



EUMOPA

European Market Observatory for
Fisheries and Aquaculture Products

No. 04/2016

MONTHLY HIGHLIGHTS

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Three reporting countries, Latvia, Norway and the UK, saw first-sales value and volume increase in January 2016 over January 2015. Trends in Belgium, Denmark, and Portugal were mixed, while France, Italy, and Sweden saw falls in both value and volume.

Scallop first-sales prices in France increased 20% in the last 3 years. In January 2016, scallop had the third highest first-sales value (after sole and hake).

In Norway, first-sales value in January 2016 increased 24% over January 2015. Herring, cod, saithe, and crab had the highest increase. Cod prices increased by 20% in the last 3 years, while the quota decreased -12%.

The sardine-fishing season has begun for the Atlantic fleet and will run until 30 November. The 2016 limit for Spanish and Portuguese fishermen is 14.000 tonnes in Iberian waters 26% lower than last year. The reduced supply of fresh sardine, contributed to a significant price increase of +53% in Portugal between 2013 and 2015.

Landings in Peru rose 36% between 2014 and 2015 to 4,8 million tonnes, driven by increased landings of anchoveta. Tunisian fishery and aquaculture production decreased 3% in 2015 to 113.000 tonnes.

World trade in fish products dropped 10% in 2015.

Chinese export of seafood to the EU increased five times between 2002 and 2010. Since then it has stabilised at EUR 1,5 billion a year whereas exports from other large suppliers to the EU have kept increasing. China's role as a re-processor seems to have reached a peak. China has registered a strong domestic demand for seafood with consumption increasing by 5 kg per capita in the last 5 years.

Retail prices for fresh sole in France and Italy are similar, but they show opposite trends. In France, sole prices increased 8% over the year. In Spain, retail prices for hake bigger than 2 kg are about 70% higher than for smaller specimens. Retail prices for hake are three times lower in Portugal, compared to Greece.

1. First sales in Europe

In **January 2016**, eight EU Member States and Norway reported first-sales data for ten commodity groups.¹ First sales increased over January 2015 in both value and volume for three of the reporting countries.

In **Belgium**, in **January 2016** increased first-sales value of cuttlefish (threefold), plaice (+41%), and monk (+10%) did not offset the lower first-sales value of sole (-15%), ray (-29%), and turbot (-4%).

In **Denmark**, in **January 2016**, the first-sales value was EUR 22,65 million (+9%), and the first-sales volume ended at 13.652 tonnes (-34%). The main reason for the increase in value, despite a strong decrease in volume, was higher first-sales prices for herring at 0,71 EUR/kg (+58%).

In **France** in **January 2016**, first sales decreased in both value (-7%) and volume (-6%). See more in Section 1.1.

Latvia experienced increased first-sales value and volume in **January 2016** over January 2015, thanks to sprat (+103% volume, +76% value) and cod (+177% volume, +118% value).

In **Norway**, first-sales value in **January 2016** was EUR 187 million, a 24% increase over January 2015. See more in Section 1.2.

In **Portugal**, first-sales value in **January 2016** was EUR 11,59 million, a 4% increase over January 2015. First-sales volume decreased 15%, to 4.403 tonnes. This was caused by higher first-sales prices for horse mackerel (+32%) and mackerel (+88%), at 1,35 EUR/kg and 0,45 EUR/kg, respectively.

Spain landed 11.525 tonnes of fresh fish in **January 2016**, 10% less than in January 2015. Landings increased in 7 ports, remained stable in 1 port, and decreased in 14 ports, relative to the same period last year. Vigo registered the highest volume at 4.435 tonnes (+5%).²

In **Sweden**, **January 2016** first-sales value was EUR 6,96 million, a 7% decrease from January 2015. The first-sales volume was 15.017 tonnes (-14%). This was caused mainly by smaller landings of groundfish, including cod (-15%), saithe (-51%), as well as sprat (-28%).

In the **UK**, the increase of first-sales value in **January 2016** was due mainly to Norway lobster (+37%), monk (+57%) and mackerel (+23%). A significant decrease of haddock value (-32%) did not offset the overall increase of first sales.

Table 1. **JANUARY OVERVIEW OF THE REPORTING COUNTRIES** (volume in tonnes and value in million euro)

Country	January 2014		January 2015		January 2016		Change from January 2015	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Belgium	1.567	5,64	1.715	5,79	1.795	5,72	5%	-1%
Denmark	14.883	17,39	20.823	20,72	13.652	22,65	-34%	9%
France	15.939	50,01	14.544	51,97	13.599	48,42	-6%	-7%
Italy*	663	3,58	758	3,62	566	3,51	-25%	-3%
Latvia	5.479	2,15	4.754	1,15	6.984	1,54	47%	34%
Norway	225.718	178,87	179.111	134,82	222.224	187,02	24%	39%
Portugal	6.475	11,43	5.152	11,20	4.403	11,59	-15%	4%
Sweden	18.802	7,63	17.369	7,52	15.017	6,96	-14%	-7%
United Kingdom	64.594	86,91	43.766	61,09	46.089	67,78	5%	11%

Source: EUMOFA (updated 17.03.2016); volume data is reported in net weight.

*Partial data. First-sales data for Italy covers 11 ports (10%).

1.1. FRANCE

France has an exclusive economic zone (EEZ) of 11 million km². French fishing vessels use highly diversified fishing techniques, which allow them to catch a great diversity of aquatic products.

France's fishing fleet represents about 10% of the total EU fleet, with approximately 7.100 vessels (2014), of which 4.500 operate in metropolitan France. Of the latter, 1.500 vessels fish in the Mediterranean Sea (mainly a small-scale fleet). A total of 2.600 vessels fish in the overseas territories (Martinique and Guadeloupe, French Guyana, and Reunion), mainly small-scale fleets.

The fleet includes 17 purse-seiners (75 m long), of which most are freezer tuna seiners operating in the Indian and Atlantic oceans. The size of the French fishing fleet has decreased since 2008.

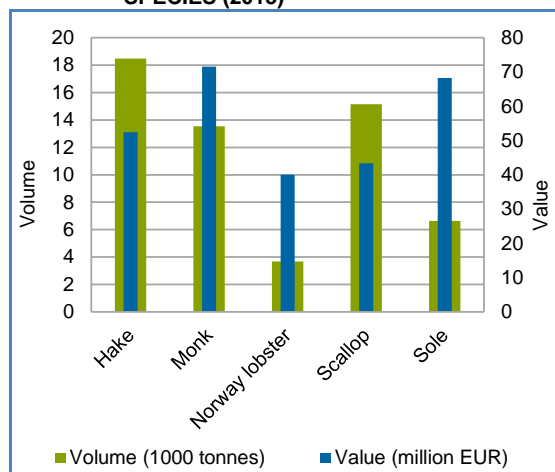
Marine fisheries employ about 16.800 people (2013), of which 13.600 work in metropolitan France. Most are employed by small-scale fisheries (56%). Brittany accounts for 28% of total employees.

Landings in metropolitan France are composed of fish (70%), crustaceans and cephalopods (3% each), bivalves (10%), and algae (14%).

In metropolitan France, most landings take place in the ports of Brittany (47% of total volume). Other important landing ports are located in Normandy and in the region of Nord-Pas de Calais (Boulogne).³ In 2015, 37 auctions were registered.

The top three ports in France in 2015 in value were Le Guilvinec (with monk as the main species sold), Lorient (monk and Norway lobster), and Boulogne-sur-Mer (squid and sole).

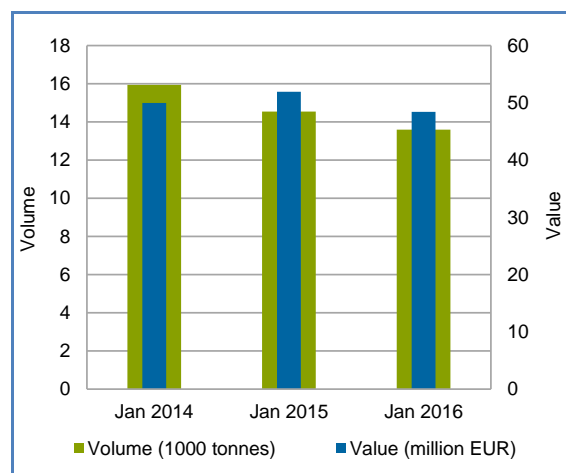
Figure 1. **FIRST SALES IN FRANCE BY MAIN SPECIES (2015)**



Source: EUMOFA (updated 17.03.2016).

In 2015, first sales in France reached EUR 664,7 million corresponding to a volume of almost 200.000 tonnes. This was higher than 2014 in value (+5%) and lower in volume (-4%). Hake, monk, sole, scallop and Norway lobster were the most valuable species landed and sold, representing 43% of all first-sales value.

Figure 2. **JANUARY FIRST SALES IN FRANCE**

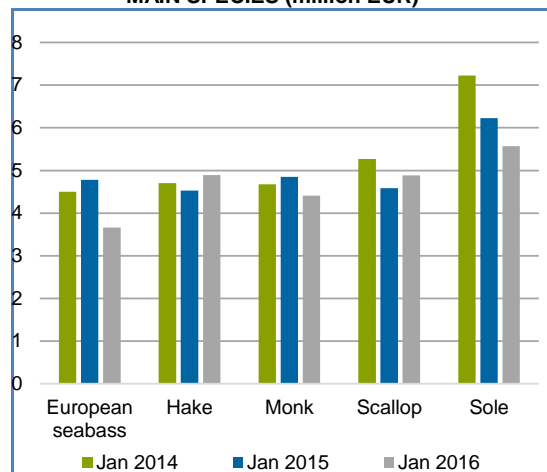


Source: EUMOFA (updated 17.03.2016).

In January 2016, first sales of all reported species decreased in both value (-7%) and volume (-6%) from January last year.

European seabass, hake, monk, Norway lobster, and sole accounted for 48% of total first-sales value and 33% of total first-sales volume. In January 2016, hake and scallop experienced increases in first-sales value (+8% and +6%, respectively). The remaining three species experienced lower first-sales value, of which the most noteworthy was for European seabass (-23%), which was subject to new conservation measures.

Figure 3. **JANUARY FIRST SALES IN FRANCE BY MAIN SPECIES (million EUR)**



Source: EUMOFA (updated 17.03.2016).

Except for scallop, which saw a slight decrease in price (-1%) resulting from higher landed volume (+7%), all of the four remaining species experienced price increases in January 2016. The greatest increases were observed in the prices of hake (+25%) and European seabass (+21%).

1.1.1. SCALLOP



Scallop is a bivalve mollusc found in the Eastern Atlantic Ocean, from Norway, south to Spain. It is also distributed around the Azores, Madeira, and the Canaries. Scallop lives on sand and gravel

bottoms, from shallow areas down to 250 m.⁴

Its growth rate can be affected by several factors including salinity, temperature, water depth, and food supply.⁵

In the months of June to September, the fishing season of Great Atlantic scallop (*Pecten maximus*, or "coquille Saint-Jacques") is closed and only Queen scallop (*Aequipecten opercularis*, or "vanneau"), is sold at the French auctions. This has a much lower price than Great Atlantic scallop. Queen scallop is fished almost exclusively in the summer months. In the months of October to May, landings concern almost exclusively *Pecten maximus*.

Scallop is not subject to quotas but strict management measures have been put in place for a long time (as of 1972 in the Bay of Saint-Brieuc). The fishery is totally closed from 15th May to 1st October, during the spawning period, and a management of fishing authorisations by zone and through limitation of fishing days and hours and setting of daily quotas by boat has been set up. A minimum landing size has been set at 102 mm. Scallop is mostly caught by dredges

The weight of the edible portion in scallop varies from 10% to 16%–20%, depending on the development of the roe, the size of the shell, and location of fishery. Maximum yields are obtained before spawning in spring and late summer.⁶

On the market, scallop is sold fresh/live, whole, shell-off (shucked), frozen (meat only), or canned. In France, fresh scallop (*Pecten maximus*) is bought mostly whole (with shell), making up 71% of household purchases in volume in 2014. Scallops with shell are sold mostly by fishmongers, shucked scallops mostly by supermarkets. Compared with fresh salmon (42%) or fresh cod (41%), the penetration rate of fresh scallop is quite limited (11%).⁷

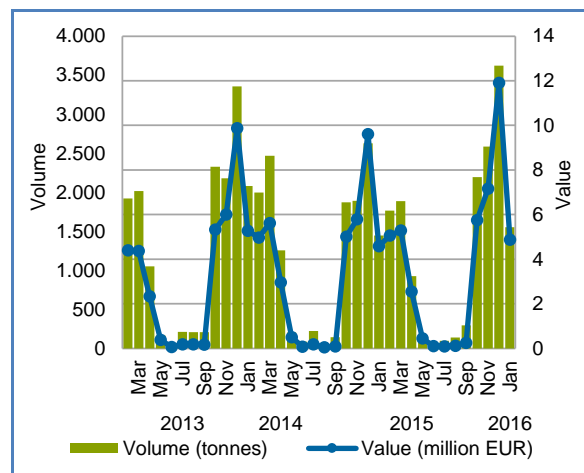
The scallop fishery is extremely important in Normandy, which employs nearly half of the coastal fishing vessels. The high quality of Normandy scallops is determined by, among other factors, a high yield (15%), water temperature, and the abundance of plankton.⁸

The three main landing ports for scallop in January 2016 were Grandcamp-Maisy (199 tonnes), Cherbourg (125 tonnes), and Granville (117 tonnes). Cherbourg experienced the highest increase in landing volume (+115%), although the average price remained unchanged at 3,17 EUR/kg.

In January 2016, scallop was the third highest species in first-sales value (after sole and hake) and the highest in volume. First-sales value and volume for scallop

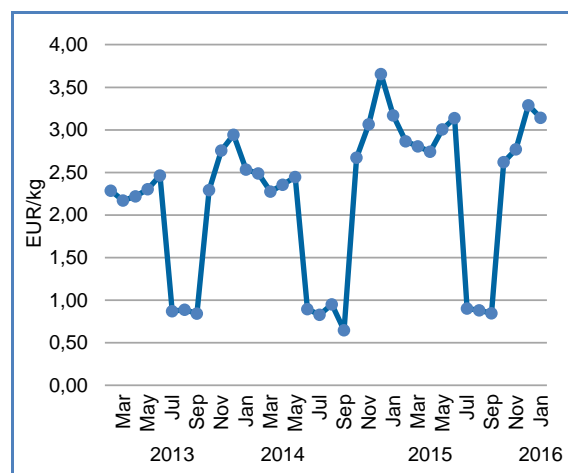
increased to EUR 4,88 million (+6%) and 1.555 tonnes (+7%), over January 2015.

Figure 4. SCALLOP: FIRST SALES IN FRANCE



Source: EUMOFA (updated 17.03.2016).

Figure 5. SCALLOP: FIRST-SALES PRICE IN FRANCE

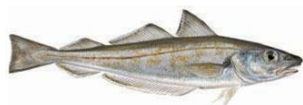


Source: EUMOFA (updated 17.03.2016).

The average unit price of scallop in all ports in January 2016 was 3,14 EUR/kg, a 1% decrease from the corresponding period in 2015, but a 24% increase over January 2014.

The scallop first-sales price has trended upward in the past three years. The average annual price rose from 2,46 EUR/kg in 2013 to 2,71 EUR/kg in 2014 and 2,97 EUR/kg in 2015.

1.1.2. WHITING



Whiting (*Merlangius merlangus*) is commonly found in the Northeast Atlantic, from the southeastern areas

of the Barents Sea and Iceland to Portugal. It can also be found in the Black, Aegean, and Adriatic seas. The species is benthic-pelagic, living at depths of 10–200 m, mainly on muddy and gravel bottoms, but also on sand and rock. It is a fast-growing species. Spawning occurs between the British Isles and the Bay of Biscay in January–September. In the Mediterranean, spawning takes place from January to spring. Whiting feeds on shrimp, crab, molluscs, and cephalopods.⁹

Catches occur in the North and Celtic seas, as well as in the English Channel. The minimum fishing size is 27 cm. Catches take place year-round, with peaks from January to April.

Whiting is subject to total allowable catches (TACs). French quotas fluctuated over the years. They increased between 2010 to 2013, when they reached a peak at 19,014 tonnes (62% over 2010) and decreased since 2014. For 2016, the French quota was set at 16,975 tonnes, (–19% and –3% over 2015 and 2014, respectively). French quota represents about 40% of the EU TACs. In 2016, three Member States (UK, France, and Ireland) have 87% of all EU catches.

In 2015, the top three ports where whiting was landed and sold were Boulogne-sur Mer, Le Guilvinec and Erquy, representing 23%, 14% and 10%, respectively of the total whiting first-sales value.

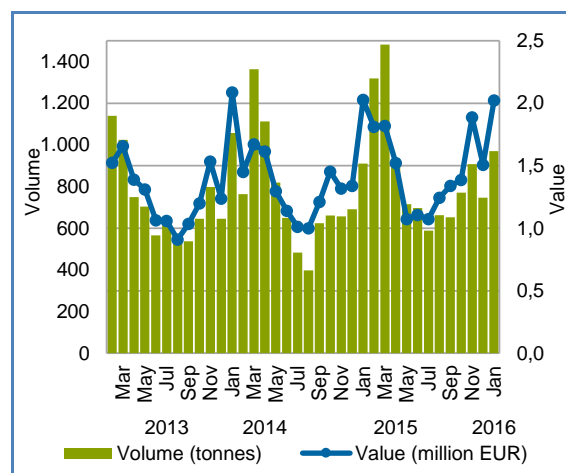
In France, whiting is caught mainly by bottom trawl in mixed-species fisheries, in association with cod, haddock, and plaice. It can also be taken as bycatch by trawlers targeting Norway lobster. Small volumes are also line-caught. The line-caught whiting is much sought after by restaurants and commands a price premium: in Rungis in January 2016, line-caught, 300–500 g whiting sold for 5,80 EUR/kg, i.e. 12% more than the whiting caught by trawlers (5,20 EUR/kg for the fish of the same size).

Whiting is a popular species in France, the fifth-largest finfish species consumed fresh, after cod, salmon, saithe, and trout. It is a fragile species that spoils quickly. But its affordable price and its year-round availability make it popular.

On the French market, whiting is sold mostly fresh. Retailers often present it in fillets without skin.

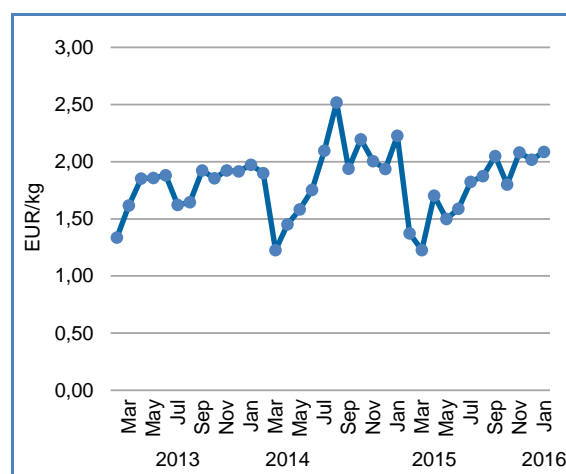
In January 2016, first sales reached approximately EUR 2 million, stable compared with January 2015. Volume was 970 tonnes, 7% higher. Boulogne-sur-Mer was the leading port for whiting landings at 391 tonnes (+9%), followed by Le Guilvinec at 100 tonnes (+14%).

Figure 6. WHITING: FIRST SALES IN FRANCE



Source: EUMOFA (updated 17.03.2016).

Figure 7. WHITING: FIRST-SALES PRICE IN FRANCE



Source: EUMOFA (updated 17.03.2016).

The average unit price of whiting in January 2016 was 2,09 EUR/kg, 6% lower than the same month a year ago but 6% higher than in January 2014. The strong price decreases observed in March 2014 and February–March 2015 are linked to abundant landings.

1.2. NORWAY

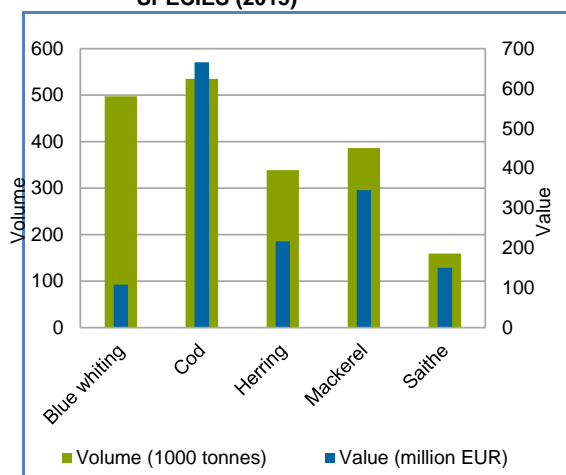
In 2015, there were 11.146 fishermen in Norway of which 83% had it as their main profession. This was a 1% decrease from 2014. Female fishermen accounted for 3% (261) of the total. In the same year, the Norwegian fleet totalled 5.806 vessels, a 1% decrease from the previous year.

The top three counties with the largest number of registered vessels were Nordland (27%), Finnmark (16%), and Troms (14%), which are also the three most northern counties in Norway. The vessel-size distribution in 2015 was: over 28 m (4%), 21–27,99 m (2%), 15–20,99 m (3%), 11–14,99 m (11%), 10–10,99 m (26%), and <10 m (54%).¹⁰

In 2015, Norwegian vessels landed 2,68 million tonnes of fish, crustaceans, and molluscs, a 1% increase over 2014. The landings increased 5% in value, ending at approximately EUR 2 billion. The increase in first-sales value was due to mainly higher first-sales prices for cod (+24%) and higher volume of coldwater shrimp (+55%), compared with 2014.

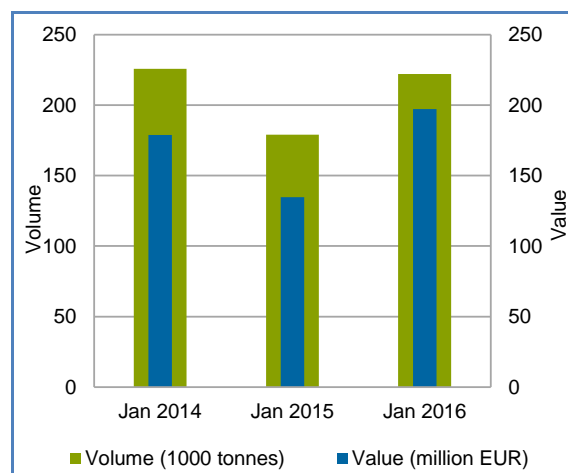
The first-sales value and volume increased 10% and decreased 2%, respectively, compared with 2014. Lower cod quotas in 2015 and 2016 is one of the main causes of the decrease in volume from 2014, while first-sales prices for cod increased in the same period, corresponding to an increased first-sales value from 2015 to 2016. Also, the Norwegian quota for herring in 2016 increased approximately 10% from 2015 with increasing first-sales prices.

Figure 8. **FIRST SALES IN NORWAY BY MAIN SPECIES (2015)**



Source: EUMOFA (updated 17.03.2016).

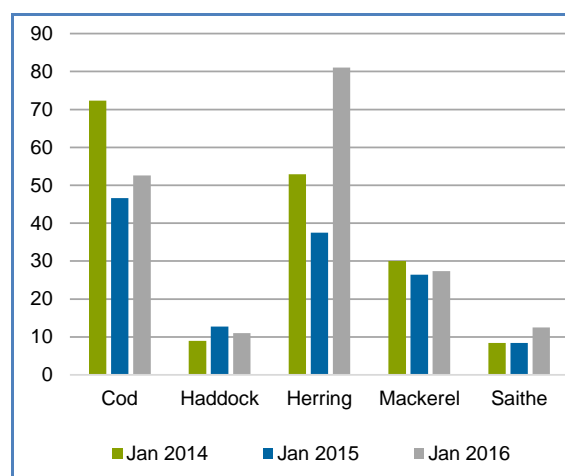
Figure 9. **JANUARY FIRST SALES IN NORWAY**



Source: EUMOFA (updated 17.03.2016).

In January 2016, the top five species, herring, cod, mackerel, saithe, and haddock represented 94% of the total first-sales value and 89% of the volume. Compared with 2015, the top five species increased 33% in first-sales value and 24% in volume.

Figure 10. **JANUARY FIRST SALES IN NORWAY BY MAIN SPECIES (million EUR)**



Source: EUMOFA (updated 17.03.2016).

1.2.1. COD



Cod is found in the Northeast Atlantic from Svalbard/Barents Sea in the north to the English Channel in the south, as well as in the

Northwest Atlantic from Greenland in the north to the Georges Bank in the south. The main gears used by Norwegian vessels to catch cod in 2015 were trawl (30%), net (25%), seine (22%), and longline (16%). In addition, handlines and other smaller scale equipment are used.

The distribution of cod catches by size of Norwegian vessel in 2015 was: over 28 m (50%), 21–27,99 m (10%), 15–20,99 m (6%), 11–14,99 m (15%), and <11 m (19%).

The main season for northeast Arctic cod in Norway occurs from January to April, with a large number of vessels from the entire Norwegian coast participating. In this period, a large part of the stock from the Barents Sea migrates to spawning grounds off the Norwegian coast, mainly caught off Lofoten in the north, but also appearing along the coast down to Haugesund in the south. This cod is commonly known as *skrei*, an Old Norse word for wanderer.

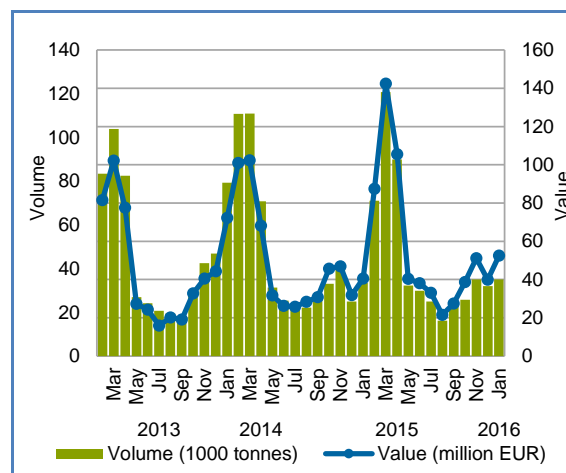
In 2016, the Norwegian quota for northeast Arctic cod is the same as in 2015, at 401.240 tonnes including 21.000 tonnes of coastal cod and 7.000 tonnes for scientific purposes. The stock's reproduction rate is robust and, since 2002, the spawning biomass has remained well over the precautionary level.¹¹

The Norwegian cod quota has decreased from about 450.000 tonnes in 2013 and 2014 to approximately 400.000 tonnes in 2015 and 2016. The EU cod quota has followed a similar decreasing trend. Every year, Norway and the EU exchange fishing quotas for different species, including cod. For 2016 the EU cod quota is set at 146.324 tonnes, 14% lower than previous year.

In 2015, the first-sales value of cod were EUR 672 million, a 10% increase from 2014. The volume showed an opposite trend, ending at 534.675 tonnes (–11%). This was caused by higher first-sales prices in 2015, at 1,26 EUR/kg (+24%).

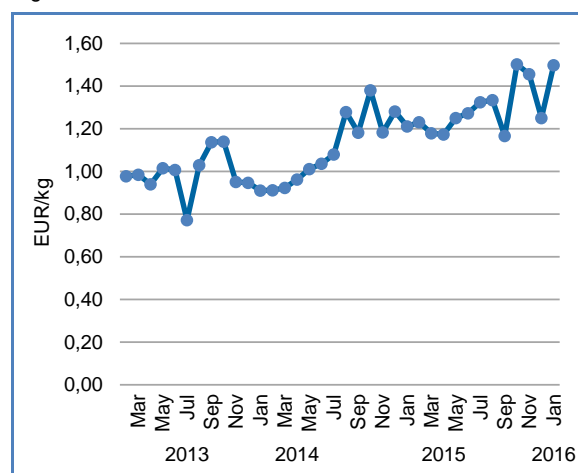
First-sales value of cod in January 2016 was EUR 52,58 million, a 13% increase over the corresponding month the previous year. The volume in the same month increased 6% over January 2015, at 35.112 tonnes. An opposite trend was observed compared with 2014, with the first-sales value and volume decreasing 27% and 56%, respectively.

Figure 11. COD: FIRST SALES IN NORWAY



Source: EUMOFA (updated 17.03.2016).

Figure 12. COD: FIRST-SALES PRICE IN NORWAY



Source: EUMOFA (updated 17.03.2016).

The average unit price in January 2016 was 1,50 EUR/kg, a 7% increase over January 2015. This was also the highest unit price in the period surveyed (February 2013–January 2016).

1.2.2. GREENLAND HALIBUT



Greenland halibut (*Reinhardtius hippoglossoides*) can commonly be found in the eastern part of the Atlantic, in waters

surrounding England to the northern part of Norway, but also around Iceland and east of Greenland. In addition, it appears from Newfoundland to north-western Greenland and in the northern part of the Pacific Ocean.¹²

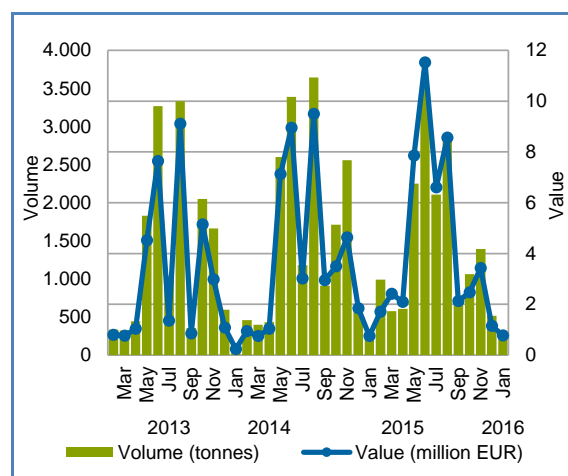
Greenland halibut is similar to Atlantic halibut but one side is darker, commonly the side with the eyes. Normally, the species lives at the bottom, at depths of 200–2.000 m, but it also appears in pelagic waters. The spawning period for the northeast Arctic Greenland halibut, the stock relevant to the Norwegian fleet, occurs from autumn to winter in depths of 500–800 m at 70–75° N (around Bjørnøya).¹³

The Norwegian quota for northeast Arctic Greenland halibut in 2016 is 22.000 tonnes, an increase over the 19.000 tonnes in 2015. The stock level is stable, but the species is very sensitive to a high catch effort. The main gears used to catch Greenland halibut in 2015 by Norwegian vessels were trawl (41%), longline (38%), and gillnet (17%). The distribution of Greenland halibut catches by size of Norwegian vessels in 2015 was: over 28 m (57%), 21–27,99 m (6%), 15–20,99 m (8%), 11–14,99 m (19%), and <11 m (10%).

First-sales value for Greenland halibut in 2015 was EUR 50,67 million, a 14% increase from 2014. The volume ended at 16.795 tonnes (–7%). As for cod, first-sales average price for Greenland halibut also increased from 2014, at 3,02 EUR/kg (+23%).

In January 2016, the first-sales value of Greenland halibut was EUR 769.000 and 264 tonnes. This was a 3% increase in value and a 30% increase in volume over January 2015. Compared with 2014, the first-sales value increased 233%, and the volume increased 106%. This was caused mainly by higher minimum prices given by *Norges Råfisklag* (the Norwegian sales organisation), correlating with higher first-sales prices.

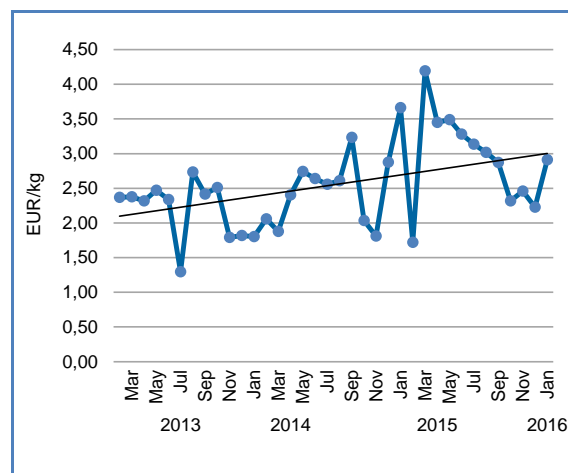
Figure 13. **GREENLAND HALIBUT: FIRST SALES IN NORWAY**



Source: EUMOFA (updated 17.03.2016).

The average unit price of Greenland halibut fluctuated through 2015, from 1,29 EUR/kg to 4,19 EUR/kg. The average unit price in 2015 was 3,02 EUR/kg. The average unit price in January 2016 was 2,91 EUR/kg, a 20% decrease from January 2015.

Figure 14. **GREENLAND HALIBUT: FIRST-SALES PRICE IN NORWAY**



Source: EUMOFA (updated 17.03.2016).

2. Global Supply

EU / Multi-annual plan / Baltic Sea: The European Parliament and the Council have reached an agreement on a multi-annual plan for cod, herring, and sprat in the Baltic Sea. The plan aims to meet maximum sustainable yield (MSY) targets and contains safeguards in case stocks fall below certain thresholds. The plan empowers regional decision-making on technical issues that are best decided at the level of the Baltic Sea basin.¹⁴

EU / Resources / Sardine: The sardine-fishing season has begun on 1 March for the Atlantic fleet and will end on 30 November. Owing to the delicate status of the species, Spanish and Portuguese fishermen have a limit of 14.000 tonnes in 2016, lower than 2015 ceiling of 19.000 tonnes. The Spanish fleet has a monthly limit of 750 tonnes in zones VIIIc and XIa, corresponding to the fishing grounds in the Spanish waters of the Bay of Biscay, Galicia, and Gulf of Cádiz. The catch limits apply to ships using purse-seines. An amount of 175 tonnes, which is not subject to catch and time limits, has been set for vessels using the gear known as *xeito* (a traditional gillnet).¹⁵

FAO / World fisheries: The FAO sub-committee on fish trade, which met in Agadir, Morocco, discussed the FAO rules on food quality and safety, the organization's Code of Conduct for responsible fishing, the impact of aquaculture on trade and consumption, and catch-documentation schemes to combat illegal fishing. Experts at the meeting, attended by representatives of 50 countries, also identified the need to improve working conditions in fishing and aquaculture sectors.¹⁶

Fisheries / Iceland: The total catch of Icelandic vessels was almost 89.000 tonnes in February 2016, 60% less than in February 2015. The decrease was caused mainly by capelin (-88%). On a year-to-year basis (March 2015–February 2016), the total catch decreased 5%, owing mainly to capelin (-42%) and herring (-29%).¹⁷

Resources / Peru: Peruvian landings increased strongly (+36%), up from 3,5 million tonnes in 2014 to 4,8 million tonnes in 2015. The growth can be attributed to a significant increase in landings of the main species anchoveta (Peruvian anchovy), 75% of total landings. Anchovy landings, which are used to produce fishmeal and fish oil, increased 60%, owing to better oceanographic conditions. The main species for human consumption are jumbo flying squid (481.000 tonnes in 2015), Eastern Pacific bonito (89.000 tonnes), common dolphin fish (59.000 tonnes) and South Pacific hake (55.000 tonnes).¹⁸

Resources / Tunisia: Tunisian fishery and aquaculture production decreased 3% in 2015 to 113.000 tonnes. This decline is the result of a 3% decrease in small pelagics landings and a 2.000-tonne decrease in aquaculture production. However, Tunisian exports of fishery and aquaculture products grew 8% in value (EUR 131 million), despite a slight decrease in volume (-2%). This, together with a decrease in imports, resulted in a strengthening of the trade-balance surplus, which reached EUR 84 million.¹⁹

Certification / coldwater shrimp: A Norwegian fishery renewed its Friend of the Sea certification for coldwater shrimp (*Pandalus borealis*). The target stock is fished in the Barents Sea within maximum sustainable yield. Fishing does not interfere with marine protected areas. The trawls do not penetrate the seabed, because the species is caught live on or above the muddy seabed.²⁰

Aquaculture / Latin America: Aquaculture production has grown remarkably in South and Central America, tripling to 78 million tonnes in the past 20 years. The sector employs more than 200.000 people directly and some 500.000 indirectly. Although aquaculture is done at various scales in virtually all countries in the region, Chile, Brazil, Ecuador, and Mexico contribute more than 80% of the regional aquaculture volume. Most aquaculture takes place in Asia, but the highest growth has occurred in South and Central America and Africa.²¹

World trade / Highlights: China is the world's largest producer of fishery products, but in 2015 exports fell 17% and imports fell 3% as the result of an appreciating dollar and falling domestic demand for more expensive species. Norway ranks second in fishery exports, and Vietnam is third. The EU is the largest fish and seafood importer, and in 2015 its purchases abroad increased 6%.²²

World trade: The FAO estimates that world trade in fish products reached EUR 118,5 billion in 2015, a 10% drop from the previous year. The decline was the result of weakening sales in emerging countries, a drop in prices, and the strengthening of the dollar against currencies of the major exporters. The volume of fish and total seafood exports, however, is stable or increasing slightly. The average global consumption in 2015 was 20,1 kg per person, compared with 20,0 kg in 2014. Global fish production totalled 168,6 million tonnes (+2,6%), 90,6 million tonnes from fishing and 78 million tonnes from aquaculture.²³

3. Case study: China's role in seafood trade and processing

3.1. Summary

Over the past 10–12 years, China has become the largest re-processor of seafood in the world, especially for whitefish species like Alaska pollock, cod and haddock, but also salmon. Chinese exports to the EU increased five times between 2002 and 2010 and stabilised at around EUR 1,5 billion from 2010 to 2015. This stagnation contrasts with other suppliers, such as Norway, who are increasing their exports to the EU, suggesting that China is over the peak.

Although China has been and still is a massive re-exporting hub for several large seafood species, domestic demand is increasing and internal consumption is estimated to grow rapidly in the coming years. Several important suppliers to the re-processing trade in China have moved or are planning to move their operations to other countries, including the Baltics and Vietnam, which could cause a significant shift in the global seafood trade.

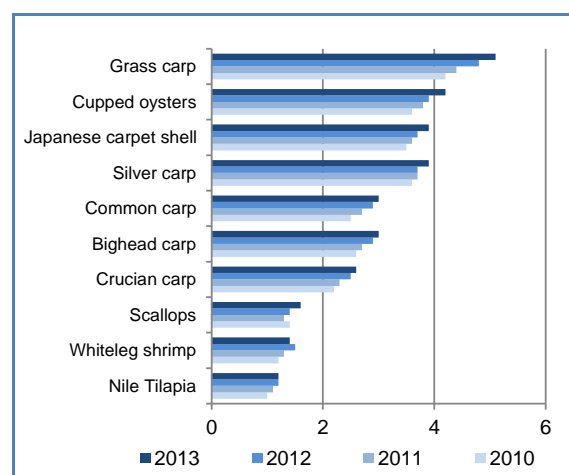
3.2. Production

In 2013, China accounted for 39% of world fishery and aquaculture production. The country was leading in the aquaculture sector (59% of world production) as well as in the fishery sector (18% of world production)²⁴. China was also the largest exporter of seafood in 2015, at EUR 31 billion, and fourth largest importer (EUR 7,8 billion) after the EU (EUR 22,3 billion), USA (EUR 17 billion) and Japan (EUR 12,1 billion).

Chinese aquaculture represented 73% of the total domestic production of seafood (excl. aquatic plants) in 2013, at 42,7 million tonnes, and was one of the fastest growing food sectors, expanding by 8% each year from 1990–2013. For the fishery sector, annual growth is also substantial averaging 4% a year from 1990–2013. In 2013, the total catch was 16 million tonnes. Chinese vessels operate in Asian waters, but also significantly in African waters and at a smaller scale in Central and South America, and Antarctica, making the Chinese fleet the world's largest long-distance fleet. In 2014, the Chinese fleet consisted of almost 200.000 vessels, including approximately 2.500 related to the long distance fleet.

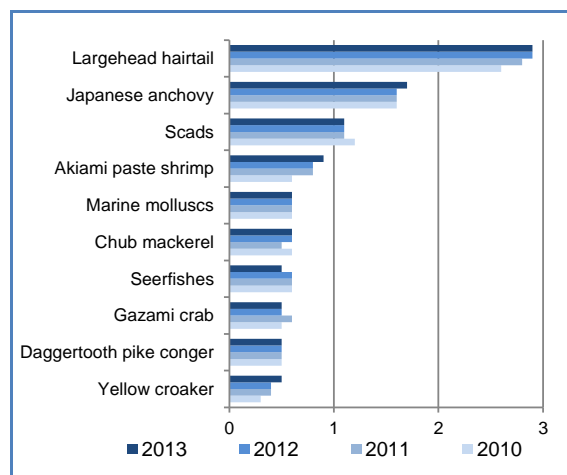
In terms of aquaculture production, China produces mainly carps: over 18 million tonnes in 2013 or 70% of total aquaculture production. Carp production has increased 70% since 2000. China is also a massive producer of aquatic plants, producing 13,56 million tonnes in 2013. Japanese kelp was the largest sort accounting for almost 40% of the produced volume.

Figure 15. TOP 10 AQUACULTURE SPECIES (EXCL. AQUATIC PLANTS) BY VOLUME IN MILLION TONNES



Source: FAO.

Figure 16. TOP 10 FISHERIES SPECIES (EXCL. AQUATIC PLANTS) BY VOLUME IN MILLION TONNES



Source: FAO.

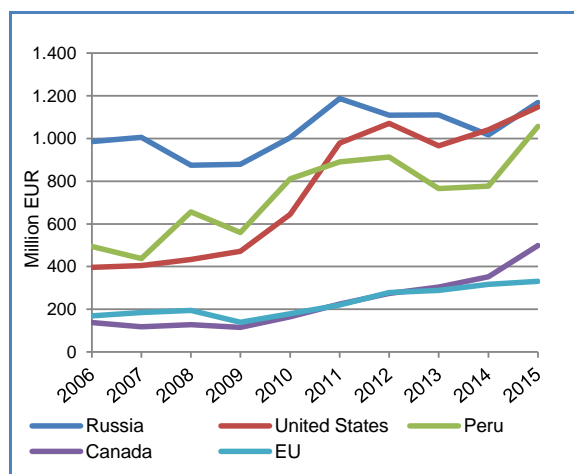
3.3. Trade

China has a huge seafood foreign trade surplus: EUR 11,7 billion in 2015. And this surplus has continued to grow in recent years (+6% in 2014 and +10% in 2015), in spite of rapidly growing domestic demand.

In the figures below, one can see the top suppliers of seafood to China and China's main markets. The EU is the seventh largest supplier of seafood to China and the fourth largest market for Chinese exports. From 2006 to 2015, supplies of seafood from the EU to China

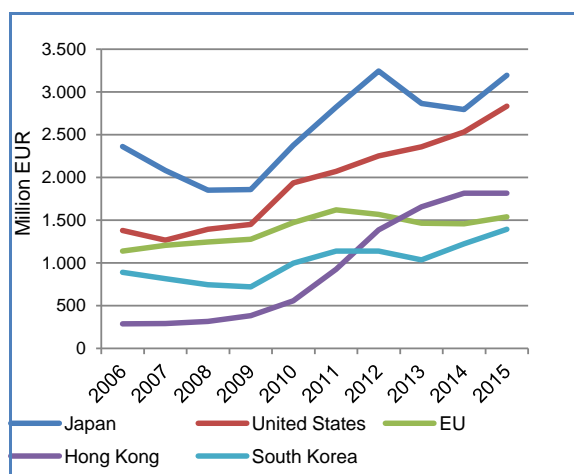
increased 85% in value, while the value of Chinese exports to the EU increased 4%.

Figure 17. **MAIN SUPPLIERS OF SEAFOOD TO CHINA**



Source: EUMOFA/Chinese statistics (GTA).

Figure 18. **MAIN MARKETS FOR CHINESE EXPORT OF SEAFOOD**



Source: EUMOFA/Chinese statistics (GTA).

3.3.1. Import

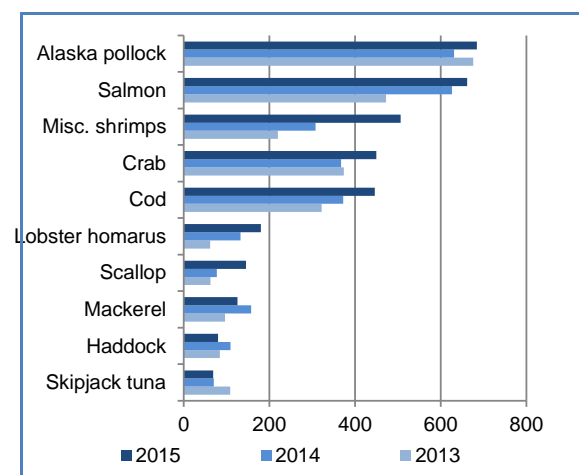
In 2015, the top three imported seafood species by value to China were Alaska pollock, salmon and miscellaneous shrimps, coming mainly from Russia, USA and Ecuador, respectively. Miscellaneous shrimps imported to China consist primarily of frozen, whole white-leg shrimp (*Litopenaeus vannamei*/Pacific white shrimp).

As well as being the largest aquaculture producer and fishery nation in the world, China is the main re-processing nation. All the large players in the seafood industry have, and still are, utilising re-processing in China where the production cost is significantly lower than in most western countries. The three main species

imported to China for re-processing are Alaska pollock, cod and salmon. In addition to this, imports of fishmeal constitute a large share of Chinese seafood imports. Fishmeal is mainly from Peru, and is used as feed for the massive aquaculture production in China.

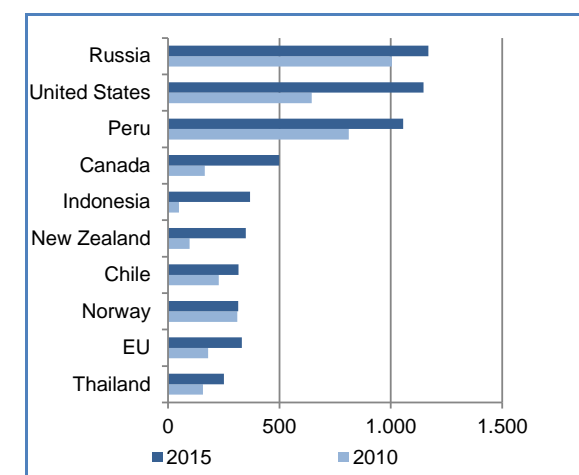
The majority of the seafood products imported by China are frozen, whole/headed and gutted (HG). A large share of this volume is processed, mainly to fillets, and re-exported as frozen products to the global market. From 2010 to 2015, the total import volume of seafood saw a 13% increase, while the proportion of products imported as frozen whole/HG saw a 3% decline. This resulted in a decrease in import share for frozen whole/HG products from 57% to 49%.

Figure 19. **CHINESE IMPORT OF SEAFOOD (EXCL. AQUATIC PLANTS) BY MAIN SPECIES IN MILLION EURO**

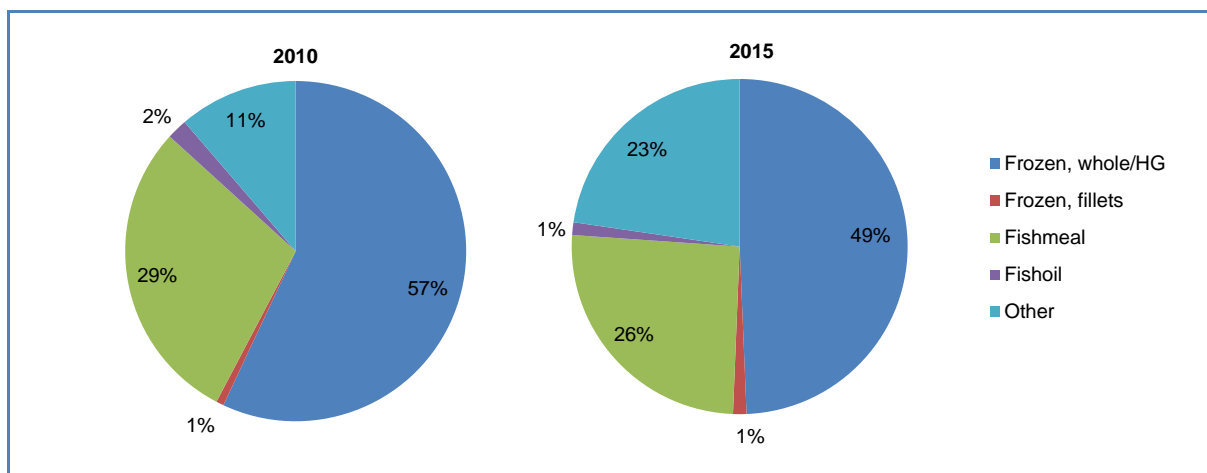


Source: EUMOFA/Chinese statistics (GTA).

Figure 20. **CHINESE IMPORT OF SEAFOOD (EXCL. AQUATIC PLANTS) BY MAIN PARTNER COUNTRY IN MILLION EURO**



Source: EUMOFA/Chinese statistics (GTA).

Figure 21. **CHINESE IMPORT VOLUME OF SEAFOOD (EXCL. AQUATIC PLANTS) BY PRESENTATION AND PRESERVATION**

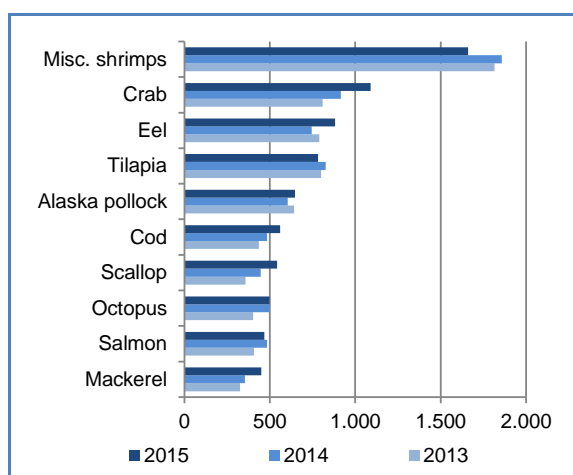
Source: EUMOFA/Chinese statistics (GTA).

The other category in figure 21 consists mainly of frozen cuttlefish and squid, whole, prepared or preserved from Peru, USA and Taiwan.

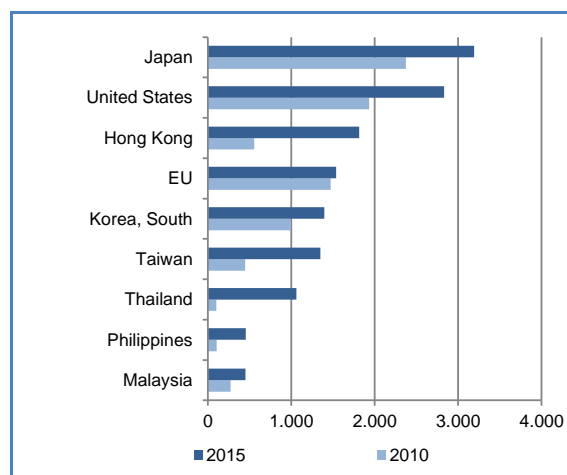
3.3.2. Export

In 2015, the top three species by value exported from China were miscellaneous shrimps, crab and eel, with the main markets being Japan, USA, Hong Kong and the EU.

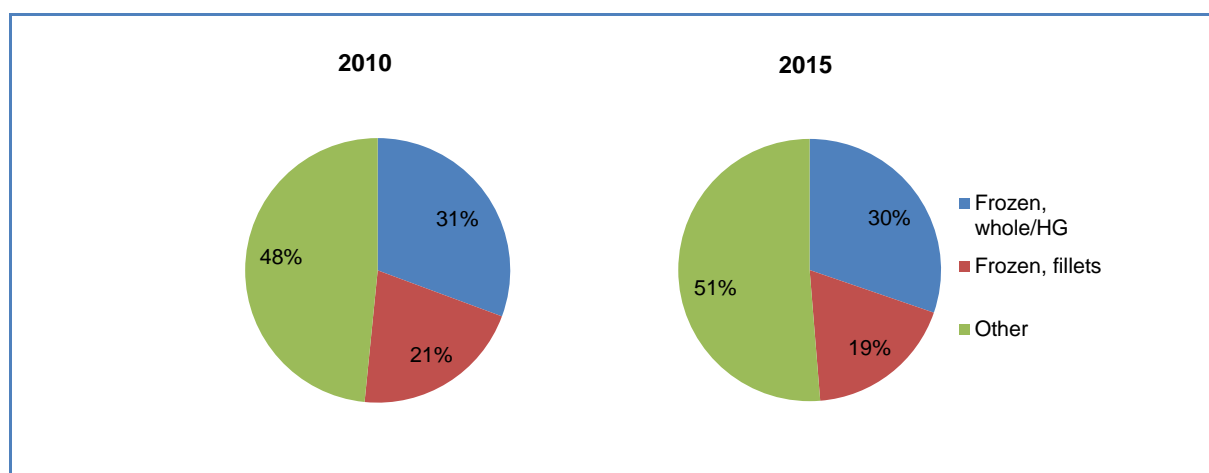
From 2010–2015 Chinese seafood export volumes (excl. aquatic plants) increased 10%, boosted by several products, including whole/HG products, although the imported share of this product decreased slightly in the period (31% to 30%). In the same time period, the export share of frozen fillets decreased from 21% to 19%. The stagnation of the volume imported as processed products corresponds well to the declining share of whole/HG (raw material) in the imports.

Figure 22. **CHINESE EXPORT OF SEAFOOD (EXCL. AQUATIC PLANTS) BY MAIN SPECIES IN MILLION EURO**

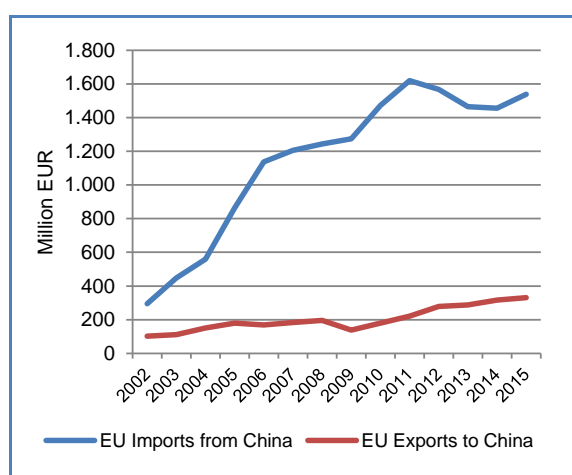
Source: EUMOFA/Chinese statistics (GTA).

Figure 23. **CHINESE EXPORT OF SEAFOOD (EXCL. AQUATIC PLANTS) BY MAIN PARTNER COUNTRY IN MILLION EURO**

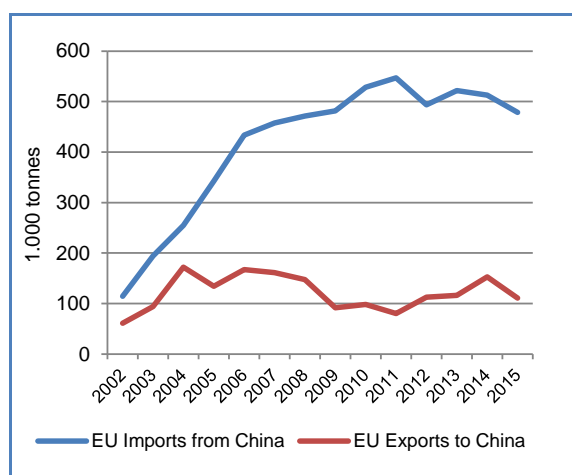
Source: EUMOFA/Chinese statistics (GTA).

Figure 24. **CHINESE EXPORT VOLUME OF SEAFOOD (EXCL. AQUATIC PLANTS) BY PRESENTATION AND PRESERVATION**

Source: EUMOFA/Chinese statistics (GTA).

Figure 25. **SEAFOOD TRADE BETWEEN THE EU AND CHINA IN VALUE**

Source: EUMOFA.

Figure 26. **SEAFOOD TRADE BETWEEN THE EU AND CHINA IN VOLUME**

Source: EUMOFA.

3.3.3. China and the EU

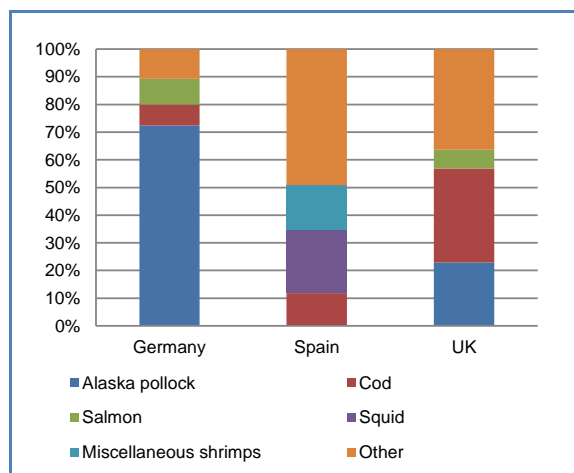
Of the total EU export of seafood (excl. aquatic plants) in 2015, exports to China accounted for EUR 331 million with a volume of 110.861 tonnes. This made China the 3rd largest market - by value - for the EU, behind USA and Norway. Of the total volume exported from the EU to China in 2014, approximately 67% or 73.705 tonnes were frozen whole/HG products. The percentage has been stable at around 70–80% in recent years.

After a strong increase in exports from the EU to China in 2004, volumes have ranged between 100.000 and 150.000 tonnes. The export value has seen a boost in recent years, mainly because of higher exported volumes of salmon, and blue whiting. The main reason for the upswing in exports of salmon from the EU to China after 2010 was the reduction in exports of fresh Norwegian salmon to China.

In 2015, Denmark, the UK, and Spain were the main EU exporters to China, together accounting for 71% and 54% of the total value and volume, respectively.

In 2015, the EU imported seafood (excl. aquatic plants) from China worth EUR 1,54 billion, five times more than it exported to China, with a volume of 480.727 tonnes. This made China the 2nd most important supplier of seafood – by value to the EU in 2014, behind Norway. Of the total volume imported to the EU from China in 2015, 64% or 308.870 tonnes were frozen fillets. In recent years, the proportion of this product category imported to the EU from China has been stable at 60–66%.

The main EU importers of seafood from China in 2015 were Germany, followed by Spain and the UK. The three countries were, and still are, mainly importing for direct consumption, and accounted for 56% of the total value and volume. Alaska pollock, cod and salmon were the top three species imported by the EU, accounting for approximately 50% of the total value and 53% of the total volume.

Figure 27. **MAIN EU MARKETS AND TOP SPECIES BY VOLUME**

Source: EUMOFA.

3.4. Processing in China – losing ground?

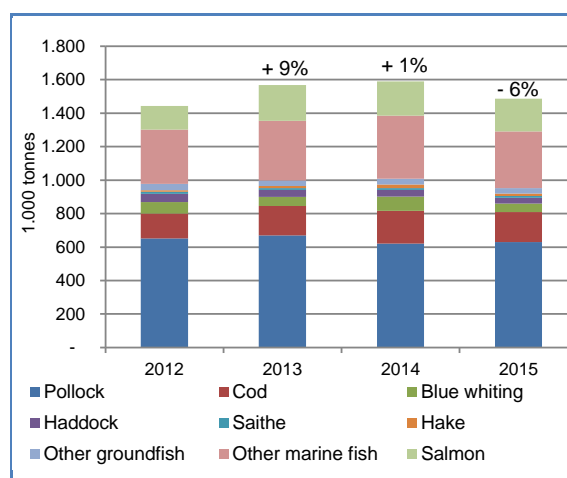
Russian frozen HG Alaska pollock, represents a major part of the Chinese imports of frozen raw material being thawed, filleted and processed, and re-exported. This trade is now well established partly because frozen HG is the main product form produced by the Russian pollock-fishing fleet. Only some 15–20% of the pollock is frozen whole round for African markets, and less than 10% of the total catch volume is processed on-board to fillets and blocks. The rest of the catch is turned into frozen HG, the raw material for processing into double-frozen fillet- and block-products.

In 2015 and the first quarter of 2016, the value chain for Alaska pollock products, of which a majority goes to Germany and the rest of the EU market, has been disrupted by processing companies both in Europe and China, facing financial problems. This has also ended in bankruptcies, and banks are being far more cautious about giving credit lines to Chinese processors. Russian players are therefore starting to look for alternatives to China for processing pollock. In the longer term, ambitions in Russia include both modernising the fleet, including factory vessels for on-board processing, and establishing Russian plants in order to move processing activity from China to Russia.

Although, to a lower extent than for pollock, similar trends can be seen in other groundfish species and salmon

concerning declining activity in re-processing for re-export.

For the trade of shrimp, the trend is somewhat different. While imports of frozen whole shrimp increased from 2012 to 2015, the export of both processed and whole shrimp has decreased in the same period. However, China's trade of shrimp predominantly consists of exports of domestically produced tropical shrimp, while imports, which are less significant, are probably being used for both domestic consumption and for some re-processing.

Figure 28. **CHINESE IMPORTS OF FROZEN WHOLE/HG GROUND FISH AND SALMON IN TONNES PRODUCT WEIGHT**

Source: EUMOFA/Chinese statistics (GTA).

3.5. Domestic consumption in China

From 2008 to 2013, seafood consumption (excl. aquatic plants) rose from 28,9 kg/capita to 33,85 kg/capita. Freshwater fish, which is the largest commodity group consumed by the Chinese, includes tilapia and different species of carp.

In the same time period, the share of domestic sales of fresh fish and seafood (incl. aquatic plants) in the foodservice sector in China saw a slight increase every year, except 2009-2010, while the trend for retailers has been the opposite. In 2013, foodservices accounted for 30% of the total end-consumer sales in China, while retailers saw a market share of 55%.

Table 2. **SEAFOOD CONSUMPTION (EXCL. AQUATIC PLANTS) IN CHINA PER CAPITA IN KG**

COMMODITY GROUP	2008	2009	2010	2011	2012	2013
Freshwater fish	13,4	14,1	14,97	15,48	15,96	15,87
Molluscs	6,94	7,67	7,96	8,1	8,9	8,85
Crustaceans	3,04	3,45	3,4	3,51	3,93	3,9
Demersal fish	3,51	3,26	3,33	3,41	3,42	3,4
Marine fish, other	0,76	1,29	1,38	1,35	1,45	1,44
Pelagic fish	1,25	0,86	0,58	0,4	0,39	0,39
Total	28,9	30,63	31,62	32,25	34,05	33,85

Source: FAO.

Table 3. **DISTRIBUTION OF FRESH FISH AND SEAFOOD SALES IN CHINA**

COMMODITY GROUP	2008	2009	2010	2011	2012	2013
Retail	57,5 %	56,4 %	56,4 %	55,6 %	55,0 %	54,8 %
Food service	27,5 %	28,6 %	28,6 %	29,4 %	30,0 %	30,2 %
Institutional	15,0 %	15,0 %	15,0 %	15,0 %	15,0 %	15,0 %
Total	100%	100%	100%	100%	100%	100%

Source: Euromonitor International, 2014.

3.6. Future aspects

With wages increasing in China, certain foreign companies have been and are continuing to look to other nations, including the Baltic countries and several Asian countries, where seafood could be processed in the future. Vietnam is one of the countries, in which several large scale companies in the pollock sector claim to be interested. The main thought behind the strategy is the shift in China from being a re-processing nation to becoming a consumption-driven nation.

Vietnam is not at this stage, yet. Also, Vietnam recently signed a Free Trade Agreement with the EU and another with the Eurasian Economic Union (EAEU), a grouping that includes Russia.

With China developing into a consumption-driven nation, there is a strong demand for food, and particular seafood. The country accounted for about 35% of global seafood consumption in 2014, a figure that is forecast to grow to 38% in 2030²⁵. This suggests that aquaculture will continue to grow strongly and that the Chinese fleet, where a significant part of the vessels are old and outdated, will be renewed.

4. Consumption

FRESH SOLE



Spain is the largest market for common sole (*Solea solea*) in Europe. The species is also consumed in Italy, the Netherlands, France, Belgium and, to a lesser extent, in Germany and the UK. In the retail segment, the fish is sold mainly fresh (whole or fillets). Consumers' preferred weight is about 350 g. Larger sizes (400 - 600 g) are bought by the hotel and restaurant sector.

In **France**, the consumption of sole has some strong particularities on the regional level (consumed mostly in the North, the West, and Paris), on income level (consumed mostly by the upper-income category), and on age level (purchased mostly by consumers over 50 and overwhelmingly by consumers over 65). Approximately half of fresh sole is purchased in supermarkets, and the other half is purchased through other channels (market stands, fishmongers), where they fetch a higher price (4,60 EUR/kg higher on average in 2014).²⁶ The price also varies considerably according to

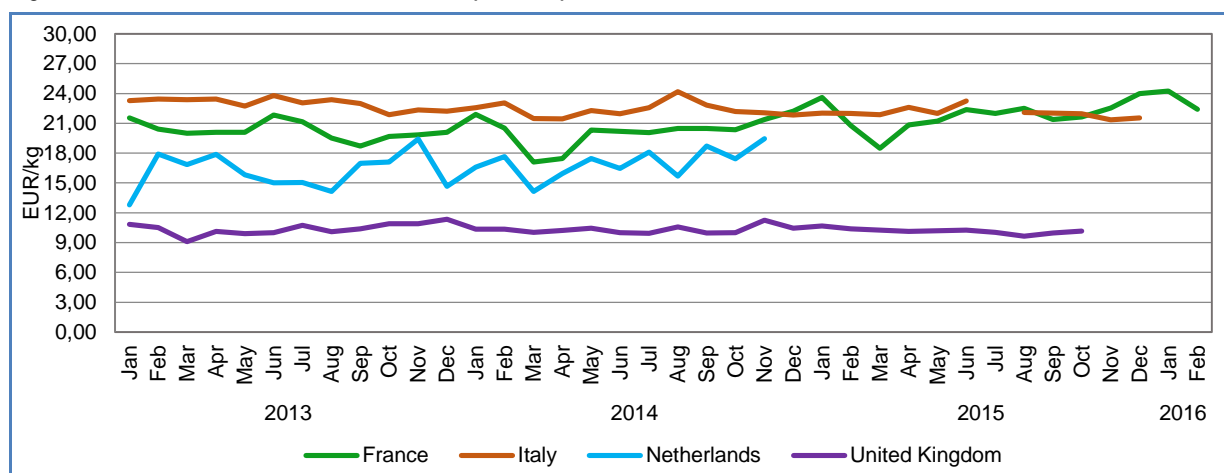
size, from 14,50 EUR/kg to 22,62 EUR/kg on average at the wholesale level. In January 2016, retail prices of fresh sole fluctuated significantly, averaging 20,88 EUR/kg, and experiencing seasonal variability in the period January 2013–February 2016. In February–March, prices tend to decrease. They dropped to 17,11 EUR/kg in March 2014. In winter and summer, prices tend to increase, with peaks mainly in January, owing to supply availability. In the past 12 months, the average retail price reached 21,97 EUR/kg, an 8% increase over both 2013 and 2014. In January 2016, the highest retail price, 24,23 EUR/kg, was registered.

In **Italy**, the retail price of fresh sole varied between 21,36 EUR/kg and 24,17 EUR/kg, registering an average of 22,48 EUR/kg in the period January 2013–December 2015. Since autumn 2013, a decreasing trend in prices has been observed, resulting in a 3% average price drop in 2014 from 2013. However, in August 2014, the price peaked at 24,17 EUR/kg, increasing 3% over the same month a year earlier and reaching its highest value for the previous three years. In 2015, the average retail price was 22,07 EUR/kg, a 1% decrease from 2014.

In the **Netherlands**, retail prices of fresh sole exhibited considerable variations averaging at 16,57 EUR/kg during January 2013–November 2014. In January 2013, the price was 12,79 EUR/kg, the lowest for the period surveyed and 23% lower compared with January the following year. In November, the prices peaked both in 2013 and 2014 reaching 19,43 EUR/kg and 19,46 EUR/kg, respectively.

In the **UK**, the retail price of fresh sole remained relatively stable, averaging 10,30 EUR/kg in January 2013–October 2015. In 2013, the price registered its lowest and highest values, 9,08 EUR/kg and 11,35 EUR/kg, respectively. In the first ten months of 2015, the average retail price reached 10,16 EUR/kg, the same as in 2014, and a 1% decrease from 2013.

Figure 29. RETAIL PRICES OF FRESH SOLE (EUR/KG)



Source: EUMOFA (updated 17.03.2016).

FRESH HAKE



European hake (*Merluccius merluccius*) is consumed mainly in Spain, France, Italy and the UK. On the market, hake is usually sold fresh, but is also sold frozen, dried, salted, and canned. The fish is typically sold fresh, whole, gutted, as well as fillets and steaks, to both retail outlets and the food service sector.

In **France**, the retail price of fresh hake, whole (less than 1 kg) fluctuated significantly between 8,45 EUR/kg and 13,31 EUR/kg, registering an average of 10,43 EUR/kg during January 2013–February 2016. In January–March, an increase in prices is observed, caused by reduced supply. In January 2016, the price peaked at 13,31 EUR/kg, the highest for the period. In March 2015–February 2016, the average price reached 10,81 EUR/kg, a 7% and 9% increase over the same reference period in 2014 and 2015, respectively.

In **Italy**, the retail prices of fresh hake fluctuated, following an increasing trend with an average 15,82 EUR/kg during January 2013–December 2015. In the second half of 2015, prices noticeably increased and in November 2015 the price peaked to 18,80 EUR/kg, a 16% and 24% increase over the same month in 2014 and 2013, respectively. Overall in 2015, the average retail price was 17,02 EUR/kg, 9% and 13% higher compared with 2014 and 2013, respectively.

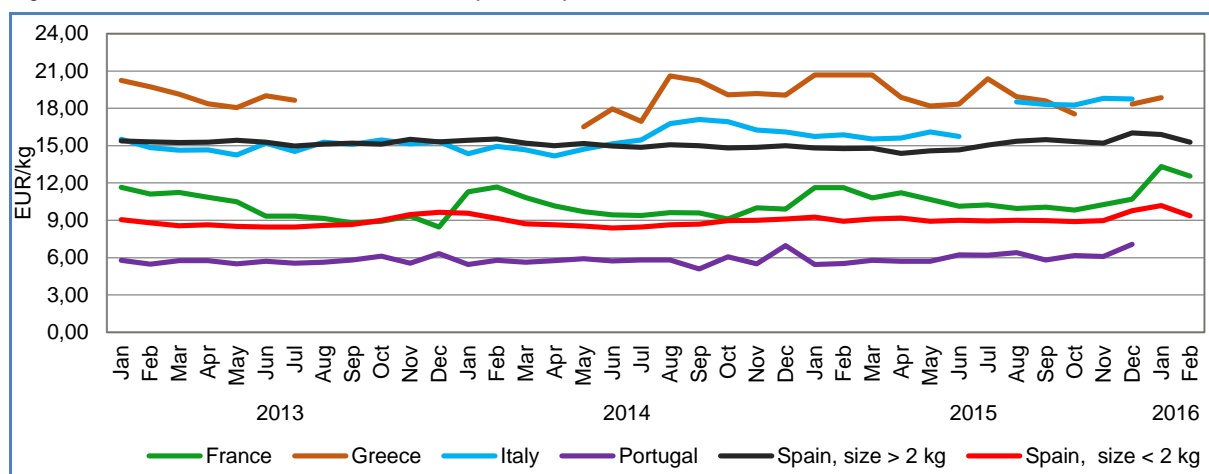
In **Greece**, the retail price of fresh European hake exhibited substantial variations relative to January 2013–January 2016, averaging 18,99 EUR/kg and registering the highest prices among the Member States surveyed. In February–March 2015, the price reached 20,69 EUR/kg, the highest for the previous three years and 6% higher than the same period in 2013. In February 2015–January 2016, the average retail price was 19,04 EUR/kg.

In **Portugal**, the retail price of fresh hake varied between 5,10 EUR/kg and 7,08 EUR/kg, averaging 5,86 EUR/kg in the period January 2013–December 2015. In December, a peak in prices is observed and in December 2015, the highest price, 7,08 EUR/kg, was registered for the period surveyed. It was a 12% increase over two previous years. In 2015, the average retail price was 6,02 EUR/kg, a 4% and 5% increase over 2014 and 2013, respectively.

In **Spain**, the average retail price of larger hake is 69% higher than for smaller specimens. Prices of European hake larger than 2 kg remained relatively stable at an average of 15,15 EUR/kg in January 2013–February 2016. In the period June 2014–June 2015, a decreasing trend was observed, and in April 2015, the lowest price, 14,37 EUR/kg, was registered. Since then, prices increased slightly, and in December 2015, the price peaked at 16,04 EUR/kg, increasing 7% over December 2014 and registering the highest value for the period surveyed. In March 2015–February 2016, the average retail price was 15,17 EUR/kg, a 1% increase and 1% decrease compared with the same reference period in 2014 and 2013, respectively.

The retail price of smaller European hake (less than 2 kg, pescadilla in Spanish) also varied little, averaging 8,95 EUR/kg during the past three years. The highest price registered was 10,20 EUR/kg in January 2016, increasing 10% over January the year before. In the past 12 months, the average retail price reached 9,19 EUR/kg, 5% and 3% increases over the same reference period in 2014 and 2013, respectively.

Figure 30. RETAIL PRICES OF FRESH HAKE (EUR/KG)

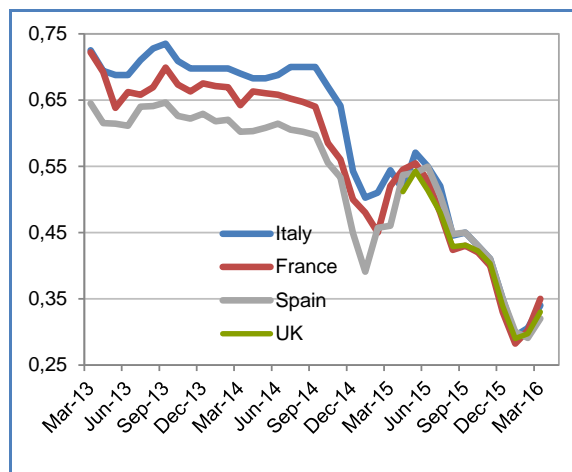


Source: EUMOFA (updated 17.03.2016).

5. Macroeconomic context

5.1. MARINE FUEL

Figure 31. **AVERAGE PRICE OF MARINE DIESEL IN ITALY, FRANCE, SPAIN AND THE UK (EUR/LITRE)**



Source: Chamber of Commerce of Forlì-Cesena, Italy; DPMA, France; Spain; ARVI and MABUX (May–November 2015).

In March 2016, the fuel price in the French ports of Lorient and Boulogne was 0,35 EUR/litre, 16% higher than in February 2016, and 33% lower than March 2015.

In the Italian ports of Ancona and Livorno, the average price of marine fuel in March 2016 was 0,34 EUR/litre. It increased 11% from the previous month and was 37% less than March 2015.

The price of marine fuel in the ports of A Coruña and Vigo, Spain, reached on average 0,32 EUR/litre in March 2016. It increased 10% from February 2016 and was 30% less than March 2015.

The fuel price observed in the UK ports of Grimsby and Aberdeen was 0,33 EUR/litre and increased 11% from the previous month.

5.2. FOOD AND FISH PRICES

Annual EU inflation was –0,2% in February 2016, down from 0,3% in January. In February 2016, the lowest negative annual rates were registered in Cyprus (–2,2%) and Romania (–2,1%), while the highest annual rates were observed in Belgium (+1,1%), Austria and Malta (both +1,0%).

Compared with January 2016, annual inflation fell in 20 Member States, remained stable in 1, and rose in 6.

In February 2016, prices of food and non-alcoholic beverages increased slightly and prices of fish and seafood decreased 1,3% from the previous month (January 2016).

Since February 2014, food prices decreased 0,7% and fish prices increased 2,1%.

Table 4. **HARMONISED INDEX OF CONSUMER PRICES IN THE EU (2015 = 100)**

HICP	Feb 2014	Feb 2015	Jan 2016	Feb 2016 ²⁷
Food and non-alcoholic beverages	100,78	100,23	99,99	100,08
Fish and seafood	99,78	99,80	103,30	101,91

Source: Eurostat.

5.3. EXCHANGE RATES

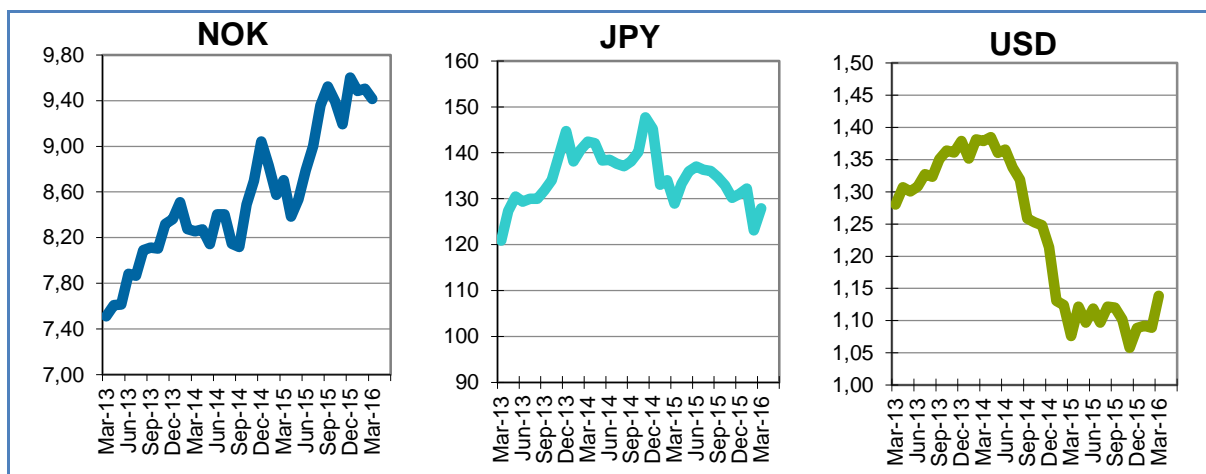
In March 2016, the euro depreciated against the Norwegian krone (–0,9%) from February 2016. It appreciated against the US dollar (+4,6%) and the Japanese yen (+3,9%). For the past six months, the euro has fluctuated around 1,09 against the US dollar. Compared with a year earlier (March 2015), the euro has appreciated 8,2% and 5,8% against the Norwegian krone and US dollar, respectively, and depreciated 0,8% against the Japanese yen.

Table 5. **THE EURO EXCHANGE RATES AGAINST THREE SELECTED CURRENCIES**

Currency	Mar 2014	Mar 2015	Feb 2016	Mar 2016
NOK	8,2550	8,7035	9,5043	9,4145
JPY	142,42	128,95	123,14	127,90
USD	1,3788	1,0759	1,0888	1,1385

Source: European Central Bank.

Figure 32. TREND OF EURO EXCHANGE RATES



Source: European Central Bank.

5.4. EUROPEAN UNION ECONOMIC OVERVIEW

In October–December 2015, the EU GDP increased slightly at a quarterly growth rate of 0,4%. The annual GDP growth rate decreased to 1,8%, down from 1,9% in July–September 2015.

The highest quarterly GDP growth rate in the EU was registered in Sweden: 1,3%, a 1% increase over July–

September 2015. An increase was also observed in Estonia, from 0,4% in July–September 2015 to 1,2% in the last quarter of the year. Greece was the only MS to record a negative GDP (–0,8%); however, it was up from –1,7% in July–September 2015.

The annual GDP growth rate was the highest in the Czech Republic and Slovakia (both 4,0%), Poland 3,7%, and Spain 3,5%.²⁸

EUMOFA Monthly Highlights is published by the Directorate–General for Maritime Affairs and Fisheries of the European Commission.

Editor: European Commission, Directorate–General for Maritime Affairs and Fisheries, Director–General.

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KL–AK–16–004–EN–N

ISSN 2314-9671

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THIS REPORT HAS BEEN COMPILED USING EUMOFA DATA AND THE FOLLOWING SOURCES:

First sales: EUMOFA. Data analysed refers to the month of January 2016. Puertos del estado, Spain.

Global supply: European Commission, Directorate-General for Maritime Affairs and Fisheries (DG MARE); FAO; Friend of the Sea; Statistics Iceland; fis.com; <http://www.produce.gob.pe>; <http://www.lapresse.tn>; <http://www.efegagro.com>.

Case study: EUMOFA; FAO; Euromonitor International; GTA.

Consumption: EUMOFA; FranceAgriMer.

Macroeconomic context: EUROSTAT; ECB, Chamber of Commerce of Forlì-Cesena, Italy; DPMA, France; ARVI, Spain; MABUX.

The underlying first-sales data is in a separate Annex available on the EUMOFA website. Analyses are made at aggregated (main commercial species) level.

The European Market Observatory for Fisheries and Aquaculture Products (EUMOFA) was developed by the European Commission, representing one of the tools of the new Market Policy in the framework of the reform of the Common Fisheries Policy. [Regulation (EU) No 1379/2013 art. 42].

As a **market intelligence tool**, EUMOFA provides regular weekly prices, monthly market trends, and annual

structural data along the supply chain.

The database is based on data provided and validated by Member States and European institutions. It is available in 24 languages.

EUMOFA website is publicly available at the following address: www.eumofa.eu.

6. Endnotes

¹ Bivalves and other molluscs and aquatic invertebrates, cephalopods, crustaceans, flatfish, freshwater fish, groundfish, other marine fish, salmonids, small pelagics, and tuna and tuna-like species.

² http://www.puertos.es/en-us/estadisticas/Pages/estadistica_mensual.aspx

³ <http://www.developpement-durable.gouv.fr/IMG/chiffres-cles-2014-V7.pdf>

⁴ <http://www.fao.org/fishery/species/3516/en>

⁵ <http://www.imr.no/genimpact/filarkiv/2007/07/scallops.pdf/en>

⁶ <http://www.fao.org/wairdocs/tan/x5923e/x5923e01.htm>

⁷ <http://www.franceagrimer.fr/content/download/40102/372577/file/STA-MER-CONSO%202014-sept2015.pdf>

⁸ <http://www.normandiefraicheurmer.fr/la-peche-en-normandie/entry-27-coquille-st-jacques.html>

⁹ <http://www.fao.org/fishery/species/3022/en>

¹⁰ <http://www.fiskeridir.no/Statistikk/Statistikkbank>

¹¹

[http://www.imr.no/radgivning/kvoterad/kvoterad for 2016/kvoterad fra ices for arktiske bestander for 2016/nordostarktisk to rsk/nb-no](http://www.imr.no/radgivning/kvoterad/kvoterad%20for%202016/kvoterad%20fra%20ices%20for%20arktiske%20bestander%20for%202016/nordostarktisk%20to%20rsk/nb-no)

¹² <http://www.fao.org/fishery/species/2544/en>

¹³ <http://www.imr.no/fishexchange/faktaark/blakveite/nb-no>

¹⁴ http://ec.europa.eu/newsroom/mare/itemlongdetail.cfm?subweb=343&lang=en&item_id=29772 ;
[http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/577969/EPRS_BRI\(2016\)577969_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/577969/EPRS_BRI(2016)577969_EN.pdf)

¹⁵ <https://www.boe.es/boe/dias/2016/02/27/pdfs/BOE-A-2016-2006.pdf>

¹⁶ <http://www.efeaagro.com/noticia/la-fao-defiende-una-mejora-de-las-condiciones-laborales-en-la-pesca-mundial/>

¹⁷ <http://www.statice.is/publications/news-archive/fisheries/icelandic-fish-catch-in-february-2016/>

¹⁸ <http://www.produce.gob.pe/images/stories/Repositorio/boletines/2015/12/pesca.pdf>

¹⁹ <http://www.lapresse.tn/06012016/108646/baisse-de-la-production-en-2015.html>

²⁰ <http://www.friendofthesea.org/news-doc.asp?CAT=1&ID=934&page=>

²¹ <http://www.fao.org/news/story/en/item/384011/icode/>

²² <http://www.fao.org/news/story/en/item/384011/icode/>; EUMOFA.

²³ <http://www.fao.org/news/story/en/item/384011/icode/>

²⁴ EUMOFA – The EU fish market, 2015 / FAO.

²⁵ Fish to 2030: prospects for fisheries and aquaculture (The World Bank).

²⁶ <http://www.franceagrimer.fr/content/download/40102/372577/file/STA-MER-CONSO%202014-sept2015.pdf>

²⁷ Estimated provisional.

²⁸ <http://ec.europa.eu/eurostat/documents/3217494/7208865/KS-BJ-16-003-EN-N.pdf/67f42b93-e2f8-4cae-a283-f9e389438d03>