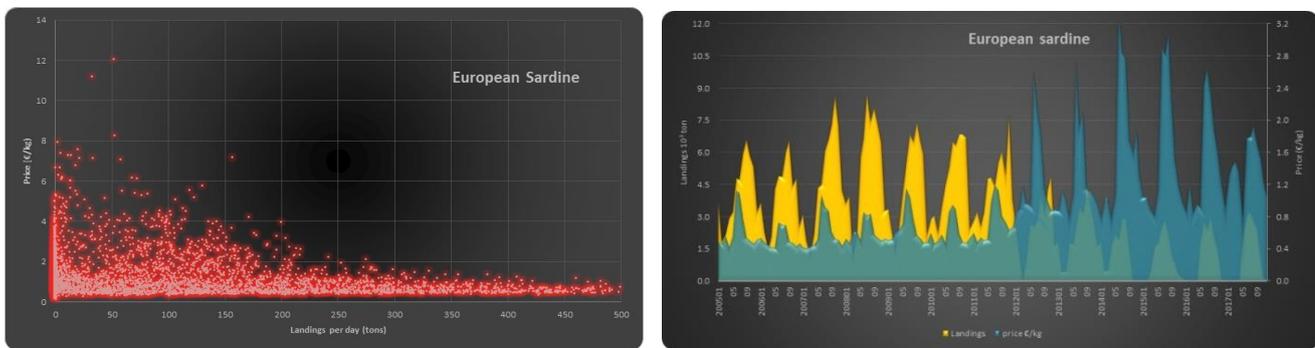
Figure A.1 Prices of European sardine related to daily landings (left) and seasonality (Portugal 2005-2017)

Figure A.1 shows the daily transactions of European sardine in Portugal over the period 2005-2017. This particular fish species is important as it supplies two different markets: fresh and processing. It clearly shows one price zone in the range of 0.6/kg that corresponds to the market price for the processing industry. Here price varies little with volume landed. The more disperse points, with higher prices, corresponds to the fresh fish market. In this case there is evidence of a correlation between price and quantity landed however once the latter exceeds 200 tonnes per day the price tends to converge with that offered by the processing sector.

As noted by Guillen et al (2015) annual seasonality can be observed for many species; here we see that sardine prices are strongly affect by time of year (Table A.1). One can observe two different behaviours in the fish prices during the year with significant peaks during the summer months (May – September) reflecting strong seasonal demand. For the remainder of the year, prices remain stable. Another important aspect that can be observed is the increase in peak prices from 2012. This behaviour appears related to catch (supply) reductions (from 50 to 14 thousand tonnes/year) on foot of a management plan introduced to recover the Iberian sardine stock.
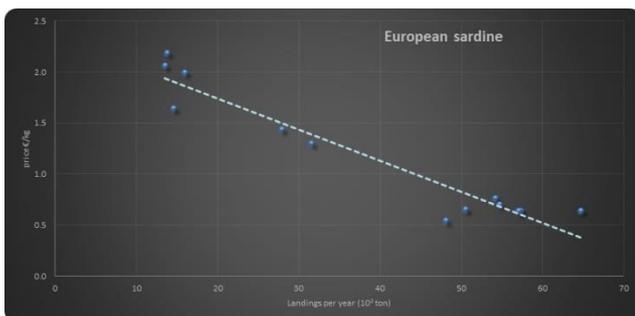

Figure A.2 Annual time-scale for the European Sardine price (Portugal 2005-2017)

When considered over the course of a year one can conclude that, for these particular species, fish price is strongly related to annual landings and follows expected market rules – larger landings give rise to lower prices. However, there are some species (one of the 7 considered in this analysis) that display very different trends. These may be explained by factors including global fish prices, changes in the demand curves, size grade and freshness category, level of necessity, availability of substitutes, available income, proportion of budget spent on the product, the market and its spatial location, and time.

Fish price and other factors

Both the fish price and landings data used in the AER report are provided on an annual time scale (2008-2016) for 3 760 fish species, 15 fishing techniques and 505 European fleet segments. In this section we undertake an initial study of possible relationships between fish price and annual trends (landings, fleet segments *i.e.* LCF, SSCF) for some important (by value) fish species: Atlantic cod (*Gadus morhua*) COD, Atlantic herring (*Clupea harengus*) HER, European hake (*Merluccius merluccius*) HKE, Atlantic mackerel (*Scomber scombrus*) MAC, Norway lobster (*Nephrops norvegicus*) NEP, European pilchard (=Sardine) (*Sardina pilchardus*) PIL, and Swordfish (Xiphias gladius) SWO.

As stated earlier, the price of fish is affected by many factors including size grade and freshness category. Both are indicators of fish quality (desirability), and this is often reflected in the price obtained by different vessels fishing in different areas. However, our ability to estimate these relationships will also depend on the temporal resolution of the data provided (e.g. daily, weekly, monthly or yearly) as trends over time will have different levels of variability associated with them and will estimate these effects differently. In this section, the price of seven species are analysed by vessel type with fleets divided into two groups SSCF (small scale vessels, LOA < 12 meters, using passive gears only), and LSF (large scale vessels, LOA > 12 meters, using active and/or passive gears).
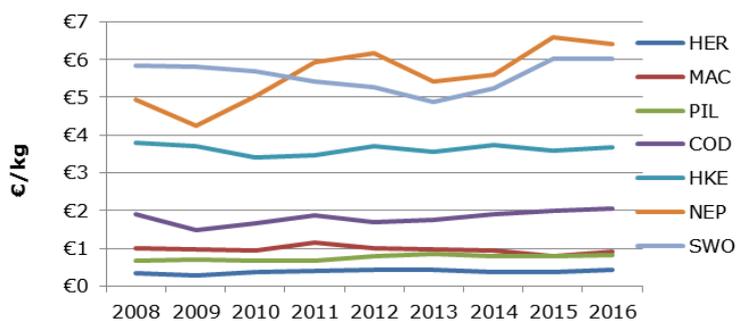

Figure A.3 Mean yearly price in period 2008 – 2016 in EUR /kg

The average price, by species, over the period 2008 -2016 is shown in Table A.1. While a number of species do display an increasing price trend over the period considered this is not always the case. For example, we see strong growth in the price of *Nephrops*; this may be linked to economic recovery in EU or changing consumer diets, for example in China.

It should be noted that strong upward price movement for certain species can be either positive or negative. It can lead to increased fishing pressure and, potentially, overfishing. On the other hand, with higher prices, catchers can make more money catching less fish, which is certainly a good thing for fish stocks. However, this only works if there is appropriate regulation and enforcement.

From Table A.1 it can be seen that for some species (hake, mackerel, *Nephrops*, swordfish) the small scale coastal fleet can obtain higher prices for their catch. This may be linked to the time spent at sea by larger vessels with the result that their catch is not as fresh as that coming from smaller, artisanal, craft in the SSCF. In addition, smaller vessels produce a higher quality fish product which attracts higher prices, particularly in local markets or restaurants.

Relationship between price and landed quantity

The law of supply and demand in fisheries depends on many factors. In practice, supply and demand pull against each other until the market finds an equilibrium price. However, multiple factors can affect both supply and demand, causing them to increase or decrease in various ways. Supply in EU fisheries sector is determined by many other factors. Capacity, production costs, the availability of fishery resources and the number of competitors from all over the world directly affect how much supply fisheries can create. Demand is, on the other hand, affected by the quality and cost of fish, among other factors.

The number of available substitutes and the changing in the price of complementary products also affects demand.

Table A.1 shows relationship between price and quantity of landed fish in practice. In same stocks (mackerel and hake) we see a very strong correlation between price and quantity, while in others (herring and *Nephrops*) this correlation cannot be detected. These can be, among others, because of import of fish from other countries, because of available substitutes for certain stock or because of TAC and quotas which regulate fishing in some fishing regions the EU.

Table A.1 Price evolution by fleet scale

		2010	2011	2012	2013	2014	2015	2016
COD	SSCF	1.5	1.6	1.7	1.6	1.6	1.8	1.8
	LSF	1.7	1.9	1.7	1.8	1.9	2.0	2.1
HER	SSCF	0.3	0.3	0.4	0.3	0.3	0.3	0.3
	LSF	0.4	0.4	0.4	0.4	0.4	0.4	0.4
HKE	SSCF	6.3	6.7	6.1	5.4	5.9	6.3	6.2
	LSF	3.4	3.3	3.6	3.5	3.5	3.5	3.4
MAC	SSCF	1.5	1.6	1.5	1.4	1.1	1.0	1.3
	LSF	0.9	1.2	1.0	1.0	1.0	0.8	0.9
NEP	SSCF	9.8	10.4	10.6	10.1	11.4	12.7	11.0
	LSF	4.9	5.8	6.0	5.2	5.3	6.3	6.2
PIL	SSCF	0.6	0.5	0.6	0.6	0.6	1.0	0.7
	LSF	0.7	0.7	0.8	0.9	0.8	0.7	0.7
SWO	SSCF	10.1	10.5	9.9	8.4	8.4	9.6	9.3
	LSF	8.6	7.9	7.8	6.7	6.2	8.7	6.5
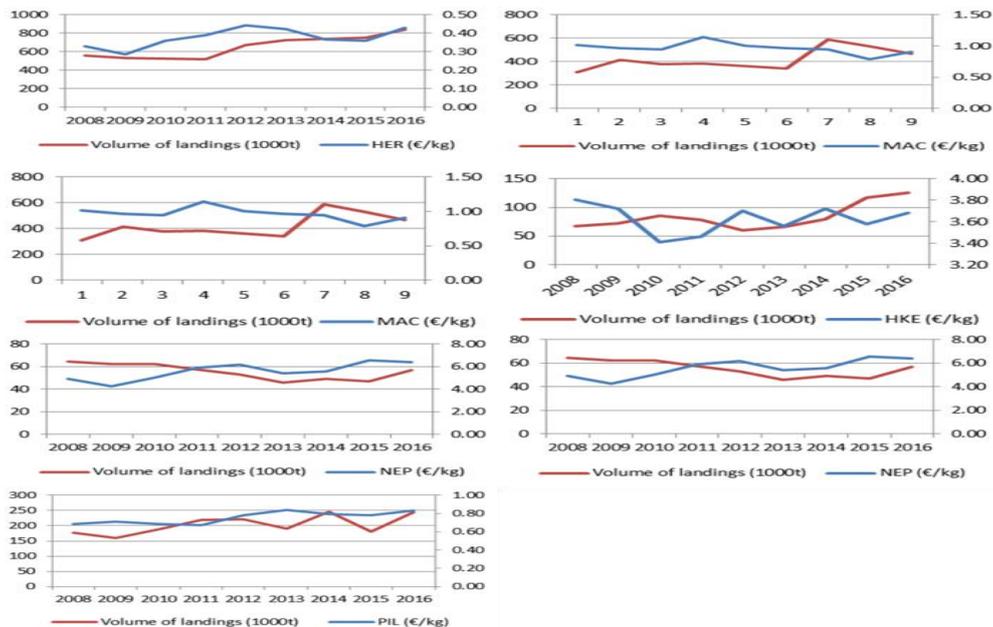
Figure A.4 Relationship between price and quantity of fish landed for some important species

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STECF

The Scientific, Technical and Economic Committee for Fisheries (STECF) has been established by the European Commission. The STECF is being consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations.

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