Study On Ownership and Exclusive Rights of Fisheries Means of Production

Final Report

Service Contract:
EASME/EMFF/2016/1.3.2.1/SI2.766458

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LIST OF ABBREVIATIONS

API	Application Programming Interface
CFP	The Common Fisheries Policy (of the European Union)
CFR	Central Fleet Register
CMM	Conservation and Management Measures
CR	Concentration Ratios
DBA	Danish Business Authority
DCF	Data Collection Framework
DPMA	Direction des Pêches Maritimes et de l'Aquaculture
EASME	The Executive Agency for Small and Medium-sized Enterprises
EC	The European Commission
EEZ	Exclusive Economic Zone
EFF	The European Fisheries Fund
EMFF	The European Maritime and Fisheries Fund
EU	The European Union
EUR	Euros
FMC	Fiskeri Moniterings Center
FQA	Fixed Quota Allocation
GT	Gross Tonnage
HHI	Herfindahl-Hirschman index
kW	Kilowatt
ICCAT	International Commission for the Conservation of Atlantic Tuna
ICES	International Council for the Exploration of the Sea
IEQ	Individual Effort Quota
IQ	Individual Quota
ITQ	Individual Transferable Quota
IUU	Illegal, Unreported and Unregulated fishing
LLP	Limited Liability Partnerships
LOA	Length Overall
LO	Landing Obligation
M&A	Mergers and Acquisitions
MS	Member State
NAFO	Northwest Atlantic Fisheries Organization
NGO	Non-Governmental Organisation
OECD	The Organisation for Economic Co-operation and Development
PO	Producer Organisation
QA	Quality Assurance
QC	Quality Control
QMAC	Quota Management Advisory Committee
R&D	Research and Development
RBM	Rights Based Management
RFMO	Regional Fisheries Management Organisation
SFPA	Sustainable Fisheries Partnership Agreement
SSCF	Small-scale Coastal Fleet
TAC	Total Allowable Catch
TURF	Territorial Use Rights in Fisheries
VAT	Value Added Tax
VMS	Vessel Monitoring System
VTQ	Vessel Transferable Quota

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EXECUTIVE SUMMARY

While information regarding fishing vessels flying the flag of each MS is publicly available through the Community Fishing Fleet Register, information about the ownership of these vessels and the quota that they are allocated is not always available. Despite a lack of data, it is becoming increasingly apparent that the common perception of fishing vessels being locally owned and operated is a simplification of a more complex network characterised in some cases by firms owning multiple vessels across several member states (MS), potentially concentrating access rights or opportunities to fish.

Concerns regarding issues of ownership and access, and the potential concentration thereof, have led some to call for greater transparency in the allocation of fishing opportunities. Whilst these calls have been met with some changes, including the release by the Danish and UK governments of public databases of quota allocations, this disclosure has been uneven and largely incomplete with information in Germany and the Netherlands in particular difficult to secure.

The present study was commissioned against this background to provide an overview of the current ownership structure of fishing vessels' and the means of production - that is, the licences and opportunities to access fish stocks in the catching sector - focusing on nine key MS: Belgium, Denmark, France, Germany, Ireland, Netherlands, Spain, Sweden, and the United Kingdom.

The study set out to document the ownership structure of all registered fishing vessels flagged under the nine MS - incorporating almost 30,000 registered vessels. The distribution and 'ownership' of quota access within each MS has also been documented to the extent possible. Reported information includes the firms and ultimate owning enterprises, as well as nationality of ownership, where available. The specific objectives of the study were to:

- document the ultimate ownership of fishing vessels and access to quota and define their nationality;
- measure the concentration of ownership of vessels, quota allocations and fishing rights at MS level; and
- describe the evolution and drivers of ownership structures and assess its impact on the economic performance of fleet segments and potential future prospects.

Approach

The study approach was built around the concept of an ownership network, which maps relationships between discrete entities or 'nodes'. Linkages between these nodes represent a transfer of ownership of the endowments necessary to benefit from fishing activities. These exchanges progress through various levels of the network, from licence holder through quota holding entities and parent companies, to the ultimate shareholder(s). The network allows for measurements of the relative importance of nodes, i.e. identifying where quota concentrates. Furthermore, it can highlight recurring relationships and associations between nodes that are similar (or different). Finally, it can describe the complexity of particular networks.

Describing the drivers, or barriers, behind the relationships that the network reveals relies on qualitative information to supplement the quantitative measurements of ownership. A mixed-methods approach has therefore been used, consisting of two complementary data collection frameworks - a structured quantitative data collection framework and a qualitative case study framework. This ensured the presentation of a quantitative snap-shot of the situation across each MS (what is owned where and by who) together with more qualitative descriptions of examples of the kinds of dynamic processes that have led to this scenario (how and why).

Data sources included recent studies, grey literature and online articles – including reports and studies commissioned by stakeholders (e.g. universities, research institutions, management bodies, POs, associations of fishers and vessel-owners, NGOs) – corporate information provided by companies and in regulatory and legal filings, financial terminals, local trade and financial registries (e.g. Chambers of Commerce), and international, national and regional statistics. These sources were supplemented with formal requests for

data in each of the focal MS. This provided an overview of data availability associated with key aspects of ownership and, where data was available, a description of the current situation concerning the ownership structure of EU fishing vessels, licences and quota across the nine focal MS– in the form of an ownership database.

The database made it possible to calculate the concentration of vessel ownership and quota across fishing fleets (where data was available). Fundamentally this was enabled through the use of the CFR number – a unique identifier for each vessel in the EU. The changes of ownership that are of prime interest are those that increase the concentration of power, either through horizontal, vertical, or conglomerate integration. Descriptions of concentration were provided using concentration ratios CR4, CR8 and the Herfindahl-Hirschman index (HHI). In addition to these measures of concentration, a Gini coefficient was also calculated. The quantitative picture for each MS is accompanied by a short description of the evolution of ownership for each focus MS that describes and identifies drivers or constraints to changes in foreign ownership in each case.

Quantitative analysis of data collected in each MS was supplemented by a series of case studies that focus on exploring why changes are taking place by describing a number of significant events. The case studies describe changes to ownership and the main drivers for, and barriers to, these changes (e.g. market strategies, policy change, etc.).

Findings

It is well reported, and further demonstrated by the present study, that the availability and disclosure of ownership data is uneven and largely incomplete across much of the EU. The most problematic data to source is that of the initial MS allocation of national quotas to their fleets, or indeed the realised catches per vessels in the case of MS that do not allocate quota per individual vessel (e.g. BE and IE). By contrast, company ownership and shareholder nationality were often more straightforward to source, however, accessibility was often limited due to the presence of a 'pay-wall'. FR, DE and NL represent the most difficult MS for which to access information. Given the patchiness of data availability, it is only possible to draw comparisons of the nature of ownership and subsequently concentration for a selection of MS. The most readily available data is that of vessel ownership, and as such, this is a key source for the EU-wide comparative analysis. The following sections highlight the key findings for each focal MS:

Belgium

Belgium has the smallest commercial fishing fleet of the EU coastal MS, in terms of number of vessels. There is a large degree of foreign (Dutch) ownership of fishing quota for cod (30%) and sole (31%). These amounts are similar to the foreign ownership of Belgian fishing licences by size (as ownership of capacity directly relates to quota ownership in practice). Differences in the relationship between fishing quota and the vessel between Belgium and Netherlands and restrictions on capacity meant that by the late 1990s the purchase of a fishing vessel was more expensive in the Netherlands than Belgium. Operators in Netherlands wishing to expand or enter fisheries began to buy Belgian vessels and by 1997, when the Belgian fleet consisted of 150 ships, 25 were Dutch owned. This trend continued and almost a third of the 70 vessel Belgian fleet is currently owned by Dutch nationals.

Denmark

Denmark has a well-established fishing industry which in 2017 comprised 2,223 vessels, divided into a large pelagic fleet, a demersal trawl fishery and a small-scale fleet of vessels under 12 metres long. In Denmark, some cases of foreign ownership of vessels were identified however, it is a relatively low proportion, with 6.5% of the fleet (by GT) owned by Swedish companies. In terms of quota, foreign ownership is above 30% for some of the pelagic species in the Baltic, primarily owned by Swedish companies, as with vessel ownership. Most demersal species' quota has low levels of foreign ownership. Overall, quota concentration has been observed in Denmark since the introduction of the ITQ quota system in 2003, but mostly between Danish vessel owners.

France

In 2017 the French fleet comprised 6,514 vessels that can be divided into a distant water fleet targeting tuna in the South Atlantic and Indian Oceans, a large-scale fleet, and a small-coastal fleet. Although quantitative data has not been made available that would allow analysis of the quota ownership, qualitative analysis has shown that there are Spanish owned vessels flagged to the French fleet. It has also been possible to show that a number of vessels within the French fleet are finally owned by Dutch/Icelandic companies, or solely by Dutch companies. For example, the two French-owned large vessel companies, Société Boulonnaise d'Armement Le Garrec and Nord Pêcheries, merged to create Euronor in 2006, which was then acquired by UK Fisheries, a UK-based joint venture owned by Parlevliet & Van der Plas (P&P Group, Netherlands) and Samherji HF (Iceland). Two main drivers are apparent that help to explain the range of transactions occurring within the French fishing fleet during the last decade. Both horizontal and vertical concentration, and foreign investment have occurred due to low profit margins within the French fishing industry. In addition, the high level of foreign investment within French fisheries is associated with the need for increased access to specific fisheries.

Germany

Germany's fishing sector is relatively small. In 2017, the fleet included 1,387 vessels divided into a long-distance fleet (both large-scale pelagic and demersal trawlers), a beam trawler fleet, a small trawler fleet, and a small-scale coastal fleet. For the large majority of vessels, data on layers of the ownership network is inaccessible. Therefore, a quantitative analysis of quota concentration or vessel ownership could not be completed. There is some evidence, however, that foreign ownership or investment may be an important factor in the evolution of some German fisheries, especially through company acquisitions by Dutch groups.

Ireland

In 2017, the Irish fleet was composed of 2,062 vessels divided into a large-scale pelagic trawler fleet, a beam trawler fleet operating, and a polyvalent fleet, representing the vast majority of the active fleet. Most Irish vessels are owned by individual Irish fishers. Indeed, only about 3.5% of the fleet by GT registered to a foreign owner or foreign registered company, these companies' final owner being either Belgian, Dutch or Spanish. No evidence of change in ownership over the past decade has been found. The key element in understanding ownership within the Irish fishing fleet is the role of quota management within this system. Fishing quota in Ireland belongs to the state, and is not privately allocated to licences linked to vessels. Therefore, there is little impetus for foreign ownership of vessels, as this does not allow the foreign company to "own" more quota within Irish waters.

Netherlands

Unlike most EU countries, the Netherlands produces a trade surplus in the fishing sector. In 2017, the Dutch fleet was composed of 849 vessels, divided into a large-scale pelagic trawler fleet, a cutter fleet targeting demersal species, and a coastal fleet. Official information regarding vessel ownership was not made available. For the pelagic sector minimal vessel ownership data and company ownership data were identified – but, this is largely from grey-sources. Drivers of changes in ownership could be identified based on grey-literature. After the CFP was implemented, Dutch pelagic fishing companies started to invest in several European countries, including Germany, France, the United Kingdom, Denmark, Lithuania, Spain and Portugal. The drivers for further horizontal integration were access to quota and usage rights in order to guarantee supply and diversification of products for their customers. Unfortunately, as quota ownership information was not provided for the Netherlands a quantitative analysis of quota concentration could not be completed.

Spain

Spain is one of the largest fishing nations in the EU, with its fleet accounting for the highest share of EU total gross tonnage. In 2017, the Spanish fleet was composed of 9,239 vessels divided into a distant water fleet operating all around the world including in EU outermost regions, a large-scale fleet operating in EU fishing regions, and a small-scale coastal fleet.

For Spain, data on the first level of vessel ownership was provided and quota per individual vessel by fishing ground was accessible. The data indicate that the majority individual quotas (56%) are owned by forms entrepreneurship known as the Sociedad de Responsabilidad Limitada. In turn, entities following a more corporate structure, such as Sociedades Anónimas, own 27% of the individual quotas. Data on the second level of ownership was gathered for the 40 most important companies in terms of national quotas. At this level, foreign ownership represents less than 3% of the quotas. Finally, it has been reported that some Spanish fishing companies are being bought by private equity firms or other non-fishing companies (for example within tuna fisheries), selling them later to international companies wishing to establish their presence in EU and wishing to gain, or increase, access to certain fishing grounds.

Sweden

In 2017, the Swedish fleet consisted of 1,266 vessels. While it is possible to link vessels and licences to owners, there are still cases where it has not been possible to link quota to vessel licence or owner because of the complexity of the quota system. Some cases with foreign ownership are noted, however, it is a relatively low proportion. On the other hand, there is strong evidence of consolidation within the Swedish fishing industry, with the three largest Swedish fishing companies expanding by acquiring quotas in other countries.

United Kingdom

The UK has the second largest fishing fleet in the EU (total gross tonnage). In 2017, it was composed of 6,198 vessels divided into a large-scale fleet (>10 m) and a coastal fleet (<10 m), representing 78% of the fleet. Through the UK FQA Register, data is available on quota allocated to UK fishing vessels. Furthermore, the name of the licence holder (individual or company) is provided. Some cases with foreign ownership are noted, however, it is a relatively low proportion. The UK fishing fleet has a large degree of foreign ownership of quota, comparable to Belgium, lower than Sweden, and higher than Spain and Denmark. Since 1999, the UK has distributed quota to fishers by using a system of FQAs. There is evidence to suggest that the sale of FQA units by UK fishers has led to a concentration of quota within the UK fishing industry, with 13 companies holding 60% of total UK FQA. Non-UK owned vessels account for almost 10% of the total FQA units held, mostly by Dutch (North Sea and English Channel) and Spanish (Southwest) owners.

Case studies

The study also presents nine case studies of mergers and acquisition that provide a more qualitative description of the dynamics that illustrate some of the processes and changes that have occurred and that give rise to the headline figures provided in the sections above. These case studies include cases of horizontal integration in Spanish fleets in the North Atlantic, cases of vertical integration through the acquisition of fishing companies by international investors outside of the fishing industry (Iberconsa and Portobello capital, Garavilla and Bolton Group) and the analysis of operations of major EU and non-EU fishing groups such as Cornelis Vrolijk, P&P Group, Kutterfisch-Zentrale GmbH, Clearwater Seafoods and Samherji Group. In addition, one of the case studies looks into the links between Dutch interests in UK fisheries and UK Producer Organisations.

Conclusion

The issue of ownership in fisheries is complex, as it depends on MS internal regulations (e.g. quota allocation methods), and several external factors (e.g. private companies' economic benefits) driving the fisheries industry's structure. The overview of the ownership of EU fishing vessels, licences and quota – three key endowments – that has been produced represents an important step towards understanding who benefits from access to EU fisheries.

Despite the difficulties in accessing and processing data, it has been possible to provide quantitative estimates of the extent of foreign ownership for five out of nine focal MS. The highest foreign share of all three key endowments was apparent in Belgium, with over 30% of key endowments owned by foreign entities. When examining foreign ownership of quota in terms of tonnage, the largest proportions were in Danish quota (21.3%), and Swedish quota, with over 16% held by foreign entities. When examining the share of foreign ownership of licences, just over 2% of Swedish licences are held by foreign entities, while

less than 1% are held by foreign entities in Denmark and the UK. Finally, when examining vessel ownership, 6.5% of vessels within the UK are owned by foreign entities, while just over 1.5% in Sweden and less than 1% in both Ireland and Denmark. This discrepancy in the proportion of foreign ownership between the endowment types within MS demonstrates that it is not always necessary to have ownership of all three in order to benefit from the fishery.

The work showed that there is evidence to suggest that foreign ownership of vessels and (in some cases) the quota associated with such vessels may be associated with (1) the targeting of particular fisheries, (2) ensuring continual supply of product to other parts of an entities business (vertical integration), and/or (3) with a strategy of future proofing of supply.

In so far as there are recommendations from the study, we would suggest a greater transparency about the beneficiaries of initial allocations of quotas, in addition to a better understanding of the processes of reallocation of quotas within and between MS, who benefits from these and how.

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RÉSUMÉ

Bien que les informations concernant les navires de pêche battant le pavillon de chaque État membre soient accessibles au public via le fichier de la flotte de pêche de l'UE, les informations relatives à la propriété de ces navires et au quota qui leur est attribué ne sont pas toujours disponibles. Malgré le manque de données, il apparaît de plus en plus clairement que la perception commune des navires de pêche appartenant à des acteurs locaux et exploités localement est une simplification d'un réseau plus complexe. Ce réseau inclut notamment des sociétés possédant plusieurs navires dans plusieurs États membres qui concentrent dès lors potentiellement les droits d'accès ou les possibilités de pêche.

Les préoccupations concernant les questions de propriété et d'accès, et leur concentration potentielle, ont amené certains à demander une plus grande transparence dans la répartition des possibilités de pêche. Bien que ces appels aient mené à certains changements, notamment la publication par les gouvernements danois et britannique de bases de données publiques sur les allocations de quotas, cette divulgation a été inégale et en grande partie incomplète. Les informations en matière d'attribution de quotas de pêche en Allemagne et aux Pays-Bas sont particulièrement difficiles à obtenir.

La présente étude a été commandée dans ce contexte afin de fournir un aperçu de la structure de propriété actuelle des navires de pêche et des moyens de production, c'est-à-dire des licences et des possibilités d'accès aux stocks de poissons, en se concentrant sur neuf États membres : la Belgique, le Danemark, la France, l'Allemagne, l'Irlande, les Pays-Bas, l'Espagne, la Suède et le Royaume-Uni.

L'étude visait à documenter la structure de propriété de tous les navires de pêche battant pavillon des neuf États membres, soit près de 30,000 navires enregistrés. La répartition et la « propriété » de l'accès aux quotas au sein de chaque État membre ont également été documentées dans la mesure du possible. Les informations rapportées comprennent les propriétaires et les entreprises propriétaires ultimes, ainsi que leur nationalité, si possible. Les objectifs spécifiques de l'étude étaient les suivants :

- Documenter la propriété ultime des navires de pêche et l'accès au quota et définir leur nationalité ;
- Mesurer la concentration de la propriété des navires, des quotas et des droits de pêche au niveau des États membres ; et
- Décrire l'évolution et les causes des structures de propriété et évaluer leur impact sur la performance économique des segments des différentes flottes et les perspectives futures potentielles.

Approche

L'approche de l'étude s'articule autour du concept de réseau de propriété, qui révèle les relations entre entités ou « nœuds ». Les liens entre ces nœuds représentent un transfert de propriété des ressources nécessaires afin de pouvoir tirer parti des activités de pêche. Ces échanges progressent à travers les différents niveaux du réseau, du détenteur de licence aux entités détentrices de quota en passant par les sociétés mères. Le réseau permet de mesurer l'importance relative des nœuds, c'est-à-dire d'identifier où les quotas sont concentrés. En outre, il peut mettre en évidence des relations et associations récurrentes entre des nœuds similaires (ou différents). Enfin, il peut décrire la complexité de réseaux particuliers.

La description des causes, ou barrières, à l'origine des relations révélées par le réseau s'appuie sur des informations qualitatives pour compléter les mesures quantitatives de propriété. Une approche à méthodes mixtes a donc été utilisée, consistant en deux méthodes de collecte de données complémentaires : une méthode de collecte de données quantitative structurée et une méthode d'études de cas qualitative. Ceci a permis de présenter un aperçu quantitatif de la situation dans chaque État membre (ce qui appartient à qui et par qui) et de fournir une description plus qualitative d'exemples des types de processus dynamiques ayant conduit à ce scénario (comment et pourquoi).

Les sources de données comprenaient des études récentes, de la documentation parallèle et des articles en ligne, y compris des rapports et des études commandés par les parties prenantes (universités, instituts de recherche, organes de gestion, associations de pêcheurs et de propriétaires de navires, ONG, etc.), les dépôts légaux, les terminaux

financiers, les registres commerciaux et financiers locaux (par exemple, les chambres de commerce) et les statistiques internationales, nationales et régionales. Ces sources ont été complétées par des demandes officielles de données dans chacun des États membres concernés. Ceci a permis de donner un aperçu de la disponibilité des données associées aux principaux aspects de la propriété et, le cas échéant, une description de la situation actuelle en ce qui concerne la structure de la propriété des navires de pêche de l'UE, des licences et des quotas dans les neuf États membres analysés sous forme d'une base de données de propriété.

La base de données a permis de calculer la concentration de propriété de navires et de quotas entre les flottes de pêche (lorsque les données étaient disponibles). Fondamentalement, cela a été rendu possible grâce à l'utilisation du numéro « CFR » - un identifiant unique pour chaque navire dans l'UE. Les changements de propriété qui présentent un intérêt primordial sont ceux qui augmentent la concentration du pouvoir, que ce soit par une intégration horizontale, verticale ou conglomérale. Les descriptions de la concentration ont été fournies en utilisant les rapports de concentration CR4, CR8 et l'indice de Herfindahl-Hirschman (HHI). En plus de ces mesures de concentration, un coefficient de Gini a également été calculé. Le tableau quantitatif de chaque État membre analysé est accompagné d'une brève description de l'évolution de la propriété, qui décrit et identifie les causes et les contraintes à l'évolution de la propriété étrangère dans chaque cas.

L'analyse quantitative des données collectées dans chaque État membre a été complétée par une série d'études de cas axées sur l'explication des causes des changements en décrivant un certain nombre d'événements significatifs. Les études de cas décrivent les changements intervenus dans la propriété, ainsi que les principales causes et obstacles à ces changements (stratégies de marché, changements de politiques, etc.).

Résultats

La présente étude démontre bien que la disponibilité et la divulgation des données sur la propriété sont inégales et en grande partie incomplètes dans une grande partie de l'UE. Les données les plus problématiques à obtenir sont celles de l'attribution initiale de quotas nationaux à leurs flottes par les États membres, ou bien des captures réalisées par navire dans le cas des États membres n'attribuant pas de quota par navire individuel (par exemple, la Belgique et l'Irlande). En revanche, la propriété des entreprises et la nationalité des actionnaires étaient plus simples à trouver, mais leur accessibilité était souvent limitée en raison d'une demande de paiement d'accès à l'information. La France, le Danemark et les Pays Bas représentent les États membres pour lesquelles accéder aux informations était le plus compliqué. Compte tenu de la variabilité de la disponibilité des données, il est uniquement possible d'établir des comparaisons entre la nature de la propriété et, par la suite, la concentration pour une sélection d'Etats Membres. Les données les plus facilement accessibles sont celles sur la propriété des navires. C'est donc une source essentielle pour l'analyse comparative à l'échelle de l'UE. Les sections suivantes mettent en évidence les principales conclusions pour chaque État membre analysé :

Belgique

La Belgique possède la plus petite flotte de pêche commerciale des États côtiers de l'UE, en nombre de navires. Il existe un grand nombre de propriétaires étrangers (néerlandais principalement) de quotas de pêche pour le cabillaud (30%) et la sole (31%). Ces chiffres sont similaires à la propriété étrangère des licences de pêche belges par taille (étant donné que la propriété de la capacité est directement liée à la propriété du quota). Les différences de relation entre le quota de pêche et le navire entre la Belgique et les Pays-Bas et les restrictions de capacité ont eu pour conséquence qu'à la fin des années 90, l'achat d'un navire de pêche était plus coûteux aux Pays-Bas qu'en Belgique. Les opérateurs néerlandais souhaitant se développer ou entrer dans le secteur de la pêche ont commencé à acheter des navires belges et, en 1997, lorsque la flotte belge comptait 150 navires, 25 appartenaient à des néerlandais. Cette tendance se poursuit et près d'un tiers de la flotte belge appartient actuellement à des ressortissants néerlandais.

Danemark

Le Danemark possède une industrie de la pêche bien établie qui, en 2017, comptait 2,223 navires, répartis en une grande flotte pélagique, une pêcherie démersale au chalut et une

petite flotte de navires d'une longueur inférieure à 12 mètres. Au Danemark, certains cas de propriété étrangère de navires ont été recensés ; toutefois, il s'agit d'une proportion relativement faible, 99.43% de la flotte appartenant à des sociétés danoises. En termes de quota, la propriété étrangère est supérieure à 30% pour certaines des espèces pélagiques de la mer Baltique, détenues principalement par des sociétés suédoises, comme pour les navires. La plupart des quotas d'espèces démersales ont un faible niveau de propriété étrangère. Dans l'ensemble, une concentration de quotas a été observée au Danemark depuis l'introduction du système de quotas fondé sur les QIT en 2003, mais principalement entre armateurs danois.

France

En 2017, la flotte française comprenait 6,514 navires, qui peuvent être divisés en une flotte hauturière ciblant le thon dans l'Atlantique Sud et l'Océan Indien, une grande flotte industrielle et une petite flotte côtière. Bien qu'aucune donnée quantitative permettant d'analyser la propriété des quotas n'ait été mise à disposition, une analyse qualitative a montré qu'il existe des navires de propriété espagnole battant pavillon français. Il a également été possible de démontrer qu'un certain nombre de navires de la flotte française appartenaient à des sociétés néerlandaises / islandaises, ou uniquement néerlandaises. Par exemple, les deux grandes sociétés françaises, la Société Boulonnaise d'armement Le Garrec et Nord Pêcheries, ont fusionné pour créer Euronor en 2006, qui a ensuite été acquise par UK Fisheries, société basée au Royaume-Uni appartenant à Parlevliet & Van der Plas (P&P Group, Pays-Bas) et Samherji HF (Islande). Deux facteurs principaux permettent d'expliquer l'éventail des transactions intervenues au sein de la flotte de pêche française au cours de la dernière décennie. La concentration horizontale et verticale, ainsi que l'investissement étranger, sont dus à la faiblesse des marges bénéficiaires de l'industrie de la pêche française. En outre, le niveau élevé des investissements étrangers dans la pêche française est associé à un accès accru à des pêcheries spécifiques.

Allemagne

Le secteur de la pêche en Allemagne est relativement limité. En 2017, la flotte comptait 1,387 navires répartis en une flotte lointaine (chalutiers pélagiques et démersaux), une flotte de chalutiers à perche, une flotte de petits chalutiers et une flotte côtière à petite échelle. Pour la grande majorité des navires, les données sur le réseau de propriété sont inaccessibles. Par conséquent, une analyse quantitative de la concentration des quotas ou de la propriété des navires n'a pas pu être réalisée. Il semble toutefois que la propriété ou les investissements étrangers puissent constituer un facteur important dans l'évolution de certaines pêcheries allemandes, notamment par le biais d'acquisitions de sociétés par des groupes néerlandais.

Irlande

En 2017, la flotte irlandaise était composée de 2,062 navires répartis en une flotte de chalutiers pélagiques, une flotte de chalutiers et une flotte polyvalente, représentant la grande majorité de la flotte active. La plupart des navires irlandais appartiennent à des pêcheurs individuels irlandais. En effet, en 2017, seuls 3.5% de la flotte irlandaise appartenaient à un propriétaire ultime étranger ou à une société enregistrée à l'étranger, notamment en Belgique, aux Pays-Bas ou en Espagne. L'élément clé dans la compréhension de la propriété de la flotte de pêche irlandaise est le rôle de la gestion des quotas dans ce système. Les quotas de pêche en Irlande appartiennent à l'État et ne sont pas attribués à titre privé aux licences liées aux navires. Par conséquent, la propriété étrangère des navires est peu encouragée, car cela ne permet pas aux sociétés étrangères de "posséder" davantage de quotas dans les eaux irlandaises.

Pays-Bas

Contrairement à la plupart des pays de l'UE, les Pays-Bas produisent un excédent de de ressources de la pêche. En 2017, la flotte néerlandaise était composée de 849 navires, divisés en une large flotte de chalutiers pélagiques, une flotte appelée « kottervloot » ciblant les espèces démersales et une flotte côtière. Les informations officielles concernant la propriété des navires n'étaient pas disponibles. Pour le secteur pélagique, des données minimales sur la propriété des navires et des sociétés propriétaires ont pu être identifiées ; cependant celles-ci proviennent en grande partie de sources grises. Certaines causes de changements de propriété ont pu être identifiées sur la base de la littérature grise

également. Après la mise en œuvre de la PCP, les entreprises néerlandaises de pêche pélagique ont commencé à investir dans plusieurs pays européens, notamment en Allemagne, en France, au Royaume-Uni, au Danemark, en Lituanie, en Espagne et au Portugal. L'accès au quota et aux droits d'utilisation était un des moteurs de l'intégration horizontale afin de garantir l'approvisionnement et la diversification des produits à leurs clients. Malheureusement, les informations sur la propriété des quotas n'ayant pas été fournies pour les Pays-Bas, une analyse quantitative de la concentration des quotas n'a pas pu être réalisée.

Espagne

L'Espagne est l'un des pays les plus important de l'UE dans le secteur de la pêche. Sa flotte représente la plus grande part du tonnage brut total de l'UE. En 2017, la flotte espagnole était composée de 9,239 navires répartis en une flotte hauturière opérant dans le monde entier, y compris dans les régions ultrapériphériques de l'UE, une flotte à grande échelle opérant dans les régions de pêche de l'UE et une flotte côtière. Les données sur le deuxième niveau de propriété ont été recueillies pour les 40 entreprises les plus importantes en termes de quotas nationaux. La participation étrangère à ce niveau représente moins de 3%. Les données indiquent que la majorité des quotas individuels (56%) appartiennent à des formes d'entreprenariat connues sous le nom de « Sociedad de Responsabilidad Limitada ». À leur tour, les entités qui suivent une structure plus corporative, telles que les « Sociedades Anónimas », détiennent 27% des quotas individuels. Enfin, il a été signalé que certaines sociétés de pêche espagnoles sont achetées par des sociétés de capital-investissement ou par d'autres sociétés non-liées au secteur de la pêche (par exemple dans le secteur de la pêche thonière), pour les revendre ensuite à des sociétés internationales souhaitant établir leur présence dans l'UE ou gagner ou augmenter l'accès à certains lieux de pêche.

Suède

En 2017, la flotte suédoise comptait 1,266 navires. Bien qu'il soit possible de lier des navires et des licences à des propriétaires, il existe des cas où il n'a pas été possible de lier un quota à une licence de navire ou à un propriétaire en raison de la complexité du système de quotas. Certains cas de propriété étrangère ont été notés, cependant, il s'agit d'une proportion relativement faible. D'autre part, il semble qu'il y a eu de la consolidation dans le secteur suédois de la pêche ; les trois plus grandes sociétés de pêche suédoises se développant en acquérant des quotas dans d'autres pays.

Royaume Uni

Le Royaume-Uni possède la deuxième plus importante flotte de pêche de l'UE en termes de jauge brute totale. En 2017, elle était composée de 6 198 navires répartis en une flotte de grande taille (> 10 m) et une flotte côtière (<10 m), représentant 78% de la flotte. Grâce au registre britannique « FQA », des données sont disponibles sur les quotas alloués aux navires de pêche britanniques. En outre, le nom des titulaires de licences (personnes physiques ou entreprises) est fourni. Quelques cas de propriété étrangère de navires sont notés, cependant, il s'agit d'une proportion relativement faible. Depuis 1999, le Royaume-Uni distribue des quotas aux pêcheurs en utilisant un système de « FQA ». Il semblerait que la vente d'unités FQA par les pêcheurs britanniques ai conduit à une concentration des quotas dans l'industrie de la pêche, avec 13 sociétés détenant 60% des FQA britanniques. Les navires non britanniques représentent près de 10% du total des unités FQA détenus, principalement par des propriétaires néerlandais (mer du Nord et Manche) et espagnols (sud-ouest).

Etudes de cas

L'étude présente également neuf études de cas de fusions et d'acquisitions fournissant une description plus qualitative de la dynamique illustrant certains des processus et des changements survenus décris dans les sections précédentes. Ces études de cas comprennent des cas d'intégration horizontale dans les flottes espagnoles de l'Atlantique Nord, d'intégration verticale via l'acquisition de sociétés de pêche par des investisseurs internationaux extérieurs au secteur de la pêche (Iberconsa et Portobello, Garavilla et Bolton) et de l'analyse des opérations de grands groupes du secteur de la pêche au sein de l'UE et au-delà tels que Cornelis Vrolijk, Parlevliet & Van der Plas, Kutterfisch-Zentrale GmbH, Clearwater Seafoods et Samherji Group. En outre, l'une des études de cas examine

les liens entre les intérêts néerlandais dans les pêcheries britanniques et les organisations de producteurs britanniques.

Conclusion

La question de la propriété dans le secteur de la pêche est complexe, car elle dépend des réglementations internes des États membres (par exemple, les méthodes d'allocation de quotas) et de plusieurs facteurs externes (par exemple, les avantages économiques des entreprises privées) qui déterminent la structure du secteur de la pêche. La vue d'ensemble de la propriété des navires de pêche de l'UE, des licences et des quotas - trois dotations clés - qui a été produite représente une étape importante pour comprendre qui bénéficie de l'accès aux pêcheries de l'UE.

Malgré les difficultés d'accès et de traitement des données, il a été possible de fournir des estimations quantitatives de l'étendue de la propriété étrangère pour cinq des neuf États membres cibles. La part étrangère la plus élevée des trois dotations clés était apparente en Belgique, avec plus de 30% des dotations clés détenues par des entités étrangères. Lors de l'examen de la propriété étrangère du quota en termes de tonnage, les proportions les plus importantes ont été observées dans les quotas danois (21.3%) et suédois, avec plus de 16% détenus par des entités étrangères. Lors de l'examen de la part des détenteurs étrangers de licences, un peu plus de 2% des licences suédoises sont détenues par des entités étrangères, tandis que moins de 1% sont détenues par des entités étrangères au Danemark et au Royaume-Uni. Enfin, en examinant la propriété des navires, 6.5% des navires au Royaume-Uni appartiennent à des entités étrangères, contre un peu plus de 1.5% en Suède et moins de 1% en Irlande et au Danemark. Cet écart dans la proportion de la propriété étrangère entre les types de dotation au sein des États membres montre qu'il n'est pas toujours nécessaire de posséder la propriété des trois pour pouvoir bénéficier de la pêche dans un autre pays.

L'étude a montré qu'il existait des preuves suggérant que la propriété étrangère de navires et (dans certains cas) le quota associé à ces navires pouvait être associée (1) au ciblage de pêcheries particulières, (2) à la garantie d'un approvisionnement continu de produits pour d'autres parties d'une entité (intégration verticale), et/ou (3) à une stratégie de pérennisation de l'offre.

En termes de recommandations, nous suggérons une plus grande transparence concernant les bénéficiaires des allocations initiales de quotas, en plus d'une meilleure compréhension des processus de réallocation des quotas au sein des États membres et entre eux; qui en profite; et comment.

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1. INTRODUCTION

While information regarding fishing vessels flying the flag of each MS is publicly available through the Community Fishing Fleet Register (CFR)[1], information about the ownership of these vessels and the quota that they are allocated is not always available. Despite a lack of systematic data on the beneficiaries of fishing opportunities, there is increasing evidence that the common perception of fishing vessels being locally owned and operated is a simplification of a more complex network characterised in some cases by firms owning multiple vessels across several MS. This increased complexity is evident across landings[2], crew recruitment[3] and company investments[4].

Changes in ownership have a fairly long history with examples of transfer of the nationality of Spanish vessels to that of nearby countries following exclusion from the fishing grounds in which they operated in the 1970s and later the terms of the Act of Accession when Spain joined the EC in 1986[5]. The key benefit from this transfer was access to the resources under control of the new nation. In response to concerns, it was established that member states could require that owners demonstrate 'a real economic link' to the MS economy.

Concerns regarding issues of ownership and access, and the potential concentration thereof, have led some to call for greater transparency in the allocation and reallocation of fishing opportunities and about the beneficial ownership in fisheries[6,7,8]. Whilst these calls have been met with some changes, including the release by the Danish and UK governments of public databases of quota allocations[9], this disclosure has been uneven and largely incomplete with information in Germany and the Netherlands in particular difficult to secure. While providing an overview of the structure of vessel ownership and allocation and ownership of fishing opportunities across the EU is not straightforward, it is an important step towards understanding who benefits from access to EU fisheries.

1.1. Study scope

The present study was commissioned against this background in order to provide an overview of the current ownership structure of fishing vessels' and the means of production - that is, the licences and opportunities to access fish stocks in the catching sector - focusing on nine key MS: Belgium, Denmark, France, Germany, Ireland, Netherlands, Spain, Sweden, and the United Kingdom.

The study set out to document the ownership structure of all registered fishing vessels flagged under the nine MS - incorporating almost 30,000 registered vessels (Table 1). It should be noted that within various analyses of European fisheries for a given year, a number of different values can be given for each statistic depending on the time of the year sampled and a number of different criteria. To clarify the data used for this study for vessels are derived from the Fishing Vessel Record, and have been determined for each MS where the latest (i.e. current record on the 01/01/2016) were not "EXP – Exported", "DES – Destroyed" or "RET – Retired". This may result in slightly different numbers from other estimates of vessel numbers for the MS, for example instance the AER (Active) number of vessels but is consistent throughout the study. Another example of that can give rise to differences in estimates is where vessels are replaced on national lists through the year and quota is transferred. By fixing the vessel list on a single date, we only consider vessels with quota on this date, if vessels are replaced during the year this could lead to

[1] http://ec.europa.eu/fisheries/fleet/index.cfm
[2] https://data.oecd.org/fish/fish-landings.htm
[3] MRAG, Coffey and AND International (2016) Study on the employment of non-local labour in the fisheries sector. Ref No. MARE/2011/01
[4] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven, L & Davies, R (2018), Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion
[5] e.g. Robinson, C., Pascoe, S. and Hatcher, A. (1998) Why are the Spanish fishing our waters? An economic perspective. CEMARE Research Paper 138. University of Portsmouth
[6] European Court of Auditors (2017) EU fisheries controls: more effort needed. Special Report No. 8
[7] Hoefnagel, E., de Vos, B. and Buisman, E. (2015) Quota swapping, relative stability, and transparency. Marine Policy 57: 111-119
[8] OECD (2013) Evading the net: tax crime in the fisheries sector. Report by the Organisation for Economic Cooperation and Development
[9] https://www.gov.uk/government/publications/fisheries-quota-allocation-2016

double counting of quota and an increase in the apparent fleet numbers and not reflect the true situation.

Table 1: Fleet data of the nine focus Member States (2016).

Member State	Number of registered vessels	Number for which ownership characterised	Percentage complete (number)	Percentage complete (tonnage)
Belgium (BE)	70	68	97.14	96.26
Denmark (DK)	2,585	2,432	94.09	81.89
France (FR)	6,514	6,243	95.84	96.38
Germany (DE)	1,387	12		
Ireland (IE)	2,183	2,175	99.62	98.73
Netherlands (NL)	849	0		
Spain (ES)	9,188	8,934	97.24	95.60
Sweden (SE)	1,266	1,254	99.86	98.23
United Kingdom (UK)	6,208	6,105	93.11	84.37
Total	**29,808**	**27,223**		

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

1.2. Objectives

The specific objectives of the study were to:

- document the ultimate ownership of fishing vessels and access to quota and define their nationality;
- measure the concentration of ownership of vessels, licences and quota allocations at MS level; and
- describe the evolution and drivers of ownership structures and assess its impact on the economic performance of fleet segments and potential future prospects.

These objectives were achieved through the completion of three main tasks:

1. Define nationality of vessel owners, quota access and quota holding firms per MS;
2. Describe the concentration of vessels, licenses and quota allocations at MS level;
3. Describe the recent evolution of this structure.

1.3. Approach

The study approach was built around the concept of an ownership network, which maps relationships between discrete entities or 'nodes'. Linkages between these nodes represent a transfer of ownership of the endowments necessary to benefit from fishing activities. These exchanges progress through various levels of the network, from licence holder through quota holding entities and parent companies, to the ultimate shareholder(s) (Figure 1). The network allows for measurements of the relative importance of nodes, i.e. identifying where quota concentrates. Furthermore, it can highlight recurring relationships and associations between nodes that are similar (or different). Finally, it can describe the complexity of particular networks.

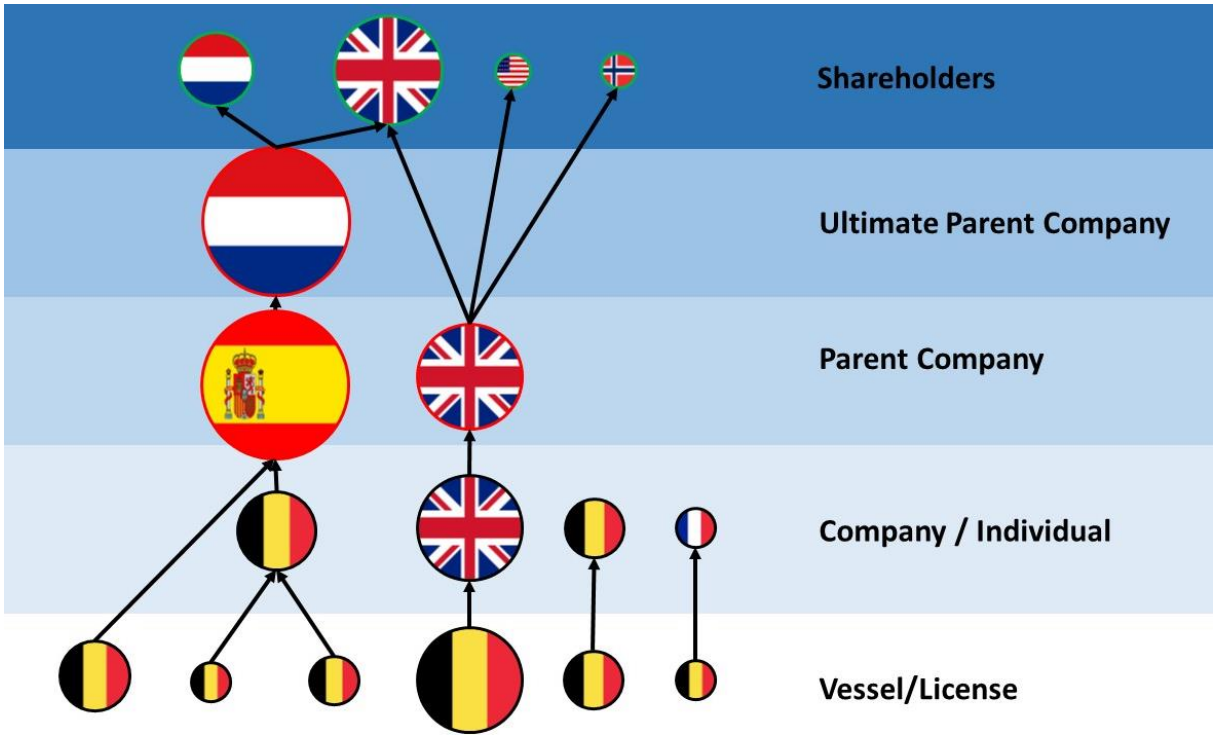

Figure 1: Simplified model of an ownership network.

Due to the significant differences in fishing practices and economics across the EU fishing fleet, it is expected that different fleet segments will have significantly different ownership structures. For example, small-scale vessels will likely have relatively simple ownership structures - typically owner-operated, whereas some large-scale fleet segments are known to be part of large, vertically integrated operations with a complex network of shareholders. These differences could be explained by relative (or perceived) risks to investment. For example, the large-scale pelagic fleet segments in the EU are commonly consolidated in structure, require large initial investments entry, and have relatively reliable income – i.e. single-species shoal fish with known migrations and distributions – so the process, including marketing, can be industrialised. Small-scale fleet segments are often characterised by aging, weather-dependent vessels with less reliable income – e.g. from mixed-species fisheries with less predictable distributions.

Describing the drivers, or barriers, behind the relationships that the network reveals relies on qualitative information to supplement the quantitative measurements of ownership. A mixed-methods approach has therefore been used, consisting of two complementary data collection frameworks - a structured quantitative data collection framework and a qualitative case study framework. This ensured the presentation of a quantitative snap-shot of the situation across each MS (what is owned where and by who) together with more qualitative descriptions of examples of the kinds of dynamic processes that have led to this scenario (how and why). In addition to seeking key sources of data, the team contacted a number of key stakeholders and representatives.

1.3.1. Task 1: Ownership of vessels, licences and quotas

The first task focused on mapping the nationality of the ultimate beneficiaries of the fishing rights and means of production, and the distribution across the nine focus MS.

Fishing opportunities are provided for the commercial harvest of fish and shellfish. Opportunities may be provided in the form of licences, quotas, effort controls (e.g. days at sea), spatial access (e.g. areas of allowable fishing) and temporal access (e.g. fishing seasons). However, this task focused on quotas as these opportunities – together with vessel licences – are the predominant form of management in the focus MS. In addition, the properties of fishing quotas as a form of fishing opportunity make them more likely to change ownership and potentially concentrate. Other forms can be directly linked to the ownership of a vessel and ownership can therefore be inferred.

To analyse the ownership of fishing quotas and licences it is important to understand the process of allocation from MS to holders. The most common approach in the EU is for total allowable catches at the national level, in the form of national quotas, to be allocated as quota shares based on a historical record of catches - the distribution of catch shares amongst eligible fishery participants[10]. However, fishing quotas are not always held individually, in some cases there are pooled systems of quota holding that provide equal access to the total quota available in the pool. This method of ownership may not be included in MS registers but is an important component of some allocation systems. Other systems may not use fixed shares from year to year, again impacting how ownership would be determined from allocation.

In addition to initial allocations, a number of MS allow quotas to be swapped or leased within the year. This transferability means that the ultimate beneficiaries of endowments may not be the same as those receiving them from the initial allocation. While this is an important issue and crucial in understanding the full range of beneficiaries and the ways in which they benefit from endowments, this study is focused on describing ownership in relation to the initial allocations.

1.3.2. Ownership and patterns of ownership

Ownership is frequently described using the metaphor of 'a bundle of rights'. This description begins to draw attention to the complexity of ownership in practice as being comprised of a number of elements (including the fishing opportunities described above) necessary to realise benefits from a fishery, and that these individual components may be separated and assembled. From a rights perspective, elements within the bundle can vary in their strength under different regulatory arrangements and rights are often conflated with property (see Box 1).

However, opportunities to fish in the form of quotas are not 'owned' by fishers but are allocated – they do not therefore have 'owners' but 'beneficiaries'. Rather than considering ownership in terms of rights and property rights, it may therefore be more relevant to consider these elements as endowments and entitlements. From an entitlements perspective, licences and quotas can be considered as endowments that are regulated by rules and norms establishing what is allowed and who can gain access. The nature of the benefit that can be derived from an endowment, for example fishing quota, will depend on the other endowments that an actor has and the extent that some or all of these are necessary in order to derive benefits depends on how they are related, e.g. quota allocations may be linked to vessel and/ or licence. This is a subtle yet important point. For example, an actor with a licence and quota allocation may still be able to derive a benefit despite not having access to, or possession of, a fishing vessel (an endowment that may be necessary to catch fish against the quota) as, depending on the regulatory framework, they may still have the ability to lease their quota to another eligible actor.

[10] European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19.

Box 1: The question of private property and ultimate ownership

There is ongoing debate in fisheries over the legal status of fishing opportunities as private property - courts in different jurisdictions have ruled in various ways.

The most prominent example of a court ruling in the EU was the 2012 'UKAFPO vs. Defra' decision. After a 2012 decision by the UK Government to reallocate consistently unused quota from fishing producer organisation to the under 10 metre pool, the United Kingdom Association of Fish Producers Organisation (UKAFPO) challenged the legality of this decision on the basis of a deprivation of possessions under the European Convention on Human Rights. The court ruled (paragraphs 109-113) that fishing quota represent possessions because of the financial trade in quota that had emerged ('albeit built very much of sand'), although the ruling also concluded that the removal of consistently unused FQAs did not represent a deprivation, and thus the government's reallocation was legal (paragraphs 114-116). The legal status of quota that is used, thus remains unclear. The UK Government's 2012 Concordat reflects this understanding by referencing fishing quota as "*a general expectation of receiving a share of UK annual quotas*" but that they "*do not provide any right*". [13]

This grey area is not distinct to the UK or even the EU, but extends from the very nature of fishing opportunities as having characteristics of property while remaining – at least in the eyes of most governments – a public resource. In their guidance document 'Legislating for property rights in fisheries', the FAO writes that:

> "*There is general agreement that property can be created which is in some measure less than fully owned i.e. that the 'bundle of rights' which makes up ownership of property is capable of apportionment between private persons and the state*".

This apportionment is specific to each political jurisdiction and to a particular point in time. [14] Indeed, the nine focus MS have been situated at different points along a spectrum of privatisation. Therefore, as the FAO guidance document concludes:

> "*The question is not yet settled. It never may be, because neither legislatures, courts nor fishers are concerned with general argument as to the nature of a right. Rather, they are all stakeholders in various ways in an ongoing process of adjustment of rights*." [15]

The question of whether fishing opportunities are fully formed private property rights has limited bearing on this task. Fishing licences and quota may represent an endowment, if not a title, and this study aims to document and analyse the transference of these endowments – ultimately in order to elucidate the beneficiaries – rather than to debate the legal entitlement and nature of rights.

A number of different ownership arrangements were expected to be encountered in the study, combining both ownership structure and nationality (Table 2). Reversing the direction of analysis, ownership can also be described by whether the relationship is of multiple subsidiaries rather than joint ownership, which refers to multiple parents.

Table 2: Typology of ownership and beneficiaries from a lower to higher level.

	Domestic (D)	Foreign (F)	Combined domestic and foreign
Single (S)	S-D: One domestic entity	S-F: One entity owned by an entity of foreign nationality	S-D/F: One entity owned by national subsidiary controlled by foreign firm
Joint (J)	J-D: One entity owned by multiple domestic entities	J-F: One entity owned by multiple foreign entities	J-D/F: One entity owned by multiple entities, both domestic and foreign

Identification of the changes in ownership is not a straight forward process as there is considered "*a lack of transparency of the identity of the beneficial ownership of fishing vessels and a lack of international records of fishing vessels' identity and history*"[11].

The section above draws attention to the notion of control over endowments. In the EU's definition of small and medium enterprises (SME), the issue of control - both legal and *de facto* - is also highlighted as an important notion.[12] This involves an assessment not only of capital and/ or shareholdings, but also the control that one enterprise has over another. The SME guidelines also provide classifications of enterprise ownership as autonomous, partner, or linked (Article 3.1-3.3). These thresholds may be applied to fisheries ownership to determine where there is a relevant relationship to document during the data collection phase. Other regulations, such as those on *de minimis* aid to the fishery sector, affirm the "*well-established criteria for defining 'linked enterprises' in the definition of small or medium-sized enterprises.*"[13].

Not only is the issue of 'ownership' of fishing opportunities complicated by the different endowments and the multiplicity of regulatory arrangements, there is also complexity at the 'other end' (Figure 1) - whereby ownership can take several different forms (e.g. sole proprietorship, partnership, limited partnership, limited liability company, corporation, non-profit corporation, cooperative). This complexity of ownership structure is a key focus as this study – it is not necessarily about the kind of endowments that exist in the EU, but rather who has control of them, and ultimately, who has the ability to benefit from them and how does that ability manifest e.g. through the various arrangements. For this study therefore, individuals are assumed to exercise ownership control with independent agency. This may not necessarily be the case, and there are two prominent features in European fisheries that challenge this assumption.

First, many families have a long history in EU fisheries that continues to today. In these families it is often the case that the fishing licence and quota is owned by a family company with multiple family members as shareholders. The result is that while ownership share is legally split between individuals (and measured as such for the purposes of this study), control of quota may be exercised jointly. A 2018 Greenpeace study on quota ownership in the UK calculated quota concentration at the level of fishing family (five families holding 29% of UK quota).

Second, in many EU MS, fishing quota is administered through or by fish producer organisations (POs). These producer organisations, more than 200 in total, are recognised bodies set up by fish producers to manage fish marketing, add value to products, balance supply and demand, and, now the primary function for many POs, to manage quota on behalf of their members. Each PO will have its own rules for how quota is managed internally.

The first step of Task 1 was to develop the quantitative data collection framework. Initially via a desk-based review of relevant reports concerning the nature of ownership of licences and quota access, and availability of existing information concerning ownership of companies, across all nine MS. Data sources included recent studies, grey literature and online articles – including reports and studies commissioned by stakeholders (e.g. universities, research institutions, management bodies, POs, associations of fishers and vessel-owners, NGOs) – corporate information provided by companies and in regulatory and legal filings, financial terminals, local trade and financial registries (e.g. Chambers of Commerce), and international, national and regional statistics. These sources were supplemented with formal requests for data in each of the focal MS for publicly available information. This provided an overview of data availability associated with key aspects of ownership and, where data was available, a description of the current situation concerning the ownership structure of EU fishing vessels, licences and quota across the nine focal MS– in the form of an ownership database. Data from Task 1 informed subsequent analyses.

[11] OECD (2013) Evading the net: tax crime in the fisheries sector. Report by the Organisation for Economic Cooperation and Development

[12] European Commission. Guidance on defining small and medium enterprises.

[13] Commission Regulation (EU) No 717/2014: http://eur-lex.europa.eu/eli/reg/2014/717/oj

1.3.2.1. Database development

A series of identical databases were created to facilitate the organisation of data collection within each of the partner organisations, which when complete were merged into a single master version. The database management system chosen for this implementation was Microsoft Access, due to the size and complexity of the database and utility of the platform.

The database has a relatively simple structure, with a single vessels table based on a snapshot of the EU Community Fishing Fleet Register (CFR) on the 01/01/2016, a reference table of owners that was added to as new owners were identified and a series of tables for each potential level of ownership recorded in the database that link vessels to owners. The database also has a table of quota allocations made to individual vessels where available. A number of simple reference tables (for nationality, quota types etc.) were also added to the database. Finally, queries and functions were added where required to provide additional functionality, such as quota calculation functions for the Belgian fleet based on the formulae used to generate quota and a function that parses the ownership data for a vessel and provides an output table that defines for each vessel the final owners, the percentage of each vessel that they own and their nationality. These base tables were then combined to provide a number of analysis queries and a single output combining the vessels, their ownership and the quotas assigned to each vessel. This allows analyses to be performed linking the quota of an EU MS with the final ownership of that quota.

The database cannot extrapolate where data do not exist. As such, a number of assumptions, detailed in Section 2.1, highlight a number of these areas. These include where vessels do not exist in the CFR or national records, where quotas are allocated to pools of vessels but no particular allocation mechanism is shown, or other such issues. Furthermore, there are broader issues and complexities surrounding what is meant by 'ownership' in the context of capture fisheries in the EU (see Section 1.3.1).

1.3.3. Task 2: Concentration of ownership

The second task was to describe the concentration of vessel and quota ownership, per economic operator, at MS-level. This builds on Task 1 in order to provide digestible, headline figures in the form of statistics on the distribution of ownership and the level of control that each group holds. The formation of the ownership database (see Section 1.3.2.1) made it possible to calculate the concentration of vessel ownership and quota across fishing fleets (where data was available). Fundamentally this was enabled through the use of the CFR number – a unique identifier for each vessel in the EU. The changes of ownership that are of prime interest are those that increase the concentration of power, in terms of share of the market. These concentrations can occur either through horizontal, vertical, or conglomerate integration (Box 2).

Box 2: Types of concentration

Horizontal integration – a firm increasing its production at the same level of the supply chain. This is relatively common in EU fisheries. Some attention has been paid to horizontal integration at the first level of the supply chain (i.e. licence holder buying out other fishing licence holders), but much less at subsequent tiers of the supply chain. A firm might horizontally integrate to achieve economies of scale, economies of scope, increase market power or market share, reduce production costs, reduce competition, and increase synergies in production.

Vertical integration – a firm increasing its production across multiple stages of production normally operated by separate firms – is also a strategy used in EU fisheries, although less common than horizontal integration and less common than in fishing industries in other countries, or the global tuna fishery. A firm might vertically integrate to increase the reliability of its market, to lower transaction costs, to protect against market power or to use it to raise barriers to entry for others, to diversify, or if the market is young and must be developed. In fisheries, 'backward' vertical integration, where a firm purchases an entity operating earlier in the supply chain (e.g. a fish processor acquiring access to fishing quotas), is much more common than 'forward' vertical integration (e.g. a boat builder acquiring access to fishing quotas).

Conglomerate integration – a firm combining with another firm that has unrelated business activities. This might be to develop or profit from economies of scale or scope, to pursue cross selling, or do diversify business activity as a strategy to reduce risk. Changes to the management of endowments has seen some examples of conglomerate integration in the fisheries sector, especially at the level of ultimate owner and shareholder. Like horizontal and vertical integration, conglomerate integration typically occurs through mergers or acquisitions.

In terms of analysing concentration, a single measure of concentration for the entire national fleet is only partially illuminating. A complete understanding of ownership concentration is elaborated by analysing concentration across multiple measurements and dimensions, including at the TAC, species and MS-level. Two concentration ratios were therefore used to measure the share of each quota held by for the top four (CR4) and the top eight (CR8) quota holders. These concentration ratios are the most common in use for measuring the market share of firms, but in principle any number can be used.

$$CR4 = \sum_{i=1}^{4} s_i \qquad CR8 = \sum_{i=1}^{8} s_i$$

Where, s_i is the share of entity *i.*

The Herfindahl-Hirschman index (HHI) can also be used to measure concentration. Unlike concentration ratios which only assess the top end of distribution (here, the largest quota holders), HHI is a concentration measure using information on all entities. HHI is defined as the sum of the squares of the market shares of the firms within an industry. The result is proportional to the average market share, weighted by market share, and typically expressed as an index from 0 to 10,000 points (one firm with total market share is 100^2 = 10,000). An HHI from 0 to 1,500 is typically considered a low level of concentration, an HHI from 1,500 to 2,500 as moderate concentration, and an HHI above 2,500 as highly concentrated[14].

HHI can also be used to measure whether there is a risk to competition from mergers and acquisitions (Table 3). Concentration ratios and HHI are the standard measures used in competition policy to determine if there is 'too much' market power and whether an industry is considered oligopolistic[15]. Research across multiple industries has revealed a

[14] From https://www.justice.gov/atr/herfindahl-hirschman-index
[15] Oligopolistic: "A state of limited competition, in which a market is shared by a small number of producers or sellers".

consistent relationship between concentration ratios and the HHI, meaning one measure can be converted to the other with some confidence if data is lacking (typically from concentration ratio to HHI, as less information is required).

$$HHI = \sum_{i=1}^{N} s_i^2$$

Where, s_i is the share of entity *i* and *N* is the number of entities.

Table 3: Interpretation of HHI concentrations for mergers and acquisitions.

HHI	Delta[16] <100	Delta 100-200	Delta >200
<1,500	Unlikely to harm competition	Unlikely to harm competition	Unlikely to harm competition
1500-2,500	Unlikely to harm competition	Potentially raise significant competitive concerns	Potentially raise significant competitive concerns
>2,500	Unlikely to harm competition	Potentially raise significant competitive concerns	Presumed to be likely to enhance market power

As HHI uses entity shares as their weights, larger entities have a significant influence on outcome. HHI has thus been criticised as failing to accurately convey concentration across all entities, despite incorporating all data[17]. The Gini coefficient gives a greater weight to information across the whole concentration curve. Therefore, in addition to these measures of concentration, a Gini coefficient is also provided.

The Gini coefficient is typically used as a measure of inequality rather than a measure of concentration. In the context of quota analysis, the Gini coefficient describes how 'unequal' the distribution of fishing quota is among all quota holders (and not the population as a whole), by comparing the existing distribution to a perfectly equal distribution.[18] The Gini coefficient takes a value between 0 and 1, where 0 indicates a perfectly equal distribution (i.e. all owners hold equal shares) and a value approaching 1 indicates an almost perfectly unequal distribution (i.e. one owner holds all quota, while all others hold no quota).

The CR and HHI are both heavily weighted toward describing what is happening at one end (the upper end) of the data but the Gini coefficient helps understand the shape of the entire distribution. Together with information on the total number of owners, the Gini coefficient provides an indication of whether any high levels of concentration observed are due to a small number of owners or a skewed distribution of ownership.

Analysing the HHI and Gini coefficient in combination can therefore point to interesting ownership structures, for example a situation where the overall level of concentration (measured by the HHI) is low, but the Gini coefficient is high as quota ownership is dispersed among many small and a few medium-sized players. There is an additional advantage in including the Gini coefficient in that the results of this study can be compared to other studies of quota concentration that tend to use this measure.

This study applies the Angus Deaton formation of the Gini coefficient:[19]:

$$Gini = \frac{N+1}{N-1} - \frac{2}{N(N-1)\mu}\left(\sum_{i=1}^{n} P_i X_i\right)$$

[16] Delta is the change in ownership resulting from a merger or acquisition.
[17] Krivka, A. (2016) On the concept of market concentration, the minimum Herfindahl-Hirschman Index, and its Practical Application. Panoeconomics, Vol. 63(5): 525-400.
[18] The existing distribution measures how much cumulative share of quota is held by a cumulative share of owners, when owners are sorted from lowest to highest quota holding. The perfectly even distribution against assumes the first 5 % of owners hold 5% of the quota, the first 10% hold 10% of the quota and so on.
[19] Deaton, A. (1997). Analysis of Household Surveys. Baltimore MD: Johns Hopkins University Press.

Where, μ is the mean share of all entities, P_i is the rank P of entity i with share X and N is the number of entities.

These measures of concentration have been used across a number of studies to describe changes in the catching sector[20]. In addition to considering the extent of concentration, the percentage of foreign ownership is also measured for this analysis. This is particularly relevant to the ownership of fishing quota as policy mechanisms in the CFP, such as relative stability (allocating annual fishing quota to MS according to fixed key), seek to ensure that fishing quotas remain in the control of the MS allocated (excluding quota swaps).While the same concentration measures are calculated for each MS (where data permits) to allow for comparability, the scope of the calculation differs between MS due to how the fleet is split for management reasons and how fishing opportunities are allocated (e.g. quota pool, individual quota) as finding concentration at these sub-levels is relevant for decision-making.

1.3.4. Task 3: Evolution of ownership

Task 3 was to provide descriptions of changes in ownership and access that have occurred and, to the extent possible, their drivers. This task supplements the quantitative data collection phase by providing some of the description of why changes are taking place that contextualise the headline figures. Describing a number of significant events in terms of changes to ownership and the main drivers for, and barriers to, change (e.g. licensing arrangements, policy change). Task 3 followed a qualitative analytical framework that focused on changes in ownership of fishing opportunities, particularly motivated by production and cost structure, market power and financial interests.

The entitlements approach shows that it is necessary to consider a range of endowments and draws attention to the fact that actors are able to benefit from a limited set of endowments and that power relationships, rules governing allocation and reallocation all affect the ability to gain endowments and convert them to benefits. This study focuses on three key endowments: licences, quota and vessels and the control over these that actors seek to acquire and the ways in which actors use their financial power to gain control. Changes in these endowments are driven or constrained by a number of factors.

The fisheries sector represents a unique industry with its own drivers and barriers for ownership change (Table 4). Drivers can include variance in profitability among operators, entry-exit limitations, etc. As production is effectively capped in fisheries (for quota species) a concentration of ownership through horizontal integration is the only way for a fishing firm to increase catches (treating the biology of fish stocks as exogenous to business operations). However, the rules on how these quotas are managed once they have been allocated can also have significant consequences. For example, if quotas are transferable, some fishers may, over time, accrue access to more quotas and perhaps significantly alter their distribution. In many countries, quotas cannot be transferred between fisheries. However, quotas are often attached to the individual vessel which can be acquired via M&A. Incentives to engage in M&A activities are therefore created. As quotas represent endowments of a publicly owned natural resource, how they are allocated, redistributed and the ultimate beneficiaries of these endowments should be of particular public concern.

[20] Agnarsson, S., Matthiasson, T. and Giry, F. (2016) Consolidation and distribution of quota holdings in the Icelandic fisheries. Marine Policy 72: 263-270

Table 4: Factors affecting changes in ownership.

Factor	Types of drivers
Regulatory	Rules on allocation, concentration and transferability of quotas/landing obligation/barriers to entry/seasonal and area limitations/recovery plans/co-management
Social	Life mode/ties to the fishing community/fish consumption patterns
Economic	Fish prices/changes in costs/industry structure/ /competition/company structure and market position
Biological	Fish population characteristics/resource abundance/species distribution

The increase in the profitability of certain parts of the EU fishing industry in recent years could lead to interest from outside of the sector. Cost base, structure and efficiency in many industries are strongly justified by the existence of an efficient level of production and the nature of the cost structure. Where economies of scale can be identified, there may be a strong incentive to grow the scale of production through M&A activity to reach the level of production that allows significant cost reductions and efficiency gains. Increasing size may also yield negotiating power, e.g. to extract more profits from wholesalers. Hence, the need for 'bargaining power' might constitute a push towards consolidation in the industry. Mergers and acquisitions also allow firms to quickly and easily acquire market power by, for example, buying a competitor. Hence, market power can drive horizontal mergers but might also drive firms to engage in vertical or conglomerate mergers and acquisitions. Financial structure and incentives can also create drivers for firms to engage in M&A activities to, *inter alia*, increase leverage, to modify their position on the stock market, or to reduce stockholders' risk by acquiring subsidiaries in unrelated markets. M&A activities might also be driven by the firms' determination to enter new markets to achieve product or geographic diversification by merging with another firm or acquiring a business.

Barriers to ownership change in EU fisheries include policy uncertainty, non-economic motivations keeping firms in operation, ties of the fishing industry to the fishing communities, and policy restrictions (an economic link). Furthermore, small-scale vessels are often family run, and the owners and operators identify more as individual fishers, and less as a fishing business. This is often termed the 'life mode' in fisheries, and can act as a social, rather than economic, barrier to ownership change in certain sectors.

It is important to consider the roles of these incentives and drivers in relation to observed changes. Therefore, Task 3 used the factors (Table 4) to provide a short description of the evolution of ownership for each focus MS that describes and identifies drivers or constraints to changes in foreign ownership in each case. Under task 3 ten cases studies were produced that focus on specific examples of changes in ownership from across the nine focal MS provides a more in-depth analyses of the specific drivers or barriers that have produced the changes in ownership in each of these cases. This analysis was based on previous findings, document analysis and interviews with key actors. The cases cover:

1. Changes in ownership within the fishing sector that have produced vertical and horizontal integration, respectively;
2. Intervention of industrial parties from outside the fishing sector (e.g. conglomerates);
3. Changes in ownership outside EU waters e.g. where EU companies having access to fishing opportunities in external waters are acquired by others;
4. Financial parties have acquired companies or take control over companies e.g. private equity; and
5. Fisheries management measures motivating changes in ownership to secure access to quota.

2. FINDINGS

As each MS employs a range of approaches for distributing licences, and allocating and managing fishing quotas for their national fleets, understanding allocation is key to understanding ownership. It is well reported, and further demonstrated by the findings of the present study, that the availability and disclosure of this type of data is uneven and largely incomplete across much of the EU. The following sections therefore summarise the data availability and findings for each of the MS that form the focus of this study.

Table 5 provides an overview of that data collected for each of the nine MS for the key endowments required to benefit from EU quota stocks; quotas, licences and vessels. The most problematic data to source is that of the initial MS allocation of national quotas to their fleets, or indeed the realised catches per vessels in the case of MS that do not allocate quota per individual vessel (e.g. BE and IE). However, in these cases ownership of an authorised vessel represents a key factor in the ability to access quota and benefit from the fisheries. Company ownership and shareholder nationality was often more straightforward to identify; however, accessibility was often limited due to the presence of a 'pay-wall'. FR, DE and NL represent the most difficult MS for which to access information. Given the patchiness of data availability, it is only possible to draw comparisons of the nature of ownership and subsequently concentration for a selection of MS. The most readily available data is that of vessel ownership, and as such, this is a key source for the EU-wide comparative analysis.

A number of key challenges are described in more detail in Section 2.1, particularly focusing on the availability, access and nature of data within each MS. Details of the 'ownership' of endowments for the nine focal MS are provided in Sections 2.2 to 2.10.

Table 5: Summary of data collection across the nine focal Member States.

Member State	Information Type				
	Quotas	Licences	Vessel Ownership	Company Ownership	Shareholder Nationality
BE	✓	✓	✓	✓	✓
DK	✓	✓	✓	✓	×
FR	×	×	✓	✓	✓
DE	×	×	×	✓	✓
IE	✓	✓	✓	✓*	✓*
NL	×	×	×	✓	✓
ES	✓	✓	✓	✓*	✓*
SE	✓	✓	✓	✓*	✓*
UK	✓	✓	✓	✓	✓

Key: ✓ Collected; ✓ Partially collected; × Not collected. *Available, but behind 'pay-wall'.

2.1. Key challenges

A number of broad issues were identified during this study, particularly with regard to data availability and disclosure, as discussed. Furthermore, issues arose when synthesising MS data into a single database. The key overarching challenges are described below, followed by a number of MS specific issues.

Vessel identification – When interpreting national vessel registries, difficulties were encountered in identifying some vessels where key data are missing from the national vessel records. For instance, the UK vessel registry has four vessels named "Tranquillity" but the UK registry does not record the CFR number for the vessels and therefore quota allocated to any vessel named "Tranquillity" cannot be linked without risk of duplication. Where possible, vessels have been linked on CFR, Vessel Name, IRCS and National Identification Numbers, including for some (e.g. UK) the port identifier which forms part of the national ID number.

Quota allocation - Some quota allocations have been made to licences that are not linked to individual existing vessels. These are often non-standard licences and may be pool licences (e.g. issued to a fleet or PO), or held by a licence holder without an existing vessel - that may be transferred to another vessel or pool by the licence holder. In these cases, a decision has been taken to either create a dummy vessel in the database record to process the quota as if held by a vessel or, in the case of shared quotas, a decision on allocation taken (e.g. to distribute uniformly across all vessels within the pool).

Issues of quota allocation are further exacerbated by the fact that some of the MS refer to the same quotas differently, and do not conform to those stated by ICES or FIDES, or in some cases they internally disaggregate them in different areas than at the EU level. This misalignment of EU TACs and national quotas requires substantial subsequent data manipulation.

Owner identification – The identification of owners can also be unclear where data may not be available due to confidentiality reasons or difficulty in obtaining accurate company records of shareholders for the period covered by the study. Not all records in the source data have been checked, and variations on the names may exist (e.g. "My Fishery Limited" and "My Fishery Ltd" would appear to a database to be two separate companies but in reality, is one company expressed in two forms). Where this has occurred, some were trapped and altered at the data entry phase, but for others when the database master was complete a rationalisation exercise was conducted and records merged where appropriate.

2.1.1. MS-specific challenges

Given the heterogeneity of the fishing industries and their governance in each MS, the issues encountered also differed. The following section briefly describes some of the key challenges encountered while sourcing data within each of the focus MS.

2.1.1.1. Belgium

The key challenge in Belgium was in gaining access to information regarding the distribution and access to the national quotas. It is well documented that their form of allocation is weighted by the relative power of the vessel, but the precise allocation key is not divulged. A proposed solution was to allocate the national quotas to each vessel, proportional to the size of their engine (kW). Interviews with a PO representative, stated that this is how quota is often allocated to members – and therefore represents a reasonable approach.

2.1.1.2. Denmark

A recurring issue, but one that is most clearly demonstrated in Denmark, is in identifying 'owners' due to privacy issues. Data on individual and company ownership of registered fishing enterprises is recorded by the Danish Business Authority (DBA). The DBA was unable to directly provide data, but instead provided access to the DBA Application Programming Interface (API) - an online portal enabling the user to download required data. The API enabled access to ownership data for all VAT registered fishing businesses, including, some details of legal and real owners[21], CVR number, name, address and percentage of ownership. However, the DBA API does not disclose owner nationality. In this instance, nationality was inferred using the home or office address provided. Basing nationality on this assumption is likely to have incurred errors as a company address, for example, may be different from the country of incorporation.

The DBA API also disclosed ownership share as a range, rather than an exact percentage. Using the highest value of the ownership range provided often resulted in the ownership shares exceeding 100%. As a result, the lowest value of the ownership range share was used. For certain companies, the use of the lowest value did not sum

[21] Legal owners are persons or companies directly: have at least 5% ownership or voting rights. Real owners are persons who directly or indirectly; have more than 25% ownership or voting rights or; has other crucial controls, e.g. the veto, the right to appoint board members or the like.

to 100% and, therefore, the complete vessel ownership was unknown. Danish businesses are only required to register legal owners with >5% ownership and legal owners with >25% ownership, therefore the smaller proportion of company owners are absent. In addition, the DBA does not record the nationality of registered business owners, therefore it was not possible to obtain this information.

2.1.1.3. France

It was particularly difficult to collate data from France. While most information on vessel ownership was available via the "Annuaire des armateurs à la pêche", published by Le Marin, the administration only provided the name of the "*armateur*", without giving any more details, such as address, other shareholders, that could allow cross-referencing with other databases. The French administration would not provide any form of data concerning quota holdings ("antériorités").

Information on company ownership and shareholder nationality was not consistently available. The Direction des Pêches Maritimes et de l'Aquaculture (DPMA) ultimately refused to provide any form of data on company ownership, although they have to record all information about parent companies in the licensing process. Similarly, they refused to provide data on nationality, although owner nationality is recorded as part of the registration process.

2.1.1.4. Germany

German authorities would not disclose any data on ownership of quotas, vessels or licences for this study, as such, no quantitative analysis of ownership was possible.

2.1.1.5. Ireland

The key challenge in Ireland, as with Belgium, was to fully understand the quota allocation system that is employed. Following this, data accessibility was relatively good, via the easily accessible Irish Sea Fishing Fleet Register. A spreadsheet of vessels and their respective owners is published on the Department of Agriculture, Food and the Marine (DAFM) website 'on a regular basis'[22]. In Ireland, companies' ownership information is recorded by the Companies Registration Office (CRO), through which it is possible to get access to each company's annual return documents, including shareholders' information, on the CRO website. This information is, however, beyond a 'pay-wall' as, for most companies, a fee of EUR 2.50 is charged for each document. Only a few companies were not registered by the CRO, resulting in only minor data gaps. Payment was made to access the data from the Annual Returns.

Regarding quota, for demersal species it is not possible to link each vessel to a specific share because of the public nature of quota allocation in Ireland. Conversely, allocation of pelagic entitlements is dependent on the species and size of vessels. Rules and allocation to specific vessels in 2017 for pelagic species were obtained from an Irish Marine Finance Consultant and the Irish South and West Fish Producers Organisation, and this was used to define quota allocation when entering into the database.

2.1.1.6. Netherlands

No information regarding ownership of quotas or vessels was forthcoming, despite requests being submitted to several POs and to the Dutch authorities. Furthermore, it was explained that quota allocation is generally not divulged in the Netherlands, as this is seen as sensitive information. Apart from the limited information for large pelagic fishing companies from grey-sources, all data are missing. As such, a quantitative analysis is also not possible for the Netherlands, despite Dutch companies being owners in a number of the other MS.

[22] DAFM (2018). Policy/ Quota Management: https://www.agriculture.gov.ie/seafood/seafisheriesadministration/seafisheriesadministration/seafishingfleetregister/. (Accessed 29/03/2018).

2.1.1.7. Spain

Information on first level of ownership of vessels and quotas was compiled for almost the entire Spanish fishing fleet. However, the format of the raw data has been problematic. Information provided by different data sources needed to be employed, mostly data from the Ministry of Agriculture, Fisheries and Marine Environment (MAPAMA)[23] (active vessels and technical characteristics), and Ministry for internal development, public goods and transport, Fomento (data on owners) and BOE (quota allocations to vessels). These sources have different data formats. Notably, Fomento does not use the CFR and this has made the process of creating the owners' database more difficult.

It has been possible to obtain information on ownership beyond the first level of ownership for the largest 40 companies included in the study's database. These companies are allocated 133,334.28 tons of fish. These companies represent 36% of the total quotas allocated to Spain through the EU system of TACs and quotas, and around 55% of the quotas allocated through individual vessel allocations. Companies are predominantly owned by Spanish natural persons or by other Spanish companies. It also appears that most of the companies are family owned. This is consistent with the nature of the Spanish fisheries, where the activity is in many cases family led and attached to the fishing community.

2.1.1.8. Sweden

Data on the large-scale fleet, which represents approximately 50% of the national fishing landings value, was obtained. Part of small-scale fleet remains outstanding due the complexity of the Swedish quota system. Company ownership and stakeholder nationality was difficult to obtain, the former as there was no central register of ownership details and the latter as it was possible to get owners name but not nationality.

2.1.1.9. United Kingdom

In the UK, the shareholder structure of a company can often be determined via Companies House. However, companies are not always listed on Companies House and the shareholder structure is not always disclosed. As a result, the ownership of certain vessels cannot be corroborated.

Quota data not being clearly defined to vessel level has been a key challenge. In the UK, the Fixed Quota Allocation (FQA) Register lists all fishing vessel licences that hold FQA units. For pool licences and quota pools (e.g. through Producer Organisations), a uniform distribution of quota could have been assumed to vessels within a pool but this assumption would have led to an over or under estimation of the quota share. With the UK having fairly high levels of foreign ownership, this would also affect other countries. Instead it was decided to summarise the individual vessel quota allocations and highlight where ultimate owners also had access to quota through membership of a PO.

With key data missing from the UK vessel register, the identification of some vessels was difficult. For example, a number of vessels have the same name but a record of their CFR number is not provided. As consequence, quota could not be allocated to these vessels as the relevant vessel could not be determined. Duplicate vessel names were therefore a challenge as there was no way to differentiate between them with no unique identification number used.

The use of dummy licences, holding licences and entitlements in the UK makes the allocation of quota to individual vessels problematic. The UK vessel register contains owner names in a number of different formats in the same record. These were recorded separately in the database, skewing results of concentration of ownership.

[23] At the time of building the database the ministry in charge of fisheries was named Ministry of Agriculture, Fisheries and Environment (MAPAMA). Currently, the name of the ministry is Ministry of Agriculture, Fisheries and Food (MAPA).

2.2. Belgium

2.2.1. Vessels

Belgium has the smallest commercial fishing fleet of the EU coastal MS, in terms of number of vessels. In 2016, the fleet was composed of 70 vessels (Table 6) and had a gross tonnage (GT) of around 13,300 tonnes and combined engine power of 44 thousand kilowatts (kW). Nationally, the fleet is divided into two segments, under different management systems[24]:

- A large-fleet segment composed of vessels with engine power over 221 kW; and
- A small-fleet segment of vessels with engine power under 221 kW.

Table 6: Overview fleet structure for Belgium, and proportion of vessels characterised.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12m	1	25	221
12-23m	34	2,657	7,399
>23m	35	10,646	36,231
Total	**70**	**13,328**	**43,851**

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

Ownership structure of the vessels, including the ultimate owners, has been completed largely from official sources. Some cases with foreign ownership are based on unofficial sources – from this data, a high proportion of foreign ownership is evident (Table 7).

Table 7: Overview of nationality of vessel ownership for Belgium.

Member State	Share of vessels (%)	Share of vessel tonnage (%)	Share of vessel power (%)
Belgium	67.64	72.26	74.21
Netherlands	27.94	23.75	21.92
United Kingdom	1.47	0.77	0.52
Spain	1.47	3.02	2.82
France	1.47	0.20	0.52
Total	**100**	**100**	**100**

NB: "Vessel equivalents" refers to the fact that a vessel may have split ownership and therefore a country could own 2 vessels with 0.5 vessels to make 1 vessel equivalent, for example.

2.2.2. Licences

Belgium maintains a compulsory system of licensing for commercial fishing, thereby limiting the number of vessels allowed to carry out fishing activities. Information regarding the specifics of vessel licences was not analysed due to the fact that it is tied directly to an authorised vessel.

2.2.3. Quotas

Once fishers have an authorised vessel and commercial fishing licence, they receive access to the national quotas in the form of non-transferable landing quotas for individual vessels. In addition to this, other restrictions such as effort controls in the form of days at sea quotas are also implemented (Table 8).

[24] The 2017 Annual Economic Report on the EU Fishing Fleet (STECF 17-12)

Table 8: Summary of fisheries management and quota allocation in Belgium.

Variable	
Management type*	System of non-transferable licences, and community-based pools (coastal segment) and individual quota. Quotas are apportioned to vessels, not operators, and are not tradable.
Landed weight under quota management**	73%
Allocation process*	Initial allocation is based on engine power. Differentiated as; large-scale (> 210kW), small-scale (<210kW), coastal fleet segments.
Allocation criteria*	Historic catch levels, contribution to the local economy (real economic link - nationals can access fishing quotas).
Indicators*	Official record of catches - *real economic link*: 50% of crew need to be Belgian, landings in Belgium, and gross earnings in Belgian auction.
Holder**	Catch limits are apportioned to vessels, not operators, limits cannot be pooled, with the exception of national quotas for coastal segment.
Security**	Although access for each fisher is ensured, catch limits are not a form of legal possession and as such are subject to change and fishers/ vessels cannot claim long-term share of quota.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

2.2.4. Ownership

Belgium operates restrictions on ownership including restriction to EU nationals and that the principal office is in Belgium. Further restrictions exist in the form of an economic link condition that must be demonstrated by fishing vessels for each calendar year. This provides alternative options for compliance that include over 50% of vessel crew recruited from Belgian coastal areas, more than 50% of annual catch sold in Belgian ports and a substantial part of this sold through Belgian auctions, or a combination of these[25].

For Belgium, the 'collective utilisation system' of quota allocation means that fishing quotas are not held individually but are instead rationed by the government. Vessels of the same fleet receive an equal allocation with some differentiation by categories of engine power. Therefore, a case could be made that there is actually no quota ownership in Belgium, as quota is ultimately owned and distributed by the government. However, in practice the rules of the Belgian quota system are applied consistently across years, so an analysis can be performed on a typical allocation and therefore ownership.

To analyse ownership, a mock quota allocation was performed based on the Belgian quota allocation rules. This serves to 'individualise' quota. As information on Belgian allocation is sparse, this process could only be completed for cod, plaice and sole and other species were allocated uniformly[26].

Table 9 summarises the headline indicators of quota concentration. The concentration ratios for the top 4 and top 8 holders are relatively low. Ownership shares are linear with a 'step function' as all vessels within a certain classification receive the same share. This contrasts significantly with other MS where there is often a significant drop-off in ownership shares beyond the largest few quota holders. Similarly, there is a very low HHI score for cod and sole, indicating low quota concentration. There is a large degree of foreign ownership of fishing quota for cod, plaice and sole (Table 9). These amounts are similar to the foreign ownership of Belgian fishing licences by size (as ownership of capacity directly relates to quota ownership in practice).

[25] OECD (2008) Review of fisheries in OECD countries

[26] Departement Landbouw & Visserij (2016). De Belgische Zeevisserij 2016. Aanvoer en Besomming: Vloot, Quota, Vangsten, Visserijmethodes en activiteit. Vlaamse Overheid. 127 pp.

Table 9: Measures of quota concentration for the Belgian fishing fleet.

Quota	Quota tonnage	Quota value	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Plaice	27,500	44,853,300	87	17.2	28.9	25.2	222	0.49
Sole	863	9,466,659	87	17.0	28.4	25.3	217	0.48
Cod	1,646	4,478,494	87	17.1	28.6	25.2	218	0.48

Source: Authors' calculations.

In terms of the top owners of Belgian quota, based on the CR8, the table below shows the extent of quota for EU quotas documented in the study (Table 10). The maximum individual quota holding amounted to 5.84% of national quotas.

Table 10: Top eight owners of Belgian fishing quota.

Owner name	Quota tonnage	Share of total national quota (%)	Share of total EU quota (%)
Steve Depaepe	1,752	5.84	0.04
Geert Luickx	1,378	4.59	0.03
BVBA Rederij De Viertorre	1,009	3.36	0.02
Fam. Siereveld	1,009	3.36	0.02
BVBA Rederij Stephanie	876	2.92	0.02
Benoit Beernaert	876	2.92	0.02
Geert Degrootte	876	2.92	0.02
Pascal VanBillemont	876	2.92	0.02

Source: Authors' calculations.

Currently, there are only two companies that own three vessels, the Belgian Desmit family group and the company owned by the Dutch fisherman Joos De Ridder. Seven other companies own two vessels, including the Belgian family Depaepe's group[27]. Examining the size composition of the Belgian-owned and foreign-owned components of the fleet it is the larger size vessels that appear to be the focus of foreign ownership (Table 11).

Table 11 Size composition of the domestically- and foreign-owned components of the Belgian fleet

Vessel length class (m)	Ultimate owner nationality	Number of vessels	Vessel tonnage (GT)	Vessel power (HP)
0-12	FR	1	25	221
12-23	BE	19		
12-23	UK	1	99	221
12-23	NL	13	1,313	2,873
>23	BE	27	8,140	27,417
>23	ES	1	387	1,200
>23	NL	6	1,734	6,433

Source: Authors' calculations.

With regard to quota trading, a large share of the Belgian pelagic fish quota is swapped with other countries – particularly the Netherlands and Germany – for demersal fish

[27] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven, L & Davies, R (2018), Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

quota. This is mainly due to the fact that there are no pelagic freezer-trawlers present in the Belgian fishing fleet and that Belgian cutters only catch limited amounts of pelagic fish, mostly as by-catch[28].

2.2.4.1. Evolution of ownership

There have been substantial changes in Belgium's fishing fleet within the last decade. Specific decommissioning programmes of the CFP led to a substantial decline in active vessel numbers[29]. For example, in 1992 there were 205 vessels, while in 2002 there were 130 – a reduction of 37%. This number then stayed relatively stable for some years prior to further decrease during the fuel crisis in 2008, which then was followed by the economic crisis. This led to further reductions in the Belgian fleet capacity and poor economic performances, mostly associated with the fisheries being forced to adjust to rapidly increasing fuel costs (in2008), resulting in a number of vessels changing the type of fishing (moving from traditional beam trawling to alternative methods). However, despite such changes there is no evidence to suggest that this specifically led to substantial changes in ownership of vessels or quotas. What has been observed in Belgium is an increase in ownership of Belgian fishing vessels by Dutch owners. By 1997, when the Belgian fleet consisted of 150 ships, 25 were Dutch owned[30]. This trend continued and, while there is little data publicly available as to when vessels or quota were acquired by international entities, 27.9% of the Belgian fleet is now owned by Dutch nationals[31].

2.2.4.2. Drivers of changes in ownership

A key driver of the increased investment by Dutch interests in the Belgian fleet has been the difference between Dutch and Belgian quota policy. In the Netherlands quotas are linked to the vessel while in Belgium quota remains state-owned and allocated. The difference in the policies has meant that the cost of a vessel in the Netherlands became more expensive than the equivalent in Belgium and, in the context of capacity reduction in the 1990s, opportunities to expand or enter the fishery were more limited in the Netherlands. Given the similarity in fishing operations and target species and lower investment costs, an increasing number of Belgian fishing boats were bought by Dutch fishermen. By the late 1990s, the fleet of 150 ships was about 17% Dutch owned, increasing to 27.9% by 2016. The Dutch owners prefer to land in their home ports, where the price for plaice is generally higher, although they are constrained somewhat by the economic link conditions. Essentially the changes in ownership in Belgium are an example of horizontal integration associated with international investment within the fishery.

[28] Ibid.
[29] Anon (2016) 5.1 Belgium. Short description of the national fleet. STECF
[30] https://www.trouw.nl/home/nederlandse-vissers-wijken-uit-naar-belgische-schepen~a2c4e8e2/
[31] Ibid.

2.3. Denmark

2.3.1. Vessels

Denmark has a well-established fishing industry that in 2017 comprised 2,223 vessels, with a combined size of 68,959 GT and engine power capacity of 210,435 kW (Table 12).[32] The Danish fleet can be divided into three segments[33]:

- A large pelagic fleet targeting sprat, sandeel, blue whiting and herring;
- A demersal trawl fishery, targeting cod, haddock and plaice; and
- A small-scale fleet of vessels <12 metres.

Table 12: Overview fleet structure for Denmark.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12 m	1,855	5,581	62,736
12-23 m	285	14,823	56,885
>23 m	70	49,263	90,851
Total	**2,210**	**69,667**	**210,112**

Source: EC, fishing fleet registry http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu

Details of ownership of all registered vessels in the Danish fleet, including names of individual and company owners, has been provided by the Danish Maritime Authority and through the DBA API. From these data the ownership structure of the vessels including the ultimate owners was completed. Some cases of foreign ownership were identified. However, it is a relatively low proportion (Table 13).

Table 13: Overview of nationality of vessel ownership for Denmark.

Member State	Share of vessels (%)	Share of vessel tonnage (%)	Share of vessel power (%)
Denmark	99.41	85.78	89.96
Sweden	0.40	12.26	8.63
Netherlands	0.09	0.36	0.32
Malta	0.05	0.00	0.00
Iceland	0.04	1.58	1.06
Norway	0.01	0.02	0.03
United Kingdom	0.00	0.01	0.01
Total	**100**	**100**	**100**

NB: "Vessel equivalents" refers to the fact that a vessel may have split ownership and therefore a country could own 2 vessels with 0.5 vessels to make 1 vessel equivalent, for example

2.3.2. Licences

Denmark maintains a compulsory licensing system for both its commercial and recreational fleets. Unlike other MS, fishing licences are always associated with a registered vessel, therefore quota allocated to a licence can be tracked using the specific vessel identifier (i.e. CFR Number, CRS Number, or call sign) (Table 14). In order to be eligible for a commercial fishing licence, fishers need to prove that they are economically dependent on fishing, and long-term Danish residents.

[32] EC fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).
[33] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

Table 14: Summary of fishing opportunities and quota allocation in Denmark.

Variable	
Management type*	Quota management; ITQs for most pelagic, industrial and demersal species. Coastal fishers' scheme.
Landed weight under quota management**	91%
Allocation process*	Quotas are transferred through a non-official legal market, where vessel and quotas are sold together. There are maximum limits on quota concentrations for the same species and ITQs in the 'coastal fishery' are ring-fenced, meaning transfers can only take place within that fishery. Differentiated as; active fishers, less active fishers, and the coastal fleet.
Allocation criteria*	When the ITQ system was developed the basis was historical fishing data. The rationale was to balance capacity and resources, aiming at best economic performance.
Indicators*	Catch data in the immediate 3 years preceding the introduction of ITQs. Basis of extra quota allocation: coastal fishers scheme consists on extra quota allocation to fishing patterns (short trips, low impact gears versus high impact gears as bottom trawling).
Holder**	Active fishers, defined as individuals who receive at least 60% of their income from fishing, amongst other criteria, can hold ITQs. These quotas can be used with any of the vessels the fisher operates. ITQs are leasable and transferable. Full transfers are made with ministry authorisation.
Security**	ITQs are held by active fishers for an indefinite period. However, the ministry has the ability to reallocate ITQs with a required 16 years' minimum notice as of 2017.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

2.3.3. Quotas

The Danish Fisheries Agency manages quota allocations using both an ITQ and pool system for registered licence holders. Within the Danish management strategy, ITQs are split between pelagic and industrial stocks (IOK) and demersal stocks (FKA). ITQs within Denmark are fully leasable and transferable, where vessels and quota are bought and sold together or separately. An FKA quota holder is also eligible to join the coastal fisheries scheme, where they can access additional quota from a pool. Less active fishers (MAF) - small scale fishers defined as those with a yearly gross income below EUR 30,000- are managed using a ration system, with a fixed share of a national quota allocated for that segment. In addition, a proportion of national quota is set aside for a 'Fish Fund' and a 'Loan Fish Fund'. Both funds were established to support the development of the fishery, with the 'Loan Fish Fund' specifically aimed at supporting new entrants into the sector. It is worth noting that fish catching companies cannot own more than 10% of the Danish pelagic quota. In Denmark, only two companies are close to this limit. These are Gitte Henning and Rederiet Ruth, which are both wholly owned by Danish fishermen[34].

The Danish Fisheries Agency provided data on quota allocated and utilised by Danish registered fishing vessels from 2005 to 2017 (2018 is available, but incomplete). Data

[34] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

are presented online, which includes information on quota allocation by vessel, species and stock.

2.3.4. Ownership

While Denmark does allow ownership by non-EU nationals, this is restricted to less than 33%. Conditions on ownership include restriction to registered commercial fishers (mainly Danish nationals) and the requirement to demonstrate a genuine economic link. Analysis was conducted across all Danish fishing quotas of at least ten tonnes and for all measures of concentration (Table 15). For the Danish fishing fleet, the most concentrated quota with at least ten tonnes are herring in the Limfjord (CR4 of 88.9% and a CR8 of 100%) for 7,506 tonnes of quota, northern prawns in the North Sea (CR4 of 86.2% and a CR8 99.9% for 579 tonnes of quota), and blue whiting in the Faroese zone (CR4 of 79.3% and a CR8 of 89% for 1,485 tonnes of quota). This quota is particularly concentrated due to the small number of vessels in these fisheries (as opposed to a large number of vessels but a small number of large quota holders). Moreover, all of these show high levels of quota concentration.

Foreign ownership is above 30% for some of the pelagic species in the Baltic, particularly herring. This ownership is primarily Swedish – as with vessel ownership. For many of the demersal species the HHI indicates that there is little indication of high quota concentration but ownership is heavily skewed with Gini coefficients close to 0.9 for some species (saithe in the North Sea, Skagerrak, Kattegat and the Baltic Sea, cod in the North Sea, haddock in the North Sea, monkfish in the North Sea Norwegian zone, Nephrops in the North Sea, and sole in the North Sea). These demersal species all have low levels of foreign ownership, indicating that the skewed concentration of quota is between Danish owners.

Table 15: Measures of concentration and foreign ownership for the Danish fishing fleet.

Quota	Quota tonnage	Quota value	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Herring in the North Sea	127,971	84,350,214	54	39.5	59.8	30.1	610	0.69
Nephrops in the Skagerrak, Kattegat and the Baltic Sea	7,680	71,450,026	232	15.4	23.3	0.1	144	0.65
Sprat in the North Sea	245,234	65,523,637	115	25.8	38.1	19.0	304	0.68
Sprat in the Baltic Sea	140,122	38,015,114	78	89.9	92.9	48.8	3,637	0.95
Norway pout in the North Sea, Skagerrak, Kattegat and the Baltic Sea	112,895	28,711,894	33	45.7	63.3	27.5	894	0.58
Cod in the North Sea	6,876	21,849,722	285	22.6	40.9	0.5	287	0.84
Dab and flounder in the North Sea	27,922	17,960,130	284	22.1	36.0	1.0	242	0.80
Northern prawns in the Skagerrak and Kattegat	2,920	16,667,297	34	72.4	98.7	24.6	1,578	0.85
Blue whiting in EU and International waters	48,009	15,123,540	39	48.8	70.9	21.7	920	0.70
Mackerel in the North Sea,	11,925	12,981,705	29	43.9	64.6	11.8	818	0.56

Quota	Quota tonnage	Quota value	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Skagerrak, Kattegat and the Baltic Sea								
Plaice in the Skagerrak	7,226	11,569,487	318	21.9	36.1	0.4	254	0.82
Herring in the central Baltic Sea	16,777	10,756,747	5	95.0	N/a	50.0	3,362	0.53
Cod in the Skagerrak	3,084	10,238,083	295	17.7	25.3	0.4	150	0.70
Herring Atlanto-Scandian	11,018	9,026,443	23	45.2	71.2	32.0	813	0.53
Sandeel in the North Sea, Skagerrak and Kattegat	30,630	8,511,624	86	24.4	38.5	22.2	321	0.64
Herring in the Skagerrak and Kattegat	19,654	8,501,522	45	46.0	61.1	36.1	847	0.63
Cod in the western Baltic Sea	5,027	8,233,064	286	17.2	24.1	0.2	154	0.65
Sprat in the Skagerrak and Kattegat	26,570	7,240,014	95	34.5	55.7	8.9	505	0.78
Nephrops in the North Sea (Norwegian)	888	6,794,119	85	33.0	55.4	0.0	529	0.80
Cod in the eastern Baltic Sea	7,442	6,448,741	157	29.5	46.4	0.7	374	0.78
Saithe in the North Sea, Skagerrak, Kattegat and the Baltic Sea	4,198	6,182,955	273	26.6	42.5	0.2	320	0.85
Monkfish in the North Sea (Norwegian)	1,405	5,614,837	146	31.6	53.2	0.2	513	0.86
Nephrops in the North Sea	694	5,311,982	138	36.0	51.1	1.3	499	0.82
Horse Mackerel in the English Channel	5,926	4,907,773	10	77.1	94.9	31.7	2,744	0.58
Sole in the North Sea	437	4,628,984	271	29.5	45.2	1.2	359	0.86
Hake in the North Sea	2,069	4,393,701	262	32.8	46.6	0.9	416	0.84
Haddock in the Skagerrak, Kattegat and the Baltic Sea	2,162	4,116,426	302	23.9	38.6	1.6	255	0.80
Turbot and brill in the North Sea	427	3,938,840	277	20.0	32.0	0.9	220	0.78
Cod in the Baltic Sea	1,763	3,753,115	262	22.1	31.4	0.2	206	0.73
Sole in the Skagerrak,	329	3,601,904	424	8.4	15.1	0.1	81	0.69

Quota	Quota tonnage	Quota value	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Kattegat and the Baltic Sea								
Haddock in the North Sea	2,122	3,375,215	218	36.5	52.7	0.4	484	0.88
Herring in the Limfjord	7,506	3,246,690	6	88.9	N/a	34.8	2,424	0.45
Northern prawns in the North Sea	579	2,976,068	22	86.2	99.9	0.0	2,411	0.86
Herring in the western Baltic Sea	6,144	2,727,801	61	48.1	77.0	39.8	861	0.81
Plaice in the Kattegat	1,653	2,646,239	302	20.1	31.9	0.1	188	0.74
Herring in the eastern Baltic Sea	9,372	2,601,393	54	68.1	82.5	55.2	1,400	0.84
Plaice in the Baltic Sea	1,988	2,347,365	331	12.4	21.9	0.2	129	0.74
Northern prawns in the North Sea (Norwegian)	252	573,220	17	72.9	98.5	6.7	1,605	0.71
Cod in the Kattegat	170	565,777	255	18.8	28.1	0.2	174	0.70
Blue whiting in the Faroese zone	1,485	468,015	18	79.3	89.0	3.8	3,339	0.74

Source: Authors' calculations.

Based on the analysis of quota concentration it was possible to identify the Danish quota holders with the largest holdings (Table 16). Two owners had in excess of 8% of the total Danish quota and all of the top eight owners had more than 3% of quota each.

Table 16: Top eight owners of Danish fishing quota.

Owner name	Quota tonnage	Share of total national quota (%)	Share of total EU quota (%)
HG 62 Beinur P/R	76,977	8.45	1.70
Jimmy Andersson	76,977	8.45	1.70
Henning Kjeldsen	65,958	7.24	1.46
John-Anker Hametner Larsen	43,994	4.83	0.97
Gullak Arngrimsson Madsen	31,317	3.44	0.69
Thomas Johansson	29,845	3.28	0.66
Börje Johansson	29,845	3.28	0.66
Håkan Andersson	28,687	3.15	0.63

Source: Authors' calculations

Size composition of the Danish-owned and foreign-owned components of the Danish fishing fleet (Table 17) indicates that it is the larger size vessels that appear to be the focus of foreign ownership.

Table 17: Size composition of the domestically- and foreign-owned components of the Danish fleet.

Vessel length class (m)	Ultimate owner nationality	Number of vessels	Vessel tonnage (GT)	Vessel power (HP)
0-12	DK	1,600	4,768	54,851
0-12	IS	0.3	0.2	7
0-12	NO	0.1	0.3	4.4
0-12	SE	1.5	6	61
12-23	DK	246	13,157	49,739
12-23	UK	0.1	4	17
12-23	NL	1.4	94	337
12-23	NO	0.2	10	42
>23	DK	53	34,619	63,339
>23	IS	0.5	1,112	1,981
>23	NL	0.6	155	254
>23	SE	8	8,607	16,065

Source: Authors' calculations.

2.3.5. Evolution of ownership

A key event that led to fishing quotas in Denmark becoming more concentrated was the implementation of new quota system through the Fisheries Reform in 2002. In 2003 Denmark introduced ITQs as a means of allocating quota for certain pelagic species. Based on historical track records, fishing quotas were provided as private property to vessel owners who were able to buy or sell quota[35]. With transferability of quotas leading to fleet modernisation and improved economic performance through the reduction of surplus fleet capacity with only about a third of the original number of fishing vessels remaining by 2015. The ITQ system was extended to all pelagic stocks in 2007 and a system of Vessel Transferable Quotas (VTQs) was introduced for demersal fisheries[36,37]. The VTQ system saw national quotas allocated to the fleet and tied to vessels, meaning that quotas and vessels were largely inseparable[38]. The rationale for implementing the VTQ system was to enhance the economic performance of the demersal fishing fleet[39]. Since 2009 the VTQ system has, however, changed to an ITQ system allowing quotas to be traded separately to a vessel[40].

Evidence suggests that horizontal integration is the dominant form of integration in the Danish fisheries sector with quota becoming more concentrated and owned by fewer fishers. By 2017 the 16 largest IOK quota owners owned around 66% of the quota and the 10 largest FKA quota owners about 47% of the individual quota shares[41]. In addition to developments within Denmark, within the pelagic fishing sector there have been several Swedish companies (e.g. Astrid Fiskeri, Rederiet Gifico, Themis Fiskeri A/S) investing in Danish operations. In these cases, international horizontal integration is used to gain access to fishing quotas. For example, the Swedish company Astrid Fiske

[35] Jantzen. K., Döring, R., Goti, L., Fricke, L. (2018) Individual Vessel Quotas in Germany and Denmark: A Fair Distribution Process? In: Winder G. (eds) Fisheries, Quota Management and Quota Transfer. MARE Publication Series, vol 15. Springer, Cham.

[36] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

[37] MRAG (2009) Final Report: Part 1 An analysis of existing Rights-Based Management instruments in Member States and on setting up best practice in the EU. European Commission, FISH/2007/03.

[38] Ibid.

[39] European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19

[40] MRAG (2009) Final Report: Part 1 An analysis of existing Rights-Based Management instruments in Member States and on setting up best practice in the EU. European Commission, FISH/2007/03.

[41] Statsrevisorerne Rigsrevisionen (2017) Rigsrevisionens beretning om kvotekoncentrationen i dansk fiskeri afgivet til Folketinget med Statsrevisorernes bemærkninger.

AB holds 98% of the shares of Astrid Fiskeri A/S (Figure 2), a Danish subsidiary that predominantly targets herring and mackerel[42]. Through majority ownership of this company Astrid Fiske AB is the parent company of the endowments attached to three Danish flagged vessels, and four Swedish-flagged vessels (Table 18), in addition to their interests in Sweden. According to Danish law, only Danish companies or Danish citizens may buy Danish fish quotas. Hence, Swedish individuals living in Sweden and wanting to access Danish fish quotas have established Danish companies with Danish addresses, which is sufficient to meet the Danish legal requirements. In contrast to the pelagic segment, there is very little foreign investment in the Danish demersal segment. This can partly be attributed to the fact that the companies active in the demersal segment are financially strong, and thus less likely to face buyouts[43].

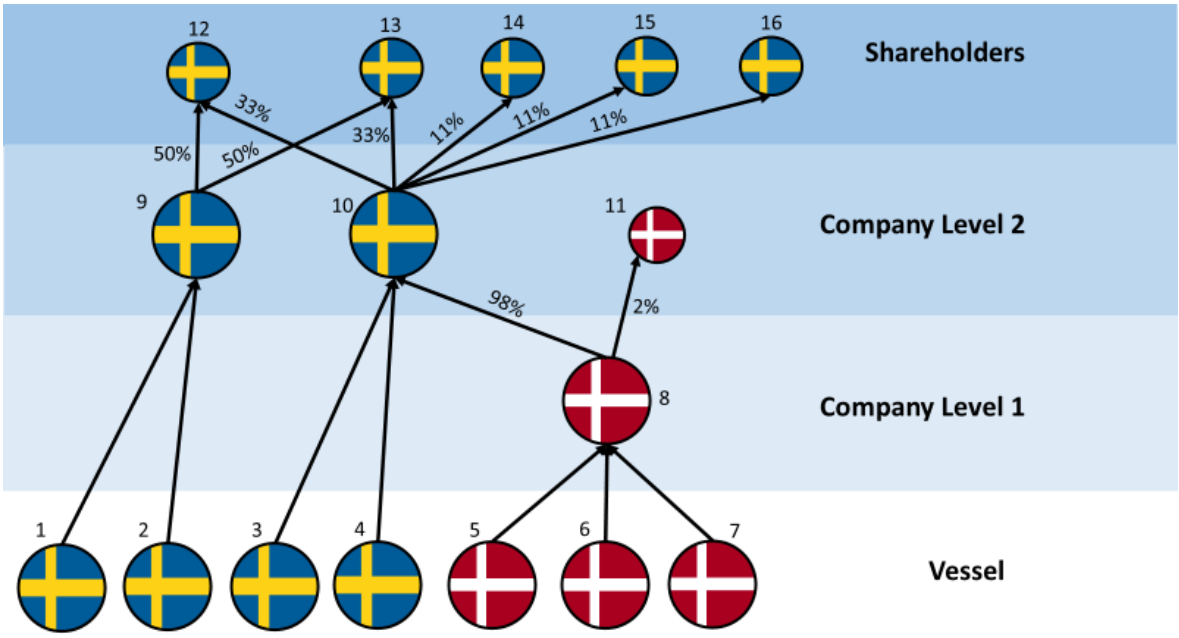

Figure 2: Structure of ownership of Astrid Fiskeri A/S.

Note: The above node diagram includes information from grey literature sources that the ownership patterns at the time in which the study was focused.

Table 18: Description of nodes in Astrid Fiskeri A/S

Number	Title	Type	Nationality
1	GG77 Falken AV Fiskebäck	Vessel	SE
2	GG 764 Astrid	Vessel	SE
3	Martina	Vessel	SE
4	Marie	Vessel	SE
5	S364 Rockall	Vessel	DK
6	S264 Astrid	Vessel	DK
7	Rockall II	Vessel	DK
8	Astrid Fiskeri A/S	Company	DK
9	Astrid Pelagic AB	Company	SE
10	Astrid Fiske AB	Company	SE

[42] http://www.astridfiskeri.dk/en/company/astrid-fiskeri-as/

[43] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

Number	Title	Type	Nationality
11	Mogens Oerts Jensen	Individual	DK
12	Leif Börje Johansson	Individual	SE
13	Bo Thomas Johansson	Individual	SE
14	Börje Daniel Johansson	Individual	SE
15	Emil Johannes Johansson	Individual	SE
16	Kristian Johansson	Individual	SE

Sources: [44, 45]

Another example is that of Stella Nova where there is shared ownership of both Danish and Swedish fishing vessels (Figure 3).

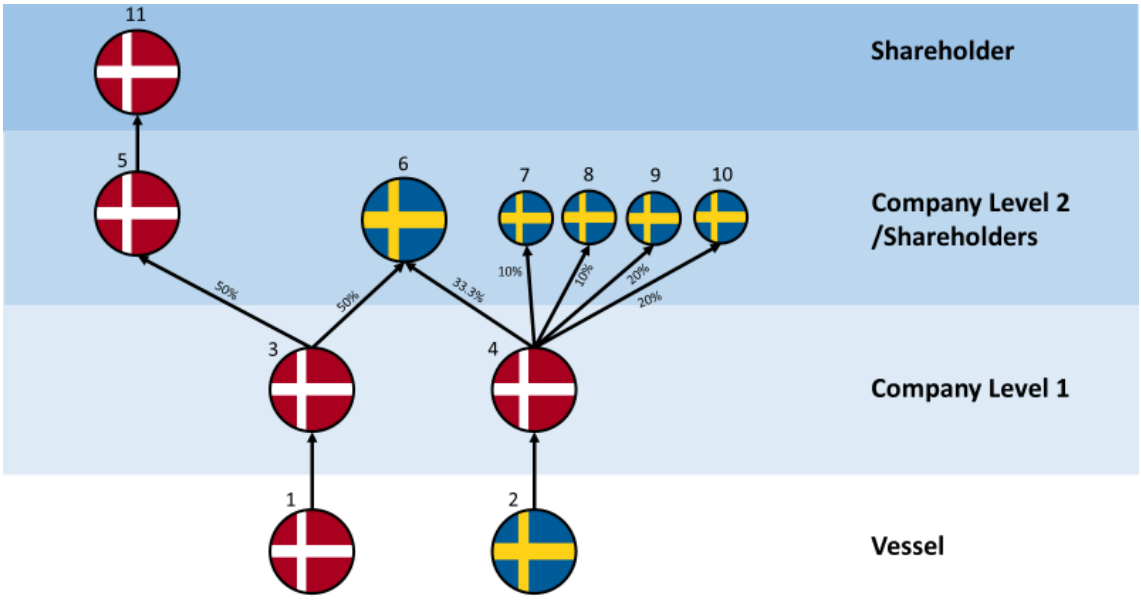

Figure 3: Structure of ownership of Stella Nova.

Table 19: Description of nodes in Stella Nova.

Number	Title	Type	Nationality
1	AS465 Susanne Himmelbå	Vessel	DK
2	AS464 Stella Nova VIII	Vessel	SE
3	GPG ApS	Company	DK
4	Fiskeriselskabet Stella Nova ApS	Company	DK
5	Grenaa Lossekompagni Holding ApS	Company	DK
6	Stella Nova Fiskeri AB	Company	SE
7	Stig Goran Bryngelsson	Individual	SE
8	Kjell Christer Bryngelsson	Individual	SE
9	Stig Andreas Bryngelsson	Individual	SE

[44] http://www.europarl.europa.eu/RegData/etudes/STUD/2016/585893/IPOL_STU(2016)585893_EN.pdf
[45] http://www.astridfiskeri.dk/en/vessels/

Number	Title	Type	Nationality
10	Tobias Hendrik Bryngelsson	Individual	SE
11	Jan Kvist Nielsen	Individual	DK

Source: http://fiske.zaramis.se/tag/stella-nova-fiskeri-ab/

Conversely, there is a lack of vertical integration in Denmark, particularly in demersal fisheries[46]. This is attributed to the loss of value of demersal species at each processing stage of the supply chain[47]. Furthermore, Danish legislation only allows for one third ownership of quota rights from non-registered fishers, which acts as an effective barrier for vertical ownership. Currently, there is little incentive from the processing industry in Denmark to change this rule.

2.3.5.1. Drivers of changes in ownership

The evolution of ownership within the Danish fishing fleet has been shaped by a number of factors - first and foremost was the new regulatory framework (the 'New Regulation'), and thereafter various economic drivers. The introduction of ITQs and VTQs has resulted in the restructuring of the Danish fishing fleet[48]. Although evidence suggests that vessel numbers were already declining prior to the implementation of these new quota systems as consequence of restrictions and a lack of fishing opportunities, Denmark's fishing fleet reduced by 25.1% between 2007 and 2017[49]. Furthermore, ITQ and VTQ systems have had an impact on fleet rationalisation[50]. For example, between 2003 and 2009, the number of vessels with mackerel and herring quotas reduced by 50% and the structure of the pelagic fleet has transitioned to larger, fewer and more modern vessels[51,52]. With the introduction of VTQs, the number of active vessels targeting demersal species declined by 30% between 2007 and 2009 and, in 2016, the ten largest VTQ owners had ownership of 47% of the demersal VTQ fishery[53,54]. The VTQ system enabled small-scale fishers to transfer quota and, as a result, many smaller vessels sold their share of quota to larger, more profitable companies leading to an increased concentration of fishing rights[55].

Despite new Regulations in 2012 to prevent quota concentration and protect small-scale fisheries by limiting quota trading and the initial allocation of fishing quota, Danish quota remains concentrated by both vessel and owner as an individual owner can own multiple vessels[56]. This situation has been identified as problematic and the reason that it had come about was argued to be due to inadequate regulation of quota transactions and quota ownership, including rules on the limits to individual quota ownership[57]. Within this setting, three key factors have had an indirect effect on concentration. Firstly, many fishers have sold their vessels and quota, resulting in the removal of general overcapacity. Secondly, there has been an increase in fishers' entrepreneurship and

[46] European Parliament (2016) Research for Pech Committee – Seafood Industry Integration in the EU. IP/B/PECH/IC/2015_162
[47] Ibid.
[48] MRAG (2009) Final Report: Part II Catalogue of Rights-Based Management Instruments in coastal EU Member States. European Commission, FISH/2007/03.
[49] European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19
[50] MRAG (2009) Final Report: Part I An analysis of existing Rights-Based Management instruments in Member States and on setting up best practice in the EU. European Commission, FISH/2007/03.
[51] Ibid.
[52] MRAG (2009) Final Report: Part II Catalogue of Rights-Based Management Instruments in coastal EU Member States. European Commission, FISH/2007/03.
[53] MRAG (2009) Final Report: Part I An analysis of existing Rights-Based Management instruments in Member States and on setting up best practice in the EU. European Commission, FISH/2007/03.
[54] Rigsrevisionen (2016) Quota concentration in the Danish fishing industry. Submitted to the Public Accounts Committee. Available from: http://uk.rigsrevisionen.dk/media/2104653/22-2016.pdf
[55] European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19
[56] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.
[57] Statsrevisorerne Rigsrevisionen (2017) Rigsrevisionens beretning om kvotekoncentrationen i dansk fiskeri afgivet til Folketinget med Statsrevisorernes bemærkninger.

willingness to invest in their business. Thirdly, the average size of vessels within the fleet has increased to serve the needs of crew and production. The Danish ministry is currently preparing a comprehensive registration and compilation of ownership data.

Economic drivers have had a strong influence in structuring the evolution of ownership in the Danish fishing industry. In general, the Danish fleet has experienced strong economic development following the introduction of the ITQ quota system, while fisher entrepreneurship and interest in investing in their business has resulted in an important renewal of the fleet and in quota concentration. One of the major drivers of the Danish fishing industry has been the role of foreign capital investment in establishing Danish subsidiaries and acquiring Danish vessels and ITQs, in accordance with Danish regulation on foreign ownership. This has allowed non-Danish companies to access and fish Danish quotas on the same terms as Danish companies. For example, Swedish companies Themis Fiskeri AB and Stella Nova Fiskeri AB have both established operations in Denmark and have acquired quotas on the same terms as Danish companies. This type of investment continues a long tradition of Swedish fisher's landing fish in Denmark for processing.

2.4. France

2.4.1. Vessels

In 2016 the French fleet comprised 6,514 vessels, having a combined size of 174,000 GT and engine power of about 974,000 kW (Table 20).[58] The fleet can be divided into three categories[59]:

- A distant water fleet targeting tuna in the South Atlantic and Indian Oceans. This fleet is composed of over 20 purse seine vessels >40 m;
- A large-scale fleet including 27% of total active vessels (mainly demersal trawlers and dredgers) and accounting for 65% of GT; and
- A small-scale coastal fleet comprising 86% of the fleet's vessels, but only representing 14% of fleet GT. About 40% of those vessels are located in French overseas territories.

The DPMA provided information on ownership of vessels, based on the French fleet register and information on licences held by each vessel. From secondary data (e.g. vessel owner yearbook assembled by Le Marin) a first list of owners was assembled to provide the ownership structure at the first level. From qualitative analysis of the French fishing fleet (see Section 2.4), foreign investment and foreign ownership appears to have increased in France, including from investors from the Netherlands, Iceland and Ireland; UK Fisheries (a UK-based joint venture owned by P&P Group (Netherlands) and Samherji HF (Iceland)) own a 50% share in Compagnie des pêches de Saint-Malo (formerly known as Comapêche), while CFTO (encompassing the French companies France-Thon, Cobrecaf and Cobrepêche) was acquired by the P&P Group in 2017. Lastly, the Dutch fishing company Cornelis Vrolijk created the French subsidiary France Pelagique in 1988 and operates two 80m deep-sea pelagic fishing trawlers, while a subsidiary of France Pelagique (SPES Armemant) runs a single 51 m trawler-deep freezer.

Following this, 83% of the vessels listed on the French fleet register for 2016 have been linked to an owner (Table 20). The major gap is for < 10 m vessels that are most likely to be French owned.

Table 20: Overview fleet structure for France.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12m	5,638	24,139	572,139
12–23m	685	50,515	204,146
>24m	188	99,213	191,852
Total	**6,511**	**173,867**	**968,137**

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

Some vessel companies are not identified, mainly because they've been arranged on a holding structure: primary companies own vessels and are regrouped in a holding structure, which does not appear in the vessel owner yearbook, such as Armement La Houle, or Armement Porcher. The holding structures were identified using company registration information (Infogreffe and Societe.com). While most companies (80%) own a single vessel, an increase in the number of companies owning two to five vessels is being observed (Table 21). This tendency can be attributed to vessel-owners regrouping to achieve economies of scale.

[58] EC fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).
[59] The 2017 Annual Economic Report on the EU Fishing Fleet (STECF 17-12).

Table 21: Importance of level of coverage of linkage between vessels and owners for the French data.

Number of the vessel in the company	Owners	Vessels	Engine power (kW)	Gross tonnage (GT)	Importance in terms of		
					Vessels (%)	kW (%)	GT (%)
1	5,013	5,013	63,7216	66,595	76.8	65.5	37.9
2	422	844	97,793	11,038	12.9	10.1	6.3
3	53	159	41,614	15,462	2.4	4.3	8.8
4	9	36	2,701	99	0.6	0.3	0.1
5	8	40	24,499	1,4712	0.6	2.5	8.4
6	3	18	4,571	1,336	0.3	0.5	0.8
7	3	21	2,874	681	0.3	0.3	0.4
8	1	8	16,451	11,118	0.1	1.7	6.3
9	1	9	3,823	1,299	0.1	0.4	0.7
10	2	20	9,313	2,511	0.3	1.0	1.4
14	2	28	53,212	29,004	0.4	5.5	16.5
21	1	21	13,704	6,186	0.3	1.4	3.5

Source: Summary of data provided by DPMA

2.4.2. Licences

In France, a compulsory licensing system for commercial fishing and access to national quota is in place. The DPMA provided a national database of fishing licenses.

2.4.3. Quotas

Most fishing activities are subject to quota management, allocated to individual fishers, or to POs who are then responsible for allocating quota to their individual members (Table 23)[60]. In France, quotas are allocated to each vessel by the administration, based on the "*antériorité*" system. The allocation is broken down by stock. This data was not made available for the project.

2.4.4. Ownership

Ownership in France is restricted to EU nationals and a genuine economic link must be demonstrated for quota ownership. There are also restrictions related to vessel ownership and crewing in that vessels must be managed by companies operating on French territory and the Captain and First Mate must be French nationals. Although quantitative data has not been made available that would allow analysis of the quota ownership, qualitative analysis has shown that there are Spanish owned vessels flagged to the French fleet (e.g. Le Marco II). It has also been possible to show that a number of vessels within the French fleet are also owned by Dutch/Icelandic companies, or solely by Dutch companies.

Size composition of the French-owned and foreign-owned components of the French fishing fleet indicates that it is the larger size vessels that appear to be the focus of foreign ownership (Table 22).

[60] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

Table 22: Size composition of the domestically- and foreign-owned components of the French fleet.

Vessel length class (m)	Ultimate owner nationality	Number of vessels	Vessel tonnage (GT)	Vessel power (HP)
0-12	FR	5,404	23,299	54,5445
0-12	IE	1	5	36
0-12	UNK	233	835	26,659
12-23	FR	640	45,167	186,127
12-23	ES	9	936	3,186
12-23	IE	8	1,294	3,787
12-23	UNK	14	1,263	4,813
>23	FR	123	44,338	96,096
>23	ES	30	8,197	18,239
>23	IS	8	11,118	16,451
>23	NL	17	33,199	54,857
>23	UNK	8	1,985	5,009

Source: Authors' calculations.

2.4.4.1. Evolution of ownership

Fisheries management in France is structured around two types of fishing: artisanal (called an 'artisanal company' or 'pêche artisanal'). and industrial (called an 'industrial company'). Artisanal fishing vessel classification is based on an owner-operator fishing using a vessel of length less than 25m and fishers in this category can receive significant social benefits, such as reductions of their social contributions. Industrial fishing, by contrast, typically uses larger vessels. Importantly the classification means that owners of multiple small vessels do not have the legal status of artisanal company as owners are limited to owning only two vessels.

Table 23: Summary of fisheries management and quota allocation in France.

Variable	
Management type*	Catch quotas and effort quotas. Limited non-transferable licences and special fishing permits. Quotas are not transferable or leasable, although track records get transferred with vessels when they change owner. Quotas can be swapped between POs upon ministerial approval.
Landed weight under quota management**	42%
Allocation process*	Individual quotas, community catch quotas (POs) and non-transferable quota (within POs). Differentiated as; sector (PO) fishers and non-sector fishers.
Allocation criteria*	Historic catch records represent the basis for allocations. Within POs, market orientation and socio-economic equilibrium are also considered. In practice, the vast majority of allocation is performed on the basis of the first criteria and the use of the other criteria is exceptional. Then POs decide how to allocate quotas to individual members. Non-PO members access a national pool of quotas.
Indicators*	Catch records have a reference period of 2001-2003.
Holder**	The track records used for historical allocation are attached to vessels. However, fishers' quotas are under the management of the PO. The rest of the quotas are utilised by individual vessels. Non-PO members have their quotas pooled nationally.
Security**	Although historical quota allocations are consistent over many years, the ministry retains a mandate to make changes in allocation.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

As part of the definition of an artisanal fishing vessel in the French legal framework, 'cooperative ownership' was developed after the Second World War as an attempt to financially support fishers to become owners of their own vessels. Under this initiative, a local cooperative took a majority stake in owning a new vessel (sometimes up to 80%), which the skipper was then able to gradually buy and achieve full ownership of the vessel. However, this system was reduced between 1990 and early 2000s due to low profitability within fisheries. Despite this, in the last ten years, a diverse form of cooperative has emerged within France, as illustrated by the creation of APAK, a cooperative which is regrouping existing artisanal vessels and are not focused on immediate investments in new vessels but in improving the efficiency of the existing vessels by mutualising costs.

Vertical integration is present in France, notably in the tuna fleet, with the historical fish processing companies Saupiquet and Sapmer holding both fishing vessels and processing facilities. However, the most comprehensive example of vertical integration in France is Scapeche, the fishing company owned by the Intermarché retailer federation. Initiated in 1993, the company has acquired three fishing companies holding large demersal trawlers that operate in European waters, while also purchasing three purse seiners targeting sardines and two vessels using pots and traps to target crustaceans[61]. The catch is sold within a range of French auctions (though the bulk is sold predominantly through Lorient), while also being partly sent to Intermarché processing plants (Capitaine Houat)[62]. Scapêche has recently created a joint-venture with the coop APAK called SCAPAK (80% APAK, 20% Scapêche), with the aim to invest in new vessels for the port of Lorient[63] (Figure 4 and Table 24).

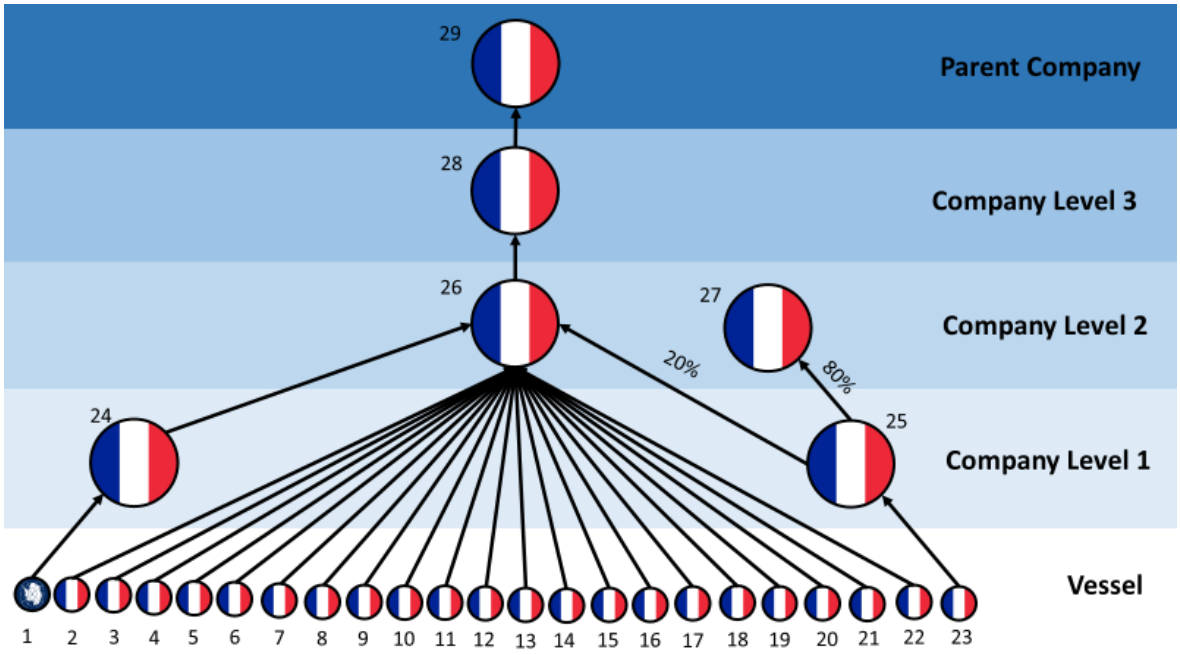

Figure 4: Network diagram of Scapêche vessel ownership.

Note: The above node diagram includes information from grey literature sources. Ownership structures may differ from the reference period.

[61] http://www.scapeche.fr/qui-sommes-nous/quelques-dates-cles/
[62] http://www.capitainehouat.fr/qui-sommes-nous/groupement
[63] http://www.scapeche.fr/actus-1/2017/avec-la-scapak-la-filiere-mer-des-mousquetaires-poursuit-son-developpement-dans-la-peche-cotiere-et-artisanale

Table 24: Description of nodes in Scapêche

Number	Title	Type	Nationality
1	Ile de la Réunion (FK 924320)	Vessel	AQ
2	Alya (GV785720)	Vessel	FR
3	Effera (GV 785315)	Vessel	FR
4	Corail (CC 639926)	Vessel	FR
5	Roselend (CC 911294)	Vessel	FR
6	Iroise (CC 639931)	Vessel	FR
7	Fastnet (LO 926611)	Vessel	FR
8	Mariette Le Roch II (LO 924826)	Vessel	FR
9	Héliotrope (LO 752559)	Vessel	FR
10	Ksora (GV 785715)	Vessel	FR
11	Tximistarri II (LO 922633)	Vessel	FR
12	Jimorhan (CC 899957)	Vessel	FR
13	Face à la Mer (G V898402)	Vessel	FR
14	Mirentxu I (BA 922694 D)	Vessel	FR
15	Bougainville (GV 922683)	Vessel	FR
16	Jean-Claude Coulon II (LO 924832)	Vessel	FR
17	Julien Coléou (LO 911288)	Vessel	FR
18	La Pérouse (GV 922678)	Vessel	FR
19	Rossoren (LO 926613)	Vessel	FR
20	Jean-Pierre Le Roch (LO 932123)	Vessel	FR
21	Sergagil (GV 732307)	Vessel	FR
22	Zubernoa (GV 724521)	Vessel	FR
23	Naoned (LO 912362)	Vessel	FR
24	Scapêche-COMATA	Company	FR
25	Scapak	Company	FR
26	Scapêche	Company	FR
27	Apak	Company	FR
28	Intermarché	Company	FR
29	Les Mousquetaires Group	Company	FR

Note: According to Profundo (2018), COMATA is a vessel holding company for the Kerguelen de Trémarec trawler. Scapeche's website suggests, however, that the subsidiary owns the Ile de la Réunion vessel.

Over the last decade, foreign investors have increased their presence in France, notably companies from the Netherlands, Iceland and Ireland. All these investments are widely reported by the regional newspapers (Ouest France, La Voix du Nord) and the specialised press (Le Marin), but also by the general press for significant takeovers (notably Les Echos or Figaro). It has also been reported that Spanish interests have increased their presence. According to stakeholders of the French fishing industry, this is partly because the national fixed percentage of TAC is very low for Spain relative to the fleet's current capacity, creating an incentive to seek fishing opportunities outside domestic waters.[64].

Within the French fishing industry there is substantial evidence of both concentration and foreign investments over the last decade. Within the fleet comprising trawlers over 40 m operating in European waters (demersal or pelagic), the two French-owned large vessel companies, Société Boulonnaise d'Armement Le Garrec and Nord Pêcheries, merged to create Euronor in 2006, which was then acquired by UK Fisheries, a UK-based joint venture owned by P&P Group (Netherlands) and Samherji HF (Iceland). The same year, the company UK Fisheries took a 50% share in Compagnie des pêches de Saint-Malo (formerly known as Comapêche) (Figure 5 and Table 25).

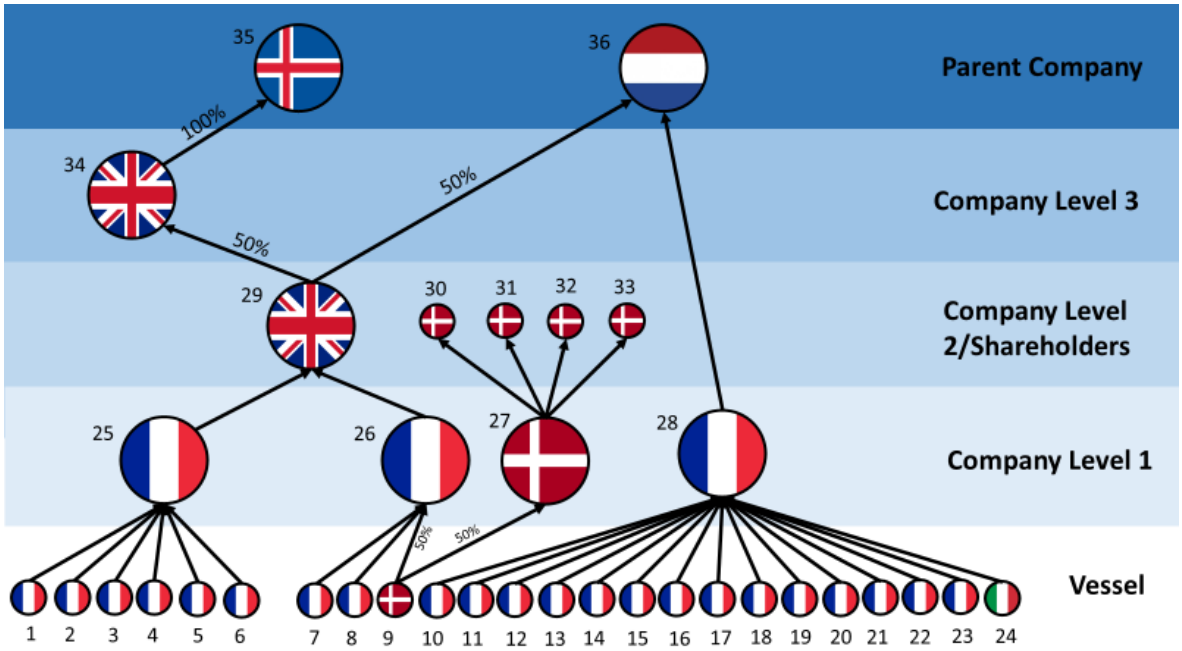

Figure 5: Network diagram highlighting foreign ownership of French fishing vessels at higher levels

Note: The above node diagram includes information from grey literature sources. Ownership structures may differ from the reference period.

Table 25: Description of nodes in French fishing vessels

Number	Title	Type	Nationality
1	Cap Saint-Georges (BL 924675)	Vessel	FR
2	André Leduc (BL 924680)	Vessel	FR
3	Cap Nord (BL 734690)	Vessel	FR

[64] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

Number	Title	Type	Nationality
4	Klondyke (FHPJ)	Vessel	FR
5	Bressay Bank	Vessel	FR
6	Haltenbank II (BL 931410)	Vessel	FR
7	Joseph Roty II (SM 199078)	Vessel	FR
8	Grande Hermine (SM 640670)	Vessel	FR
9	Ocean Tiger (R 38)	Vessel	DK
10	Gevred (CC 932206)	Vessel	FR
11	Pendruc (CC 932207)	Vessel	FR
12	Avel Vor (CC 752560)	Vessel	FR
13	Cap Bojador (CC 752550)	Vessel	FR
14	Sterenn (CC 911313)	Vessel	FR
15	Gueotec (CC 752558)	Vessel	FR
16	Gueriden (CC 752577)	Vessel	FR
17	Avel Vad (CC 854430)	Vessel	FR
18	Cap Sainte Marie (CC 854429)	Vessel	FR
19	Cap Saint Vincent (CC 911289)	Vessel	FR
20	Drennec (DI 925755)	Vessel	FR
21	Glénan (CC 899950)	Vessel	FR
22	Talenduic (CC 911320)	Vessel	FR
23	Trevignon (DI 925754)	Vessel	FR
24	Torre Giulia (managed on behalf of IAT) (BARI 342)	Vessel	IT
25	Euronor (Comptoir des Pêches d'Europe du Nord)	Company	FR
26	Compagnie des Pêches Saint-Malo	Company	FR
27	Ocean Prawns A/S	Company	DK
28	Compagnie Française du Thon Océanique (CFTO)	Company	FR
29	UK Fisheries Limited	Company	UK
30	Kristian Barslund Jensen	Individual	DK

Number	Title	Type	Nationality
31	Henrik Espersen	Individual	DK
32	Hanne Grete Jensen	Individual	DK
33	Niels-Ole Hald	Individual	DK
34	Onward Fishing Company Limited	Company	UK
35	Samherji hf	Company	IS
36	P&P Group	Company	NL

Note: CFTO has two French subsidiaries; Armement CMB and Armement Gueriden. These act as vessel holding companies. CFTO also own Industria Armatoriale Tonniera, a finfish catching company (Source: Warmerdam et al., 2018[65]).

Lastly, within the fleet comprising purse seiners over 40m which predominantly target tropical tuna (including skipjack, yellowfin, and bigeye tuna) three vessel companies (France-Thon, Cobrecaf and Cobrepêche) joined forces in 2011 to create CFTO, becoming the largest French tuna vessel company; foreign investment is apparent within the French industry with the acquisition of CFTO by the P&P Group in 2017. Within the demersal trawler fleet operating in European waters foreign investment in apparent within La Houle fishing company (Bretagne) being partly acquired by an Irish company in 2016.

2.4.4.2. Drivers of changes in ownership

Two main drivers are apparent that help to explain the range of transactions occurring within the French fishing fleet during the last decade. Both horizontal and vertical concentration, and foreign investment have occurred due to low profit margins within the French fishing industry and thus firms looking for exit opportunities or new investors. For example, the mergers leading to the creation of Euronor and CFTO and the acquisition of Armement Dhellemmes trawlers by Scapêche were mainly due to recurring losses within these French companies and the prospect of reversing this trend through economies of scale. In addition, the high level of foreign investment within French fisheries is associated with increased access to specific fisheries. The buyer in some instances may not have been able to access to quotas for the fishery from their national allocation and have targeted a French company in order to be able to enter the fishery. For example, the P&P Group cannot access tuna SFPAs except if it acquires a French or Spanish vessel company, hence the acquisition of the French tuna vessels from CFTO.

There are also regulatory barriers to concentration in certain fleets. For example, the definition of pêche artisanal forbids the creation of fishing companies of more than two vessels. However, this fleet is ageing, and with little chance that this particular feature of the French legislation changing in the short to medium term and concentration will be limited. Some aspects of the current regulations on quota allocation, trade and exchanges may also hinder aggressive mergers. The *arrêté* defining the attribution of quota units to fishing vessels includes specific provisions allowing the fisheries administration to reallocate units among the fleet to avoid the concentration of quotas. In theory, the administration could diminish the quota allocation of a vessel that has been acquired if the new owner is considered to have a dominant position in the fishery. This provision has so far never been activated by the administration. In the long run, it could deter vessel owners from operating large mergers.

Access to finance is a long-term issue in France (since the end of the 1990s), notably due to the low interest traditional banks have for the fishing sector and the low profit margins the fishing sector had since the year 2000. For several years, the specialised bank Credit Maritime was also in bad shape (now merged with a traditional bank). New

[65] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

initiatives are currently implemented to circumvent this lack of funding have included Scapêche in Lorient, Groupe Le Garrec in Boulogne-sur-Mer and Pêcheurs d'Opale jointly creating a financing vehicle called Scopale, with the aim of providing up to 80% of the funding of new artisanal vessels[66]. Credit Maritime launching in 2018 Mer Invest, a wholly-owned investment fund developed for all Blue Economy sectors[67]. The goal of the fund is to support projects both at sea and on land at around EUR 100,000 to 600,000 per project. The first investment has been providing EUR 250,000 towards the financing of a new fishing vessel (the Dolmen) under construction in the Netherlands[68].

[66] http://www.mousquetaires.com/actualites/scopale-lance-construction-de-trois-bateaux/
[67] https://www.ouest-france.fr/bretagne/lorient-56100/le-fonds-mer-invest-choisit-lorient-pour-son-1er-investissement-5991159
[68] https://www.bpgo.banquepopulaire.fr/portailinternet/Editorial/Informations/Pages/mer-invest-actu.aspx

2.5. Germany

2.5.1. Vessels

Germany's fishing sector is relatively small. In 2017, the fleet included 1,387 vessels with a combined size of 65,887 GT and engine power of 138 thousand kW (Table 26), and can be divided into four categories:[69]

- A long-distance fleet composed of large-scale pelagic and demersal trawlers (>40 metres);
- A beam trawl fleet, mainly targeting brown shrimp, and to a lesser extent Nephrops and flatfish;
- A small trawler fleet, essentially targeting cod, flatfish, herring and/or sprat; and
- A small-scale coastal fleet <12 metres (constitutes ca. 80% of fleet).

For a limited number of (larger) vessels, some information on layers of the ownership network can be identified – this has not been achieved through the direct source of the government. For the large majority of vessels however, this data is inaccessible.

Table 26: Overview fleet structure for Germany.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12m	1,107	2,887	28,965
12-23m	211	8,566	42,012
>23m	69	54,434	67,075
Total	**1,387**	**65,887**	**138,052**

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

2.5.2. Licences

In Germany, fisheries are managed through a licensing system, individual non-transferable quotas and community quotas. Commercial fishers are required to possess a commercial fishing licence, in addition to individual fishing permits for quota stocks.

2.5.3. Quotas

Quota limits come in two forms. Individual non-transferable quotas that are attached to vessels are allocated to full-time fishers and part-time fishers can get access to national quota (Table 27). The federal states are responsible for the control and enforcement of fisheries management systems, while the Federal Office for Agriculture and Food (BLE), under the Ministry of Food and Agriculture (BMEL), carries out the day-to-day management of the fishing sector. Decision-making in terms of quota allocation is partially in the hands of Fisheries Producer Organisations. Coastal and non-quota stocks are managed by federal states. No data has been collated with regard to the allocation of quotas. Requests for this information were denied by the German authorities.

[69] Eurostat. The 2017 Annual Economic Report on the EU Fishing Fleet.

Table 27: Summary of fisheries management and quota allocation in Germany.

Variable	
Management type*	Licensing system, and individual quotas, pooled quotas and rationed quotas.
Landed weight under quota management**	87%
Allocation process*	Allocations are carried out annually. Allocation to full-time fishers is criteria based, but predominantly uses a historical reference period. Part-time fishers can access community quota, rationed by month. Management authority monitors constantly uptake and marketing. In case problems arise, re-allocation is proposed in consultations with stakeholders. Differentiated as; full-time and part-time fishers, sector (PO) and non-sector.
Allocation criteria*	Historic catch levels are highly considered, followed by measures to reduce impact in the marine environment and reducing discards/by-catch. Contribution to society and local communities is also included.
Indicators*	Catches taken per vessels during a specific time frame. Ratio of catches per employment is presented as a potential indicator.
Holder**	Quotas are attached to vessels for full-time fishers and held by the ministry for part time fishers. Quotas are non-transferable and non-leasable but can be swapped within POs. They remain attached to the vessel if the vessel's owner changes
Security**	Although quotas are property of the state, allocation has stayed very consistent since the current system was put into place.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

2.5.1. Ownership

There are apparently no restrictions on foreign equity although any acquisitions must take place through a company incorporated in Germany. Furthermore, registration in the German flag register is limited to German individuals or companies. As ownership information was not provided for Germany an analysis of quota concentration or vessel ownership could not be completed.

2.5.1.1. Evolution of ownership

Despite the lack of available quantitative data, there is evidence to suggest that ownership changes within the German fishery have occurred, especially associated with the development of German fisheries policy and management.

After the introduction of the CFP, an Individual Quota (IQ) system was implemented with quotas being attached to vessels and therefore their respective owners. Subsequently a range of vessels were scrapped or bought by other fishers who wanted to fish against additional quota. This resulted in the German fleet decreasing in size, with the total number of vessels declining by about 30% from 2002 to 2014, with total kW capacity and GT of the fleet also reducing[70]. Germany's fleet reduction during this period is associated with permanent vessel cessation measures[71].

However, Germany's system for quota allocation has been designed to minimise further concentration of fishing quotas. This stems primarily from a desire to protect traditional fishing communities and the family-based business structure of firms[72]. The IQ system is therefore maintained whereby fishing quotas are allocated based on the vessel's or

[70] STECF (2014) The 2014 annual economic report on the EU fishing fleet (STECF 14–16) – statistical database. Publication office of the European Union, Luxembourg

[71] MRAG Ltd (2013) Retrospective evaluation of scrapping and temporary cessation measures in the EFF. Report to the European Commission, Lot 2: Retrospective and prospective evaluations on the common fisheries policy, excluding its international dimension, pp117

[72] MRAG (2009) Final Report: Part II Catalogue of Rights-Based Management Instruments in coastal EU Member States. European Commission, FISH/2007/03.

owner's track record (i.e. historical share)[73]. This record is based on fixed reference points for vessels operating in the North Sea (1986/87 landings) and the Baltic Sea (1989/90 landings)[74]. Quota trading is largely restricted as individual quotas can only be transferred or swapped with authority approval[75]. New entrants to the industry are required to purchase a vessel with allocated catch quota and, at retirement, for example, quotas are sold with the vessel[76,77]. Since Germany's basic fisheries law was passed in 1984, the country's quota system has not significantly changed.

There is some evidence, however, that foreign ownership or investment may be an important factor in the evolution of some German fisheries. For example, Dutch fishers flying the German flag have been reported to operate within the flat fish beam trawler fishery, with their catch being landed exclusively in the Netherlands[78]. In addition, the Dutch-company P&P Group has several fish processing operations in Germany, including the German companies Doggerbank Seefischerei, Mecklenburger Hochseefischerei, Seafrozen Fish, the Euro-Baltic Fisch Verarbeitungs and Deutsche See. However, to protect its coastal fisheries from foreign competitors, Germany limits access to foreign vessels within its 12 NM zone[79]. Foreign vessel owners are, however, common in both the cutter fleet (inshore fleet) and in the high-seas trawler fleet[80]. This is because EU nationals either establish a German company, have a German domicile or have a representative with a German domicile[81].

Consolidation continues to occur in the German fish industry. In 1998, P&P Group acquired Rostock-based-Mecklenburger Hochseefischerei GmbH[82]. Since entering the German market P&P Group have acquired a number of vessel-owning German companies (see Section 3.8). As a result, P&P Group now own six German pelagic freezer trawlers, meaning the company almost entirely owns Germany's pelagic trawler fleet (Figure 6)[83].

In early 2018, The P&P Group acquired Deutsche See GmbH, a large German fish processor and marketer with its own fleet[84]. P&P Group suggested that the acquisition would enlarge its market share and enable access to new German markets[85]. The move provides evidence that vertical integration continues to take place in German fisheries, as most vessels in Germany's demersal trawler fleet are also owned by vertically integrated companies. The high-seas freezer trawler segment is currently controlled by two foreign companies, Icelandic Samherji via Deutsche Fischfang Union (DFFU) and Dutch P&P Group via Doggerbank Seefischerei[86].

[73] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.
[74] MRAG (2009) Final Report: Part I An analysis of existing Rights-Based Management instruments in Member States and on setting up best practice in the EU. European Commission, FISH/2007/03.
[75] MRAG (2009) Final Report: Part II Catalogue of Rights-Based Management Instruments in coastal EU Member States. European Commission, FISH/2007/03.
[76] MRAG (2009) Final Report: Part I An analysis of existing Rights-Based Management instruments in Member States and on setting up best practice in the EU. European Commission, FISH/2007/03.
[77] MRAG (2009) Final Report: Part II Catalogue of Rights-Based Management Instruments in coastal EU Member States. European Commission, FISH/2007/03.
[78] Scientific, Technical and Economic Committee for Fisheries (STECF) – The 2018 Annual Economic Report on the EU Fishing Fleet (STECF-18-07). Publications Office of the European Union, Luxembourg, 2018, JRC112940, ISBN 978-92-79-79390-5, doi:10.2760/56158
[79] MRAG (2009) Final Report: Part II Catalogue of Rights-Based Management Instruments in coastal EU Member States. European Commission, FISH/2007/03.
[80] Ibid.
[81] Ibid.
[82] https://www.pp-group.nl/about-us/history
[83] The 2017 Annual Economic Report on the EU Fishing Fleet (STECF 17-12)
[84] https://www.pp-group.nl/news/id/18/parlevliet-van-der-plas-acquires-deutsche-see
[85] Ibid.
[86] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies,

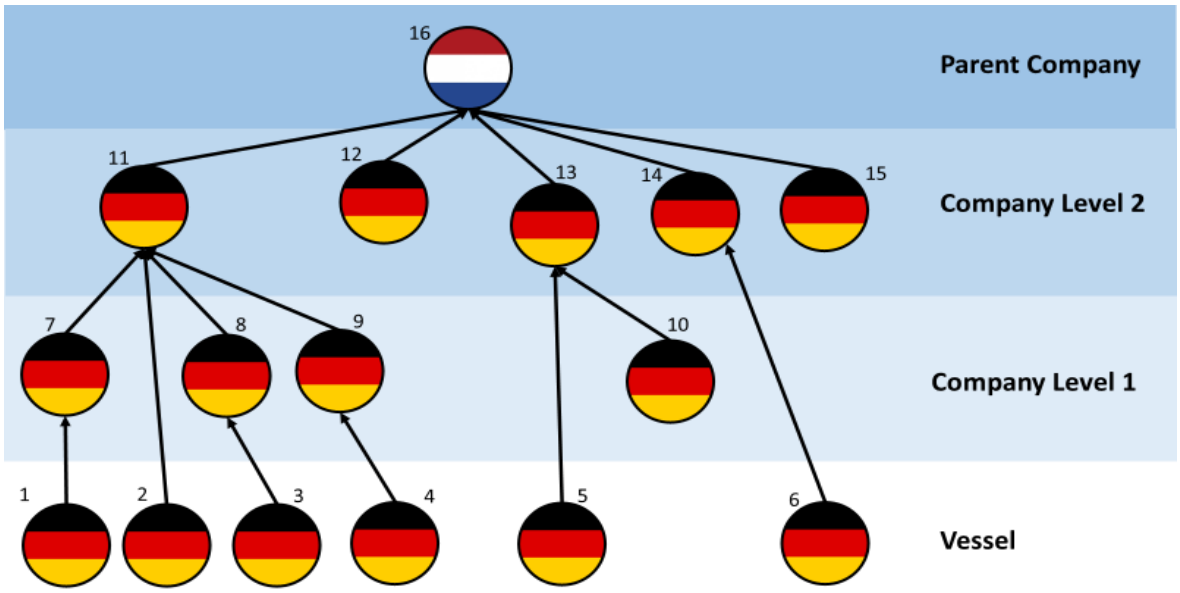

Figure 6: Network diagram of Germany's pelagic freezer trawlers.

Note: Proportions of ownership are not possible. Source: Profundo (2011) and grey literature.

Table 28: Description of nodes in Figure 6.

Number	Title	Type	Nationality
1	ROS 785 Helen Mary	Vessel	DE
2	BX 791 Jan Maria	Vessel	DE
3	ROS 170 Annie Hillina	Vessel	DE
4	ROS171 Maartje Theadora	Vessel	DE
5	ROS 786 Gerda Maria	Vessel	DE
6	BX 786 Atlantic Peace	Vessel	DE
7	Oderbank Hochseefischerei GmbH	Company	DE
8	Ostbank Hochseefischerei GmbH	Company	DE
9	Westbank Hochseefischerei GmbH	Company	DE
10	German Seafrozen Fish Handelsgesellschaft GmbH	Company	DE
11	Doggerbank Seefischerei GmbH	Company	DE
12	Euro-Baltic Fischverarbeitungs GmbH	Company	DE
13	Mecklenburger Hochseefischerei GmbH	Company	DE
14	Ocean Food GmbH	Company	DE
15	Deutsche See GmbH	Company	DE
16	P&P Group	Company	NL

Source: [87]

2.5.1.2. Drivers of changes in ownership

There is evidence to suggest that consolidation may have been an important factor in the evolution of the German fishing fleet. For example, the German pelagic trawler fleet contains a number of vessels that appear to be owned by one parent company (though

[87] Profundo Economic Research (2011) Company structures, financing and costs of Dutch pelagic freezer trawler companies: https://s3-eu-west-1.amazonaws.com/zaramis/2016/07/04161122/Company-structures-financing-and-costs-of-Dutch-...-Greenpeace.pdf

for confidentiality reasons the data cannot be published)[88]. Since the introduction of an IQ system a lot of vessels were scrapped or bought by other fishers who wanted to fish on additional quota. Although quotas are attached to the vessels and their respective owners, several old vessels remain inactive and other vessels fish their quota share.

In general, there is the suggestion that as North Sea stocks are recovering, this provides good quotas and fishing opportunities. These opportunities are attractive both to operators in Germany, where horizontal integration may occur, as well as foreign operators, particularly those with vertically integrated operations and who may be seeking to acquire additional quota to secure supplies. Along the Baltic Sea coast, the situation is one of decreasing stocks and resulting quotas. This creates an incentive for horizontal integration as a strategy to acquire and transfer quotas to an existing vessel. Much of this activity is national although there are reports of Swedish and Danish companies investing in the Schlewig-Holstein region[89].

[88] Scientific, Technical and Economic Committee for Fisheries (STECF) – The 2018 Annual Economic Report on the EU Fishing Fleet (STECF-18-07). Publications Office of the European Union, Luxembourg, 2018, JRC112940, ISBN 978-92-79-79390-5, doi:10.2760/56158

[89] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

2.6. Ireland

2.6.1. Vessels

In 2017, the Irish fleet was composed of 2,041 vessels (EU Fleet Register), accounting for 64,004 GT and having combined engine capacity of 191,080 kW (Table 29).[90] The national fishing fleet can be divided into three main categories[91]:

- A large-scale pelagic trawler fleet;
- A beam trawler fleet, operating in inshore waters, or further offshore to catch flatfish such as sole and plaice; and
- A polyvalent fleet, representing the vast majority of the active fleet. This segment includes multi-purpose vessels of all sizes that use different fishing techniques. A significant part of this segment is the inshore fleet, almost exclusively targeting shellfish using static pots.

Of the vessels included in the official Irish registry, 184 are owned by limited companies, and the remainder by individuals (natural persons). Without further information to indicate otherwise, natural persons were recorded as Irish. Of the 184 companies, 17 have final owners or parent companies that are registered either partially or fully in Belgium, Netherlands or Spain. Data for 18 of the companies were unavailable or the vessel were not registered in the database.

Table 29: Overview fleet structure for Ireland.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12 m	1761	6,883	56,922
12-23 m	176	14,259	43,171
>23 m	104	42,514	89,860
Total	**2,041**	**64,004**	**191,080**

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

From this, the ownership structure of vessels including the ultimate owners has been completed. With limited foreign ownership noted (Table 30).

Table 30: Overview of nationality of vessel ownership for Ireland.

Member State	Share of vessels (%)	Share of vessel tonnage (%)	Share of vessel power (%)
Ireland	99.12	96.53	96.06
United Kingdom	0.51	0.30	0.36
Netherlands	0.20	1.94	1.46
Spain	0.14	1.05	0.96
Belgium	0.03	0.17	0.16
Total	**100**	**100**	**100**

Source: Authors' calculations.

2.6.2. Licences

Fishers are required to hold a licence for commercial fishing. Licensing is essentially based on criteria such as links to the national economy and benefits to local communities. Quotas allocated to licensed vessels are defined as the weight of species that vessels can land over a specific period. Additional fisheries management measures

[90] EC fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).
[91] The 2017 Annual Economic Report on the EU Fishing Fleet (STECF 17-12); Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

include seasonal closures and days-at-sea limits in place for some stocks. All licence related information has been collated, and will enable the quota pool division.

2.6.3. Quotas

In Ireland, quota is a public resource managed to ensure that property rights are not granted to individual vessel owners (Table 31). Irish fishing activities are regulated by the government through a non-transferable quota system allocated monthly, based on the advice of industry stakeholders. The Quota Management Advisory Committee (QMAC) meet monthly to advise the DAFM Minister in their decision-making process regarding quota allocation for particular fish stocks, mainly whitefish. Pelagic fisheries are generally managed on a seasonal basis (spring and autumn months). The QMAC is composed of fishing industry representatives: one member from each of the four national Fisheries Producer Organisations, one member from the National Inshore Fisheries Forum, one member from the Fish Producers and Exporters Association and one member of the Fishing Co-Operative Association. The Minister follows their recommendations as far as possible.

Table 31: Summary of fisheries management and quota allocation in Ireland.

Variable	
Management type*	Quota management. No ITQs, capacity-based management. Quotas are considered a 'public good' and not privatised.
Landed weight under quota management**	92%
Allocation process*	Quota assigned per vessel and if not used, returned to the state for reallocation. Inshore fisheries are under community quota system. Monthly catch allocation for pressure stocks. Differentiated as; pelagic, demersal, and by fleet segment.
Allocation criteria*	Social criteria are decisive. Local economy contribution and greatest benefit to the society are also key. Reducing energy consumption is considered a business performance criterion.
Indicators*	Statistical and databases from scientific bodies. Serious infringements systems points. Potential indicators include employment ratios and economic performance in coastal communities dependent on fishing.
Holder**	Quotas are associated with vessels. Quotas are non-transferable and non-leasable.
Security**	Quotas are considered a public good. Demersal quotas are subject to monthly amendments.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

2.6.4. Ownership

Ownership is restricted to EU nationals and registration of a vessel requires a license to fish in Irish waters. Major fish catching companies in Ireland are generally Irish owned. For example, Atlantic Dawn Group is owned by five Irish individuals. The company is a world leader in the catching and processing of pelagic fish. The Atlantic Dawn Group operates its own fleet of purse seiners and trawlers, in addition to a number of independently owned vessels[92]. The company shows both vertical and horizontal integration. It has activities all down the seafood value chain from fish catching and processing to distribution. Atlantic Dawn Group owns and operates two shore freezing facilities: Arctic Fish Processing located at the company's homeport in Killybegs; and Atlantic Dawn Seafoods A/S located on the Island of Smola in Norway (Figure 7). Other examples of important fishing companies in Ireland (all Irish owned) include Gallagher Bros and Killybegs Seafoods, both specialised in the catching and primary processing of pelagic species, and Saltees Fish in the demersal segment.

[92] Atlantic Dawn Group (2018). Fishing Vessels. Available from: http://www.atlantic-dawn.com/facilities/fishing-vessels.html. (Accessed 17/12/2018)

A breakdown of quota ownership in Ireland by species shows that there is high levels of concentration in both boarfish and megrim (Table 32). The latter also with significant levels of foreign ownership.

Table 32: Measures of concentration and foreign ownership of quota within the Irish fishing fleet.

Quota	Quota tonnage	Quota value	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Nephrops	8,364	54,603,562	330	7.3	9.8	1.4	52	0.22
Mackerel	66,517	41,264,195	93	27.0	41.8	0.0	344	0.61
Megrim	7,135	22,958,509	330	54.9	56.2	52.2	2,695	0.62
Horse mackerel	22,631	14,039,158	51	24.7	41.8	0.0	357	0.44
Monkfish	2,976	9,870,146	330	7.3	9.8	1.4	52	0.22
Hake	3,198	7,724,619	330	7.3	9.8	1.4	52	0.22
Whiting	6,033	7,485,838	330	7.3	9.8	1.4	52	0.22
Herring	14,521	7,182,250	93	10.4	18.6	0.0	154	0.36
Blue whiting	32,342	5,827,252	93	16.1	28.8	0.0	197	0.43
Haddock	3,455	5,770,218	330	7.3	9.8	1.4	52	0.22
Saithe	1,760	2,247,301	330	7.3	9.8	1.4	52	0.22
Pollack	1,017	2,144,211	330	7.3	9.8	1.4	52	0.22
Cod	915	2,106,548	330	7.3	9.8	1.4	52	0.22
Boarfish	5,142	347,118	13	44.0	77.3	0.0	893	0.23

Source: Authors' calculations.

Looking at the top individual owners within Ireland shows that the highest level of ownership by quantity and share of the national quota is in the pelagic sector (Table 33).

Table 33: Top eight owners of Irish fishing quota.

Owner name	Quota tonnage	Share of total national quota (%)	Share of total EU quota (%)
Atlantic Dawn Company	12,678	7.20	0.28
O'Shea Fishing Company	6,243	3.55	0.14
F D Premier Fishing	6,243	3.55	0.14
Eileen Oglesby	4,914	2.79	0.11
Gallagher Bros. Fish Merchants	4,914	2.79	0.11
Mary Bridget Callaghan	4,914	2.79	0.11
Eamon McHugh	4,826	2.74	0.11
Seamus Tully	4,707	2.67	0.10

Source: Authors' calculations.

Size composition of the Irish fishing fleet indicates that it is the larger size vessels that appear to be the focus of foreign ownership (Table 34).

Table 34: Size composition of the domestically- and foreign-owned components of the Irish fleet.

Vessel length class (m)	Ultimate owner nationality	Number of vessels	Vessel tonnage (GT)	Vessel power (HP)
0-12	IE	1,665	5,978	52,762
0-12	ES	1	0	3
0-12	UK	7	61	267
12-23	IE	170	13,832	41,707
12-23	UK	2	111	350
>23	IE	95	40,030	83,422
>23	BE	1	107	296
>23	ES	2	657	1,772
>23	NL	4	1,218	2,694
>23	UK	0.2	18	58

Source: Authors' calculations.

2.6.4.1. Evolution of ownership

Most Irish vessels are owned by individual fishers. No evidence of change in ownership over the past decade has been found. The key element in understanding ownership within the Irish fishing fleet is the role of quota management for the demersal fisheries within this system. Fishing quota in Ireland belongs to the state, and is not privately allocated to licences linked to vessels. Therefore, there is little impetus for foreign ownership of vessels, as this does not allow the foreign company to "own" more quota within Irish waters.

2.6.4.2. Drivers of changes in ownership

The Irish quota system is a key factor influencing the structure and nature of the fishing industry in Ireland. Since quota is not distributed to vessels individually but remains a public resource managed by the government, foreign companies are only able to gain access to quota or additional quota by acquiring Irish vessels. Hence, foreign investment in the fishing industry in Ireland is limited. Furthermore, as quota is allocated monthly owners are forced to modernise their vessels to be efficient in catching what they can. Consequently, only fishers (or companies) who can afford modernisation are able to compete, with substantial changes in the dynamics of coastal communities over the last couple of decades[93].

Within the Irish fishing industry there is evidence of both vertical and horizontal integration (for example, the Atlantic Dawn Fishing Group, Figure 7, Table 35). Larger (Irish) fishing companies are increasingly common in the fishing industry in Ireland, as smaller, less efficient vessel owners are left behind. This has the effect of reducing incentives for new fishers to go into the fishing industry on their own. The cost of modernisation needed for vessels to compete with larger national and foreign vessels in Irish waters, and the cost of dealing with administrative requirements, can usually only be borne by medium to large scale companies or owners making competing for a share of the monthly fleet quota allocation more challenging for small-scale fishers.

[93] Irish PO representative (IS&WPO), personal communication, 09/05/2018.

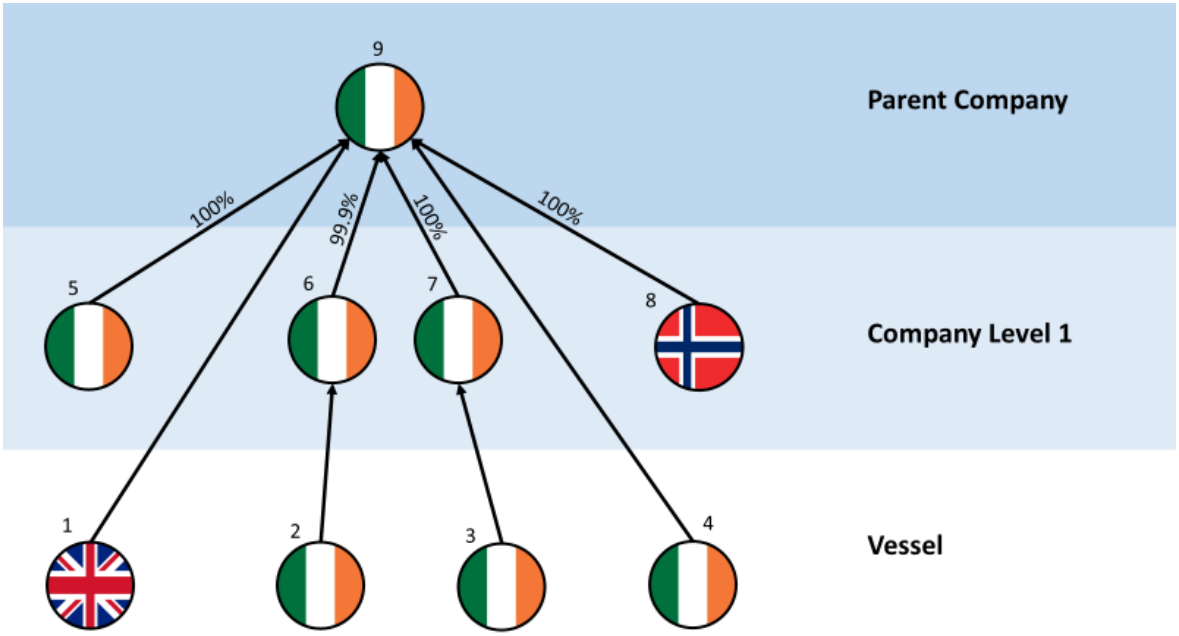

Figure 7: Network diagram of the Atlantic Dawn Fishing Group.

Table 35: Description of nodes in Atlantic Dawn Fishing Group

Number	Title	Type	Nationality
1	Veronica	Vessel	UK
2	Felucca	Vessel	IE
3	Atlantic Quest	Vessel	IE
4	Genesis II	Vessel	IE
5	Artic Fish Processing Company	Company	IE
6	Polar Fish Limited	Company	IE
7	Quest Fishing Limited	Company	IE
8	Atlantic Dawn Seafood AS	Company	NO
9	Atlantic Dawn Group	Company	IE

2.7. Netherlands

2.7.1. Vessels

The Netherlands produces a trade surplus in the fishing sector, both as a result of its role as an important trade hub and the fishing activities of the Dutch fishing fleet. In 2017, this fleet was composed of 849 vessels, having a combined size of 131,936 GT and engine power of 312,664 kW (Table 36).[94] Nationally, the Dutch fishing fleet is divided into three segments:[95]

- A large-scale trawler fleet, using midwater trawls targeting pelagic fish species;
- A cutter fleet (pulse trawlers > 12 metres), targeting demersal stocks, such as shrimp and flatfish, in the North Sea; and
- A coastal fleet, including vessels that do not fit into the two other segments.

For the pelagic sector minimal vessel ownership data and company ownership data were identified – but, this is largely from grey-sources. Official information regarding vessel ownership was not made available.

Table 36: Overview fleet structure for Netherlands.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12m	365	938	27,944
12-23m	185	8,269	34,524
>23m	299	122,729	250,196
Total	**849**	**131,936**	**312,664**

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

2.7.2. Licences

The Netherland maintains a compulsory licensing system. Non-quota species are regulated through licensing and closures.

2.7.3. Quotas

The main targeted pelagic and demersal stocks are managed under a system of individual transferable fishing quotas, with a large role for POs (Table 37). Community quotas are also implemented to a lesser extent. The Ministry of Economic Affairs is the official entity in charge of management of the fishing sector. However, quota management is devolved to Fisheries POs. Hence, the ministry's role in fisheries management is rather limited in comparison to other MS. Neither the ministry nor the POs would provide information regarding the allocation of national quotas.

2.7.4. Ownership

Ownership in Netherlands is restricted in the first instance to EU nationals. Owners should also be Dutch nationals or companies registered under Dutch law, established, and having their place of business, in the Netherlands. As quota ownership information was not provided for the Netherlands an analysis of quota concentration could not be completed. However, according to calculations by LEI Wageningen, the Gini coefficient for plaice has increased from 0.65 to 0.74 from 2001 to 2013 and for sole from 0.66 to 0.74. The figures are almost identical for concentration by owner and by vessel. The data behind these calculations was not made available for this project.

[94] EC fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).
[95] The 2017 Annual Economic Report on the EU Fishing Fleet (STECF 17-12)

Table 37: Summary of fisheries management and quota allocation in Netherlands.

Variable	
Management type*	Quota and effort management. Transferable licences, ITQs, and in some fisheries individual transferable effort quotas.
Landed weight under quota management**	77%
Allocation process*	Initial allocation on the basis of historical catches (ITQs) and/ or engine power. System reviewed on the basis of economic performance (flatfish).
Allocation criteria*	*Unknown*
Indicators*	*Unknown*
Holder**	Fishers and fishing companies in possession of a fishing licence hold ITQs which are then pooled in the PO to be collectively managed. Non-ITQ quotas are held as national quotas. ITQs are freely tradable and leasable within POs. Full transfer is subject to ministry authorisation. Other non-ITQ quotas are freely accessible so no transfers occur.
Security**	ITQs are a *de facto* type of possession and are seen as permanent entitlements.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

2.7.4.1. Evolution of ownership

Although there is little quantitative information on the evolution of ownership within Netherlands, there is some evidence that changes in ownership have occurred within the industry, particularly consolidation. Increasing ITQ prices have resulted in small-scale fishers increasingly leaving the fishing industry, due to the financial incentive to sell quotas to larger companies. In addition, within the family owned cutter fleet vessels are being bought by larger fishing companies. Lastly, in the pelagic sector, the merging of companies has led to the current situation where only a few large pelagic fishing companies exist, but that operate worldwide[96]. The largest companies in the Dutch pelagic sector are P&P Group, Cornelis Vrolijk and van der Zwan. The largest demersal fishing companies in the Netherlands are Quotter, de Boer and Jaczon.[97] Quotter is owned by van der Zwan and Jaczon is owned by Cornelis Vrolijk. These big companies are integrated businesses controlling the whole operations chain which includes catching, processing and trade of fish.

Within the Dutch cutter fleet, almost every vessel belongs to a family owned company. The crew members of the vessel form together with the owner a partnership, where the owner makes the ship available to the partnership and the (direct) costs and revenues in the partnership are shared. However, there is increasing development of strong internationalisation of Dutch fishing companies, with several Dutch-based enterprises operating foreign flagged cutters (e.g. UK, German and Belgian flags)[98].

[96] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

[97] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

[98] Wageningen University and Research. (2018). Retrieved from https://www.agrimatie.nl/

Despite apparent consolidation of vessels and quota, the number of active enterprises involved in Dutch fisheries (575 enterprises in 2017[99]), have been fairly stable in recent years. For example, as of 2017 the vast majority of fishing enterprises owned a single vessel (83%), while 17% owned two to five fishing vessels, with 10% owning more than five vessels. Where changes in vessel numbers have occurred, these have predominantly been in the cutter fleet sector, with the number of companies within the cutter fleet sector that have more than one vessel increasing since 2008[100], with an apparent upward trend in profits resulting in several commissions to construct new vessels for 2018[101]. In addition, the large-scale trawler fleet increased to eight vessels in 2017, after more than halving in number in the period 2012-2016. The decline in the number of vessels of the fleet was mainly due to two main reasons: renewal of the fleet and reduced fishing opportunities[102], including changes in international fisheries agreements.

2.7.4.2. Drivers of changes in ownership

The Dutch fisheries sector has increased its international orientation over the past decade. Indeed, Dutch companies are owners or co-owners of German, French and British trawlers and also active in countries outside the EU, while there are also reports that some trawlers have changed flags and therefore no longer belong to the Dutch fleet[103].

After the CFP was implemented, the, large Dutch pelagic fishing companies started investing in processing facilities, developing their vertical integration, mainly to compete better with their large Norwegian counterparts. Hence, additional supply of raw materials was needed, which could be acquired through accessing stocks outside national waters[104]. As a result, these Dutch pelagic fishing companies started to invest in several European countries, including Germany, France, the United Kingdom, Denmark, Lithuania, Spain and Portugal.

For example, P&P Group, which has become the largest group of fishing companies in Europe[105] (sales of EUR 1.4 billion annually), owns and operates both fishing and fish processing companies, which it has acquired since the 1950s. In 1999 P&P Group founded the German Seafrozen Fish (GSF), while Euro-Baltic Fisch Verarbeitungs in Germany, one of the largest fish-processing companies in Europe, was purchased in 2003 and in 2009 P&P Group acquired one of the oldest Dutch herring processors, Ouwehan. P&P Group has also been an important supplier and partner of the German salmon producer and seafood company Deutsche See for decades. Since early 2018, Deutsche See was brought inside the P&P Group through vertical integration following the acquisition of Deutsche See by the P&P Group. Horizontal integration is also apparent within the P&P Group. For example, in 2014 P&P Group took over the Dutch shrimp company Heiploeg, Europe's biggest shrimp supplier and processor, while in 2016, the P&P Group purchased Compagnie Française du Thon Océanique (CFTO), resulting in an increase in P&P Group's tuna fishing capacity in the Atlantic and Indian oceans as well as strengthening its presence in France. More recently, within the Netherlands P&P Group has invested in Dadas Groep, an Urk-based firm that owns beam trawlers targeting plaice and sole as well as processing and freezing facilities and a

[99] Scientific, Technical and Economic Committee for Fisheries (STECF) – The 2018 Annual Economic Report on the EU Fishing Fleet (STECF-18-07). Publications Office of the European Union, Luxembourg, 2018, JRC112940, ISBN 978-92-79-79390-5, doi:10.2760/56158

[100] Nederlands vlootregister

[101] Wageningen University and Research. (2018). Retrieved from https://www.agrimatie.nl/

[102] De *Nederlandse*. *Maritieme Cluster*. Monitor *2017*. *Marten van den* Bossche. Marjan *van Schijndel*. *Geerten van de Pol*. *Menno Wester*.

[103] Ibid.

[104] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

[105] http://www.intrafish.com/news/1467621/dutch-giant-pandp-fears-hundreds-of-job-losses-under-hard-brexit?utm_medium=email&utm_source=free_article_access&utm_content=230912268

wholesale operation[106]. This recent acquisition enables P&P Group to also provide flatfish to their customers through their own sales channels and again represents a move to secure supplies.

Horizontal integration has also taken place in the demersal segment with domestic and international investments, but to a lesser extent. For instance, the de Boer family currently operates a network of over 40 family owned fish catching and processing companies. As the demersal quotas in the Netherlands were not sufficient to meet their needs, they invested in fishing companies or vessels in the United Kingdom. Dutch demersal companies have also made investments in Belgium, Germany, Denmark, France, Sweden and Norway (Warmerdam et al., 2018).

The five largest Dutch fisheries companies are P&P Group, Cornelis Vrolijk, Jaczon, AZ Fisheries Holding and Prins & Dingemanse. All five companies are strongly anchored in the Netherlands. The shareholders are completely determined by the founding Dutch families and the boards of directors is also composed by Dutch people[107]. Of these, four have international operations, several foreign branches[108] and own pelagic freezer trawlers operating in international waters[109].

[106] https://www.undercurrentnews.com/2018/12/27/pp-moves-into-flatfish-with-deal-for-dutch-catching-processing-firm/
[107] Ibid.
[108] Ibid.
[109] Low-Impact Fishers of Europe (2017). Fishy business: Fish POs in the EU. Low-Impact Fishers of Europe. Retrieved from: http://lifeplatform.eu/fishy-business-fish-pos-eu/

2.8. Spain

2.8.1. Vessels

Spain is one of the largest fishing nations in the EU. In 2017, the Spanish fleet was composed of 9,188 vessels, having a total engine power of 788,064 kW and a gross tonnage of 335,632 GT (Table 38).[110,111] It can be divided into three categories:

- A distant water fleet, composed of large vessels (>23 m) operating in EU outermost regions (e.g. Canarias) and other fishing regions around the world;
- A large-scale fleet, including all vessels using towed gears, and vessels over 12 m using static gears in EU fishing regions; and
- A small-scale coastal fleet with vessels under 12 m in length

Table 38: Overview fleet structure for Spain.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12m	6,750	17,088	161,622
12-23m	1,740	62,011	222,549
>23m	698	256,233	403,893
Total	**9,188**	**335,632**	**788,064**

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

Data on fishing vessels are held by MAPA (formerly MAPAMA) and by Fomento. These data are not published and are only provided upon justified request to the ministries. Data provided by the two ministries are complementary, MAPA provides data on active vessels, while Fomento provides detailed information on vessel owners such as legal names. The latter has allowed the type of entrepreneurship, e.g. whether the owner is a natural person or a limited liability company or have any other legal form to be identified. However, the data provided by the ministries is limited, particularly with regards to ownership. A comprehensive web search has been conducted to complement the official data from a variety of sources, these includes interrogation to the ICCAT database and searches and websites of regional governments, fishing guilds and websites offering free information on entrepreneurs and payment was made to access information about the largest firms. Consultations have been also directed to fishing guilds to clarify doubts on vessels with access to quotas managed under common pools.

Data on companies' ownership structures and nationality of shareholders has been constructed on the assumption that smaller vessels are owner-operators and the focus has been to identify the ownership structures and nationality of the ultimate owners of the larger companies. On this basis, the ownership structure of vessels including the ultimate owners has been completed. With limited foreign ownership noted (Table 39).

Table 39: Overview of nationality of vessel ownership for Spain.

Member State	Share of vessels (%)	Share of vessel tonnage (%)	Share of vessel power (%)
Spain	97.61	94.95	96.08
Ireland	0.04	2.99	1.96
Iceland	0.01	0.67	0.39
Unknown	2.34	1.40	1.58
Total	**100**	**100**	**100**

Source: Authors' calculations.

In 2018, quotas allocated to Spain under the TACs and quota regulation, in EU and non-EU waters (e.g. RFMOs) were managed within a system of individual allocations and

[110] EC fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).
[111] http://ec.europa.eu/eurostat/statistics-explained/index.php/Fishery_statistics_in_detail

share common quota pools. Within this, 126,896 tonnes were managed through quota pool systems. Table 40, below provides details of individually allocated quotas. In 2017, 1,122 vessels have been subject to individual allocations. This includes quotas allocated across national fishing grounds, EU waters and international waters[112]. Out of this figure, the segment of 20.1-40 metres is where the largest percentage of the quotas (61%) are concentrated.

Table 40: Data on individually allocated quotas (tonnes) by fleet segment for Spain.

Fleet segment (length)	Vessels	Quotas
< 12 metres	49	781
12.1 - 20 metres	382	13,002
20.1 - 40 metres	573	149,111
> 40.1 metres	78	78,117
Others[113]	40	3,746
Total	**1,122**	**244,758**

Source: Authors' calculations.

Findings in relation to the typology of entities owning fishing vessels subject to individual quota allocations. Table 41, indicates that around 56% of the individual quotas are owned by Sociedades de Responsabilidad Limitada (SRL)[114]. In turn, the Sociedades Anonimas (SA), retain 27% of the quotas. It is interesting to note that 'personas físicas' (natural persons) and 'comunidades de bienes', and other forms of association between natural persons, retain together 16% of the quotas. This may be explained by the traditional nature of the fishing business in Spain, where many vessels are often operated by families.

Table 41: Types of entrepreneurship related to individual quotas within Spain (tonnes).

Type of entity[115]	Quotas
Sociedad De Responsabilidad Limitada (Srl)	136,677
Sociedad Anonima (Sa)	65,830
Persona Fisica Nacionalidad Española	39,630
Comunidad De Bienes Y Otras Entidades Sin Personalidad Juridica	889
Others	1,732
Total	**244,758**

Source: Authors' calculations.

2.8.1. Licences

Spain maintains a compulsory licensing system. Non-quota species are regulated through licensing, Territorial Use Rights in Fisheries (TURFs) and closures.

[112] International waters include tuna and non-tuna RFMOs where the EU receives quotas e.g. IOTC, ICCAT, NAFO.

[113] Include 5 fish traps (*almadrabas*) with individual allocations (1,292 t). It also includes 3 vessels not found in the CFR but holding individual quotas (79.6 t). The rest are vessels absent in the list of active vessels (MAPAMA), but that have individual quotas in 2018 (2,361t).

[114] *Sociedad de Responsabilidad Limitada* is a form of enterprise where liability is limited to the capital contributed by the partner to the society. Capital is divided into social participations which are not divisible and transferable. *Sociedad Anónima*, is a kind of company where capital is divided into shares which are transferable.

[115] Translations for the typologies of forms of entrepreneurship are not provided here since accurate translations of these terms may not be possible due to the differences on formal definitions of economic activities across the different countries in this study.

2.8.2. Quotas

In 2018, quotas allocated to Spain under the TACs and quota regulation, in EU and non-EU waters (e.g. RFMOs) are set at 371,654 tonnes of fish – from this figure, the national quota for blue whiting represents 25.5%, horse mackerel represents 10.6%, European hake 10%, anchovy represents 9.6% and mackerel 6.8%, of the total. Regarding, bluefin tuna the current Spanish quota is 5,000.28 tonnes, out of a total TAC of 23,155 tonnes for all ICCAT member states.

The Law 3/2001 implanted the possibility of transfer of quotas amongst vessel owners. This attribute has been shaped by successive regulations setting the criteria to access quotas, determination of the quota shares, ring-fencing of quota shares for specific purposes (e.g. for some fishing sectors), limits on concentration, roles of POs or other associative entities, duration and temporal characteristics of the quota transfer (i.e. either permanent of temporal). It is worth noting that access to quota is linked to the ownership of vessels. Exchanges are therefore allowed only amongst vessel owners (Table 42). Thus, third parties can only access fishing quotas through acquisition of a fishing vessel.

Table 42: Summary of fisheries management and quota allocation in Spain.

Variable	
Management type*	Quota and effort management. System of licences and fishing permits. ITQs for certain fisheries. Community non-transferable and transferable quotas. TURFs. Effort quota.
Landed weight under quota management**	22%
Allocation process*	Initial allocation carried out by the Ministry considering gear type and socio-economy and regional concerns. Stakeholder consultations launched on a regular basis. The frequency of the negotiations and fishing opportunities allocation depends on management plans. Bluefin tuna, swordfish in the Atlantic and Mediterranean and demersal species fished in the NEAFC zone are under individual transferable quotas (ITQs). Other quotas may also be transferred but no official quota markets are in place. Differentiated by; fleet segment.
Allocation criteria*	Socio-economic criteria form the basis, mainly historic catch levels and contribution to the local economy. Other criteria are not used due to the difficulties to measure them and because the use of transparent data leads to clear indicators (compliance and environmental criteria).
Indicators*	Transparent indicators include employment rates, economy dependence, vessels' size and historic catch records. Include logbooks, sail notes and employment data.
Holder**	Most quotas are held individually by fishers, but associated with vessels. Some quotas such as bluefin tuna are pooled and managed by federations of *cofradías*. This is one of the attributes of the associative entities as specified by the regulation in force. Bluefin tuna, swordfish in ICCAT area of competence and demersal species fished in the NEAFC zone are under individual transferable quotas (ITQs). Other quotas may also be transferred but no official quota markets are in place.
Security**	Quota shares are not guaranteed and distribution criteria are applied every year for some stocks. At the same time, historical activity makes up the most important criteria, providing some consistency in the allocation of quotas.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

The Secretariat of Fisheries publishes data on individual allocations in the Official Bulletin of the State (BOE in Spain) on an annual basis. Data for each species and fishing ground are published through ministerial orders. These data have been employed to build the data base of vessels and their respective individual quotas.

Once national quotas are allocated to Spain, through the Regulation of TACs and Quotas[116], the Secretariat distributes the quotas by fishing grounds and allocates individual quotas (usually as percentages) to all vessels licensed to fish in the fishing ground in question. These data are published in the BOE. The database developed in the present study provides data on a granular basis, for example, individual quotas for hake in Grand Sole are provided by ICES subareas for all vessels fishing in those zones.

2.8.3. Ownership

According to the OECD there are no restrictions on ownership in Spain. For the Spanish fishing fleet, the most concentrated quotas are cod in area 1, 1N, 2AB, 2B and N3M (CR4 of 91% and a CR8 of 95%) and Yellowfin tuna (CR4 87.6%). These quotas all have an HHI in excess of 1,500, indicating high concentration levels. While there was little data concerning fleets fishing in EU waters, there was evidence of foreign ownership of its fishing quota in NAFO waters (Table 43).

Table 43: Measures of quota concentration for the Spain fishing fleet.

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Yellowfin tuna	41,300	100,673,728	15	68.8	93.4	21.3	1,685	0.64
Hake 5, 7, 12, 14	17,199	68,987,014	96	16.3	24.7	0.0	175	0.40
Blue whiting 1x14	45,173	52,884,562	108	12.5	18.7	1.6	133	0.32
Albacore AN05N	14,804	48,956,913	694	2.9	4.8	0.2	22	0.35
Anchovy 8 Purse seiners Cantabric North West	29,246	48,339,718	470	3.1	4.8	0.1	31	0.36
Hake 8ABDE	11,995	48,111,055	102	21.8	35.2	0.0	250	0.59
Bigeye tuna Atlantic	9,500	37,796,064	391	6.4	10.6	0.8	46	0.41
Swordfish North 5N	6,474	35,889,305	138	12.2	20.6	1.1	128	0.44
Cod 1, 2B	12,182	33,485,361	4	100		51.6	3,566	0.46
Blue whiting 8C, 34.1.1 Trawling Cantabric North West	37,927	33,127,544	89	15.9	24.5	1.0	178	0.36
Swordfish South 5N	4,546	25,200,792	34	23.6	40.4	0.0	364	0.24
Bluefin tuna AE45WM	3,313	25,090,282	272	30.2	48.6	0.3	350	0.73
Greenland halibut N3LMNO	4,534	20,195,610	16	54.3	85.3	1.9	1,133	0.51
Nephrops 7	1,636	17,952,952	96	17.4	26.3	0.0	186	0.43

[116] Regulation 2018/120 of the Council

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Megrims 7	3,463	13,850,140	96	17.4	26.3	0.0	187	0.43
Anchovy 9, 34.1.1 Purse seiners Gulf of Cadiz	5,858	10,988,279	123	12.1	21.7	0.0	154	0.49
Hake 8C, 34.1.1 Trawling Cantabric North West	2,549	10,222,380	89	15.1	23.7	1.0	171	0.35
Swordfish Mediterranean	1,729	9,583,082	102	11.7	20.7	0.0	142	0.36
Cod 1N, 2AB	3,101	8,523,896	4	100		51.6	3,566	0.46
Mackerel Purse seiners Cantabric North West	8,471	8,200,851	454	5.5	9.9	0.5	46	0.49
Anglerfish 8C, 34.1.1 Other gear Cantabric North West	1,529	8,192,306	5,039	10.4	18.6	0.1	89	0.56
Mackerel Other gear Cantabric North West	8,996	8,076,108	5,039	0.4	0.7	0.2	2	0.18
Anglerfish 8ABDE	1,281	7,724,042	93	26.4	40.2	0.0	306	0.61
Anglerfish 8C, 34.1.1 Trawling Cantabric North West	1,346	7,215,320	90	15.1	24.7	1.0	170	0.36
Horse mackerel 2A-14	8,073	6,976,085	108	12.5	18.7	1.6	133	0.32
Ling 6x14	3,268	6,612,037	97	16.6	26.9	0.0	178	0.41
Mackerel 8C, 34.1.1 Trawling Cantabric North West	6,928	6,219,600	89	16.4	24.7	1.0	180	0.37
Anglerfish 7	1,154	5,956,918	96	17.4	26.3	0.0	187	0.43
NEAFC Sole Cantabric North	394	5,484,522	7,452	0.3	0.5	0.3	2	0.22

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
West Gulf of Cadiz Canarias NEAFC Portugal								
Horse mackerel 9A Purse seiners Cantabric North West	7,424	5,207,571	158	12.9	22.0	0.0	135	0.51
Megrims 8C, 34.1.1 Trawling Cantabric North West	997	5,155,439	90	15.1	24.2	1.0	169	0.35
Skates N3LNO	3,403	4,941,748	16	65.0	87.4	1.6	1,965	0.61
Horse mackerel 8C Purse seiners Cantabric North West	7,446	4,757,480	395	7.3	12.9	0.2	67	0.58
Cod N3M	1,594	4,381,519	4	100		51.6	3,566	0.46
Horse mackerel 8C Trawling Cantabric North West	5,793	4,063,120	89	17.7	26.3	1.0	191	0.38
Anglerfish 8C, 34.1.1 Tangle Net Cantabric North West	724	3,879,580	33	21.7	39.1	0.0	393	0.29
Hake Bottom Gillnet Cantabric North West	953	3,823,429	58	19.7	29.4	0.0	259	0.35
Redfish N3O	1,771	3,740,554	16	65.1	86.4	1.6	1,372	0.58
Horse mackerel 9 Trawling Cantabric North West	5,173	3,304,819	89	15.8	24.5	1.0	173	0.36
Megrims 8ABDE	631	3,113,041	93	26.4	40.2	0.0	306	0.61
Hake Cantabric	751	3,010,330	4,867	1.5	3.0	0.2	4	0.22

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
North West								
Albacore AS05N	906	2,995,770	1			0.0		
Anglerfish 5, 6-14	323	2,220,394	95	15.0	23.7	0.0	168	0.40
Megrims 5, 6-14	564	2,026,322	95	15.0	23.7	0.0	168	0.40
Skates and rays 8, 9C Cantabric North West Gulf of Cadiz NEAFC Trawling Portugal	1,305	2,008,553	6,658	0.3	0.6	0.3	2	0.22
Skates and rays 6,7A-KxD	920	1,975,550	108	12.5	18.7	1.6	133	0.32
Blue whiting 8C, 34.1.1 Total Gulf of Cadiz	2,241	1,957,616	950	2.0	3.6	0.6	15	0.30
Bluefin tuna AE45WM Canarias	249	1,883,361	286	5.3	8.6	0.8	46	0.25
Hake Bottom longline Cantabric North West	464	1,860,905	87	8.7	15.7	0.0	141	0.24
Pollack 9, 34.1.1 Cantabric North West Gulf of Cadiz Canarias Trawling Portugal	267	1,799,322	7,345	0.3	0.6	0.3	2	0.22
Whiting 8	951	1,491,544	93	26.4	40.2	0.0	306	0.61
Nephrops 8ABDE	203	1,464,113	93	26.4	40.2	0.0	306	0.61
Hake Total Gulf of Cadiz	326	1,306,087	950	2.0	3.6	0.6	15	0.30
Anglerfish 8C, 34.1.1 Trawling Portugal	234	1,255,044	24	75.8	88.0	0.0	2,729	0.78
Pollack 8C Total Cantabric North West	204	1,096,923	5,581	0.4	0.6	0.2	2	0.20

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Horse mackerel 8B Purse seiners Cantabric North West	1,210	1,045,514	295	15.1	23.4	0.7	126	0.60
Nephrops 9, 34.1.1 Trawling Gulf of Cadiz	58	938,125	204	18.7	32.2	0.0	213	0.70
NEAFC Plaice Cantabric North West Gulf of Cadiz Canarias NEAFC Portugal	64	786,293	7,452	0.3	0.5	0.3	2	0.22
Pollack 8ABDE	236	751,349	93	26.4	40.2	0.0	306	0.61
Megrims 8C, 34.1.1 Trawling Portugal	142	732,911	24	83.3	96.0	0.0	2,634	0.84
Blue whiting 8C, 34.1.1 Other gear Cantabric North West	715	624,871	5,039	0.4	0.7	0.2	2	0.18
Hake 8C, 34.1.1 Trawling Portugal	144	575,808	20	68.6	88.8	0.0	1,889	0.69
Horse mackerel 9A Other gear Cantabric North West	814	570,893	5,039	0.4	0.7	0.2	2	0.18
Blue ling 5B, 6, 7	302	507,803	108	12.5	18.7	1.6	133	0.32
Redfish N3M	233	492,123	11	66.0	92.6	10.0	1,485	0.46
Nephrops 5BC, 6	23	456,118	95	15.0	23.7	0.0	168	0.40
Nephrops 9, 34.1.1 Trawling Portugal	28	454,504	24	56.3	84.2	0.0	1,148	0.65
Horse mackerel 8C Other gear Cantabric	701	447,852	5,039	0.4	0.7	0.2	2	0.18

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
North West								
Anglerfish 8C, 34.1.1 Total Gulf of Cadiz	80	430,117	950	2.0	3.6	0.6	15	0.30
Blue whiting 8C, 34.1.1 Trawling Portugal	471	411,662	24	47.9	80.1	0.0	923	0.59
Blue ling 1,2 Int.	237	399,511	108	12.5	18.7	1.6	133	0.32
White hake N3NO	255	291,319	16	79.1	91.6	1.6	3,317	0.74
Megrims 8C, 34.1.1 Other gear Cantabric North West	52	268,635	5,039	0.4	0.7	0.2	2	0.18
Hake 8C, 34.1.1 Pole and line	65	261,462	26	24.7	41.4	0.0	448	0.20
Horse mackerel 9A Purse seiners Gulf of Cadiz	355	249,162	123	9.9	14.8	0.0	116	0.35
Megrims 8C, 34.1.1 Total Gulf of Cadiz	47	242,100	950	2.0	3.6	0.6	15	0.30
Redfish 51214D	94	198,352	108	12.5	18.7	1.6	133	0.32
Redfish 1N2AB	83	174,476	108	12.5	18.7	1.6	133	0.32
Mackerel Total Gulf of Cadiz	191	171,215	950	2.0	3.6	0.6	15	0.30
Horse mackerel 9A Trawling Gulf of Cadiz	226	158,197	204	6.3	11.1	0.0	72	0.37
Anchovy 9 Purse seiners Cantabric North West	67	125,884	470	3.1	4.8	0.1	31	0.36
Mackerel	110	98,366	108	12.5	18.7	1.6	133	0.32
Nephrops 9, 34.1.1 Trawling Cantabric	5	86,452	89	13.7	22.6	1.1	162	0.34

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
North West								
Sole 8AB	7	68,806	108	12.5	18.7	1.6	133	0.32
Greenland halibut 2A-C, 4, 6	14	61,972	108	12.5	18.7	1.6	133	0.32
Pollack 7	22	61,260	96	17.4	26.3	0.0	187	0.43
Horse mackerel 4BC, 7D	97	54,792	108	12.5	18.7	1.6	133	0.32
Tusk 5, 6, 7E-I	52	47,145	108	12.5	18.7	1.6	133	0.32
Horse mackerel 9 Trawling Portugal	31	22,024	24	63.0	83.0	0.0	1,444	0.67
Horse mackerel 9A Other gear Gulf of Cadiz	30	21,279	644	2.4	4.4	0.7	20	0.26
Pollack 5, 6-14	5	18,577	108	12.5	18.7	1.6	133	0.32
Mackerel 2Cx14	19	15,804	108	12.5	18.7	1.6	133	0.32
Herring 1, 2	28	11,992	108	12.5	18.7	1.6	133	0.32
Dogfish 15x14	9	6,029	108	12.5	18.7	1.6	133	0.32

Source: Authors' calculations.

The analysis of the top eight quota holders in Spain reveals that foreign owners appear to have fairly significant interests as ultimate owners (Table 44), although overall holdings are lower than in other countries (e.g. Denmark, Ireland, Sweden). Collectively, individual natural persons own 2.24% of total quotas in Spain.

Table 44: Top eight owners of Spanish fishing quota.

Owner name	Quota tonnage	Share of total national quota (%)	Share of total EU quota (%)
Jakobsland Investments SL	13,510	3.85	0.30
Samherji HF	8,904	2.54	0.20
Persona natural	7,875	2.24	0.17
Echebastar SA	6,447	1.84	0.14
Fentrol Ltd	4,845	1.38	0.11
Gilbrook Ltd	4,845	1.38	0.11
Ensenada 1702 SL	4,793	1.36	0.11
Mascato SA	4,102	1.17	0.09

Source: Authors' calculations.

Size composition of the Spanish fishing fleet according to ownership nationality is provided in Table 45. While it was not possible to determine nationality in all cases, the data suggest that, as with other countries, foreign ownership is concentrated in the larger segment of the fleet.

Table 45: Size composition of the domestically- and foreign-owned components of the Spanish fleet.

Vessel length class (m)	Ultimate owner nationality	Number of vessels	Vessel tonnage (GT)	Vessel power (HP)
0-12	ES	6,545	14,953	153,322
0-12	UNK	172	360	3,699
12-23	ES	1,683	59,814	214,384
12-23	UNK	30	914	3,342
>23	ES	671	232,183	367,558
>23	IE	4	9,706	15,060
>23	IS	1	2,165	3,000
>23	UNK	11	3,261	5,095

Source: Authors' calculations.

2.8.3.1. Evolution of ownership

Changes in the concentration of vessels and quotas have mostly occurred within vessels operating in the same fishing grounds. This is because in general, quotas within the Spanish fishing industry are allocated only to vessels operating in those fishing grounds, with transfer of quotas restricted between fisheries. The fisheries management system within Spain links the quota allocation to the vessel and licence. Therefore, only vessels with quota are able to operate in a given fishery and can acquire additional quota from other vessels in the same fleet. Thus, the only way for interested parties outside the fishing fleet to obtain quotas is to purchase vessels or companies operating in the target fisheries.

There are several instances where restrictions are reduced on transferring quotas. For example, on a temporal basis (i.e. within the fishing season) bluefin tuna quotas can be transferred amongst different fleets, e.g. transference between purse seiners in the Bay of Biscay and fishing traps in Andalucía. However, the transfer of quota can also be permanent. For example, in the North East Atlantic Fisheries Commission (NEAFC) an active process of fleet reduction and concentration of quotas has occurred since 1997, with the fleet shrinking from 210 vessels to 98 in the last twenty years. The Northwest Atlantic Fisheries Organization (NAFO) has also seen permanent transfer of and concentration of quota. In 1999, 35 vessels owned by 25 fishing companies, were authorised to operate in NAFO waters. As of 2018, through consolidation of vessels and quota within companies, the fleet holds 20 trawlers, owned by 10 companies (Figure 9).

Although ownership changes mostly occurred in the first decade of the new century, acquisitions of vessels are still reported. In late 2017, for example, the Galician fishing company Santamar Gran Sol S.L. acquired two trawlers from the Basque company Urondo S.A. With this transaction Santamar has increased its quotas of demersal species to 2,378 tonnes (2018). It is also notable that fishing vessels with access to NEAFC waters have been acquired by Spanish tuna companies and are currently employed as auxiliary ships for tuna operations in non-EU waters. These vessels remain in the Spanish fleet although they have been temporally moved to the auxiliary vessels list. For example, the trawlers Txori Bi and Txori Hiru acquired by the Basque tuna company INPESCA (Figure 8).

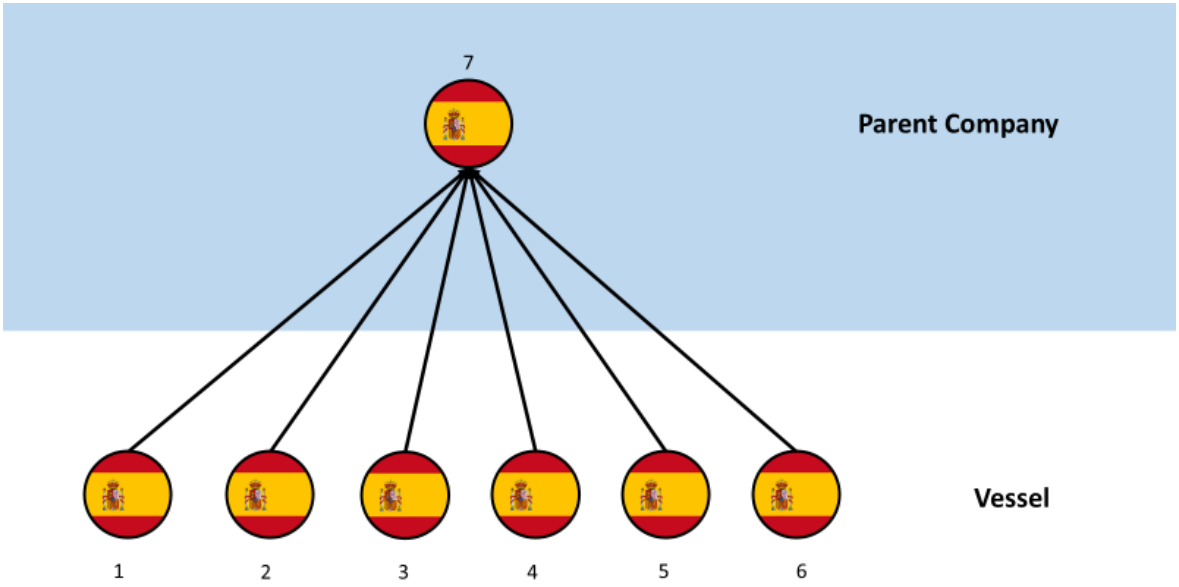

Figure 8: Network diagram of INPESCA.

Source: http://www.inpesca.com/inpesca/dm/boats.asp?nombre=2097&hoja=0&sesion=1347

Table 46: Description of nodes in Figure 8.

Number	Title	Type	Nationality
1	Itsas Txori	Vessel	ES
2	Txori Bi	Vessel	ES
3	Txori Argi	Vessel	ES
4	Txori Hiru	Vessel	ES
5	Txori Zuri	Vessel	ES
6	Txori Gorri	Vessel	ES
7	INPESCA. S.A.	Company	ES

There is evidence to show that there has been a reduction in the size of Spain's fishing fleet. For example, the Spanish fleet targeting cod (e.g., within Norwegian waters) have experienced a substantial reduction in size[117], reducing from 16 vessels owned by six companies in 2000 to only four companies owning four fishing vessels. This fishery has experienced a process of rationalisation of fleet capacity, and changes in fishing tactics by reducing the use of pair trawling. Fewer vessels, although bigger and more modern, are currently employed in the fishery. In fact, average vessels size has increased from 940 GT in 2000 to 1,437 GT in 2018. Again, the use of ITQs in the fishery seems a key factor in allowing consolidation of vessels and quotas in the fishery. Foreign companies, including from Norway and UK have acquired the Spanish quotas and ability to operate in NAFO and Norwegian waters, see for example the case of Pesquera Ancora[118].

The Spanish fleet fishing within NEAFC waters has shown substantial interregional mobility and concentration of vessels and quotas (Figure 9). For example, the Autonomous Community of Galicia is currently home to 73.5% of the Spanish fleet and the Basque Country 17% (by number of vessels). This is in comparison with a 1996

[117] The case of acquisition of vessels and companies within Spanish vessels in the NAFO fisheries is described in the respective case study in this report.
[118] Ibid.

census of fishing vessels, in which the Autonomous Community of Galicia was home to 53% of the fleet and the Basque Country 47%.

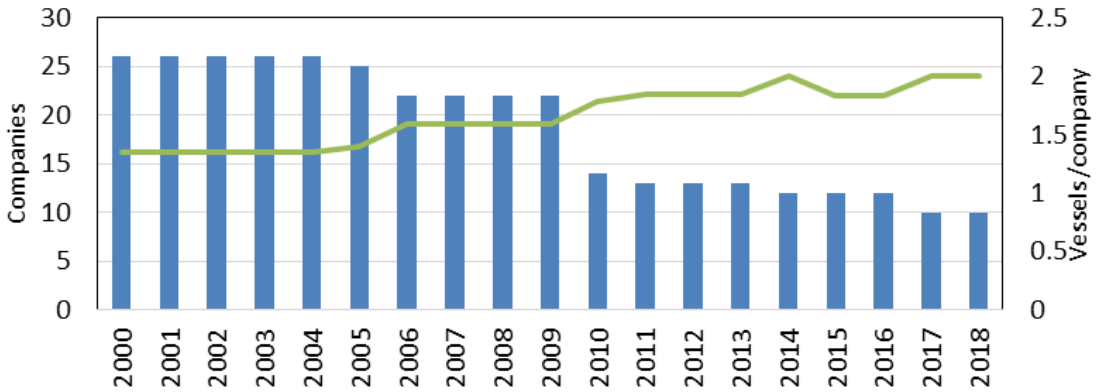

Figure 9: Number of companies (blue) and vessels per company (green) in NAFO.

Source: Official censuses of the NAFO fishing fleet, as published in the BOE, various years.

2.8.3.2. Drivers of changes in ownership

For fleets operating within the EU system of quotas it appears that the transferability of quotas amongst eligible vessel owners has triggered the restructuration of the fleet, as shown in the cases of the fleets operating in NEAFC, NAFO, and Norwegian waters. The main driver for these transactions seems to be the aim of ensuring fish supply and to match fishing possibilities with fishing capacity. In NEAFC, the aim to increase production in the harvesting sector can be seen in the case of acquisition of Basque vessels by Galician operators. This has resulted in a regional restructuration of the fleet, which the consolidation of vessels within the Autonomous region of Galicia.

Resource status may also have had a role in influencing restructuration of the fleet and ownership. In 2004, the fishery of black halibut in NAFO was subject to a long-term recovery plan that meant a reduction of the TAC from 42,000 tonnes to 16,000 tonnes. The Spanish fleet saw its share reduced from 16,000 to 4,500 tonnes. The plan lasted until 2010 and triggered a comprehensive restructuration of the fleet; in 2005 35 trawlers were operated by 25 companies in the NAFO, while by 2010 only 25 vessels were operating (owned by 14 companies).

Regarding social drivers of ownership change, currently 16% the individual quotas are in hands of Spanish citizens and associations of citizens (e.g. comunidad de bienes) (Table 41). These quotas are allocated for the most part to inshore fleets where fishing is mostly carried out by families that have inherited the fishing activity and its means of production. The family structure determines that in many cases the responsibilities of the fishing operations and management are in hands of the owners. Figure 10 shows a typical ownership structure in the Spanish inshore sector. The vessel which is based in the port of Colindres belongs to a comunidad de bienes participated by three family members. The purse seiner is 25.5 m long with individual quotas amounting 164 tonnes of mackerel, horse mackerel and bigeye tuna.

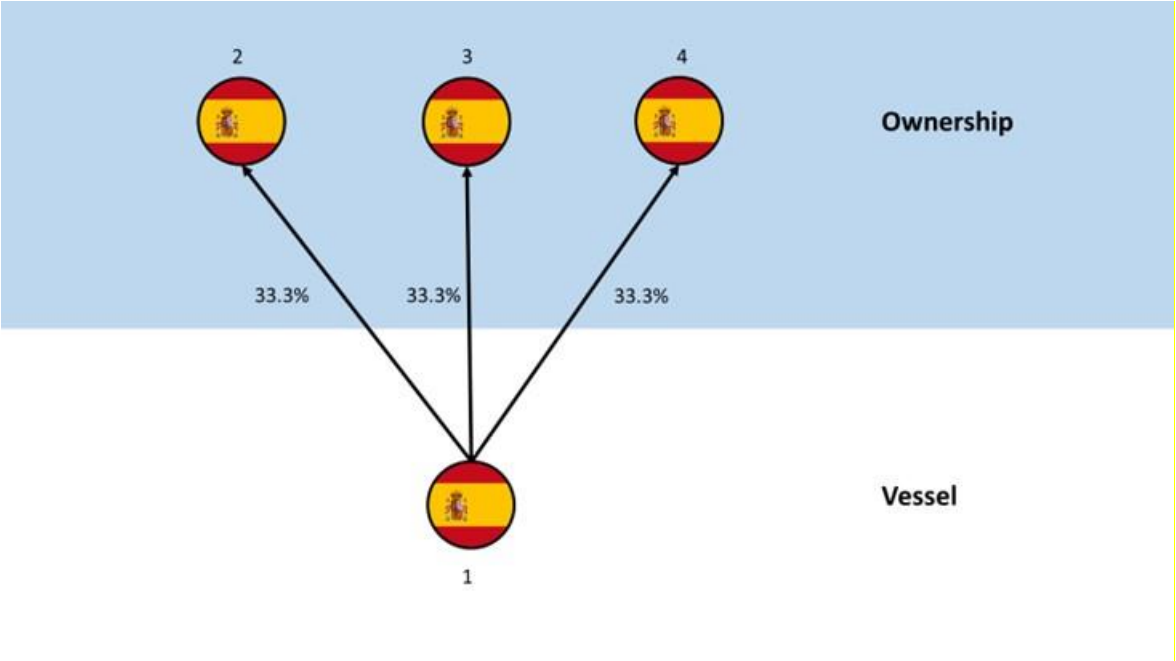

Figure 10: Network diagram of the typical ownership structure within Spanish inshore sector, example of the vessel Nuevo Terreño.

Table 47: Description of the nodes in Figure 10.

Number	Title	Type	Nationality
1	Nuevo Terreño	Vessel	ES
2	Family member	Individual	ES
3	Family member	Individual	ES
4	Family member	Individual	ES

The data indicate that the majority individual quotas (56%) are owned by forms entrepreneurship known as the Sociedad de Responsabilidad Limitada (Table 41). An example of a Sociedad de Responsabilidad Limitada belonging to a family is the group Balfegó. In this case, the family members conduct the fishing operations and have management responsibilities. The group is vertically integrated and comprises the companies Balfegó & Balfegó S.L., which is the head of the group. The company processes and distributes tuna; Balfegó Tuna S.L., which is the aquaculture company taking care of the fattening of tuna in the Mediterranean; and two fishing companies; Pesqueries La Frau S.L. that owns one purse seiner (34 m) and Tio Gel S.L. that owns another purse seiner (30 m). Pesqueries La Frau S.L. and Tio Gel S.L. also co-own a long liner (24 m). Balfegó also own auxiliary boats[119]. Official data indicate the vessels of the group have access to 484.63 tons of bluefin tuna and some other quotas of swordfish for the long liner. According to specialised media, in 2018 the group, in association with others, have fished up a quota of 1,872 tons of bluefin tuna[120]. Sources also indicate that the fishing activities have been carried out in collaboration with Spanish and French fishing operators. Figure 11 and Table 48 show the nodes of ownership for Pesqueries La Frau SL and Tio Gel S.L. The companies concerned are in hands of the Balfegó family.

[119] The group also include companies in nautical tourism, aerial surveillance and an interactive tuna museum.
[120] http://europa-azul.es/balfego-cuota-de-atun-rojo/

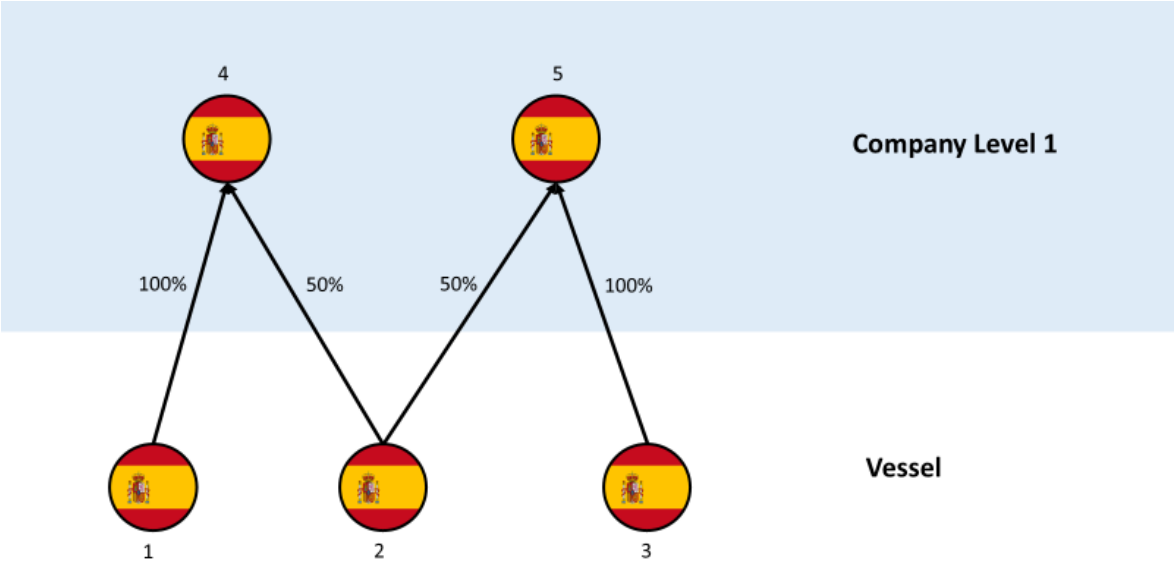

Figure 11: Network diagram of the fishing companies belonging to the Balfegó Group.

Table 48: Description of the nodes for companies belonging to the Balfegó Group in Figure 11.

Number	Title	Type	Nationality
1	La Frau 2	Vessel	ES
2	Enrique el Gato	Vessel	ES
3	Tio Gel Segun	Vessel	ES
4	Pesqueries La Frau S.L.	Company	ES
5	Tio Gel S.L.	Company	ES

In turn, entities following a more corporate structure, such as Sociedades Anónimas, own 27% of the individual quotas (Table 41)[121]. Offshore fleets such as those operating in the NAFO and cod fleets tend to be more capital oriented and follow this structure. Mergers and acquisitions have been more frequent for this type of fleet than in other Spanish fleets (see Case Study 1).

Further changes in the regulation of the fleet and fisheries may have implications to the structure of fleets. For example, the new landing obligation within the revised CFP may lead to changes in fishing quota holdings to prevent problems of choke species. In addition, restrictions preventing access to fish in EU waters may encourage expansion of activities in third country waters. For example, the Spanish fishing company Nueva Pescanova e Iberconsa are investing in new vessels to increase or improve their presence in non-EU countries.

There is also evidence that Spanish fishing companies are being bought by private equity firms (e.g. the Portobello capital acquisition of Iberconsa) or other non-fishing companies (e.g. within tuna fisheries, where the Italian conglomerate Bolton Group

[121] *Sociedad de Responsabilidad Limitada* is a form of enterprise where liability is limited to the capital contributed by the partner to the society. Capital is divided into social participations which are not divisible and transferable. *Sociedad Anónima*, is a type of company where capital is divided into shares which are transferable. The number of shares can be increased trough capital increase, giving access to new shareholders.

acquired the majority share of Garavilla[122]), selling them later to international companies wishing to establish their presence in EU and wishing to gain, or increase, access to certain fishing grounds.

[122] The cases of Portobello Capital and Bolton Group will be discussed their respective case studies in this report.

2.9. Sweden

2.9.1. Vessels

In 2017 the Swedish fleet consisted of 1,254 vessels, with a combined size of 28,493 GT and engine power of 158,684 kW (Table 49).[123] The Swedish fleet is highly diversified and composed of various vessel types targeting different species:[124]

- Large vessels (>23 m), targeting sandeel, sprat and herring using midwater trawls and purse seines in the North Atlantic and Baltic Sea;
- Medium sized vessels (12-23 m) targeting cod, Nephrops, shrimp and herring using midwater and bottom trawlers, mostly in the Baltic Sea; and
- Vessels under 12 m mainly using passive gears such as gillnets to catch cod and herring, or pots to target crustaceans.

While it is possible to link vessels and licences to owners, there are still cases where it has not been possible to link quota to vessel licence or owner because of the complexity of the quota system. Vessel ownership structure for level 1 has been completed, meaning that each vessel has a first owner identified, be it a company, an individual or both combined, with respective percentage shares. 1,169 vessels out of the 1,254 identified fishing vessels are owned by individual's therefore ultimate shareholders. The remaining 85 vessels are owned either by companies or a combination of an individual and a company. From this, the ownership structure of the vessels including the ultimate owners has been completed. Some cases with foreign ownership are noted from this data, however, it is a relatively low proportion (Table 50).

Table 49: Overview fleet structure for Sweden.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12 m	1,096	4,782	76,522
12-23 m	120	7,340	34,267
>23 m	38	16,370	47,895
Total	**1,254**	**28,493**	**158,684**

Source: EC, fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).

Table 50: Overview of nationality of vessel ownership for Sweden.

Member State	Share of vessels (%)	Share of vessel tonnage (%)	Share of vessel power (%)
Sweden	98.29	89.90	93.36
Denmark	1.39	7.72	5.25
Ireland	0.17	2.33	1.20
Germany	0.09	0.02	0.08
Finland	0.04	0.01	0.05
UK	0.01	0.02	0.06
Total	**100**	**100**	**100**

Source: Authors' calculations.

2.9.2. Licences

In order to be granted a commercial licence, fishers need to fulfil a number of criteria related to fishing experience and economic link to the country.

[123] EC fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu);
[124] Eurostat. The 2017 Annual Economic Report on the EU Fishing Fleet (STECF 17-12).

2.9.3. Quotas

Most commercial fisheries are targeting species subject to TACs, and thus under national quota management. Large-scale pelagic fisheries are regulated through an individual transferable quota system (Table 51). Fisheries with passive gear types are managed through a non-transferable quota management, depending on the fishery. In 2017, a new ITQ system was introduced for demersal stocks as well.

Most aspects of fisheries management are controlled by the Swedish Agency for Marine and Water Management (SwAM) under the Ministry of Enterprise and Innovation. Swedish Producer Organisations are not involved in managing fishing quotas, as it is the case in other Member States.

Table 51: Summary of fisheries management and quota allocation in Sweden.

Variable	
Management type*	Quota management. Individual quotas, ITQs (limited to 10% of National quota) and TURFs, fully transferable. Effort quotas.
Landed weight under quota management**	99%
Allocation process*	Varies depending on the definition of fisheries. Differentiated as; pelagic, demersal and costal. Differentiated as; pelagic, demersal, and coastal.
Allocation criteria*	Historic catch records. Economic criteria weight more for pelagic and industrial fisheries. Environmental criteria are relatively higher for demersal fisheries. Social criteria are not considered.
Indicators*	Data from national databases and catch documentation. The reference period is large enough to consider temporarily deviations such as change of vessels, time at shipyard, etc.
Holder**	For ITQ stocks, quota is attached to vessel licences. For other stocks, quota is held collectively by the ministry. Pelagic ITQs are fully transferable, subject to ministry approval and concentration safeguards. Demersal quotas can be transferred during the year but vessel track records are not affected in the following year's allocation. Other quotas are non-transferable.
Security**	ITQs in the pelagic system apply for a 10-year period. After this period, quotas may then be reallocated. Other quotas have no specified period.

Sources: *European Parliament (2015) Criteria for allocating access to fishing in the EU. IP/B/PECH/IC/2014-19; ** Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

There are data available on quota allocated to each vessel or licence for the Swedish pelagic fleet. Quota is broken down by species and stock for several species. In the Baltic Sea there is quota allocated for herring, salmon, sprat, cod and flounder divided by different areas. In the North Sea, Skagerrak and Kattegatt quota is also divided by species and areas. Each species may have quota allocated for different areas (e.g. cod in North Sea EU EEZ, North Sea Norwegian EEZ, Skagerrak and Kattegatt).

There is a noticeable trend regarding the Swedish pelagic ITQs with a strong concentration of effort in the hands of a few Swedish fishing companies. Since there is a restriction on the proportion of the quotas that can be owned (10%), A number of pelagic fishing companies have expanded abroad or invested in coastal demersal fishing. Several companies from Sweden that have subsidiaries in other countries (e.g. Denmark) have been identified.

2.9.4. Ownership

Like several of the other states in the study, ownership in Sweden is restricted to EU nationals. A genuine economic link needs to be demonstrated and at least half the owners need to be Swedish citizens or Swedish juridical persons. The information on Swedish ownership is available for species rather than individual quotas. This may mask issues of concentration at the level of quota as the effects become averaged at higher

levels of aggregation. This also means that the results for Sweden, like Belgium, are not directly comparable to other MS.

Despite being measured at the species level, there are high levels of quota concentration across the measures (Table 52) and it is reported that six companies account for almost 50% of all pelagic quota allocation in Sweden, with Fiskeri AB Ginneton is the largest, holding approximately 12% of the total national pelagic quota[125]. By contrast, there appears to be relatively low levels of concentration in the Swedish demersal segment with six companies accounting for approximately 9% of all demersal quota allocation[126].

Only sprat in the Baltic Sea, herring in the North Sea fjord and Atlanto-Scandian herring indicate significant quota concentration (HHI greater than 1,500). This is predominantly due to a small number of quota owners.

Table 52: Measures of quota concentration for the Swedish fishing fleet.

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Nephrops in the Skagerrak, Kattegat and the Baltic Sea	2,309	30,409,374	472	2.9	5.0	1.4	26	0.23
Sprat in the Baltic Sea	107,963	26,806,560	48	59.8	65.1	27.6	1,580	0.64
Herring in the central Baltic Sea	49,489	18,150,723	36	51.6	75.4	6.8	1,012	0.69
Northern prawns in the Skagerrak and Kattegat	1,821	15,942,250	472	2.9	5.0	1.4	26	0.23
Herring in the Skagerrak and Kattegat	19,623	9,349,399	23	42.8	69.6	4.3	754	0.48
Herring in the eastern Baltic Sea	14,867	5,805,200	36	51.6	75.4	6.8	1,012	0.69
Mackerel in the North Sea, Skagerrak, Kattegat and the Baltic Sea	4,403	5,441,416	23	42.8	69.5	4.4	753	0.48
Sprat in the Skagerrak and Kattegat	6,995	3,721,696	23	42.8	69.6	4.3	754	0.48
Blue whiting in EU and international waters	9,248	1,944,092	326	32.6	34.7	16.4	509	0.42
Cod in the Skagerrak	537	1,752,775	472	2.9	5.0	1.4	26	0.23
Herring in the North Sea fjord	2,060	1,478,983	2	N/a	N/a	50.0	5,000	0.00

[125] Warmerdam et al 2018
[126] Ibid.

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Herring in the western Baltic Sea	3,046	1,376,492	14	58.6	85.7	0.0	1,271	0.47
Haddock in the North Sea (Norwegian)	564	1,349,660	472	2.9	5.0	1.4	26	0.23
Northern prawns in the North Sea (Norwegian)	137	1,201,607	472	2.9	5.0	1.4	26	0.23
Saithe in the North Sea (Norwegian)	702	1,059,596	472	2.9	5.0	1.4	26	0.23
Plaice in the Skagerrak	392	962,475	472	2.9	5.0	1.4	26	0.23
Haddock in the Skagerrak, Kattegat and the Baltic Sea	298	834,603	472	2.9	5.0	1.4	26	0.23
Horse mackerel in the North Sea (north)	548	622,764	326	3.5	6.1	1.2	36	0.16
Northern prawns in the North Sea	58	509,984	472	2.9	5.0	1.4	26	0.23
Plaice in the Kattegat	188	460,696	472	2.9	5.0	1.4	26	0.23
Saithe in the North Sea, Skagerrak, Kattegat and the Baltic Sea	296	446,813	473	2.9	5.0	1.4	26	0.23
Hake in the Skagerrak and Kattegat	182	444,426	472	2.9	5.0	1.4	26	0.23
Herring Atlanto-Scandian	974	419,978	2	N/a	N/a	50.0	5,000	0.00
Pollack in the North Sea (Norwegian)	152	409,392	472	2.9	5.0	1.4	26	0.23
Haddock in the North Sea	195	380,973	472	2.9	5.0	1.4	26	0.23
Cod in the North Sea (Norwegian)	305	380,088	472	2.9	5.0	1.4	26	0.23
Cod in the Kattegat	109	356,806	472	2.9	5.0	1.4	26	0.23
Whiting in the Skagerrak and Kattegat	79	96,345	472	2.9	5.0	1.4	26	0.23

Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Cod in the North Sea	30	95,402	472	2.9	5.0	1.4	26	0.23

Source: Authors' calculations.

A summary of the top owners of Swedish quota reveals that the top quota holdings are fairly significant (Table 53). The top owner accounting for over 16% of total Swedish quota and the top six owners each accounting for over 3% each.

Table 53: Top eight owners of Swedish fishing quota.

Owner name	Quota tonnage	Share of total national quota (%)	Share of total EU quota (%)
Jimmy Andersson	38,510	16.12	0.85
Blom, Bo-Gunnar Arnold	23,005	9.63	0.51
Erik Gunnarsson	12,065	5.05	0.27
Hasses Fisk H/B	9,788	4.10	0.22
Ahlma Fiskeri AB	8,866	3.71	0.20
Västfjord Fiskeri AB	7,772	3.25	0.17
Bo Thomas Johansson	7,081	2.96	0.16
Leif Börje Johansson	7,081	2.96	0.16

Source: Authors' calculations.

Size composition of the Swedish fishing fleet again indicates that larger size vessels appear to be the focus of foreign ownership (Table 54).

Table 54: Size composition of the domestically- and foreign-owned components of the Swedish fleet.

Vessel length class (m)	Ultimate owner nationality	Number of vessels	Vessel tonnage (GT)	Vessel power (HP)
0-12	SE	1,268	5,528	87,366
0-12	DE	2	5	147
0-12	DK	19	146	1,945
0-12	FI	1	5	101
0-12	UK	0.33	8	110
12-23	SE	130	7,980	36,956
12-23	DK	9	504	2,281
12-23	IE	2	211	824
>23	SE	49	19,967	55,784
>23	DK	5	2,226	5,907
>23	IE	2	657	1,496

Source: Authors' calculations.

2.9.4.1. Evolution of ownership

Since the introduction of ITQs a large number of transfers have been made within the Swedish fishing industry (1,375 permanent and 1,853 temporary transfers), with 53 fishers having permanently sold all of their pelagic fishing quota allocations[127]. Such transfers were carried out by the POs and could only have been carried out between commercial fishers. The switch to an ITQ system under the CFP also led to transfer of

[127] Swedish Parliament. (2017). Uppfoljning av systemet med överlatbara fiskerättigheter i det pelagiska fisket. Report 2016/17 RFR7. Riksdagstryckeriet, Stockholm. In Swedish

pelagic fishing vessels to shrimp fishery, resulting in oversupply and overcapacity in the Swedish shrimp fisheries, amplifying problems of poor profitability. Similarly, the transfer of former pelagic vessels to the cod fishery, based mainly in the Baltic Sea, resulted in a strong concentration of effort in the hands of a few Swedish fishing companies. [128]

Within the Swedish fishing industry, individuals are only allowed to own a maximum of two vessels and to hold up to 10% of the allowable quota of a fishery[129]. Associated with such restrictions in the proportion of quota owned, large Swedish pelagic fishing companies have adapted their holdings and quotas have concentrated as a result. They have also expanded abroad and invested in coastal demersal fishing for flatfish, cod, shrimp and crayfish within the EU, as well as within non-EU states. For example, Swedish fishing companies are flagging fishing boats in countries such as Morocco, Comoros, Cook Islands and Belize. The majority of these vessels remain owned by Swedish interests.[130] Other Swedish-owned vessels are flagged out of neighboring countries like Denmark, Norway, Finland, Germany and Poland. Some of these vessels are now operating out of Denmark, Germany and Finland, and therefore fishing in the same waters as when they were Swedish registered. Since there are ITQs in both Denmark and Norway, the number of pelagic fishing boats in Nordic waters as previously Swedish-registered boats have replaced other boats.[131]

There is strong evidence of consolidation in the Swedish fishing industry, with the three largest Swedish fishing companies (Astrid Fiske AB, Fisheries Ltd Ginneton and Bryngeld Fisheries AB) expanding by acquiring quotas in other countries, including Finland and Denmark, as they already have significant Swedish quota.

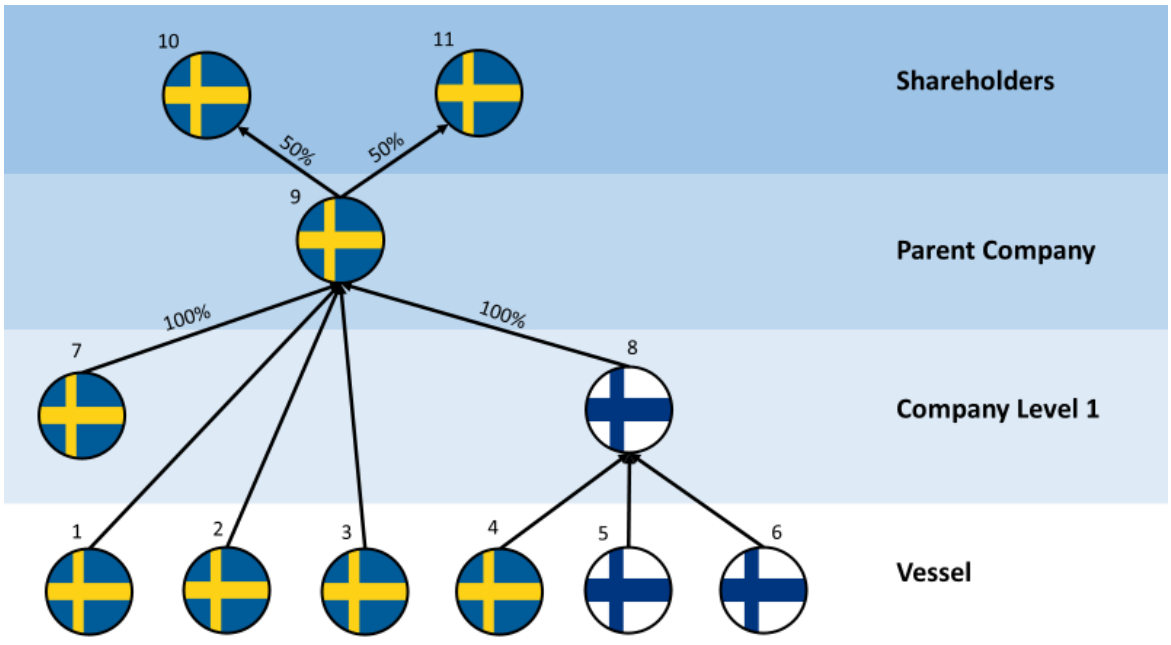

Figure 12: Network diagram of Bryngeld Fiskeri AB.

Note: The above node diagram includes information from grey literature sources that may relate to a different period to the study year.

[128] Isakson J, Richartz S, Bengtsson D (2013) Exporting exploitation How retired EU fishing vessels are devastating West African fish stocks and undermining the rights of local people www.greenpeace.org

[129] e.g. Bonow, M. (2018) Swedish fishing in the wake of ITQ. In: G.M. Winder (ed) Fisheries, quota management and quota transfer: rationalisation through bio-economics. Springer, Cham, Switzerland

[130] M. Winder, Gordon. (2018). Introduction: Fisheries, Quota Management, Quota Transfer and Bio-economic Rationalization. Springer, Cham, Switzerland.

[131] Isakson J, Richartz S, Bengtsson D (2013) Exporting exploitation How retired EU fishing vessels are devastating West African fish stocks and undermining the rights of local people www.greenpeace.org

Table 55: Description of nodes in Bryngeld Fiskeri AB.

Number	Title	Type	Nationality
1	GG44 Runavik	Vessel	SE
2	GG50 Runafjord	Vessel	SE
3	Polar	Vessel	SE
4	Linda	Vessel	SE
5	Roxen	Vessel	FI
6	Fin 1125T Windö	Vessel	FI
7	Sunbream Fishery AB	Company	SE
8	AB Kotka Fiskeri Oy	Company	FI
9	Bryngeld Fiskeri AB	Company	SE
10	Bernt Thomas Bryngeld	Individual	SE
11	Lars-Uno Bryngeld	Individual	SE

2.9.4.2. Drivers of changes in ownership

Although there is little information on the different drivers impacting ownership within the Swedish fishing industry, the introduction of ITQ in Sweden's pelagic fishery has had a significant effect. The number of fishing vessels has reduced and transferability has meant that quotas have become more concentrated[132]. While the policy has increased the economic performance of the remaining fishers, the system has reportedly made it harder for new fishers without previous ties to fishing to enter the pelagic fishing profession. This is due to EU requirements that a fishing licence can only be granted after fleet capacity has been removed from the fleet, while obtaining the necessary licenses and purchasing a fishing vessel are expensive endeavors. Furthermore, obtaining a loan for this purpose is also considered to be difficult. Fisheries employment shows a long-term decline within Sweden as a result[133].

[132] Høst, J. and Christiansen, J. (2018) Nordic fisheries in transition: future challenges to management and recruitment. TemaNod

[133] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

2.10. United Kingdom

2.10.1. Vessels

The UK is one of the largest fishing fleets in the EU. In 2016, it was composed of 6,202 vessels, with combined size of 187,351GT and engine capacity of 761,637 kW (Table 56)[134]. The UK fleet is nationally divided into two categories[135]:

- A large-scale fleet (>10 m), representing 15% of the fleet, and accounting for 88% of the UK's fishing capacity in terms of GT; and
- A coastal fleet (<10 m), accounting for the remaining 85% of the fleet.

Through the UK FQA Register, data is available on quota allocated to UK fishing vessels. Here, it is possible to see how the total number of quotas allocated to each vessel is apportioned between the different quota stocks. Furthermore, the name of the licence holder (individual or company) is provided. This was used as a means of determining the company structure using Companies House[136]. From this, the ownership structure of the vessels including the ultimate owners has been completed. Some cases with foreign ownership are noted from this data, however, it is a relatively low proportion (Table 57).

Table 56: Overview fleet structure for the United Kingdom.

Classification	Number of registered vessels	Gross tonnage (GT)	Engine power (kW)
0-12m	5,279	23,578	330,440
12-23m	697	51,063	179,309
>23m	226	112,710	251,888
Total	**6,202**	**187,351**	**761,637**

Source: EC, fishing fleet registry http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu. 431 vessels (including vessels that do not exist and have been created to match UK licensing) over 10m without ownership

Table 57: Overview of nationality of vessel ownership for the United Kingdom.

Country	Share of vessels (%)	Share of vessel tonnage (%)	Share of vessel power (%)
United Kingdom	92.73	78.68	85.14
Spain	3.14	4.81	3.72
Netherlands	1.04	7.57	4.52
Ireland	1.00	0.42	0.70
Canada	0.80	1.40	1.30
Iceland	0.14	1.79	0.79
Falklands	0.09	1.35	0.66
Poland	0.09	0.06	0.11
Isle of Man	0.07	0.01	0.04
Total	**100**	**100**	**100**

Source: Authors' calculations.

2.10.2. Licences

Individuals listed as the licence holder were considered to be the ultimate beneficiary. If, however, a company was listed, the company structure was traced back until the ultimate shareholders (or beneficiaries) were identified. The proportion of shares held

[134] EC fishing fleet registry (http://ec.europa.eu/fisheries/fleet/index.cfm?method=Download.menu).
[135] The 2018 Annual Economic Report on the EU Fishing Fleet (STECF 17-12).
[136] https://www.gov.uk/government/organisations/companies-house

by each shareholder were provided as well as the nationality of the individuals. For individuals licence holders, it was assumed that they were of UK nationality. The analysis concentrated on the over 10m vessels that are more focused on fishing quota species. Ownership of under 10m vessels was estimated to be 3% foreign, based on analysis of a sample. For companies involved in limited liability partnerships (LLPs), an equal split of ownership had to be assumed between all parties as no further detail was available.

- ~42% of vessels owned by individual licence holders (Level 1 ownership).
- ~37% of vessels owned by limited company (Level 1 ownership).
- ~3.6% of vessels owned by LLPs (Level 1 ownership).

Figure 13 shows the ownership structure of a UK vessel. This figure shows that one vessel is owned by a single parent company that consists of two individual shareholders, who both have equal shares in the company. This example provides a simple ownership structure which is common in the UK, whereby all shareholders are of UK nationality.

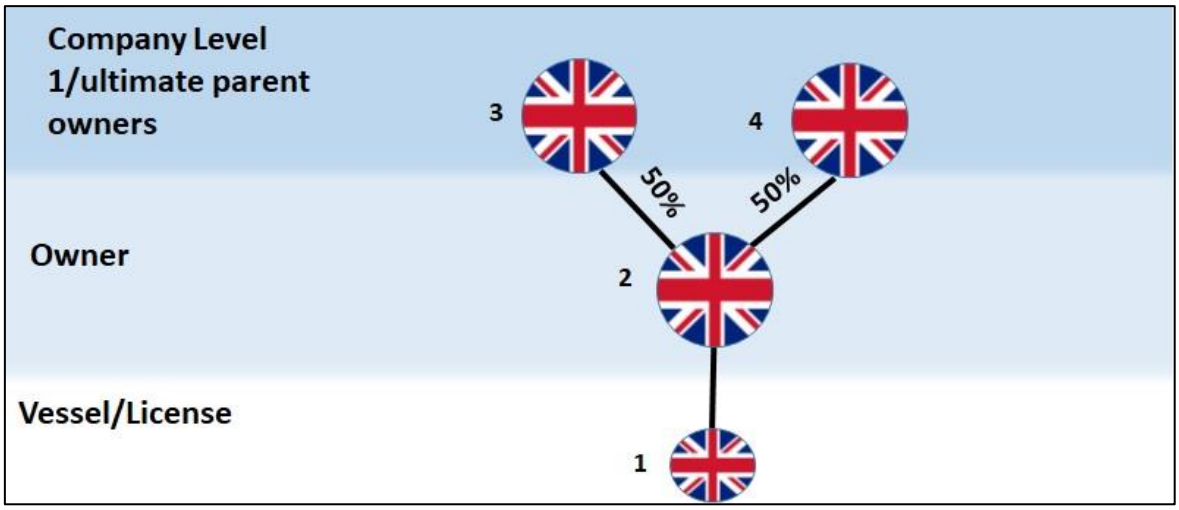

Figure 13: Typical example of UK vessel ownership.

Information on nationality, type of company and the total number of FQA units held by vessel are shown in the Tables below.

Table 58: Description of nodes in ownership structure example.

Number	Title	Type	Nationality	Nature of business	FQA units held in this example
1	Geeske	Vessel	UK	-	450
2	JFD Trawlers Limited	Company	UK	Marine Fishing	450
3	John Denbow	Individual	UK	Shareholder	225
4	Sean Patrick Irvine	Individual	UK	Shareholder	225

Table 59: Quota species held by Geeske.

Vessel/Licence	Quota species
Geeske	Holds FQA units for 17 different stocks. Species incl. cod, forkbeard, haddock, megrim, sole, plaice, pollack and whiting.

Figure 14 provides a more complex example of ownership structure of a UK vessel, with the ultimate beneficiaries being Dutch and Icelandic owned companies. This example

shows that companies can be linked through one or more vessel and at different levels of ownership.

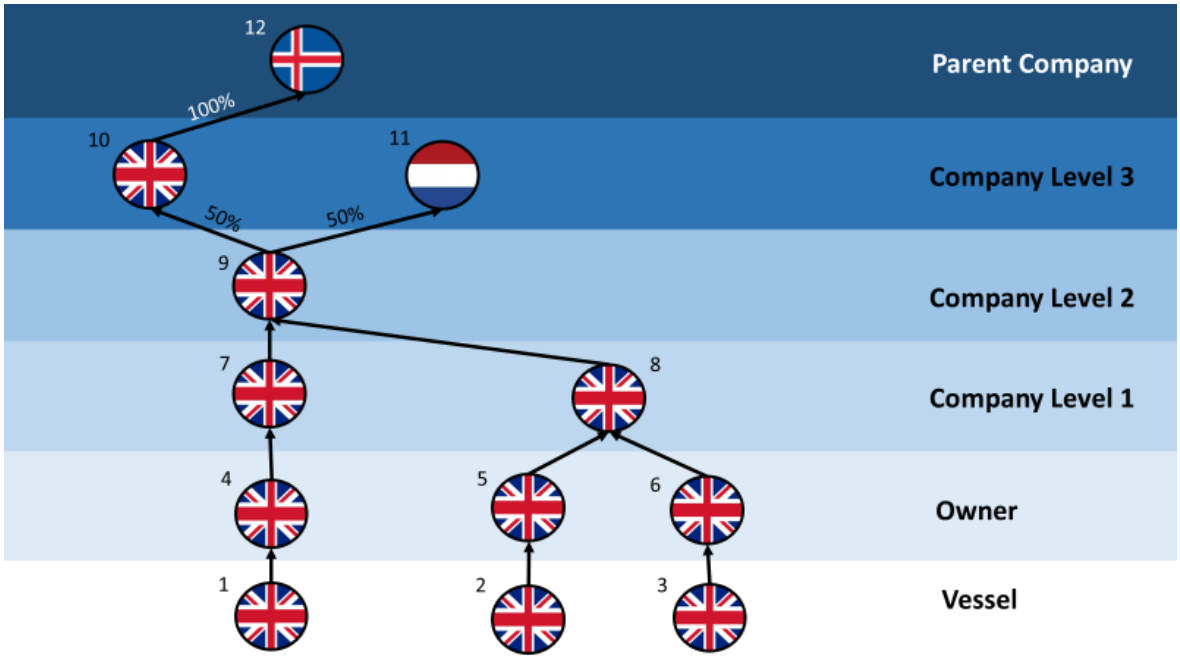

Figure 14: UK vessel ownership with foreign ultimate ownership.

Table 60 and Table 61 provide further information on the vessel and ownership structure of the example given in Figure 14. This table shows that due to several companies owning more than one vessel or more than one company the number of FQA units can accumulate up the network. Here, the ultimate beneficiaries are outside the UK.

Table 60: Description of nodes in ownership structure example.

Number	Title	Type	Nationality	FQA units held in this example
1	Dummy Licence	Dummy Licence	UK	70,379
2	Kirkella	Vessel	UK	46,643
3	Farnella	Vessel	UK	74,233
4	Lionman Ltd	Company	UK	70,379
5	Kirkella Ltd	Company	UK	46,643
6	Jacinta Ltd	Company	UK	74,233
7	Boyd Line Ltd	Company	UK	70,379
8	J Marr Fishing Ltd	Company	UK	120,876
9	UK Fisheries Ltd	Company	UK	191,255
10	Onward Fishing Company	Company	UK	95,627.50
11	Parlevliet & Van Der Plas B.V.	Company	NL	95,627.50
12	Samherji H.F.	Company	IS	95,627.50

Table 61: Quota species held by all vessels, in example.

Vessel/Licence	Quota species
Dummy Licence	Holds FQA units for 10 different stocks. Species incl. cod, green halibut, haddock, redfish and saithe.
Kirkella	Holds FQA units for 17 different stocks. Species incl. cod, blue ling, black scabbardfish, redfish, saithe, Greenland halibut, haddock and roundnose grenadier.
Farnella	Holds FQA units for 58 different stocks. Species incl. cod, black scabbardfish, deep sea shark, blue ling, haddock, saithe, redfish, greater silver smelt, forkbeard, Greenland halibut, ling, megrim, hake, herring, lemons & witches, plaice, whiting, roundnose grenadier, saithe, tusk, spurdog, Pollack and horse mackerel.

2.10.3. Quotas

In the UK, quota for each stock is split between the devolved administrations and then divided among three key fleet segments:

- Vessels over 10 m in length that are members of a Producer Organisation (PO), also referred to as 'the sector';
- Vessels over 10 m in length that are not PO members and that mostly hold licences for non-quota species, also referred to as 'the non-sector'
- Vessels 10 m and under in length, fishing for quota and non-quota species, also referred to as 'the under 10s'

In addition, the UK allocates quota to vessels through a variety of routes

- Direct licensing (one vessel to a licence);
- Grouped licensing (multiple vessels to a licence);
- Producer Organisations (quota issued to a PO where known vessels have access to quota); and
- Pooled licences (unknown sets of vessels have access to quota).

Quota for direct vessel licences have been allocated to the individual vessels and grouped licences have been allocated uniformly across the vessels to which they apply. Since 1999, the UK has distributed quota to fishers by using a system of Fixed Quota Allocation (FQAs). Quotas are allocated to these fleet segments through FQA units and there is a publicly available FQA register that lists the owners of FQA units. FQA allocations determine the proportions of overall quotas for individuals or groups (quotas for the Under 10s and non-sector are allocated to individual vessels from a common pool) and are based on track records during a reference period. It is possible to sell FQAs so that increased concentration of ownership can potentially occur. Within year it is also possible to swap and lease quotas and this leads to annual redistributions of quota across the fleet.

The memberships for pooled licences are unknown and cannot be allocated to vessels. UK PO administered quotas are not clear, with different UK POs having a variety of mechanisms to allocate quota within their members. Although the total number of members for each UK PO are known (see Table 62), it is not clear that all members will receive quota for any particular species, how quotas are distributed amongst these members is not clear, although it is not uniformly distributed. As an example, the top quota owners for plaice (Table 63) are shown to indicate where owners have vessels that are members of UK POs and the potential additional quota held by the PO that they may have access to a share of.

Table 62 UK Producer Organisations.

Producer Organisation	Number of members
Aberdeen FPO Ltd	12
Anglo-North Irish FPO Ltd	34
Anglo-Scottish FPO Ltd	33
Cornish FPO Ltd	85
Eastern England Fish Producers Organisation Ltd	30
Fleetwood FPO Ltd	21
Interfish	9
Klondyke	3
Lowestoft FPO Ltd	4
Lunar Group	3
Non-Sector	425
North Atlantic Fish Producers Organisation Ltd	2
North East Of Scotland Fishermens Organisation	23
North Sea Fishermens Organisation Ltd	21
Northern Ireland FPO Ltd	105
Northern Producers Organisation Ltd	22
Orkney FPO Ltd	8
Scottish Fishermens Organisation	167
Shetland FPO Ltd	31
South Western FPO Ltd	53
The Fife FPO Ltd	24
The FPO Ltd	10
Wales and West Coast FPO Ltd	6
West of Scotland FPO Ltd	27

Table 63 Top UK plaice quota owners and associated FPOs.

Owner	Quota held (tonnes)	Producer Organisations (Number vessels)	Additional Quota held by PO (tonnes)
Wilhelmina BV	1,954.07	Lowestoft FPO Ltd (4)	13,453
Cornelis Vrolijk Holding BV	1,359.56	-	-
John Buchan	1,282.95	Eastern England Fish Producers Organisation Ltd, Lunar Group, North Sea Fishermen's Organisation Ltd and Scottish Fishermen's Organisation (221)	57,818
George West	1,258.18	Eastern England Fish Producers Organisation Ltd, North Sea Fishermen's Organisation Ltd and Scottish Fishermen's Organisation (218)	56,955
Allan Watt	1,242.08	Eastern England Fish Producers Organisation Ltd, North East of Scotland Fishermen's Organisation, North Sea Fishermen's Organisation Ltd and Scottish Fishermen's Organisation (241)	52,493
Karl Brown	1,242.08		
John Tait	1,242.08		
Kenneth Reid	1,242.08		
Andrew Dixon	1,242.08		
Neil Armour	1,242.08		

Source: Authors' calculations.

2.10.4. Ownership

Ownership in the UK requires that a genuine economic link can be demonstrated and control and direction must come from within the UK. For the UK fishing fleet, the most concentrated individually allocated quotas are herring in the southern North Sea (CR4 of 99.3%, and a CR8 of 99.6%) and saithe in the Norwegian zone of the northeast Arctic (CR4 of 83.8%, and a CR8 of 96%). Several stocks show HHI scores in excess of 1,500, indicating a high level of quota concentration[137]. It has been calculated, for example, that 13 companies hold 60% of total UK FQA. The three companies with the highest levels of FQA are Interfish, Lunar Fishing and Andrew Marr International[138]. In the FQA database, the highest number of FQA units (457,166) are allocated to the vessel 'Cornelis Vrolijk'. The vessel is 100% owned by North Atlantic Fishing Company Limited (GBR), which in turn is 100% owned by North Atlantic (Holdings) Ltd (GBR), and finally is 100% owned by Cornelis Vrolijk Holding BV. Non-UK owned vessels account for almost 10% of the total FQA units held.

The UK fishing fleet has a large degree of foreign ownership of the individually allocated quota, comparable to Belgium, lower than Sweden, and higher than Spain and Denmark (the MS in this study where data was made available). This ownership is primarily Dutch in the North Sea and English Channel and Spanish in the Southwest.

Table 64: Measures of quota concentration for the UK fishing fleet.

TAC	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Mackerel in the west of Scotland	162,151	144,462,268	525	31.6	44.1	23.8	401	0.91
Nephrops in the North Sea	13,533	61,007,253	705	9.7	14.9	4.7	61	0.67
Herring in the North Sea	68,776	52,727,963	449	37.3	48.5	26.7	490	0.90
Plaice in the North Sea	19,133	31,234,565	787	29.1	47.3	42.0	377	0.91
Monkfish in the North Sea	8,673	30,027,293	765	10.9	16.1	9.1	76	0.73
Cod in the North Sea	11,403	29,019,889	820	9.3	14.4	4.5	70	0.73
Nephrops in the west of Scotland	6,659	27,739,077	708	5.5	10.2	4.1	50	0.70
Haddock in the North Sea	16,209	25,795,010	753	6.1	11.5	2.4	64	0.73
Nephrops in the Celtic Sea	7,487	23,208,145	558	11.4	19.6	8.8	120	0.82
Blue whiting in	71,140	19,631,729	342	24.0	36.7	9.2	301	0.89

[137] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

[138] Ibid.

TAC	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
northern waters								
Monkfish in the Celtic Sea	5,186	19,306,266	738	17.9	30.9	38.5	200	0.89
Lemon sole and witches in the North Sea	2,493	10,628,247	753	10.4	15.2	9.7	70	0.71
Whiting in the North Sea	7,164	9,339,612	783	8.0	13.2	1.1	68	0.72
Sole in the western English Channel	644	8,713,318	424	63.4	74.5	9.2	1,355	0.97
Saithe in the North Sea	6,459	8,363,647	702	41.5	45.9	39.5	783	0.84
Megrim in the Celtic Sea	2,073	8,059,773	604	24.7	45.4	47.3	361	0.94
Sandeel in the North Sea	2,766	6,685,682	265	87.0	89.1	27.2	2,477	0.95
Monkfish in the west of Scotland	1,848	6,567,728	766	14.7	22.4	22.0	111	0.77
Turbot and brill in the North Sea	704	6,149,560	681	27.5	40.8	36.9	302	0.87
Ling in the west of Scotland	3,345	5,821,526	742	14.7	24.4	51.2	149	0.86
Northern prawns	304	5,603,062	394	15.8	25.9	5.3	141	0.75
Megrim in the North Sea	1,409	5,236,091	645	8.6	14.1	4.7	72	0.72
Sole in the North Sea	447	4,709,721	560	39.0	54.8	49.3	609	0.93
Pollack in the Celtic Sea	1,546	4,278,179	665	30.7	39.8	19.0	340	0.88
Herring Atlanto-Scandian	4,817	3,639,774	264	26.0	38.1	7.1	282	0.83
Plaice in the English Channel	2,207	3,550,675	490	57.3	71.6	10.1	1,038	0.95
Ling in the North Sea	1,984	3,452,935	723	9.2	14.7	11.8	65	0.72
Herring in the North Sea (southern)	6,331	3,440,228	289	99.3	99.6	98.5	9,314	1.00
Sole in the eastern English Channel	351	3,345,445	378	72.1	82.4	13.3	1,531	0.97

TAC	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Herring in the Irish Sea	5,155	3,248,373	267	70.5	94.9	20.6	1,467	0.98
Megrim in the west of Scotland	1,140	3,165,191	647	11.6	18.8	26.7	91	0.75
Sole in the Bristol Channel	221	2,309,234	221	52.6	70.5	8.7	998	0.93
Whiting in the Celtic Sea	1,741	1,871,957	644	31.8	38.9	14.9	332	0.87
Greenland halibut	657	1,799,368	332	47.4	54.9	40.3	847	0.83
Blue ling	1,224	1,715,826	404	23.1	36.8	26.7	236	0.82
Saithe in the west of Scotland	1,178	1,393,826	673	28.0	33.8	26.3	315	0.79
Mackerel in the North Sea	1,011	1,195,150	403	34.4	48.0	23.6	546	0.92
Hake in the North Sea	415	1,129,000	648	6.3	10.9	7.3	60	0.70
Forkbeard	590	1,128,246	354	23.1	37.8	51.4	271	0.87
Skates and rays in the North Sea	683	1,058,075	769	7.4	12.9	8.3	63	0.72
Sole in the southern Celtic Sea	61	868,153	88	49.3	79.7	5.9	936	0.86
Monkfish in the North Sea (Norwegian)	160	556,111	476	13.9	24.0	5.8	137	0.80
Saithe in the Celtic Sea	316	477,698	675	10.0	15.0	17.0	68	0.70
Cod in the Celtic Sea	138	426,681	637	26.2	38.9	12.5	284	0.87
Sprat in the English Channel	1,696	397,834	49	61.4	89.6	0.0	1,675	0.87
Haddock in the Celtic Sea	140	313,748	667	10.4	17.6	13.6	97	0.80
Cod in the Irish Sea	146	276,061	657	10.5	16.7	10.6	107	0.82
Plaice in the west of Scotland	220	249,706	679	11.1	18.7	6.2	81	0.73
Plaice in the Irish Sea	320	247,853	556	20.6	28.9	18.6	187	0.82
Pollack in the west of Scotland	99	210,029	602	10.2	19.3	29.2	90	0.74
Saithe in the Northeast	296	202,468	12	83.8	96.0	71.0	2,502	0.69

TAC	Quota tonnage	Quota value (EUR)	Number of owners	CR4 (%)	CR8 (%)	Foreign share (%)	HHI	Gini
Arctic (Norwegian)								
Tusk in the west of Scotland	176	167,342	467	15.2	23.0	30.9	128	0.77
Herring in the Celtic Sea	376	152,265	115	91.0	99.1	74.7	5,714	0.99
Ling in the North Sea (Norwegian)	66	115,252	435	20.7	33.4	0.3	219	0.82
Faroes ling, blue ling	58	100,827	280	31.9	48.9	14.9	413	0.89
Plaice in the Bristol Channel	57	100,717	389	43.2	56.8	11.2	657	0.93
Roundnose grenadier in the Celtic Sea, English Channel, Faroes grounds, and western Hatton Bank	79	96,514	275	24.4	33.2	13.7	236	0.75
Cod in Rockall	38	74,380	493	22.5	29.8	20.0	206	0.77
Sole in the west of Scotland	8	63,957	423	36.4	43.2	15.1	407	0.78

Source: Authors' calculations.

In terms of the overall concentration of quota holdings, the highest share as a percentage of total quota is held by Cornelis Vrolijk, followed by Interfish Holdings (Table 65). These both account for over 8% of the total national quota each or almost 1% of total EU quota.

Table 65: Top eight owners of British fishing quota.

Owner name	Quota tonnage	Share of total national quota (%)	Share of total EU quota (%)
Cornelis Vrolijk Holding BV	38,989	8.54	0.86
Interfish Holdings Limited	36,846	8.07	0.81
Mrs Margaret Buchan	15,308	3.35	0.34
Mr Arnold McCullough	13,688	3.00	0.30
Mr Robert Nigel McCullough	13,688	3.00	0.30
Serene Fishing Company Limited	12,299	2.69	0.27
Robert Tait Jnr	10,031	2.20	0.22
Ian Buchan	8,032	1.76	0.18

Source: Authors' calculations.

Size composition of the UK fishing fleet again indicates ownership by a range of countries and that that larger size vessels appear to be the focus of foreign ownership (Table 66).

Table 66: Size composition of the domestically- and foreign-owned components of the UK fleet.

Vessel length class (m)	Ultimate owner nationality	Number of vessels	Vessel tonnage (GT)	Vessel power (HP)
0-12	UK	254	3,555	33,423
0-12	DK	1	1	4
0-12	ES	2	42	358
0-12	IE	6	101	918
0-12	NL	1	1	45
12-23	UK	453	33,611	114,280
12-23	CA	14	3003	8397
12-23	DK	4	472	851
12-23	ES	5	194	903
12-23	IM*	1	20	134
12-23	IE	5	479	1,693
12-23	NL	1	95	224
12-23	PL	1	84	403
>23	UK	133	70,790	167,078
>23	DK	4	4,965	10,521
>23	ES	22	6,439	12,668
>23	FK*	1	1,871	2,462
>23	IS	1	2,479	2,940
>23	NL	8	10,414	16,643

* IM = Isle of Man; FK = Falkland Islands

2.10.5. Evolution of ownership

Since 1996, the number of vessels in the entire UK fishing fleet has fallen by 29%[139]. The number of under 10m vessels in the UK is now relatively stable but the number of vessels in the over 10m fleet is still reducing[140]. This trend may, in part, be explained by efforts to maintain fishing opportunities for vessels under 10m in length and the targeting of non-quota species[141].

There is evidence to suggest that the sale of FQA units by UK fishers may be leading to a concentration of quota within the UK fishing industry, as FQAs are being sold to those already operating within the sector, rather than to new entrants. This can be exemplified by North Atlantic Fishing Company's vessel Cornelis Vrolijk increasing its quota holdings purchasing additional FQA units. Cornelis Vrolijk now owns approximately 8.5% of the total UK quota, while, similarly, Andrew Marr International Limited owns 61% of the FQAs owned by producers in the Cornish Producer Organisation.

Vertical integration in UK fisheries is limited to fish catching operations, processing and storage, with less investment in retail activities[142]. Over the last ten years, there is evidence to suggest that a high degree of vertical integration continues to exist in UK fishing company structures. For example, set up in 2009 by Lunar Fishing Company Limited, the Lunar Fish Producers Organization (Lunar FPO) currently has four vessel members. These vessels are owned by Lunar Fishing Company Limited which, in turn, is owned by nineteen individual shareholders. While Lunar FPO manages the allocation

[139] http://researchbriefings.files.parliament.uk/documents/SN02788/SN02788.pdf
[140] MMO UK fishing vessel lists
[141] MRAG (2009) Final Report: Part II Catalogue of Rights-Based Management Instruments in coastal EU Member States. European Commission, FISH/2007/03, pp 247
[142] European Parliament (2016) Research for Pech Committee – Seafood Industry Integration in the EU. IP/B/PECH/IC/2015_162

of quota for the four vessels, Lunar Freezing and Cold Storage Limited absorbs all landings of pelagic species. Lunar Freezing and Cold Storage Limited is wholly owned by Lunar Fishing Company Limited. Companies having their own PO is a notable aspect of the UK sector in comparison with the other focal MS.

Given the concentration of FQA units held, there is evidence to suggest that horizontal integration also occurs in the UK. Andrew Marr International is an example of a company that shows a high degree of horizontal integration by targeting both pelagic and whitefish species, with company structure linked to a desire to access quota and increase production capacity[143]. Horizontal integration at Andrew Marr International can also be observed through the acquisition of fishing catching companies in the domestic market. For example, in 2004 Andrew Marr International brought Fastnet Fish Group as a means of strengthening trading activities and, in 2018, the company brought trawler vessel Pacific Voyager from Pacific Andes Group for a reported USD 4 million[144]. Further evidence of horizontal integration in the UK fishing industry includes Interfish Limited's acquisition of Northbay Fishing Company's vessel and associated quota in 2011.

In 2000, 119 foreign-owned fishing vessels operated in the UK fleet[145]. There is evidence to suggest that the number of foreign-owned fishing vessels is potentially decreasing[146]. Despite that there remains a strong international presence within the UK fishing industry. In 2015, for example, Canadian firm Clearwater Seafoods acquired Macduff Shellfish Group Limited for GBP 98.4 million. With Macduff owning and operating 14 scallop harvesting vessels, Clearwater highlighted that Macduff had "a strong presence in the EU, the world's largest and most valuable seafood market"[147].

2.10.5.1. Drivers of changes in ownership

Implemented during the 2000s as a means of preserving whitefish stocks, decommissioning schemes sought to reduce the number of vessels in the UK fleet. With demersal and Nephrops trawl segments comprising the majority of applicants for decommissioning, the withdrawal of capacity helped develop a market for fishing quota[148] and saw larger companies such as Don Fishing Company Limited and Andrew Marr International buy up more quota and consolidate their market power. To align fleet size with fishing opportunity[149], decommissioning schemes over the past ten years have led to consolidation within the UK fishing industry and have also enabled foreign investors, notably Dutch and Spanish in the case of the UK, to buy vessels and licenses and gain access to UK quotas.

Vertical and horizontal integration is driven by both business needs and the desire to reduce company expenditure. Industry consolidation brought about by the acquisition of additional quota by large UK fishing companies suggests that gaining access to key species is a driver for changes in ownership of UK vessels. Business acquisitions also suggest that the aim to increase scale of production is a driver for changes in vessel ownership. The extent to which ownership have been driven by the aim to reduce costs is unknown.

There is evidence to suggest that changes in ownership have also been driven by diversification and access to new markets. This can be exemplified by domestic activities of UK-company Waterdance Limited. Owned by F.W.S. Carter & Sons Limited,

[143] European Parliament (2016) Research for PECH Committee – Seafood Industry Integration in the EU. IP/B/PECH/IC/2015_162

[144] https://www.undercurrentnews.com/2017/03/23/andrew-marr-linked-firm-agrees-pacific-andes-vessel-purchase/

[145] Hatcher, A., Frere, J., Pascoe, S., Robinson, K. (2002) "Quota-hopping" and the foreign ownership of UK fishing vessels. Marine Policy (26), 1 -11.

[146] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

[147] https://www.clearwater.ca/news/clearwater-seafoods-completes-purchase-of-macduff-shellfish-group/

[148] http://www.eurocbc.org/Evaluation%20of%20the%20UK%20fleet%20decommissioning%20scheme.htm

[149] http://www.abpmer.co.uk/buzz/blueprint-for-uk-fisheries-post-brexit/

Waterdance Limited secured funding from The Royal Bank of Scotland in 2015 to expand its vessel fleet[150] and, in 2018, commissioned the construction of a new beamer vessel and crabber vessel, signifying its strategy to diversify into new sectors.

There is little evidence to suggest that financial considerations have resulted in a change in ownership of vessels in the UK over the past decade. As seen by the acquisition of Macduff Shellfish by Clearwater Seafood, the UK fishing industry continues to attract foreign investment. The extent to which the UK continues to consolidate or to attract foreign investment following the UK's departure from the EU is beyond the scope of this study.

2.11. Overview of EU MS covered

The greatest data coverage across EU member states for the ownership of fishing opportunities is vessel ownership. In each MS, with the exception of the UK, the share of vessels in terms of power (kW) and in terms of size (GT) was significantly greater than the share in terms of number, indicating that foreign ownership was generally seen in larger than average vessels. This is reflected in the findings from Task 2 and Task 3, which demonstrates foreign ownership in either large pelagic vessels, or large demersal trawlers.

Despite the fact that Belgium and Ireland appear, on the face of it, to have similar structures in terms of how endowments, including fishing quotas are allocated – the extent of foreign investment in the fishing vessels is considerably different. Indicating that there are more drivers to foreign ownership than governance structure alone.

2.11.1. Ownership of fishing vessels

Using vessel numbers as an indicator, the data suggest that there are fairly high levels of concentration in Belgium. However, this result is affected by the low number of vessels in the Belgian fishing fleet. Elsewhere, there is evidence of some consolidation and also of multiple beneficiaries of a vessels fishing activity (Table 67).

Table 67: Comparison of vessel owners versus ultimate vessel owners.

MS	Number of vessel owners	Number of ultimate vessel owners
BE	68	95
DK	1,529	2,645
FR	5,563	6,526
IE	1,874	2,353
ES	10,912	11,954
SE	852	1,127
UK	1,155	3,592

Source: Authors' calculations.

2.11.2. Ownership of quota

Concentration of the ownership of fishing quota varied across the focal MS, from instances of a single owner holding all of a particular TAC (Norway pout for Sweden and an albacore TAC for Spain) to TACs with hundreds of owners with equal shares (in Spain in particular). The share of vessel ownership by foreign entities also varied across the MS for which data was readily available; from 34% of the number of vessels in Belgium to 0.6% share in Denmark (Table 68).

[150] https://www.insidermedia.com/insider/southwest/fishing-company-expands-fleet-with-rbs-backing

Table 68: Foreign ownership of quota in Member States where data available.

MS	Quota tonnage	Quota value	Foreign share (%)	BE	DK	ES	UK	SE	NL	IS	Other
BE	30,008	58,798,453	25.2	74.8	0.0	2.9	0.4	0.0	21.4	0.0	0.0
DK	734,094	472,520,793	18.5	0.0	81.5	0.0	0.0	18.3	0.0	0.0	0.1
IE	176,005	183,570,926	2.3	0.0	0.0	2.2	97.7	0.0	0.1	0.0	0.0
ES	358,738	825,795,553	2.7	0.0	0.0	97.3	0.0	0.0	1.2	1.2	0.0
SE	203,545	121,971,592	16.7	0.0	16.7	0.0	0.0	83.3	0.0	0.0	0.0
UK	434,721	601,633,976	14.2	0.0	0.3	1.9	85.8	0.0	11.4	0.5	0.1

Source: Authors' calculations.

In all MS where was enough data to analyses at the TAC level, there are cases of high concentration in quota ownership. Table 69 documents the TACs where the HHI exceeds 1,500. Many, but not all, of these cases have a small number of total owners that is driving the results rather than an unusually skewed distribution of ownership among many owners.

Table 69: TACs with high concentration (HHI>1500).

MS	Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4	CR8	Foreign share	HHI	Gini
ES	Albacore AS05N	906	2,995,770	1	N/a	N/a	0.0%	10,000	
UK	Herring in the North Sea (southern)	6,393	3,473,640	316	99.2%	99.5%	95.6%	9,141	1.00
DK	Herring the North Sea (Norwegian)	9	6,036	2	N/a	N/a	50.0%	5,000	0.00
DK	Horse mackerel in the North Sea (north)	2	479	2	N/a	N/a	50.0%	5,000	0.00
DK	Horse mackerel in the North Sea (south)	0	53	2	N/a	N/a	50.0%	5,000	0.00
DK	Mackerel in the North Sea (Norwegian)	1	827	2	N/a	N/a	50.0%	5,000	0.00
ES	White hake N3NO	255	291,319	16	81.1%	93.7%	1.6%	3,342	0.76
DK	Blue whiting in the Faroese zone	1,485	468,015	20	79.3%	89.0%	3.8%	3,339	0.77
UK	Sandeel in the North Sea	2,062	4,985,224	289	81.1%	83.4%	0.0%	3,124	0.93
DK	Herring in the Limfjord	4,896	3,139,027	10	97.6%	100.0%	0.0%	2,856	0.75
UK	Herring in the Celtic Sea	187	75,798	122	80.3%	96.8%	0.0%	2,825	0.97
UK	Sole in the eastern	593	5,645,091	395	83.4%	89.5%	0.2%	2,818	0.98

MS	Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4	CR8	Foreign share	HHI	Gini
	English Channel								
DK	Horse Mackerel in the English Channel	5,926	4,907,773	10	77.1%	94.9%	31.7%	2,744	0.58
ES	Anglerfish 8C, 34.1.1 Trawling Portugal	234	1,255,044	24	75.8%	88.0%	0.0%	2,729	0.78
ES	Megrims 8C, 34.1.1 Trawling Portugal	142	732,911	24	83.3%	96.0%	0.0%	2,634	0.84
UK	Saithe in the Northeast Arctic (Norwegian)	296	202,468	12	83.8%	96.0%	71.0%	2,502	0.69
DK	Northern prawns in the North Sea	579	2,976,072	29	86.2%	99.9%	0.0%	2,411	0.90
UK	Redfish in the Northeast Arctic (Norwegian)	3	3,124	12	95.7%	98.9%	41.3%	2,343	0.72
ES	Cod 1, 2B	12,182	33,485,361	5	91.0%	N/a	51.6%	2,234	0.22
ES	Cod 1N, 2AB	3,101	8,523,896	5	91.0%	N/a	51.6%	2,234	0.22
ES	Cod N3M	1,594	4,381,519	5	91.0%	N/a	51.6%	2,234	0.22
UK	Redfish in Icelandic waters	2	2,113	5	84.0%	N/a	51.9%	2,118	0.15
UK	Redfish in Greenland waters	1	798	12	78.2%	92.2%	66.9%	2,107	0.61
ES	Skates N3LNO	3,403	4,941,748	16	67.7%	90.1%	1.6%	2,015	0.65
ES	Hake 8C, 34.1.1 Trawling Portugal	144	575,808	24	68.6%	88.8%	0.0%	1,889	0.75
DK	Argentines in the Skagerrak, Kattegat and the North Sea	0	59	7	75.9%	N/a	25.3%	1,827	0.33
DK	Cod in the North Sea (Norwegian)	2	5,274	7	75.9%	N/a	25.3%	1,827	0.33
DK	Hake in the Skagerrak and Kattegat	1	3,092	7	75.9%	N/a	25.3%	1,827	0.33
DK	Saithe in the North Sea (Norwegian)	6	552	7	75.9%	N/a	25.3%	1,827	0.33

MS	Quota	Quota tonnage	Quota value (EUR)	Number of owners	CR4	CR8	Foreign share	HHI	Gini
DK	Haddock in the North Sea (Norwegian)	5	7,934	7	75.9%	N/a	25.3%	1,827	0.33
DK	Whiting in the Skagerrak and Kattegat	1	211	7	75.9%	N/a	25.3%	1,827	0.33
SE	Sprat in the Baltic Sea	103,698	25,747,475	50	62.3%	67.8%	28.7%	1,708	0.59
DK	Herring in the eastern Baltic Sea	5,498	1,526,209	64	70.3%	81.9%	48.2%	1,694	0.88
UK	Sprat in the English Channel	1,700	398,811	53	61.2%	89.4%	0.0%	1,665	0.87
UK	Herring in the Irish Sea	4,115	2,592,858	282	72.1%	98.8%	0.2%	1,650	0.98

Source: Authors' calculations.

2.11.3. Comparison

Where MS can be compared to each other in terms of quota concentration (Figure 15), it appears that the UK quota is more unequally distributed than Dutch quota (Gini coefficients for sole and place found in another study[151]) and Danish quota is more concentrated than UK quota (CR and HHI for North Sea cod and hake).

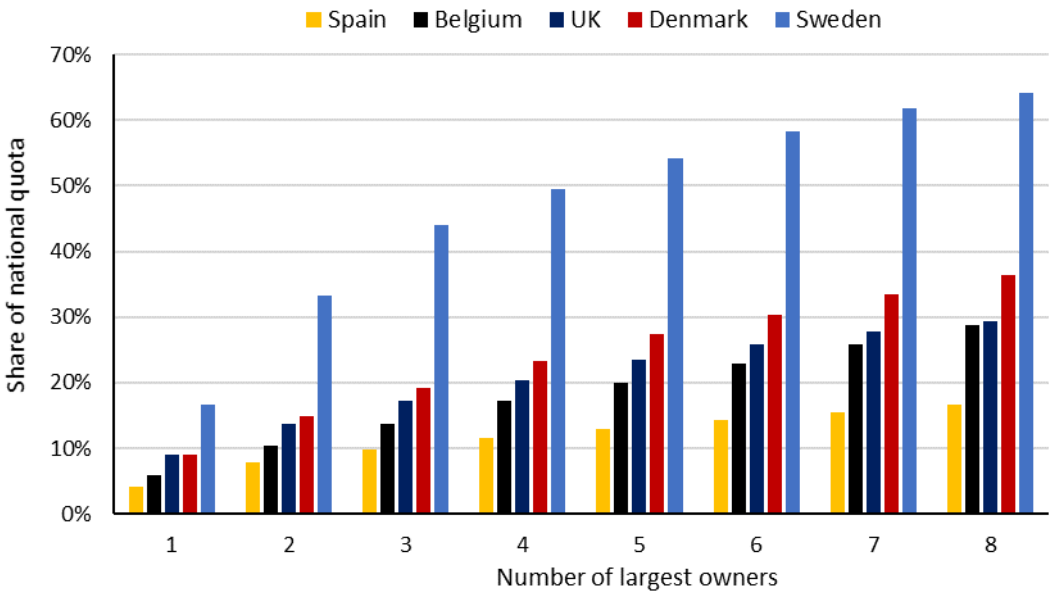

Figure 15: Share of quota ownership by the largest 1-8 owners.

Source: Authors' calculations.

Note however that there are some important differences in measurement between Member States. The Spanish TACs do not align with EU TAC as they are managed at the level of national subdivision. These national subdivisions have been the basis for the analysis in this study. The Belgian data could only be analysed at the species level. This data issue means that concentration at the TAC level (the relevant level for comparison) is likely much higher for species with multiple TACs from one species. This consideration

[151] http://www.unisa.it/uploads/13751/1504_van_oostenbrugge_et_al_2015_itq_in_the_netherlands.pdf

makes the high quota concentration results more surprising and potentially more significant, although this is only relevant for a few species like herring, cod and salmon that have an HHI below 1,500. Analysis at the species level could either lead to a higher or lower Gini coefficient compared to the TAC level depending on the size of the different TACs as to how the shape of the distribution would be impacted. For foreign ownership, analysis at the species level has an averaging effect on the TAC level situation.

The only existing studies that measure quota concentration in EU Member States are for Denmark, the Netherlands, and the UK. While the Netherlands could not be compared in this study as the data was not made available, there is overlap in the results with previous studies for Denmark and the UK. The MS results can be compared to studies at the international level, for example those covering Australia, Canada, Iceland, New Zealand, and the United States. Due to the high variance in both MS quota concentrations and quota concentrations in other countries, it cannot be concluded whether MS quota concentrations are generally higher or lower. If analysis is conducted at the TAC level, there are examples in EU MS and in countries internationally of TACs with both high and low concentrations.

Table 70: Comparison of concentration ratios with other studies.

Concentration ratio estimates					
Country	**Measure**	**Value**	**Fishery**	**Year**	**Source**
Canada	CR4	7%-27%, 19%-46%	Multiple herring and salmon quotas	1993, 2012	Haas et al., 2016[152]
New Zealand	CR4	32%-88%	Multiple quotas	1986-2006	Stewart and Callagher, 2011[153]

For both concentration ratios and HHI, results from international studies consistently show a rapid concentration over the time period analysed. As this is the first study of its kind of EU fisheries, it cannot be known with certainty if this is also evident in EU MS. Also, like concentration ratios, if analysis is conducted at the TAC level, there are examples in EU MS and in countries internationally of TACs with both high and low concentrations. This general finding is not the case in New Zealand where even the least concentrated quotas have a very large HHI.

Table 71: Comparison of HHI values with other studies.

HHI estimates					
Country	**Measure**	**Value**	**Fishery**	**Year**	**Source**
Canada	HHI by owner	30-280, 220-1530	Multiple herring and salmon quotas	1993, 2012	Haas et al., 2016[152]
Iceland	HHI by owner	256-452	All quota	2001-2014	Agnarsson et al., 2016[154]
New Zealand	HHI by owner	377-3151	Multiple inshore quotas	1986-2006	Stewart and Callagher, 2011[153]
New Zealand	HHI by owner	1099-4261	Multiple mid-depth quotas	1986-2006	Stewart and Callagher, 2011
New Zealand	HHI by owner	1297-2096	Multiple deep water quotas	1986-2006	Stewart and Callagher, 2011

[152] Haas, A., R., Edwards, D. N., and Sumaila, R. (2016). Corporate concentration and processor control: Insights from the salmon and herring fisheries in British Columbia. *Marine Policy* 68: 83-90

[153] Stewart, J. and Callagher, P. (2011). Quota concentration in the New Zealand fishery: Annual catch entitlement and the small fisher. *Marine Policy* 35:631-646.

[154] Agnarsson, S., Matthiasson, T., and Giry, F. (2016). Consolidation and distribution of quota holdings in the Icelandic fisheries. *Marine Policy* 72:263-279

There are several examples of EU MS TACs with a Gini close to 1 and above any example found internationally, but in general Gini coefficients are very high in EU MS TACs and countries outside the EU. This finding emphasises the point that fishing quota is often highly unequal in its distribution even if it is not highly concentrated. This finding also emphasises that the Gini coefficient is useful to understand distribution but is not a good indicator of concentration.

Table 72: Comparison of Gini coefficient values with other studies.

Gini coefficient estimates					
Country	**Measure**	**Value**	**Fishery**	**Year**	**Source**
Australia	Gini by owner	0.20, 0.36	Tasmanian Red Rock Lobster	1998, 2006	Hamon et al, 2009[155]
Canada	Gini by owner	0.21-0.34, 0.39-0.53	Multiple herring and salmon quotas	1993, 2012	Haas et al., 2016[156]
Iceland	Gini by owner	0.84, 0.90	All pelagic quota	1982, 2014	Edvardsson et al., 2018[157]
Iceland	Gini by owner	0.64, 0.76	All demersal quota	1982, 2014	Edvardsson et al., 2018
Iceland	Gini by owner	0.87, 0.85	All crustacean quota	1982, 2014	Edvardsson et al., 2018
Iceland	Gini by owner	0.87, 0.96	All quota	2001, 2014	Agnarsson et al., 2016[158]
New Zealand	Gini by owner	0.64-0.95	Multiple quotas	2007-2009	Abayomi and Yandle, 2012[159]
United States	Gini by owner	0.19-0.89	Multiple quotas	2013	Brinson and Thunberg, 2016[160]

Studies of trends in aquaculture production in Norway, Greece and Canada have indicated higher levels of consolidation (both CR4 and HHI) although a similar nature of distribution (Gini)[161,162]. This is likely due the fewer number of independent businesses in aquaculture compared to marine fisheries.

[155] Hamon, K. G., Thebaud, O., Frusher, S. and Little, L. R., (2009) A retrospective analysis of the effects of adopting individual transferable quotas in the Tasmanian red rock lobster, *Jasus edwardsii*, fishery. *Aquatic Living Resources*. https://core.ac.uk/download/pdf/156627991.pdf

[156] Haas, A., R., Edwards, D. N., and Sumaila, R., (2016). Corporate concentration and processor control: Insights from the salmon and herring fisheries in British Columbia. *Marine Policy* 68: 83-90

[157] Edvardsson, K. N., Pastrav, C., and Benediktsson, K. (2018). Mapping the geographical consolidation of fishing activities in Iceland during the maturation of the ITQ fisheries management system. *Applied Geography* 97:85-97

[158] Agnarsson, S., Matthiasson, T., and Giry, F. (2016). Consolidation and distribution of quota holdings in the Icelandic fisheries. *Marine Policy* 72:263-279

[159] Abayomi, K. and Yandle, T. (2012). Using conditional Lorenz curves to examine consolidation in New Zealand commercial fishing. *Marine Resource Economics* 27(4)

[160] Brinson, A. A. and Thunberg, E. M., (2016). Performance of federally managed catch share fisheries in the United States. *Fisheries Research* 179:213 – 223

[161] Pattern, G. (2015). Using the Gini coefficient to determine consolidation in the British Columbia Shellfish Aquaculture Industry. Canadian Industry Report of Aquatic Sciences 295. http://publications.gc.ca/collections/collection_2016/mpo-dfo/Fs97-14-295-2015-eng.pdf

[162] Vergos, K., Christopulos, A., Krystalildis, P. and Papandroni, O. (2010). Economies of scale and concentration in the Greek and the Norwegian aquaculture industry: an empirical study. International Journal of Business Management and Economic Research 1(1). https://researchportal.port.ac.uk/portal/files/117841/VERGOS_2010_pub_IJBMER_Economies_of_Scale_and_Concentration_in_the_Greek_and_the_Norwegian_Aquaculture_Industry.pdf

The concentration measures reveal that the most important factor determining concentration appears to be the total number of owners. Where there are few owners in a fishery (e.g. species in Arctic waters), there is almost by definition a high level of quota concentration (Figure 16). The UK stands out for having a large number of owners for each TAC. Figure 16 and Figure 17 illustrate the CR4 and HHI measures of concentration across TACs or species for all MS respectively. There is a clear relationship between the two measures (see Section 1). No relationship was found between concentration measures and either the price of species or the levels of quota uptake.

The bulk of the TACs or species, especially the largest by estimated value, have low levels of concentrations, with a CR4 above 70% and/or an HHI above 1,500, generally an exceptional example for medium to small TACs or species.

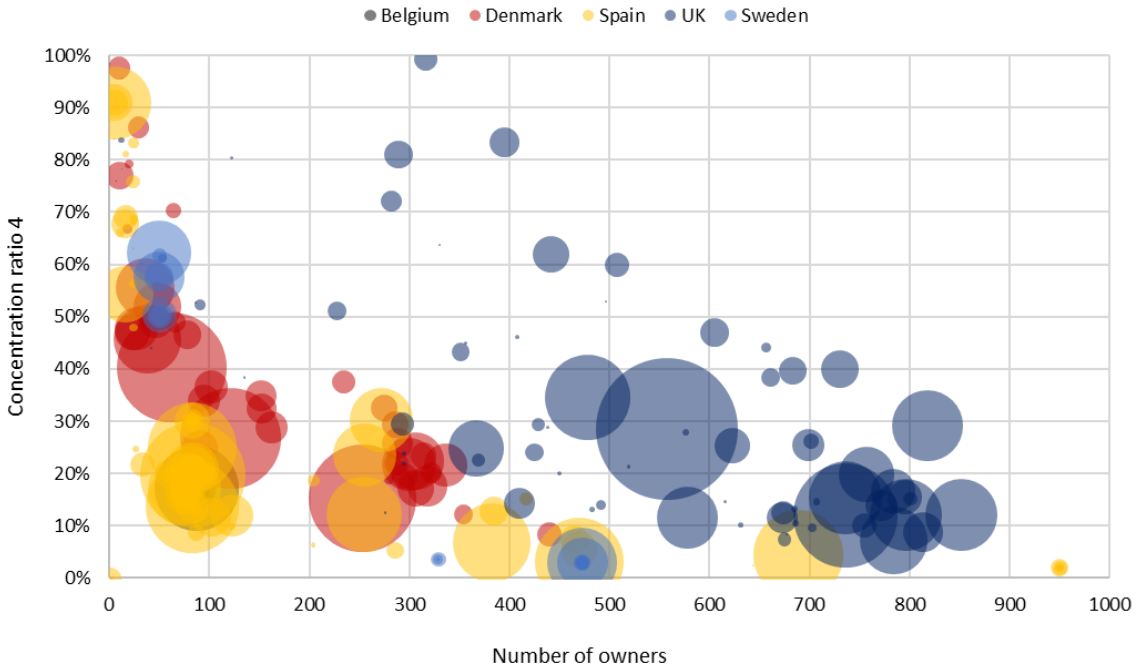

Figure 16: CR4 and number of owners for all TACs or species by MS.

Source: Authors' calculations. Note: Bubbles are sized by TAC/species size in estimated value. Denmark, the United Kingdom, and Spain illustrate TACs while Sweden and Belgium illustrate species due to data limitations.

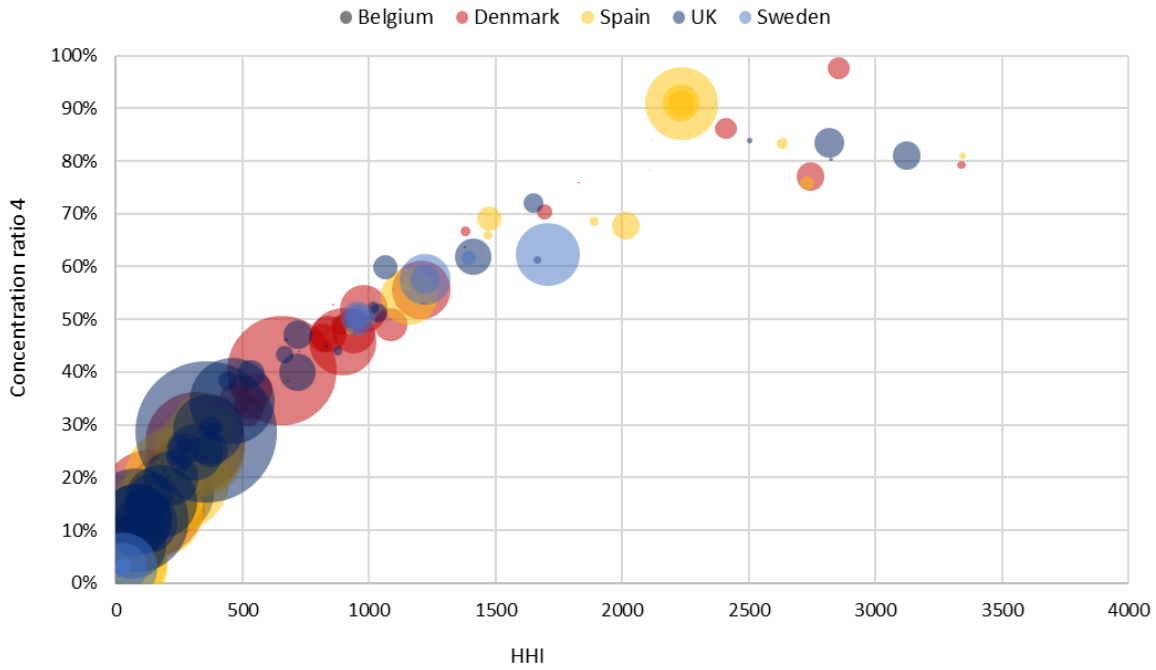

Figure 17: CR4 and HHI for all TACs/species by MS.

Source: Authors' calculations. Note: Bubbles are sized by TAC/species size in estimate value. Denmark, the United Kingdom, Spain, and Sweden illustrate TACs while Belgium illustrates species due to data limitations.

2.11.4. Choke species

The reform of the CFP introduced a requirement to land all catches. The landing obligation (LO) is being implemented in several phases and should be fully implemented by January 2019.

Since the demersal fisheries, for example in the North Sea, are highly mixed, issues arise as a result of several species being caught at the same time. This creates an issue where fishers may hold quotas for one species, e.g. sole but insufficient quota for another, e.g. plaice, that is caught at the same time[163]. In such circumstances, the species for which there is insufficient quota becomes a 'choke' preventing further fishing. Within mixed fisheries in particular, there can be the potential for multiple choke species. Several studies are available with both qualitative and quantitative data on the North Sea demersal fisheries. Northern hake in trawl fisheries and North Sea plaice in small-meshed beam trawl fisheries (large amount of small plaice caught in the sole fishery) have been described as the most serious choke situations within the North Sea[164]. Other potential choke species in mixed demersal fisheries include whiting, ray, dab, turbot and brill. TACs that have been identified as a risk of choking fisheries under the landing obligation tend to have low levels of concentration and high numbers of owners. This is partly due to the fact that these are established, demersal fisheries. Plaice in the English Channel and sole and plaice in the Bristol Channel are the most concentrated potential choke species (Table 73).

[163] ICES. 2017a. Report of the Working Group on Mixed Fisheries Advice (WGMIXFISH- ADVICE), 22–26 May 2017. Copenhagen. 196 pp.
[164] Ibid.

Table 73: Relative concentrations for particular choke species.

Choke species	Source	UK owners	UK CR4	UK HHI	Denmark owners	Denmark CR4	Denmark HHI	Spain owners	Spain CR4	Spain HHI
Cod in the Irish Sea (7a)	Rihan, 2018[165]	657	10%	107						
Cod in the Kattegat (3a)	Ulrich, 2018[166]				255	19%	174			
Cod in the North Sea (4)	Cappell & Macfadyen, 2013[167]; Seafish, 2016[168]	820	9%	70	285	23%	287			
Cod in the Skagerrak (3a)	Ulrich, 2018				295	18%	150			
Haddock in the Celtic Sea (7b-k)	Rihan, 2018	667	10%	97						
Haddock in the North Sea (4)	Cappell & Macfadyen, 2013	753	6%	64	218	37%	484			
Hake in the North Sea (4)	Ulrich, 2018	648	6%	60	262	33%	416			
Horse mackerel (2a-14)	Prellezo et al., 2018[169]							108	13%	133
Lemon sole in the North Sea (4)	Ulrich, 2018	753	10%	70						
Ling in the North Sea (4)	Seafish, 2016	723	9%	65						
Plaice in the Bristol Channel (7fg)	Seafish, 2016; Rihan, 2018	389	43%	657						
Plaice in the Celtic Sea (7h-k)	Seafish, 2016	131	37%	645						
Plaice in the English Channel (7de)	Rihan, 2018	490	57%	1,038						
Plaice in the Irish Sea (area 7a)	Cappell & Macfadyen, 2013	556	21%	187						

[165] Rhian, D. (2018) Research for PECH Committee: Landing Obligation and Choke Species in Multispecies and Mixed Fisheries – The North Western Waters. European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

[166] Ulrich, C. (2018) Research for PECH Committee: Landing Obligation and Choke Species in Multispecies and Mixed Fisheries – The North Sea. European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

[167] Cappell, R. and Macfadyen, G. (2013) A case study review of the potential economic implications of the proposed CFP Landings Obligation. Poseidon report to Seafish UK

[168] Seafish (2016) Landing Obligation Economic Impact Assessment (EIA): Interim Report Two: Scenario Analysis. Seafish Industry Authority, Edinburgh

[169] Prellezo, R., Iriondo, A., Santurtún, M. and Valeiras, J. (2018) Research for PECH Committee: Landing Obligation and Choke Species in Multispecies and Mixed Fisheries – The South Western Waters. European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

Choke species	Source	UK owners	UK CR4	UK HHI	Denmark owners	Denmark CR4	Denmark HHI	Spain owners	Spain CR4	Spain HHI
Plaice in the North Sea (4)	Seafish, 2016; Ulrich, 2018	787	29%	377						
Saithe in the North Sea (4)	Cappell & Macfadyen, 2013; Seafish, 2016	702	42%	783	273	27%	320			
Saithe in the west of Scotland (6a)	Rihan, 2018	673	28%	315						
Skates and rays in the Celtic Sea (6,7)	Seafish, 2016							108	13%	133
Skates and rays in the North Sea (4)	Ulrich, 2018; Seafish, 2016	769	7%	63						
Sole in the Bristol Channel (7fg)	Rihan, 2018	221	53%	998						
Turbot and brill in the North Sea (4)	Ulrich, 2018	681	28%	302	277	20%	220			
Whiting in the Bay of Biscay (8, 9a)	Prellezo et al., 2018							93	26%	306
Whiting in the Celtic Sea (7b-c,e-k)	Seafish, 2016; Rihan, 2018	644	32%	332						
Whiting in the Irish Sea (7a)	Cappell & Macfadyen, 2013; Rihan, 2018	649	9%	104						
Whiting in the North Sea (4)	Cappell & Macfadyen, 2013; Seafish, 2016	783	8%	68						

3. CASE STUDIES ON MERGERS AND ACQUISITIONS

This section presents nine case studies (see Annex 1) that provide a qualitative description of the dynamics that illustrate some of the processes and changes that have occurred and that give rise to the headline figures provided in the sections above.

3.1. Case study 1: Spanish fleets targeting cod, halibut and other demersal fish in the north Atlantic

3.1.1. Scope and relevance

This case study provides two examples of horizontal integration of Spanish companies with access to fishing quota in external waters - Freiremar S.A in Northwest Atlantic Fisheries Organisation (NAFO) and Pesquera Ancora S.L. in the Barents Sea and Norwegian waters (see Table 89 in Annex 1). These two examples highlight the role of quota transferability, through trading and redistribution, in concentration of rights and the resulting implications for fleet structure; one example focuses on the use of quota as a financial asset to counteract financial difficulties (Freiremar S.A), the other example examines concentration of quota within a company and resultant consolidation of fleet capacity (Pesquera Ancora S.I.).

3.1.2. Institutional and regulatory context

The NAFO Commission develops and facilitates conservation and enforcement measures for the fisheries under its responsibility, in accordance with the NAFO Convention. These measures apply to the NAFO Regulatory Area, i.e. high seas of the convention area. The European Union (EU) as a contracting party to the NAFO Convention, must transpose its measures into EU law. Fishing opportunities for the EU are decided by NAFO and then allocated by the Council under the framework of the annual regulation on TACs and quota. In turn, the EU also maintains bilateral arrangements with Norway, with agreed quota for EU fleets in Norwegian waters also published in TACs and quota regulation.

The case studies focusing on Freiremar S.A and Pesquera Ancora S.I. are framed within the Spanish system for allocation of fishing quota. As of 2018, NAFO area quota were allocated individually to a group of 24 vessels, accounting for 11,790 tonnes of fish (cod, black halibut, red fish, skate, shrimp and hake)[170]. Four other vessels (the 'cod fleet') were also provided quota within the NAFO area, but mostly operate in Norwegian waters and the Barents Sea; the 'cod fleet' was granted access to 15,243 tonnes of fish, mostly cod and some redfish, in those areas in 2018[171]. In the offshore fisheries within both NAFO area and Norwegian waters quota have restricted transferability, as quota is only transferable amongst vessels authorised to fish in these fishing grounds. However, quota can be transferred totally or partially and on a temporary or permanent basis; following the scrapping of a vessel by a company, quota can be easily moved across to a new vessel.

3.1.3. Sub-case study 1: Freiremar S.A.

3.1.3.1. Company characteristics

Freiremar S.A. is a fishing company based in the Canary Islands, which also holds fish processing infrastructure in Galicia and Valencia[172]. The company was founded in 1975 by the Spanish entrepreneur Jose Manuel Freire. Prior to entering into bankruptcy procedures in 2013, the company owned a large fleet comprising 35 trawlers that operated in different non-communitarian and communitarian fishing grounds, administrated 26 fishing vessels and had 30 subsidiary companies[173], most of them

[170] Resolución de 22 de Febrero de 2018, de la Secretaría General de Pesca por la que se ordena la actividad pesquera de la flota española que faena en la zona de regulación de la Organización de la Pesca del Atlántico Noroccidental.
[171] Resolución de 22 de Febrero de 2018, de la Secretaría General de Pesca, actualización del censo de la flota bacaladera
[172] https://www.freiremar.es/index.htm
[173] https://www.laprovincia.es/las-palmas/2013/07/10/deuda-100-millones-coloca-freiremar/543651.html

outside Spain. At present the company owns three fishing vessels with quota to operate in the NAFO area.

In 2015, the income of Freiremar S.A. was EUR 30.2 million, with a loss of EUR 14.8 million[174]. In 2016, the fishing company had an income of EUR 19.2 million, with a loss of EUR 11.6 million.

3.1.3.2. Transaction and outcomes

In 1999, the Spanish administration allocated quota to Freiremar S.A. to fish black halibut (initial allocation 3.82% of TAC), redfish and skate in the NAFO area[175]. As of 2013, the company owned 10.1% of the quota to fish black halibut, 3% of redfish and 6% of skate quota. However, in September 2013 the company entered bankruptcy procedures, with debt totalling approximately EUR 140 million. To deal with their liquidity problems the company sold their quota in 2014 to the Galician fishing companies Moradiña and Hermanos Gandón, with the value of the quota transferred approximately EUR 10 million[176]. Freiremar S.A. sold five of their vessels, including three with NAFO quota, though maintained residual quota in NAFO fisheries for three vessels (Festiero, Folias, Fakir).

Although Freiremar S.A. has maintained its number of vessels since 2015 it has lost its dominance in the NAFO fishery through a substantial reduction in quota owned. Currently, Freiremar S.A. participation in NAFO amounts to 0.106% of quota for black halibut (a reduction of 9.994% of previously held quota), 0.06% for redfish (a reduction of 2.94% of previously held quota), and 0.15% for skate (a reduction of 5.85% of previously held quota); totalling 10.8 tonnes. As of 2018, these limited quotas remain attached to the vessels Festeiro, Folias and Fakir (see example of black halibut quota (Table 74)).

As an example of the redistribution of Spanish trawler quota in NAFO, quota of black halibut sold by Freiremar S.A. has allowed Moradiña and Hermanos Gandón to increase their participation in the fishery in terms of quota. In 2013, Moradiña (which holds 4 vessels) held 12.83% of black halibut quota, which was increased to 21.13% by 2018. In addition, Moradiña has an affiliated company, Pesquera Barra S.A that also operates in NAFO waters with one vessel and holds small quota of a diverse range of species. In parallel to the development of Moradiña, in 2013, Hermanos Gandón owned 10.88% of the quota for black halibut, which has now been increased to 14.88% (2018)[177].

Flexibility in quota management is a key element in consolidation of quota in fewer hands and seems to encourage continual investments in fleet modernization. For example, Pesquera Baqueiro, a company owning 8.78% of the quota of black halibut, has ordered the construction of a new 50 m vessel, to be finalised by mid-2019.

[174] http://www.infocif.es/
[175] Orden de 21 de Diciembre de 1999 que ordena la actividad pesquera de la flota española que faena en la zona de regulación de NAFO.
[176] https://www.laprovincia.es/economia/2014/10/07/freiremar-ingresa-10-millones-venta/637308.html
[177] Moradiña and Hermanos Gandón own together the company Frigorificos del Morrazo S.A which possess cold storage facilities. Each company owns 50% of the shares of the company.

Table 74: Concentration of black halibut quota by the Spanish companies in NAFO in 2018.

Vessel	Owner	Quota (%)	Quota (t)
Festeiro	Freiremar S.A.	0.035	1.60
Fakir	Freiremar S.A.	0.035	1.60
Folias	Freiremar S.A.	0.035	1.60
Esperanza Menduiña	Hermanos Gandon S.A.	4.96	224.89
Hermanos Gandon 4	Hermanos Gandon S.A.	4.96	224.89
Ana Gandon	Hermanos Gandon S.A.	4.96	224.89
Playa de Sartaxens	Moradiña S.L.	5.28	239.53
Playa de Cativa	Moradiña S.L.	5.28	239.53
Playa Menduiña 2	Moradiña S.L.	5.28	239.53
Eirado do Costal	Moradiña S.L.	5.28	239.53
Puente Sabaris	Armadora Pereira S.A.	7.30	330.78
Monte Meixueiro	Valiela S.A.	8.25	374.22
Pesca Vaqueiro	Pesca Baqueiro S.A.	8.78	398.12
Pescaberbes dos	Iberconsa	9.12	413.61
Rio Caxil	Pesquera Inter SL	9.12	413.61
Others		21.31	966.06
Total		**100**	**4534.01**

Source: Own elaboration from this study's database. Data source: Boletín Oficial del Estado and Ministerio de Fomento.

3.1.3.3. Key findings

- This sub-case study illustrates how the allocation of quota with high transferability allows companies to employ them as independent assets to obtain economic benefits and counteract financial issues.
- Freiremar S.A. decided to divest by selling its fishing quota and vessels to other Spanish operators in the area. This transaction has allowed redistribution of quota and new levels of concentration of quota in NAFO fisheries.
- Historically, the flexibility in quota management in NAFO has allowed consolidation of Freiremar S.A. into fewer vessels, which has been reduced from 35 vessels in 1999 to 20 vessels in 2018[178].
- Flexibility in quota management seems also to encourage business planning and investments in fleet renewal in the area.

3.1.4. Sub-case study 2: Pesquera Ancora S.L.

3.1.4.1. Company characteristics

Pesquera Ancora, founded in 1998, has its headquarters in Vigo, Galicia. Currently the company own one freezer trawler, the Nuevo Barca and is owned by UK Fisheries Limited, headquartered in UK, which is in turn owned by the Dutch fishing company P&P Group and the Onward Fishing Company Ltd (UK)[179] (50/50 split). The latter is a subsidiary of Samherji (Iceland) (Figure 18).

As of March 2018, Pesquera Ancora's cod quota in NAFO, Barents Sea and Norwegian waters amounted to 8,711 tonnes and is assigned to the Nuevo Barca. This vessel is to be replaced by a newer and larger vessel acquired in UK in late 2017, the Kirkella. In turn, the Nuevo Barca has been sold to a Portuguese company (now named Santa

[178] For more information on fleet evolution see the Spain's country summary in this Final Report.
[179] http://www.samherji.is/en/the-company/history

Princesa[180])[181]. The Portuguese company's quota in NAFO will be consolidated on to this new vessel.

In 2015, Pesquera Ancora had an income of EUR 12.9 million and a profit of EUR 1.4 million[182]. In 2016, Pesquera Ancora had an income of EUR 22.9 million and a profit of EUR 6.2 million. Between these two years, the growth of the company in terms of income was 77.5% and 34% in terms of profits.

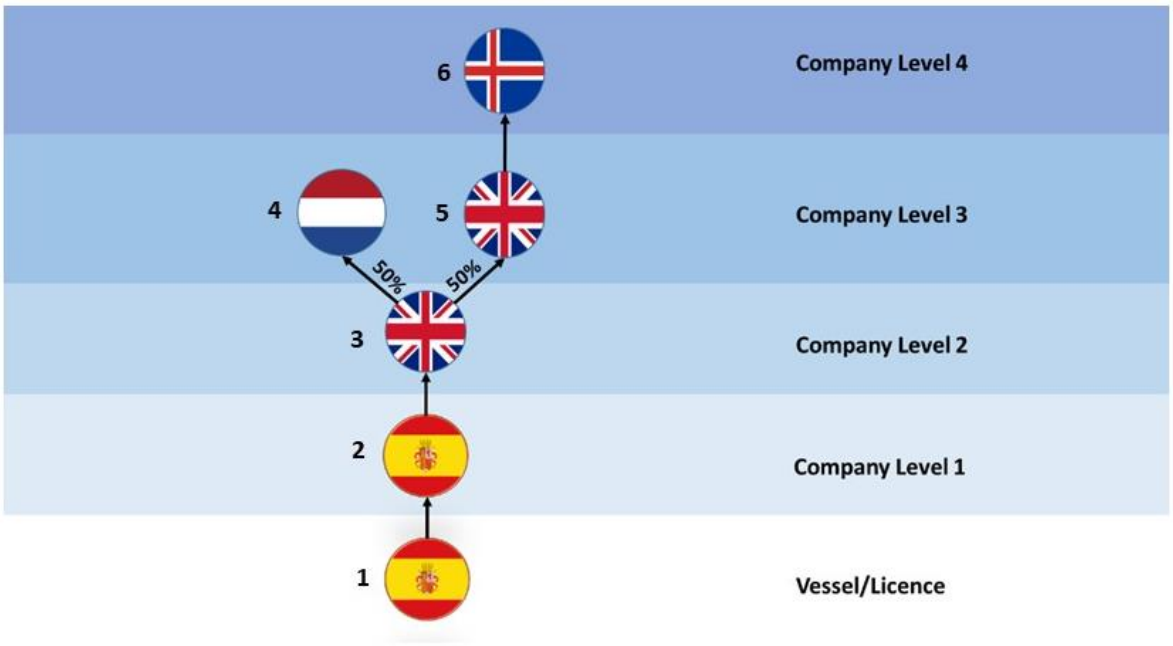

Figure 18: Network diagram of the structure of ownership of Pesquera Ancora S.A.

Table 75: Description of nodes in ownership structure of Pesquera Ancora S.A.

Number	Name	Type	Nationality	Nature of business
1	Nuevo Barca	Vessel	ES	-
2	Pesquera Ancora	Company	ES	Marine Fishing
3	UK Fisheries Limited	Company	UK	Marine Fishing
4	P&P Group	Company	NL	Marine Fishing
5	Onward Fishing Company Ltd	Company	UK	Marine Fishing
6	Samherji	Company	IS	Marine Fishing

3.1.4.2. Transaction and outcomes

Pesquera Ancora has been held by three different EU and non-EU companies during the last ten years. A majority ownership in Pesquera Ancora (60%) was acquired in 2007 by Aker Seafood (Norway) from the group Cartera Meridional S.A., for EUR 11.5 million. Cartera Meridional S.A. retained 40% of the company through its subsidiary Transpesca S.A. In 2011, Aker Seafood to concentrate its business in other fisheries, sold its majority ownership of Pesquera Ancora for EUR 19.5 million to UK Fisheries Limited (a

[180] www.marinetraffic.com/en/ais/details/ships/shipid:181582/mmsi:263589000/imo:8609357/vessel:NUEVO_BARCA
[181] https://www.farodevigo.es/economia/2018/06/12/mayor-pesquero-espana-vigo-pesquera/1909112.html
[182] http://www.infocif.es/

joint venture between P&P Group and Samherji); it appears Aker Seafood did not find synergies between Pesquera Ancora and the rest of the companies of its group[183]. According to Aker ASA (2011), the company value was EUR 16.5 million[184], with the transaction bringing a gain of 19% to the overall company value of Aker.

In early 2013, Pesquera Ancora held 24.1% of the Spanish quota for cod distributed between NAFO, Barents Sea and Norwegian waters. However, Pesquera Ancora acquired (in 2012) two vessels (Nuevo Virgen de la Barca, Nuevo Virgen de Lodairo) and their respective quota from the Basque company Pesquera Rodriguez S.A.[185] At that time, Pesquera Rodriguez S.A. held the largest share of cod quota (27.5%) for the NAFO, Barents Sea and Norweigan waters. With this transaction, Pesquera Ancora then comprised four vessels and became the largest cod fishing company in Spain, holding 51.61% of cod quotas in the NAFO area, Barents Sea and Norwegian waters (Table 76).

Pesquera Ancora eventually sold two trawlers (the Arosa Catorce and the Arosa Quince, which were then decommissioned), and operated with the trawlers the Nuevo Virgen de la Barca and the Nuevo Virgen de Lodairo. In 2016, the quota of both vessels was consolidated into the Nuevo Barca[186].

Table 76: Concentration of cod quota by the Spanish companies in NAFO, Barents Sea and Norwegian waters.

Vessel	Owner	Fishing Grounds	Stock	Quota (%)	Quota (t)
Arosa 9	Velaspex S.L.	Barents Sea	COD/1/2B	14.90	1,814.96
Monte Meixueiro	Valiela S.A.	Barents Sea	COD/1/2B	24.46	2,979.92
Egunabar	Pesquera Laurak-bat S.A.	Barents Sea	COD/1/2B	9.03	1,099.41
Nuevo Barca	Pesquera Ancora S.L.U.	Barents Sea	COD/1/2B	51.61	6,287.71
Total				**100**	**12,182.00**
Arosa 9	Velaspex S.L.	Norwegian waters	COD/1N2AB	14.90	462.01
Monte Meixueiro	Valiela S.A.	Norwegian waters	COD/1N2AB	24.46	758.56
Egunabar	Pesquera Laurak-bat S.A.	Norwegian waters	COD/1N2AB	9.03	279.86
Nuevo Barca	Pesquera Ancora S.L.U.	Norwegian waters	COD/1N2AB	51.61	1,600.57
Total				**100**	**3,101.00**
Arosa 9	Velaspex S.L.	NAFO	COD/N3M	14.90	237.49
Monte Meixueiro	Valiela S.A.	NAFO	COD/N3M	24.46	389.92
Egunabar	Pesquera Laurak-bat S.A.	NAFO	COD/N3M	9.03	143.86
Nuevo Barca	Pesquera Ancora S.L.U.	NAFO	COD/N3M	51.61	822.74
Total				**100**	**1,594.00**

Source: Own elaboration from this study's database. Data source: Boletín Oficial del Estado.

[183] https://www.seafoodsource.com/news/supply-trade/in-brief-aker-unloads-spanish-subsidiary
[184] Aker ASA (2011). Annual report.
[185] https://www.farodevigo.es/economia/2013/01/27/ancora-supera-mitad-cuota-espanola-bacalao/747582.html
[186] https://www.undercurrentnews.com/2016/03/22/samherji-pp-owned-spanish-firm-orders-new-80m-trawler/

The value of Pesquera Ancora has increased throughout the different merger and acquisition processes. Moreover, the quota, distributed until 2015 between the freezer trawlers Nuevo Virgen de la Barca and Nuevo Virgen de Lodairo, was consolidated onto the Nuevo Barca in 2016. This vessel will be replaced by the Lodairo (formerly named Kirkella), a larger vessel built in 2015 in Turkey and bought from UK Fisheries Limited. It is worth noting that the Kirkella had FQAs within the UK quota system and will be replaced by the Kirkella II, with likely consolidation of FQAs onto the Kirkella II[187]. According to Pesquera Ancora, the larger size of Lodairo (86 m) allows better safety and living conditions for the crew; the Lodairo should start operating in late 2018.

The reduction of the company's fleet may have produced social distress due to the necessary reduction in crew members. The company, however, has implemented a system of crew rotation to lessen this impact. The company has maintained the 51.6% of the cod quota for Spain during the last five years. The share is the largest held by a single company in the framework of Spanish quota system.

3.1.4.3. Key findings

- The sub-case study of Pesquera Ancora in Norwegian waters and Barents Sea illustrates how the use of rights transferability has allowed a single company to hold the majority of quota in a fishery.
- The example shows how flexibility in quota management allows companies to rationalise fishing capacity by consolidating quota onto fewer and more modern vessels.
- This sub-case also provides an example of transactions comprising companies in different MS, with a fourth level of ownership being outside of the EU.
- The high profits obtained throughout the M&A reflects the high value of quota for white fish.

3.2. Case study 2: Iberconsa and Portobello capital

3.2.1. Scope and relevance

This case study describes the acquisition of a vertically integrated group by an investor outside of the fishing industry. The financial player acquired the company to make it more competitive at international level, selling it later at a higher price. An overview of relevant transactions of assets and changes in ownership discussed in this case study are provided in Annex 1 and is described in detail below.

The example highlights the increasing role of private equity to acquire a majority stake in fishing companies, which are usually family-owned and managed. Teams of investment fund managers cooperate with management of the acquired company, making the company more competitive at an international level and then later selling their stake in the company for a higher price than previously purchased[188]. Such operations of private equity firms in the fishing industry in Spain may then modify the structure of the fishing industry through consolidation of the industry towards fewer and larger operators.

3.2.2. Institutional and regulatory context

The fish targeted by the group Iberconsa come from Argentinian, Namibian and South African fishing grounds and as such are subject to fisheries management systems in those countries. The fleets in question are owned by companies established in these

[187] https://www.hulldailymail.co.uk/news/hull-east-yorkshire-news/fishing-companies-hail-bright-future-1702578

[188] This has been, for example, the case of the private equity firm MCH, which acquired a majority stake of Garavilla and later on sell it to Bolton Group.

states, with the companies then partly or completely owned by Iberconsa. This case is beyond the EU system of TACs and quota, as all stocks that are targeted occur in external waters to the EU system, and are therefore subject to management systems in respective countries. However, the acquisition in 2015 of Iberconsa by Portobello Capital (private equity firm) was subject to the approval of the National Commission for Markets and Competition of Spain, according to current legal framework on defence of the competition[189]. The Commission studied the economic concentration and considered that this acquisition does not pose a threat to effective competition in the market[190].

3.2.3. Company characteristics

Iberconsa

The company was founded in 1981, in Vigo. It is an international company with a complete vertical integration along the value chain, from fishing to the final consumer. Iberconsa is a world leader in the catch and processing (including freezing) of hake. It is the second largest company in Spain, only after Nueva Pescanova. Its sales largely come from industry supplying, wholesale, retail and to lesser extent food services. Its production focuses on three resources: hake (Cape hake and Austral hake), Austral shrimp, and squid. More than a half of its production is globally exported.

The expansion of Iberconsa began in 1998 with the acquisition of an Argentinian company and its three fishing vessels. Currently, the group comprises twenty companies operating in Argentina, Uruguay, Namibia, South Africa, Portugal and Spain, mostly in connection to the frozen fish industry, including fish extraction, processing, manufacturing, wholesale and retail marketing, cold storage and distribution[191].

Iberconsa owns five factories in Argentina, Namibia and South Africa and recently put into operation the Iberconsa Seafood Processing S.A., which operates the first processing plant of the group in Spain, installed in Galicia with the aim to add value to its products[192]. This investment has been developed to facilitate the marketing within supermarkets of self-branded Iberconsa fish lines. Prior to this, Iberconsa outsourced processing of its products. In addition, Iberconsa own a network of retail stores and a stake in two cold-storing companies in Galicia.

The current fleet of Iberconsa comprises 45 fishing vessels and is the second largest fleet of a Spanish group, following Nueva Pescanova (72 vessels). Considering that in 1998 Iberconsa operated with three vessels, the annual growth rate of the fleet has been 14%. According to Iberconsa, the group's quota in Argentina amount to 57,400 tonnes, with 48,500 tonnes in Namibia and South Africa[193]. According to the Boletín Oficial del Estado[194], in early 2018 Iberconsa had a small amount of quota (822 tonnes) encompassing a range of species in the NAFO area. These quotas were associated with the vessel Pescaberbes Dos, which currently operates under the subsidiary Argentinian company API. In addition, between 2017 and 2018, API acquired the Argentinian companies Atunera Argentina and Pesquera Santa Cruz.

In 2017, Iberconsa had an income of EUR 226.6 million and a profit of EUR 13.5 million. In 2016, the income was EUR 177.2 million and the profit EUR 9.7 million[195]. Between these two years, the growth of the company was 27.8% in terms of income and 39.2% in terms of profits.

[189] Ley 15/2007 of the defence of competence.
[190] https://www.cnmc.es/sites/default/files/790941_6.pdf
[191] https://iberconsa.es/
[192] https://www.lavozdegalicia.es/noticia/economia/2018/08/11/fondos-grupos-pujan-iberconsa-dar-salto-capital-pescanova/0003_201808G11P28995.htm
[193] https://iberconsa.es/
[194] Resolución de 22 de febrero de 2018, de la Secretaría General de Pesca, por la que se publica la actualización del censo de la flota arrastrera congeladora NAFO.
[195] http://www.infocif.es/

Portobello Capital

The private equity firm Portobello Capital[196] was founded in 2010. Two vehicles were constituted for that purpose: Portobello Capital Fund I (EUR 131 million) and Portobello Capital Fund II (EUR 331 million). The firm has concluded more than sixty operations of different types and has a permanent staff of 25. Portobello Capital has capital both committed and under management worth approximately EUR 1.2 billion, with a portfolio comprising 14 companies, which includes Iberconsa, the Basque surimi company Angulas Aginaga, and others related to the food sector[197]. International investment companies represent 86% of the commitments of the funds. The remaining 14% are Spanish subscribers of the funds, mainly the institutional investors that are financial operators devoted to holding and investing assets, either for their clients or for themselves.

3.2.4. Transactions and outcomes

In December 2015, Portobello Capital acquired 55% of the shares of Iberconsa from the founding families (30%) and the company (25%). The remaining 45% of shares in Iberconsa are held by Barcial Inversiones (15%), Udra Investments (7.5%) and 4 single investors. Portobello Capital paid approximately EUR 30 million out of the Fund III for a 25% stake in the company. According to Portobello Capital, the reasons for the acquisition of the company were the growing global demand for fish, the possibility to consolidate quota in the main fisheries, access to distribution channels allowing new product launches, and that Iberconsa is a leader in the sector in the frozen seafood business, with substantial global company in the catch and processing of on-board hake[198]. According to Iberconsa, the reasons to work with Portobello Capital were related to the experience of this firm in strategic planning, which would strengthen the financial structure and management capacity of Iberconsa.

As a result of the merger and acquisition process, Iberconsa has doubled its sales in the last two years. In value, sales increased from EUR 206 million in 2016 to EUR 325 million in 2017. In quantity, sales increased from 55,000 tonnes to 103,000 tonnes (an increase of 87%). The gross operating profit in 2017 was over EUR 60 million[199]. Under the control of Portobello Capital during the last two years the company has also invested EUR 60 million in consolidating its presence in Argentina, through acquiring Atunera Argentina in 2017 for EUR 9.2 million, while also acquiring Pesquera Santa Cruz for an undisclosed price in early 2018. The acquisition of Pesquera Santa Cruz incorporated eight vessels into Iberconsa's fleet, as well as a processing plant[200]. The incorporation of Santa Cruz has increased income for Iberconsa by approximately EUR 70 million. Iberconsa has also invested intensively upstream to consolidate its access to raw material. The group plans to invest EUR 46 million in 2019 in the construction of five vessels[201]. Investments in fleet growth and modernisation have also been carried out extensively in Argentina, South Africa and Namibia. Lastly, the recent installation of a new processing company in Galicia aims at developing a manufacturing presence in Spain and a larger presence in Spanish markets. Since 2015, Iberconsa has invested around EUR 100 million in fleet and processing[202]. In December 2018, Iberconsa

[196] http://www.portobellocapital.es/es/
[197] http://www.portobellocapital.es/portfolio/
[198] http://www.portobellocapital.es
[199] https://www.eleconomista.es/empresas-finanzas/noticias/9317335/08/18/Una-decena-de-fondos-e-industriales-pujan-por-Iberconsa-por-700-millones.html

[200] https://www.undercurrentnews.com/2017/07/19/spains-iberconsa-set-to-become-argentinas-largest-shrimp-player-with-santa-cruz-acquisition-underway/
[201] https://www.lavozdegalicia.es/noticia/maritima/2018/10/03/iberconsa-acelera-renovacion-flota-licitacion-cinco-buques-46-millones/0003_201810G3P34991.htm
[202] http://www.pescachubut.com/2018/10/iberconsa-espera-cerrar-el-2018-con-una.html

acquired the Argentinian firm Valastro, which have three vessels and one processing plant[203].

In April 2018, Portobello Capital announced its interest in selling the Iberconsa group, potentially due to the strong interest by the Portobello Group in other companies in the sector and outside the sector at international level, including many private equity firms. The decision was based on the context of the fishing sector, that guaranteed Portobello Group economic benefits that may not be assured in the future. The Japanese financial services group Nomura and the consulting firm E&Y were hired to steer the disinvestment process. Initial expectations were that the operation would vary between EUR 400 and EUR 700 million. Some specialists reported that the owners of the 45% of the shares are not supportive of the selling of the group in parts and prefer to maintain the integrity of the group[204].According to specialised media many investors were interested in Iberconsa, amongst them firms based in EU, China and USA[205]. In early March 2019, the specialised media informed that the private equity firm American Platinum has finally signed an agreement to buy a majority stake in Portobello[206]. The final share and the amount of the operation were not disclosed although specialists consider that it is above 500 million Euros. The transaction is expected to be closed by the second quarter of 2019. Portobello will reinvest in Iberconsa with its Fund IV and take 27.5%.

3.2.5. Key findings

- The Spanish fishing sector, especially the more vertically integrated segment, is experiencing changes determined by the growing demand of fish due to growth of population and consumption patterns.
- The fishing industry is dominated by small and medium-sized companies' that are largely family-owned. These may need the support of professional teams to make them more internationally competitive.
- Private equity firms are increasingly attracted to invest in the fisheries sector. They acquire majority stakes and try to make companies more competitive through strategic investments in securing access to raw materials, expanding and improving processing capacity and diversifying products and channels, amongst others[207].
- Investments made by Iberconsa by acquiring companies and vessels abroad illustrate the point that strategic investments increase the value of the company in the market and attract the interest of international investors.
- It is expected that the interest in Spanish seafood of international industry and non-industry players, particularly private equity firms, may change the industry structure in some years.

[203] https://www.lavozdegalicia.es/noticia/economia/2018/12/22/iberconsa-muestra-fortaleza-ante-posible-comprador-adquiere-pesquera-argentina-valastro/0003_201812G22P37991.htm

[204] https://www.undercurrentnews.com/2018/07/10/iberconsa-inks-long-awaited-deal-for-spanish-processing-plant/

[205] https://www.undercurrentnews.com/2019/02/19/us-fund-platinum-in-tough-deal-talks-to-buy-iberconsa/

[206] https://www.eleconomista.es/empresas-finanzas/noticias/9745261/03/19/Platinum-entra-en-el-accionariado-de-Iberconsa-la-segunda-pesquera-espanola-por-550-millones.html

[207] Other examples include the acquisition of the 73% of the Spanish octopus processor Discefa by the Spanish equity firm GED Investment Development (2016). As of October 2018, the equity firm had the intention to sell the company: https://www.undercurrentnews.com/2018/10/23/spanish-fund-hired-consultant-to-kick-off-discefa-sales-process/. Another example is Garavilla which was acquired by the Spanish firm MCH equity firm (2010) and later on sold to the Bolton Group (see case study in this report).

3.3. Case study 3: Garavilla and Bolton Group

3.3.1. Scope and relevance

This case study describes the acquisition of a vertically integrated group by an international industrial conglomerate, which carries out various production activities, most of them outside of the fisheries sector. The industrial player acquired the fishing company in order to consolidate its presence in the Spanish canned fish market and to gain access to South America and North Africa markets, by acquiring a majority stake in one of the leading tuna processing companies in Spain. In addition to the case below, an overview of the case and its main transactions is provided in Table 76 (Annex 1).

3.3.2. Institutional and regulatory context

The regulatory framework concerning the management of the fishing resources is beyond the EU system of TACs and quota. The fish targeted by Garavilla is subject to conservation and management measures of the Inter American Tuna Commission (IATC) and fisheries management measures of Ecuador. In turn, the acquisition carried out by the Bolton Group was subject to the approval of the National Commission of the Competition in Spain, in order to guarantee that the operation did not pose a threat to effective competition[208]; competition authorities in Ecuador, where Garavilla operates, also examined the acquisition.

3.3.3. Company characteristics

Grupo Conservas Garavilla S.L.

The history of the Grupo Conservas Garavilla S.L. dates back to the late 19th century, when it was founded by José Garavilla in the Basque Country. In 1961, the "Isabel" brand of canned tuna was successfully launched, and the company expanded its production capacities in Spain. Since late 1990s the company has developed further high-value products, including packaged fish and shellfish products, and ready to eat meals[209]. Garavilla is a vertically integrated group that operates in Spain, Northern Africa and South America along the value chain of the fish and seafood canning business. Wholesale distribution of frozen tuna or tuna loin production are carried out mainly in Ecuador.

Garavilla owns four tuna fishing vessels that provide most of the tuna utilised and sold by the Group, while the rest is sourced from international intermediaries and local tuna producers. The fleet consists of the purse seiners Aurora B and Rosita C (84 m LOA each) that are based in the Basque port of Bermeo under the ownership of Atunera Dularra S.L., a company of the group. The other two vessels, the Andrés and the Charo, are flagged in Ecuador. The fleet catches approximately 35,000 tonnes of tuna per year. Garavilla owns six production facilities: one in Ecuador (Manta), one in the Basque Country (Mundaka), three in Galicia (O Grove, Vilaxoan, Boiro) and one in Morocco (Agadir). The latter production facility is devoted to the processing of small pelagics. The company employs around 2,650 workers.

The group supplies canned seafood in Europe, mainly in Spain, Portugal and France, under the brands "Isabel", "Cuca" and "Massó"; and in other non-EU countries such as Ecuador, Colombia, Morocco and Algeria, under the "Isabel" brand. Although the focus is tuna products, it also offers a wide range of other products, such as mussels, sardines, squid, octopus or clams and mixed fish products, such as canned salads.

In 2014, the fishing company had an income of EUR 21.6 million and a profit of EUR 6 million. In 2013, the income was EUR 16.2 million and the profit EUR 4.4[210]. Between these two years, the growth of the company was 33.3% in terms of income and 36.4% in terms of profits.

[208] https://www.cnmc.es/sites/default/files/751630_6.pdf
[209] https://www.isabel.net/en/productos
[210] http://www.infocif.es/

The Bolton Group

The industrial conglomerate Bolton Group is a large group founded in Italy in 1949 and consisting of 26 companies[211]. The group is a global player in consumer products, distributing its products in 125 countries. The group is present in the following sectors: food, home care, personal care and health, beauty products, and adhesives. In the food sector, the group mainly focuses on canned fish and shellfish. Within its fisheries division the Bolton Group is a vertically integrated operator, with a presence in the initial stages of tuna fishing and processing, mainly through its subsidiaries Luis Calvo Sanz, S.A. and Garavilla in Spain (the acquisition of which in 2015 is described below) and a minor stake in Tri Marine (USA). Bolton has also an important stake in Luis Calvo Sanz S.A. (40%), which was acquired in 2012.

Besides the Garavilla brands, the Bolton Group has other important canning brands such as "Rio Mare" (Italy), "Saupiquet" (France), "Palmera" (Italy). "Calvo" (Spain), "Gomez da Costa" (Brasil) and "Calvo" (Ecuador) are also brands belonging to Luis Calvo Sanz S.A. (Calvo Group) and therefore linked to the Bolton Group. Regarding the brand "Saupiquet", it is worth mentioning that Bolton acquired the vertically integrated company Saupiquet (France) in the late 1990s. The company is a leading producer of canned tuna and seafood in France. This acquisition allowed Bolton to consolidate its position in the market of canned seafood not only in France, but also in Germany through the Saupiquet subsidiary company Saupiquet Deutschland[212].

Table 77: Companies within the Garavilla group.

Company	Country
Grupo Conservas Garavilla S.A.	Spain
Atunera Dularra S.L.	Spain
Conservas Selectas de Galicia S.A.	Spain
Conservas Isabel Ecuatoriana S.A.	Ecuador
Colombo Española de Conservas S.L.	Colombia

3.3.4. Transaction and outcomes

In 2010, Garavilla was acquired by the Spanish private equity firm MCH Private Equity for approximately EUR 60 million[213]. MCH established a five-year period to participate in the business. The acquisition of Garavilla by MCH triggered a range of strategic investments, that substantially improved the value and competitiveness of Garavilla. In 2011, Garavilla acquired Conservas Cuca, a company that owned two emblematic brands "Cuca" and "Massó" as well as two processing plants in Galicia for approximately EUR 10 million (Table 77)[214].

In 2015, a majority stake of Garavilla (55%) was acquired by the Bolton Group (Italy) from MCH for an undisclosed price. The remaining shares are held in the hands of the Garavilla family, which retain the management of Garavilla. As of June 2016, the turnover of Garavilla reached EUR 316 million[215]. Around 60% of the sales of the group are made in Spain.

The Bolton Group and the Garavilla family committed to reinforce the existing management of the group. The aim is to expand the business by building on the well-established Garavilla brands, with Garavilla ranked second among producer brands in Spain in terms of sales[216]. According to specialised media, the Bolton group's interest in Luis Calvo Sanz S.A. and Garavilla was also intended to limit the expansion of the South

[211] http://www.boltongroup.net/en-ww/homepage
[212] https://www.encyclopedia.com/books/politics-and-business-magazines/bolton-group-bv
[213] https://cincodias.elpais.com/cincodias/2010/07/20/empresas/1279633179_850215.html
[214] https://www.lavozdegalicia.es/noticia/economia/2011/06/03/garavilla-ejecuta-compra-cuca-10-millones-euros/0003_201106G3P26991.htm
[215] https://www.eleconomista.es/ranking-empresas/noticias/7654576/06/16/Ocho-de-las-diez-conserveras-con-mayor-facturacion-se-localizan-en-Galicia.html
[216] https://www.alimarket.es/alimentacion/noticia/209154/calvo-y-garavilla-se-emparentan

Korean Group, Dongwon Enterprise, in Europe. The Asian operator competed with Bolton in the process of acquisition of shares of Luis Calvo Sanz S.A. and Garavilla[217].

The acquisition of Garavilla by Bolton secures the role of the Italian group as a key player in the tuna canning industry worldwide, by consolidating its presence in Spain, South America and North Africa. With a stake also in Luis Calvo Sanz S.A., the Italian group has acquired a large share of the Spanish tuna canning industry, with Calvo and Garavilla the first and second largest canning groups in Spain in terms of sales.

3.3.5. Key findings

- The case of Garavilla and Bolton illustrates how mergers and acquisitions can provide acquiring companies with access to raw material and markets, while also countering potential competitors.
- The case study presented also illustrates a process by which mergers and acquisitions can lead to consolidation of resources into fewer, larger groups. The context of restricted access to resources and changes in consumption patterns may also be key factors in this process.
- The incorporation of Garavilla into the industrial conglomerate Bolton Group has provided the Spanish company, through the distributional channels of the acquiring company, with greater market access.
- A trend is evident in industrial fisheries of Spain, which is that small or mid-sized, family-owned companies are attracting the interest of international operators within and beyond the seafood business, either industrial or financial.

3.4. Case study 4: Clearwater Seafood's acquisition of Macduff

3.4.1. Scope and relevance

This case study highlights an example of horizontal and vertical integration of an EU company through acquisition by a non-EU international company, as well as the facilitation of geographical diversification of markets and the associated supply chains. This. This case also illustrates the importance of fishing quotas, the vessels and licences, and all processing and manufacturing assets as an important economic benefit to acquisition. Within this system, the acquisition of Macduff by Clearwater was wholly associated with providing access to shellfish such as scallops, Nephrops, brown and velvet crab and whelk resources within the UK, as well as processing plants, freight and manufacturing logistics.

3.4.2. Institutional and regulatory context

The case of the acquisition of Macduff by Clearwater is framed within the UK and wider EU fisheries system. Macduff targets primarily shellfish fisheries within the UK and EU waters, encompassing two key species of scallop, the King scallop (*Pecten maximus*), and the Queen scallop (*Aequipecten opercularis*), two species of crab (brown crab, Cancer pagrus and the velvet crab, *Necora puber*), whelk (*Buccinum undatum*), as well as Nephrops (also known as Langoustine).

As all species fished are within UK or EU waters, fishing practices are regulated under the EU's regulatory framework (i.e., Common Fisheries Policy). However, the majority of stocks targeted are non-quota species, which are not subject to EU TAC regulations or national quotas, and are only lightly managed through technical measures (e.g., minimum landing size of King scallop of 100 mm and Queen scallop of 40mm). The Nephrops fishery is however subject to EU quotas and, as such, catches are controlled and subject to TAC regulations and national quotas.

[217] https://www.undercurrentnews.com/2015/06/22/bolton-vs-thai-union-different-approaches-to-tuna-consolidation/

3.4.3. Company characteristics

3.4.3.1. Macduff

Macduff was set up in 1985 by the Beaton family, buying and selling live shellfish direct from the fishers for freight to Europe. The company owns a processing factory for Whelk, Scallop, Langoustine and Brown Crab in Mintlaw, which they moved into in 2001 as the company diversified from chilled into frozen shellfish, the mainstay of its current operation. This site holds a 3,500 capacity coldstore and is the primary dispatch facility for all orders, national and international. Macduff also owns a Nephrops and Langoustine processing facility in Stornoway, Isle of Lewis (called 'Macduff Stornoway') which was purchased from Youngs Seafood in September 2013. This purchase enabled the expansion of activities into the Hebrides and west of Scotland. Macduff also own and operate a small live shellfish facility that house live shellfish holding tanks, while also owning several vivier lorries (lorries that have been converted to hold live shellfish). With approximately 12 employees, Macduff's Exeter facility is responsible for collecting and transporting locally sourced Whelk to their main processing plant in Mintlaw. Lastly, Macduff also own a manufacturer and distributor of fishing gear (called 'Macduff Dumfries'), which fits out the company's scallop vessels.

Macduff has been an active consolidator of fishing fleets based within the UK fishing sector, focusing particularly on shellfish stocks. In 2013 Macduff Shellfish acquired the UK's largest scallop fishing fleet, Scott Trawlers, (which became a subsidiary of Macduff Shellfish). Scott Trawlers, based in Dumfries, operated five scallop vessels, two of which have 'frozen at sea' capabilities, unique to the scallop industry; the vessels accounted for over 15% of all UK scallop landings and was Europe's largest scallop fishing fleet. This acquisition of Scott Trawlers by Macduff resulted in higher vertical integration, due to the acquisition of Scott Trawlers entire fleet of scallop trawlers (5 trawlers), while also resulting in greater horizontal integration for Macduff as the deal included a fleet of refrigerated lorries and a marine engineering business, catering for the equipment needs of scallop fishermen.

Macduff further increased their fleet of UK based scallop trawlers within 2013, buying four further scallop trawlers, and the 25-crew working on these vessels from Saltire Seafoods. The four-strong fleet operate under Macduff Shellfish's Scott Trawlers subsidiary.

Within June 2015 Macduff acquired a shellfish trading business, four scallop trawlers and licences along with additional preferred procurement access in complementary shellfish species (i.e. whelk), from Exeter based The Greendale Group. The 11-strong shore-based shellfish team at The Greendale Group's Shellfish Trading Division transferred to Macduff Shellfish's employment, joining around 400 other colleagues throughout the UK. The 24 fishermen operating the four scallop fishing vessels joined Macduff's fleets existing team of 110 and brought Macduff's total mid-shore scallop harvesting vessels to 14. The acquisition expanded Macduff Shellfish's scallop fishing fleet by 40%.

Further expansion of Macduff vessel ownership has occurred since 2015, with a further two UK based vessels being included within their fleet of scallop trawlers. In addition, through the subsidiaries Macduff Fishing Fleet Limited and Rederij Macduff BVBA, the company also operates a Belgian flagged scallop trawler 'the Flowing Stream', which was bought in 2015.

Macduff's 2017 financial report showed a dip in results across the 12-month financial year, when comparing to a 15-month prior period. Within this, turnover fell 17% to GBP 78 million (EUR 89.85 million), while gross profit dipped 16% to GBP 20.4 million (EUR 23.5 million). Operating profit was GBP 6.3 million (EUR 7.26 million), down from GBP 10.9 million (EUR 12.56 million), while the bottom-line income was GBP 5.6 million (EUR 6.45 million), down from GBP 8.8 million (EUR 10.14 million).

3.4.3.2. Clearwater seafoods

Based in Nova Scotia, Clearwater Seafoods is North America's largest vertically integrated, publicly traded, shellfish harvester. It is the largest beneficiary of shellfish quota in Canada, focusing on Arctic surf clam and scallops, while also fishing for lobster, shrimp and snow crab within Canadian waters. Clearwater Seafoods also have operations in Argentina, supplying scallops from Argentinian waters to the Canadian, US and Asian markets. The company has a substantial level of vertical integration, holding onshore processing, storage and distribution within Canada, as well as a fleet of ten trawlers based out of Canada, and two based out of Argentina (Figure 19, Table 78)

Clearwater reported sales and adjusted Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) within 2017 of CAD 621 million (EUR 416.88 million) and CAD 108.6 million (EUR 72.9 million) versus 2016 comparative results of CAD 611.6 million (EUR 410.57 million) and CAD 120.9 million (EUR 81.16 million). The three-year compound annual growth rate for sales and adjusted EBITDA was 8% and 1%, respectively.

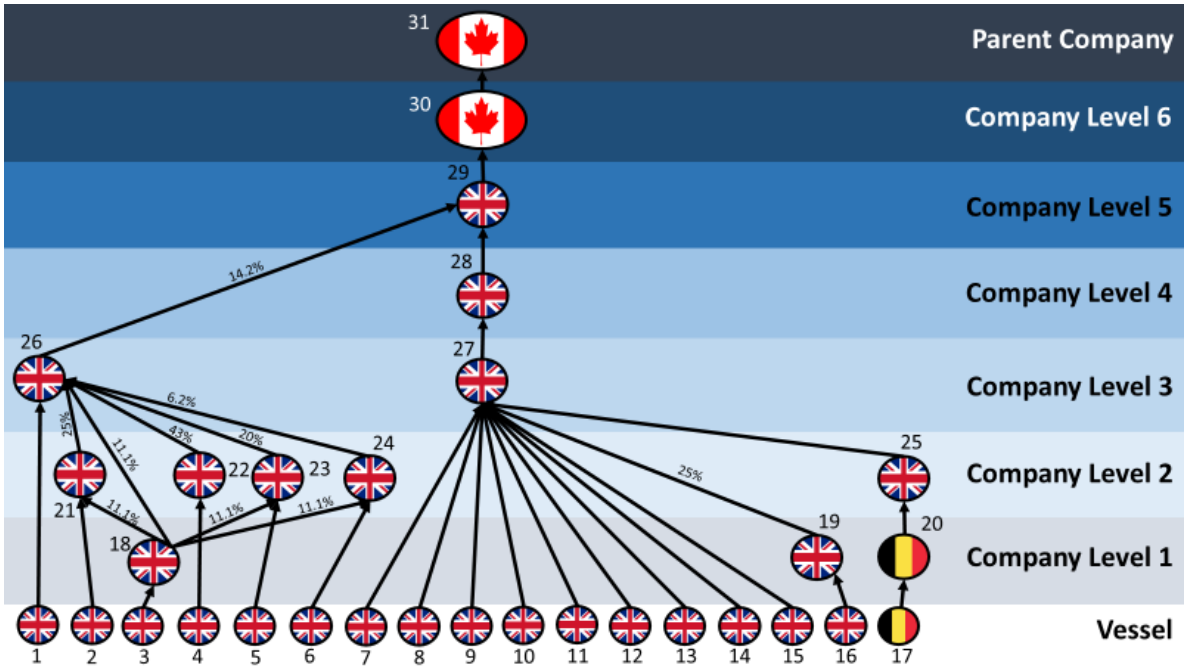

Figure 19: Network diagram of Macduff and Clearwater.

Note: The above node diagram includes information from grey literature sources. Ownership structures may differ from the reference period.

Table 78: Description of nodes in Macduff and Clearwater.

Number	Name	Type	Nationality
1	Gratitude	Vessel	UK
2	Heather Sprig	Vessel	UK
3	Horizon II	Vessel	UK
4	Kestrel	Vessel	UK
5	Artemis	Vessel	UK
6	Lynden II	Vessel	UK
7	Sylvia Bowers	Vessel	UK
8	Glen Alvah	Vessel	UK
9	Isla S	Vessel	UK
10	Lass O Doune	Vessel	UK

Number	Name	Type	Nationality
11	Charity & Liberty	Vessel	UK
12	Glendeveron	Vessel	UK
13	Heather K	Vessel	UK
14	Clasina	Vessel	UK
15	Albion	Vessel	UK
16	Atlas	Vessel	UK
17	Flowing Stream	Vessel	BE
18	Horizontal Fishing Fraserburgh Limited	Company	UK
19	Atlas Fishing LLP	Company	UK
20	Rederij Macduff BVBA	Company	BE
21	HS Fishing LLP	Company	UK
22	Kestrel Fishing Ltd	Company	UK
23	BAG FR LLP	Company	UK
24	Lynden (FR) Ltd	Company	UK
25	Macduff Fishing Fleet Limited	Company	UK
26	Fraserburgh Trawlers Limited	Company	UK
27	Macduff Shellfish (Scotland) Limited	Company	UK
28	Glenalvah Limited	Company	UK
29	Macduff Shellfish Group Limited	Company	UK
30	Clearwater Bidco Limited	Company	CA
31	Clearwater Seafood Incorporated	Company	CA

3.4.4. Transaction and outcomes

In October 2015 Clearwater Seafoods purchased 100% of the shares of Macduff Shellfish Group Limited (hereafter 'Macduff') for GBP 98.4 million (EUR 113.35 million) from the Beaton Family and Change Capital Partners (private equity firm). In the deal Macduff retained its name and operates currently as a wholly-owned subsidiary of Clearwater (Figure 19). The key outcome of this acquisition by Clearwater was of a vertically integrated international non-EU company gaining access to EU fishery resources and strong position in the EU market.

Interestingly, the acquisition of Macduff by Clearwater has increased the geographic reach and size of Macduff's logistic supply chain, resulting in Macduff now shipping UK seafood products to North America. For example, in June 2015 Macduff Shellfish started providing langoustines to Minneapolis–Saint Paul and the Rocky Mountain regions, selling through Seattle Fish Co. in Denver and The Fish Guys in Minneapolis.

3.4.5. Key findings

- The acquisition of Macduff strengthened Clearwater's global market position, led to increased global growth of Clearwater by providing a 20% expansion of supply (approximately 7,000 tonnes) of shellfish, including scallops, *Nephrops*, whelks and crabs, as well as increased overall access to European shellfish species throughout the UK and EU.
- The acquisition provided Clearwater with UK-based shellfish processing facilities in both Scotland (Mintlaw, Stornoway) and Exeter.

- In terms of marketing, the acquisition provided Clearwater enhanced access to key distribution channels, including food service and grocery retail, in multiple markets across the UK, Italy, Spain and Portugal.
- The acquisition allowed Clearwater to amalgamate its vessel management and sustainable harvesting practices, processing technologies along with global sales, marketing and distribution footprint into Macduff.

3.5. Case study 5: Operations of Cornelis Vrolijk Holding BV

3.5.1. Scope and relevance

This case study provides an example of consolidation and horizontal integration comprising the Dutch-based company Cornelis Vrolijk, which holds pelagic and demersal fishing and processing facilities in the Netherlands and shrimp fishing and processing facilities in Nigeria, to access substantial quota of small-bodied pelagic stocks in the UK and France and land predominantly in the Netherlands. This company is an integrated business, controlling the whole operations chain which includes catching, processing and trade of fish. Table 78 (Annex 1) provides a synthesis of the relevant transactions that have led to changes in ownership of quotas, vessels and companies that have occurred in the Dutch fleet operating in UK and EU waters.

This case shows the importance of the international development of fishing fleets, especially in acquiring and running a range of fleets worldwide that focus on a particular type of product (predominantly the small pelagic species: Blue whiting, Horse mackerel, Mackerel and Herring) flagged to subsidiary companies based within countries outside of the Netherlands secondary MS in structuring ownership. In particular, this case study highlights the ability for an international company to own quota within other countries (in this case study we highlight quota held within the UK and France), without deviating from the type of fishing activities historically undertaken by the company (i.e., focus on small pelagic stocks). Lastly, this case also illustrates the importance of holding and developing fishing quotas, the vessels and licences, as an important factor in structuring the ability to effectively fish particular fishing stocks, while also owning the processing and manufacturing assets that process the majority of the stocks that are fished. A narrative of the case is provided below.

3.5.2. Institutional and regulatory context

The case of the development of fishing activities of Cornelis Vrolijk Holding BV (CVH) as one of the most substantial owners of quota for small pelagic stocks within the UK and EU is predominantly structured through the establishment of the UK based company the North Atlantic Fishing Company in 1984, the French company, French Pélagique in 1988 and within 2015 the takeover of Jaczon B.V. The development of all three companies, and the fishing activities undertaken within the UK and EU are framed within the UK and wider EU system. All three companies hold vessels that are able to target mid-water small-bodied pelagic species, predominantly targeting Blue whiting (*Micromesistius poutassou*), Horse mackerel (*Trachurus trachurus*), Mackerel (*Scomber scombrus*) and Herring (*Clupea harengus*).

As all species fished by the North Atlantic Fishing Company, French Pélagique and Jaczon B.V. are within UK or EU waters, fishing practices are regulated under the EU's regulatory framework (i.e., Common Fisheries Policy). In addition, all four mid-water small-bodied pelagic species that are targeted are managed under quota restrictions, with catches controlled and subject to TAC regulations and national quotas.

3.5.3. Company characteristics

Based in Ijmuiden, Netherlands, Cornelis Vrolijk Holding B.V. (CVH) was founded in 1880. Through Cornelis Vrolijk Holdings B.V. and its subsidiaries Jaczon B.V. (Netherlands), North Atlantic Fishing Company Ltd (United Kingdom) and French Pélagique (France) the company is active in pelagic trawl, with an increasing interest and activity in demersal fishing. Through the company's subsidiaries Jac. den Dulk &

Zonen B.V. (herring processing and wholesale) and Seafood Parlevliet B.V., it is active in fish processing and trade (e.g., fish products including herring, mackerel and fried fish), while it is active in tropical shrimp fishing and trade of Prim7Stars seafood, fished out of Nigerian Waters (FAO Area 34) within a fleet of 70 shrimp trawlers, under Atlantic Shrimpers Limited a subsidiary of Cornelis Vrolijk's main holding Vroko International and marketed via Primstar B.V. (a joint venture company). Including partnerships, the company owns approximately 93 fishing vessels and employs more than 1,500 people worldwide (Figure 20, Table 79).

In 2016, Cornelis Vrolijk generated approximately EUR 336 million in revenues[218]. This was EUR 30 million more than in the previous year[219]. The company owned total assets worth EUR 399 million, which was EUR 37 million more than in 2015[220]. Of the subsidiaries of Cornelis Vrolijk which fish with UK and EU waters where financial data is available, North Atlantic (Holdings) in 2018 saw revenue increase by 16% to GBP 27.8 million (EUR 32.02 million), taking gross profit up from GBP 8 million (EUR 9.22 million) to GBP 11.3 million (EUR 13.02 million)[221]. Within the company operating profit rose 21% to GBP 8.1 million (EUR 9.33 million), and the bottom-line profit after tax was GBP 6.3 million (EUR 7.26 million), up from 2016's GBP 5.2 million (EUR 5.99 million). In parallel, in 2017 French Pélagique achieved a turnover of EUR 23 million, with the balance sheet increasing by 44.95% between 2016 and 2017.

3.5.4. Transaction and outcomes

Cornelis Vrolijk has shown substantial consolidation and vertical integration in its national and international development, predominantly in structuring its company to dominate a particular fishery – mid-water mid small-bodied pelagic fish species.

In 1984 Cornelis Vrolijk established the North Atlantic Fishing Company Ltd. This is a United Kingdom subsidiary that owns two pelagic fishing trawlers (Northern Joy H-225 and Cornelis Vrolijk Fzn H-171), both specialising in catching mid-water pelagic fish species. Such species include blue whiting and horse mackerel which are mostly caught in Scotland and Ireland, in the Gulf of Biscay and, since 1996, in the Atlantic Ocean off the coast of Mauritania. Mackerel are caught by the company off the Shetland Islands, while herring is caught from the North Sea. Of the two vessels, Cornelis Vrolijk Fzn H-171 holds the highest number of FQA units for pelagic mid-water species within the UK (457,166 FAQ units), predominantly comprising stocks of western stock mackerel (comprising 45% of total FQA units), western stock horse mackerel (comprising 21% of total FQA units), north sea herring (comprising 13% of total FQA units), western stock herring (comprising 8% of total FQA units), and Herring IVc/VIId (comprising 5% of total FQA units).

One of the Cornelis Vrolijk's first subsidiaries, France Pélagique Sarl (France) was created in October 1988 and operates two deep-sea pelagic fishing trawlers fishing exclusively for pelagic species; the Sandettie, an 83m pelagic fishing trawler which is part owned by France Pélagique Sarl and part owned by Jaczon BV (see below regarding the link of Jaczon BV to Cornelis Vrolijk), and the 88m long pelagic fishing trawler Prins Bernhard. Both vessels land their catch in the Netherlands. In addition, a subsidiary of France Pélagique (SPES Armemant) runs a 51 m trawler deep freezer, which fish for mackerel and herring in the English Channel and North Sea.

[218] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven, L & Davies, R 2018, Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, originally cited in Orbis (2018, September), "Cornelis Vrolijk Holding: Company report".
[219] Ibid.
[220] Ibid.
[221] www.undercurrentnews.com/2018/08/31/new-whitefish-trawler-contributes-to-lift-in-cornelis-vrolijk-uk-arms-profits/

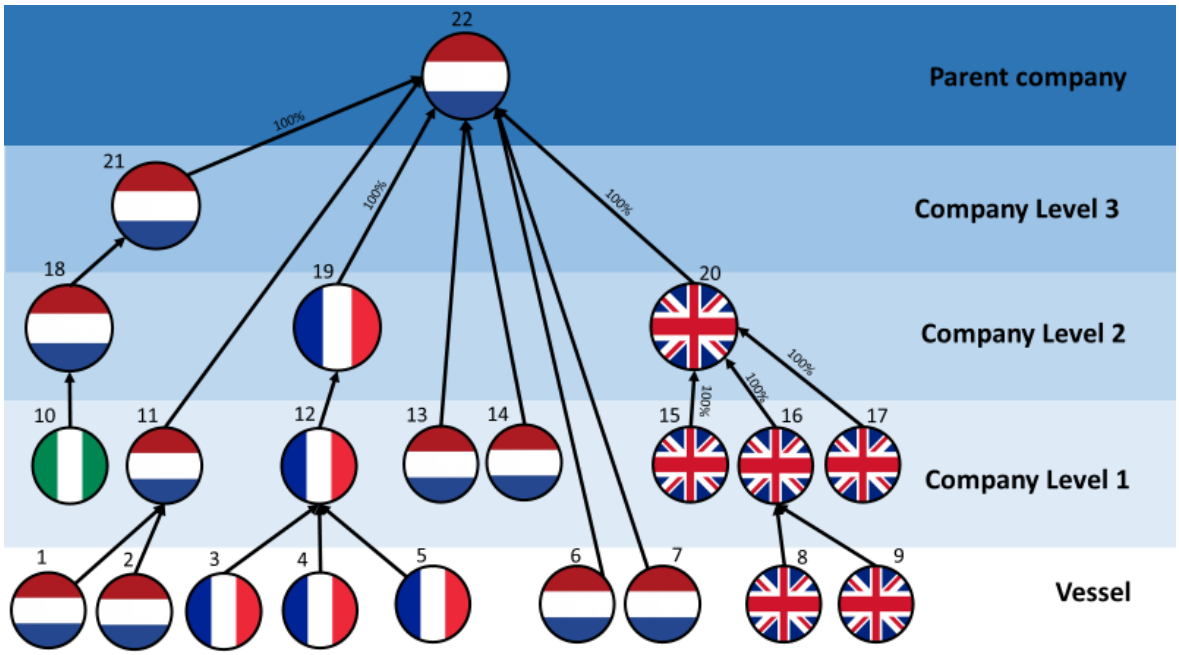

Figure 20: Network diagram of the Cornelis Vrolijk Holding B.V.[222]

Note: The above node diagram includes information from grey literature sources. Ownership structures may differ from the reference period.

In furthering their interests in holding quota for mid-water small bodied pelagic fish species, Cornelis Vrolijk undertook a takeover of the Jaczon B.V. shipping company in 2005, which now operates as a subsidiary of Cornelis Vrolijk Holdings B.V. Jaczon B.V. was founded in 1954 and is based in Scheveningen, the Netherlands. The take-over of Jaczon B.V. meant an expansion within Cornelis Vrolijk through the addition of the 114m long pelagic fishing trawler Zeeland SCH-123, and the 126m long pelagic fishing trawler Afrika SCH-24 to Cornelis Vrolijk's fleet. Both vessels focus fishing on mid-water pelagic small-bodied fishes, focusing (as found in the other pelagic trawlers owned by subsidiaries of Cornelis Vrolijk Holdings B.V.), targeting a range of pelagic species, including herring, mackerel, horse mackerel and blue whiting within the North Sea.

Table 79: Description of nodes in Cornelis Vrolijk Holding B.V.

Number	Title	Type	Nationality
1	SCH-123 Zeeland	Vessel	NL
2	SCH-24 Afrika	Vessel	NL
3	FC-716999 Sandettie	Vessel	FR
4	FC-934228 Label Normandy	Vessel	FR
5	FC-716900 Prins Bernhard	Vessel	FR
6	SCH-81 Carolien	Vessel	NL
7	SCH-72 Frank Bonefaas	Vessel	NL
8	H-225 Northern Joy	Vessel	UK
9	H-171 Cornelis Vrolijk Fzn	Vessel	UK
10	Atlantic Shrimpers Limited	Company	NG

[222] The network diagram has been developed to show the direct connection between vessels and companies encapsulated within Cornelis Vrolijk Holding B.V. Although 10 is not directly connected to named vessels within this diagram, it owns 70 trawlers based in Nigeria (which therefore will not be listed in our vessel ownership database). In addition, 13, 14 and 15 although not directly connected to specific vessels, they have been included within this diagram as they provide the wider company with a substantial ability to process packaged fish products such as herring, mackerel and fried fish and therefore are an important conduit for its processing capabilities.

Number	Title	Type	Nationality
11	Jaczon B.V.	Company	NL
12	SPES Armemant	Company	FR
13	Jac. den Dulk & Zonen B.V.	Company	NL
14	Seafood Parlevliet B.V.	Company	NL
15	Rusbrit Limited	Company	UK
16	North Atlantic Fishing Company Limited	Company	UK
17	North Atlantic (Crewing) Limited	Company	UK
18	Primstar BV	Company	NL
19	France Pélagique SAS	Company	FR
20	North Atlantic (Holdings) Limited	Company	UK
21	Vroko International Holding	Company	NL
22	Cornelis Vrolijk Holding B.V.	Company	NL

3.5.5. Key findings

- Cornelis Vrolijk has undertaken substantial development, encompassing both consolidation and vertical integration. But the company have predominantly focused their economic development within a particular type of fishery – that focused on mid-water pelagic small-bodied fish species.
- The development of the North Atlantic Fishing Company (UK) have resulted in Cornelis Vrolijk now holding the highest number of FQA units for pelagic mid-water species within the UK (457,166 FAQ units held on the licence of the Cornelis Vrolijk Fzn).
- The company's ability to focus on a particular type of fishery, effectively dominating the fishery for mid-water pelagic small-bodied fish species within the UK (and the wider EU) is wholly supported (and in part due to) the extensive processing and logistics business owned by Cornelis Vrolijk within the Netherlands (held within the company's subsidiaries Jac. den Dulk & Zonen B.V. and Seafood Parlevliet B.V.).

3.6. Case study 6: Operations of the Samherji Group

3.6.1. Scope and relevance

Samherji is one of the largest fishing groups at the global level, with a profit in 2016 of EUR 107 million and a revenue of EUR 636 million. Profits of the company are growing at a rate of 37.7% per year[223]. The scope of the group operations comprises three continents and many subsidiary companies in a number of EU MS. This case highlights the connections of the Icelandic parent company with other companies with access to fishing opportunities in the EU and other regions (Annex 1).

3.6.2. Institutional and regulatory context

The fishing resources exploited by the Samherji group are managed within a regulatory framework that comprises the EU system of TACs and quotas for fisheries in the water of MS such as Spain and France, and beyond the EU fisheries management system in waters of third countries in Europe, Africa and America.

[223] http://www.samherji.is/en/news/getAllItems/1/samherji-successful-in-2016

3.6.3. Company characteristics

The Icelandic company Samherji HF was founded in Grindavík in 1972. In 1983, the company was acquired by its current owners and moved to Akureyri. The Icelandic company is the parent company of a group of 22 companies, ranging from harvesting to distribution (Table 80). As 2014, the figures of the group in Iceland were 700 employees and 30,000 tonnes of fish processed annually. Assets of the group are estimated in EU 440 million[224]. After almost three decades, the group has become one of the leading fishing groups in the world. Outside Iceland, Samherji has, or takes part in, operations in Germany, Poland, UK, Faroe Islands, France, Spain, Portugal, Namibia and Canada. The group sell its products to 45 countries. The fishing grounds of major interest for the group are FAO areas 21, 27, 34, 47 and 87[225].

The group has invested in Íslandsbleikja's fishing station and salmon plant. Regarding processing, the group has invested in the construction of world class onshore facilities in Dalvík. Samherji also runs extensive sales and marketing operations which are coordinated at the company's head office. Samherji sells its production under the "Ice Fresh Seafood" brand. As 2016, the group had invested heavily in optimising its harvesting activities through the construction of six vessels.

3.6.3.1. Iceland and Norway

Samherji controls a significant volume of fishing quota in Iceland, EU and in other fishing areas, operating freezer and fresh fish trawlers, purse seiners, as well as multipurpose vessels. In terms of quotas, Samherji has the second largest allocation in Iceland. This represents 6% of the Icelandic quotas, which is around 22,000 tons of fish[226]. According to Samherji, the group also holds shares in several Icelandic seafood companies. Samherji also has important stakes in Norwegian companies. In 2004, Samherji acquired 22% of Nergård A.S. The latter has a fleet of five freezing trawlers and is a head of a vertically integrated group comprising eight fishing firms, mostly processing companies. In 2017, Samherji increased its participation up to 39.1%, being the majority shares in hands of the Norwegian company Norsk Sjømat.

3.6.3.2. European Union

The Samherji group has access to quotas under the EU TACs and quotas system. The subsidiary company UK Fisheries Ltd has access to EU quotas of cod, saithe and other demersal species, in both Norwegian and in EU waters. UK Fisheries Ltd is a company jointly shared by Samherji and P&P Group, respectively. UK Fisheries Ltd has a fleet composed of two freezer trawlers and one fresh fish trawler, which are run by two subsidiary companies. In France, UK Fisheries Ltd owns Euronor and Compagnie des Peches Saint Malo. Euronor is reputed as the largest cod and saithe fishing group in France. UK Fisheries Ltd also owns a majority stake in the Spanish Pesquera Ancora. This company operates one freezing trawler and has access to 8,711 tons of cod in NAFO and Norwegian waters. In 2015, Samherji and P&P Group, trough UK Fisheries Ltd acquired the Portuguese company Absolutely Genuine, which operates one trawler. In July 2018, Samherji took over Collins Seafood a company harvesting cod and haddock and distributed sea frozen fillets in UK and Ireland.

Samherji also owns harvesting companies with access to EU quotas in Germany, Poland, and Latvia. The German company Deutsche Fischfang Union GmbH (DFFU) is one of the main companies of the group. As 2017, this company owned two trawlers, which has been recently replaced by two vessels of new construction, the Cuxhaven and the Berlin. DFFU in turn owns the companies Artic Navigations in Poland and Buterfisa in Latvia. From 1997, DFFU owned the Polish company Atlantex. Their vessels operated in NAFO, NEAFC and North Sea. Around 2013, the company was sold to Esja Shipping Ltd which

[224] https://www.undercurrentnews.com/2014/09/17/samherji-nets-e50m-on-africa-sale-to-karat-group-firm/
[225] http://www.samherji.is/en/operations-abroad
[226] Icelandic Seafood Market Report (2016)

is based on Cyprus, whose owners cannot be identified[227]. Currently, the three vessels of Atlantex operate in Western Africa and the South Pacific[228]. This company seems to keep strong ties with Samherji[229]. Similarly, in the past Samherji owned minority shares of Framherji, a fishing company in the Faeroe Islands owning two trawlers[230]. Currently, Samherji seems to hold strong bonds with the Faeroese company[231].

3.6.3.3. Americas

In 2010, the Onward Fishing acquired a large participation in the Canadian company Newfoundland Resources, which ownership is shared with McNamara and Cooke Aquaculture[232]. Onward Fishing holds 49% of the company's shares[233].

3.6.3.4. Africa

In 2005 the company started operations in Western Africa, being one of the five Icelandic companies fishing in that region[234]. The group engaged in harvesting of horse mackerel, mackerel, sardines and sardinella off the coast of Morocco, Western Sahara and Mauritania, through the daughter company Katla Seafood. At that time, the group owned seven fishing vessels that were based on the port of Las Palmas in Canarias. In 2014, Samherji decided to sell Katla Seafood to the Russian Company Murmansk Trawl Fleet. According the specialised media, this operation reported a gain of EUR 52.77 million[235]. The sale package included five fishing trawlers and other assets. The group also has activities in Namibia. In fact, Samherji sealed a partnership with Sinco Fishing and Yukor Fishing, and constituted the company Esjar Fishing, which operates a trawler targeting horse mackerel. Samherji owns the largest share in this company (49%)[236].

Table 80: Companies of the Samherji group[237]

Company	Country	Activity	Vessels	Owner/ participant
Samherji H.F.	Iceland	Fishing operations, onshore processing, aquaculture	7 trawlers, mostly freezer trawlers, and 1 long-liner[238]	Parent company
Deutsche Fischfang Union GmbH (DFFU)	Germany	Fishing operations	2 freezer trawlers with onboard fishing plants	Samherji
Artic Navigations Sp. z o.o.	Poland	Fishing operations	1 freezer trawler	DFFU
Batterfisa Ltd	Latvia	Fishing operations	1 freezer trawler	DFFU
Collins Seafood Ltd	UK	Fishing operations and distribution	Freezer trawlers	Samherji. Most recent acquisition (July 2018)

[227] https://grapevine.is/news/2014/11/10/greenpeace-criticises-icelandic-fishing-company/
[228] http://www.atlantex.pl/
[229] http://www.samherji.is/en/operations-abroad/faroe-islands
[230] Faeroese Business Report 2016-2017 (2017). https://faroebusinessreport.com/wp-content/uploads/FBR16_LORES.pdf
[231] http://www.samherji.is/en/operations-abroad/faroe-islands
[232] https://www.intrafish.com/news/633159/cooke-samherji-buy-canadian-shrimp-firm
[233] https://www.undercurrentnews.com/2014/10/07/samherji-uk-fishing-turnover-doubles-profit-trebles-in-2013/
[234] https://grapevine.is/mag/articles/2012/07/27/icelands-plundering-of-africas-fishing-grounds/
[235]https://www.undercurrentnews.com/2014/09/17/samherji-nets-e50m-on-africa-sale-to-karat-group-firm/
[236] https://es-la.facebook.com/www.nbcnews.na/posts/two-new-local-fishing-rights-holders-the-sinco-and-yukor-fishing-companies-have-/631144616936738/
[237] The list is mostly focused on operations outside Iceland.
[238] http://www.samherji.is/en/operations-in-iceland/fleet-iceland

Company	Country	Activity	Vessels	Owner/ participant
Onward Fishing Ltd[239]	UK	Fishing operations	Activities of head office	Samherji
UK Fisheries Ltd	UK	Fishing operations	Activities of head office	Belongs to Onward Fishing (Samherji) and BV Tory (P&P Group), on a 50-50 sharing basis
J Marr Fishing Ltd	UK	Fishing operations	2 freezer trawlers	UK Fisheries Ltd
Boyd Line Ltd	UK	Fishing operations	1 freezer trawler	UK Fisheries Ltd
Comptoir des Pêches d'Europe du Nord (Euronor)	France	Fishing operations	1 freezer trawler[240] 3 fresh trawlers	UK Fisheries Ltd[241]
Compagnie des Peches Saint Malo	France	Fishing operations	2 trawlers[242]	UK Fisheries Ltd
Pesquera Ancora	Spain	Fishing operations	1 freezer trawler	UK Fisheries Ltd
Absolutly Genuine Ltd	Portugal	Fishing operations	1 trawler	P&P Group and Samherji, on a 50-50 sharing basis.
Nergård A.S.	Norway	Fishing operations, processing and sales	5 freezing trawlers	Samherji (39%) and the remaining shares in hands of the Norwegian company Norsk Sjømat[243]
Newfoundland Resources Ltd	Canada	Fishing operations	1 shrimp trawler	Onward Fishing Ltd (49%), the remaining shares are in hands of the Canadian companies McNamara and Cooke Aquaculture
Esja Fishing (pty) Ltd	Namibia	Fishing operations	1 trawler	Samherji (49%) and the remaining quotas in hands of the Namibian companies Sinco Fishing and Yukor Fishing
Seagold Ltd	UK	Sales and distribution	n.a.	Samherji
Ice fresh Gmbh	Germany	Mostly fresh processing and packing[244]	n.a.	Samherji

[239] For a most detailed description of the UK groups headed by Onward Fishing see section 2.10.2 in this Final Report

[240] FIS reports three vessels: https://www.fis.com/fis/companies/details.asp?l=e&filterby=companies&=&country_id=&page=1&company_id=155821. As 31 October 2018, it has been later checked in FLR and only one is operating.

[241] http://fiskerforum.dk/en/newbuildings/default.asp?nyId=7944

[242] The company report three vessels: http://www.compagniedespeches.com/fr/la-peche-tradition/les-navires.htm. As 31 October 2018, it has been later checked in FLR and only two are operating.

[243] http://www.samherji.is/is/frettir/samherji-group-buys-more-shares-in-nerg-rd-as

[244] https://www.icefresh.de/en/produtions

Company	Country	Activity	Vessels	Owner/ participant
Ice Fresh Seafood ehf	Iceland	Sales and distributions	n.a.	Samherji
Ice Fresh Seafood Ltd	UK	Packing factory	n.a.	Seagold Ltd
Ice Fresh Seafood	France	Sales and distribution	n.a.	Samherji
Ice Fresh Seafood Spain SL	Spain	Sales and distribution	n.a.	Samherji

3.6.4. Transactions and outcomes

The interest of Samherji in acquiring companies, or participations, is consistent with its objective of integrating the entire value chain, including in fishing, aquaculture, transformation and marketing of seafood. Investments in overseas operations have taken place in Europe, Africa and America. Currently, abroad operations represent 55% of its annual turnover[245]. Samherji has also divested in its pelagic fleets in Western Africa, where its operations declined and managed to sell its assets to investors aiming to increase its presence in those fisheries. The group relies on its large fishing fleet, access to large fishing quotas, particularly white fish species such as cod, haddock and saithe, and state of the art processing equipment to maintain its position as one of the largest fishing operators at international level.

3.6.5. Key findings

- Samherji has consolidated its presence in the fishing business worldwide through acquisitions of companies in countries possessing high value fishing resources and large markets.
- The group holds a range of fishing companies with access to white species, particularly cod, haddock and saithe. Samherji has also divested in large pelagic fishing operations in Western Africa, a transaction that yielded a sizable gain.
- Further development of the company has come from substantial investment in fleet renewal, to guarantee more efficient use of quotas and high-quality products.
- Through its various mergers and acquisitions the group has consolidated and substantially developed its presence in the EU and global whitefish market, with key steps to such consolidation being the acquisition of companies providing access to key fishing grounds (through acquiring vessels and the quota associated with the vessels), as well as acquiring a wide distribution network.

3.7. Case study 7: Kutterfisch-Zentrale GmbH

3.7.1. Scope and relevance

The present case study provides an example of a company that through the acquisition of fishing vessels which have access to demersal resources in the North Sea, have increased their access to fishing quota in order to respond to the EU Landing Obligation (LO) requirements (Annex 1).

3.7.2. Institutional and regulatory context

Kutterfisch-Zentrale GmbH fleets are active within the North Sea, Skagerrak and the Baltic Sea and therefore operate within the overarching regulatory framework of the EU's Common Fisheries Policy (CFP).

[245] http://www.samherji.is/en/operations-abroad

The reform of the CFP introduced a requirement to land all catches of certain fish species in 2014. The landing obligation is being implemented in several phases, for demersal fisheries between 2015-2019, and should be entirely implemented by January 2019. In order to facilitate the implementation of the LO, several policy changes (TAC removals, reductions in minimum landing size and changes in prohibited species, etc.) beyond those initially forecasted have been made. High levels of at-sea monitoring, effective control and incentives to selective fishing are required measures for an implementation of a ban on discarding.

The introduction of the LO is expected to raise some challenges for demersal fisheries, especially those that encompass several species being caught at the same time (i.e., a 'mixed fishery'). The risk of exhausting the quota of a (choke) species and therefore having to cease fishing other species that are caught together in a mixed fishery is one of the issues with the LO that has been identified by Member States and the Advisory Councils.

Since the demersal fisheries in the North Sea are highly mixed, issues are expected to occur due to many species being caught at the same time resulting in the potential for multiple choke species. Several studies are available with both qualitative and quantitative data on the North Sea demersal fisheries[246],[247],[248],[249]. Northern hake in trawl fisheries and North Sea plaice in small-meshed beam trawl fisheries (large amount of small plaice caught in the sole fishery) have been described as the most serious choke situations for the region[250]. Other potential choke species in mixed demersal fisheries are whiting, haddock, ray, dab, turbot and brill. The TAC for dab and flounder in the North Sea was removed in 2018, since it was shown to have no conservation effect. An exception for plaice was also introduced in 2018. In order for fleets to be able to continue fishing throughout the year it will be necessary to have either enough quota available or adapt fishing strategies.

In Germany, the Federal Office for Agriculture and Food (BLE), under the Ministry of Food and Agriculture (BMEL), carries out the day-to-day management of the fishing sector, which is divided into four groups depending on whether fishers are members of POs or not and if they are part time or full-time fishers (with differing rules applying for each)[251]. Germany's fishing opportunities come in the form of a licensing system, individual non-transferable quotas (attached to a vessel) and community quotas (for part-time fishers)[252]. Commercial fishermen are required to hold a fishing licence to carry out their activities and need individual fishing permits for quota stocks[253]. A vessel's associated quota can be used by PO members and POs have the authority to pool quotas through buying vessels[254].

3.7.3. Company characteristics

Kutterfisch-Zentrale GmbH is one of the largest producers and processors of North Sea fish in Germany, and is the largest producer organization of the small high sea fisheries

[246] ICES. 2017a. Report of the Working Group on Mixed Fisheries Advice (WGMIXFISH- ADVICE), 22–26 May 2017. Copenhagen. 196 pp.
[247] ICES. 2017b. Greater North Sea Ecoregion – Fisheries overview. 38 pp.
[248] EC. 2016. Proposal for a regulation of the European Parliament and of the Council on establishing a multi-annual plan for demersal stocks in the North Sea and the fisheries exploiting those stocks and repealing Council Regulation (EC) 676/2007 and Council Regulation. http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52016PC0493.
[249] Quirijns, F., and Pastoors, M. 2014. Discard Atlas of North Sea fisheries. IMARES Wageningen UR. http://edepot.wur.nl/315708.
[250] Ulrich C (2018) Research for PECH Committee – Landing obligation and choke species in multispecies and mixed fisheries – The North Sea, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.
[251] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.
[252] Ibid.
[253] Ibid.
[254] Ibid.

in Germany[255]. Based in Cuxhaven, the company was founded in 1964 as a processing plant and sales company for the producer group Nordsee eG. Originally it was a cooperative processing plant, which took its fishers' catches and thus reduced their sales risk.

Since 1998 the company has invested in its own fishing vessels. The fleet of Kutterfisch-Zentrale GmbH consists of ten vessels sailing under the German flag (Table 81). In order to consolidate the fishing quotas of four of its current boats (Bianca, Iris, J. von Cölln, Susanne), the company has invested EUR 16 million in two new trawlers from Nodosa Shipyard in Vigo. The new 35-metre vessels will be focused on pollock fishing. The delivery of the two vessels is scheduled for the end of 2018 and will result in a reduction of their fleet from ten to eight vessels through replacement of the four vessels to be retired[256].

The main fishing areas of the company's fleet are the middle North Sea, Skagerrak and the Baltic Sea and the main species with quota are pollock, herring, cod and sprat (Table 82). In addition, there is a mix quota of 1,000 tonnes of different fish species, whose quotas are too low for targeted fishing and are instead fished as "by-catch" throughout the year. The mix rate helps prevent unnecessary discard. Key markets are Germany and France. The rest of its catches are sold in neighbouring markets including Denmark and the Netherlands[257].

The company has three subsidiaries: the seafood wholesaler Kutter- und Küstenfisch RügenGmbH in Sassnitz (Rügen), and within Cuxhaven the processing plant Kutterfisch Salz- und Trockenfisch GmbH and the retail company Cux-Trawl Fischereiausrüstung GmbH. The Kutterfisch Salz- und Trockenfisch GmbH is one of the largest processing plants for fresh fish in Germany - both in terms of the size of the farm, as well as the amount of goods. Approximately, around 7,000 tonnes of salmon, coalfish, cod and redfish are filleted every year and then brought to the market; Kutterfisch now have quota for approximately 50,000 metric tons of fish per year, including roughly 10,000 t each in saithe and herring[258]. The company is one of only three companies in Germany that catches, processes and markets the fish - all from one source. About 60% of the product, from whole fish to fillet, is sold to other processors or wholesalers. Kutterfisch's own brand of seafood has also been available in retail stores since 2013 through the brand "Fischerstolz". The Cux-Trawl Fischereiausrüstung GmbH was founded in 1992 and is located in the new fishing port, located directly on the water side. One of our main focuses is the production and procurement of equipment for shipping and professional fishing. The company also manufactures and supplies equipment for some marine biology and wind energy research institutions.

In 2016, Kutterfisch-Zentrale GmbH generated revenues of EUR 24.5 million. Its total assets had a value of EUR 11.6 million[259]. The fleet turnover increased in 2017 (EUR 34 million), with the highest-revenue business segment being the sale of fresh fish.

[255] Nordwest-Zeitung (NWZ) (2017, December 30), "Ein guter Fang für Fedderwardersiel", online: https://www.nwzonline.de/wesermarsch/wirtschaft/fedderwardersiel-wirtschaftein-guter-fang-fuer-fedderwardersiel_a_50,0,2207178828.html

[256] https://www.undercurrentnews.com/2018/03/02/germanys-kutterfisch-future-proofs-against-cfp-changes/

[257] Ibid.

[258] Ibid.

[259] Ibid, (originally cited in Orbis 2018, September, Kutterfisch-Zentrale Gesellschaft mit beschränkter Haftung: Company report)

Table 81: Kutterfisch fishing fleet.

Vessel	Ext. Marking	Length (m)	GT	Main target species	Fishing area	Fishing gear
Antares	SAS211	22.85	132	Cod, sprat and herring	Baltic sea	Pelagic and bottom trawls
Bianca	NC312	40.22	455	Salmon and cod	North Sea, Skagerrak and off the Norwegian west coast	Bottom trawls
Blauwal	SAS295	26.45	126	Herring	North Sea and Baltic Sea	Unknown
Christin-Bettina	SAS111	25.05	155	Salmon, cod, herring and sprat	Unknown	Unknown
Iris	NC300	35.08	425	Salmon	Unknown	Unknown
J. von Cölln	NC308	40.26	459	Cod	North Sea	Bottom trawls
Seewolf	NC309	30.34	261	Cod	North Sea; Baltic Sea	Pelagic and bottom trawls
Susanne	NC120	40.09	492	Unknown	North Sea	Unknown
Viktoria	NC315	37.05	499	Unknown	North Sea, Norwegian Sea and around the Shetland Islands	Unknown
Westbank	SAS110	21.65	107	Cod and herring	Baltic Sea	Unknown

Source: Kutterfish (2018) http://cuxhaven.kutterfisch.de/schiffsmannschaften.html; EU Fleet Register.

Table 82: Kutterfisch quota for 2016.

Species	Quota (tonnes)
Saithe	7,000
Herring	7,700
Sprat	12,900
Cod (Kabeljau)	3,350
Cod (Dorsch)	1,900
Plaice	700
Norway lobster	100
Flounder	unlimited
mixed quota of different species	1000

Source: Kutterfish (2018). http://cuxhaven.kutterfisch.de/fischereien.html

3.7.4. Transactions and outcomes

Quotas are publicly owned and non-transferable (the German quota system does not allow for quota trading)[260]. Quota is attached to vessels and can only be transferred alongside the vessel. They can also not be leased or be detached from their original vessel except with exceptional permission from the ministry. Quotas can be used on a different vessel by the same operator, but the quota-holding vessel has to be maintained in an 'active state', meaning that it is kept sea-worthy.

To increase quota, beyond the exchange possibilities among POs, fishers must buy fishing vessels that hold quota share. Fishers who have bought the vessel get to utilise the quota as they see fit, including using the quota with other vessels; the bought vessel must however stay active within the fishery. In this respect, Kutterfisch have

[260] Carpenter, Griffin & Kleinjans, Richard. (2017). Who gets to fish? The allocation of fishing opportunities in EU Member States. 10.13140/RG.2.2.12769.92000.

strategically and proactively acquired vessels within the German fishery that hold the amount and range of quota they need to remain fishing now, and potentially into the future. The broad aim of these acquisitions is to adapt the company's overall quota holdings to avoid choke species under the common fisheries policy landing obligation[261].

In developing the company's overall quota holdings, Kutterfisch recently (2018) invested EUR 16 million in two new demersal trawlers, which will be focussed on fishing on pollock quota, with delivery scheduled in August and December 2018, respectively. One of the vessels, 40m in length and named the Janne-Kristin NC-333, represents an EUR 8 million investment by the company in new tonnage, replacing trawlers that date back to 1983 and 1988[262]. On these vessels, the quota of four of its current boats (the 33m trawler Bianca, the 35m trawler Iris, the 34m trawler J. von Cölln and the 40m pair trawler Susanne) will be consolidated, leading to an overall fleet reduction within Kutterfisch from ten to eight vessels.

Kutterfisch have also engaged in horizontal integration, with substantial investments in shrimp catching. In January 2018, Kutterfisch acquired the North Sea shrimp fishing cooperative Butjadinger Fischereigenossenschaft in Fedderwardersiel including its 13 employees and five cutters. One of the managing directors of Kutterfisch is at the same time the managing director of the producer organization of the German North Sea shrimp fishers that are in charge of the marketing of the catch landed in Fedderwardersiel[263],[264],[265].

The company also shows signs of vertical integration. Next to the shipping companies, also the processor Salz- und Trockenfisch is part of Kutterfisch. It has invested in its factory over the past years to produce 3,000 tonnes of finished products per year. The company has also been investing in its factory over the past years, said Schmidt. The facility in Cuxhaven produces 3,000t of finished products per year, mainly for the German and French markets. The rest of its catches are sold in markets including Denmark and the Netherlands.

3.7.5. Key findings

- The motivation or driver for changes in ownership relates to the requirement to land all catches of certain fish species under the landing obligation, which progressively bans discarding was introduced in 2014 as part of the EU's CFP.
- A strategy of horizontal integration has been employed to address anticipated shortages in some quotas in the face of the LO within a context where quota trading is not permitted.

3.8. Case study 8: P&P Group

3.8.1. Scope and relevance

This case study focuses on P&P Group, a Dutch-owned holding company with a vertically and horizontally integrated business model. This case study highlights the importance of P&P Group's continued acquisition of businesses to effectively diversify from a traditional focus on pelagic fisheries in European waters, to demersal fisheries in the EU and, more recently, shrimp and tuna stocks internationally. This case study also highlights P&P Group's continued acquisition of companies to ensure ownership of the full chain of production, from the sea to market.

[261] https://www.undercurrentnews.com/2018/03/02/germanys-kutterfisch-future-proofs-against-cfp-changes/
[262] https://mag.hookandnet.com/2019/01/18/2019-01kutterfisch/pugpig_index.html
[263] Nordwest-Zeitung (NWZ) (2017, December 30), "Ein guter Fang für Fedderwardersiel", online: https://www.nwzonline.de/wesermarsch/wirtschaft/fedderwardersiel-wirtschaftein-guter-fang-fuer-fedderwardersiel_a_50,0,2207178828.html
[264] Fischmagazin, 2018a,
[265] Fischmagazin, 2017b

3.8.2. Institutional and regulatory context

P&P Group's fleet of 43 vessels operate across EU waters and beyond the EU and encompass both large (>100m in length) pelagic freezer trawlers targeting mid-water small-bodied pelagic fishes (e.g. herring, mackerel) and smaller (~40-60m in length) demersal trawlers targeting demersal stocks (e.g. cod, saithe etc). Within the EU, P&P Group's fishing activities are regulated under the EU's Common Fisheries Policy, with the majority of targeted species managed under quota restrictions, with catch subject to TAC regulations and national quota allocations.

P&P Group also operate in the Atlantic and Indian Oceans (focusing on large pelagic tuna species), and therefore under provisions set out by the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Indian Ocean Tuna Commission (IOTC).

3.8.3. Company characteristic

Founded in 1949 by Dirk Parlevliet and Dirk and Jan van der Plas, P&P Group initially purchased herring at Dutch fish auctions in order to sell on domestic markets[266]. During the 1950s and 1960s, P&P Group began to invest in pelagic fishing vessels and, in the 1980s, started to diversify into demersal fishing, particularly whitefish and flatfish[267]. At the same time, P&P Group expanded its operations by establishing subsidiaries in Germany and, through the late 1990s and early 2000s, consolidated its position in the German market by acquiring both fishing companies and fish processing facilities[268,269]. With subsidiaries now located worldwide, P&P Group's business is based on vertical and horizontal integration and structured around three core divisions; pelagic fishing, demersal fishing and processing plants[270].

Today, P&P Group employs over 6,000 people and is one of the world's largest demersal and pelagic fisheries groups[271]. Active in both fish processing and trade, P&P Group has 51 subsidiaries in the Netherlands and 120 companies abroad[272]. The company has agreements in place with a number of Europe's largest fishing companies, including Astrid Fiskeri A/S, a Danish subsidiary of the Swedish company Astrid Fiske AB, where P&P Group swaps quota for Astrid Fiskeri's herring[273].

In 2016, P&P Group had profits of EUR 81.7 million, and its turnover increase by more than EUR 79 million from 2015 to 2016[274]. This substantial increase in profits was in part attributed to the company's expansion into new markets of tuna and shrimp. Such fisheries made up the bulk of P&P Group's catch, worth an estimated EUR 850 million in 2016; both tuna and shrimp had not been targeted in 2015 by P&P Group[275].

3.8.4. Transaction and outcomes

3.8.4.1. Germany

P&P Group has been active in the German market since establishing Doggerbank Seefischerei GmbH, a Bremerhaven-based subsidiary with vessel ownership and cold storage capabilities, in 1986. Doggerbank Seefischerei GmbH has a number of

[266] https://www.pp-group.nl/about-us/history
[267] Ibid
[268] https://www.pp-group.nl/partnerships
[269] https://www.pp-group.nl/about-us/history
[270] https://www.pp-group.nl/about-us/company
[271] Profundo Economic Research (2011) Company structures, financing and costs of Dutch pelagic freezer trawler companies. Available from: https://s3-eu-west-1.amazonaws.com/zaramis/2016/07/04161122/Company-structures-financing-and-costs-of-Dutch-...-Greenpeace.pdf
[272] http://www.europarl.europa.eu/RegData/etudes/STUD/2018/629176/IPOL_STU(2018)629176_EN.pdf
[273] European Parliament (2016) Research for Pech Committee – Seafood Industry Integration in the EU. IP/B/PECH/IC/2015_162
[274] https://www.undercurrentnews.com/2018/01/29/parlevliet-van-der-plass-diversification-sees-profits-rise-10/
[275] https://www.undercurrentnews.com/2018/01/29/parlevliet-van-der-plass-diversification-sees-profits-rise-10/

subsidiaries including Ostbank Hochseefischerei GmbH, Oderbank Hochseefischerei GmbH and Westbank Hochseefischerei GmbH, which collectively own three pelagic freezer trawlers and are involved in the sale of fish produce[276]. In 1998, P&P Group acquired full ownership of Mecklenburger Hochseefischerei GmbH (MHF) and, in 1999, German Seafrozen Fish (GSF) was established as part of MHF to process and market P&P Group's groundfish catch globally[277]. P&P Group's expansion into processing and trading continued in 2003 with the acquisition of Euro-Baltic Fischverarbeitungs GmbH, a fish processing facility in Sassnitz[278]. This acquisition meant P&P Group's German fishing fleet no longer had to sell its catch in Denmark and the Netherlands for processing, before transporting it back to Germany[279].

P&P Group's activities in Germany have benefitted from support under the Financial Instrument for Fisheries Guidance (FIFG). In 2002 and 2006, P&P Group received three separate investment grants totalling EUR 20.9 million for the development of the Euro-Baltic processing facility and, between 1998 and 2002, a further EUR 17.6 million was obtained for the modernisation of its German pelagic trawlers[280]. Replacing the FIFG, the European Fisheries Fund (EFF) has also provided EUR 80,216 for fishing gear onboard the factory trawler the Jan Maria, and EUR 646,383 for a SkySails system onboard the Maartje Theodora vessel[281].

In 2009, P&P Group took over Ocean Food GmbH and its 56m long freezer beam trawler the 'BX 786 Atlantic Peace' and, in early 2018, acquired Deutsche See GmbH, a Bremerhaven-based company that processes and sells seafood to retailers[282]. The acquisition of Deutsche See GmbH intended to enable the sale of P&P Group's products across Germany and is expected to open up new markets in Germany moving forward[283,284]. Integrating Deutsche See GmbH into P&P Group's supply chain allow P&P Group to control each step from fish catch to market.

3.8.4.2. UK

In 2005, P&P Group acquired joint ownership of UK Fisheries Ltd with Icelandic-based company Samherji hf (see Box 3 below). UK Fisheries Ltd's subsidiaries, Kirkella Ltd and Jacinta Ltd, own the 81m freezer trawler Kirkella and the 40m trawler Farnella. As a result of the acquisition, P&P Group is a substantial holder of FQA units in the UK, holding 2 percent of the UK's total quota allocation in 2016[285]. While Kirkella[286] holds 46,643 FQA units, Farnella holds 74,233 FQA units, 35 percent of which is allocated to North Sea saithe.

[276] Profundo Economic Research (2011) Company structures, financing and costs of Dutch pelagic freezer trawler companies. Available from: https://s3-eu-west-1.amazonaws.com/zaramis/2016/07/04161122/Company-structures-financing-and-costs-of-Dutch-...-Greenpeace.pdf
[277] http://www.seafrozen.de/html/home.html
[278] Profundo Economic Research (2011) Company structures, financing and costs of Dutch pelagic freezer trawler companies. Available from: https://s3-eu-west-1.amazonaws.com/zaramis/2016/07/04161122/Company-structures-financing-and-costs-of-Dutch-...-Greenpeace.pdf
[279] Ibid.
[280] Profundo Economic Research (2011) Direct and indirect EU support for the members of the Pelagic Freezer-trawler Association (PFA). Available from: http://www.abc.net.au/cm/lb/4198152/data/profundo-research-project-data.pdf
[281] Ibid.
[282] https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=6562312
[283] https://salmonbusiness.com/deutsche-see-is-added-value-for-parlevliet-van-der-plas/
[284] https://www.pp-group.nl/news/id/18/parlevliet-van-der-plas-acquires-deutsche-see

[285] European Parliament (2016) Research for Pech Committee – Seafood Industry Integration in the EU. IP/B/PECH/IC/2015_162
[286] Kirkella has been recently sold to Pesquera Ancora in Spain; the FQAs quota of the Kirkella will be consolidated into the new vessel Kirkella II (https://www.hulldailymail.co.uk/news/hull-east-yorkshire-news/fishing-companies-hail-bright-future-1702578)

Box 3: Cooperation between P&P Group and Samherji

P&P Group and Samherji hf carry out strategic cooperation and conduct joint investments in different countries. UK Fisheries Ltd is a UK-based company joint owned by Onward Fishing Co (UK) and Tory BV (NL), subsidiaries of Samherji hf and P&P Group respectively. Through UK Fisheries Ltd (UK), the two fishing groups have operations in UK, France, Spain and Portugal. In France, UK Fisheries Ltd owns Euronor and Compagnie des Peches Saint Malo. Euronor is the largest cod and saithe fishing group in France, with a fleet of six trawlers, while Compagnie des Peches Saint Malo owns three trawlers. In Spain, UK Fisheries Ltd owns a majority stake in the Spanish Pesquera Ancora (see Case Study 1). This company operates one freezer trawler and has access to 8,711 tons of cod in NAFO, Barents Seas and Norwegian waters. In Portugal, P&P Group and Samherji hf own the Lisbon-based company Absolutely Genuine, which at the time of acquisition owned three vessels. Absolutely Genuinely has since decommissioned two vessels and now conducts operations with one trawler.

The cooperation between P&P Group and Samherji goes beyond the EU. In 2017, the two groups and the private equity firm Blackstone Group (USA) carried out due diligence to acquire the Peruvian fishmeal company CFC, belonging to China Fishery Group. At the time of publication, the sale process appears to be ongoing.

P&P Group and Samherji hf have actively cooperated with third parties in an attempt to increase their market share in the white fish sector. In mid-2018, for example, UK Fisheries Ltd together with the Japanese company Mitsubishi Corporation and the private equity firm CapVest Partners (UK) entered the bidding process to acquire Young's Seafood Limited in the UK.

3.8.4.3. Netherlands

Since its inception, P&P Group has acquired a number of vessel-owning companies in the Netherlands. These subsidiaries, including Kilda BV, Vikingbank BV and Fladen Gronden BV, catch, produce and trade pelagic fish products[287]. P&P Group has also acquired Sawad Food International BV, which is involved in the wholesale distribution of seafood[288], and Ouwehand Visverwerking B.V, a company that processes and sells its branded products to the consumer market. Furthermore, in 2014, P&P Group acquired Heiploeg BV, now named Heiploeg International BV, a major brown shrimp supplier in Europe with processing facilities in Germany and the Netherlands[289]. The acquisition of both Ouwehand Visverwerking B.V and Heiploeg BV occurred when both companies were at risk of bankruptcy[290].

Since the acquisition of Heiploeg BV, P&P Group has invested heavily in the company. In 2016, an estimated EUR 30 million was spent on installations and processing machinery to enable Heiploeg BV to place new products on the markets[291]. P&P Group

[287] Profundo Economic Research (2011) Company structures, financing and costs of Dutch pelagic freezer trawler companies. Available from: https://s3-eu-west-1.amazonaws.com/zaramis/2016/07/04161122/Company-structures-financing-and-costs-of-Dutch-...-Greenpeace.pdf

[288] https://www.bloomberg.com/profiles/companies/5510573Z:NA-sawad-food-international-bv

[289] European Parliament (2011) The North Sea Brown Shrimp Fisheries. Available from: http://www.europarl.europa.eu/RegData/etudes/etudes/join/2011/460041/IPOL-PECH_ET(2011)460041_EN.pdf

[290] https://www.undercurrentnews.com/2016/06/02/parlevliet-van-der-plas-taking-long-term-view-with-fifth-pillar-deal-in-tuna/

[291] https://fd.nl/ondernemen/1141036/katwijks-familiebedrijf-investeert-voor-bijna-100-mln-in-vissersschepen#

has also invested a further EUR 10 million to expand its existing cold storage facility in Ijmuiden[292].

In December 2018, P&P Group announced that it had acquired a majority stake in Dadas Groep, an Urk-based company that owns a beam trawler fleet targeting flatfish such as sole and plaice[293]. With Dadas Groep also owning a freezing facility, processing plant and wholesale operation of the port of Dadas Zeevis Groothandel, the acquisition enables P&P Group to provide flatfish to the retail market through its own channels of distribution[294].

3.8.4.4. Operations of P&P Group beyond EU

The acquisition of Heiploeg BV and expansion into the shrimp market enabled P&P Group to expand its international presence and sell branded products to retailers across Europe[295]. With the takeover of Heiploeg BV encompassing Heiploeg's assets, P&P Group acquired fleets of trawlers and processing facilities beyond the EU, in Suriname and British Guyana, Morocco and India. P&P Group's diversification into tuna through company acquisition has also seen business interests expand to the Atlantic and Indian Oceans.

3.8.4.5. Suriname and British Guyana

With the acquisition of Heiploeg BV, P&P Group acquired activities in both Suriname and British Guyana[296]. Based in Suriname, Heiploeg Suriname own 12 shrimp trawlers that target Seabob shrimp (*Xiphopenaeus kroyeri*) along the Atlantic South American coastline[297]. Landed shrimp are machine processed at the company's production facility, before frozen and transported to Europe for additional processing, packaging and distribution[298]. Furthermore, P&P Group acquired Heiploeg's subsidiary Noble House Seafoods Limited in British Guyana[299]. Noble House Seafoods fleet of 27 trawlers target Seabob shrimp and the company has a production facility for machine peeling and freezing[300].

3.8.4.6. Morocco

Through the acquisition of Heiploeg BV, P&P Group gained full ownership of TK Fish SA. Located in Tetouan, Morocco, TK Fish SA is a peeling facility that processes shrimp bought in auctions in Germany, the Netherlands and Denmark[301]. With the capacity to process 240 tonnes of raw shrimp per week, peeling is undertaken by hand before being transported to the Netherlands for packaging and delivery to EU markets[302].

3.8.4.7. India

Heiploeg BV established Heiploeg Seafood International Pvt Ltd in Kochi on India's south-west coast in 2012[303]. The subsidiary was set-up and remained under the P&P Group banner after the 2014 acquisition of Heiploeg BV as it establishes a presence in South East Asia and offers a means of procuring, processing and distributing a range of

[292] https://www.undercurrentnews.com/2016/02/29/pp-invests-e70m-in-replacement-fishing-trawlers/
[293] https://www.undercurrentnews.com/2018/12/27/pp-moves-into-flatfish-with-deal-for-dutch-catching-processing-firm/
[294] Ibid.
[295] https://www.undercurrentnews.com/2016/06/02/parlevliet-van-der-plas-taking-long-term-view-with-fifth-pillar-deal-in-tuna/
[296] https://www.pp-group.nl/news/id/4/parlevliet-van-der-plas-new-owners-of-heiploeg
[297] European Parliament (2016) Research for Pech Committee – Seafood Industry Integration in the EU. IP/B/PECH/IC/2015_162
[298] Ibid.
[299] https://www.pp-group.nl/news/id/4/parlevliet-van-der-plas-new-owners-of-heiploeg
[300] https://www.heiploeggroup.com/nl-nl/locaties
[301] Ibid.
[302] http://www.europarl.europa.eu/RegData/etudes/etudes/join/2011/460041/IPOL-PECH_ET(2011)460041_EN.pdf
[303] https://www.heiploeggroup.com/nl-nl/locaties

seafood, as well as gaining more control over the quality of seafood products[304]. It is unknown whether Heiploeg Seafood India ships seafood to Europe.

3.8.4.8. Targeting tuna in the Atlantic and Indian Oceans

In recent years, P&P Group has not only added shrimp to its portfolio but has diversified into tuna through the acquisition of Compagnie Française du Thon Océanique (CFTO) in 2016[305]. With onshore facilities in the Ivory Coast and Seychelles, CFTO's tuna fleet comprises 14 vessels which catch around 65,000 tonnes of tunas each year in both the Atlantic and Indian Oceans[306]. With the tuna sector considered by P&P Group to be a global market, it is understood the company had been looking to diversify into tuna for a number of years[307].

3.8.5. Key findings

- P&P Group are a large vertically and horizontally integrated seafood group. Development of the company has been undertaken through horizontal integration, with fishing activities developed in internationally, while vertical integration is evident through P&P Group strengthening its distribution and marketing network.
- By actively acquiring businesses that operate fleets and therefore own quota within the EU and internationally, P&P Group has substantially diversified its fishing fleet to encompass a range of demersal and pelagic fish species, and demersal invertebrate species.
- P&P Group has been active in acquiring companies that hold processing and marketing facilities both within the EU and internationally, to ensure ownership of the full chain of production, from the vessel to market.
- P&P Group has been able to supplement the development and modernisation of its company within the EU by accessing European funding to invest in its fleet and develop its subsidiaries.

[304] Ibid
[305] https://www.undercurrentnews.com/2016/07/04/pp-completes-deal-for-tuna-fleet-cfto/
[306] https://www.undercurrentnews.com/2016/06/02/parlevliet-van-der-plas-taking-long-term-view-with-fifth-pillar-deal-in-tuna/
[307] https://www.undercurrentnews.com/2016/07/04/pp-completes-deal-for-tuna-fleet-cfto/

3.9. Case study 9: Lowestoft Fish Producer Organisation Ltd

3.9.1. Scope and relevance

The UK fishing fleet has a long history of attracting foreign investment from the Netherlands. The number of Dutch-owned vessels registered in the UK increased during the 1990s as quota for flatfish species, including North Sea plaice, was more affordable in comparison to the Netherlands[308]. Today, Dutch-owned UK registered beam trawlers hold UK quota for a range of quota, including a substantial percentage of the total UK TAC for Herring IVc/VIId (93.6%), North Sea sole (37.4%), Saithe I, II Norway (36.8%), NS sole (37.4%) and Redfish V, IV Greenland (36.3%), and land the majority of this quota in the Netherlands for sale at auction. In 2015, for example, UK registered vessels landed approximately 72,000 tonnes into the Netherlands[309].

Although Dutch-owned vessels are in membership of a number of Fish Producer Organisations (POs) across the UK (including the Fife PO and North Sea PO), this case study focuses on the Lowestoft PO to examine Dutch fishing interests in the UK, the ownership of UK quota and the dominance of Dutch interests and ownership of quota in North Sea plaice.

3.9.2. Institutional and regulatory context

As the fishery for North Sea plaice operate across both the UK's and the Netherland's jurisdictions, the activities of Dutch-owned UK registered vessels within the Lowestoft PO are regulated under the EU's Common Fisheries Policy. UK-registered vessels within this PO operate under UK licenses and activities and are managed through quota restrictions, with catch subject to TAC regulations and UK quota allocation. Members of the Lowestoft PO are also bound by set rules set out by the PO, with license holders fined if internal rules are breached.

3.9.3. A history of Dutch fishing interests in the UK

Since 1985, the Netherlands has used an Individual Transferable Quota (ITQ) system for allocating quota for plaice and sole[310]. In the 1990s, rising fuel and quota prices in the Netherlands prompted Dutch fishers to increase catches of plaice quota by re-locating to the UK where quotas were comparatively cheaper and obtainable[311]. Dutch fishers, mainly operating out of Urk, acquired UK quota by purchasing UK fishing vessels. During the 1990s, the number of Dutch-owned vessels registered in the UK began to increase as the UK had a significant allocation of North Sea plaice and restrictions on when plaice could be caught were seldom applied[312,313]. Dutch-owned vessels were able to build strong track records of catch[314] and, when POs such as the North Sea Fishermen's Organisation started to manage their own quota in the mid-90s, these track records were reflected in the allocation of quota to vessels[315]. The incentive therefore remained for Dutch-owned vessels to be UK registered in order to access UK quota.

In 2007, 32 Anglo-Dutch vessels fished UK quota, with plaice and sole comprising approximately two-thirds of the value of the landings[316]. Catch was almost entirely landed in the Netherlands and compliance with the Economic Link was achieved through

[308] The 2017 Annual Economic Report on the EU Fishing Fleet (STECF 17-12)
[309] Ibid.
[310] Hatcher, A., Frere, J., Pascoe, S., Robinson, K. (2002) "Quota-hopping" and the foreign ownership of UK fishing vessels. Marine Policy (26), 1 -11.
[311] http://www.maritiemnederland.com/techniek-innovatie/het-msc-certificaat-is-niet-ons-eindstation/item1152
[312] Vivid economics (2009) A review of the effectiveness of the Economic Link. Report to DEFRA.
[313] Hatcher, A., Frere, J., Pascoe, S., Robinson, K. (2002) "Quota-hopping" and the foreign ownership of UK fishing vessels. Marine Policy (26), 1 -11.
[314] Ibid.
[315] Ibid.
[316] Vivid economics (2009) A review of the effectiveness of the Economic Link. Report to DEFRA.

the gifting of quota[317]. Anglo-Dutch vessels, such as those within the Lowestoft PO, have an incentive to land within Dutch markets (Urk and Harlingen Fish Markets) as they are key European markets for target species[318]. For example, up to 32% percent of Netherlands' fish is bought and sold through Urk[319], while more than 25 percent of the total value of fish brought at Urk's fish auction is caught by UK flagged vessels[320].

3.9.4. Company characteristics

The Lowestoft PO was incorporated in 1993 as a result of the introduction of quota for the North Sea plaice fishery[321]. Situated on England's east coast, the PO is registered as a private company limited by guarantee without share capital, with membership comprising four vessels (Figure 21). Targeting flatfish species, the PO employs an individual quota (IQ) system whereby member vessels manage the uptake of their own allocation of FQA units based on the vessels' track record between 1994 and 1996. Member vessels also manage the acquisition of any additional quota, for example leasing-in quota over the course of a year. Collectively, member vessels hold 14.3% (35,031 FQA units) of the UK's total allocation of North Sea plaice (244,595 FQA units) and 11.9% (1,525 FQA units) of the UK's current allocation for North Sea sole (12,806 FQA units). Landings are sold at Urk or Harlingen Fish Markets[322].

In 2017, the Lowestoft PO reported assets worth GBP 225,657 (EUR 259,857) and a turnover of GBP 48,796 (EUR 56,191). According to company accounts, three of the five company directors are Dutch nationals, with two being members of the de Boer family. The Lowestoft PO is the UK establishment (branch or place of business) of Netherlands registered Lt 60-Wilhelmina BV. LT 60-Wilhelmina BV is a private limited company which, in 2017, had fixed assets worth EUR 1,410,037 and a turnover of EUR 2,782,721. The companies of Rense de Boer Beheer BV and Johannes de Boer Beheer BV represent Wilhelmina BV.

Three vessels in membership of the Lowestoft PO (Ansgar, Sola Fida and Soli Deo Gloria) are owned by Buchan (E104) Limited, Buchan (WN1) Limited and Osprey (PD63) Limited, respectively (Table 83). These three private limited companies are all registered in Scotland and, in December 2017, had combined fixed assets of approximately EUR 14 million. The principle activity of each of these companies is the operation of a fishing vessel and each are owned by a subsidiary of the Urk-based company Bowil Beheer BV. In December 2016, various members of the de Boer family were listed as company directors of Buchan (WN1) Limited, Buchan (E104) Ltd and Osprey (PD63) Ltd, while Bowil Beheer BV is ultimately owned by four members of the de Boer family[323]. Representing one of the largest demersal fishing operations in the Netherlands, the de Boer family has fishing activities in the UK and hold UK quota[324].

[317] Ibid.
[318] Ibid.
[319] https://www.politico.eu/article/brexit-fishing-urks-fishermen-prepare-for-choppy-waters/
[320] https://www.rijksoverheid.nl/documenten/kamerstukken/2018/03/27/kamerbrief-over-de-gevolgen-van-brexit-de-inzet-voor-de-toekomstige-relatie-met-het-vk-en-de-reeds-genomen-maatregelen-ter-voorbereiding
[321] Nautilus Consultants (2006) Profile of the UK Producer Organisations. Prepared for the UK Fishery Departments.
[322] Ibid.
[323] http://www.europarl.europa.eu/RegData/etudes/STUD/2018/629176/IPOL_STU(2018)629176_EN.pdf
[324] Ibid.

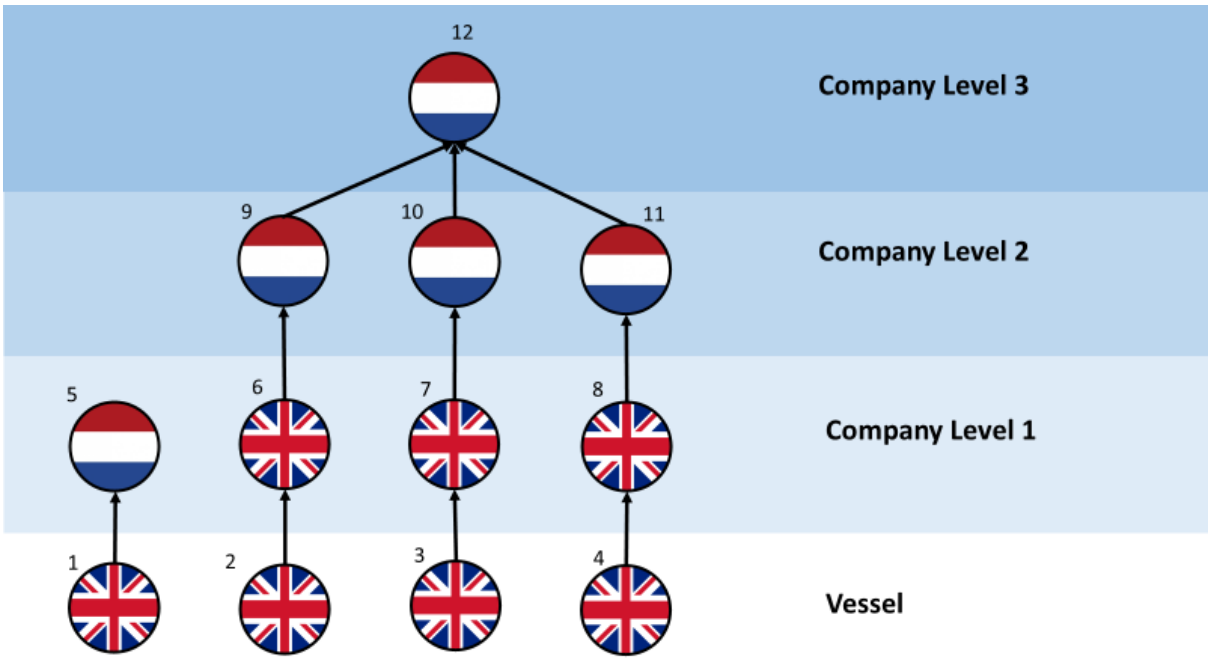

Figure 21: Ownership of member vessels in the Lowestoft PO.

Table 83: Description of nodes in Lowestoft PO.

Number	Title	Type	Nationality
1	Wilhelmina	Vessel	UK
2	Ansgar	Vessel	UK
3	Sola Fide	Vessel	UK
4	Soli Deo Gloria	Vessel	UK
5	Wilhelmina BV	Company	NL
6	Buchan (E104) Limited	Company	UK
7	Buchan (WN1) Limited	Company	UK
8	Osprey (PD63) Limited	Company	UK
9	Bowil 1 B.V.	Company	NL
10	Bowil 3 B.V.	Company	NL
11	Bowil 2 B.V.	Company	NL
12	Bowil Beheer BV	Company	NL

Table 84: Percentage composition (%) of North Sea plaice to total FQA units held by vessels in Lowestoft PO.

Vessel	Percentage of NS plaice comprising total FQA units
Wilhelmina	76.5
Ansgar	100
Sola Fida	68.6
Soli Deo Gloria	70.6

3.9.5. Transactions and outcomes

Originally, beam trawlers in membership of the Lowestoft PO were owned by two local companies; the Colne Shipping Company and Talisman Trawlers[325]. Both companies have since been acquired by Dutch owners, with the Colne Shipping Company sold in 2002[326]. The details of these acquisitions are unknown.

3.9.6. Key findings

- Dutch interests in the UK increased during the 1990s as the price of UK quotas became an attractive proposition, resulting in investments in UK vessels.
- When the Lowestoft PO system was established, strong track records of Dutch-owned vessels enabled them to secure allocations of UK quota.
- Lowestoft PO member vessels hold 14.3% of the UK's total allocation of North Sea plaice and 11.9% of the UK's current allocation for North Sea sole.
- Representing one of largest demersal fishing operations in the Netherlands, the de Boer family operates in the UK through the Lowestoft PO and hold UK quota through ownership of companies that operate fishing vessels in membership of the Lowestoft PO.

3.10. Case study summary

There is clear evidence that horizontal integration is a substantial factor structuring changes in quota ownership. Throughout the majority of case studies, increased availability and access to fishing quota (both nationally and internationally, both for the same type of species or for additional ones; e.g.: from pelagics to demersals) are associated with the acquisition of companies that own fleets. The acquisition and merging of fishing companies and their fleets are predominantly associated with access to quota, but is facilitated by quota being transferable amongst vessels authorised to fish in these fishing grounds, as well as the ability to transfer quota between vessels (e.g., apparent within the Spanish fleet case studies).

It is clear that foreign ownership of vessels and (in some cases) the quota associated with such vessels may be wholly associated with the targeting of particular fisheries. This was apparent when examining the development of fishing by Cornelis Vrolijk within the UK, as well as the acquisition of foreign companies by the Dutch-based companies Cornelis Vrolijk and P&P Group. In both cases, there was a distinctive pattern of acquisition of fleets of vessels that are focused on a particular resource (i.e. pelagic fishes such as mackerel, or demersal resources such as shrimp), with substantial investment in developing such fleets to be able to dominate the fishery, and importantly to secure the supply of resources.

Foreign ownership of vessels, where it links to quota, may also be associated with ensuring continual supply of products to other parts of an entity's business. For example, the study found that within several companies, most clearly within the Dutch companies Cornelis Vrolijk's and P&P Group, the acquisition of fishing companies (and the fleets that they held) were undertaken to provide fishing products that could be sent to their processing plants – thereby securing supply to further the development of different parts of their business. This securing of supply is most important when the acquiring company owns or operates processing and supply chain businesses.

The development of the full supply chain, from fishing fleet to marketing and distribution was also apparent throughout a number of the case studies, and was vital in determining the drivers important in structuring changes in ownership. For example, the acquisition of the Scottish fishing and processing company Macduff by Clearwater enabled the

[325] Nautilus Consultants (2006) Profile of the UK Producer Organisations. Prepared for the UK Fishery Departments.
[326] Ibid.

company to have clear access to fishing vessels and access to quota (or licences to non-quota fisheries) associated with them, but also processing plants throughout the UK and a product that was already being marketed within the UK and internationally.

There is clear evidence to show that changes in ownership of fishing resources may be associated with the future proofing of supply. For example, the German fishing company Kutterfisch has shown substantial acquisition of vessels, fishing quotas, and licences over the last few years. For this company, which fishes substantially in the North Sea, Skagerrak and the Baltic Sea targeting pollock, herring, cod and sprat, this represents a strategy for dealing with the potential impact of the landing obligation on their operations. In order for their fleets to continue to fish throughout the year it will be necessary to have sufficient quota. The company has therefore been buying up quota-holding boats (as within the German IQ system quotas are attached to the vessels and thus their respective owners); which have the quotas they may need. While this case did not involve foreign ownership, acquisition of vessels and quota may begin to become more of a motivation for other actors as the implications of the landing obligation for their operations become clearer.

This work has also shown how the nature of the endowment and the rules concerning their use can affect how actors can benefit from the endowment and concentration of ownership. For example, where fishing quotas have transferability attributes, this can enable companies to employ quota as independent assets to obtain economic benefits and counteract financial issues. For example, the case studies provide an example where Freiremar S.A. decided to divest by selling its fishing quotas and vessels. Quotas transferability has also allowed redistribution of quotas and new levels of concentration of quotas in the Spanish fleet operating in NAFO fisheries. Such use of quota as an economic asset, independent of the actual use of the quota, is an interesting development.

Other case studies also illustrate how transferability of quotas have allowed a single company to gain control of the majority of quota in a fishery. For example, the incorporation of Ancora S.L. to the orbit of the Samherji Group has contributed to the consolidation of the Icelandic group as a leader in the market of white fish quotas. Quota transferability has also enabled companies to rationalise fishing capacity by consolidating quotas on to fewer, more modern, vessels. The high profits obtained by Aker Seafood from the selling of the company in 2011 also reflects the high value of the fishing quotas for white fish.

An interesting aspect that has been identified in the case studies is of small or mid-size, often family-owned companies, attracting the interest of larger international operators within and beyond the seafood business, either industrial or financial. This is especially shown in the acquisition of Macduff by Clearwater, which had previously been partly acquired by a private equity firm (Change Capital Partners). There is a clear pattern of ownership and beneficiaries of owning fishing companies extending beyond the sector. The case is also seen in the acquisitions of Iberconsa by the private equity firm Portobello Capital and Garavilla by the conglomerate Bolton Group.

4. CONCLUSIONS AND RECOMMENDATIONS

The study was intended to document the ultimate ownership of fishing vessels and access to quota and define their nationality, measure the concentration of ownership at MS level; and describe the evolution and drivers of observed ownership structures. The issue of ownership in fisheries is complex and the multiplicity of approaches and terminologies surrounding this process adds to this complexity, making it less clear what is being discussed. Differences in definitions between and even within countries also impede our ability to conduct cross-cutting analysis. For the purpose of the study, the focus has been on three key endowments: commercial fishing licences, fishing vessels and fishing quotas that are common across all MS and which are all key elements of the fisheries management approach within the EU.

Across most of the nine focal MS, a commercial fishing licence is linked with a registered vessel. However, the conditions for commercial fishing licences did differ. For example, in Denmark to be eligible for a commercial fishing licence, fishers need to prove that they are economically dependent on fishing, and long-term Danish residents. Similarly, in Ireland and Sweden licensing includes criteria concerning benefits to local and national economies.

Understanding quota holdings is made difficult by the fact that MS can refer to the same quotas in different ways. In some cases (e.g. Spain) quota is aggregated or disaggregated differently at national level than at the EU level. Methods of allocation and the extent of transferability of quotas also differ across MS. Quota holdings can also be subject to conditions that can also differ between MS, for example in Sweden there are limits on the extent of quota holdings, with individuals or companies only allowed to hold up to 10% of the allowable quota for a particular fishery. Across all of the focal MS it was necessary to have a commercial fishing licence in order to get access to national fishing quotas. In some cases (e.g. Belgium) it is also necessary to have a fishing vessel, however in other MS there are actors that are not active fishers who are able to hold and benefit from quota allocations. For example, the UK uses FQA units to allocate quota and allows the use of dummy licences on which quota may be held in lieu of a vessel licence. The following sections provide an overview of consolidation and foreign ownership across the nine focal MS and the drivers and factors that have led to the observed outcomes.

Perhaps the most important result, is that describing ownership across the nine focal MS has not been straightforward and, indeed, was not possible for either Germany or Netherlands. While there is a requirement for transparent and objective allocation criteria, the same is not the case for the details of the beneficiaries of these allocations. This information was often not available or was difficult to obtain. We found in particular that France, Germany and Netherlands would not disclose the details of the beneficiaries of the allocation of fish quotas. The significance of this is that these quotas represent the endowment of a publicly owned resource. In contrast, it is interesting to note that information regarding private ownerships, i.e. shareholders stake in company ownership, appeared to be more readily available, at least across the focal MS, than information about the beneficiaries of a common pool resource.

4.1. Consolidation of ownership within the nine Member States

Despite the difficulties in accessing and processing data, it has been possible to provide quantitative estimates of the extent of consolidation within the nine focal MS (Table 85). Concentration of vessel ownership was most apparent in Belgium although this is mainly because of the significantly smaller fishing fleet in Belgium. Denmark, Ireland and UK have CR4 between 1.84 and 2.87 while other countries were much lower, especially those with significant small-scale fleets (e.g. France and Spain).

Table 85: Vessel ownership concentration across the focal MS.

MS	Number of vessels	Vessel tonnage (GT)	Total CR4 (%)	Total CR8 (%)
BE	70	13,328	11.76	21.32
DK	2,585	86,563	2.01	3.34
FR	6,514	174,270	0.95	1.49
IE	2,183	63,656	1.84	2.94
ES	9,188	335,332	0.37	0.60
SE	2,094	28,493	0.98	1.79
UK	6,556	187,195	2.87	4.64

Source: Authors' calculations.

The results show that there is a wide range in how concentrated the ownership of fishing quota is across the focal MS, from instances of a single owner holding all of a particular TAC (Norway pout for Sweden and an albacore TAC for Spain) to TACs with hundreds of owners with equal shares, such as in Spain (Table 86).

Table 86: Quota concentration across the focal MS.

MS	Quota tonnage	Quota value (EUR)	Total CR4	Total CR8	Total HHI	Total Gini
BE	30,008	58,798,453	17.2%	28.8%	221	0.49
DK	804,343	486,614,506	23.2%	37.3%	269	0.91
IE	176,005	183,570,926	23.0%	32.6%	180	0.73
ES	351,108	807,577,351	10.5%	15.8%	56	0.90
SE	227,660	132,296,577	46.9%	60.9%	727	0.92
UK	456,755	597,218,913	23.0%	32.6%	212	0.85

Source: Authors' calculations.

In all MS where there was enough data for analyses at the TAC level, there are cases of high concentration in quota ownership. Furthermore, the analysis of quota concentration and CR ratios indicate that the major beneficiaries of a TAC can be small in number and in many instances of a foreign nationality. However, the bulk of the TACs or species, especially the largest by estimated value, were found to have low levels of concentrations. However, consolidation was evident, particularly in small pelagic species such as herring, mackerel and blue whiting as well as sole and plaice in the North Sea. Interestingly, TACs that have been identified as a risk of choking fisheries under the landing obligation currently tend to have low levels of concentration and high numbers of owners.

Consolidation is often a result of responses to microeconomic drivers at a firm level, related to efficiency. These combine with the assets that a firm has and structural elements related to the socio-economic context (including access to credit and life-mode), state of the resource and regulation of the industry to determine a firm's strategy. For example, efficiencies can be achieved through the scale of operation, in particular for schooling fish such as the small pelagic herring and mackerel species. These create an incentive to increase the scale of operation and consolidate quotas on fewer, larger, vessels. Drivers can also be about reducing costs. Low profit margins during periods where efforts have focused on rebuilding fish stocks have meant that some firms have found it challenging and have sought to exit the industry or find new investors. For example, the acquisition of Armement Dhellemmes trawlers by Scapêche was mainly due to recurring losses within these French companies and the potential to reverse this through economies of scale. As the UK illustrates, quota entitlements are often sold to those already operating within the sector (including other EU MS), rather than to new entrants, leading to consolidation. There are however also examples where

these microeconomic drivers have been resisted through alternative strategies, for example through development of fisher cooperatives that enable individual operators to lower their costs and remain profitable.

Structural elements, including changes in TACs and associated national quotas, quota allocation systems, access to credit and markets are important factors in consolidation. For example, within the Baltic Sea, quota reductions have created conditions where firms have sought to use horizontal integration as a strategy to acquire and transfer quotas to an existing vessel[327]. Meanwhile, a key event that has led to concentration of fishing quotas in Denmark and Sweden has been the implementation of new quota systems, in particular ITQs. This had the effect of reducing the number of fishing vessels in the fleet and increasing the economic performance of those remaining. The high profits obtained by Aker Seafood from the selling of the company in 2011 also reflects the high value of the fishing quotas for white fish. It is not only in transferrable quota systems that there is an incentive to invest and consolidate. In Ireland the monthly pool allocation of quotas to vessel owners has meant that owners invest to ensure that they are efficient in catching what they can. Consequently, only fishers (or companies) who can afford modernisation are able to compete, with substantial changes in the dynamics of coastal communities.

Access to credit has also had an effect in shaping both concentration and foreign ownership. In a number of countries, for example France, access to credit by actors in the fisheries sector has been difficult, particularly in the context of overall fleet size reductions. However, in certain MS – such as Spain and Netherlands - where there are strong markets as a result of consumption and trade in fish respectively, access to credit has been less difficult and actors have been able to invest in acquiring entitlements[328]. Market structure also influences ownership and this is evident both in the North Sea flatfish where Dutch firms have sought to secure supplies and in Germany where there is a strong fish processing sector that has contributed to the vertical integration that exists in Germany, with most of the demersal trawler fleet owned by vertically integrated companies.

Life-mode also plays a role in shaping concentration with geographically situated family enterprises making up much of the small-scale fleets across the focal MS. Faced with falling prices, these kinds of enterprise may not necessarily reduce production or exit the fishery but may continue to operate unprofitably in the expectation that fishing opportunities might improve in the future[329,330]. Because of the different life mode of many small-scale coastal fishers, limited production capacity there is typically less integration and consolidation in these fleet segments.

4.2. Foreign ownership within the nine Member States

Despite the difficulties in accessing and processing data, it has also been possible to provide quantitative estimates of the extent of foreign ownership for most of the focal MS. The share of vessel ownership by foreign entities varies considerably across the five MS for which data is readily available; from 32.4% of the number of vessels in Belgium to 0.6% share in Denmark (

Table 87). As with concentration, these figures are influenced by the fleet sizes as similar changes in ownership in the Belgian fleet (around 70 vessels) will have a more significant effect than in the French fleet (around 6,500 vessels).

[327] Warmerdam, W, Kuepper, B, Walstra, J, Werkman, M, Levicharova, M, Wikström, L, Skerrit, D, Enthoven,L & Davies, R (2018) Research for PECH Committee – Seafood Industry Integration in the EU: all 22 Member States with a coastline, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

[328] e.g. Lequesne, C. (2004) The politics of fisheries in the European Union. European Policy Research Unit Series, Manchester University Press, Manchester and New York.

[329] Hojrup, T. (2003) State, culture and life-modes: the foundations of life-mode analysis. Ashgate Publishing.

[330] Curtis, H. and Jones, E. (2016) Will I clear my feet? Perspectives on a vessel scrapping scheme in Scotland. Marine Policy 71: 94-105

Table 87: The share of foreign ownership of fishing vessels in each focal MS.

Member State	Percentage vessels	Percentage tonnage	Percentage vessel power
BE	32.4	27.7	25.8
DK	0.6	14.2	10.0
FR	5.0	34.2	13.8
DE	-	-	-
IE	0.9	3.5	2.9
NL	-	-	-
ES	2.4	5.0	4.0
SE	1.7	10.1	6.6
UK	6.5	19.9	13.6

Calculations were also performed to provide a summary of the extent of foreign ownership of national quotas (Table 88).

Table 88: Foreign ownership of quota in Member States where data available.

MS	Quota tonnage	Quota value (EUR)	Foreign share (%)	BE	DK	IE	ES	SE	UK	NL	IS	Other
BE	30,008	58,798,453	25.2	74.8	0.0	0.0	2.9	0.0	0.4	21.4	0.0	0.0
DK	804,343	486,614,506	21.3	0.0	78.7	0.0	0.0	21.2	0.0	0.0	0.0	0.1
IE	176,005	183,570,926	2.3	0.0	0.0	97.7	2.2	0.0	97.7	0.1	0.0	0.0
ES	351,108	807,577,351	5.6	0.0	0.0	2.8	94.4	0.0	0.0	1.2	1.2	2.8
SE	227,660	132,296,577	16.2	0.0	16.2	0.0	0.0	83.8	0.0	0.0	0.0	0.0
UK	456,755	597,218,913	21.0	0.0	8.4	0.1	1.8	0.0	79.0	11.4	0.5	0.1

Source: Authors' calculations.

The highest foreign share of all quota was in Belgium, with over 25.2% of quotas owned by foreign entities. When examining foreign ownership of quota, in addition to Belgium there was a high level of foreign ownership of Danish (21.3%), Swedish (16.2%) and British quota (21.0%) measured in terms of tonnage held by foreign entities. When examining the share of foreign ownership of licences, just over 2% of Swedish licences are held by foreign entities, while less than 1% are held by foreign entities in Denmark and the UK. When examining vessel ownership, over 7% of vessels within the UK are owned by foreign entities, while just over 2% in Sweden and less than 1% in both Ireland and Denmark. This discrepancy in the proportion of foreign ownership between the types of entitlements within MS demonstrates that it is not always necessary to have ownership of all three in order to benefit from the fishery.

Similar drivers and structural factors are evident in both consolidation and foreign ownership. Differences in costs and fish prices acting as a driver for ownership change. For example, by the late 1990s the purchase of a fishing vessel was more expensive in the Netherlands than in Belgium. Firms in Netherlands wishing to expand or enter fisheries began to buy Belgian vessels as they were cheaper but provided access to similar quotas. In another example, vessel decommissioning and reductions in quotas aimed at restoring fish stocks (e.g. in the UK) led to a number of fishers leaving the industry. At the same time, strong markets for consumption (Spain) and trade (Netherlands) meant that finance was available to actors in those countries to invest in fisheries and to purchase UK vessels and licenses. Indeed, Dutch companies pursued a policy of acquiring quota and flagging ships in the UK to the extent that by 2005 the companies were reported to have ownership of about 90% of North Sea plaice and sole quota[331].Similarly, low quotas for Spain relative to the fleet's capacity led Spanish firms to increase their presence in France to access additional quotas. Reductions in Baltic Sea quota is reported to be a driver for horizontal integration and investment by Swedish

[331] https://www.worldfishing.net/news101/regional-focus/netherlands

and Danish companies in companies in the Schleswig-Holstein region to access additional quotas and for some of the largest Swedish pelagic fishing companies to expand by acquiring quotas in other countries, including Finland and Denmark, as they already had significant Swedish quota.

Rules concerning ownership and the economic link can affect how actors can benefit from the endowment. For example, where fishing quotas have transferability attributes, this can enable companies to employ quota as independent assets to obtain economic benefits and counteract financial issues. For example, the case studies provide an example where Freiremar S.A. decided to divest by selling its fishing quotas and vessels. Quota transferability has also allowed redistribution of quotas and new levels of concentration of quotas in the Spanish fleet operating in NAFO fisheries. Such use of entitlements to quota as an economic asset, independent of the actual use of the quota, is an interesting development.

Yet other cases highlight that it is not only the quota allocation system that drives changes in foreign ownership. Belgium and Ireland appear, on the face of it, to have similar structures in terms of how entitlements, including fishing quotas, are allocated to the demersal fleet, yet levels of foreign investment are very different. Other factors, such as geographical proximity to markets, fisheries targeted by national fleets also affect investment and give rise to the observed foreign ownership patterns. There is also evidence from the study to suggest that foreign ownership of vessels and (in some cases) the quota associated with such vessels may be wholly associated with the targeting of particular resources. Across the countries it also appeared that there was a tendency for foreign ownership to be centred on larger vessels in EU MS fleet. For example, the study found that Swedish entities only own a small fraction of the total number of Danish vessels identified (<0.5%), yet these Swedish owned vessels appear to all be relatively large (i.e. large trawlers) and are evidently targeting pelagic fish.

Within the nine focal countries there were several instances of Dutch ownership of vessels and quota linked to pelagic or demersal flatfish resources. With strong bases in the ports of Urk and Ijmuiden, Dutch companies have sought to extend control over these resources through acquisitions in neighboring countries in order to secure supplies of these resources, for which they have a well-established value chain. The absence of data for the Netherlands is particularly regrettable in view of this. Netherlands are also prominent in the foreign ownership EU vessels and quota and acquisition of foreign companies, e.g. by the Dutch-based companies Cornelis Vrolijk and P&P Group. In this respect, within both companies there is a distinctive pattern of acquisition of fleets of vessels that are focused on a particular resource (i.e. pelagic fishes such as mackerel, or demersal resources such as plaice), with substantial investment in developing such fleets and, importantly, to secure the supply of resources. Externally, these companies are active across the globe, developing partnerships in fishing and processing operations and as such, fishing firms in the EU and EU fishing fleets are part of global value chains and production networks.

Development of the full supply chain, from fishing fleet to marketing and distribution was also apparent when determining the drivers important in structuring changes in ownership. For example, the acquisition of the Scottish fishing and processing company Macduff by Clearwater enabled the company to have clear access to fishing vessels and the access to the quota (or licences to non-quota fisheries) associated with them, but also processing plants throughout the UK and a product that was already being marketed within the UK and internationally.

As with the targets of consolidation, the study has shown that it is often the mid-size or larger vessels and operators that are attracting interest and that are the target of horizontal integration. Potentially due to economies of scale, foreign ownership was generally seen in larger than average vessels within national fleets. This is reflected in the findings from Task 2 and Task 3, which demonstrates foreign ownership typically in either large pelagic vessels, or large demersal trawlers. While the majority of activity identified was from within the sector, these businesses have also become the target of operators beyond the seafood industry. The acquisitions of Iberconsa by the private

equity firm Portobello Capital and Garavilla by the conglomerate Bolton Group are interesting as they show ownership and beneficiaries of owning fishing companies extending beyond the sector.

Vertical integration and links to strong markets, either internal such as Spain or external, e.g. Netherlands, enables diversification from a position of relative strength. It also enables the emergence of new actors, of which these examples are probably the most extreme, whose activities are based across nations and different to the norm of actors based in local ports. For example, some of the larger Dutch interests and the Icelandic company Samherji have ownership portfolios across a number of EU MS. At a smaller scale there are examples of the shift from a tradition of fishing located at home ports. For example, according to Danish law, only Danish companies or Danish citizens may buy Danish fish quotas. To address this restriction, Swedish individuals wanting to access Danish fish quotas have established Danish companies with Danish addresses, which is sufficient to meet the Danish legal requirements.

4.3. Recommendations

Based on the results of the study, we would suggest that there is a need for greater transparency across MS about the ultimate beneficiaries of initial allocations of quotas. There is also a need for greater understanding of the nature of the reallocation process and the actors involved to assess whether there is a need for further regulation. Additionally, examining the geographical changes associated with consolidation and foreign ownership and the impact on economic and social performance will be important if changes to allocation mechanisms or social safeguard policies are to be effective.

Consideration of reallocation and the social and economic benefits from this should be explored on two levels. The first is the transfer of annual quotas between actors that can change the beneficiaries within years (and from which actors not actively fishing may benefit). The second level is that of the transfer of the entitlement to benefit from annual quota allocations, which has been the focus of the analysis in this study. Depending upon the national systems, there may be cases where non-active fishers are able to lease out quotas and benefit from doing so, such that there may be multiple beneficiaries along the pathway from initial allocation to final utilisation. As the value of fish quotas potentially increase as stocks recover, they can potentially be viewed as assets and may attract new investors from outside the sector. As part of this, this there is a need to consider the effect increasing transferability of quotas can have, particularly in terms of creating new commodities that can be sold and accumulated and the difficulties that might be created for potential new entrants.

Consolidation and transfer of ownership, both within and between MS can change the geographical distribution of fishing fleets and has the potential to change the nature of the links between fishing fleets and local communities. The effect that these distributional changes have had on the economic and social performance of fisheries warrant closer attention. Associated with this would be an assessment of the effectiveness of measures to introduce community quotas and coastal fisheries safeguards that have the intention of reducing the impact of consolidation.

GLOSSARY

Community Quota System (CQ)	Catch quotas are attributed to a 'fishing community', or collective unit, with decisions on allocation within the community taken cooperatively. Often used in formalising traditional access rights in small-scale fisheries. The community/ collective, is responsible for ensuring quota compliance. Community quotas are sometimes referred to as 'pooled quotas'.
Days at Sea (DAS)	Individual vessels can be granted an effort-based 'days at sea' quota. Catch is therefore limited by the amount they can fish within their DAS allowance. DAS may also act as supplementary measures to catch quotas.
Fishing Seasons	Fishing seasons determine when a fishery is 'open'. In many cases, fishing seasons are combined with quotas – thus restricting the period in which a catch limit applies. They are usually applied to match migratory patterns or avoid fishing during the spawning.
Individual Non-Transferable Effort Quotas (IE)	An allocation is made of the quantity of effort unit that a fisher can employ for a given period of time. They tend to be used in fisheries for sedentary species.
Individual Non-Transferable Quotas (IQ)	Provide an individual vessel/ licence the right to catch a given quantity of fish from a particular stock, or, more often, a percentage of a TAC. The race for fish that exists under a competitive TAC is largely eliminated, but the lack of transferability restricts the efficiency of harvesting. Quotas are not directly transferable but in most IQ systems quotas can be transferred with vessel sale. In-year swapping of quotas is usually permitted and in some cases IQs may be pooled by a producer organisation.
Individual Transferable Effort Quotas (ITE)	Transferability makes short and long term adjustment easier and allows for a better use of fishing capacities.
Individual Transferable Quotas (ITQ).	ITQs are similar to IQs with the added feature that the quota share is transferable and leasable. Provide a right to catch a given percentage of a TAC, which is then transferable. The features of the system allow for appropriate long-term incentives for investment decisions as well as optimising short-term use of fishing capacities. Initial allocation of ITQs are usually based on historical track records, but as ITQs are transferrable quota shares can change holders. In ITQ systems there are often regulations in place to limit the concentration of quota shares and/or to control the eligibility of quota holders.
Limited Non-Transferable Licences (LL)	These licences can be attached to a vessel, to the owner, or to both and have to be limited in number and applied to a specific stock or fishery to be considered as market-like. By restricting access to a stock, this instrument helps to reduce the race to fish and prevent rent dissipation. However, the lack of transferability and divisibility limits the optimal use of fishing capacity.

Limited Transferable Licences (LTL)	By making limited licences transferable, fishers are provided with an increased incentive to adjust capacity and effort over the short to long term in response to natural and economic conditions. They are generally given for a very long duration, but are not divisible.
Landing Obligation	The 'landing obligation' refers to EU discard provisions which require all catches of regulated commercial species on-board to be landed and counted against quota. These are species under TAC (Total Allowance Catch, and so-called quotas) or, in the Mediterranean, species which have a MLS (minimum landing size such as mackerel which is regulated by quotas; and gilt-head sea-bream regulated by size).
National Quotas	A national quota is applied to the whole fleet and not allocated to individual fishers. Open fishing is permitted until the national quota is depleted and the fishery is closed. This type of quota is often used for fish stocks in low-demand as a method of increasing quota utilisation. National quotas are often used in the management of particular fleet segments such as the small-scale fleet. In some cases, a national quota is divided into regional quotas. Since the quota is neither secure nor exclusive, national quotas cannot be considered a form of RBM. Sometimes national quotas are referred to as the 'national pool' of quotas.
Relative stability (RS)	The fixed quota allocation key, by which annually established TACs for each fish stock are divided between the EU Member States. The different allocation percentages per EU MS are based primarily on historical catch proportions.
Territorial Use Rights (TURFs)	Allocation of a certain area of the ocean to a single user, usually a group, who then undertakes fishing by allocating rights to users within the group. Usually of long duration and with high degree of formal and informal transferability within the group.
Vessel Catch Limits (VC)	Restrict the amount of catch that each vessel can land for a given period of time (week, month, year) or per trip. These instruments are characterised by relatively low or moderate levels for most rights characteristics. They provide limited exclusivity and may not reduce the race to fish, while providing some degree of flexibility and quality of title.

ANNEX 1 – OVERVIEW OF CASE STUDIES

Table 89: Overview of relevant transactions leading to changes in ownership of quotas, vessels and companies in Freiremair S.A. and Pesquera Ancora S.L.

Cases	Type of assets concerned	Seller	Driver of the decision	Acquirer	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Freiremar S.A. (ES)	**Quotas:** of Freiremar S.A.	Freiremar S.A.	**Financial:** Bankruptcy of Freiremar S.A.	Moradiña S.A (ES) Hermanos Gandón S.A (ES)	**Production efficiency:** Wish of Moradiña and Hermanos Gandón to increase production	Within a MS	NAFO	Changes in quotas concentration in the fishing ground
Pesquera Ancora S.L. (ES)	**A whole company:** Pesquera Ancora SL (quotas and vessels)	Aker Seafood (NO)	**Production efficiency:** Decision to leave the fishing ground to concentrate its activity in other fisheries	UK Fisheries Ltd (UK), part of the Samherji Group (IS)	**Production efficiency/ market power:** Increase access to cod quotas	Between MS and non-MS	NAFO, Barents Sea and Norwegian EEZ	Changes in ownership of the Spanish company amongst owners within the EU and outside the EU

Table 90: Overview of the relevant transactions of assets and changes in ownership in Iberconsa.

Type of assets concerned	Seller	Driver of the decision	Acquirer	Driver of the decision	Geographical scope of transactions	Species and fishing areas involved	Main Outcomes
Fishing company vertically integrated.	Ibérica de Congelados S.A. (ES)	Reinforce management, planning and financial structures trough the professional capacities of the private equity firm.	Portobello Capital (ES)	Increasing trend in fish protein consumption in the world. Acquiring a leading company in the business. Secure raw material in the main fishing grounds. Access to distribution channels allowing new product launches.	MS level	Fishing in non-EU waters beyond the EU TAC and quotas system.	Iberconsa has gained competitiveness at international level and consolidated as a leader in frozen hake and shrimp. The relevance of the company in the business is reflected in the interest of many firms to acquire it.

Table 91: Overview of the case study 3: Garavilla and Bolton Group.

Type of assets concerned	Seller	Driver of the decision	Acquirer	Driver of the decision	Geographical scope of transactions	Species and fishing areas involved	Main Outcomes
Majority stake in the vertically integrated company Garavilla.	MCH private equity firm (ES) as holder of the majority stake of Garavilla (ES)	After a period of five years established by MCH and Garavilla the private equity firm decided to divest.	Bolton Group (IT)	Wish to consolidate its presence in Spain and enter into the South America and North Africa markets	Within EU	Tunas in third country waters and international waters.	Consolidation of Bolton as a major player at international level, with many emblematic tuna brands.

Table 92: Summary of the acquisition of MacDuff by Clearwater.

Type of assets concerned	Seller	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Quota; Vessels; Licences; Processing facilities, Fishing gear manufacturing	Macduff Shellfish	Strengthen market position; Consolidation; Vertical integration	Between a MS and a non-EU country	Shellfish in UK waters, as well as within EU waters	Access to EU resources

Table 93: Summary of the acquisitions made by Cornelis Vrolijk.

Type of assets concerned	Acquired companies (subsidiaries)	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Quota; Vessels; Licences; Processing facilities; Logistics.	North Atlantic Fishing Company (UK); Jaczon B.V., (Netherlands); Atlantic Shrimpers Limited (Nigeria); Primstar B.V., (Netherlands); Prim7Stars (Nigeria); France Pélagique (France); Seafood Parlevliet (Netherlands)	Within UK - strengthen market position and consolidation; across other MS and outside EU: Vertical integration	Within MS' and between an MS and a non-EU country	Pelagic fisheries within UK and EU waters, shrimp fisheries within west Africa	Access to UK resources; access to African resources

Table 94: Summary of acquisitions made by Samherji Group

Type of assets concerned	Acquired companies (subsidiaries)	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Quota; Vessels; Licences; Processing facilities; Logistics.	Samherji HF (IS), P&P Group (NL) and Deutsche Fischfang Union GmbH (DE)	Access to fishing opportunities in EU and other regions	Between EU and outside.	Demersals and others in non-EU waters	Linked to P&P Group in the NL, and via this to operations in UK (onward fishing co LTD). Further they are 100% owners of the oldest fishing company in DE.

Table 95: Summary of acquisitions made by Kutterfisch

Type of assets concerned	Acquired companies (subsidiaries)	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Acquisition of fishing vessels with access to demersal resources in the North Sea	Kutter-und Küstenfisch RügenGmbH in Sassnitz (Rügen) and Cux-Trawl in Cuxhaven.	Acquisition of vessels, fishing quotas, and licences, to future-proof against EU CFP landing obligation	Within the MS	Demersal in North Sea	Concentration of rights to respond to LO requirements (choke species issue)

Table 96: Summary of the acquisitions made by P&P Group

Type of assets concerned	Acquired companies (subsidiaries)	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Quota; Vessels; Licences; Processing facilities; Logistics.	Doggerbank Seefischerei GmbH, Ostbank Hochseefischerei GmbH, Oderbank Hochseefischerei GmbH and Westbank Hochseefischerei GmbH, Mecklenburger Hochseefischerei GmbH, German Seafrozen Fish, Euro-Baltic Fischverarbeitungs GmbH, Ocean Food GmbH, Deutsche See GmbH, Kilda BV, Vikingbank BV and Fladen Gronden BV, Sawad Food International BV, Ouwehand Visverwerking B.V, Heiploeg BV, UK Fisheries Limited (Joint venture with Samherji hf), Kirkella Ltd, Jacinta Ltd	Diversification of fishing opportunities and greater market access at a European level	EU and global	Pelagic fishing, demersal fishing and processing plants	With long standing interests in catching demersal and pelagic species, P&P Group now targets a variety of fish stocks and has moved into post-harvesting and marketing to secure its market position

Table 97: Summary of global operations of Cornelis Vrolijk and P&P Group

Type of assets concerned	Acquired companies (subsidiaries)	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Quota; Vessels; Licences; Processing facilities; Logistics.	P&P Group: Heiploeg Suriname NV, Noble House Seafoods Limited, TK Fish SA and Heiploeg Seafood India Pvt. Ltd, Compagnie Française du Thon Océanique Cornelis: Atlantic Shrimpers Limited, Prim7Stars, Primstar B.	Provide access to a range of new markets, the ability to target new pelagic and demersal species, lowering production costs while also ensuring each company owns the full chain of production	Suriname, Morocco, India and Nigeria	Western Africa, South East Asia, India	Both Cornelis Vrolijk and P&P Group have expanded their operations from the Netherlands and established subsidiaries outside of the EU

Table 98: Summary of the ownership of vessels working out of Lowestoft

Type of assets concerned	Involved actors	Driver of the decision	Geographical scope of transactions	Fishing areas involved	Outcomes
Quota; Vessels; Licences; Processing facilities; Logistics.	Lowestoft PO and Dutch fishing interests	Access to United Kingdom quotas	Between Member States	Demersal in United Kingdom waters	Dutch companies benefiting from UK rights

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