ESTIMATION OF

THE ECONOMIC AND SOCIAL IMPACT OF

Spanish Joint Ventures in Fishering

VICEPRESIDENCIA PRIMERA DEL GOBIERNO

MINISTERIO DE HACIENDA

CONSORCIO ZONA FRANCA VIGO

CÁTEDRA ARDÁN

Universidade Vigo

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Preliminary diagnosis of the situation of joint ventures in fisheries

This chapter explores the strategic diagnosis of joint ventures in fisheries (JVFs) following a traditional SWOT analysis, which completes the external diagnosis and summarises the internal diagnosis of JVFs.

The document aims to determine the main key factors underpinning the situation of joint ventures in fisheries. Based on them, specific measures can be defined to outline possible courses of action. Thus, instead of determining a specific action for each possible threat, weakness, etc., they are all analysed comprehensively to determine the strategic lines to develop proposals aimed at addressing the elements in the SWOT analysis.

This document is structured as follows: first, the methodology and sources used to develop this diagnosis are explained. The main aspects of the diagnosis (i.e., the weaknesses, strengths, threats and opportunities of JVFs) are identified below. Lastly, the main conclusions are listed.

1.1. Sources and methodology

Two main types of sources were used to perform this diagnosis. On the one hand, the documents available on JVFs in general in databases, newspaper archives and the media were used, in addition to those provided by associations representing JVFs. On the other, the information obtained from interviews was used as the main source, since it is provided by companies, professionals linked to the industry and representatives of associations working in JVFs.

The methodology used is based on previous studies and combines different strategic analysis techniques, together with econometrics, which make it possible to reduce and detect the key elements of the information obtained from the aforementioned sources on the situation of JVFs.

The process consists of several phases, as shown in Figure 1. First, a list of elements that affect the actions of JVFs is drawn up, classifying them as weaknesses, threats, strengths or opportunities.

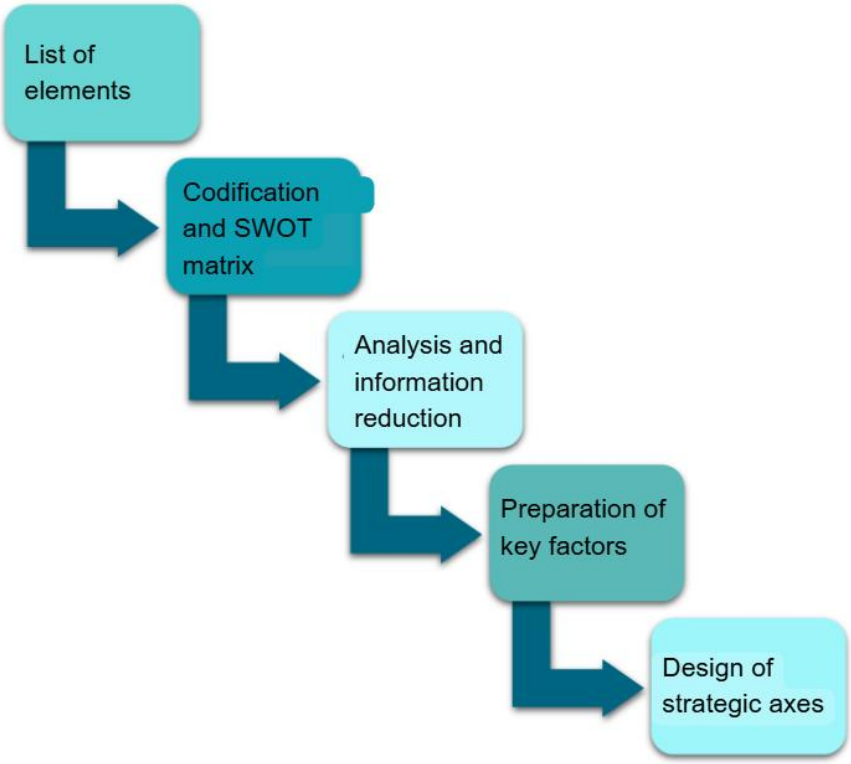


Figure 1. Strategic axes development framework

Next, each of those elements is coded in accordance with a general framework that indicates the main external and internal aspects of JVFs. Following a traditional framework, the external elements were coded as follows:

- economic and financial factors
- political and legal factors
- sociocultural factors
- technological factors

Internal elements follow a classic classification in companies, i.e. in the following aspects:

- Products / Market. They indicate the elements that affect the company's strategy in the selection of markets or the type of products to be sold
- Human resources. They are related to the human resources and human capital management system of JVFs
- Technical and financial resources. They indicate the equipment and technology included in corporate processes, the available economic resources and the management of said resources.
- Management system. It covers the company's internal management elements by the managers and associated organisational elements

Within each of these elements, a classification into internal or external aspects is provided, as well as into those that positively or negatively affect JVFs evolution, giving rise to strengths, weaknesses, opportunities and threats, respectively.

Once coded, the elements are classified into a cross matrix, placing the internal aspects in the rows and the external aspects in the columns. Then, the two elements are crossed. When a crossing is positive it indicates one of the following situations:

- A threat is aggravated by a weakness
- A threat is mitigated by a strength
- An opportunity is leveraged by a strength
- An opportunity can be lost due to a weakness

It is evident that the main aspects appear in the first and third cases—threats aggravated by weaknesses or opportunities leveraged by strengths.

The relationship matrix is processed by multivariate techniques, analysis of main components and automated classification in order to find which are similar and which are more specific or only exceptional.

As a result of these techniques, especially analysing the results of the main crossings, critical diagnostic factors relating to JVFs are obtained.

These key factors suggest the general lines of action or strategic lines to be followed in the proposals that should be developed by JVFs in order to boost their reputation and solve the potential problems that may arise from threats and weaknesses.

1.2. External factors

The main threats and opportunities detected in JVFs are described below.

Economic and financial context

In this regard, the threats include, mainly:

A1. In the short and medium term, perception of an unfavourable general economic situation that can determine the activities of JVFs as a consequence of the increase in energy and fuel costs, and high inflation in general, which affects the different macroeconomic variables, especially the cost structure, private consumption and exports, all of which clearly impact the companies covered by this study.

A2. Price fluctuations aggravate procurement and even planning management difficulties in JVFs' activities. The power of distribution in the commercial chain and a strong competition affect business margins. Therefore, any fluctuation in costs usually entails a reduction in margins, due to the difficulty of passing price increases on to the market.

A3. At a time when heavy investment is needed to replace energy sources, adapt to sustainability, and maintain and improve the technological level of companies, JVFs may have to compete with foreign companies that are going to access resources for their transformation.

A5. Strong international competition, with a growing concentration of competition and the commercial circuit in large corporate groups, more or less integrated and with the capacity to generate significant cost benefits.

Opportunities include, namely, the following:

O1. Expectations for aquaculture, which, with its strong recent development and future potential, may represent, to a certain extent, an alternative to current raw material availability problems, allowing JVFs, which already possess business capabilities in third countries vis-à-vis other competitors, to grow.

O2. Variety of available raw materials, given the availability of different types of marine protein with the potential to serve as a raw material in the food chain.

Legal aspects

Threats in these aspects include the following:

A6. Increasing tariffs on catches of JVFs that have been imposed as a result of the change in EU regulation, considering catches as imports to the EU from third countries and, thus, increasing the costs associated to sales. Free access to the EU market should be maintained, without tariffs or contingencies, pursuant to Law 3/2001, which acknowledges JVFs, and the EU regulation in force when most JVFs were incorporated. This free access to the EU market is already applied to the production of joint ventures with former ACP countries (with Association agreements).

A7. Difficulties in obtaining treaties to avoid double taxation in Corporate Income Tax.

A8. Legislation on third countries is also understood in negative terms, given that, frequently, sea-related activities (both extraction and industrial transformation of seafood products) serve as a "bargaining chip" in bilateral or multilateral agreements with countries of interest to the EU, such that the competitive conditions on the market are distorted (that is the case, for example, of some products from North Africa or from GSP (Generalised Scheme of Preferences) countries. In addition, it should be noted that such regulations sometimes pose a technical barrier to market placement.

A9. Agreements with third countries. Their access to international markets is being driven by international liberalisation agreements and other political-economic agreements to favour the economic development of certain countries. Said agreements may be detrimental to those previously established in the creation of JVFs.

A10. Since 2004, joint ventures in fisheries have been practically eliminated from the European Union (EU) fisheries policy by Regulation 2369/2002, amending Regulation 2792/1999. In particular, recital 5 of Regulation 2369/2002 established that "Since this balance (between the capacity of fishing fleets and the fishing opportunities available to them in Community waters and outside Community waters) can be achieved only by capacity withdrawal, Community financial support to the fisheries industry through the Financial Instrument for Fisheries Guidance (FIFG) should be concentrated mainly on the scrapping of fishing vessels and future public aid for fleet renewal".

A11. Some 67% of internal consumption of fishery products in the EU is imported from third countries, a large part of which is provided by EU JVFs competing with IUU fishery products or products that do not meet EU standards nor respect international conventions.

A12. EU regulatory decisions sometimes based on unverified reports, when scientific reports prepared by the fleet and marine biologists of JVFs do not justify those actions.

A13. Pressure from third countries to transfer both processing and market activities. Risk of a reduction of GDP, employment and activity in EU ports, with a decline in fish landings and smaller economic impact in the EU.

A14. The growing presence of competitors from other countries, in the same countries where the JVFs are established, with political support from their States, generates an additional risk to the access and conditions of fishery resources. Risk that some countries with fishing grounds reach preferential fisheries agreements with third countries.

A15. Risk of change in the treatment of JVFs under Spain's new fisheries law and legal framework, which acknowledges and values its joint ventures in fisheries, maintaining an open official registry, though it is the EU Member State that concentrates almost all JVFs.

Opportunities include, namely, the following:

O3. Technical and health regulations. The development of EU regulation in this regard is aligned with the level of demand of an increasingly informed and discerning consumer in terms of health and quality. This situation is perceived by JVFs as an opportunity, insofar as it implies a defence and a differentiation from competitors from third countries with better costs, despite the fact that adapting to the legislation usually entails a major investment effort.

O4. EU proposal to adopting, inter alia, the following measures in order to reinforce its international role by improving and developing the good governance of seas and oceans:

- Ecosystem multiannual management that reinforces the importance attributed to multiannual plans in the previous reform, but paying more attention to ecosystems.
- Maximum Sustainable Yield (MSY): taking international commitments into account, such as those acquired at the 2002 Johannesburg World Summit on Sustainable Development, the new CFP establishes MSY as the main goal for all fisheries. By 2022 at the latest, if possible, fishing mortality will be established by FMSY (number of catches of a certain population resulting in MSY).

- Prohibition on discarding. Discarding of regulated species will be progressively reduced; at the same time, accompaniment measures will be adopted to implement the prohibition. Since 2019, the discarding policy is applied throughout the EU.

O5. The EU Regulation aimed at preventing, discouraging and eliminating illegal, undeclared and unregulated fishing ("IUU Regulation") entered into force on 1 January 2010. Its effective application to seafood product trade with the EU benefits JVFs, insofar as they fulfil Community standards.

O6. The EU has agreements with several non-EU countries to access their waters to catch surplus populations. Catch limits follow sustainability criteria and scientific advice.

O7. The European Union plays a key role in international fisheries cooperation. Through the external dimension of its Common Fisheries Policy (CFP), the EU seeks to safeguard a legal framework that extends beyond Union vessels operating in international waters. In this regard, companies, in collaboration with the Governments of their EEZ, have participated in the sustainable regulation of fishing grounds in many cases. They have worked closely with the scientific authorities and have contributed to the development of economically depressed areas worldwide, always respecting the local communities, actively contributing to the UN SDGs for a better planet and, therefore, improving the international reputation of Spain and the EU.

Social, cultural and political aspects

Threats include, namely, the following:

A16. Tightening of environmental requirements. Concerns in the industry due to illegal, undeclared and unregulated (IUU) fishing, which generates overfishing (for instance, by overfishing when the capacity to extract resources from the sea and ocean exceeds their renewal capacity.

A17. The pressure on the activity is not only caused by overfishing. Some environmental movements also take place in countries without a fishing and seafood culture, questioning the fishing and aquaculture of certain species and, in general, industrial fishing as a whole. Growing demand for marine waters limited to fishing activities.

A18. Parallel to the environmental pressure, interest in mining of sub-seabed resources is also increasing, in addition to greater gas and oil extraction, which conflicts with biodiversity and the management of fishery resources and activities.

Opportunities include, namely:

O8. Growing awareness in the EU to rely more on itself for food sovereignty. To the extent that we contribute to the supply of fishery products to the EU, dependence on third countries to cover the production deficit of the EU-flagged fleet, estimated at 60% of consumption, will decrease.

O9. Announcement of the EU's Global Gateway programme aimed at counteracting the growing influence of other countries in the international sphere. In this regard, JVFs are the prototype instrument for the internationalisation of the EU's investment and entrepreneurial activity.

O10. Seafood demand culture. As a natural consequence of the culture of health and aesthetics, there is a clear and growing social movement towards the consumption of healthy products with high nutritional value and low-fat content. Amongst other things, fish is one of the typical products of the so-called "Mediterranean diet" (olive oil, fruit...), which promotes its consumption.

O11. The tendency to manufacture (and demand) products with higher added value is perceived as another potential differentiating element from international competitors, usually based on short-range strategies (specialisation), with highly competitive costs.

O12. Consideration of quality as a critical aspect to compete in the most important and attractive markets, particularly the EU.

O13. The intellectual capital accumulated by the EU as a result of its contacts with JVFs represents significant know-how for the future development of the activity.

Technological aspects

Threats within the technological aspects include the following:

A19. Strong increase in R&D activities by competitors from developed countries, which can weaken the competitive position of the own value chain in comparison to them.

Opportunities include, namely, the following:

O14. The situation of the industrial fabric, with the presence of shipyards and world-leading capital goods manufacturers (specialised also in the design and assembly of international plants), a modern canning, processing and refrigerated service industry, specialised facilities companies, together with branches of international manufacturers. This represents a powerful network of companies that support the main activities of the value chain generated by JVFs that unquestionably boost their competitiveness.

O15. Quality of supplies in general, especially of raw materials, equipment and support services, which facilitate the development of JVFs activities.

O16. Technological development in fishing equipment and facilities, closely related to the extractive activity and its supporting or ancillary industries (shipbuilding, nets, ship's storage, weighing systems, etc.), which enhances the competitiveness of the extractive activity, thereby allowing for an overall competitive improvement.

O17. Consistent with other matters relating to the promotion of differentiation strategies, the existence of technology and design centres for fishing activities is considered an opportunity, since they can be used as drivers of R&D and innovation.

1.3. Internal factors

Among the internal factors, JVFs weaknesses and strengths have been considered. These companies are very heterogeneous, including large as well as small and medium-sized companies; strictly fishing activity as well as integration of aquaculture or processing of fishery products; ownership of investment funds and other entities as well as family-owned businesses, etc. Hence, internal factors will sometimes refer to the situation applicable to most companies, but not representative of every one of them. The most relevant aspects are described below:

Products/Markets

The following weaknesses are described:

D1. Excessive product similarity (or lack of differentiation), which gives rise to price wars as the only possible growth strategy, not perceiving differential elements among the products.

D2. Low, although increasing presence in traditional, HORECA and similar shop channels, which play an important and growing role in seafood products.

D3. Low overall price competitiveness, although companies claim to have adequate cost competitiveness. This makes it difficult for companies to transfer the apparent differential advantages in quality to price, which buyers or consumers do not appear to value sufficiently or be willing to pay for.

D4. Although with major differences between companies, there is an overall perceived low use of support services such as Marketing, Innovation or R&D (which, in general, can and should help differentiate them from the competition).

D5. Consideration of price as a key competitive variable in certain markets, such as Eastern European, Ibero-American, African and Middle Eastern countries. Given the general existence of competing zones or countries with comparative cost advantages, it seems especially difficult for JVFs to achieve significant penetration in those markets, which would not be the most attractive for commercial purposes.

D6. Difficulties in negotiating access to resources and conditions in third countries arising from their status as joint ventures.

Strengths include, namely, the following:

F1. Good reputation, in general, of fishery products from own fleet, which can support differentiation strategies.

F2. Customer loyalty, which can enhance product innovation attitudes with less risk for companies.

F3. Adaptation to modern distribution channels and specialised channels, with a progressive tendency to an increased presence in large retail outlets, in gourmet shops or in discount shops.

F4. Strong presence in the southern EU market (highly attractive for companies), which, added to customer loyalty, can curb external competition.

F5. Growing presence in international markets, which may be a symptom of competitiveness against the threat from third countries.

F6. Perception of a favourable general competitive position vis-á-vis the competition in practically all the main products of each activity.

F7. Good positioning in terms of quality compared to third parties. In a product market that is so sensitive to this variable, this is a key competitive advantage. However, marketing deficiencies do not allow companies to obtain prices and margins which, in theory, would correspond to that quality.

F8. Strong integration between the extractive activity and the subsequent value chain, which allows to envisage the strengthening of cooperation activities to create synergies.

Human Resources

The following weaknesses appear in Human Resources:

D7. A certain lack of definition in organisational structures, not formally defined in many cases, with the ensuing effects on key issues for individuals (motivation, coordination, etc.).

D8. Growing difficulties in recruiting crews and increase in their average age.

Strengths include, namely, the following:

F9. Working standards with international rules (IMO...). JVFs ships are work centres with the highest standards of human rights and international conventions (FAO, ILO, AFS, etc.).

F10. A certain development in recruitment activities, even if they are sometimes more short-term (filling a vacancy) than long-term (integrating individuals in a project) oriented. This situation can cause medium-term mismatches between the current skills of the individuals and the desired skills according to the business plan.

F11. Recent development of teamwork systems, basically caused by the implementation of quality management systems. These practices can somehow mitigate deficiencies in the integration of people to the extent that participation in working groups usually leads to an improvement in the working environment and other parameters (such as productivity or satisfaction).

F12. In JVFs ships, nationals of coastal countries are given work, thereby fixing population at origin and preventing irregular immigration to the EU.

F13. As a consequence, extensive experience has been gained in the integration of multinational workers, facilitating international cooperation.

F14. Potential training of third-country workers for the development of fishing activities.

Technical and financial resources

The following weaknesses are considered within the technical resources:

D9. Relative incidence of seasonality of raw material supplies, both due to natural causes and fish spawning or migratory cycles and to legal causes related to the regulation of fishing operations through "ban" and "temporary tariff" systems. This represents a major handicap for JVFs insofar as the availability of raw materials normally involves major efforts to store sufficient stocks for the production process, which also implies the sacrifice of significant financial resources with the opportunity cost that this entails.

D10. Seasonality in the demand for some species involves the same stock effort in finished product so that adequate responses to peaks in demand can be guaranteed. Similarly, this seasonality usually places high demands on technical and production resources for maximum flexibility, versatility and rapid response.

D11. High labour intensity of the fishing industry, which generally makes it difficult to compete with countries with comparative advantages in labour costs.

D12. Low levels of R&D. The current low differentiation in processed seafood products should spur companies to seek differentiating advantages by researching new products, preparations and presentations to improve their positioning.

D13. Economic effects of country risk.

And the following strengths:

F15. Reasonable level of technological development, similar to or higher than competitors in or outside the EU.

F16. The presence of flexible processes and multi-purpose and versatile machinery in the technical system helps companies reduce the impact of seasonality and enable a faster response to needs. Similarly, it facilitates the possibility of maintaining a wide product range, without resorting to additional investments.

F17. A certain orientation towards constant process and product innovation, which, moreover, is usually incremental (that is, a gradual introduction of "small" changes). The most radical innovation is currently taking place in aquaculture, with the introduction of new species.

F18. Circular economy, the management of waste and by-products, mostly reoriented towards sales, generated additional income for companies in addition to their core business activity. This indicates a significant degree of integration between JVFs activities.

F19. Sustainability, tendency to implement cogeneration and environmental management systems that, in addition to improving costs, must impact the social reputation of JVFs and serve as a differentiating element vis-á-vis competitors, especially external.

F20. Sustainable investments in local countries. The contribution of joint ventures in fisheries to the development of third countries is carried out not only through catches, but also through the promotion of sectors associated with fisheries, such as ports, services (repairs, engineering, provisioning, consignment, transshipment, loading and unloading, etc.), the effective maintenance of cold chains in compliance with EU regulations through heavy investment in refrigeration facilities and compliance with health regulations in relation to food products, and the implementation of processing industries.

Management system

The following weaknesses are found in the management system:

D14. Insufficient orientation, partly by JVFs, to long-term strategic approaches, which can hamper the choice and development of adequate competitive strategies with a reflexive and proactive attitude.

D15. Lack of use of external data (competition, international commodities market...) in the information and control systems of some JVFs, which complicated the existence of an effective control system.

D16. A certain immobility in certain organisational and ownership structures of JVFs, most of which are basically family-owned by different generations of shareholders.

D17. Some reluctance to develop cooperation strategies. They could be likely with suppliers and customers and very unlikely with competitors. In addition, scarce cooperation experiences do not seem to satisfy entrepreneurs (except in quality, environment, occupational risks or R&D&i projects, which they find moderately satisfactory).

Similarly, the following strengths are described:

F21. Professionalisation of companies, which will improve management systems in the medium term to boost their competitiveness.

F22. Good short-term planning systems with an annual horizon, based on budgets and basic financial projections, very useful for operational management.

F23. Reasonable level of development of information and control systems for internal data (costs, margins, profitability...), although information support is not normally useful in strategic decisions. Operational control, however, is facilitated.

F24. Adequate progress of the implementation of so-called modern integrated management systems (quality, environment or occupational risk prevention). This evolution is clearly positive in terms of risk prevention and quality (in many cases, distributors themselves demand or request quality certifications to work in white labels) and less intensive in terms of environmental management.

F25. Relative dynamism in sales markets and production processes in recent years, which represents certain innovation in commercial and production aspects, confirmed by a preference for developing new product strategies in new foreign markets.

F26. Consideration by JVFs of raw material quality as a basic competitive factor that guarantees success at a time when social consumer behaviour and tastes seem to be

leaning more towards quality products. This may represent a clear differentiating advantage in terms of sales for the processing industry and in terms of final consumers compared to competitors.

1.4. Critical factors

In order to prepare the critical factors of the diagnosis, we established cross matrices between weaknesses, aggravated by existing threats, and strengths, which leverage the opportunities.

Figure 2 Shows crossings of weaknesses and threats, obtaining the following critical factors:

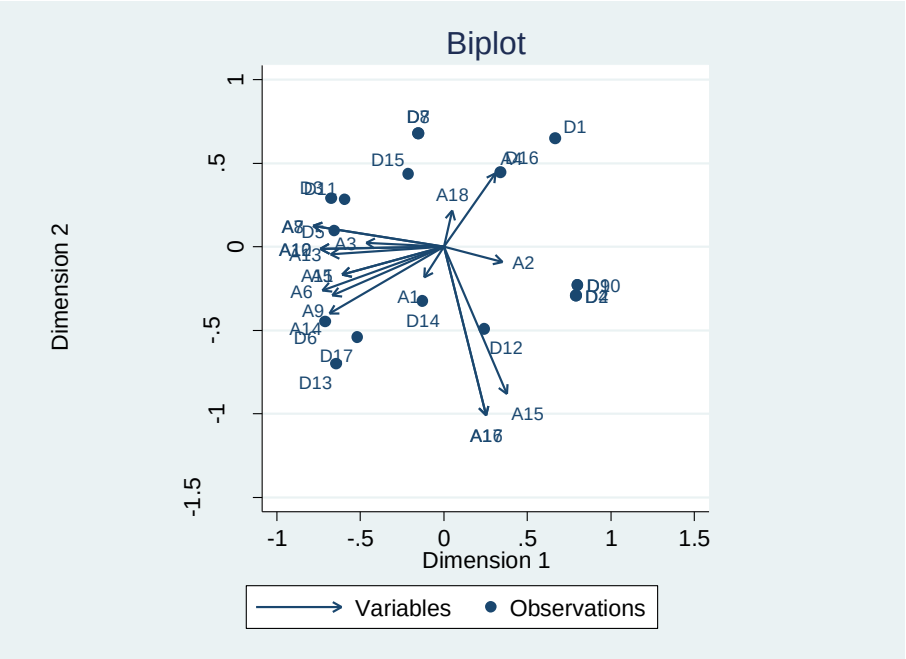


Figure 2. Crossings of weaknesses and threats

FC1. Understanding price as a basic competitive variable in some markets, the difficulties in negotiating access to resources and conditions of the activity in third countries due to their joint venture status, the economic effects of country risk and a certain reluctance to cooperation strategies are aggravated by increased tariffs on JVF catches, difficulties in achieving treaties to avoid double taxation, the regulations on third countries and agreements entered into therewith, the gradual replacement of the fleet's fishing capacity and excessive product similarity (or lack of differentiation).

FC2. Low, although increasing presence in traditional and HORECA and similar shop channels, insufficient orientation, partly by JVFs, to long-term strategic approaches and low levels of R&D, aggravated by price fluctuations, tightening of environmental requirements,

pressure on the activity by environmentalist movements and mining of sub-seabed resources.

FC3. Strong international competition and the strong increase in R&D activities in competitors from developed countries aggravates the excessive similarity of products and immobility in some JVFs' organisational and ownership structures.

Similarly, Figure 3 shows crossings of strengths and opportunities, obtaining the following critical factors:

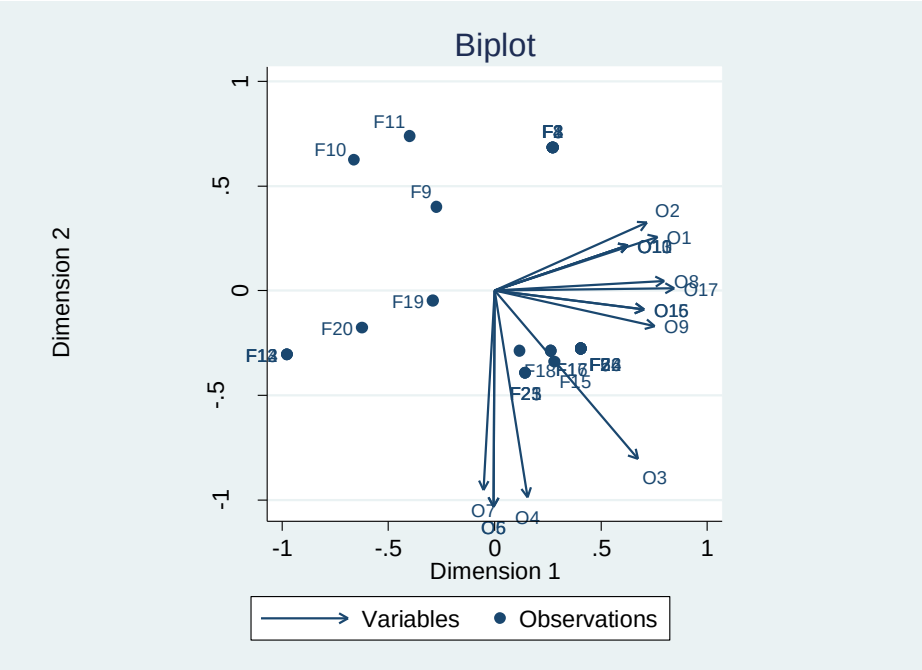


Figure 3. Crossings of strengths and weaknesses

FC4. The good reputation of fishing projects and consumer loyalty to these products, adaptation to distribution channels and strong integration between the extractive activity and subsequent value chain make it possible to leverage the demand for seafood products, the trend towards higher value-added products and the consideration of quality as a critical aspect in order to compete.

FC5. The EU's proposals to reinforce their international role, the development of good governance of seas and oceans, technical health regulations, the Global Gateway programme and the EU's role in international cooperation in fisheries can be leveraged by a reasonable level of technological development of JVFs, their professionalisation process, the development of basic financial planning and projection systems, the

reasonable level of development of information and control systems and the adequate progress of the implementation of so-called modern integrated management systems.

FC6. The strong participation and potential training of local workers, know-how in integrating multinational workers, reasonable level of technological development and orientation towards constant innovation of processes and products makes it possible to assume bilateral agreements with the EU in order to promote Community investment in third countries and improve the capacity of third states to manage their marine resources.

1.5. Proposals

The following proposals emerge from the SWOT analysis, from most to least important in the analysis:

1. **EU attention must be drawn to the usefulness of Joint Ventures in Fisheries (JVFs).**

What JVFs may be considered to facilitate by the EU is:

- Guarantee a diet with marine protein in the EU (which it is clearly lacking) and favour its sovereignty in the current international dietary context.
- Support and be part of the EU's new international influence policy driven by the European Commission (Global Gateway). JVFs are integrated in the destination countries, with local partners and networks.
- Generate part of the European value chain from fishing activities (shipyards, supplies, canning industry, preparation of semi-processed products, market placement...)
- Extend the European values and practices of sustainable and responsible fishing with ESG criteria (environmental, social and governance responsibility) to the rest of the world, in order to ensure compliance with the UN Sustainable Development Goals (SDGs).

What JVFs most need from the EU is:

- Maintaining/being granted free access to the EU market. The appearance of tariffs and double taxation adversely impact fish exports to the EU and therefore reduce the impact on the EU of the value chain generated by JVFs' fishing activities, as well as the seafood available for consumption.
- Fishing must be relevant in negotiations between the EU and third countries and not be sacrificed vis-á-vis other industries, when certain countries seek access for their

companies and markets to the same marine resources with a decisive strategy (China, for example).

2. **An improvement in JVFs' organisational systems is necessary to address competition in the fishing activity, understood as greater environmental pressure, pressure from the alternative exploitation of the sub-seabed (mining, gas, oil), and pressure on the cost structure and price formation.**

3. **Improvements must be made in innovation to address growing international industrial and marketing competition as a response to scarcely undifferentiated production.**

2

Economic and social impact of JVFs' activity: Introduction

The European Commission has launched a new investment strategy for this six-year period (2021-2027), called Global Gateway, to promote the competitiveness of the European economy and its relationship with the rest of the world, compatible with the 2030 Agenda and with the principles of sustainable development, pursuant to EU values and rules[1]. This strategy seeks, inter alia, to boost the competitiveness and security of global supply chains.

Joint ventures in fisheries (JVFs) represent a key player in the uptake of food-quality marine protein for the European Union (EU) while generating wealth, employment and government revenue, with a strong economic and social impact. The impact is both on the EU and on countries with sovereign rights over fishing grounds that share the benefits of joint fishing exploitation. They are a clear success case in the shared cooperation and management between the EU and third countries of the wealth generated by the marine food chain. They also represent the transfer of European social and environmental policy standards to the fishing activity in the rest of the world. Uniquely, JVFs have special relevance in Spain and, within Spain, in Galicia.

Joint ventures in fisheries assume EU criteria in the performance of their activities, due to which it seems convenient, according to the Global Gateway, to assume its suitability as a shared instrument and its relevance in the global food chain, participating in Community actions and policies.

This study aims to analyse the impact of JVFs on the Sustainable Development Goals, pursuant to the Global Gateway, considering the economic and social impact generated by its activity. In order to evaluate the economic and social scope of JVFs activity, an impact study will be carried out using the value chain and Input-Output table methodology, which makes it possible to measure the impact of any activity likely to generate a socio-economic impact on the country or territory affected by a significant change in this activity.

Within this goal, the study will provide quantitative and qualitative information on the activities carried on by companies extracting or importing fish obtained from JVFs, calculating different economic figures. This will make it possible to access information for decision-making vis-á-vis European society and to communicate the results of the activity transparently. It is also expected that their knowledge will help attract other sources of financing for projects

[1]https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/stronger-europe-world/global-gateway_es

associated with these enterprises and allow legislators to consider the scope that their decisions may have on the economic and social situation of the affected agents.

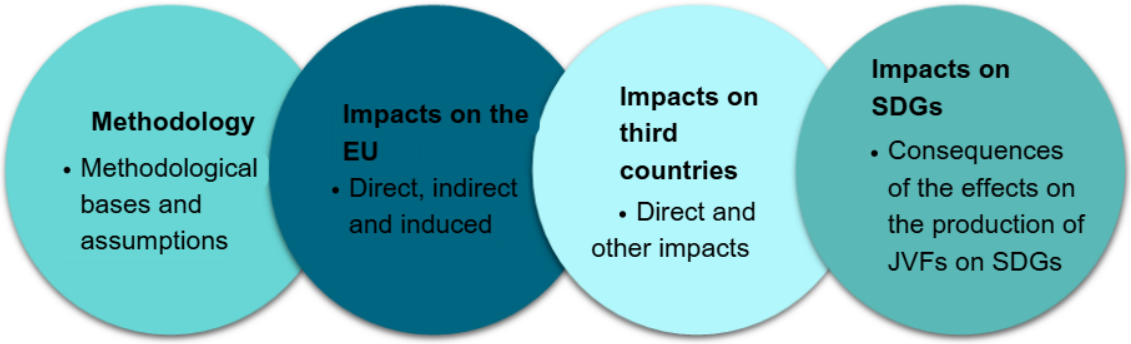


Figure 4. Study diagram

The study has the following sections, shown in Figure 4: First, the methodological basis of the measurement of the different types of impact is explained, in addition to the measurement process. Next, the impact is determined by dividing it into three blocks (direct, indirect or induced impact), which makes it possible to determine the global effect of the extraction and sale of products derived from fishing carried out by JVFs in the EU. Next, the aggregate impact on third countries is analysed. Lastly, the implication of the activity on the 2030 Agenda, as defined by the Spanish Government, is analysed.

This approach will allow us to establish the elements that elements that make it easier to connect the importance of JVFs to the EU's Global Gateway strategy.

3

JVFs' activity economic and social impact evaluation methodology.

The economic and social impact of a certain action may differ widely depending on the characteristics of the territory and of the time at which it is carried out. For this reason, quantifying the economic impact based on a specific case-by-case analysis, not only on an extrapolation of other experiences, is fundamental.[2].

Quantifying the economic impact requires a robust and rigorous methodology, based on the use of academically proven standard techniques. Said methodology assumes that the impact of each monetary unit introduced in the value chain of an economic activity always produces a proportional effect on each of the aggregates derived from said chain (that is, in employment, investment, consumption, etc.).

There are three types of impacts:

- **Direct effects:**

  The direct effect only occurs in the activity branch in which there has been an increase in demand and value equal to the demand introduced. However, this increase affects other aggregates, in accordance with the principle of proportionality.

- **Indirect effects:**

  Indirect effects originate (in the form of production, GVA and employment) in other economic sectors as a consequence of the variation in demand of one or more sectors. This is caused by expansion, through the value generation process of the chain due to the demand for that product (intermediate demands), across sectors.

- **Induced effects:**

  Induced effects arise from the application of increases in other aggregates in the economic fabric, such as employee remuneration or the gross operating surplus by increasing final demand in the economy[3].

To know the full effect, the economic and social impacts of the analysed initiative must be measured, in addition to other measures and variables that may affect it.

[2] https://www.pwc.es/es/sector-publico/assets/brochure-estudios-impacto-economico.pdf
[3] https://www.foqus.es/servicios/otros-servicios-de-consultoria/estudios-de-impacto-economico/

The methodological basis used to estimate indirect impacts and evaluate the importance of the direct impacts will be the Input-Output Tables (IOT) of the Spanish economy, prepared by the Spanish National Statistics Institute (INE, by its Spanish acronym), which indicate the amount of products required in the fishing activity, in addition to the value generated by this activity in other activities derived therefrom. The IOT of the Spanish economy are chosen because almost all European JVFs are owned by Spanish shipowners and most of the fishing activity continues in its European value chain (market placement, canning...), usually through Spanish companies.

IOT describe the flow of goods or services between the different economic sectors (in this case, from the Spanish economy) over a certain period of time. This information is an in-depth study of the economic activity and structure of a territory. Hence, the values generated by this activity, both in other activities (due to the need for these products to carry out their work) and in the value of the products generated by JVFs fishing activity, can be estimated.

The analysis will use a demand-driven approach. Under this methodology, the inputs consumed by companies (including the effect of the investment) when carrying out their activity are estimated. Most of this demand is aimed at local suppliers that, in turn, create a backward trailing effect on other local suppliers. Thus, while the productive activity of joint ventures is directly quantified with the information obtained from interviews, the calculation of the impacts on other sectors is more complex. Not only the direct expenditure by each of the agents related to the companies must be considered, but also the indirect impact it has on other sectors, in addition to the induced impacts from increases in the cost of families, arising from the increase in household spending due to a rise in income generated by the direct and indirect impacts above.

The estimation of these impacts, measured in terms of employment and gross added value, is calculated using the input-output methodology, as mentioned earlier. The economic effects are summarised in three types: direct impact, including both expenditure on goods and services by joint ventures themselves and necessary for their operation, and expenditure on wages and salaries; indirect impact from the backward trailing effect by the expenditure on other economic sectors; and induced impact from the expenditure by workers on goods and services in their daily consumption.

Indirect impact also has two versions related to economic impact and social impact. The information required to quantify these impacts will be similar, although in the economic case it is aimed at economic aggregates (the added value generated by the activity), while social impact refers basically to employment (the number of jobs derived from this activity). This type of impact also includes the effect on taxes, since they allow to redistribute the income obtained and/or derived from the activities of the companies to society as a whole. In these estimates,

various phases are presented, disaggregating the latter, in which differences appear between the indirect and induced impact. Based on the input-output model, the analysis of the indirect impact has three phases, following the diagram shown in Figure :

- **Phase 1 –** Analysis of expense and investment items and allocation by industry. It is based on a detailed analysis of financial information on expenditures and investments. Next, each item of expenditure or investment is assigned to one or more of the sectors defined in the National Accounts, in accordance with their nature.

- **Phase 2 –** Calculation of multiplying effects using Input-Output Tables. Given that most of the economic activities associated with JVFs are carried out in Spain, the Input-Output Tables of the Spanish economy in 2018, revised in 2019, will be used, since those of 2019, recently published by the INE, have not yet been reviewed. Production and employment multipliers are calculated using the Input-Output Tables. Production multipliers indicate how much it is increased in the economic context as a whole for each euro of expenditure or investment allocated to a specific sector. Employment indicators show, based on current production values per worker in each of the sectors of the economy, the number of jobs generated by each euro of expenditure or investment allocated to a specific sector.

- **Phase 3 –** Quantification of direct and induced impacts. Estimates of indirect and induced impacts on production and employment can be calculated disaggregated for each sector.

The use of these tables assumes that the activities and technologies remain stable from the last publication of the table. Slight corrections will be made to soften this assumption, taking into account the technological advancements made in the activity and needs that may arise from other activities.

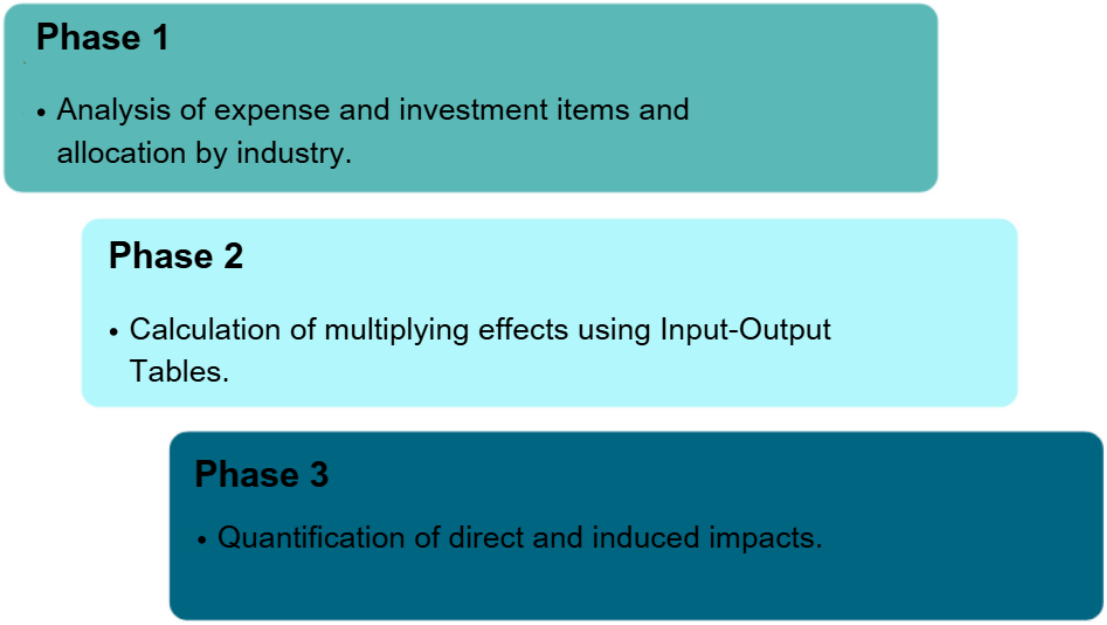


Figure 5. Phases of the impact estimation process

Next, we will develop the methodology followed in each phase of the process.

Phase 1 - Analysis of expenditure and investment items and allocation by industry.

The investment expenditure items of JVFs were analysed by means of a survey made among JVF ship-owning companies. Said survey requested entrepreneurs to indicate the following elements in the expenditure and investment items. The responses were subsequently compared to interviews and official statistics of the fishing activity.

The questions analysed took into account the different elements of the value chain, which is integrated in the joint ventures in fisheries, such that the subsequent analysis can indicate the specific amounts that will be allocated to each activity. The aspects addressed include turnover, expenditure and investment, in addition to elements associated to environmental practices or other social impacts of interest.

Turnover has been broken down in accordance with the following activities:

- refrigeration industry
- processing and canning rooms
- other retailers

Direct production costs were broken down into:

- ship maintenance and repair
    - in shipyards
    - in the ancillary industry and in workshops
- supplies
    - rigging
    - provisions
    - other supplies
- port stevedoring services
- consignment
- refrigeration
- land, sea and air transport
- on-board service
- insurance services
- other direct costs

The information about these elements was requested disaggregated among the European Union and third countries to assess the impact separately in each of these areas. Parallel, information was requested on the number of direct jobs and, within these, the percentage of women, in an attempt to evaluate the effect of JVFs' activity in the promotion of gender equality. Additionally, the gross remuneration of resident and third-country employees, like the taxes that companies are generating with their activity, in addition to entry tariffs in the EU market.

Investment has been broken down into ships or in-land infrastructure and facilities. In both cases, a distinction was made between activity in Galicia, Spain, the EU or third countries.

Lastly, a series of environmental and labour practices were analysed as indicators of how the activity is collaborating directly and indirectly with the UN Sustainable Development Goals. Specifically, we asked about the application of Convention 188 of the ILO on working in fishing, the application of the same working practices as EU-flagged vessels, or the use of UNE Tuna Standard 195006 on responsible fishing. In addition, other environmental practices carried out in their activities were collected.

The results of the survey made it possible to analyse the production that companies contributed to each one of the sectors established in the Input-Output Tables, the investments they had made and the costs associated to these activities and that facilitated the development of other complementary sectors.

Phase 2 - Calculation of multiplying effects using Input-Output Tables.

In order to determine the economic impact of a certain company or group of companies, it is essential to use Input-Output Tables. The development of this methodology has roots in the works of Leontief (1941), although the theoretical framework dates back to the studies carried out by Léon Walras (1877) and François Quesnay (1758).

The Input-Output framework, in accordance with the criteria used by the European System of Accounts (SEC95), is defined by the Input-Output tables by branch of activity, the tables that connect them with the sector accounts and the symmetrical IOT by homogeneous branch or by product.

The rows of the Input-Output tables correspond to products, while the columns show branches of activity, which makes it possible to disaggregate how each product is obtained through the process of contributed by each of the activities. The source table makes reference to the production of a certain asset or service according to the activity in which it is carried out. On the contrary, the output table represents the use of products and, consequently, structure of production costs and income generated in each product up to its final use.

The input table includes the supply of goods and services by product and type of supplier, distinguishing what is produced internally from what is imported. The output table indicates the use of goods and services by product and type of use, i.e. as intermediate consumption in each of the branches of activity, also indicating final consumption, gross capital formation and exports for each of the products. In each activity, in turn, the different components of the added value are shown, such as employee remuneration, other production taxes, net mixed income, operating surplus and consumption of fixed capital.

Symmetrical IOT is specifically required for the calculation of impacts. Normally, this table is obtained from source and destination tables, both at basic prices. The production process has different phases: First, the secondary products of the input table are assigned to branches of activity in which they are main products. Next, the order of the columns of the output table are rearranged to move from inputs in the original branches to inputs of homogeneous branches of activity. Lastly, the products detailed in the new destination table are added to the new branches of activity defined. Thus, the cells of each element of the table would indicate

the fractional part contributed through the interrelationship of the two branches of activity to generate the final product.

Analysis by means of input methodology is based on a system of homogeneous equations obtained from the symmetrical IOT, which makes it possible to establish a series of relationships between sectors.

The model establishes that each of the sectors depends on other sectors in the economy of a certain territory, based on a series of implicit assumptions: first, it is assumed that production and trade transactions are homogeneous and stable for each sector; it is also assumed that there is no substitution between inputs and that all the increases in final demand can be carried out increasing sectoral income; lastly, any increase in production entails a reduction in the level of unemployment (Miller and Blair, 1986).

The application of the matrix to any of the defined production vectors makes it possible to establish a system of equations, which indicates the impact of certain activity on the rest of the economy, such that each element of the table represents the interdependence between two sectors.

The table application model for obtaining impacts consists of several previous elements, which must be prepared to obtain the final results. Indeed, some elements consist of a series of matrices or tables necessary for the final calculation.

First, the technical coefficients must be calculated form the amount produced, which appear in a certain cell in relation to the total. They indicate a technical requirement of that cell by final demand unit. This matrix of technical coefficients will make it possible to assign the development of the productive activity in order to achieve the final uses.

Once the matrix of technical coefficients has been obtained, a matrix indicating how much each of the activities contributes to a certain activity out of the total amount produced in that activity, expressed as a percentage, must be analysed.

The inverse of that matrix, known as Leontief Inverse Matrix, will make it possible to assess long-term impacts on the economy and, consequently, indirect and induced impacts generated by the economic activity of the production of a certain asset or service. By estimating the increase in final demand, the impact of the demand generated by the economic activity derived from JVFs on the other sectors of the economy is obtained.

Phase 3 - Quantification of indirect and induced impacts.

In order to quantify the indirect and induced impacts of the production carried out by JVFs on the economy as a whole, a series of ancillary matrices or tables that make it possible to assess aspects prior to the definitive calculation must be established, in addition to the previously defined matrices of technical coefficients and the Leontief Inverse Matrix.

First, a job matrix to evaluate what each activity contributes to the work (that is, how many workers are needed in each of the activities to obtain the specific production of that activity) must be built.

Another of the required matrices is related to the table of production needs, which indicates the part of the total production of a certain asset or service required in each of the activities.

Third, a series of ancillary matrices for each of the aggregates to be evaluated is necessary to determine the relationship between the specific production of JVFs and the final impact on that activity.

These matrices are generally obtained combining the Leontief Inverse Matrices with each of the coefficient matrices of the aggregates to be analysed.

Based on the previously established tables, the indirect and induced impacts, both on the basis of total production and on the basis of other aggregates of interest, can be calculated.

The results of the estimation of each of the effects and, within these, the phases required to obtain the measurements of said effect as a whole, are shown below.

4

Estimation of the direct impact of JVF production on European economy

The calculation of the direct impact has two complementary aspects that must be evaluated: on the one hand, the economic impact; on the other, the social impact.

Within the economic impact, the effect produced by JVFs' fishing activities on the European economy as a whole is calculated. The variables analysed within the economic impact refer to added value and investment.

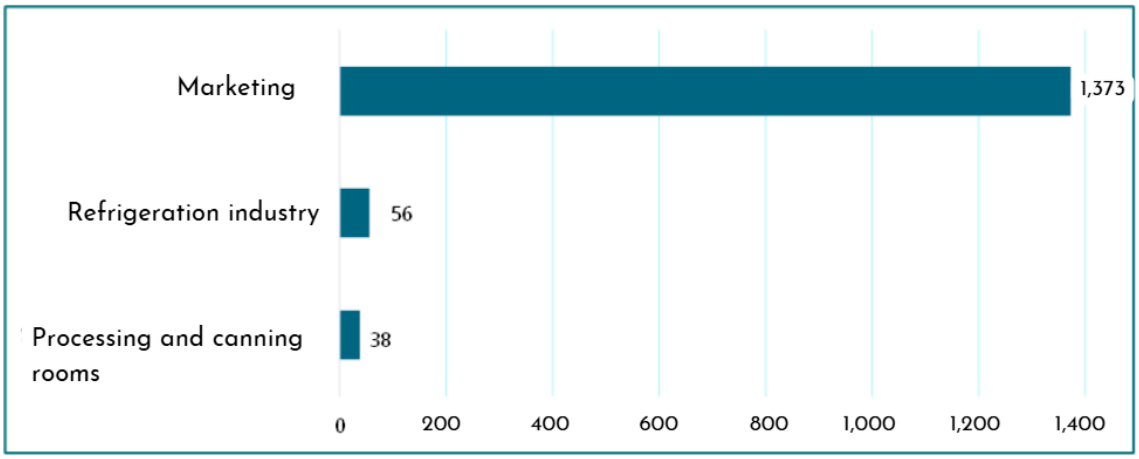


Figure 6. JVF production in the EU by billed activity (millions of euros)

The information was obtained by means of interviews and a survey carried out on all the leading shipowning companies and associations. Based on this information, an estimate was made which indicates that total JVFs turnover, with data from 2021, affects four major economic activities (see Figure 6):

- Processing rooms and canning industry, with a production of €37.9 million.
- Warehousing and refrigeration activity, which generated €56 million, including direct expenditure by the companies and costs assumed by the ones receiving the product (often JVFs' partner companies), estimated by industry sources.
- The commercial activity generated by fisheries production (the most relevant), with a production of €1,374.4 million.

The economic activities required to achieve production directly generated €760.9 million of gross added value.

JVFs have invested heavily in the EU in recent years, as shown in Figure 7. Investment in ships, with five years' data (2017-2021), represents €232.5 million in ships built in Galicia, a further €48 million in ships built in other Spanish shipyards and €19.4 million in shipyards in the rest of the EU, totalling €299.9 million. Additionally, the investments made in shore-based facilities (measured by total fixed assets of these installations in 2021) amounted to €236.8 million in Galicia, €11.1 million in the rest of Spain and €34.4 million in the rest of the EU, totalling €282.3 million.

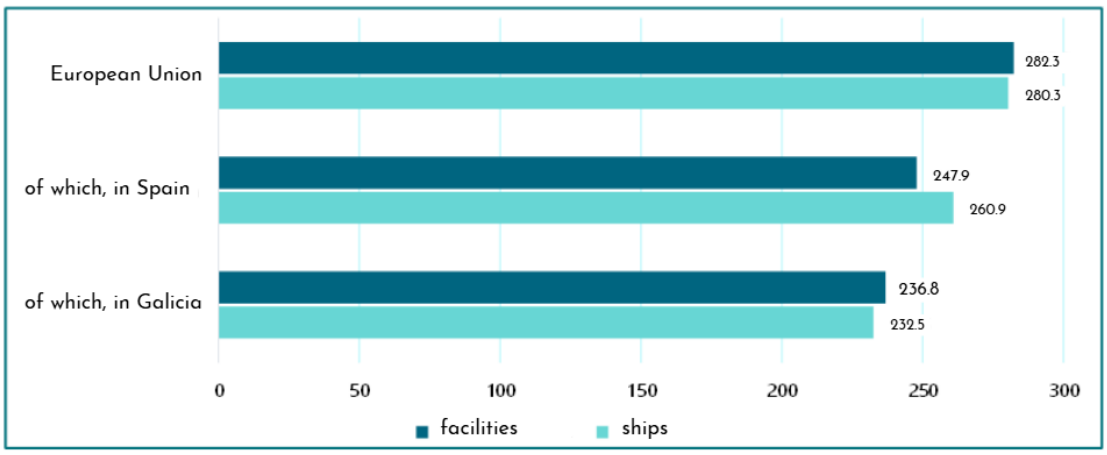


Figure 7. JVF investment in the EU (in ships, data from 2017-2021); in facilities, value in fixed assets in 2021; millions of euros)

Social impact will be measured by two complementary elements: taxes, which refer to the redistributed part of income, and the number of jobs and employee remuneration, which are indicators of the direct effect on the job market. Figure 8 shows the comparative values of remuneration and employment in relation to production and the GVA directly generated by JVFs. The number of jobs created by companies engaging in this activity totalled 2,219, with an approximate remuneration of €118.5 million. The estimated total number of jobs associated with the generation of this production, including complementary activities, would be 13,797, with total remuneration of €406 million.

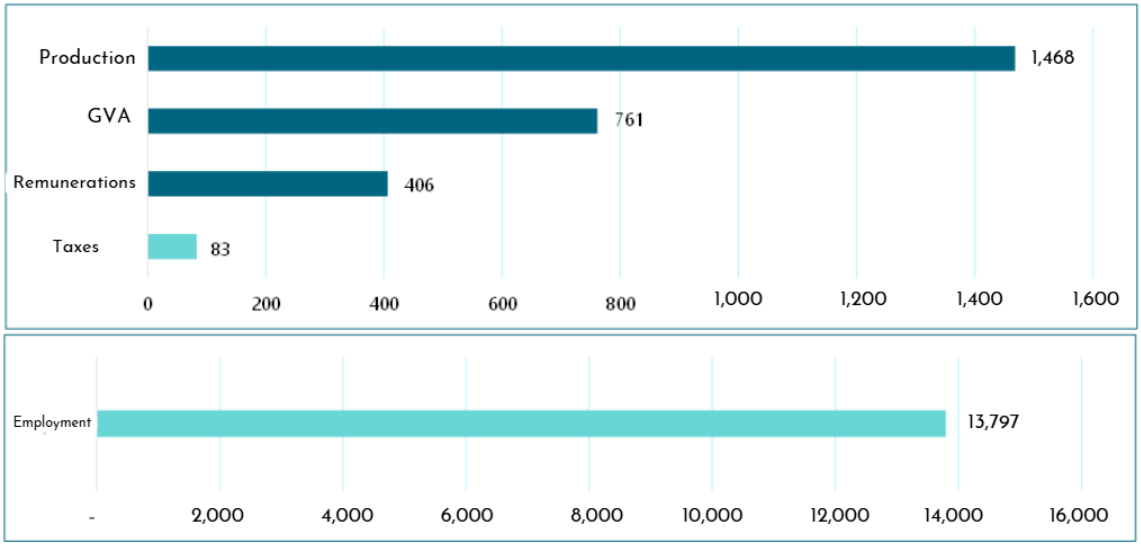


Figure 8. Social impact of JVFs in Europe (millions of euros and number of jobs)

Regarding taxes, JVFs' owners claim to pay €29.4 million in tariffs and, as a consequence of their production, generate €42.8 million in taxes. In addition, a further €10.9 million in taxes would be obtained from associated activities as a whole. Between the three sections, €83.1 million in taxes would be obtained.

4.1.

Estimate of indirect impact

Similarly to direct impact, the indirect impact also has an economic and social effect. The same variables indicative of each of these effects will be used, but adding other macroeconomic variables arising from the production activity in the case of indirect impact, such as consumption and investment.

In accordance with the estimates (see Figure 9) and using the previously established methodology, it is considered that, based on a direct production of €1,467.6 million, an indirect production of an additional €1,373.9 million would be generated as a consequence of the production generated in other activities. Additional added value would amount to €697.9 million, obtained indirectly through the connection with the different economic activities related to fishing, processing and marketing carried on by JVFs.

Indirect consumption of approximately €568.1 million would be generated, together with an estimated indirect investment of €147.7 million. Exports associated with this impact4 stood at €236.7 million.

Indirect taxes obtained from these effects would amount to €72.9 million and a total of 72.9 million indirect jobs would be generated, with an additional total remuneration of €219.4 million.

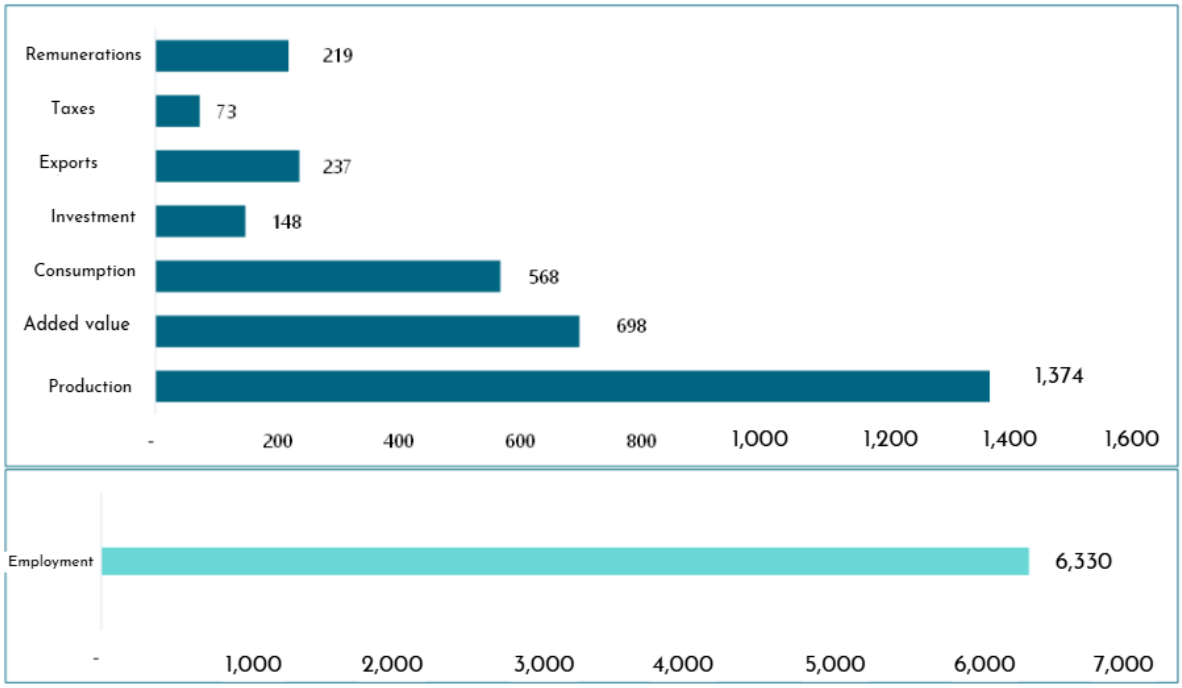


Figure 9. Direct impact in millions of euros (employment in number of jobs)

[4] Understanding exports to be sales outside Spain, including other EU Member States.

4.2.

Estimate of induced impact

Induced impact is a consequence of the consumption of income generated by JVFs' activity. Similarly to indirect impact, induced impact also has an economic and social effect. We will use the same indicator variables for each effect.

The results are shown in Figure 10. In accordance with the estimates, JVF production would have an induced production of €1,852.9 million. The added value generated is calculated at €942.7 million, obtained from the relationship between JVFs' activity and the other economic activities.

Induced consumption would amount approximately to €766.8 million, with an induced investment of €199.8 million. Exports associated with this impact amount to €319.6 million.

The induced taxes obtained from these effects would contribute €98.3 million to the public sector. Some 8,893 jobs would be generated in terms of indirect employment, with a total associated remuneration of €296.3 million.

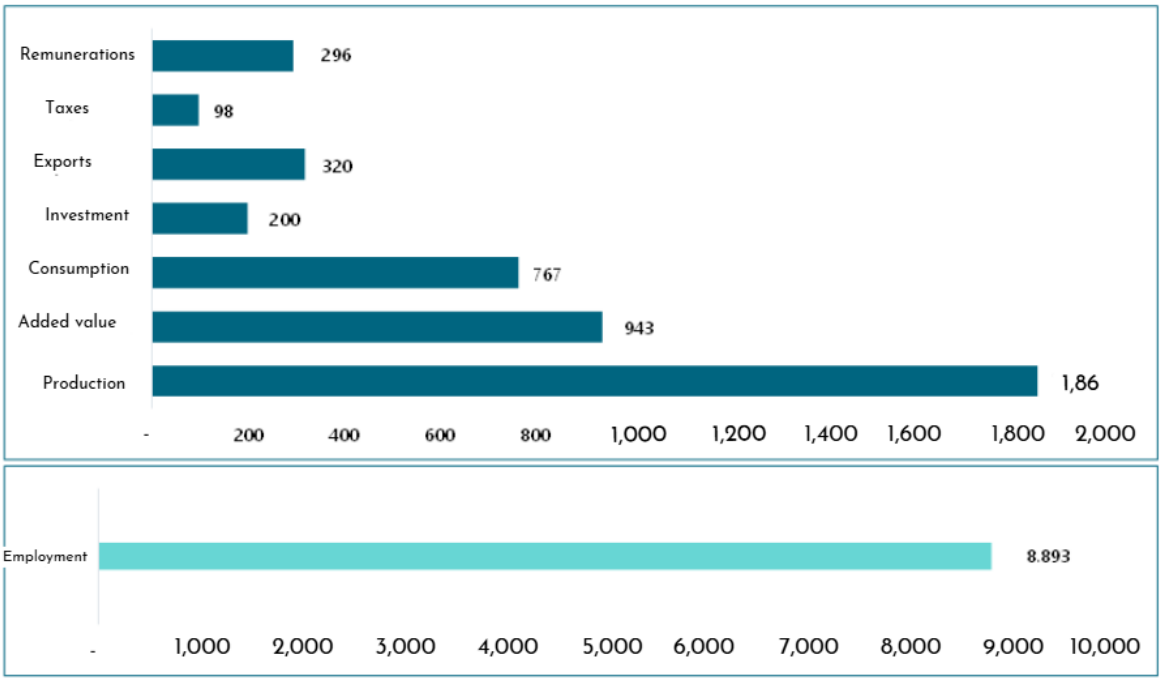


Figure 10. Induced impact in millions of euros (employment in number of jobs)

4.3.

Impact on the EU as a whole

Jointly analysing the foregoing effects to determine the impact of this activity on the EU (see Figure 11), it can be confirmed that, on the one hand, JVFs' activity generates an estimated production (economic income) of €4,694.4 million and represents €2,401.8 million of gross added value for European society. Additionally, it represents employment of 29,020 jobs as a consequence of this production, and makes it possible to obtain €254.3 million in taxes, contributing to the well-being of society.

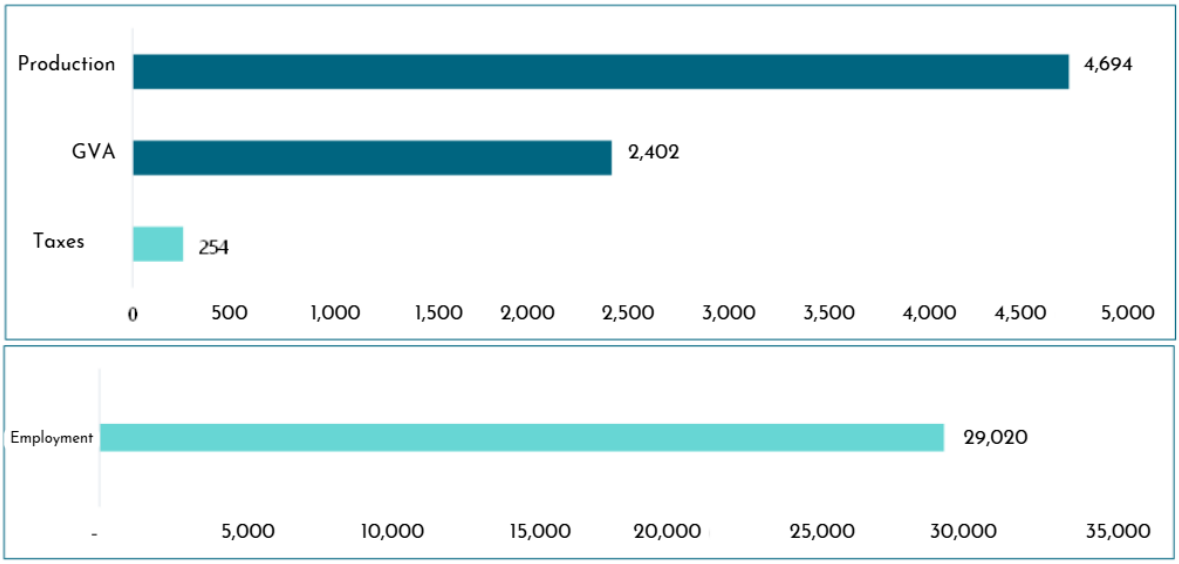


Figure 11. Total economic and social impact in millions of euros (employment in number of jobs)

5

Estimate of the impact of JVF production on the economy of third countries

JVFs are companies that participate in local economies in countries with sovereign rights over fishing grounds. A large part of these fishing areas belongs to third countries, so JVFs' activities impact the economic and social improvement of these territories. In this section, the estimation of the economic and social impact of JVFs on these economies is studied following the previously described methodology.

In the absence of disaggregated statistical information for all countries where JVFs are active, it was necessary to use an input-output table representative of the economy of a standard country, which is intermediate in the development process and which represents the average profile of all countries with JVFs' fishing grounds. With these restrictions, an input-output table built using different references of economies of third countries with fishing activity and whose structure is of reference to the importance of fisheries in that country[5].

5.1.

Estimate of the direct impact of JVF production on the economy of third countries

The calculation of direct impact follows a similar process to that used in the estimation for the EU, due to which it is going to be evaluated in its economic and social aspects, following the same steps as in the analysis for the EU. Within the economic impact, added value and investment are analysed.

The estimates made represent a distribution of total JVFs' turnover among three economic activities:

- Processing and canning rooms, with a production of €68.8 million.
- Refrigeration industry, with a value of €33.6 million, including the direct costs of the companies and the costs assumed by other storage companies, calculated based on the information supplied by shipbuilders. As in the previous analysis for the EU, the

5 Information from third countries in Africa and Ibero-America has been used as a reference structure, that will integrate the under-industrialised fishing activity in their production structure and for which input-output tables built using a methodology similar to the European one, with disaggregation between agriculture and fisheries, were available. In a second step, information from other relevant countries in JVFs' activity was added, so that the final table presents a production structure in line with the estimated behaviours, although in some cases the information of the primary sector was not disaggregated.

storage activity is often linked to European or third-country companies that comprise JVFs.

- Market placement, with a production of €351.3 million.

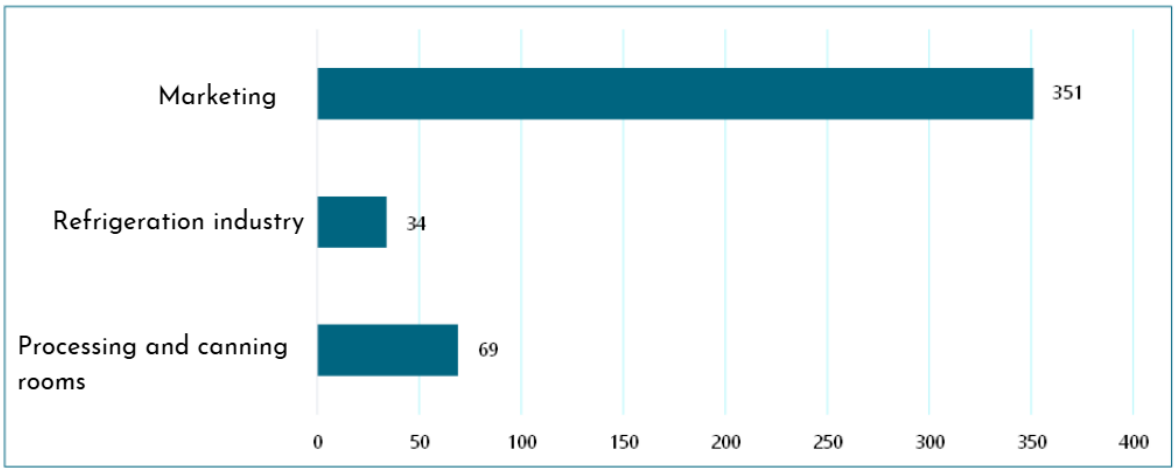


Figure 12. JVF production in third countries by activity (millions of euros)

The economic activities required to achieve that production generated €299 million of direct gross added value, distributed among third countries, most in Africa and Ibero-America.

Based on available data, JVFs in third countries invested €65 million in ships in the last five years (2017-2021). Investment in shore-based facilities (measured by their value in companies' fixed assets) totals €826.4 million.

Social impact is measured through taxes, which implies a social redistribution effect (generation of public revenue), and through employment, both by the number of jobs and by wage value (generation of private income). Overall, JVFs pay €51.5 million per year in taxes in third countries. Also, as a consequence of the activities and consumption they generate, additional taxes of €796 thousand are obtained. The direct employment they generate is 16,858 jobs, with an approximate remuneration of €189.7 million.

5.2.

Estimate of other impacts

The information limitations associated with third-country tables make it difficult to make a detailed estimation of some indicators associated with the economic effect and with the social effect. The indirect and induced impacts associated with the production and gross added value generated in third countries, which allow to evaluated the effects arising from the production obtained therein, are shown below.

Figure 13 indicates these estimated effects. Based on a production of €475.4 million, an indirect production of €368 million is estimated as a result of the economic activity of processed products in land-based plants. That production would generate an additional added value of €175.2 million, obtained indirectly by connection with the different economic activities of JVFs related to fishing, processing and marketing.

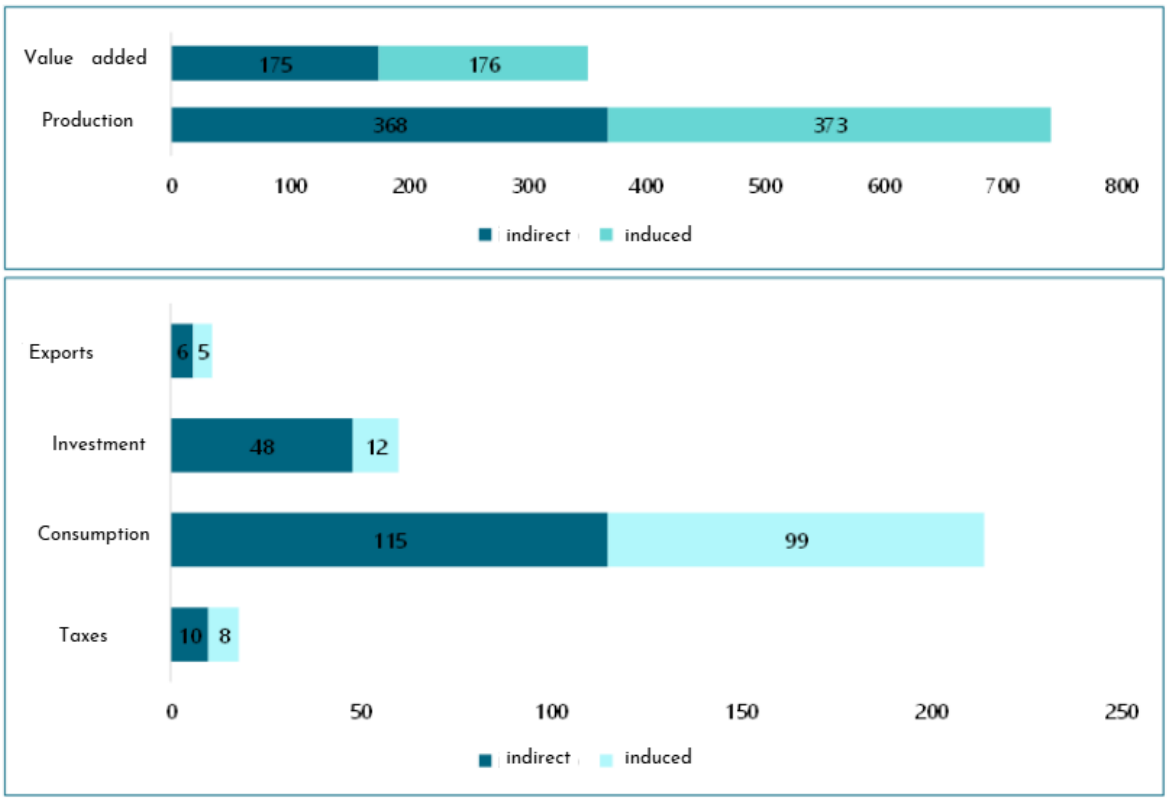


Figure 13. Indirect and induced impact in third countries (millions of euros)

The activity generated by JVFs in third countries implies an increase in different variables: consumption, €114.5 million; investment, €48.1 million; and exports, €5.9 million. As a consequence of the foregoing, €9.8 million in taxes are obtained.

Similarly, and in accordance with the available information, and applying the input-output table model, JVF production in third countries would have an induced production of €372.7 million, generating an added value of €176 million. Induced consumption would amount to €99.4 million, investment would be estimated at an additional €12 million and exports would grow by €5.4 million. Those activities would allow us to obtain a further €8.7 million in taxes.

5.3.

Global impact in third countries

As a result of the aggregate result of the foregoing sections, JVFs represent an economic and social impact summarised in Figure .

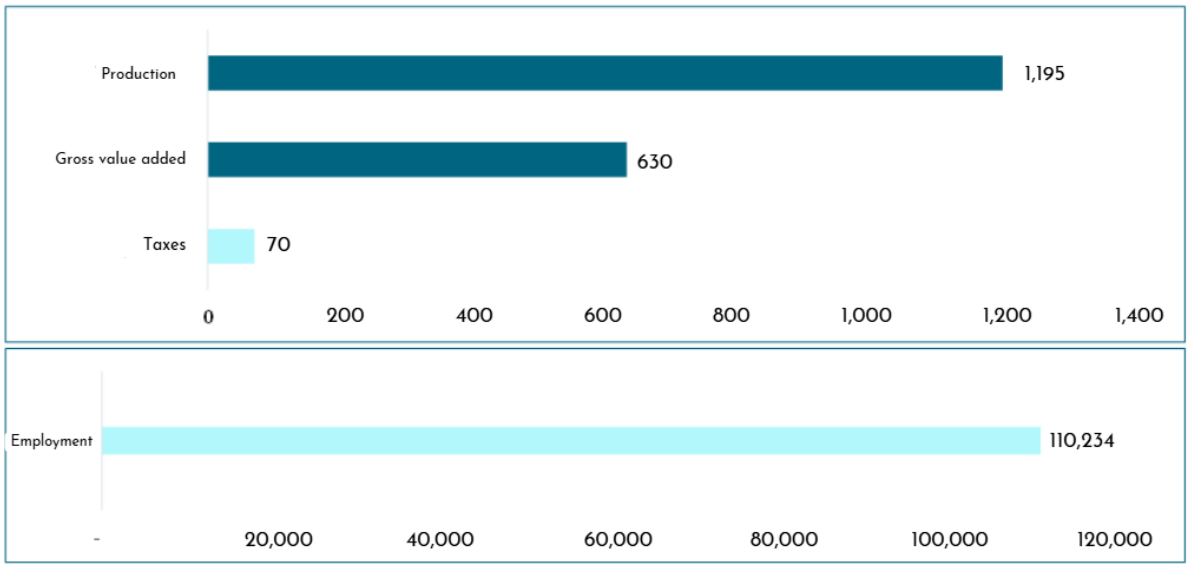


Figure 14. Total economic (dark turquoise) and social (light blue) impact in third countries in millions of euros (employment in number of jobs)

From an economic viewpoint, shown in dark turquoise in Figure , JVFs generate, in third countries as a whole, a production of €1,195 million, in addition to a gross added value of €630 million in their economies.

In terms of social effects, shown in light blue, regarding employment, it would represent an estimated 110,234 jobs[6]. It also results in public tax revenues of more than €70.4 million per year.

[6] There is insufficient information to make a full estimate using third-country input-output tables. It has been assumed that the employment multiplier represents half of that obtained in the estimate made in the European Union.

6

Impact on the Sustainable Development Goals (2030 Agenda)

During this work, more than 600 actions have been documented in relation to the corporate social responsibility (CSR) and sustainable development of JVFs, both in the fishing activity itself and in third countries with which a corporate relationship is obtained.

However, apart from the specific CSR actions of JVFs, the potential effect of the fishing activity is just as relevant, as well as the economic and social effects arising therefrom, which have been estimated in this study. These economic and social impacts have a direct effect on the Sustainable Development Goals (SDGs) of the 2030 Agenda. Once said impacts have been evaluated, the effect of these goals and, consequently, the real effect of the activities carried on by JVF companies is analysed.

Another relevant effect, easy to document, is the application of European social and environmental practices to JVF ships. The implementation of EU labour and fishing standards is a significant step forward vis-á-vis other practices and fleets that do not uphold the same standards to which JVF shipowners are committed. The entry of JVFs in fishing grounds represented, due to the substitution effect of other fleets, an improvement in social standards and in the environmental viability of the fishing grounds.

The sum of wealth generation shared between the EU and third countries based on the JVF model represents a clear model for reconciling economic, social and environmental development compared to other non-EU alternatives. The results of this study show the connection between the activities carried out by JVFs and the Global Gateway strategy proposes by the EU and suggests the importance of JVFs' investment in a significant number of countries for the EU.

Global Gateway is based on the SDGs, as a benchmark for their development, investment and third-country relations strategy. Also in this regard, a relationship can be established between the joint ventures and SDGs, as a basis for this report, in compliance with 7 of the 17 SDGs.

Based on the SDGs[7] and the definitions of the Goals established in the 2030 Agenda of the Spanish Government[8] (texts in quotation marks below), here we list the seven ones we understand to be directly related, together with the quantification of the joint effect of JVFs on SDGs based on the estimates made.

Figure 15 shows these effects, although a more detailed analysis is set out in these points, where each of the SDGs are indicated together with the contributions of JVFs.

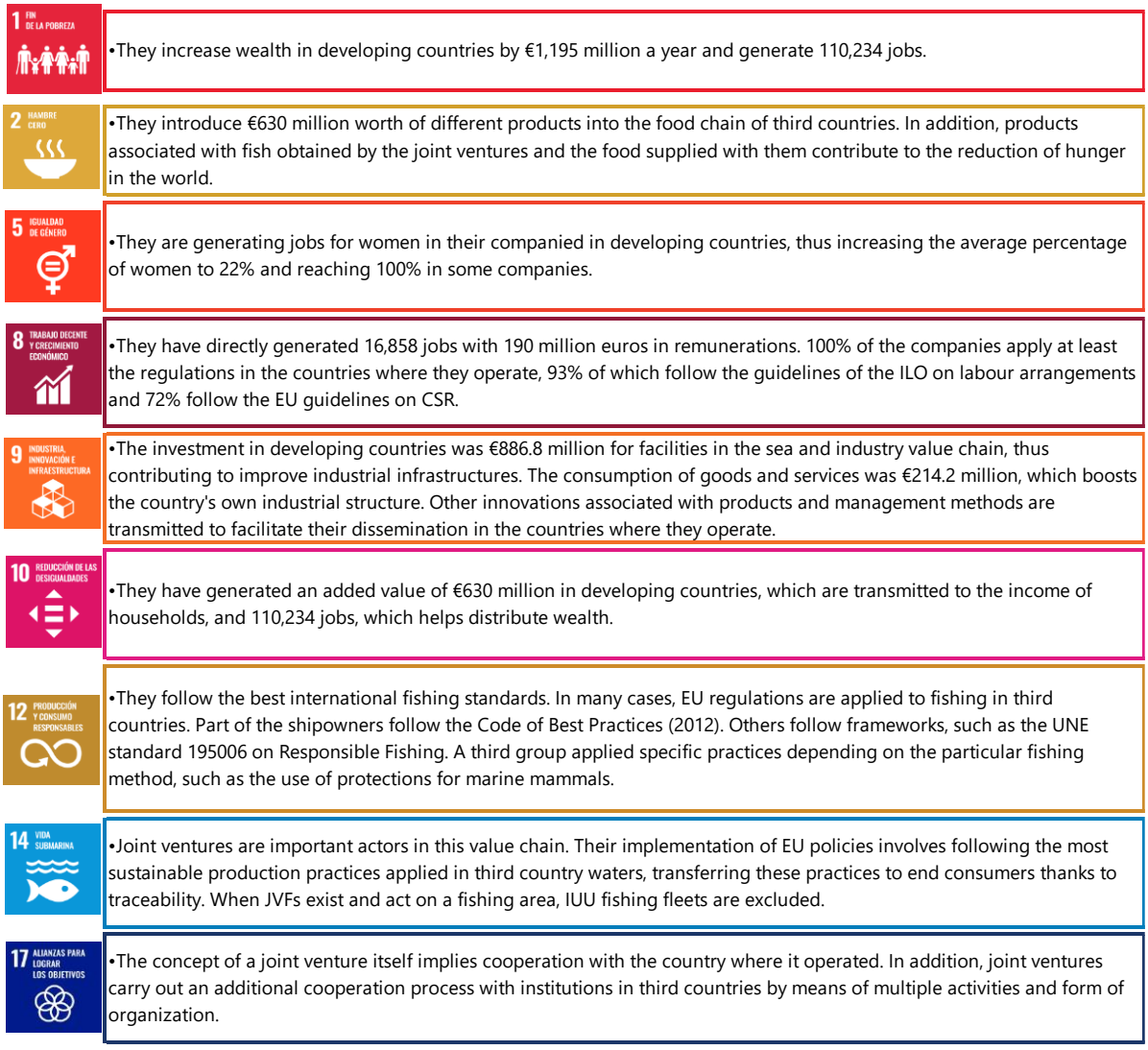


Figure 15. Effects of JVFs on SDGs

[7] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[8] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm

SDG 1 No poverty

This goal is defined as follows: End poverty in all its forms everywhere[9]. The Spanish Government's interpretation of this goal in the 2030 Agenda is explained below: "Guarantee the social protection of people experiencing poverty or social vulnerability, increase access to basic services and help people affected by extreme weather events, in addition to addressing economic, social and environmental problems.[10]"

Some data confirm the impact of JVFs' activities on this goal. Estimates indicate that it increases the wealth of third countries by €1,157 million per year and generates 21,713 jobs. Consequently, the actions of joint ventures in third countries contribute to eradicate poverty by providing work and promoting wealth in these countries.

SDG 2 Zero hunger

This goal is defined as follows: End hunger, achieve food security and improved nutrition and promote sustainable agriculture[11]. The Spanish Government interprets this goal as follows: "The targets of this goal are primarily aimed at improving nutrition by ensuring access to healthy, nutritious and sufficient food for all people and the eradication of all forms of malnutrition, as well as food production, agriculture and the food system in general[12]."

Joint ventures contribute to improving this goal by injecting €523.8 million in different products in the food chain of third countries. Additionally, products associated to fishery products obtained by joint ventures and the food provided by them contribute to reducing hunger in the world.

[9] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[10] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm
[11] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[12] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm

SDG 5 Gender equality

This goal is defined as follows: Achieve gender equality and empower all women and girls[13]. The Spanish Government's 2030 Agenda for Sustainable Development drives the international community's commitment to achieve gender equality and the empowerment of all women and girls through a specific goal and in a cross-cutting manner in other goals[14].

Joint ventures generate work for women in their companies in developing countries, although the fishing activity is traditionally a highly masculine activity. The average percentage of women is currently 22%, slightly higher than that of previous years, and in some companies up to 100%.

This enhances greater gender equality in employment in their companies, transferring it to the countries where these companies operate.

SDG 8 Decent work and economic growth

This goal seeks to achieve "inclusive and sustainable economic growth, full and productive employment and decent work for all"[15].

The Spanish government's interpretation of its proposal to achieve the 2030 agenda is as follows: "SDG 8 is directly related to the scope of the work and the economy, seeks to reduce the unemployment rate, improve labour conditions and increase labour productivity, reduce the unemployment rate, especially among the uneducated young and old, and improving access to financial services and benefits are essential components of inclusive economic growth and are the main targets of this goal. Improving people's living conditions is inconceivable without addressing sustained, inclusive and sustainable economic growth, without a productive job in decent conditions." [16]

Joint ventures in fisheries have directly generated 13,797 jobs, with remuneration amounting to €406 million. 100% of companies apply at least the legislations of the countries in which they operate, 93% following the guidelines of the ILO (International Labour Organisation) on labour agreements and 72% follow the EU's CSR-oriented guidelines, being the EU standards

[13] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[14] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm
[15] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[16] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm

the most advanced in this regard. The application of European standards in employment practices and labour relations also involves the dissemination of the model and of European values in the countries with which JVFs are shared. Consequently, they contribute to obtaining this goal.

SDG 9 Industry, innovation and infrastructure

SDG 9 aims to "build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation[17]". One of the factors that measures the level of development of a country is the development of its infrastructure and its degree of industrialisation. Indeed, the development of reliable, sustainable and quality infrastructures must be a stimulus for economic recovery, quality of life and creation of jobs, and also guarantees territorial structuring, social cohesion and equal opportunities[18].

Joint ventures in fisheries follow EU innovation and industry criteria, facilitating inclusion. Indeed, the direct investment made in third countries amounted to €282 million in facilities of the sea-industry value chain, contributing to the improvement of industrial infrastructure. The consumption of goods and services generated in third countries as a consequence of SMP production totalled €393 million, revitalising the industrial structure of the country itself. Furthermore, investment in ships in third countries totalled €69 million, transferring part of the shipbuilding activity thereto. Lastly, other innovations associated to products and their management models are transferred, facilitating their dissemination in the countries where they cooperate. Therefore, they contribute to obtaining this goal.

SDG 10 Reduced inequalities

This goal indicates that "inequalities must reduce within and among countries[19]". In particular, the Spanish Government suggests the following to achieve the 2030 Agenda: "SDG 10 promotes reducing inequality caused on the grounds of gender, age, disability, race, ethnicity or religion in

[17] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[18] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm
[19] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/

Spain and Spain's contribution to reducing inequality between countries, to which end the adoption of the relevant policies and legislation is promoted[20].“

The estimates of the activity of joint ventures with different third countries have generated an annual added value therein of €634 million. Together with this economic effect, the creation of jobs and income for the families affected by this activity, in addition to the tax effect, facilitate the achievement of this goal.

SDG 12 Responsible production and consumption

SDG 12 is about "ensuring sustainable consumption and production patterns[21]". In particular, the Spanish Government suggests that sustainable management and the efficient use of natural resources, reducing the generation of waste and food waste, and the promotion of environmentally-friendly management of chemical products must be promoted. Moreover, it seeks to stimulate the implementation of sustainable practices in companies and universal access to information on lifestyles in harmony with nature[22].

It is one of the most cross-cutting goals on the Agenda and also one of the most important for the most developed countries, since it pursues a transition of the economic, production and consumption models towards sustainability.

In Spain, SDG 12 aims to promote the modalities of sustainable consumption and production by implementing it in the strategies, policies and legislation of each country. Spain is implementing the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP), promoted at the Rio-20 Conference through a set of measures that covers the five programmes of said framework.

The key role of the actors in the fisheries value chain in achieving SDG 12 targets must be highlighted. For this reason, awareness is essential for generating structural changes in production and consumption patterns, seeking to orient both demand and supply towards products and services with the least environmental impact. Despite the progress made, it is necessary to advance and improve the behaviour of the actors in monitoring and control measures, in addition to incorporating culture and requirements of environmental

[20] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm
[21] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[22] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm

management of business organisations, including raising awareness among workers and managers and government agencies[23].

Joint ventures in fisheries are key actors in this value chain. Their application of EU policies involves following the most sustainable production practices applied in third-country waters, transferring these practices from traceability to final consumption

SDG 14 Life below water

This goal urges us to "Conserve and sustainably use the oceans, seas and marine resources for sustainable development[24]". Humanity must conserve and sustainably use the oceans, seas and marine resources. In order to achieve Goal 14, pollution of waters of all kinds must be significantly reduced, adopt measures to restore marine ecosystems, minimise the effects of acidification, effectively regulate fishing operations and conserve at least 10% of coastal and marine areas.

The global and interconnected nature of the planet's seas and oceans makes SDG 14 unachievable without the adequate international collaboration to promote research and the innovation developed by our scientific communities. In this regard, in addition to promoting marine and maritime research through the State Plan for Scientific and Technical Research and Innovation, Spain participates very actively in international initiatives that pursue reinforcing and aligning research and innovation efforts to provide solutions to all the challenges that threaten our oceans, seas and coasts[25].

In relation to the goals that refer to leveraging research to achieve SDG 14, the R&D&i activities aimed at conserving and sustainably using water resources are of great importance. In this connection, many of the innovations carried out by joint ventures in fisheries contribute to improving this goal.

As a general rule, JVFs apply the highest international standards in fishing practices. In many cases, EU standards are applied to fishing activities in third countries. Part of the shipping companies follow the Code of Good Practices (2012). Others are guided by frameworks, such as UNE Standard 195006 on Responsible Fishing. A third set applies to specific practices, derived from a specific type of fishing, such as the use of grids for the protection of marine

[23] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm
[24] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/
[25] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm

mammals. Overall, the industry contributes to this goal. Consequently, when JVFs exist and act on a fishing area, IUU fishing fleets are excluded.

The 2030 Agenda may be the ideal framework for increasing citizen awareness, in relation to the pollution of coasts and seas, increasing control over the polluting activities of other economic activities carried out along coasts, in addition to generating an entity in charge of adopting measures in relation to ocean acidification. In relation to fishing, the increase in awareness of the ecosystem approach to fishing is a relevant opportunity. Also, the creation of codes of good practices to enable fishermen to take a long-term view fosters the sustainability of ecosystems. Consequently, the good practices carried out by many of the joint ventures are directly contributing to improve this goal, both in the EU and in the third countries where these companies operate.

SDG 17 Partnerships for the goals

SDG 17 urges us to "Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development[26]". In particular, the Spanish Government's proposal to achieve the 2030 Agenda indicates that it is necessary to mobilise all necessary implementation, financial, public, private and other types of needs to reinforce a Global Alliance for Sustainable Development that will set up an Agenda whose broad and horizontal, ambitious and multidimensional nature must compile and analyse information from different areas of our public administrations, the EU and other national and international actors. Furthermore, SDG 17 must be followed up consistently with the public authorities.

The 2030 Agenda insists on the advantages and potentialities of the alliances and calls for the establishment of a Global Alliance for Sustainable Development by means of SDG 17 - reinforcing global partnership for sustainable development, with many actors and partners, and the mobilisation of knowledge, technical capability, technology and resources. It is generally agreed that such global alliances can become coalitions for action, aimed at reducing poverty and achieving sustainable development, which is everyone's responsibility. The promotion of corporate sustainability, evolution of the concept of corporate social responsibility, is one of the instruments through which companies can be promoted to integrate the SDGs in their strategies and activities. The activities of the JVFs go in this

[26] https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/

direction, since they cooperate directly with the countries where they are based, contributing to different territorial improvement objectives.

The 2030 Agenda is an international agenda and, from that viewpoint, international cooperation plays a decisive role in its fulfilment. SDG 17 is fully dedicated to promoting the necessary partnerships to achieve sustainable development[27]. The very concept of a mixed fishery implies cooperating with the country where it is based. In addition, joint ventures carry out an additional cooperation process with third-country institutions by means of multiple activities and forms of organisation. Consequently, partnerships are carried out to achieve direct improvements in the promotion of the well-being of the countries where these companies are based, contributing to all the SDGs mentioned earlier.

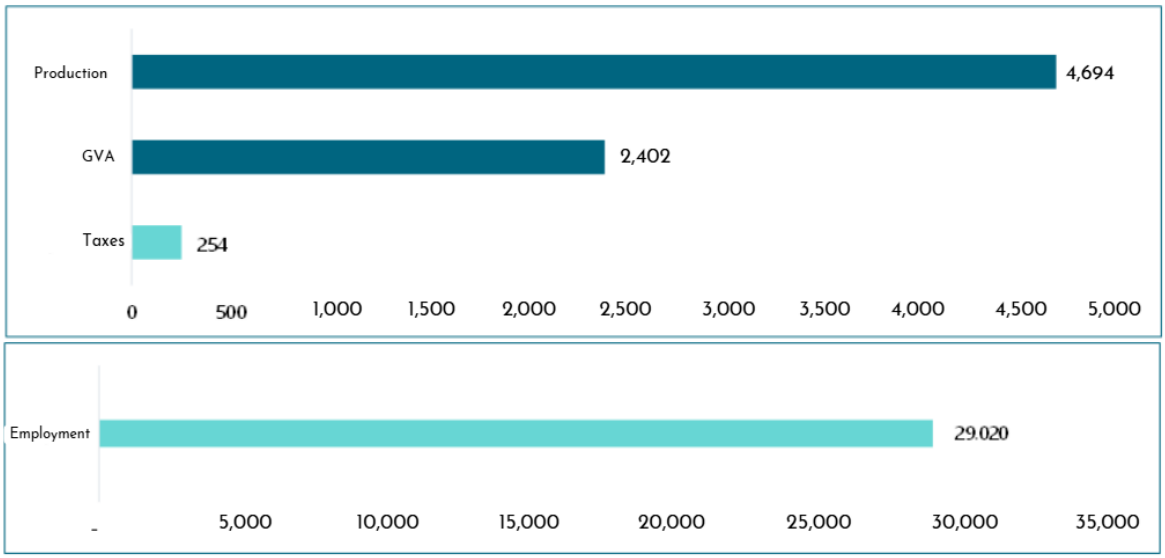
[27] https://www.mdsocialesa2030.gob.es/agenda2030/index.htm

7

Conclusions

As evidenced by the different measurements of economic and social impact made in this report, JVFs are relevant from several viewpoints, both in the EU and in third countries.

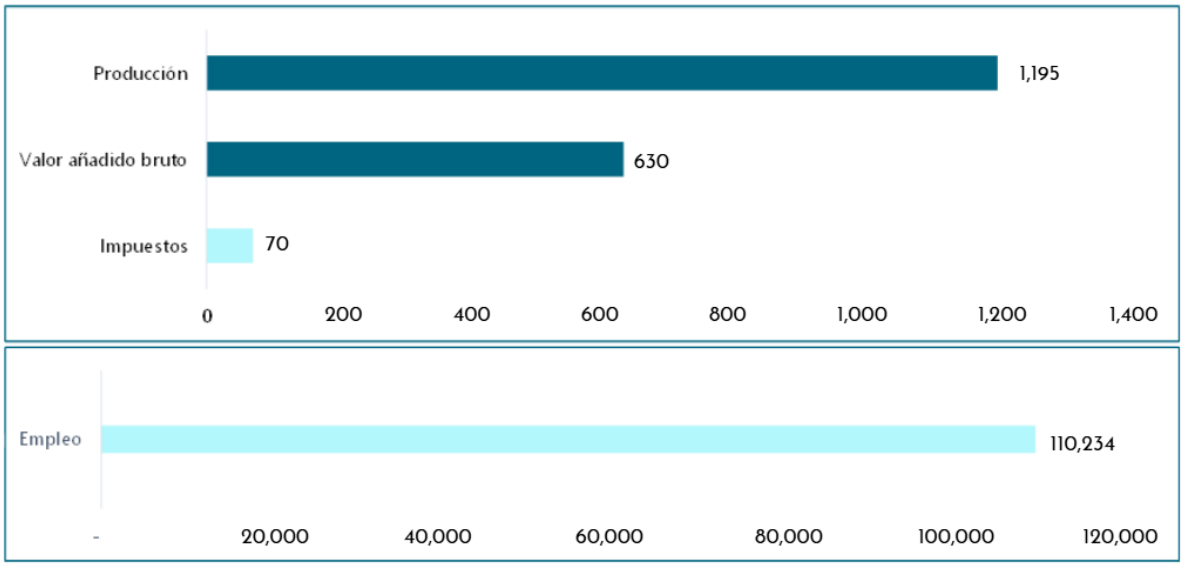
First, they are relevant in the EU insofar as they generate economic and social value, while ensuring food in the EU with quality marine protein. As mentioned earlier, based on the input-output methodology and the sum of their different effects, JVFs represent an estimated production in the EU of €4,694 million, with a gross added value of €2,402 million. This implies, in social terms, the generation of 29,020 jobs and €254 million in taxes.



Economic and social impact of JVFs in Europe (millions of euros and number of jobs)

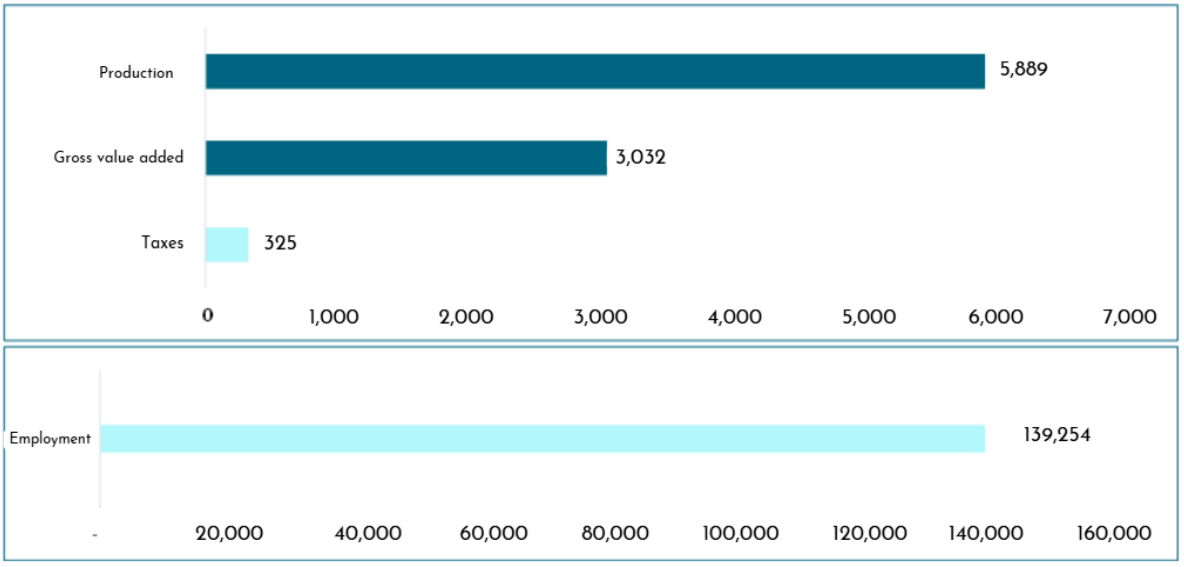
Second, they are relevant in third countries, due to which they also generate economic and social value in every country where they operate. At the same time, they always introduce economic, social and environmental standards always equal or superior to those applied in the same fishing grounds, given that EU legislation envisages the world's highest standards of responsible fishing. The entry of JVFs into international fishing grounds is a substitute for vessels from other fleets with lower standards and regulatory compliance than those advocated by the EU.

In the economic sphere, JVFs imply €1,195 million in production, with €630 million in Gross Added Value. In the social sphere, they generate 110,234 jobs and €70 million in taxes.



Economic and social impact of JVFs in third countries (millions of euros and number of jobs)

Third, they are also relevant for the relationship between the EU and each of these countries, in that the legal form of JVFs, in their different variants, and adapted to the legislation of each country, makes it possible to exploit the fishing resources of some countries using the technological capacity and markets of others, sharing the economic and social benefits of the joint activity. In its practice and effects, it represents an advantageous formula that generates multiple links between the participants. It is therefore a relevant instrument of the EU's presence in many countries with fishing resources.



The economic activity of JVFs represents, for the EU as a whole and for third countries, a total production of €5,889 million, with a GVA of €3,032 million. In terms of jobs, they generate 139,254 jobs and €325 million in taxes.

Global economic and social impact of JVFs (millions of euros and number of jobs)

Fourth, and regardless of the multiple CSR actions (more than 600) documented in third countries by JVFs, they are a valuable instrument for achieving seven Sustainable Development Goals (SDG) in a quantifiable way through their work, since they increase the wealth of developing countries and generate jobs in those countries, decent and line with European legislation; they contribute to reducing hunger in the world; they increase women's employment, facilitating gender equality; they promote innovation in third countries, dynamising the industrial structure of the country itself; they redistribute wealth; they carry out the best international standards in fishing practices, caring for the marine environment and displacing IUU fishing; and they promote cooperation with third-country institutions by means of multiple activities and forms of organisation. Lastly, it should be noted that JVFs produce a minimum carbon footprint emission per unit of high-quality protein.

The EU considers that JVFs facilitate the following goals:

- Guarantee food with marine protein in the EU (where it is clearly lacking) and favour its food sovereignty in the current international context.
- Generate part of the European value chain derived from the fishing activity (shipyards, supplies, canning industry, preparation of semi-processed products, market placement…)
- Share this generation of wealth and employment with the third countries.
- Extend European values and practices of sustainable and responsible fishing with ESG (environmental, social and governance responsibility) criteria to the rest of the world, in order facilitate the achievement of the UN Sustainable Development Goals (SDG).
- Support and be a part of the new EU policy of international influence promoted by the European Commission. JVFs are integrated in the destination countries, with local partners and relationships.

Based on the foregoing, JVFs should represent a relevant and effective instrument of the EU strategy, defined in the Global Gateway.

The Global Gateway "is aligned with the commitment acquired by G7 leaders in June 2021 to launch a transparent, values-driven and high-level Partnership for Global Infrastructure and Investment to meet the world's infrastructure development needs[28]", and fully compliant with the United Nations 2030 Agenda and its Sustainable Development Goals, in addition to the Paris Agreement. The actions of the JVFs represent a share of the economic activity of fisheries, contribute European social and environmental standards to third countries, are expressly

[28] *Global Gateway (europa.eu)*

applicable to seven SDGs and are aligned with the Global Gateway strategy. Therefore, they should be taken into consideration in EU policies. Singularly and specifically:

In its express acknowledgement in European legislation, given its global strategic utility, in addition to their creation to reduce the EU-flagged fleet, while ensuring the supply to the European market.

In access to EU markets, burdened by tariffs that are more typical of other activities than the supply of marine protein for food. Autonomous Community Tariff Quotas must take into account that this is fish production for direct human consumption by EU citizens.

In the use of the new financial instruments within the multiannual financial framework of the EU 2021-2027, which must be accessible for adapting the fleet to JVFs upon their renewal, meeting new fishery sustainability standards.