

In this issue

In the observed 36-month period (February 2017–January 2020), the average first-sales price of deep-water rose shrimp was highest in Portugal (15,30 EUR/kg). This was 241% higher than in Italy (4,48 EUR/kg), and 44% higher than in Spain (10,64 EUR/kg). The first-sales price of caramote prawn was 23,85 EUR/kg in Spain, 56% more than in Italy where it was 15,31 EUR/kg.

The price of frozen Southern hake from Chile reached 4,51 EUR/kg in week 8 (the third week of February), which was 10% higher than a year earlier. However, the recorded volume of 236 tonnes in the same week was 8% down from the previous year.

Over the past three years, Spain has shown the highest levels of household consumption of fresh sardine compared to France and Portugal.

In 2019, the EU imported 127.000 tonnes of fisheries and aquaculture products from Turkey, the majority of which were the three main aquaculture species (seabream, seabass and trout), followed by anchovies from the fisheries sector.

Global catches of tropical (*Penaeus*) shrimp amounted to 937.221 tonnes in 2017. The main species caught were giant tiger prawn (25% of the total) mostly caught by India, and fleshy prawn (19%) mostly caught by China.

On 29 April at 10:30 am CEST, EUMOFA is hosting a webinar: “Practical applications of EUMOFA’s international trade database on fisheries and aquaculture products”. The webinar is free, but a registration is required [here](#).



Analyses on the impacts of the Covid-19 crisis are developed weekly by EUMOFA and can be accessed [here](#).

Contents



First sales in Europe

Deep-water rose shrimp (Italy, Portugal, Spain) and caramote prawn (Italy, Spain)



Extra-EU imports

Weekly average EU import prices of selected products from selected countries of origin



Consumption

Fresh sardine in France, Portugal and Spain



Case studies

Fisheries and aquaculture in Turkey
Tropical shrimp in the EU market



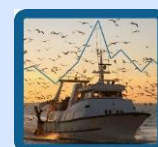
Global highlights

EUMOFA webinar on trade data,
29 April 2020 – 10.30 AM



Macroeconomic context

Marine fuel, consumer prices, exchange rates



Find all data, information, and more at:
www.eumofa.eu

Follow us on Twitter:
[@EU_MARE](https://twitter.com/EU_MARE) [#EUMOFA](https://twitter.com/EUMOFA)

1. First sales in Europe

In **January 2020**, 13 EU Member States (MS)¹ and Norway reported first-sales data for 10 commodity groups². First-sales data are based on both sales notes and data collected from auction markets.

1.1. In January 2020

Increases in value and volume: first sales grew in Italy. The increase was due to an increase in the supply of clam and deep-water rose shrimp.

Decreases in value and volume: first sales declined in Denmark, France, Latvia, Poland, Portugal, Spain, Sweden, and the UK. For Sweden, the drop was due to a decrease in the supply of sprat and herring. In Portugal, first sales decreased due to reduced supplies of anchovy.

Table 1. **JANUARY OVERVIEW OF FIRST SALES FROM THE REPORTING COUNTRIES**
(volume in tonnes and value in million EUR)*

Country	January 2018		January 2019		January 2020		Change from January 2019	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Belgium	1.724	5,79	1.466	5,08	1.322	5,74	-10%	13%
Denmark	24.388	29,34	28.383	31,69	16.750	27,73	-41%	-12%
Estonia	5.818	1,09	6.209	1,09	5.669	1,86	-9%	70%
France	14.569	54,71	15.648	53,02	14.540	51,02	-7%	-4%
Italy*	5.861	22,19	5.149	22,01	6.251	24,86	21%	13%
Latvia	5.100	0,91	4.757	0,82	3.819	0,70	-20%	-16%
Lithuania	170	0,20	125	0,14	134	0,11	8%	-20%
Netherlands	12.162	24,25	11.352	23,32	12.467	22,31	10%	-4%
Norway	206.341	181,01	257.373	237,02	230.322	247,03	-11%	4%
Poland	13.843	3,76	9.531	2,45	7.066	1,72	-26%	-30%
Portugal	5.782	13,95	6.564	16,10	3.900	13,40	-41%	-17%
Spain	24.164	88,19	28.538	102,99	26.148	96,24	-8%	-7%
Sweden	27.540	10,08	24.433	9,14	11.455	5,71	-53%	-38%
UK	42.715	61,71	40.338	76,01	28.187	53,70	-30%	-29%

Source: EUMOFA (updated 13.03.2020).

Possible discrepancies in % changes are due to rounding.

Volumes are reported in net weight for EU Member States and in live weight equivalent (LWE) for Norway. Prices are reported in EUR/kg (without VAT).

For Norway, they are reported in EUR/kg of live weight.

*Partial data: first-sales data for Italy cover 229 ports (approximately 50% of the total landings in the country).

The most recent weekly first-sales data (up to week 16 of 2020) are available via the EUMOFA website, and can be accessed [here](#).

The most recent monthly first-sales data for February 2020 are available via the EUMOFA website, and can be accessed [here](#).

¹ The UK was a Member State of the EU until January 2020, which corresponds to the period under analyses in this report.

² Bivalves and other molluscs and aquatic invertebrates, cephalopods, crustaceans, flatfish, freshwater fish, groundfish, salmonids, small pelagics, tuna and tuna-like species, and other marine fish.

1.2. First sales in selected countries


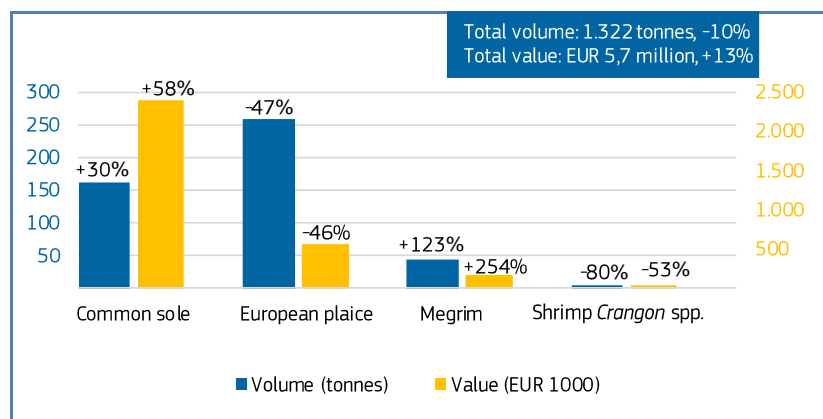
 In **January 2020**, first-sales value of the main commercial species in Belgium increased relative to the same month in 2019, while volume decreased. Common sole and megrim were the main species responsible for value increase, and European plaice was the species most responsible for volume decrease. Of these species, average price of megrim increased by 59%, reaching 3,92 EUR/kg. The average price of shrimp (*Crangon* spp.) also recorded a significant increase of 134% (8,84 EUR/kg), which is closely linked to a sharp decrease in supply (-80%).

Figure 1. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN BELGIUM, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).


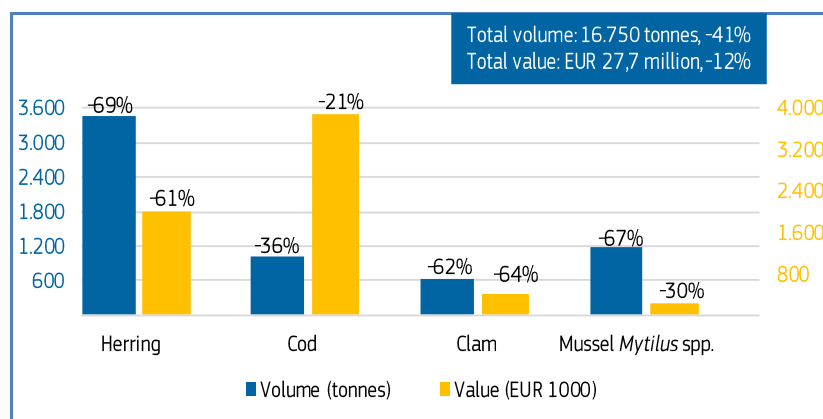
 In **January 2020** in **Denmark**, first sales decreased by 12% in value and 41% in volume when compared to January 2019. The main species causing this declining trend include herring, cod, clam, and mussel (*Mytilus* spp). Herring sales decreased due to stock decline³ and associated changes in fishing strategies – namely a decline in herring sales could be a result of reduced numbers of quota swaps by Danish fishermen in the beginning of the year, which has not happened this year, as there has been no interest in fishing of herring (Atlanto-Scandic herring).

Figure 2. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN DENMARK, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

³ <http://ices.dk/sites/pub/Publication%20Reports/Advice/2019/2019/her.27.20-24.pdf>


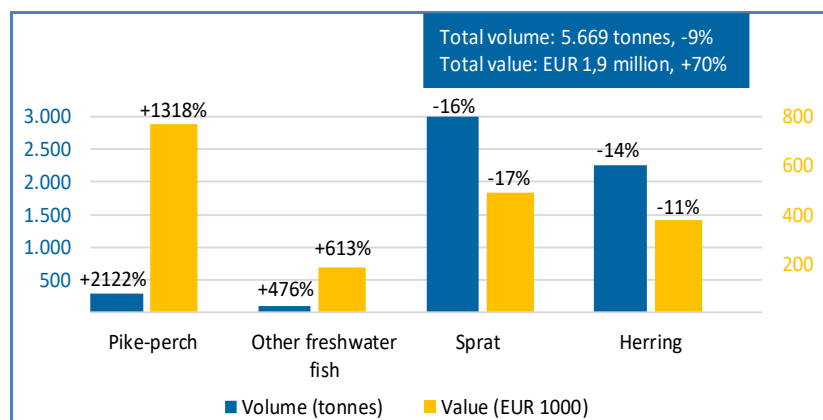
 In **January 2020** first sales of the main commercial species in **Estonia** increased by 70% in value and decreased by 9% in volume relative to January 2019. Overall value increased due to high first sales of pike-perch (+281 tonnes and +EUR 0,7 million) and other freshwater fish*. Volume decreased due to lower supply of sprat and herring. Relatively warm winter temperatures meant that ice-cover on water was lower, and good stock availability allowed a significant first-sales increase of pike-perch.

Figure 3. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ESTONIA, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020). *EUMOFA aggregation for species (Metadata 2, Annex 3: <http://eumofa.eu/supply-balance-and-other-methodologies>).


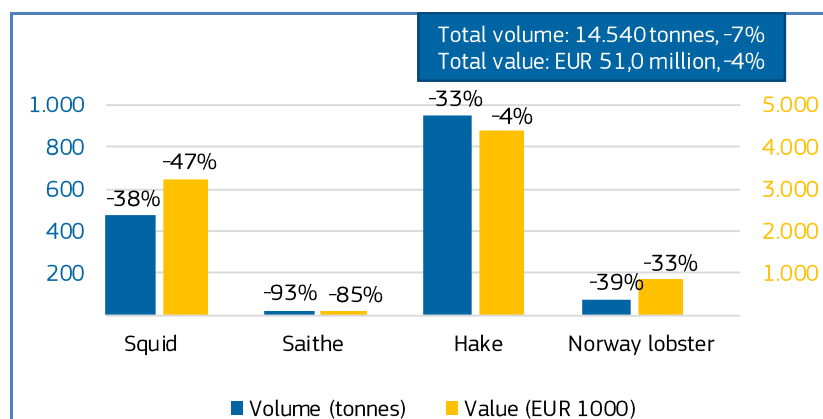
 In **France in January 2020** compared to January 2019, squid, saithe, hake, and Norway lobster were among the key species responsible for the overall decrease in both first-sales value and volume. Among the key species, hake, which is the species with the highest decrease in first-sales volume, registered the sharp increase in average price (+43%), reaching 4,62 EUR/kg.

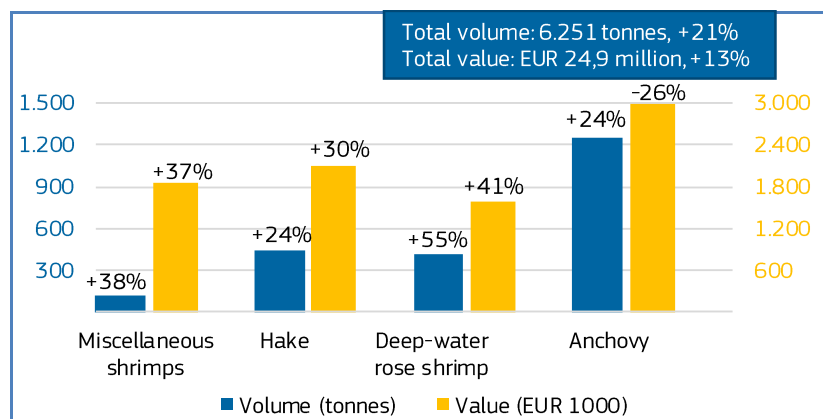
Figure 4. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN FRANCE, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

 In **Italy in January 2020**, first sales increased in value and volume compared to January 2019. Increasing value of miscellaneous shrimps*, hake and deep-water rose shrimp, and higher volume of anchovy were among the main factors responsible for these trends. Higher first-sales volume of anchovy was a key contributing factor to its average price decrease of 41% (2,38 EUR/kg).

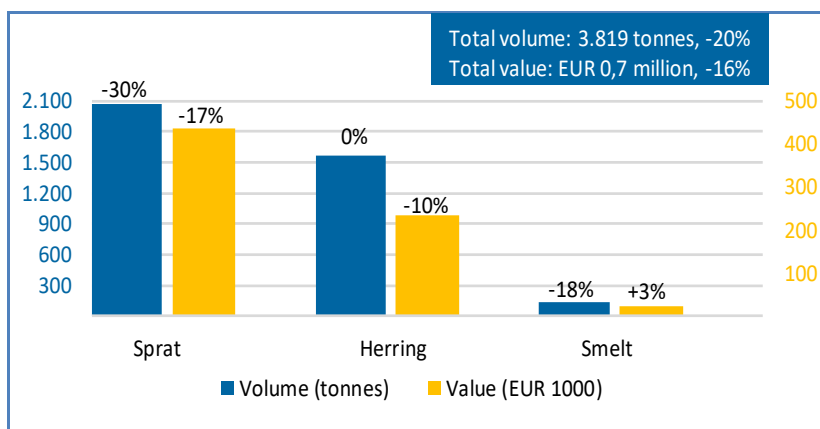
Figure 5. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ITALY, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020). *EUMOFA aggregation for species (Metadata 2, Annex 3: <http://eumofa.eu/supply-balance-and-other-methodologies>).

In **Latvia** in **January 2020**, first sales fell by 16% in value and 20% in volume compared to January 2019, mainly due to lower first sales of sprat, herring, and smelt. The average price of sprat increased by 19% to 0,21 EUR/kg, as a result of reduced supply and stable market demand. The average price of smelt increased by 26%, reaching 0,16 EUR/kg.

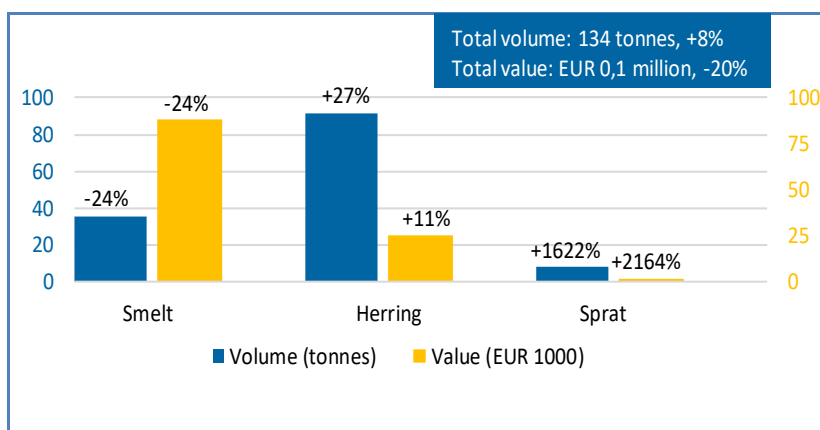
Figure 6. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LATVIA, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

In **Lithuania** in **January 2020**, first sales recorded a decrease in value and an increase in volume compared to January 2019. Smelt was the key species behind value decrease, whereas herring and sprat were responsible for increase in volume. Of these species, sprat registered the highest average price increase by 31%, reaching 0,21 EUR/kg.

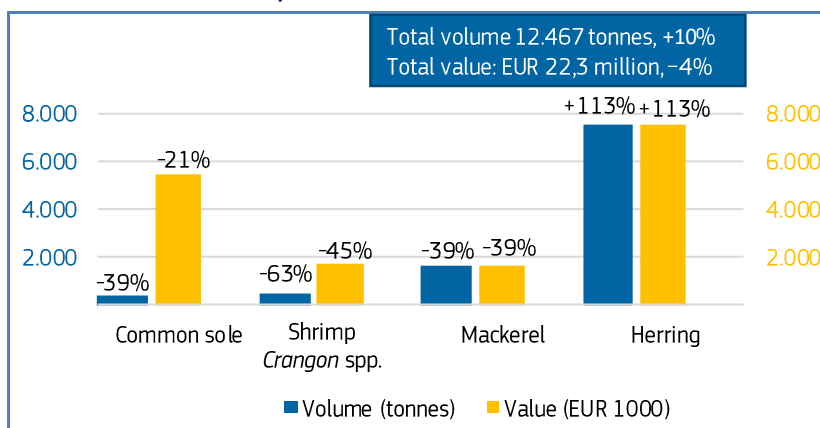
Figure 7. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LITHUANIA, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

In **the Netherlands** in **January 2020**, first-sales value decreased by 4% and volume increased by 10% relative to January 2019. Value dropped primarily due to common sole, shrimp (*Crangon* spp.) and mackerel. First-sales volume grew due to a sharp increase in herring supply (+4.020 tonnes). The high increase in herring sales is relatively small in absolute terms, since catches regularly fluctuate. For example, first sales of herring ranged from 3.570 tonnes in January 2019 to 48.000–53.000 tonnes during August and September in the past three years.

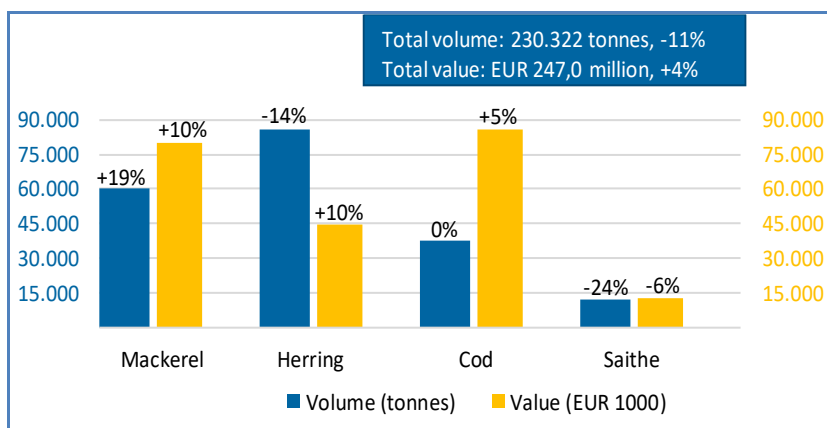
Figure 8. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE NETHERLANDS, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

 In **Norway in January 2020**, compared to January 2019, first-sales value grew, while volume fell. The main species behind the increase in value were mackerel, herring and cod, while the decrease in volume was a result of significantly lower herring supply. Due to its reduced supply, herring registered an increase in average price of 28%, reaching 0,52 EUR/kg.

Figure 9. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN NORWAY, JANUARY 2020**



Percentages show change from the previous year. Volume data is reported in live weight equivalent (LWE). Prices are reported in EUR/kg of live weight.


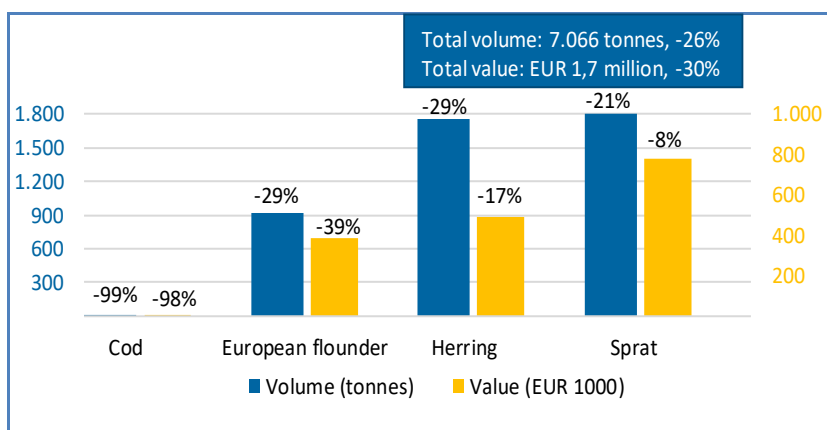
 In **Poland in January 2020** compared to January 2019, first-sales value and volume decreased due to cod, European flounder, herring, and sprat. The Council decision on 2020 catch limits in the Baltic Sea⁴ reflects the decreases for most species. The reduction introduced were particularly significant for cod, with a 60% decrease in the Western part of the Baltic Sea, and the decision to permit by-catch only in the Eastern Baltic.

Figure 10. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN POLAND, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).


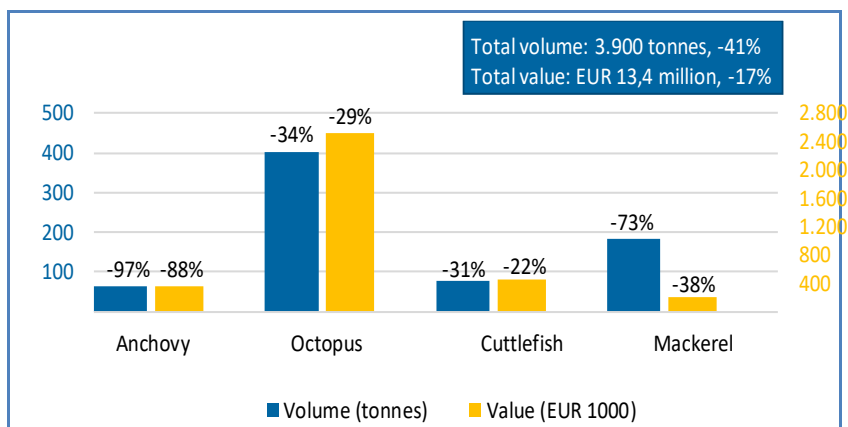
 In **January 2020** compared to January 2019, first-sales value in **Portugal** decreased due to anchovy, octopus, cuttlefish, and mackerel. The sharp decrease in anchovy supply caused its average price to increase three-fold, reaching 5,56 EUR/kg. Mackerel also recorded a high price increase recording 1,07 EUR/kg (+134%). Anchovy sales fell sharply due to fishery closures from 6 November 2019 to 1 April 2020 in the ICES IX area (the coast of Portugal)⁵.

Figure 11. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN PORTUGAL, JANUARY 2020**



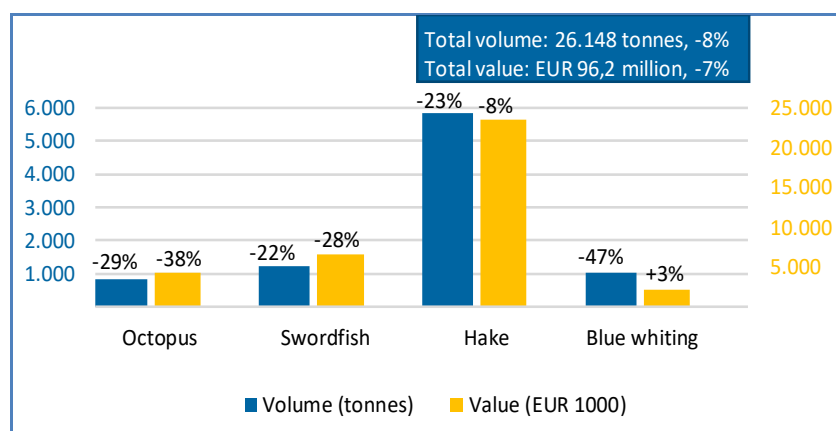
Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

⁴ https://www.consilium.europa.eu/media/41053/191014-15-baltic-tacs_table.pdf

⁵ Diário da República n.º 211/2019, 1.º Suplemento, Série II de 2019-11-04 <https://dre.pt/home/-/dre/125874369/details/maximized>

 In **January 2020**, first-sales value and volume in **Spain** decreased relative to the same month in 2019, primarily due to octopus, swordfish, hake, and blue whiting (only in value). An abrupt decrease in supply of blue whiting reflects an increase of its average price by 95% (2,13 EUR/kg).

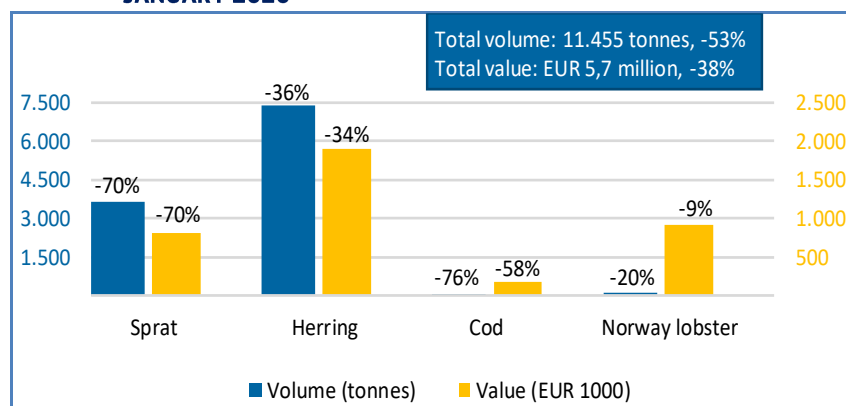
Figure 12. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SPAIN, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

 In **January 2020** first-sales value and volume in **Sweden** decreased compared to the previous year as a result of diminished sales of herring, sprat, cod, and Norway lobster. Norway lobster recorded a 14% increase in average price, reaching 10,21 EUR/kg. Significant decreases are linked with bad weather conditions and reduced total allowable catches for some important species such as sprat, herring and cod⁶.

Figure 13. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SWEDEN, JANUARY 2020**



Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).


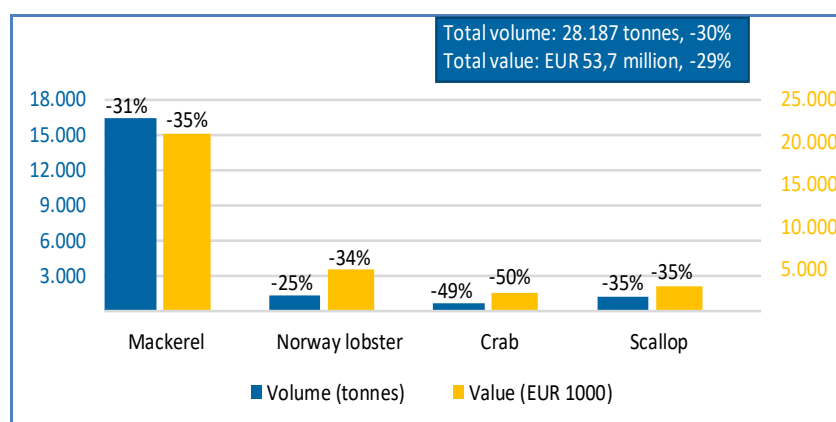
 In **January 2020**, first-sales value and volume in **the United Kingdom** decreased by approximately 30%, compared to January 2019. The main species responsible for such negative trends include mackerel, Norway lobster, crab, and scallop. Mackerel, the species responsible for 39% of total first-sales value and 58% of total volume in January 2020, recorded the highest decreases in value (-EUR 11,2 million) and volume (-7,245 tonnes).

Figure 14. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE UK, JANUARY 2020**

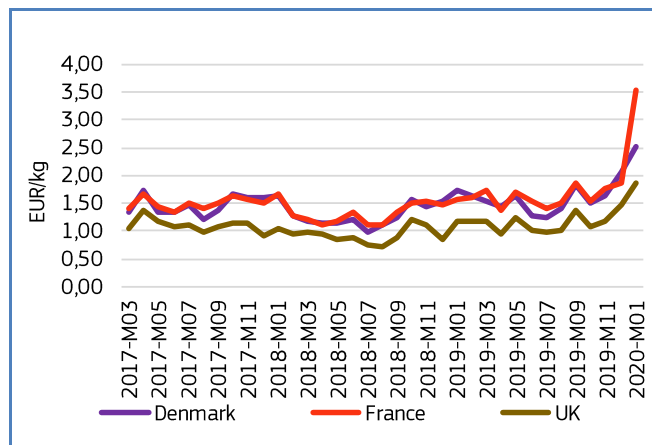


Percentages show change from the previous year. Source: EUMOFA (updated 13.03.2020).

⁶ https://www.consilium.europa.eu/media/41053/191014-15-baltic-tacs_table.pdf

1.3. Comparison of first-sales prices of selected species in selected countries

Figure 15. **FIRST-SALES PRICES OF SAITHE IN DENMARK, FRANCE, AND THE UK**

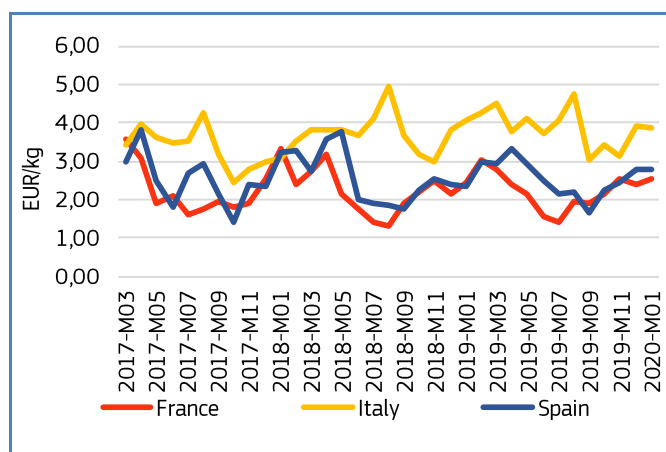


Source: EUMOFA (updated 13.03.2020).

First sales of **saithe** occur primarily in **Denmark, France** and in **the UK**. The average prices in January 2020 (the most recent available data) reached 2,53 EUR/kg in Denmark (up by 22% from December 2019, and 47% higher than in January 2019); 3,55 EUR/kg in France (up by 91% from the previous month, and 126% from the previous year); the price increase is due to a sharp drop in supply (21 tonnes, down by 74% and 93% from December 2019 and January 2019, respectively); and

1,87 EUR/kg in the UK (up from December 2019 and January 2019 by 28% and 61%, respectively). Saithe fisheries are seasonal and have different peaks in each of the three countries. Prices are lowest in the UK and converge in Denmark and France. Over the past 36 months, saithe prices increased in all countries, most notably in France. During the same period, supply increased in the UK and decreased in Denmark and France.

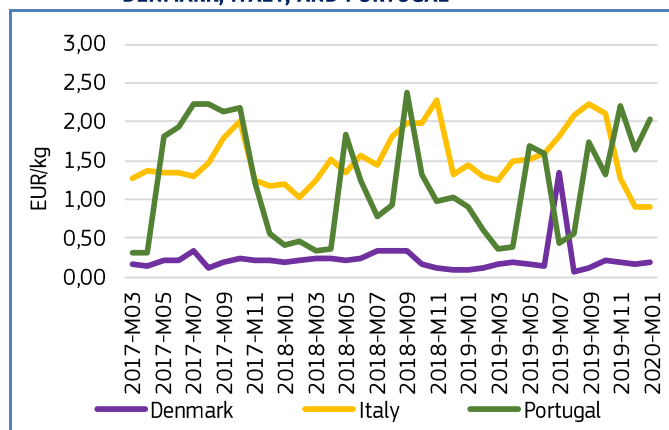
Figure 16. **FIRST-SALES PRICES OF WEEVER IN FRANCE, ITALY, AND SPAIN**



Source: EUMOFA (updated 13.03.2020).

EU first sales of **weever** occur in many countries, including **France, Italy, and Spain**. In January 2020, the average first-sales prices of weever were: 2,55 EUR/kg in France (up by 7% from the previous month, and 4% from the previous year); 3,90 EUR/kg in Italy (unchanged from the previous month, but down by 4% from January 2019); and 2,77 EUR/kg in Spain (1% lower than the previous month but 19% higher over the previous year). Over the past 36-month period, prices increased in Italy and decreased in France and Spain. In Italy, they were highest and experienced the strongest fluctuation. At the same time, supply increased in Spain and decreased in France and Italy. First-sales volume is seasonal, with peaks between May and August in all three countries.

Figure 17. **FIRST-SALES PRICES OF MUSSEL MYTILUS SPP. IN DENMARK, ITALY, AND PORTUGAL**



Source: EUMOFA (updated 13.03.2020).

Over the past 36-month period, EU first sales of mussel *Mytilus* spp. occurred mainly in **Denmark** (76.771 tonnes) where genus is represented with blue mussels (*M. edulis*), and in **Italy** (1.989 tonnes) and **Portugal** (886 tonnes) where Mediterranean mussel (*M. galloprovincialis*) is distributed. In January 2020, the average prices were: 0,20 EUR/kg in Denmark (up from both the previous month and year by 16% and 110%, respectively); 0,91 EUR/kg in Italy (1% higher than in December 2019, but 37% lower than in January 2019); and 2,03 EUR/kg in Portugal (an increase of 25% from previous month and 125% from past year). In Denmark, the spike (1,34 EUR/kg) in week 7 of 2019 corresponds to a sold volume of 2 kg. First-sales prices are clearly correlated with supply. In Denmark, fishing is often suspended in summer months because of algae blooms. Prices have increased in Denmark and Italy and maintained a stable trend in Portugal. Volumes sold in first-sales markets are seasonal, with peaks between March–April in Denmark and Portugal, and June–July in Italy.

1.4. Commodity group of the month: crustaceans⁷

The **crustaceans** commodity group (CG⁸) ranked 5th in value and 6th in volume among the 10 CGs sold at the first-sales stage in January 2020⁹. First sales of these species reached EUR 33,8 million and 5.542 tonnes, decreasing 15% in value and 25% in volume compared to January 2019. In the past 36 months, the highest value of first sales of crustaceans was registered in August 2017, at EUR 92,1 million.

The crustaceans commodity group includes 12 of the main commercial species (MCS): crab, freshwater crayfish, lobster *Homarus* spp., Norway lobster, rock lobster and sea crawfish, shrimp *Crangon* spp., coldwater shrimps, deep-water rose shrimps, miscellaneous shrimps, warmwater shrimps, squillid and other crustaceans¹⁰.

At Electronic Recording and Reporting System (ERS) level, deep-water rose shrimp (4%) and caramote prawn (13%) together accounted for 17% of total reported first-sales value of this commodity group in January 2020.

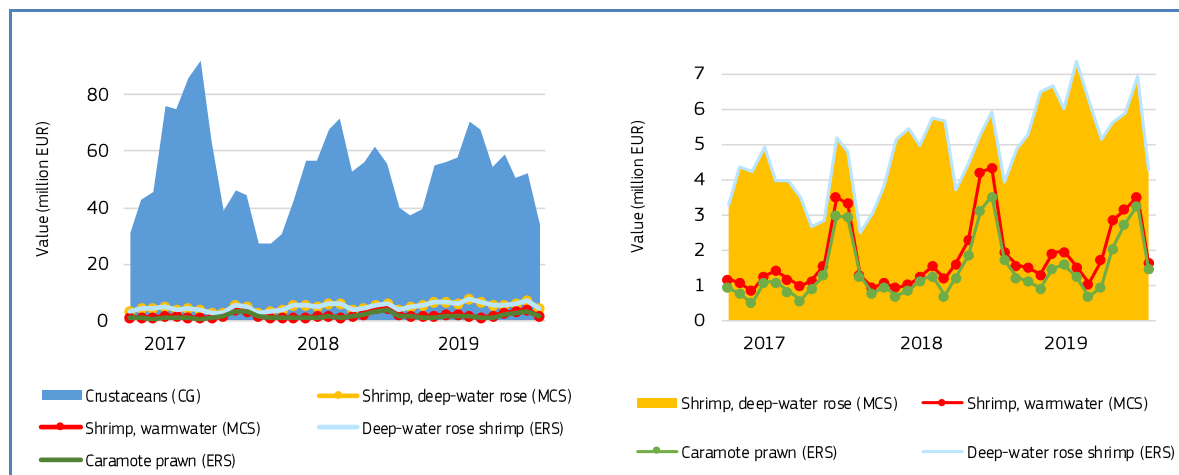
⁷ In the further text a term "bivalve" includes bivalve and other molluscs, and aquatic invertebrates.

⁸ Annex 3: <http://eumofa.eu/supply-balance-and-other-methodologies>

⁹ More data on commodity groups can be found in Table 1.2 of the Annex.

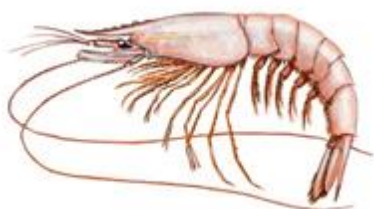
¹⁰ EUMOFA aggregation for species (Metadata 2, Annex 3: <http://eumofa.eu/supply-balance-and-other-methodologies>).

Figure 18. **FIRST-SALES VALUE COMPARISON AT CG LEVEL, MCS LEVEL AND ERS LEVEL FOR REPORTING COUNTRIES* (FEB 2017–JAN 2020)**



*Norway is excluded from the analyses.
Source: EUMOFA (updated 13.03.2020).

1.5. Focus on deep-water rose shrimp



Deep-water rose shrimp (*Parapenaeus longirostris*) is a crustacean that belongs to the Pandalidae family. It is common in sandy-muddy bottoms at depths of 70–400 m. This species has a wide geographic distribution: it is found in the Mediterranean Sea and in the Atlantic Ocean, from northern Spain to southern Angola¹¹. The species feeds on small fish, cephalopods, and crustaceans. It reaches maturity after one year and can live for up to 3–4 years. It can grow up to 16 cm (males) and 19 cm (females) in total length.

The deep-water rose shrimp fishery takes place in many areas in the Mediterranean Sea, however the majority comes from the Strait of Sicily¹². *P. longirostris* is mainly exploited by bottom trawlers that operate on the outer continental shelf and upper slope of the south-central Mediterranean throughout the year¹³.

The recommendation of the General Fisheries Commission for the Mediterranean (GFCM) for the implementation of a multiannual management plan for fisheries targeting deep-water rose shrimp and European hake was adopted to ensure the conservation of the species¹⁴. Fishing is seasonal, with peaks in winter (January–December) and spring (April–May) when the species is most abundant. The minimum landing size for the species is 22 mm (carapace length)¹⁵.

Deep-water rose shrimp has a high nutritional value and protein content and is highly prized on the market¹⁶.

¹¹ <http://www.fao.org/fishery/species/2598/en>

¹² EUROFISH Magazine 2/2016, https://issuu.com/eurofish/docs/eurofish_magazine_2_2016/42

¹³ https://gfcmsitestorage.blob.core.windows.net/documents/SAC/SAF/DemersalSpecies/2014/DPS_GSA_12-16_2014_ITA_MLT_TUN.pdf

¹⁴ <http://www.fao.org/gfcm/decisions/en/>

¹⁵ COUNCIL REGULATION (EC) No 850/98 <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01998R0850-20150601&qid=1463153613173&from=EN>

¹⁶ <http://www.faoadriamed.org/html/Species/ParapenaeusLongirostris.html>

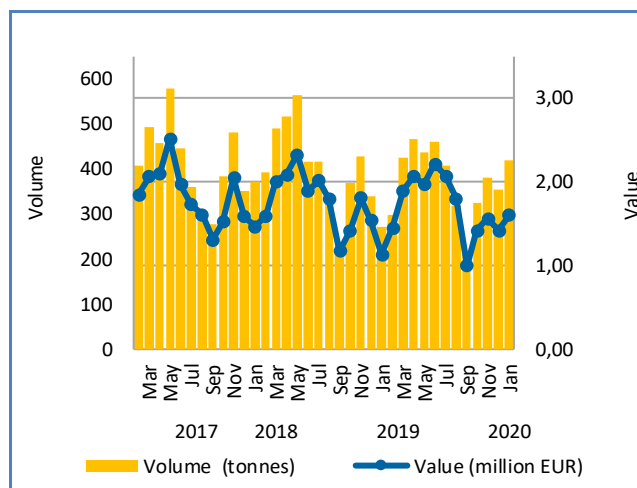
Selected countries

In **Italy** in January 2020, first sales of deep-water rose shrimp increased by 41% in value and 55% in volume relative to January 2019. Compared to January 2018, first-sales value increased by 9%, whereas volume saw a 13% increase.

Of crustaceans sold at first-sales stage in January 2020, deep-water rose shrimp accounted for 24% of total first-sales value and 44 % of volume.

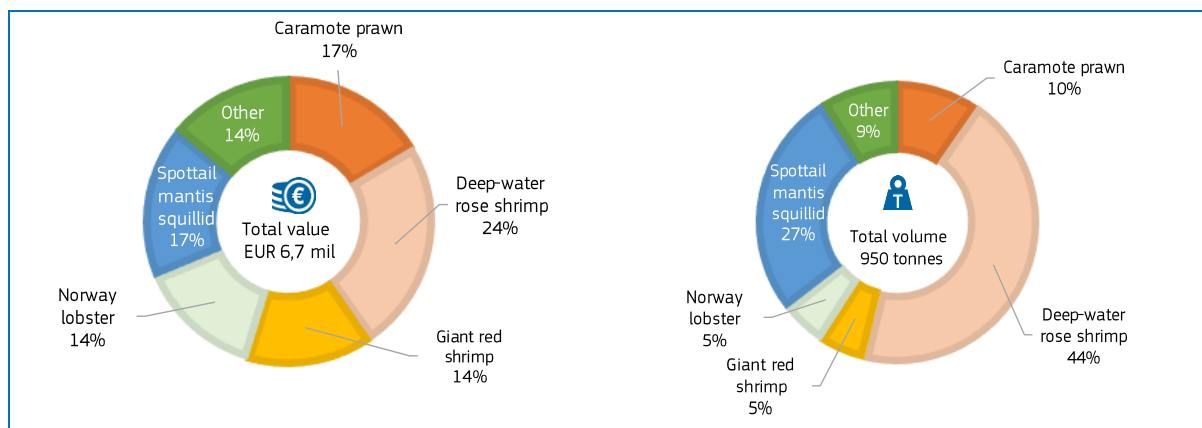
The Mediterranean ports of Mazara del Vallo, Sciacca and Porto Santo Stefano were those with the highest first-sales value in January 2020.

Figure 19. **DEEP-WATER ROSE SHRIMP: FIRST SALES IN ITALY**



Source: EUMOFA (updated 13.03.2020).

Figure 20. **FIRST SALES: COMPARISON OF CRUSTACEANS (ERS) IN ITALY, VALUE AND VOLUME, JANUARY 2020**

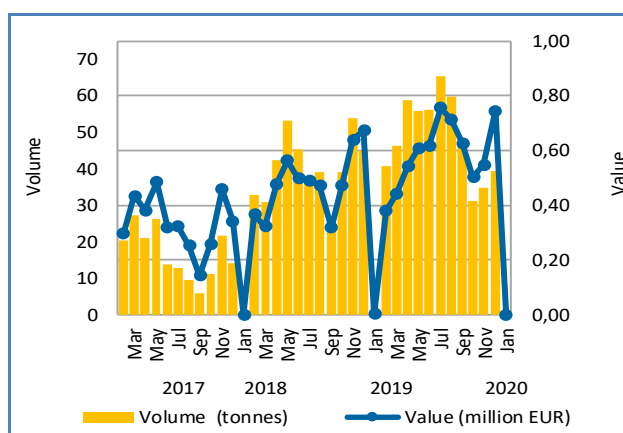


Source: EUMOFA (updated 13.03.2020).

Over the past three years in **Portugal**, January has consistently been the month with the lowest first sales of deep-water rose shrimp. The lack of fishing activity from 25 bottom otter trawlers is likely to be responsible for this¹⁷. Of crustaceans sold in January 2020, deep-water rose shrimp accounted for as little as 0,2% of total first-sales value and 0,1% of total first-sales volume. Barnacle was the most valuable species, being responsible for 39% of first-sales value, while green crab, with 63% of total volume, was the species with highest first-sales.

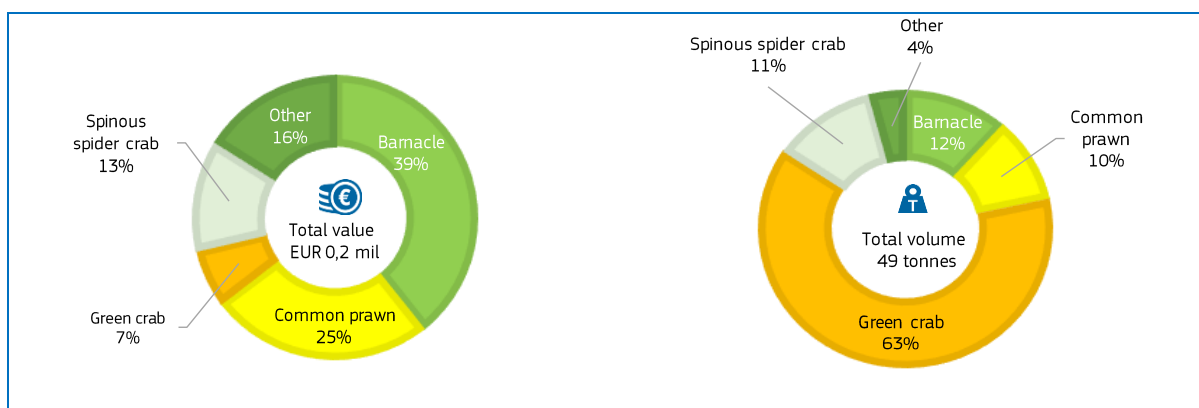
The port of Olhão on Portugal's Atlantic coast was responsible for all deep-water rose shrimp first sales in January 2020. Looking into 2019, the port of Vila Real de Santo Antonio was responsible for majority of first sales.

Figure 21. **DEEP-WATER ROSE SHRIMP: FIRST SALES IN PORTUGAL**



Source: EUMOFA (updated 13.03.2020).

Figure 22. **FIRST SALES: COMPARISON OF CRUSTACEANS (ERS) IN PORTUGAL, VALUE AND VOLUME, JANUARY 2020**



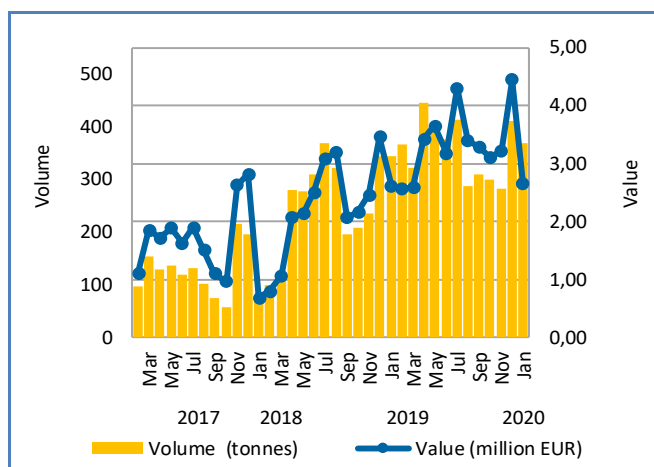
Source: EUMOFA (updated 13.03.2020).

In **Spain** in January 2020, first sales of deep-water rose shrimp slightly increased by 2% in value and 7% in volume compared to the same period in 2019. Relative to January 2018, first-sales value increased by 290%, while volume recorded increase of 432%.

Of crustaceans sold at first-sales stage in January 2020, deep-water rose shrimp accounted for 30% of value and 40% of volume. Deep-water rose shrimp is mainly caught by Spanish bottom trawl fleet as by-catch with other shrimp species such as blue and red shrimp.

The ports of Ayamonte, Isla Cristina, Sanlúcar De Barrameda and Huelva registered 50% of total first-sales value in January 2020.

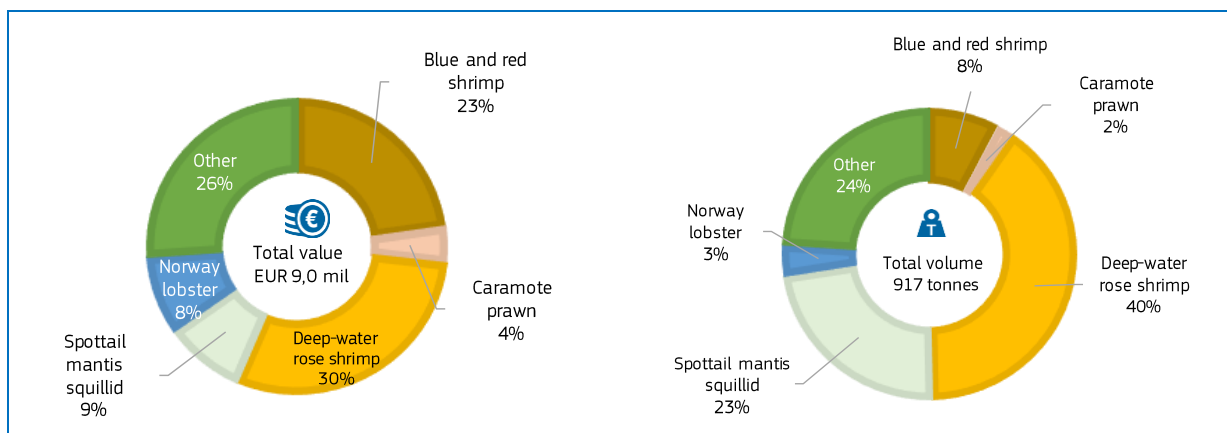
Figure 23. **DEEP-WATER ROSE SHRIMP: FIRST SALES IN SPAIN**



Source: EUMOFA (updated 13.03.2020).

¹⁷ https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2019/2019/FisheriesOverviews_BoBiberian_2019.pdf

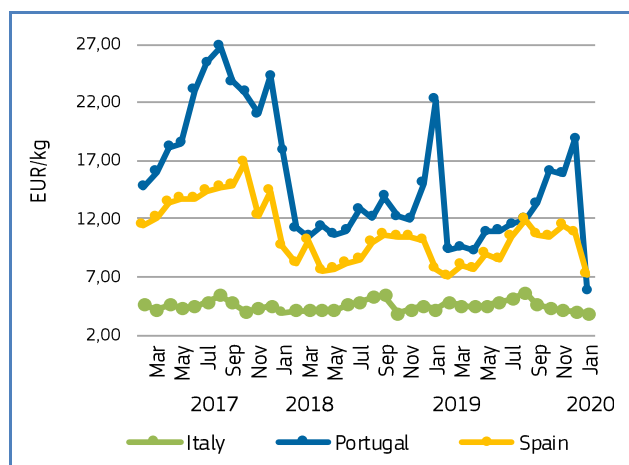
Figure 24. **FIRST SALES: COMPARISON OF CRUSTACEANS (ERS) IN SPAIN, VALUE AND VOLUME, JANUARY 2020**



Source: EUMOFA (updated 13.03.2020).

Price trend

Figure 25. **DEEP-WATER ROSE SHRIMP: FIRST-SALES PRICE IN SELECTED COUNTRIES**



Source: EUMOFA (updated 13.03.2020).

In the observed 36-month period (February 2017–January 2020), the average first-sales price of deep-water rose shrimp was highest in Portugal (15,30 EUR/kg), 241% higher than the price in Italy (4,48 EUR/kg), and 44% more than the price in Spain (10,64 EUR/kg). The observed price fluctuations are closely related to changes in supply.

In **Italy** in January 2020, the average first-sales price of deep-water rose shrimp (3,81 EUR/kg) decreased by 9% compared to January 2019 and 3% from January 2018. During the past 36 months, the lowest price was recorded in January 2020 (at 3,81 EUR/kg for 420 tonnes). The highest price (5,64 EUR/kg for 319 tonnes) was recorded in August 2019. From March to May supply was at its highest, while during August–September the fishery gradually decreased in terms of first-sales volume.

In **Portugal** in January 2020, the average price of deep-water rose shrimp was 5,83 EUR/kg, a 74% decrease from January 2019, and 67% lower than the price in January 2018. The high price fluctuations in January were due to very low volume which is result of fishery seasonality. The second lowest price for more representative volume was recorded in April 2019, at 9,24 EUR/kg for 59 tonnes. Prices reached a peak in August 2017, when 9 tonnes were sold at the average price of 26,82 EUR/kg.

In **Spain** in January 2020, the average first-sales price of deep-water rose shrimp (7,21 EUR/kg) fell by 5% compared to January 2019, roughly 25% lower than it had been in January 2018. The lowest price in the observed period was recorded in February 2019 at 7,00 EUR/kg for 366 tonnes. The highest price (16,83 EUR/kg for 57 tonnes) was observed in October 2017.

1.6. Focus on caramote prawn



The caramote prawn (*Melicertus kerathurus*) is a crustacean which belongs to the family Penaeidae. It has a wide geographical distribution, ranging from the Mediterranean basin to the Atlantic, with the largest concentrations in the Gulf of Gabès. Caramote prawn is a demersal species living in coastal areas or in brackish water on sandy or sandy mud bottoms. It is typically found at depths of between 5 and 40 m and can exceed 22 cm in total length. It mainly feeds on molluscs and crustaceans, and its spawning season begins from June to July and lasts until late September. The species live for about three years. Caramote prawns are mainly caught by small-scale fishers using trammel nets, and by trawl using shrimp trawl gear (modified Mexican trawlers). It is exploited in an inshore fishery along all Mediterranean coasts and can be fished throughout the year, but catch is highest during spring and summer months and to a lesser extent in autumn¹⁸. Greece and Tunisia have been the main Mediterranean countries landing *M. kerathurus* commercially in recent years¹⁹.

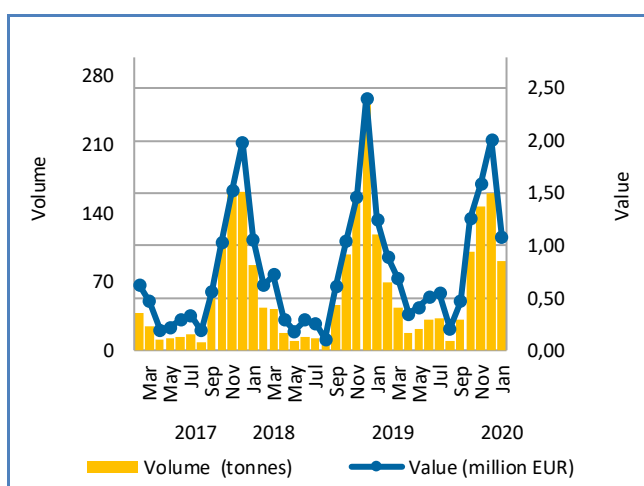
Selected countries

In **Italy** in January 2020, first sales of caramote prawn decreased by 13% in value and by 23% in volume, compared to the same period in 2019. Compared to January 2018, first-sales value increased by 3%, while volume grew by 6%.

Of crustaceans sold in January 2020, caramote prawn accounted for 17% of total first-sales value and 10% of volume (see above in figure 20).

Rimini, Manfredonia, and Termoli in the Mediterranean Sea are the fishing ports with the highest first-sales value in January 2020.

Figure 26. CARAMOTE PRAWN: FIRST SALES IN ITALY



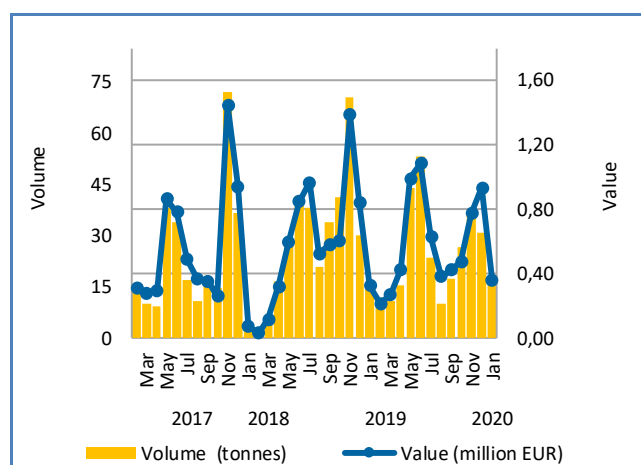
Source: EUMOFA (updated 13.03.2020).

In **Spain** in January 2020, first sales of caramote prawn increased by 11% in value and 10% in volume relative to January 2019. Compared with the same period in 2018, first sales almost registered a four-fold increase in both value and volume. First sales fluctuate throughout the year as the species is not caught as a result of targeted fishing.

Of crustaceans sold in January 2020, caramote prawn comprised 4% of total first-sales value and 2% of volume (see above in figure 24).

Sanlúcar De Barrameda, San Carlos de la Rápita, and Peñíscola were the fishing ports with the highest first sales activity in January 2020.

Figure 27. CARAMOTE PRAWN: FIRST SALES IN SPAIN



Source: EUMOFA (updated 13.03.2020).

¹⁸ <http://www.faomedsudmed.org/html/species/Melicertus%20Penaeus%20kerathurus.html>

¹⁹ Kosmas Kevrekidis; Maria Thessalou-Legaki (2011). "Population dynamics of *Melicertus kerathurus* (Decapoda: Penaeidae) in Thermaikos Gulf (N. Aegean Sea) (abstract)". *Fisheries Research*. 107: 47–58. doi:10.1016/j.fishres.2010.10.006.

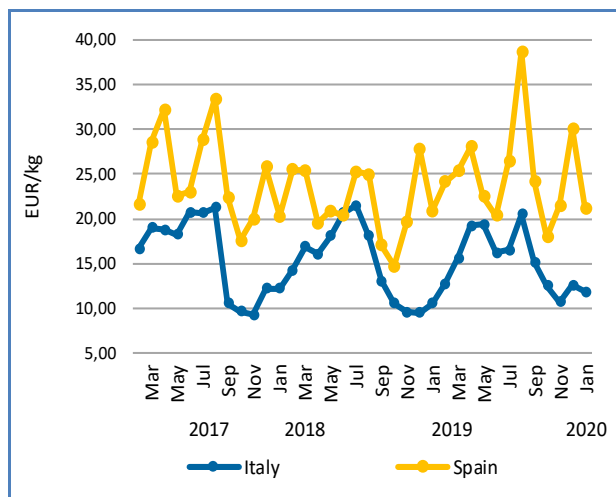
Price trends

Of the two countries surveyed between February 2017 and January 2020, the highest average price of caramote prawn was recorded in Spain (23,85 EUR/kg), 56% higher than in Italy (15,31 EUR/kg).

In **Italy** in January 2020, the average price of caramote prawn was 11,87 EUR/kg, a 12% increase from January 2019, but 3% decrease from January 2018. The lowest price was recorded in November 2017 at 9,26 EUR/kg for 165 tonnes and December saw the highest supply of 254 tonnes of caramote prawn for 9,49 EUR/kg. The highest price was observed in July 2018 at 21,47 EUR/kg for 12 tonnes, coinciding with high levels of demand.

In **Spain** the average price of caramote prawn in January 2020 was 21,16 EUR/kg, slightly higher (+1%) than in January 2019, and 4% more than the price in January 2018. Over the past 36 months, first-sales price was lowest in October 2018, when 41 tonnes of caramote prawn were sold for 14,66 EUR/kg. The highest price was observed in August 2019 at 38,71 EUR/kg for 10 tonnes, when supply was outweighed by demand due to the seasonal increase in tourism to the country. Price fluctuates throughout the year in close connection with supply and is usually highest in summer and lowest in winter.

Figure 28. **CARAMOTE PRAWN: FIRST-SALES PRICE IN SELECTED COUNTRIES**



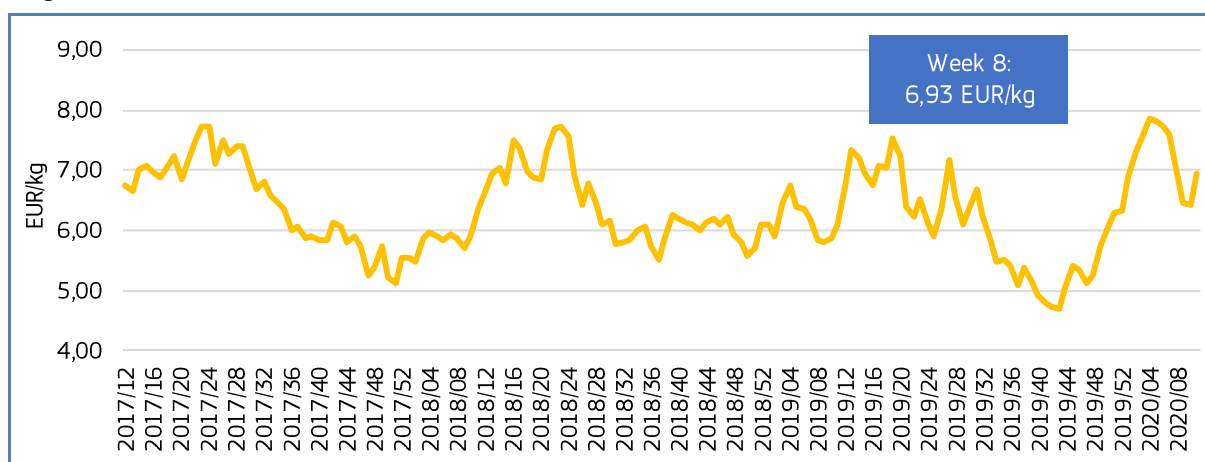
Source: EUMOFA (updated 13.03.2020).

2. Extra-EU imports

Each month, the weekly extra-EU import prices (average values per week, in EUR per kg) are examined for nine species. Every month, the three species that are the most relevant in terms of value and volume are examined: fresh whole Atlantic salmon from Norway, frozen Alaska pollock fillets from China, and frozen tropical shrimp (genus *Penaeus*) from Ecuador. The other six species change every month: three are from the commodity group of the month (in this issue, crustaceans). This month, the featured commodity species are prepared or preserved shrimps and prawns from Canada, frozen lobster from Canada, and frozen cold-water shrimps and prawns from Greenland. The remaining three species are randomly selected and, this month, include prepared or preserved yellowfin tuna loins from Ecuador, frozen Southern hake from Chile, and striped Venus and other species of the family Veneridae from Chile.

The weekly price of **fresh, whole Atlantic salmon** (*Salmo salar*, CN code 03021400) imported from **Norway** reached 6,93 EUR/kg in **week 8** (commencing 17th January). This price increased slightly (+1%) from the preceding four-week average (6,86 EUR/kg) and 13% from the previous year (6,11 EUR/kg). The price was 8% higher than the previous week (week 7), corresponding to a 20% decrease in volume. Imports in week 8 totalled 10.065 tonnes, 13% lower than the average over the previous four weeks, and down by 17% from the previous year. Over the past three years, price has exhibited a downward trend, while volume has increased.

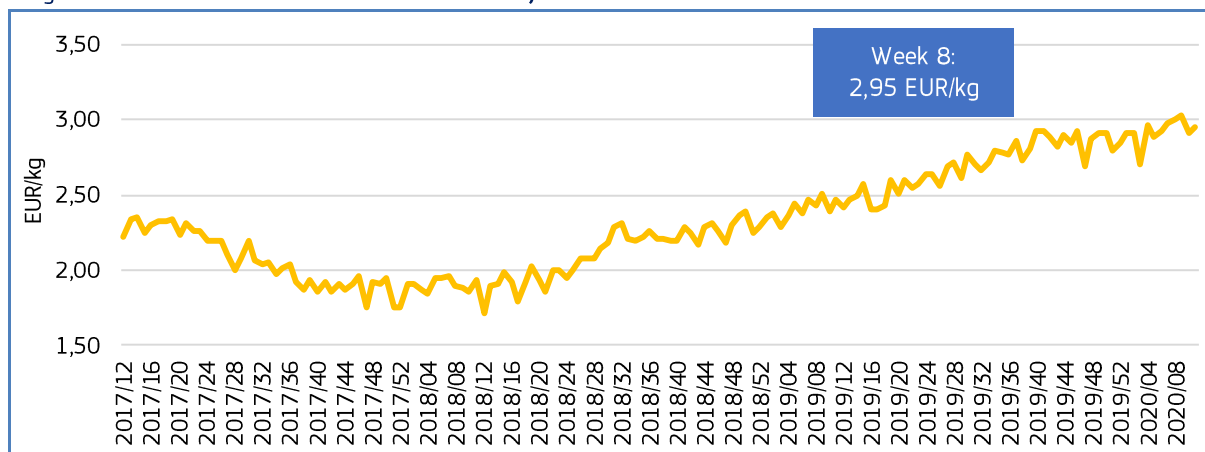
Figure 29. **IMPORT PRICE OF ATLANTIC SALMON, FRESH AND WHOLE FROM NORWAY**



Source: European Commission (updated 13.03.2020).

For **frozen fillets of Alaska pollock** (*Theragra chalcogramma*, CN code 03047500) imported from **China**, the price in **week 8** was 2,95 EUR/kg, 1% lower than the preceding four-week average (2,98 EUR/kg), and 20% higher than the same week in 2019 (2,47 EUR/kg). The price was slightly higher (+1%) than the previous week (week 7), which registered an 11% increase in volume. Volume totalled 2.715 tonnes, which was 5% up from the average of the previous four weeks, and substantially lower than the same week in 2019 (-31%). Both the price and volume of Alaskan pollock has shown an upward trend over the past year.

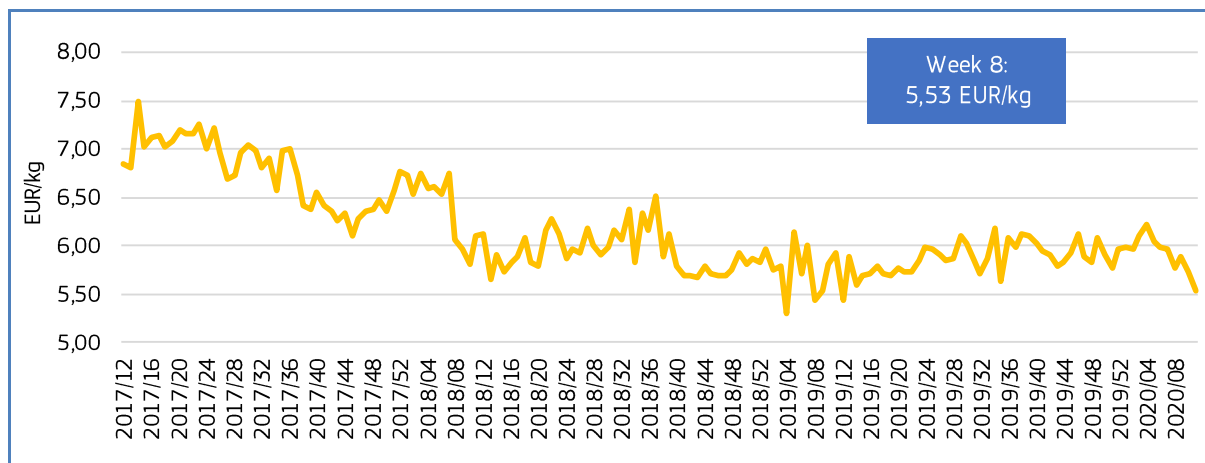
Figure 30. **IMPORT PRICE OF ALASKA POLLOCK, FROZEN FILLETS FROM CHINA**



Source: European Commission (updated 13.03.2020).

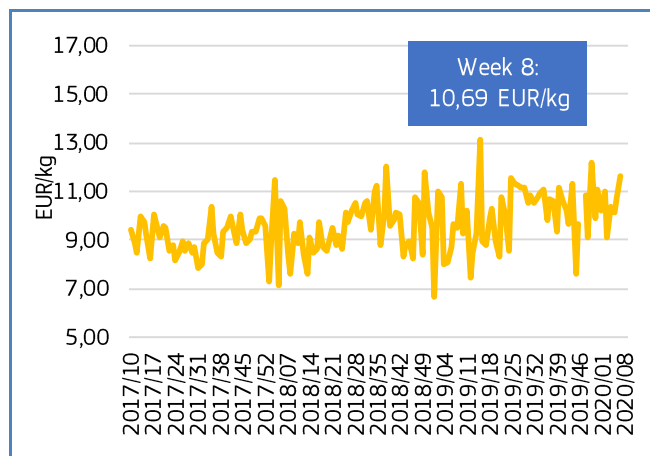
The price of **frozen tropical shrimp** (genus *Penaeus*, CN code 03061792) from **Ecuador** was 5,53 EUR/kg in **week 8**: 5% lower than the average of the preceding four weeks (5,83 EUR/kg), and down 7% from the same week in 2019 (5,93 EUR/kg). The price was 3% down from the previous week (week 7), corresponding to a 3% increase in volume. The volume in week 8 (1.968 tonnes) represented a significant increase from both the previous four-week average and the same week in 2019 (+45% and +78%, respectively). This product experienced high fluctuations in supply. Over the past three years, price has exhibited a general downward trend.

Figure 31. **IMPORT PRICE OF FROZEN TROPICAL SHRIMP FROM ECUADOR**



Source: European Commission (updated 13.03.2020).

Figure 32. **IMPORT PRICE OF PREPARED OR PRESERVED SHRIMPS AND PRAWNS FROM CANADA**

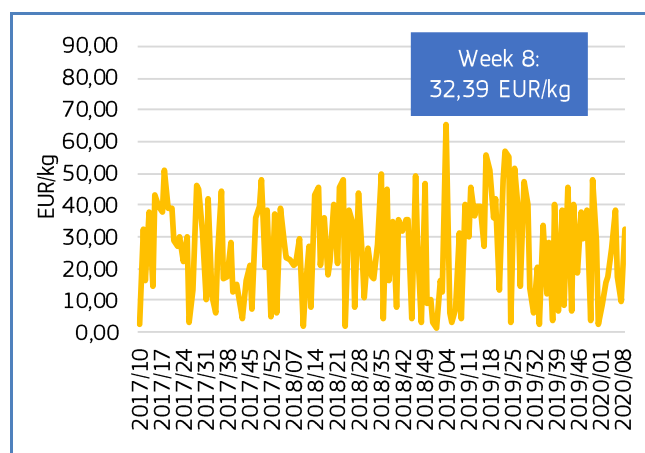


Source: European Commission (updated 13.03.2020).

The price of **prepared or preserved shrimps and prawns** (CN code 16052190) imported from **Canada** was 10,69 EUR/kg in **week 8**. This was unchanged from the preceding four-week (weeks 3 to 6) average (10,71 EUR/kg), and 5% lower than the same week in 2019 (11,29 EUR/kg). The volume recorded in week 8 (33 tonnes) was significantly lower than both the preceding four-week (week 3 to 6) average, and the same week in 2019 (44 tonnes, -25% and 99 tonnes, -66%, respectively). Prices fluctuated between 6,61 to 13,14 EUR/kg, but increased overall over the observed period, while volume decreased. However, supply and price are not directly correlated. The spike in price (13,14 EUR/kg in week 14 of 2019) corresponds to an increase in supply, while the lowest price corresponds to a decrease of the imported volume. The United Kingdom and Denmark were the biggest importers.

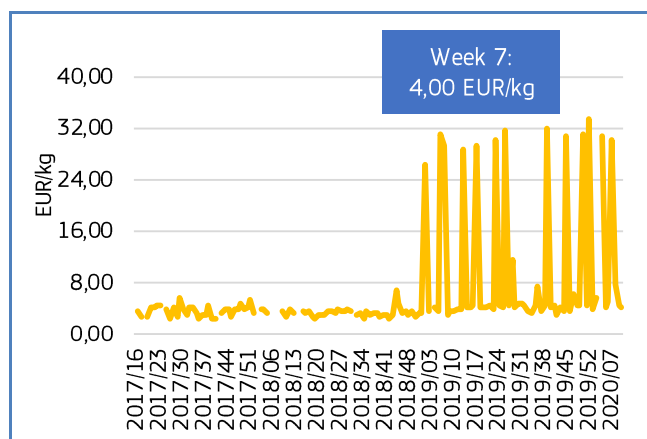
The price of frozen **lobster** (*Homarus* spp., CN code 03061290) from **Canada** was 32,39 EUR/kg in **week 8**. This was 41% higher than the preceding four-week average (23,02 EUR/kg), and significantly higher (+702%) than the same week in 2019 (4,04 EUR/kg). The product's price ranged from a low of 1,35 EUR/kg in week 52 of 2018, to a high of 65,30 EUR/kg in week 3 of 2019. The volume recorded in week 8 (6 tonnes) was significantly lower than both the preceding four-week average and the same week in 2019 (-77% and -87%, respectively). The imported volume showed high weekly volatility. Over the past three years, price has decreased slightly while volume showed an upward trend. France and Belgium are the biggest importers.

Figure 33. **IMPORT PRICE OF FROZEN LOBSTER FROM CANADA**



Source: European Commission (updated 13.03.2020).

Figure 34. **IMPORT PRICE OF FROZEN COLD-WATER SHRIMPS AND PRAWNS FROM GREENLAND**

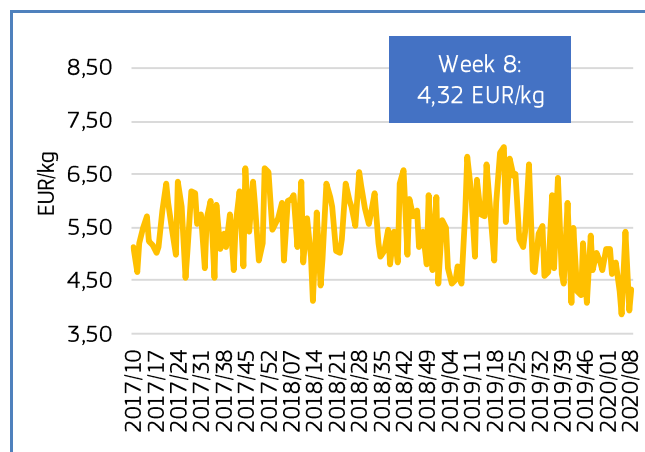


Source: European Commission (updated 13.03.2020).

For **frozen cold-water shrimps and prawns**, (*Pandalus* spp., CN code 03061699) from **Greenland**, the price in **week 7** was 4,00 EUR/kg (the most recent available data); 66% down from the preceding four-week average (11,66 EUR/kg), and 21% higher than the same week of the previous year (3,30 EUR/kg). Prices oscillated from 2,15 (week 16 of 2018) to 33,25 EUR/kg (week 49 of 2019) but have shown a clear increasing trend over the past two years. The imported volume showed high weekly volatility. The volume of 1.100 tonnes in week 7 was 17% higher than the preceding four-week average (945 tonnes), and 44% down from the previous year (1.957 tonnes). Prices do not seem to correlate directly with supply, which is highly variable (from 4 tonnes in week 47 of 2019 to 3.362 tonnes in week 18 of 2019). Denmark is the EU's biggest importer.

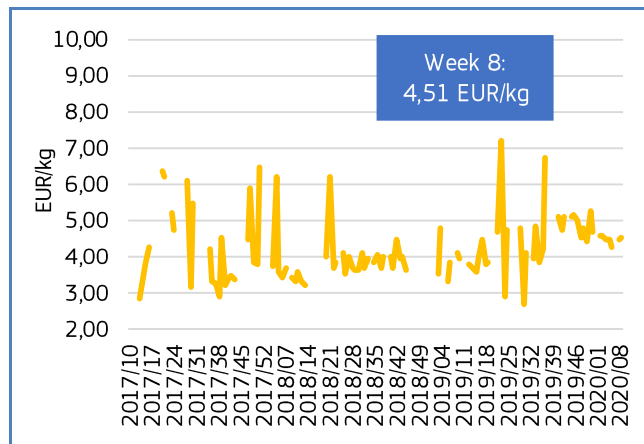
The price of **prepared or preserved yellowfin tuna loins** (*Thunnus albacares*, CN code 16041436) from **Ecuador** was 4,32 EUR/kg in **week 8**. This was lower than both the preceding four-week average of 4,37 EUR/kg and the same week in 2019 of 5,81 EUR/kg (-1% and -26%, respectively). Prices exhibited a decreasing trend over the past three years, while volume showed the opposite trend. The recorded volume of 84 tonnes in week 8 was significantly lower than both the preceding four weeks (153 tonnes, -45%), and the previous year (131 tonnes, -35%). EU imports of this product, mainly pre-cooked loins for canning, are used for further processing, and Italy and Spain are the EU's top importers.

Figure 35. **IMPORT PRICE OF PREPARED OR PRESERVED YELLOWFIN TUNA LOINS FROM ECUADOR**



Source: European Commission (updated 13.03.2020).

Figure 36. **IMPORT PRICE OF FROZEN SOUTHERN HAKE FROM CHILE**

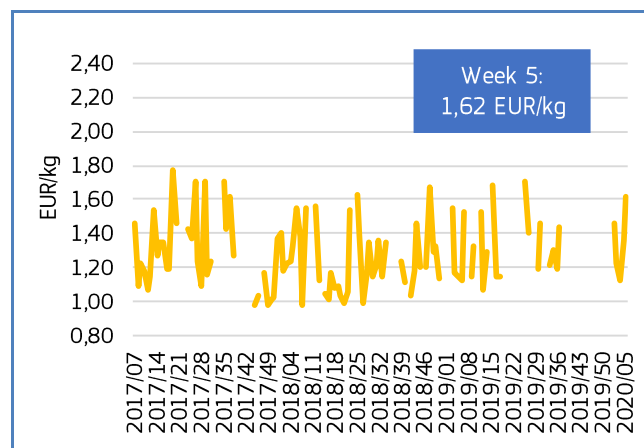


Source: European Commission (updated 13.03.2020).

The price of **frozen Southern hake** (*Merluccius australis*, CN code 03036613) from **Chile** reached 4,51 EUR/kg in **week 8**, which was higher than both the preceding four-week average (4,40 EUR/kg, +3%), and the previous year (4,12 EUR/kg, +10%). The recorded volume of 236 tonnes in week 8 was significantly higher than the preceding four weeks (131 tonnes, +81%), but down by 8% from a year earlier (257 tonnes). Supply is sporadic, and volume fluctuates from week to week. Both price and volume exhibited an increasing trend over the past three years. Spain is the EU's top importer.

The price of **frozen striped Venus and other species of the family Veneridae** (CN code 03077210) from **Chile** was 1,72 EUR/kg in **week 5** (the most recent available data), representing a significant increase from both the preceding four weeks (1,29 EUR/kg, +25%), and the previous year (1,13 EUR/kg, +43%). The recorded volume of 28 tonnes in week 5 was significantly lower than both the four-week average (44 tonnes, -35%), and the previous year (108 tonnes, -74%). Prices fluctuated from 0,90 to 1,78 EUR/kg (but the trend remained stable over the observed period) while volume decreased. Supply is sporadic and can fluctuate highly from week to week, and prices seem to be directly correlated. For example, the spike in price (1,78 EUR/kg in week 18 of 2017) corresponds to a sudden decrease in supply. Spain is the EU's biggest importer.

Figure 37. **IMPORT PRICE OF FROZEN STRIPED VENUS AND OTHER SPECIES OF THE FAMILY VENERIDAE FROM CHILE**



Source: European Commission (updated 13.03.2020).

3. Consumption

3.1. HOUSEHOLD CONSUMPTION IN THE EU

In January 2020, the consumption of fresh fisheries and aquaculture products increased by more than 10% in value in all Member States surveyed compared to January 2019. An exception was the UK²⁰ where value decreased by 18%. In volume, Denmark, Hungary, and the Netherlands show increases, while in the rest of the surveyed countries consumption declined.

The decrease seen in Germany was mainly due to decreased consumption of mussel (*Mytilus* spp.) and trout (-35% and -28%, respectively). In Ireland, a reduction in cod and salmon consumption (-35% and -11%, respectively) contributed to the overall decrease of 16%.

A rise in mackerel consumption in the Netherlands was the main reason for the overall increased volume and value of fresh fisheries and aquaculture products consumed in the country.

Table 2. JANUARY OVERVIEW OF THE REPORTING COUNTRIES (volume in tonnes and value in million EUR)

Country	Per capita consumption 2017* (live weight equivalent, LWE) kg/capita/year	January 2018		January 2019		December 2019		January 2020		Change from January 2019 to January 2020	
		Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Denmark	27,0	1.012	15,56	1.033	14,17	1.227	21,43	1.145	16,77	11%	18%
France	33,7	15.720	180,04	16.920	182,75	24.937	295,07	14.629	215,10	14%	18%
Germany	13,4	5.568	72,43	5.430	72,72	6.264	93,12	5.013	96,73	8%	33%
Hungary	5,6	338	1,70	234	1,28	2.546	13,45	400	2,45	71%	91%
Ireland	23,0	968	14,09	1.067	14,90	1.214	19,32	897	18,57	16%	25%
Italy	30,9	22.101	236,31	23.441	271,66	39.640	438,13	22.414	322,75	4%	19%
Netherlands	21,1	2.165	30,86	2.098	30,57	3.444	59,99	2.305	44,50	10%	46%
Poland	15,0	3.971	23,23	3.828	25,69	12.489	65,46	3.600	30,56	6%	19%
Portugal	56,8	3.875	26,58	4.236	25,46	4.270	31,90	4.036	31,43	5%	23%
Spain	45,6	49.964	405,96	50.314	366,17	52.686	479,80	44.557	405,95	11%	11%
Sweden	26,6	889	11,46	639	9,19	730	9,39	522	12,43	18%	35%
UK	22,9	3.866	56,38	4.141	70,23	4.175	57,36	3.528	57,57	15%	18%

Source: EUMOFA, based on Europanel (updated 23.03.2020).

*Data on per capita consumption of all fish and seafood products for all EU Member States can be found at: https://eumofa.eu/documents/20178/157549/EN_The+EU+fish+market_2019.pdf

Over the past three years, household consumption of fresh fisheries and aquaculture products in the month of January has been below the annual average in both volume and value for the majority of countries analysed. Denmark and Germany were the only Member States where both volume and value were above the average. In Spain value was above average, while volume was below.

The most recent weekly consumption data (up to week 16 of 2020) are available on the EUMOFA website, and can be accessed [here](#).

²⁰ The UK was a Member State of the EU until January 2020, which corresponds to the period under analyses in this report.

3.2. Fresh sardine

Habitat: A migratory pelagic species, typically found at depths of 25–55 m during the day and closer to the surface at night (10–35 m)²¹.

Catch area: Northeast Atlantic from Norway and Scotland to Senegal, the Mediterranean Sea (predominately the western part) as well as the Black Sea²².

Producing countries in the EU: Spain, France, Portugal, Italy.

Production method: Caught.

Main consumers in the EU: Spain, France, Portugal, Italy.

Presentation: whole, filleted.

Preservation: fresh, frozen, canned, salted, hot-cold-smoked.

Means of preparation: cooked, grilled, baked.



3.2.1. General overview of household consumption in France, Portugal, and Spain

France, Portugal, and Spain are among the EU countries with the highest per capita apparent consumption of fisheries and aquaculture products (both household and out-of-home consumption). In 2017, per capita apparent consumption was 56,8 kg (LWE) in Portugal, the highest in the EU. However, this was a minor decrease of 0,2% relative to the previous year. Portuguese apparent consumption was more than double the EU average apparent consumption per capita (24,3 kg (LWE))²³.

In Spain, per capita apparent consumption was 45,6 kg (LWE), the second highest registered in the EU. It was 20% lower than that of Portugal, but 88% higher than the EU average. Compared to 2016, apparent consumption in Spain increased by 0,4%.

French per capita apparent consumption was 33,7 kg (LWE) in 2017, an increase of 1,5% relative to the previous year. This value is 39% higher than the EU average, but 47% lower than that of Portugal. For more information on per capita apparent consumption in the EU see Table 3.

Apparent consumption of sardine in the EU was 0,58 kg (LWE) per capita in 2017. Sardine comes entirely from wild catches and represented a 2% share of the most important species consumed in the EU²⁴.

Over the past three years, Spain has shown the highest levels of household consumption of fresh sardine among the three Member States analysed. Spanish households also spent the least for a kilogram of the product (4,90 EUR/kg on average), while those in France spent the most (6,74 EUR/kg).

We have covered **sardine** in previous *Monthly Highlights*:

First sales: France (9/2018, 8/2017), Greece (8/2017, 3/2016, July 2013) Italy (9/2018, 8/2017), Portugal (5/2015, February 2013), UK (9/2018).

Consumption: France (1/2018), Greece (3/2015), Portugal (1/2018, 1/2016, 3/2015), Spain (1/2018, 1/2016, 3/2015), the UK (1/2016, 3/2015).

Extra-EU Import: Morocco (1/2018, 9/2018, 3/2019), Thailand (1/2018).

Topic of the month: Sardine market in the EU (6/2016).

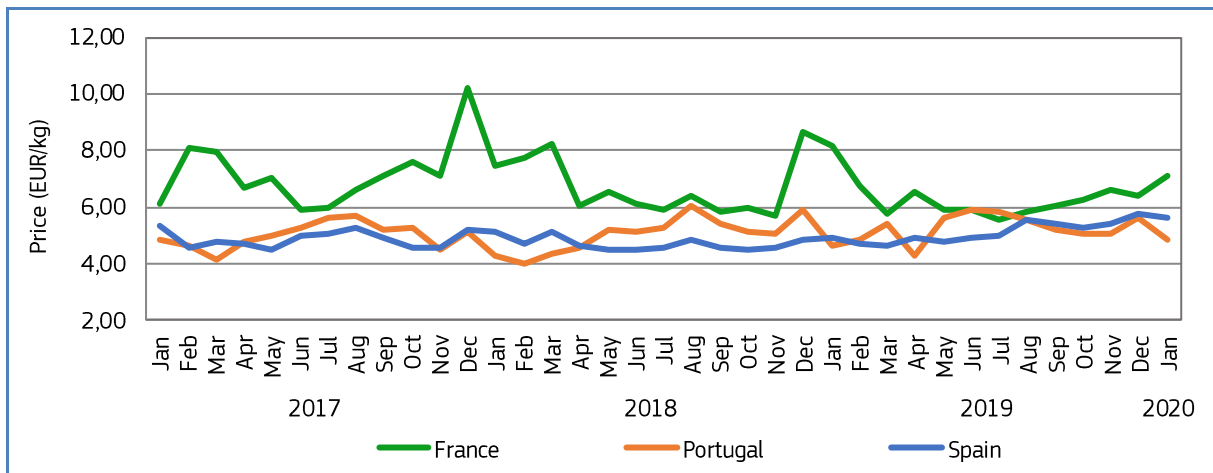
²¹ <https://eumofa.eu/documents/20178/111091/MH+1+2018+07.02.pdf/>

²² *Ibidem*.

²³ 2017 is the most recent year for which data are available.

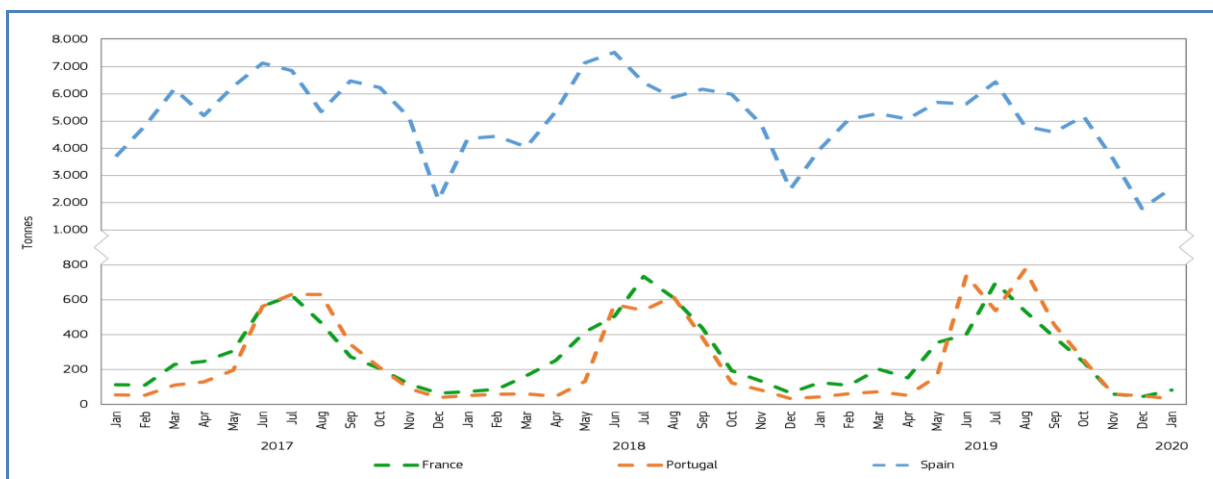
²⁴ https://eumofa.eu/documents/20178/314856/EN_The+EU+fish+market_2019.pdf/

Figure 38. PRICES OF FRESH SARDINE PURCHASED BY HOUSEHOLDS



Source: EUMOFA, based on Europanel (updated 23.03.2020).

Figure 39. HOUSEHOLD PURCHASES OF FRESH SARDINE



Source: EUMOFA, based on Europanel (updated 23.03.2020).

3.2.2. Consumption trends in France

Long-term trend (January 2017 to January 2020): Decreasing in both price and volume.

Yearly average price: 7,18 EUR/kg (2017), 6,71 EUR/kg (2018), 6,31 EUR/kg (2019).

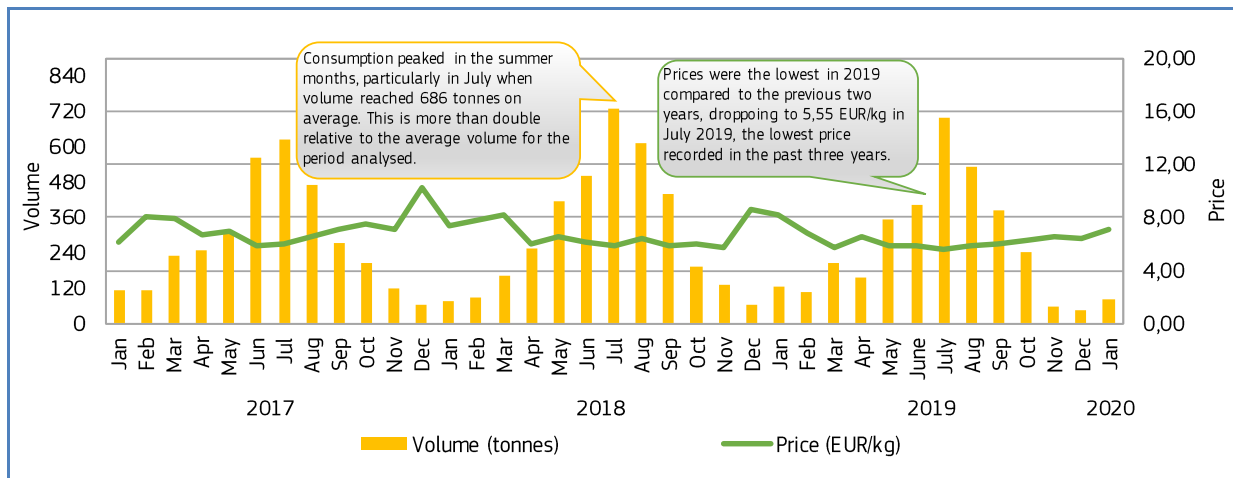
Yearly consumption: 3.319 tonnes (2017), 3.674 tonnes (2018), 3.310 tonnes (2019).

Short-term trend (January 2020): Decreasing in both volume and price.

Price: 7,08 EUR/kg.

Consumption: 82 tonnes.

Figure 40. RETAIL PRICE AND VOLUME OF FRESH SARDINE PURCHASED BY HOUSEHOLDS IN FRANCE



Source: EUMOFA, based on Europanel (updated 23.03.2020).

3.2.3. Consumption trends in Portugal

Long-term trend (January 2017 to January 2020): Increasing slightly in both price and volume.

Yearly average price: 4,99 EUR/kg (2017), 5,02 EUR/kg (2018), 5,23 EUR/kg (2019).

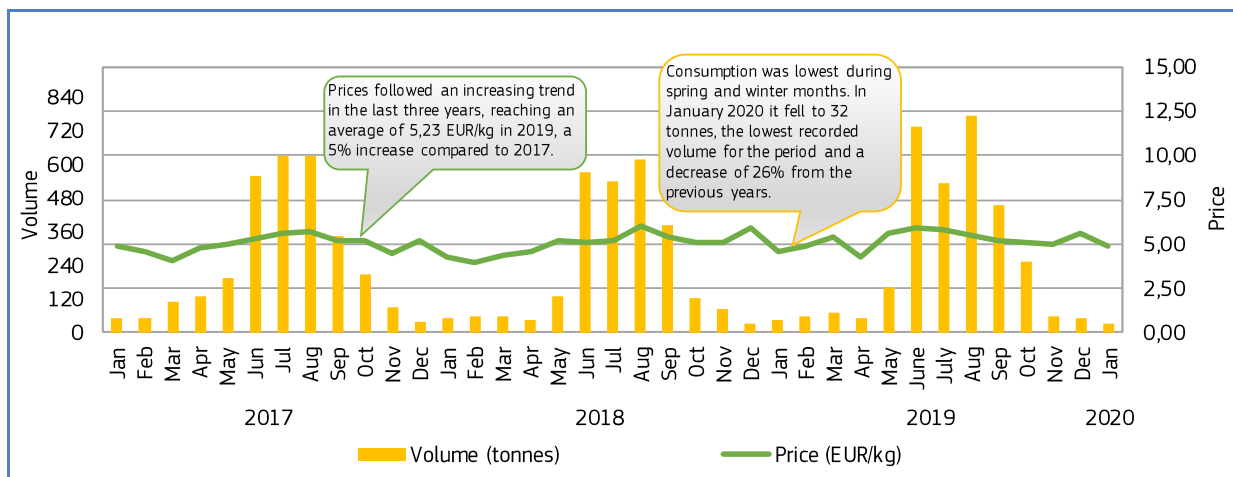
Yearly consumption: 3.050 tonnes (2017), 2.700 tonnes (2018), 3.258 tonnes (2019).

Short-term trend (January 2020): Increasing in price and decreasing in volume.

Price: 4,84 EUR/kg.

Consumption: 32 tonnes.

Figure 41. RETAIL PRICE AND VOLUME OF FRESH SARDINE PURCHASED BY HOUSEHOLDS IN PORTUGAL



Source: EUMOFA, based on Europanel (updated 23.03.2020).

3.2.4. Consumption trends in Spain

Long-term trend (January 2017 to January 2020): Increasing in price and decreasing in volume.

Yearly average price: 4,86 EUR/kg (2017), 4,69 EUR/kg (2018), 5,09 EUR/kg (2019).

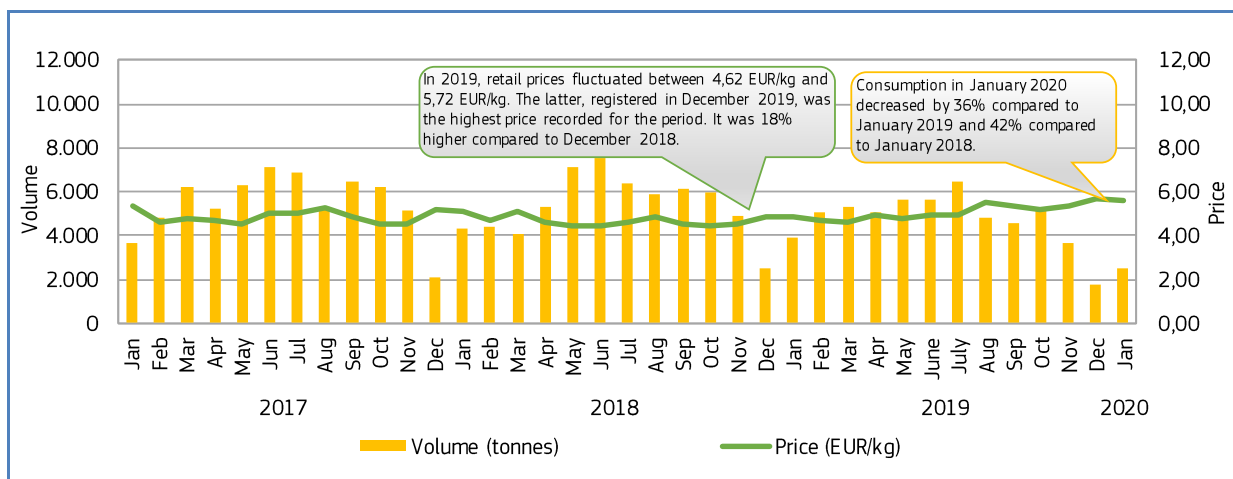
Yearly consumption: 65.497 tonnes (2017), 64.705 tonnes (2018), 57.154 tonnes (2019).

Short-term trend (January 2020): Increasing in price and decreasing in volume.

Price: 5,62 EUR/kg.

Consumption: 2.537 tonnes.

Figure 42. RETAIL PRICE AND VOLUME OF FRESH SARDINE PURCHASED BY HOUSEHOLDS IN SPAIN



Source: EUMOFA, based on Europanel (updated 23.03.2020).

4. Case study – Fisheries and aquaculture in Turkey

4.1. Introduction

Turkey covers a geographic area of 783.560 km², with 8.333 km of coastline. It borders the Mediterranean Sea in the south, the Black Sea in the north and the Aegean Sea and Sea of Marmara in the west. The capital Ankara has a population of about 5 million citizens, while the largest city, Istanbul, has about 15 million citizens (suburbs included). In total the population is about 83 million²⁵.

In 2018, the Gross Domestic Product (GDP) was EUR 654 billion, up 20% (in TRY) from 2017, and GDP per capita was EUR 8.030, up 18% (in TRY) from 2017²⁶.

With a total available water surface area of 26 million ha and rivers with a total length of 177.714 km, Turkey has the natural resources necessary for fish production²⁷. Between 2013 and 2017, Turkey was the 23rd largest aquaculture producer in the world, producing 0,2% of the global volume (0,6% with China excluded), and was the 3rd largest aquaculture producer in the Mediterranean Basin (after Egypt and Spain)²⁸. With respect to fisheries, Turkey is the 46th largest producer in the world and ranks 5th in the Mediterranean Basin. In 2018, production from fisheries amounted to 314.000 tonnes, of which 284.000 tonnes were from marine capture and 30.000 tonnes from freshwater fisheries, down 12% and 6%, respectively, from 2017. Total aquaculture production amounted to 315.000 tonnes in 2018, up 14% from 2017²⁹.



Source: <https://www.lonelyplanet.com/maps/europe/turkey/>

4.2. Fisheries

In 2017, the total number of registered fishing vessels was 17.497 and the marine fleet employs about 32.000 people. Most of the Turkish fleet consists of small vessels: about 90% are less than 12 meters in length³⁰. Just under three quarters of total annual catch stems from the Black Sea. European anchovy, European pilchard, European sprat and Mediterranean horse mackerel are the most frequently caught small pelagic species, representing 63% of total captures in 2018. These are used mainly for fishmeal and fish oil production and are the main ingredients in fish feed³¹.

²⁵ Turkish Statistical Institute (TurkStat), 2019, <http://www.turkstat.gov.tr/Start.do>

²⁶ *Ibidem*.

²⁷ Eurofish.

²⁸ FAO.

²⁹ TurkStat, <http://www.turkstat.gov.tr/Start.do>

³⁰ DG Fisheries and Aquaculture, Ministry of Food Agriculture and Livestock, Republic of Turkey, 2017.

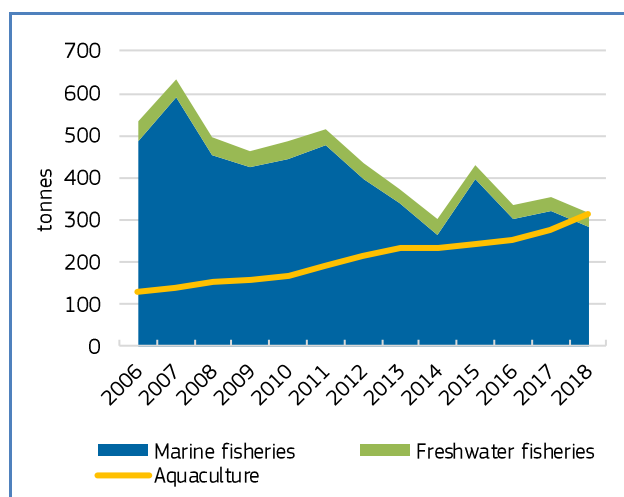
³¹ FAO.

Table 3. **PRODUCTION FROM FISHERIES IN THE PERIOD 2014–2018 (volume in 1.000 tonnes)**

Fisheries	2014	2015	2016	2017	2018
European anchovy	96.440	193.492	102.595	158.094	96.452
Striped venus clam	21.828	37.404	20.932	34.941	44.533
European sprat	41.648	76.996	50.225	33.950	20.057
European pilchard (sardine)	18.077	16.693	18.162	23.426	18.854
Marine molluscs nei	7.193	8.980	10.654	10.700	10.434
Tarek (pearl mullet)	8.310	8.850	9.950	9.830	9.945
Whiting	9.555	13.158	11.541	8.248	6.814
Mediterranean horse mackerel	12.213	14.290	8.860	8.066	14.222
Atlantic bonito	19.032	4.573	39.460	7.578	30.920
Goldfish	5.408	6.745	7.652	7.035	6.134
Silversides (sand smelts) nei	6.918	5.257	5.157	5.381	5.222
Atlantic horse mackerel	4.110	2.373	2.289	4.919	6.456
Mullets nei	2.913	2.944	2.962	3.738	2.680
Common carp	8.036	7.223	4.736	3.543	2.906
Other	40.533	32.931	40.151	34.871	38.466
Total	302.214	431.909	335.326	354.320	314.095

Source: FAO.

Figure 43. **AQUACULTURE PRODUCTION AND FISHERIES (MARINE AND FRESHWATER), 2006–2018 (volume in 1.000 tonnes)**



Source: TurkStat.

Total fisheries volumes vary from year to year, mainly due to fluctuation in anchovy catches. However, analysing a longer period, there is a clear declining trend for marine and freshwater fisheries, though weaker for freshwater. From 2006 to 2018, annual catches from marine fisheries declined by 43% (from 490.000 to 280.000 tonnes) while annual catches from freshwater fisheries declined by 32% (from 44.000 to 30.000 tonnes).

This trend is welcomed by the Turkish authorities who state that “Our Ministry set the conservation and sustainable exploitation of resources that are already limited as an important objective”. Fishing licenses have not been issued for marine vessels since 2002, and from 2012, a fishing vessel decommissioning scheme was launched. Fishing licenses for 1.225 vessels over 10 meters were annulled and removed from the fleet in 2012, and the program continues³².

4.3. Aquaculture

In contrast to the fisheries sector, aquaculture production has increased steadily and is about to bypass fisheries. This development is mainly related to the combination of technological advances and government strategy. Furthermore, Turkey is now the leading producer in the Mediterranean region for farmed species such as trout, European seabass and gilthead seabream, produced both in the Mediterranean and in the Black Sea. Almost 40% of aquaculture production in

³² Directorate General of Fisheries and Aquaculture, Ministry of Food Agriculture and Livestock, Republic of Turkey, “Turkish Fisheries, 2017”.

2017 was freshwater aquaculture (specifically rainbow trout). Mariculture is dominated by European seabass and gilthead seabream, accounting for about 98% of production in 2018. The main regions for marine aquaculture are the provinces on the coast of the Aegean Sea. Turkey is now the largest producer and exporter of both European seabass and gilthead seabream in the world. The country also has a significant bluefin tuna ranching industry, catching and fattening tuna primarily for the Japanese market.

Mariculture production mostly uses offshore sea cages, while freshwater production mostly involves land-based units supplied with water from rivers, but also in cages in lakes and hydro-electric or irrigation dams. In 2016, there were 2.326 fish farms, 1.901 freshwater farms and 425 marine farms, with a total capacity of almost 500.000 tonnes. The number of vertically integrated groups which are operating their own hatcheries, fish feed plants, fish farms, and processing and packaging plants is increasing steadily. It is reported that the aquaculture sector employs 10.500 people³³.

Table 4. **AQUACULTURE PRODUCTION, 2014–2018 (volume in 1.000 tonnes)**

Aquaculture	2014	2015	2016	2017	2018
Rainbow trout	112.345	106.598	104.355	106.733	112.427
European seabass	74.653	75.164	80.847	99.971	116.915
Gilthead seabream	41.873	51.844	58.254	61.090	76.680
Trouts nei	1.248	1.440	2.658	2.924	2.70
Atlantic bluefin tuna	305	340	770	777	715
Meagre	3.281	2.801	2.463	697	1.486
Mediterranean mussel	n/a	3	329	489	907
Common carp	157	206	196	233	212
Other	440	568	459	563	269
Total	234.302	238.964	250.331	273.477	311.681

Source: FAO.

4.4. Processing industry

There were 210 fish processing enterprises in 2017, employing approximately 6.500 people³⁴. The main processed products are seabass and seabream. Processed fish is mainly exported, since the domestic market prefers fresh whole fish. Farmed seabass and seabream are exported chilled or frozen as gutted or filleted, in vacuum-sealed trays. More recently, they have also been exported as frozen ready meals. Farmed rainbow trout is filleted and smoked for western markets.

4.5. Export

The EU is Turkey's primary market for fish and seafood exports, but exports are increasing to Russia, the Middle East and even Asia and the US. The total volume of exported fisheries and aquaculture products increased to almost 219.000 tonnes in 2019, with a value of approximately EUR 942 million.

³³ FAO.

³⁴ <https://www.eurofish.dk/turkey>

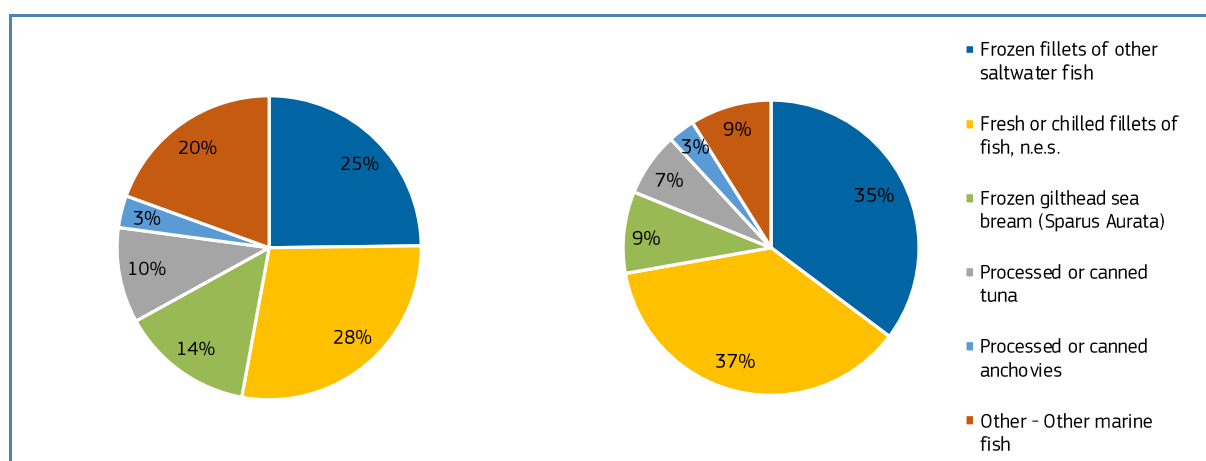
Table 5. **EXPORT FROM TURKEY, 2015–2019 (volume in 1.000 tonnes and value in EUR 1.000)**

Main Commercial Species	Volume					Value				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Other marine fish	49.397	29.914	33.632	37.799	40.382	350.430	215.476	223.832	228.848	237.446
Seabream, other	58.194	41.961	43.226	48.971	55.086	269.778	161.416	165.664	167.784	189.227
Seabass, other	52.243	27.201	32.785	42.567	49.315	259.370	136.386	151.355	164.581	173.718
Trout	36.710	21.993	23.628	25.334	27.407	155.375	92.855	95.619	110.862	130.158
Tuna, bluefin	5.312	2.978	4.071	4.122	7.000	77.527	39.047	51.068	48.731	76.943
Molluscs and aquatic invert, other	3.853	2.665	2.582	3.222	3.246	20.747	13.658	12.947	19.718	21.917
Fish oil	12.926	9.944	3.584	10.249	7.329	22.737	16.451	7.239	18.117	11.865
Sea cucumber	324	379	855	944	1.292	7.323	7.879	14.647	18.924	32.335
Clam	1.737	1.254	1.574	1.860	2.289	5.782	3.750	4.875	6.519	8.357
Other crustaceans	719	1.119	829	978	1.043	5.334	8.274	5.893	6.757	7.111
Shrimp, miscellaneous	1.424	673	677	580	778	10.222	5.405	5.201	4.200	7.243
Carp	15.316	10.850	7.750	5.912	7.471	8.761	7.934	2.958	2.123	2.203
Fishmeal	146	1.157	2.562	6.031	11.304	233	1.775	3.517	7.757	14.499
Other	6.876	4.149	4.768	4.410	4.970	25.907	19.820	19.352	20.050	28.542
Total	245.177	156.237	162.524	192.978	218.912	1.219.526	730.126	764.168	824.971	941.562

Source: EUMOFA, based on Global Trade Atlas – IHS Markit data.

The largest Main Commercial Species category exported is “Other marine fish”. By analysing and comparing with export statistics from the Turkish Statistical Institute (TurkStat), this category consists of several frozen and or processed products of the main aquaculture species (gilthead seabream and tuna), as well as anchovies from fisheries. The two largest categories represent pooled groups of “Frozen fillets of other saltwater fish” and “Fresh or chilled fillets of fish, n.e.s.” with a share of respectively 25% and 28% of the volume and 35% and 37% of the value.

Figure 44. **VOLUME (LEFT) AND VALUE (RIGHT) SHARE OF THE UNDERLYING CATEGORIES IN THE MAIN COMMERCIAL SPECIES EXPORT CATEGORY “OTHER MARINE FISH” IN 2019**



Source: TurkStat.

Turkey mainly produces fillets of European seabass, Gilthead seabream and trout, for exports to the EU. Fresh trout fillets are declared separately, so it is reasonable to assume that the two products “Frozen fillets of other saltwater fish” and “Fresh or chilled fillets of fish n.e.s.” mainly consist of fillets from seabass and seabream. These categories represent 10% and 18% of the total export volume and value, respectively, in 2019.

4.6. EU Imports from Turkey

Out of a total export volume of 219.000 tonnes in 2019, 127.000 tonnes (58%) of fisheries and aquaculture products from Turkey were destined for the EU, led by the three main aquaculture species (seabream, seabass, and trout), followed by anchovies from the fisheries sector.

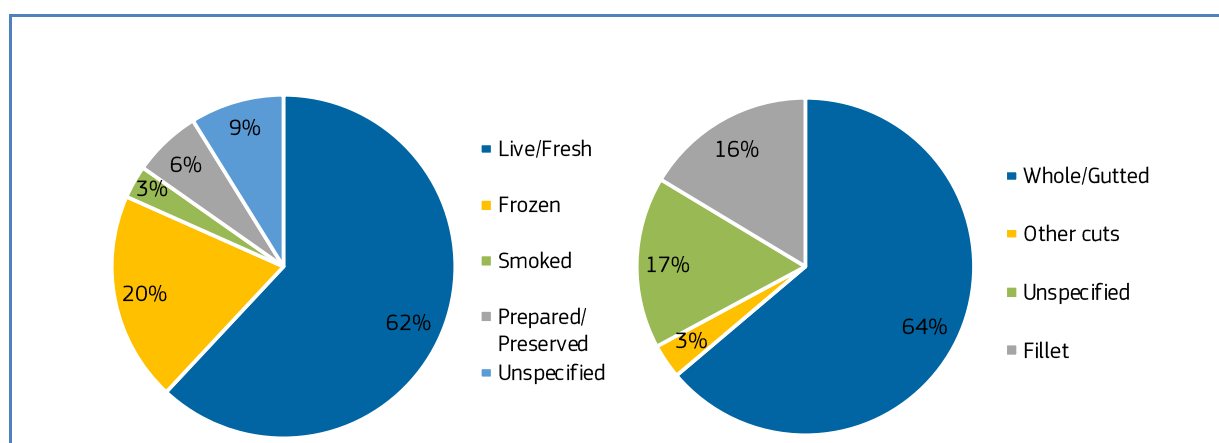
Table 6. **IMPORT BY MAIN COMMERCIAL SPECIES FROM TURKEY TO THE EU, 2015–2019 (volume in 1.000 tonnes and value in EUR 1.000)**

Main Commercial Species	2015		2016		2017		2018		2019	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Other marine fish	14.604	137.216	19.260	176.791	18.600	169.286	19.894	164.221	22.836	179.362
Seabream, gilthead	17.559	88.562	28.348	122.095	29.600	126.806	32.216	125.966	37.934	148.510
Seabass, European	14.781	78.124	16.839	88.069	20.342	99.691	25.763	107.603	28.989	109.714
Trout	13.683	65.081	15.624	73.791	16.461	71.308	13.716	64.642	13.263	65.462
Anchovy	1.930	7.978	1.749	7.761	1.698	7.207	1.521	7.040	1.602	7.379
Clam	2.342	8.341	1.749	5.854	1.868	6.201	2.154	7.615	2.040	7.517
Fish oil	65	135	4.505	6.884	523	1.082	7.215	14.352	4.632	7.298
Other freshwater fish	3.138	4.207	2.906	4.724	3.381	5.716	3.085	6.077	2.636	4.638
Shrimp, deep-water rose	571	4.407	528	4.757	547	4.665	305	2.516	349	3.256
Other products	n/a	n/a	n/a	n/a	2.272	5.443	2.126	4.901	3.007	7.062
Other salmonids	341	2.931	483	4.067	239	1.970	363	2.874	384	3.175
Seabream, other	1.601	8.927	142	1.326	207	1.795	329	2.005	145	697
Other	1.855	9.792	2.047	11.637	3.281	12.765	4.988	17.189	9.428	24.114
Total	72.468	415.702	94.180	507.754	99.020	513.935	113.675	527.001	127.243	568.183

Source: EUMOFA

The majority of the imports consists of live/fresh and whole or gutted products (62% and 64%, respectively), but also a considerable share of fillet or other processed products

Figure 45. **PRESERVATION STATE (LEFT) AND PRESENTATION STATE (RIGHT) OF THE FISHERIES AND AQUACULTURE PRODUCTS IMPORTED FROM TURKEY TO THE EU IN 2019**

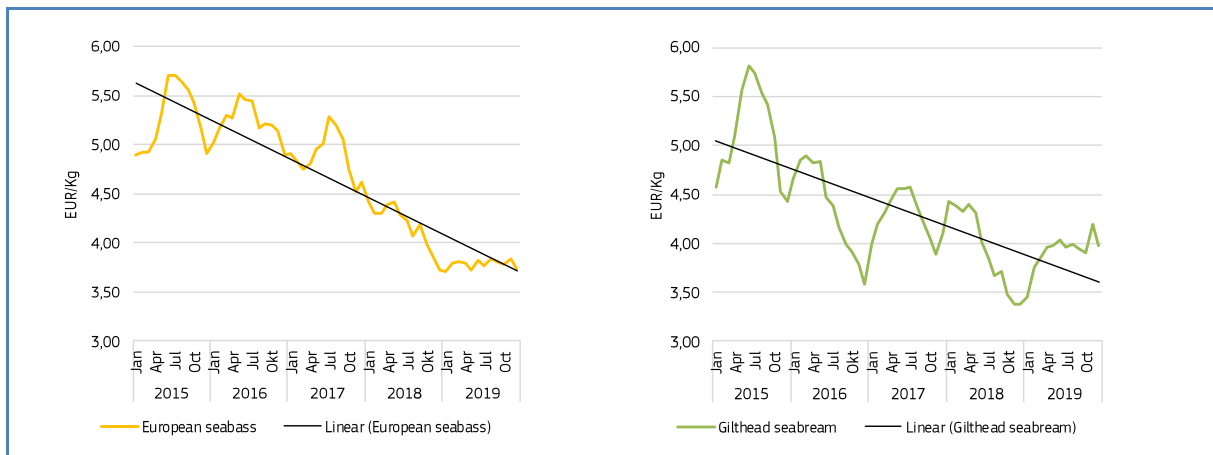


Source: EUMOFA

4.7. EU import prices

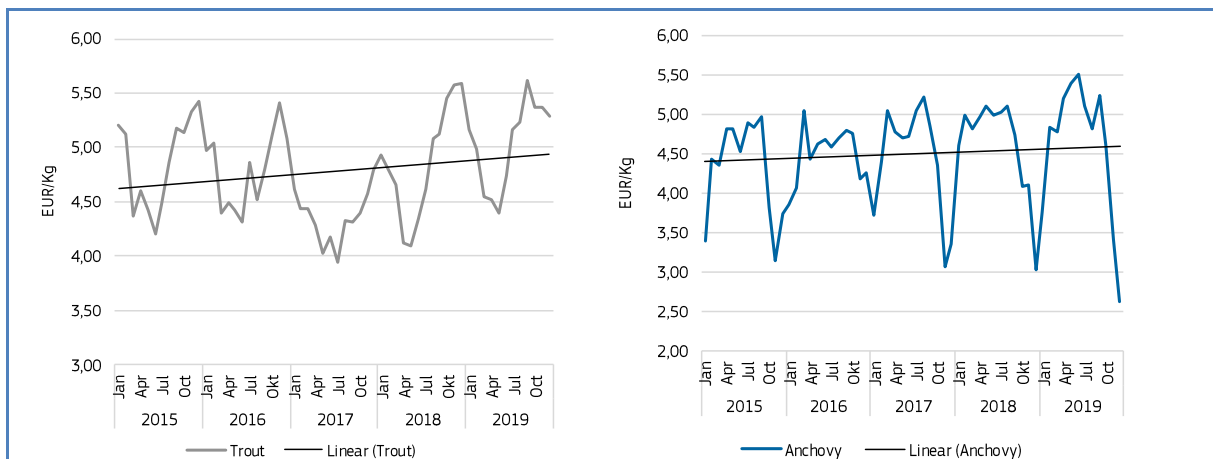
The aquaculture sector is known for boom and bust cycles with rapid volume growths followed by price collapses, repeating themselves. There is a steep decline in price for the two main aquaculture species (seabass and gilthead seabream) from 2015 to 2019, associated with rapid growth in production over the same period to meet the demand level. However, towards the end of the period, the supply levels exceed the demand. In contrast, both trout species and anchovies show a weak increasing price trend over the same period.

Figure 46. **EUROPEAN SEABASS AND GILTHEAD SEABREAM MONTHLY IMPORT PRICES FROM TURKEY TO THE EU 2015–2019**



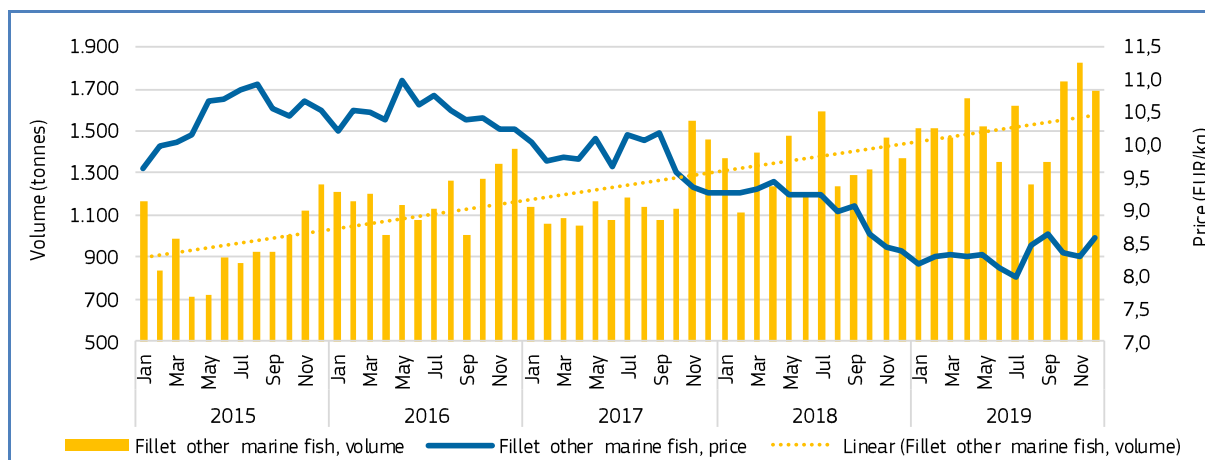
Source: EUMOFA

Figure 47. **TROUT AND ANCHOVY MONTHLY IMPORT PRICES FROM TURKEY TO THE EU, 2015–2019**



Source: EUMOFA

Figure 48. **MONTHLY IMPORT VOLUME AND PRICES FOR FILLET OF OTHER MARINE FISH FROM TURKEY TO THE EU, 2015–2019**



Source: EUMOFA

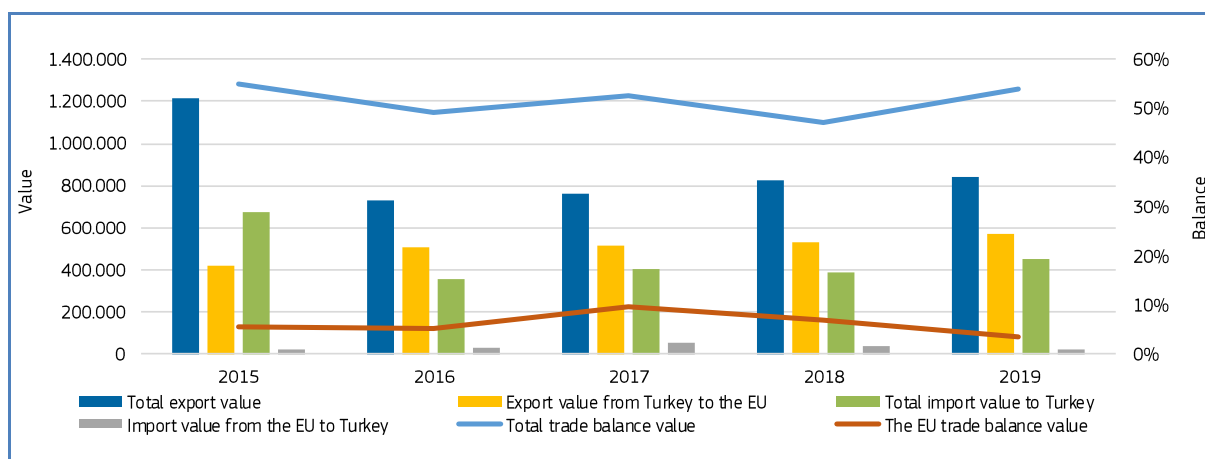
*Assumed to include a significant share of seabass and seabream.

4.8. Trade balance for fisheries and aquaculture products

In terms of value, the share of the largest main commercial species imported to Turkey between 2015 and 2019 are fishmeal (32% of total import value), fish oil (16%), mackerel (11%), salmon (11%), skipjack tuna (6%), saithe (4%), and bluefin tuna (3%). Fishmeal and fish oil are main inputs to the aquaculture sector and represent almost 50% of the total import value. The total trade balance for Turkey (total import versus total export value) varies from 47% to 55% (on average 52%) over the period.

The trade balance between Turkey and the EU varies from 3 to 10% (on average 6%), and the main commercial species exported to Turkey over the period 2015–2019, are skipjack tuna (27% of total value), fishmeal (21%), salmon (7%), and yellowfin tuna (6%).

Figure 49. **TRADE VALUE AND BALANCE FOR FISHERIES AND AQUACULTURE PRODUCTS BETWEEN THE EU AND TURKEY, 2015–2019**



Source: EUMOFA based on Global Trade Atlas - HIS Markit data.

*Assumed to include a significant share of seabass and seabream.

Table 7. **EU EXPORT TO TURKEY BY MAIN COMMERCIAL SPECIES, 2015–2019 (volume in 1.000 tonnes and value in EUR 1.000)**

Main Commercial Species	2015		2016		2017		2018		2019	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Tuna, skipjack	3.516	3.513	7.114	8.073	10.053	14.483	8.591	10.224	5.914	7.088
Fishmeal	3.192	4.548	1.931	2.720	12.596	15.922	7.600	9.290	1.521	1.873
Salmon	220	2.322	167	1.895	136	1.563	155	1.993	101	1.346
Tuna, yellowfin	1.624	2.246	1.988	2.877	1.649	2.459	518	748	73	106
Other marine fish	657	1.771	179	1.293	365	980	825	1.588	187	857
Other products	0	0	0	0	1.159	2.754	1.111	2.682	576	1.562
Mackerel	4.171	1.953	936	564	3.664	1.895	2.106	975	254	169
Squid	537	1.305	493	1.533	193	676	223	888	76	320
Fish oil	193	445	211	609	479	1.306	1.055	1.853	192	533
Swordfish	81	886	133	1.437	42	443	47	508	44	565
Tuna, bigeye	538	599	827	887	1.084	1.767	344	450	319	415
Other	1.424	3.667	842	3.609	2.226	5.595	2.211	4.685	2.929	4.298
Total	16.151	23.254	14.820	25.499	33.645	49.843	24.785	35.884	12.187	19.133

Source: EUMOFA.

4.9. Consumption

Per capita consumption of fisheries and aquaculture products was about 5,49 kg in 2017 and 6,14 kg in 2018³⁵. This is low compared to the world average of 21 kg/capita and the European Union average of 22 kg/capita³⁶, despite Turkey being surrounded by seas. Trout and seabass are popular in the Mediterranean region of Turkey, while in eastern Turkey, European anchovy is the preferred fish, followed by trout. The Marmara and Aegean regions are the leading areas as far as volume and variety of fish consumption are concerned. Fish consumption in Turkey increased from about 4 kg in the 1960s up to about 8 kg in the 1980s and 1990s, and started declining again from the mid-2000s³⁷. Turkish consumers have historically preferred meat products, and fish consumption differs between regions³⁸, being lowest in inland areas and more predominant in coastal areas. The authorities are working on a media campaign to foster an increase in fish consumption³⁹.

4.10. Future aspects

According to the FAO, the threats to the Turkish seafood sector are overfishing, fleet overcapacity, poor environmental planning, and unregulated fishing. However, opportunities for increasing production in a sustainable manner are sought through the promotion of co-management schemes, stock assessment, efforts in monitoring, control and surveillance, increased market access for Turkish fisheries products into the EU, and the development of recreational fisheries. After moving fish farms offshore, conflicts between the marine aquaculture sector and other coastal users, primarily the tourism industry, were significantly reduced. This change has allowed further growth in aquaculture production and the sector now aims for a production of 600.000 tonnes, including trout, in 2023. This is to be reached through freshwater cage production, thanks to recent construction of dams and designation of new marine aquaculture areas. Turkey has access to well-developed research infrastructure. Faculties, departments and university laboratories have close links to the industry. These sites provide insight and competence for the industry, as well as a supply of well-educated employees who are important for the growth of the sector. New sectors like mussel and shrimp farming, which the government is keen to develop, will also play a role in the overall expansion in production⁴⁰. Certification to standards such as Global GAP⁴¹, Friend of the Sea, and ISO 14000 is becoming widespread.

³⁵ TurkStat.³⁶ Statista, <https://www.statista.com/statistics/820953/per-capita-consumption-of-seafood-worldwide/>³⁷ Our world in data/FAO, <https://ourworldindata.org/grapher/fish-and-seafood-consumption-per-capita>³⁸ Eurofish.³⁹ <https://www.undercurrentnews.com/2016/04/28/commerce-proposes-hike-in-shrimp-duties-for-india-lowers-vietnamese-rates-across-the-board-2-50/>⁴⁰ Eurofish.

5. Case study – Tropical shrimp in the EU

Tropical shrimps are among the most produced, traded and consumed species in the world and in the EU. The world production of tropical shrimps has kept increasing over the last decade, recently driven by China, Ecuador and India, and is expected to continue to increase in coming years. In 2019, extra-EU imports of frozen *Penaeus* shrimp reached 284.270 tonnes with a total value of EUR 1,98 billion, relatively stable compared to 2018.

5.1. Biology and production method

Biology

Most produced and traded tropical shrimp belong to the genus *Penaeus*. The Penaeidae family includes the most significant farmed crustacean species worldwide. The two main species produced are the whiteleg shrimp (*Penaeus vannamei*) and the giant tiger prawn (*Penaeus monodon*).

The whiteleg shrimp is native to the Eastern Pacific coast from Sonora, Mexico through Central and South America as far south as Tumbes in Peru, in areas where water temperatures are normally higher than 20°C throughout the year. This species lives in tropical marine habitats. Adult whiteleg shrimp live and spawn in the open ocean, while postlarvae migrate inshore to spend their juvenile, adolescent and sub-adult stages in coastal estuaries, lagoons or mangrove areas⁴².



Giant tiger prawns mature and breed in tropical marine habitats and, like whiteleg shrimp, spend their larval, juvenile, adolescent and sub-adult stages in coastal estuaries, lagoons or mangrove areas. In the wild, they show marked nocturnal activity, burrowing into bottom substratum during the day and emerging at night to search for food as benthic feeders. Giant tiger prawns live along the coasts of Australia, Southeast Asia, South Asia and East Africa.

Production methods

These two *Penaeus* species are both wild-caught and farmed. For many years, farmed production has significantly exceeded wild-caught production. There are three growing culture practices for shrimp farming: extensive, semi-intensive and intensive, which represent low, medium, and high stocking densities, respectively.

For *Penaeus vannamei*, captured wild seeds were used in Latin America for extensive pond culture until the late 1990s. Domestication and genetic selection programmes then provided more consistent supplies of high-quality, disease-free and/or disease-resistant varieties, which were cultured in hatcheries.

Recent research conducted in the USA has focused on growing *P. vannamei* in super-intensive raceway systems enclosed in greenhouses, using no water exchange (only the replacement of evaporation losses) or discharge, stocked with Specific Pathogen Free Post Larvae (SPF PL). These setups are biosecure, have a small ecological footprint and can produce shrimp close to consumption areas⁴³. Several similar projects are also being developed in Europe.

Penaeus monodon was originally harvested together with other shrimp species from traditional trapping-growing ponds or as a significant by-product of extensive milkfish ponds. Due to their larger size and better survival, captured wild seeds were once commonly used in southern Asia for extensive ponds, which require a minimal amount of seed for stocking. However, the use of wild seeds has been reduced, due to overfishing and the outbreak of white spot disease in shrimp nursery grounds. Consequently, most grow-out farms now rely solely on hatchery-produced seeds⁴⁴.

⁴¹ Good Agricultural Practices.

⁴² http://www.fao.org/fishery/culturedspecies/Penaeus_vannamei/en

⁴³ http://www.fao.org/fishery/culturedspecies/Penaeus_vannamei/en#tcNA0078

⁴⁴ http://www.fao.org/fishery/culturedspecies/Penaeus_monodon/en

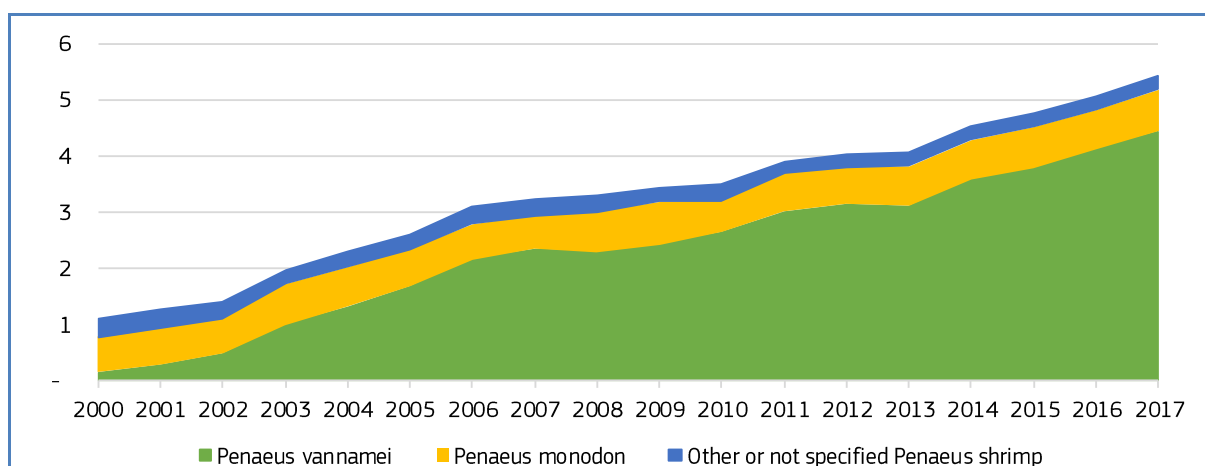
Post-harvesting process: after sorting, the shrimp are washed, weighed and immediately killed in iced water at 0–4 °C. Often sodium metabisulphate is added to the chilled water to prevent melanosis and red-head⁴⁵. The shrimp are then kept on ice in insulated containers and transported by truck either to processing plants or domestic shrimp markets. In processing plants, shrimp are placed in iced bins and cleaned and sorted according to standard export sizes. The shrimp are processed, quickly frozen at -10 °C and stored at -20 °C for export, mostly by ship. Due to an increasing demand and higher profit margin associated with seafood products (as opposed to produce), many processing plants increasingly operate value-added product lines.

5.2. Production

Aquaculture

From the early 2000s, Asian countries have started progressively developing *P. vannamei* production instead of *P. monodon*. Production of *P. monodon* has stayed rather stable globally, rising only by 17% from 2000 to 2017, reaching 739.000 tonnes in 2017. In the same period, *P. vannamei* production has strongly increased, becoming by far the main farmed shrimp species globally, facilitated by lower production costs and better disease control. Production rose from 14% of world production of farmed *Penaeus* species in 2000 to 82% in 2017, when production amounted to 4,5 million tonnes. Due to its low price, this 'new' species can be sold in domestic markets, ensuring more stable incomes for farmers (rather than relying on unstable export prices⁴⁶).

Figure 50. **EVOLUTION OF WORLD PRODUCTION OF FARMED *PENAEUS* SHRIMP IN 2008–2017 (volume in million tonnes)**



Source: FAO.

In 2017, China was the leading producer of farmed *P. vannamei* shrimp by a large margin, providing 38% of the global total, followed by India (13%), Indonesia (11%), Vietnam (10%) and Ecuador (10%). Other important producers were Thailand (7%) and Mexico (3%).

Over the last decade (2008–2017), global production of farmed *P. vannamei* has almost doubled. Vietnam, Indonesia and Ecuador experienced the most spectacular production booms (1.037%, 141% and 190%, respectively) and Chinese production grew by 57%.

According to the FAO, EU production of farmed *P. vannamei* shrimp was made up of only a small production volume in Spain (8 tonnes in 2017). In addition, there is some EU production of Kuruma prawn (*Penaeus japonicus*) in France (about 60 tonnes in 2017), Italy (6 tonnes) and Spain (1 tonne).

⁴⁵ Melanosis (or blackspot), in shrimp, is a harmless but objectionable discoloration or darkening, occurring primarily along the swimmerets, head, tail and nearby shell areas. Usually "red heads" turn up during harvest or when shrimp are being transported to the packing plant. It occurs when the hepatopancreas bursts open inside the cephalothorax. These colorations usually lower the price of the products.

⁴⁶ http://www.fao.org/fishery/culturedspecies/Penaeus_monodon/en

Table 8. **WORLD PRODUCTION OF FARMED *P. VANNAMEI* SHRIMP (volume in tonnes)**

Countries	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
China	1.062.765	1.102.712	1.183.585	1.258.159	1.359.763	1.338.958	1.473.007	1.519.409	1.628.638	1.672.287
India	-	1.730	-	125.000	136.300	211.200	305.251	416.347	461.302	583.400
Indonesia	208.648	170.969	206.578	246.420	238.663	376.189	442.379	409.899	498.174	503.800
Vietnam	38.600	36.000	99.285	140.466	148.023	236.242	352.722	339.489	380.000	439.023
Ecuador	150.000	179.100	223.313	260.000	281.100	304.000	340.000	403.000	422.000	435.000
Thailand	501.394	571.189	561.075	603.227	588.370	310.705	263.245	281.918	321.542	329.636
Mexico	130.201	125.778	104.612	109.816	100.320	60.292	86.973	130.361	127.814	150.030
Others	212.950	241.868	270.092	278.815	292.366	284.256	332.119	302.521	293.495	343.428
Total	2.304.558	2.429.346	2.648.540	3.021.903	3.144.905	3.121.842	3.595.696	3.802.944	4.132.965	4.456.604

Source: FAO.

Giant tiger shrimp (*P. monodon*) is mostly farmed in Asian countries. In 2017, the leading producer of farmed *P. monodon* shrimp was Vietnam which provided 36% of the world total, followed by Indonesia (19%). Other important producers were China (10%), Bangladesh (9%), India (10%), Myanmar (7%), and the Philippines (6%).

Over the last decade (2008–2017), the world production of farmed *P. monodon* has stayed stable, with a 3% increase. The leading producer, Vietnam, has experienced a significant decline (-19%), as many shrimp farmers shifted to *P. vannamei* shrimp after the white spot episode⁴⁷, as well as in India (-23%). In other major producing countries, the production either stayed stable (+2% in both Indonesia and Philippines) or either increased (by 24% in China and 15% in Myanmar).

Table 9. **WORLD PRODUCTION OF FARMED *P. MONODON* SHRIMP (volume in tonnes)**

Countries	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Vietnam	324.600	316.000	212.567	194.427	164.189	186.467	240.248	250.879	244.087	262.936
Indonesia	134.930	124.561	125.519	126.157	116.311	175.318	129.231	127.626	131.556	138.200
China	60.899	59.515	54.961	57.850	61.860	68.920	71.554	72.492	71.894	75.227
Bangladesh	-	49.710	43.154	56.569	57.785	68.948	71.430	75.274	68.217	68.272
India	76.000	96.880	-	130.000	131.900	78.500	70.389	82.043	57.330	58.450
Myanmar	48.303	46.104	46.105	51.207	52.693	52.000	40.000	49.891	54.179	55.310
Philippines	45.343	47.830	48.162	47.495	48.197	49.467	47.843	49.527	49.139	46.068
Others	30.290	27.844	32.424	24.806	36.391	29.293	31.068	27.471	28.775	34.964
Total	720.365	768.444	562.892	688.511	669.326	708.913	701.763	735.203	705.177	739.427

Source: FAO.

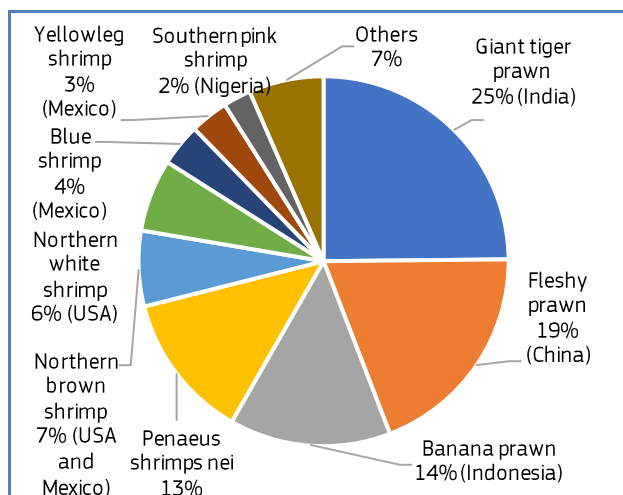
According to a Global Aquaculture Alliance survey, the growth of shrimp production from 2017 to 2018 was estimated at +11%, especially attributable to Ecuador, China and India. In 2019, the growth was only +1%⁴⁸.

⁴⁷ Among the more lethal viruses infecting Penaeid shrimp, the white spot syndrome virus (WSSV), a rapidly replicating and extremely virulent shrimp pathogen, has emerged globally as one of the most prevalent and widespread. It was first detected in the early 1990s and it particularly impacted the Asian shrimp farming industry over the 2010-2013 period.

⁴⁸ <https://www.aquaculturealliance.org/advocate/goal-2019-global-shrimp-production-review/>

Catches

Figure 51. **WORLD CATCHES OF PENAEUS SHRIMP IN 2017: BREAKDOWN BY MAIN SPECIES AND RELATED MAIN PRODUCER**



Source: FAO.

Global wild catches of *Penaeus* shrimp (all species), amounted to 937.221 tonnes in 2017. The main species caught were:

- Giant tiger prawn (25% of the total), 90% of which were caught by India.
- *Penaeus chinensis*: Fleshy prawn (19%), mostly caught by China (99%).
- *Penaeus merguensis*: Banana prawn (14%), mostly caught by Indonesia (87%).
- Not specified *Penaeus* species (13%), reported in catches of many countries all over the world.

Between 2008 and 2017, the world production of wild-caught *Penaeus* shrimp experienced a 21% increase, mostly attributable to fleshy prawn (+101%), banana prawn (+47%), northern brown shrimp (+51%), blue shrimp (+187%) and yellowleg shrimp (+287%).

According to Eurostat 2018 preliminary data, EU catches of *Penaeus* shrimp species mostly included shrimp caught in the Mediterranean. EU catches of *Penaeus* species in 2018 amounted to about 2.800 tonnes in 2017: 88% of caramote prawn (*Melicertus kerathurus*, mostly caught by Greece and Spain) and 12% of not specified *Penaeus* shrimp. In addition, about 17.000 tonnes of deep-water rose shrimp were caught by the EU fleet in 2017 (*Parapenaeus longirostris*, mostly caught by Croatia and Spain). Concerning EU Outermost regions, there is a locally important commercial fishery of *Penaeus* shrimp in French Guiana (*P. subtilis* and *P. brasiliensis*), accounting for 665 tonnes in 2017, following a significant decreasing trend since the mid-2000s.

Since 2009, EU catches of *Penaeus* shrimp decreased by 38%, with strong fluctuations over the decade (mostly due to the strong variability of Greek catches of caramote prawn). However, over the period, EU catches of deep-water rose shrimp have stayed relatively stable despite strong fluctuations of national productions.

Processing and marketing

Tropical shrimps are mostly imported whole and frozen to be cooked and sold as chilled products (whether head-on or head-off and sometimes peeled). A share of these imports is also sold through the frozen products market. There are different types of segment on the cooked shrimp market, based on categories of size, presentation and preservation, and certification.

Preferred processing depends on the country in question. The various presentation types are as follows: whole (HOSO), but also shell on (SO), peeled tail on (PTO), peeled undeveined (PUD) or peeled and deveined (P&D) and tail-on (TO). In southern Europe (countries such as Spain, France, Portugal and Italy), raw HOSO shrimp are preferred for the cooking industry. In northern Europe (countries such as the Netherlands, Germany, Belgium, the UK, Sweden, Finland, Denmark), retail PUD shrimps are popular. In the EU, *P. vannamei* shrimps are measured by pieces per kilogram (pc/kg). For EU market, around 40-50 pc/kg and 50-60 pc/kg are preferred. Usually 10% of glazing declared on packaging⁴⁹. However, *Penaeus* shrimps caught by the EU fleet are mostly marketed fresh and reach much higher prices.

The shrimp farming sector, particularly in Asia, has received negative comments from Europe's media over the last decade. Shrimp farming has been criticized for its negative impact on local communities and the environment such as pollution of groundwater and agricultural land. In this context, consumers' awareness of such potential negative impacts has been increasing. European buyers are therefore seeking out shrimp suppliers that are able to prove the sustainability

⁴⁹ <https://www.cbi.eu/market-information/fish-seafood/shrimp-products/vannamei-shrimp/>

and responsibility of the products they buy. In recent years, organic and ecolabelled shrimp production has started in all major production regions (Madagascar, Vietnam, Honduras, Ecuador, China, India, etc.). The first example has been *Penaeus monodon* from Madagascar, the first 'Label Rouge' and certified organic shrimp, historically marketed on the French market.

While organic *P. vannamei* are mostly sourced from Ecuador, organic *P. monodon* is farmed in several countries (e.g. Bangladesh, Madagascar, India, Indonesia and Vietnam). However, the availability of ASC-certified⁵⁰ shrimp in Europe has recently rapidly grown. Worldwide, in recent years numerous shrimp farms have gained ASC certification. Examples are farms in Belize, Honduras and Bangladesh⁵¹.

5.3. Import – Export

The main characteristic of the EU market for tropical shrimp is its total dependence on imports, mainly from Central and South America and Asia. Shrimps are mostly imported raw and frozen to be cooked next to consumption areas. Countries such as Spain, Italy and France import raw material to a large extent, mostly head-on shell-on, as a source for domestic shrimp cooking plants. Northern and western European countries, on the other hand, import more cooked or peeled shrimps. Northern and western European countries predominantly import their shrimps from Asian countries, while southern European countries tend to source mainly from South America⁵².

EU imports of frozen *Penaeus* shrimp⁵³ are under an Autonomous Tariff Quota (ATQ) in order to support the EU shrimp processing sector (mostly cooking). In 2019, the quota was 40.000 tonnes⁵⁴. Moreover, thanks to the free trade agreement signed between EU and Ecuador in place since 2017, EU shrimp buyers can import Ecuadorian *P. vannamei* with a zero duty, down from 3,6% (outside the ATQ)⁵⁵.

In 2019, extra-EU imports of frozen *Penaeus* shrimp reached 284.270 tonnes for EUR 1,98 billion, stable compared to 2018. The main importing countries in value terms were France (23%), Spain (19%), the UK (14%) and the Netherlands (13%). The main origin countries in value terms were Ecuador (31%), Vietnam (17%), India (15%) and Bangladesh (10%).

It should be noted that other frozen shrimp (excluding *Penaeus* species, *Pandalus* species, *Crangon* species and deep-water rose shrimp)⁵⁶ reached 135.976 tonnes for EUR 887 million in 2019. The main importing countries in terms of value were Spain (50%) and Italy (19%). A large share Spanish imports comprises wild-caught Argentinian red shrimp. The main origins in value terms were Argentina (52%), India (15%) and China (11%).

CN codes for other preservation states do not allow to distinguish *Penaeus* shrimp but – considering their importance in world shrimp production and trade – it is likely that they account for a significant share. In 2019, for prepared/preserved shrimp⁵⁷, extra-EU imports reached 112.101 tonnes for EUR 997 million. The main importing countries in value terms were Denmark (26%), the UK (25%) and the Netherlands (22%). Extra-EU imports of chilled/fresh shrimp⁵⁸ are very limited (142 tonnes for EUR 5 million in 2019). The main origin countries in value terms were Vietnam (25%), Greenland (16%, likely to concern cold-water shrimp species) and Morocco (15%, likely to concern peeled shrimp re-exported to the EU market).

Extra-EU exports remained limited, with 3.493 tonnes of frozen *Penaeus* shrimp for EUR 21 million exported in 2019, the main partners being Iceland (18%) and Switzerland (17%), in value terms. For prepared and preserved shrimp, extra-EU exports reached 6.644 tonnes for EUR 74 million, main destinations being Norway (47%), Switzerland (20%) and Japan (12%), in value terms. Concerning chilled/fresh shrimp products, Switzerland accounted for 53% of extra-EU exports amounting to 160 tonnes for EUR 2,5 million.

⁵⁰ ASC: Aquaculture Stewardship Council.

⁵¹ <https://www.eumofa.eu/documents/20178/105319/Cooked+shrimp+in+France.pdf>

⁵² <https://www.cbi.eu/market-information/fish-seafood/shrimp-products/vannamei-shrimp/>

⁵³ CN code 03061792: Frozen shrimps of the genus "Penaeus", even smoked, whether in shell or not, incl. shrimps in shell, cooked by steaming or by boiling in water.

⁵⁴ Council Regulation (EU) 2018/1977 of 11 December 2018.

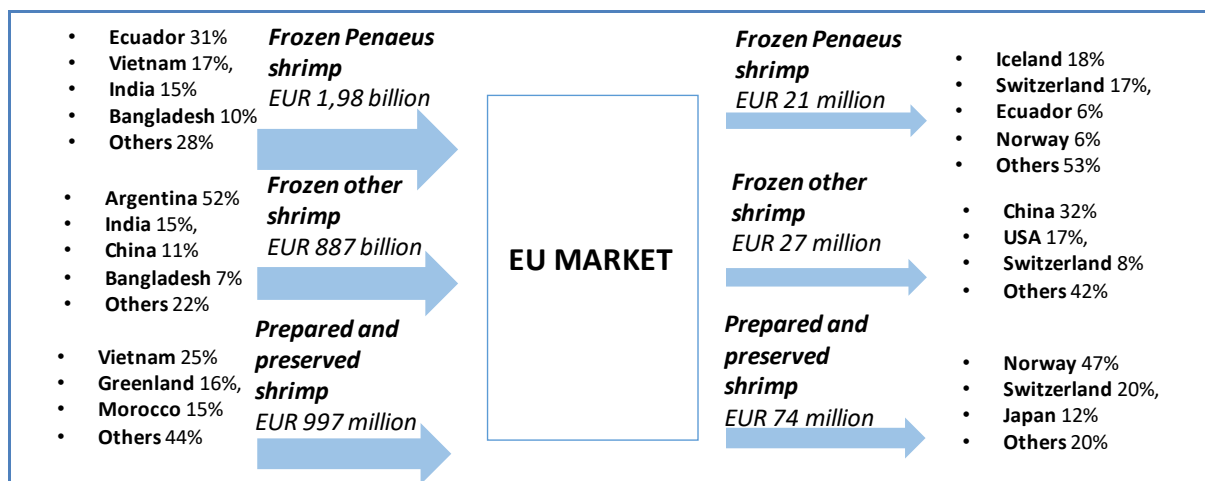
⁵⁵ <https://www.undercurrentnews.com/2017/01/26/ecuador-eu-free-trade-to-benefit-exporters-of-all-origins-of-shrimp/>

⁵⁶ CN code: 03061799: Frozen shrimps and prawns, even smoked, whether in shell or not, incl. shrimps and prawns in shell, cooked by steaming or by boiling in water (excl. "Pandalidae", "Crangon", deepwater rose shrimps "Parapenaeus longirostris" and "Penaeus").

⁵⁷ CN codes 16052110: Shrimps and prawns, prepared or preserved, in immediate packings of a net content of <= 2 kg (excl. merely smoked, and in airtight containers); 16052190: Shrimps and prawns, prepared or preserved, in immediate packings of a net content of > 2 kg (excl. merely smoked, and in airtight containers); 16052900: Shrimps and prawns, prepared or preserved, in airtight containers (excl. smoked).

⁵⁸ CN code 03063690: Shrimps and prawns, whether in shell or not, live, fresh or chilled (excl. "Pandalidae" and "Crangon").

Figure 52. **EXTRA-EU TRADE FLOWS FOR SHRIMP PRODUCTS IN 2019**

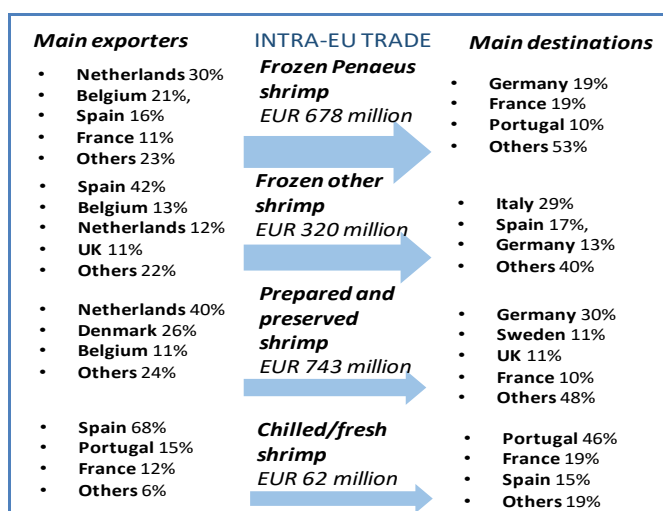


Source: EUMOFA elaboration of Eurostat-COMEXT data (excluding brown shrimp, cold-water shrimp and deep-water rose shrimp).

In 2019, **intra-EU exports** of frozen *Penaeus* shrimp reached 85.174 tonnes for EUR 678 million. Main exporting countries in value terms were the Netherlands (30%) and Belgium (+31%), these two countries being a hub for extra-EU imports, then Spain (16%) and France (11%). The main destinations were Germany (19%), France (19%) and Portugal (10%).

Fresh/chilled shrimp intra-EU exports reached 7.505 tonnes for EUR 62 million, a significant share being cooked and chilled shrimp moving from Spain to Portugal.

Figure 53. **INTRA-EU EXPORT FLOWS FOR SHRIMP PRODUCTS IN 2019**



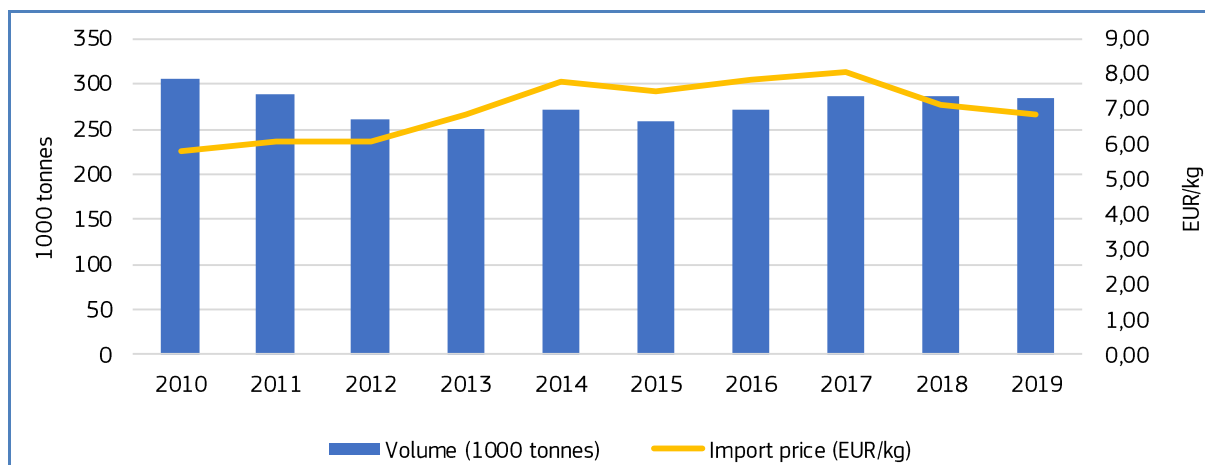
Source: EUMOFA elaboration of Eurostat-COMEXT data (excluding brown shrimp, cold-water shrimp and deep-water rose shrimp).

5.4. Latest trends on the shrimp market

Extra-EU imports of frozen *Penaeus* shrimp experienced fluctuations over the last decade. After a significant decline from 2010 to 2013 (when the world supply was the lowest) and a rebound in 2014, EU imports increased from 2015 to 2018. Average import prices kept increasing slightly from 2015 to 2017, exceeding 8,00 EUR/kg, then declined in 2018. Import prices remained stable in 2019 due to the increasing production in Ecuador, India and China⁵⁹.

⁵⁹ Price data are delated using the GDP deflator tool. Base year is 2015.

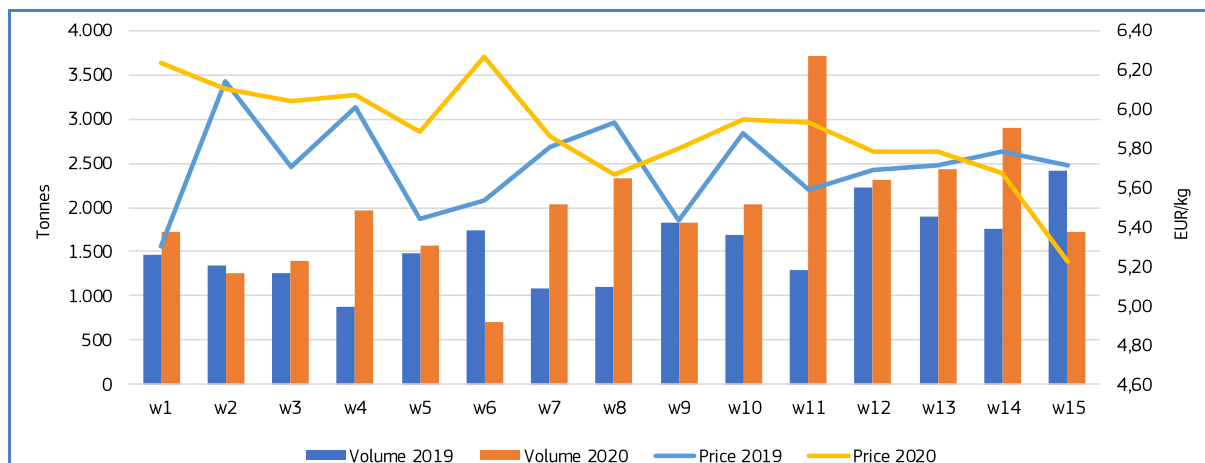
Figure 54. **EXTRA-EU IMPORTS OF FROZEN *PENAEUS* SHRIMP IN 2010–2019**



Source: EUMOFA elaboration of Eurostat-COMEXT data (excluding brown shrimp, cold-water shrimp and deep-water rose shrimp).

In 2019, the growth of world farmed shrimp production was expected at +5% from 2017 to 2021, according to a survey of the Global Aquaculture Alliance⁶⁰. Over the 15 first weeks of 2020, EU imports of frozen *P. vannamei* from Ecuador have been at a higher level than for the same period in 2019 and 2018. Restriction measures related to the COVID-19 outbreak in the EU – particularly the closure of the food service sector and the drop of demand for fresh seafood in retail – has highly impacted the activity of shrimp processors. As a result, in week 15, a significant decrease in import volumes of frozen *P. vannamei* (-40% for extra-EU imports from Ecuador, -29% compared to the same week in 2019) and a slight decrease of prices (-8%, and -9% compared to the same week in 2019) occurred compared to the week 14.

Figure 55. **EXTRA-EU WEEKLY IMPORTS OF FROZEN *P. VANNAMEI* SHRIMP FROM ECUADOR IN WEEK 1 TO WEEK 15, IN 2019 AND 2020**



Source: EUMOFA elaboration of DG-TAXUD weekly data.

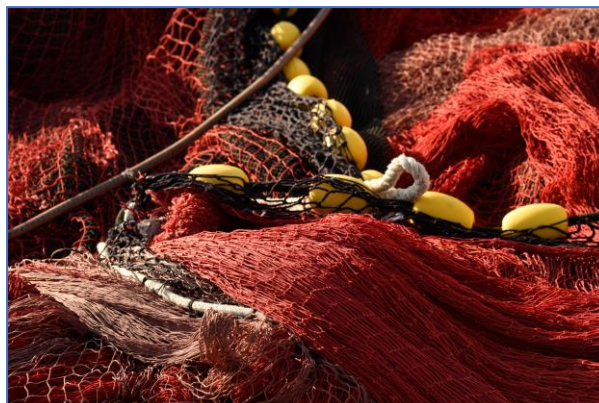
According to Rabobank, the shrimp sector will be one of the hardest hit seafood sectors due to the strong fall in demand. Moreover, since many shrimp farmers were reluctant to restock their ponds, especially in Ecuador, the price decline during the pandemic is likely to result in a steep rise if supply collapses in the second half of the year – provided the market returns to normal⁶¹.

⁶⁰ <https://www.aquaculturealliance.org/advocate/goal-2019-global-shrimp-production-review/>

⁶¹ <https://www.undercurrentnews.com/2020/03/30/rabobank-farmed-shrimp-will-be-one-of-hardest-hit-sectors-by-coronavirus/>

6. Global highlights

EUMOFA / Trade / Webinar: On 29 April at 10:30 am CEST, EUMOFA is hosting a webinar: “Practical applications of EUMOFA’s international trade database on fisheries and aquaculture products”. During the event, EUMOFA experts will present a step-by-step guide on how to extract import and export volumes, as well as the values and prices of each product traded by the nearly 100 countries included in the EUMOFA international fishery and aquaculture trade database. The webinar is free, but a [registration](#) is required in order to receive the link to join via your PC, phone or tablet⁶².



EU / Artic / IUU⁶³: The EU organised a meeting of scientists from the 10 signatories to the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic, which took place from 11 to 13 February 2020 at the EU Joint Research Centre in Ispra, Italy. The agreement will ban unregulated fisheries in the high seas portion of the Central Arctic Ocean for 16 years. During this period, a scientific research and monitoring programme will be established. At the meeting, scientists discussed concrete ways to implement this programme. So far, the EU, Denmark (acting on behalf of Greenland and the Faroe Islands), the Russian Federation, Canada, Japan, South Korea and the United States have ratified the agreement⁶⁴.

EU / Fisheries / Eel: In February, the European Commission (EC) published an evaluation of the implementation of the eel regulation, 12 years after its entry into force. The evaluation found that eel regulation remains an important instrument in helping European eel stocks recover but the status of the eel remains critical; Member States’ annual reporting on glass eel prices is incomplete; non-fisheries related mortality has not declined significantly over the last decade; and not all Member States have achieved their restocking targets⁶⁵.

EU / Sustainability / Sea trout: In the Baltic Sea, fishing for sea trout beyond four nautical miles measured from the baselines in ICES subdivisions 22-32 is prohibited for fishing vessels from 1 January to 31 December 2020. When fishing for salmon in those waters, by-catch of sea trout shall not exceed 3% of the total catch of salmon and sea trout at any point, either on board or landed after each fishing trip⁶⁶.

World / Supply: Global fish production growth is expected to be approximately flat year-on-year in 2019, for a total of 178 million tonnes. The developing aquaculture sector continues to grow, with farmed harvests estimated to have increased by 3,9% last year. Most commercially important farmed finfish species, including salmon, tilapia and pangasius achieved solid production gains in 2019. The increase in aquaculture production was offset by an estimated 3,4% drop in wild catches, largely driven by the steep decline in anchoveta catches in Peru⁶⁷.

Peru / Fisheries / Anchovy: On 15 January 2020, Peru’s Ministry of Production (PRODUCE) declared a premature close to the anchovy fishing season in the country’s north-central region due to the presence of a high number of juveniles in the area. This early closure is a preventive measure to protect the sustainability of the species and their environment but will also herald an increase in price⁶⁸.

Tunisia / Fisheries / Supply: Tunisia’s fishery and aquaculture production rose by 25% to 8.522 tonnes in January 2020, compared to 6.799 tonnes in the same period last year. Fishery production was at 7.195 tonnes in January 2020, compared to 5.297 tonnes in the same period of the 2019, a 36% increase. This evolution has shown across most of the fishing activities, especially coastal fishing (60%). Aquaculture production reached 1.327 tonnes in 2020, slightly lower in comparison with 1.502 tonnes in 2019⁶⁹.

⁶² <https://register.gotowebinar.com/register/1159667414397403916>

⁶³ Illegal, unreported and unregulated fishing.

⁶⁴ https://ec.europa.eu/fisheries/press/eu-joins-forces-nine-countries-future-science-based-management-high-seas-central-arctic-ocean_en

⁶⁵ https://ec.europa.eu/fisheries/sites/fisheries/files/swd-2020-36_en.pdf

⁶⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R1838&from=EN>

⁶⁷ <http://www.fao.org/in-action/globefish/market-reports/resource-detail/en/c/1263893/>

⁶⁸ <http://www.fao.org/in-action/globefish/market-reports/resource-detail/en/c/1263877/>

⁶⁹ <https://www.tap.info.tn/en/Portal-Economy/12403119-fishery-and>

7. Macroeconomic Context

7.1. Marine fuel

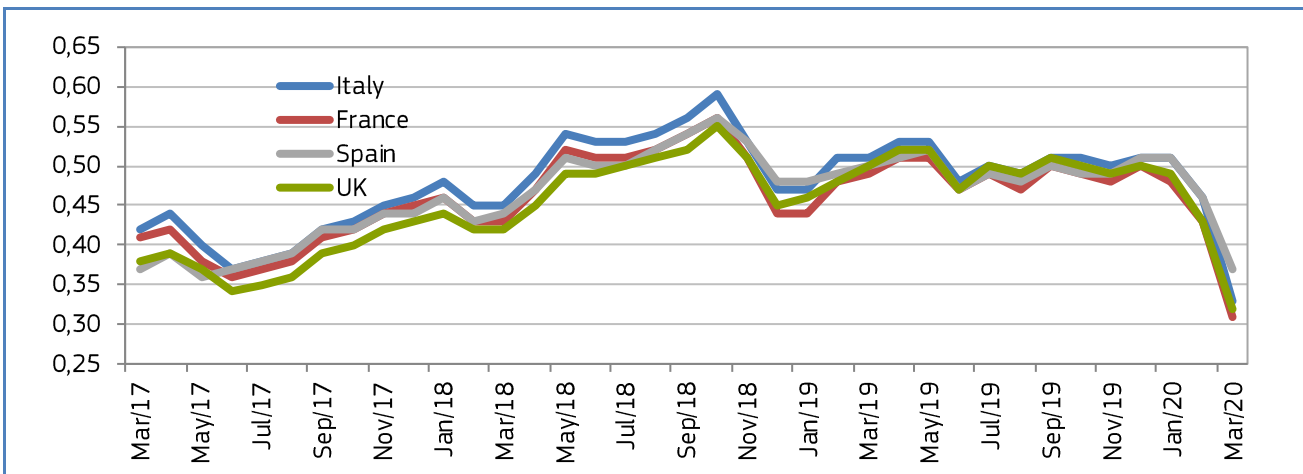
Average prices for marine fuel in **March 2020** ranged between 0,31 and 0,37 EUR/litre in ports in **France, Italy, Spain,** and the **UK**. Prices dropped about 25% compared with the previous month and 34% compared with the same month in 2019.

Table 10. **AVERAGE PRICE OF MARINE DIESEL IN ITALY, FRANCE, SPAIN, AND THE UK (EUR/litre)**

Member State	Mar 2020	Change from Feb 2020	Change from Mar 2019
France <i>(ports of Lorient and Boulogne)</i>	0,31	-28%	-35%
Italy <i>(ports of Ancona and Livorno)</i>	0,33	-28%	-37%
Spain <i>(ports of A Coruña and Vigo)</i>	0,37	-20%	-26%
The UK <i>(ports of Grimsby and Aberdeen)</i>	0,32	-26%	-36%

Source: Chamber of Commerce of Forlì-Cesena, Italy; DPMA, France; MABUX.

Figure 56. **AVERAGE PRICE OF MARINE DIESEL IN ITALY, FRANCE, SPAIN, AND THE UK (EUR/litre)**



Source: Chamber of Commerce of Forlì-Cesena, Italy; DPMA, France; MABUX.

7.2. Consumer prices

The EU annual inflation rate was at 1,6% in February 2020, down from 1,7% in January. It remained unchanged compared with the same month a year ago.

Inflation: lowest rates in February 2020, compared with January 2020.



Inflation: highest rates in February 2020, compared with January 2020.

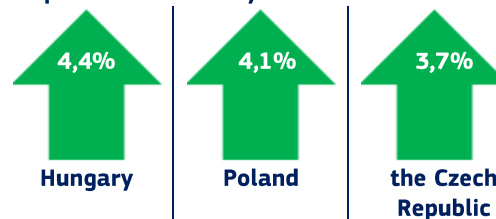


Table 11. HARMONISED INDEX OF CONSUMER PRICES IN THE EU (2015 = 100)

HICP	Feb 2018	Feb 2019	Jan 2020	Feb 2020	Change from Jan 2020		Change from Feb 2019	
Food and non-alcoholic beverages	104,06	106,23	108,52	109,07	↑	0,5%	↑	2,6%
Fish and seafood	107,80	110,13	113,89	112,38	↓	1,3%	↑	2,0%

Source: Eurostat.

7.3. Exchange rates

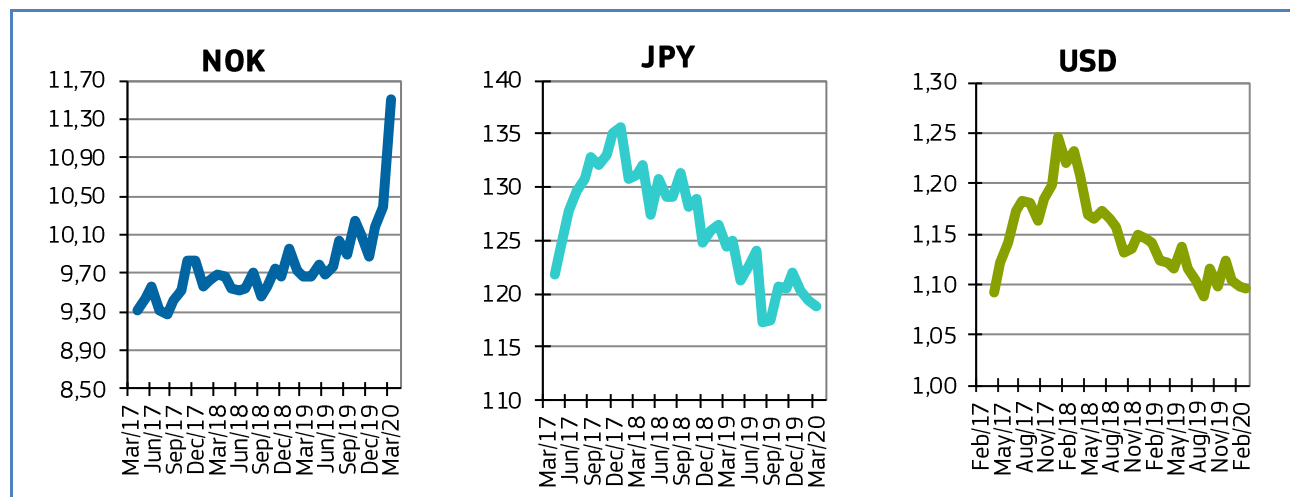
Table 12. EXCHANGE RATES FOR SELECTED CURRENCIES

Currency	Mar 2018	Mar 2019	Feb 2020	Mar 2020
NOK	9,6770	9,6590	10,3888	11,5100
JPY	131,15	124,45	119,36	118,90
USD	1,2321	1,1235	1,0977	1,0956

Source: European Central Bank.

In March 2020, the euro appreciated against the Norwegian krone (+10,8%) from February 2020. However, it slightly depreciated against the Japanese yen (-0,4%) and the US dollar (-0,2%). For the past six months, the euro has fluctuated around 10,38 against the Norwegian krone. Compared with March 2019, the euro has depreciated 4,5% against the Japanese yen and 2,5% against the US dollar, but it appreciated 19,2% against the Norwegian krone.

Figure 57. TREND OF EURO EXCHANGE RATES



Source: European Central Bank.

Manuscript completed in April 2020

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of the following information.

Luxembourg: Publications Office of the European Union, 2020

© European Union, 2020

Reuse is authorised provided the source is acknowledged.

The reuse policy of European Commission documents is regulated by Decision 2011/833/EU (OJ L 330, 14.12.2011, p. 39).

Copyright for photographs: © EUROFISH, 2020; Lonely Planet

For any use or reproduction of photos or other material that is not under the EU copyright, permission must be sought directly from the copyright holders.

PDF ISSN 2314-9671

FOR MORE INFORMATION AND COMMENTS:

Directorate-General for Maritime Affairs and Fisheries

B-1049 Brussels

Tel: +32 229-50101

E-mail: contact-us@eumofa.eu

This report has been compiled using EUMOFA data and the following sources:

First sales: Council of the EU, FAO, “Diário da República” Portugal, GFCM

Consumption: EUROPANEL.

Case study: Turkish Statistical Institute, Eurofish, FAO, DG Fisheries and Aquaculture, Ministry of Food Agriculture and Livestock, Republic of Turkey, Statista, Undercurrent News, Aquaculture Alliance, CBI.

Global highlights: DG-Mare European Commission, European Council, FAO, Agence Tunis Afrique Presse

Macroeconomic context: EUROSTAT, Chamber of Commerce of Forlì-Cesena, Italy: DPMA, France: ARVI, Spain: MABUX, European Central Bank.

The underlying first-sales data is in a separate annex available on the EUMOFA website. Analyses are made at aggregated (main commercial species) level and according to the EU Electronic recording and reporting system (ERS).

In the context of this Monthly Highlight, analyses are led in current prices, expressed in nominal values.

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.

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

EUMOFA Privacy Policy