

Monthly Highlights

No. 1 / 2023

E U M O F A

European Market Observatory for
Fisheries and Aquaculture Products

In this issue

From January–September 2022, 9 EU Member States, Norway and the United Kingdom reported first-sales data for 10 commodity groups.

Over the 36-month observation period (October 2019 to September 2022), the weighted average first-sales price of European anchovy in Portugal was 2,04 EUR/kg, 66% higher than in France (1,23 EUR/kg) and 22% more than in Spain (1,67 EUR/kg).

In January–October 2022 swordfish consumption in Italy decreased by 16% compared to the same period in 2021. However, in the same period, the average price increased by 25% from 17,58 EUR/kg to 21,95 EUR/kg.

In 2022, both price and volume of chilled yellowfin tuna imported into the EU from the Maldives showed a stable trend.

From 2011 to 2020, EU-27 landings of octopus species fell by 32% in volume and 27% in value in real terms, due to the significant fall in landings in Spain, Italy and Portugal.

Chilean fisheries make a significant contribution to global production through catches of fish, molluscs, and seaweed. In 2020, it produced nearly 2,2 million tonnes of seafood, which was approximately 2,4% of total world production from fisheries.



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1. First sales in Europe

From **January–September 2022**, 9 EU Member States (MS), Norway and the United Kingdom reported first-sales data for 10 commodity groups (CG)¹. First-sales data are based on sales notes and data collected from auction markets. First-sales data analysed in section 1. *First sales in Europe* are extracted from EUMOFA².

1.1. January–September 2022 compared to the same period in 2021

Increases in value and volume: France and Norway recorded an increase in both first-sales value and volume. The increase in volume in France was due mainly to octopus and scallop, while in Norway it was mainly due to cod and mackerel.

Decreases in value and volume: Bulgaria, Estonia, Latvia and Lithuania recorded decreases both in first-sales value and volume. Bulgaria and Lithuania stood out with the most significant drop in absolute terms. In Bulgaria it was due to lower first sales of clam and sprat, while in Lithuania it was due to herring and smelt, both in volume and value.

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

Country	January – September 2020		January – September 2021		January – September 2022		Change from January – September 2021	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Bulgaria	1.906	1,1	3.502	2,2	1.852	1,2	-47%	-45%
Estonia	41.376	11,6	45.597	12,4	34.410	10,5	-25%	-16%
France	189.813	447,2	205.161	510,5	214.902	562,6	5%	10%
Italy	65.558	244,5	67.128	272,8	59.004	271,6	-12%	0%
Latvia	32.239	6,5	31.083	6,6	28.748	6,2	-8%	-6%
Lithuania	1.396	0,6	1.791	0,9	762	0,5	-57%	-41%
Netherlands	179.081	264,4	150.610	225,9	162.793	183,5	8%	-19%
Portugal	77.381	177,0	95.047	215,5	89.239	234,9	-6%	9%
Spain	401.952	1092,2	384.667	1144,4	352.515	1211,5	-8%	6%
Norway	2.204.122	1814,5	2.239.060	1997,5	2.260.529	2546,4	1%	27%
United Kingdom	212.852	397,8	241.793	439,4	223.626	475,5	-8%	8%

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, prices are reported in EUR/kg of live weight.

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

² First-sales data updated on 24.11.2022.

1.2. September 2022 compared to September 2021

Increases in value and volume: First sales increased in France, Latvia, Spain and Norway in both value and volume. Most significant increases were observed in Latvia and Norway. In Latvia this was due mainly to herring and sprat. Mackerel and saithe were behind the increase in Norway.

Decreases in value and volume: First sales decreased in Bulgaria, Italy, Lithuania, Portugal and the United Kingdom. Most significant decreases were observed in Bulgaria and Lithuania. This was due mainly to clam and red mullet in Bulgaria, while in Lithuania herring and other freshwater fish species contributed most to the decrease.

Table 2. **SEPTEMBER OVERVIEW OF FIRST SALES FROM THE REPORTING COUNTRIES**
(volume in tonnes and value in million EUR) *

Country	September 2020		September 2021		September 2022		Change from September 2021	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Bulgaria	163	0,2	320	0,3	99	0,1	-69%	-71%
Estonia	5.316	1,7	5.024	1,4	4.422	1,6	-12%	13%
France	25.211	53,3	24.857	59,7	25.654	65,0	3%	9%
Italy	8.985	30,5	8.719	30,7	7.011	26,1	-20%	-15%
Latvia	4.975	1,1	2.154	0,4	3.824	0,9	78%	95%
Lithuania	276	0,09	308	0,085	9	0,013	-97%	-84%
Netherlands	13.010	26,2	20.923	35,7	28.697	25,8	37%	-28%
Portugal	14.181	24,0	17.896	31,4	13.178	26,2	-26%	-17%
Spain	42.546	107,8	39.635	125,6	40.101	133,4	1%	6%
Norway	139.304	112,3	202.603	211,2	251.099	312,5	24%	48%
United Kingdom	32.836	52,8	38.684	63,7	36.242	61,9	-6%	-3%

Possible discrepancies in % changes are due to rounding.

** Volumes are reported in net weight for EU Member States and the UK, and in live weight equivalent (LWE) for Norway. Prices are reported in EUR/kg (without VAT). For Norway, prices are reported in EUR/kg of live weight.*

The most recent weekly first-sales data (**up to week 2 of 2023**) are available via the EUMOFA website, and can be accessed [here](#).

The most recent monthly first-sales data **for November 2022** are available via the EUMOFA website and can be accessed [here](#).

1.3. First sales in selected countries

First sales data analysed in this section are extracted from EUMOFA³.

Table 3. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN BULGARIA**


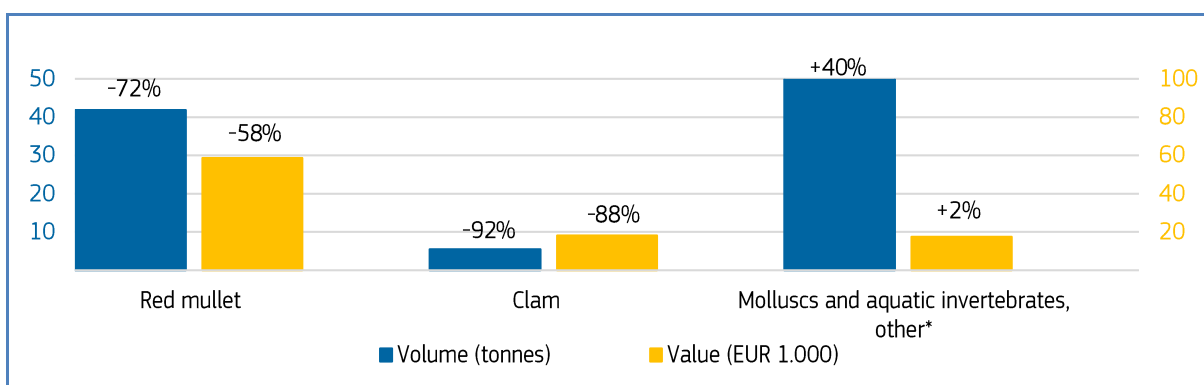
 Bulgaria	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Sep 2022 vs Jan-Sep 2021	EUR 1,2 million, -45%	1.852 tonnes, -47%	Clam, sprat, red mullet.
Sep 2022 vs Sep 2021	EUR 0,1 million, -71%	99 tonnes, -69%	Clam, red mullet, other molluscs and aquatic invertebrates*.

Figure 1. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN BULGARIA, SEPTEMBER 2022**



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

Table 4. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ESTONIA**


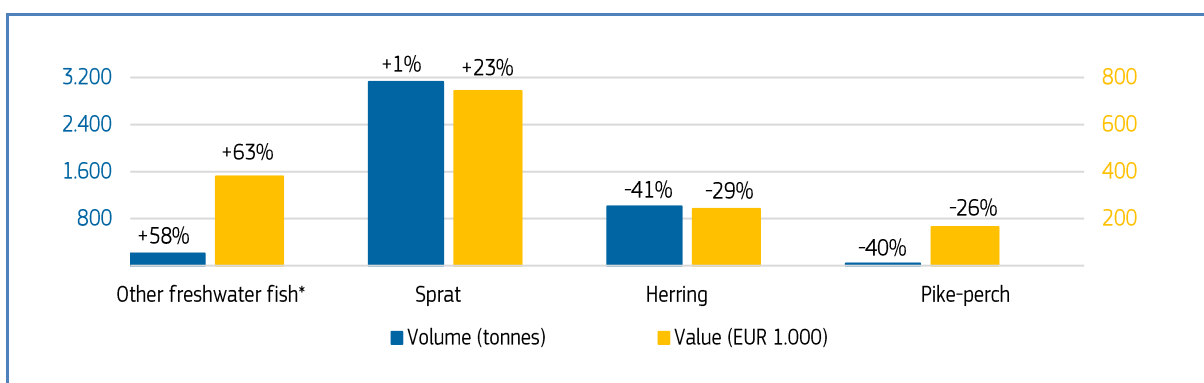
 Estonia	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Sep 2022 vs Jan-Sep 2021	EUR 10,5 million, -16%	34.410 tonnes, -25%	Herring, sprat, smelt.
Sep 2022 vs Sep 2021	EUR 1,6 million, +13%	4.422 tonnes, -12%	Value: other freshwater fish*, sprat Volume: herring, pike-perch.

Figure 2. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ESTONIA, SEPTEMBER 2022**



Percentages show change from the previous year. *EUMOFA aggregation for species.

³ First-sales data updated on 26.6.2022.

Table 5. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN FRANCE**


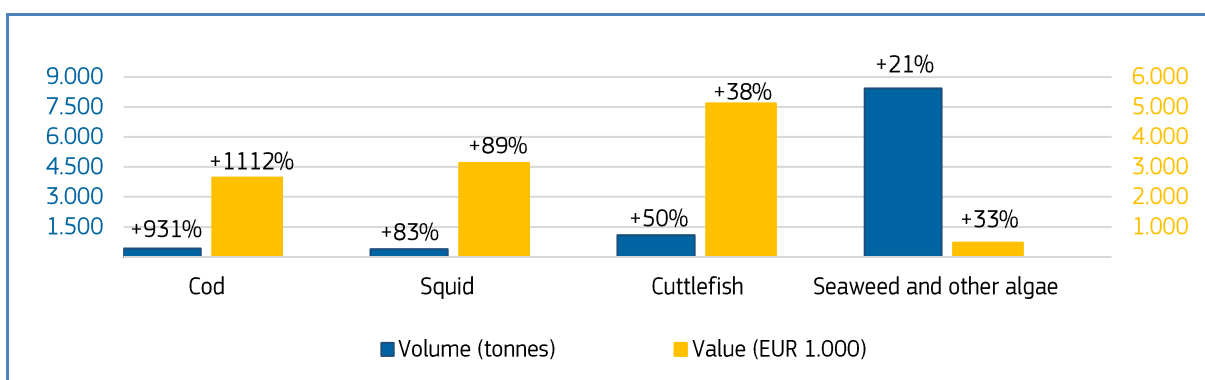
 France	First-sales value / trend %	First-sales volume / trend %	Main contributing species	Notes
Jan-Sep 2022 vs Jan-Sep 2021	EUR 562,6 million, +10%	214.902 tonnes, +5%	Octopus, scallop, hake, squid., sardine.	Compared to September 2021, a significant increase in first sales of cod was registered in September 2022 in terms of volume (from 40 tonnes to 421 tonnes). This is explained by a decision by the main companies involved to change fishing patterns, with a one month change in the landing period.
Sep 2022 vs Sep 2021	EUR 65 million, +9%	25.654 tonnes, +3%	Cod, squid, cuttlefish, seaweed and other algae.	

Figure 3. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN FRANCE, SEPTEMBER 2022**



Percentages show change from the previous year.

Table 6. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ITALY**


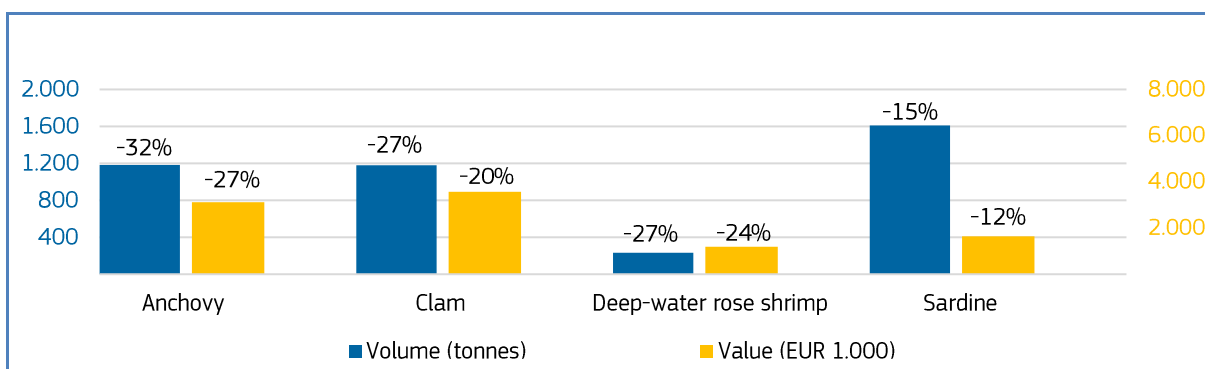
 Italy	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Sep 2022 vs Jan-Sep 2021	EUR 271,6 million, 0%	59.004 tonnes, -12%	Value: miscellaneous shrimps*, anchovy, clam. Volume: Clam, sardine, mussel <i>Mytilus</i> spp.
Sep 2022 vs Sep 2021	EUR 26,1 million, -15%	7.011 tonnes, -20%	Anchovy, clam, sardine, deep-water rose shrimp.

Figure 4. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ITALY, SEPTEMBER 2022**



Percentages show change from the previous year. *EUMOFA aggregation for species.

Table 7. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LATVIA**


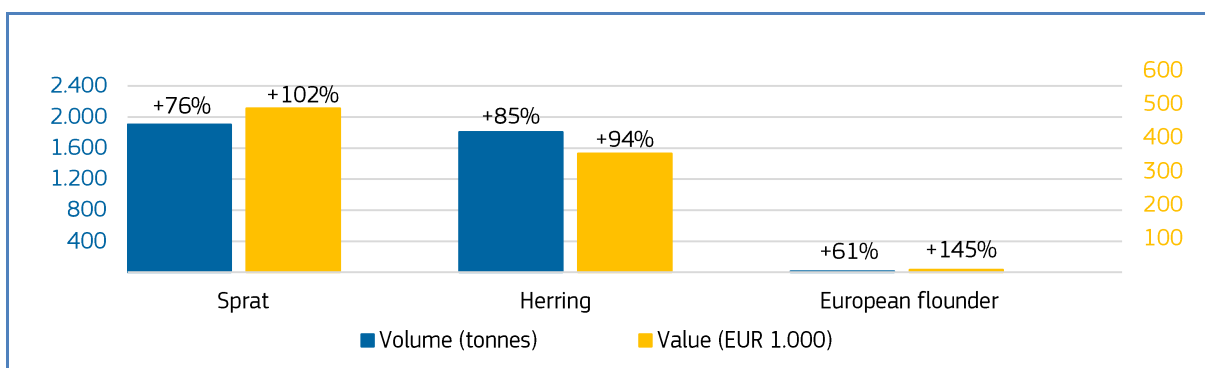
 Latvia	First-sales value / trend %	First-sales volume / trend %	Main contributing species	Notes
Jan-Sep 2022 vs Jan-Sep 2021	EUR 6,2 million, -6%	28.748 tonnes, -8%	Herring, other freshwater fish*, smelt.	Sprat has experienced one of the highest first-sales increases in September 2022 compared to September 2021. One reason behind this is the 13% increase in the total allowable catch for sprat in the Baltic Sea. It was observed that supplies from foreign countries to the Latvian market were higher in 2022 than in 2021. The higher supplies in September 2022 led to a 29% decrease in price compared with September 2021. Available resources, mild weather conditions and capacity of suppliers presumably enabled bigger supplies of sprat to the market.
Sep 2022 vs Sep 2021	EUR 0,9 million, +95%	3.824 tonnes, +78%	Herring, sprat, European flounder.	

Figure 5. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LATVIA, SEPTEMBER 2022**



Percentages show change from the previous year.

Table 8. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LITHUANIA**


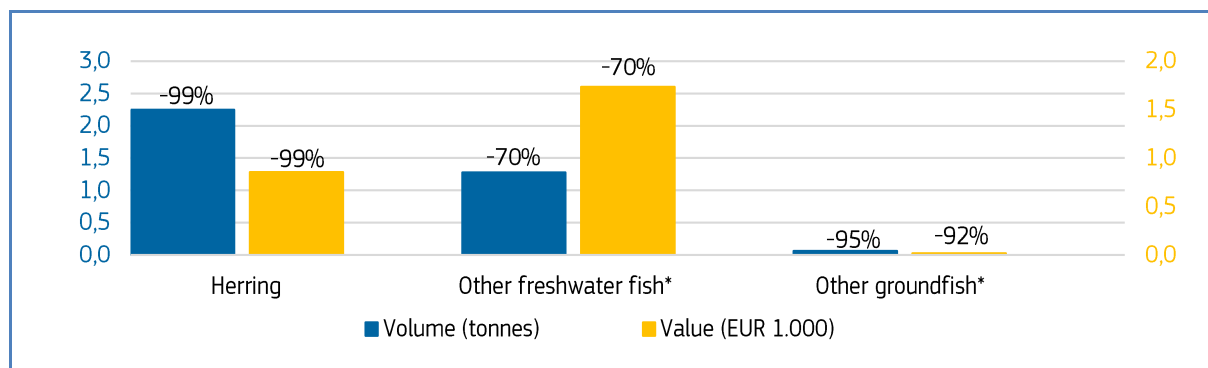
 Lithuania	First-sales value / trend %	First-sales volume/ trend %	Main contributing species	Notes
Jan-Sep 2022 vs Jan-Sep 2021	EUR 0,5 million, -41%	762 tonnes, -57%	Herring, smelt, other groundfish*.	In September 2022, first sales of herring decreased by 99% compared to September 2021. A few Lithuanian companies which previously supplied to the Lithuanian market are undergoing reorganisation due to company mergers. Fishing activities have thus temporarily ceased. Landings and supply from Lithuania to foreign countries may also be responsible.
Sep 2022 vs Sep 2021	EUR 13.251, -84%	9 tonnes, -97%	Herring, other freshwater fish*, other groundfish*.	

Figure 6. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LITHUANIA, SEPTEMBER 2022**



Percentages show change from the previous year.

Table 9. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE NETHERLANDS**


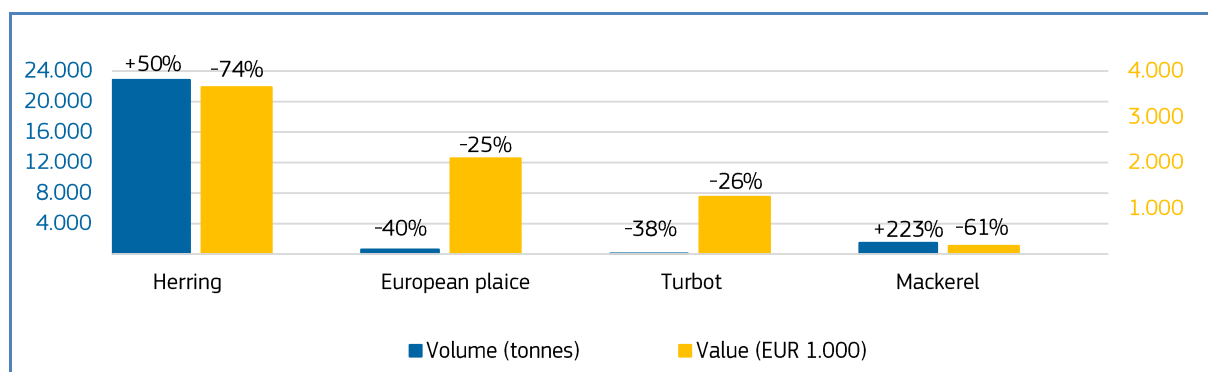
 The Netherlands	First-sales value / trend %	First-sales volume / trend %	Main contributing species	Notes
Jan-Sep 2022 vs Jan-Sep 2021	EUR 183,5 million, -19%	162.793 tonnes, +8%	Value: Blue whiting, herring, mackerel. Volume: Herring, miscellaneous small pelagics*, Atlantic horse mackerel.	Herring recorded a significant increase in first-sales volume and a decrease in first sales value. In the context of a rather good stock status (the EU increased the 2022 herring quota by 24% ⁴) and increased fishing activities of the large Dutch pelagic fishing vessels, this situation is thus due mostly to a change in fishing strategies ⁵ , with cumulative production over the August-September period being very stable between 2021 and 2022 (around 33,100 tonnes for both years). The increase registered in September 2022 compared to September 2021 in terms of volume can be interpreted as a way of compensating for the decrease registered in August 2022 compared to August 2021.
Sep 2022 vs Sep 2021	EUR 25,8 million, -28%	28.697 tonnes, +37%	Value: Herring, European plaice, turbot. Volume: Herring, mackerel, haddock.	

Figure 7. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE NETHERLANDS, SEPTEMBER 2022**



Percentages show change from the previous year.

⁴ Which also benefited to key Dutch pelagic firms (e.g., see <https://www.cornelisvrolijk.eu/news/increase-in-north-sea-herring-quota-in-2022/>)

⁵ Including a possible rescheduling of the fishing activities from summer to autumn, according to some Dutch representatives.

Table 10. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN PORTUGAL**


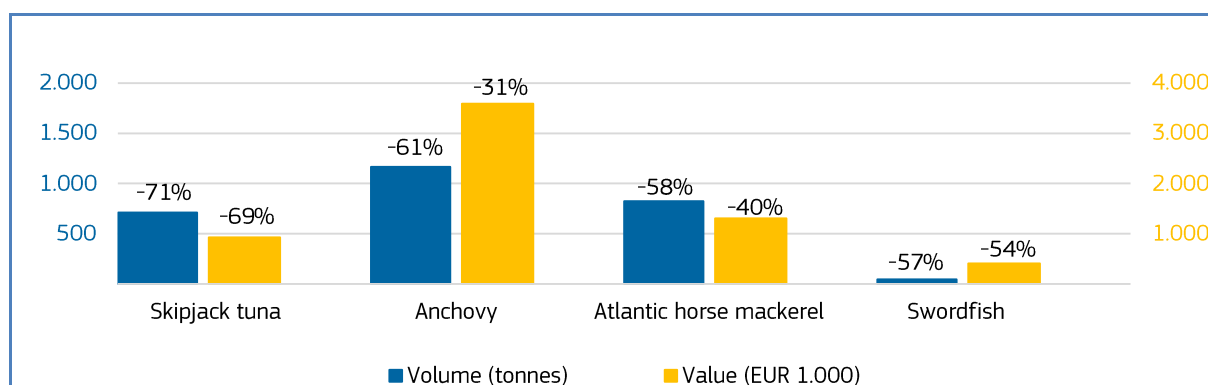
 Portugal	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Sep 2022 vs Jan-Sep 2021	EUR 234,9 million, +9%	89.239 tonnes, -6%	Value: Octopus, squid, other marine fish*, clam. Volume: Anchovy, other horse mackerel* (other than Atlantic horse mackerel), skipjack tuna, clam.
Sep 2022 vs Sep 2021	EUR 26,2 million -17%	13.178 tonnes, -26%	Skipjack tuna, anchovy, Atlantic horse mackerel, swordfish.

Figure 8. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN PORTUGAL, SEPTEMBER 2022**



Percentages show change from the previous year. *EUMOFA aggregation for species.

Table 11. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SPAIN**


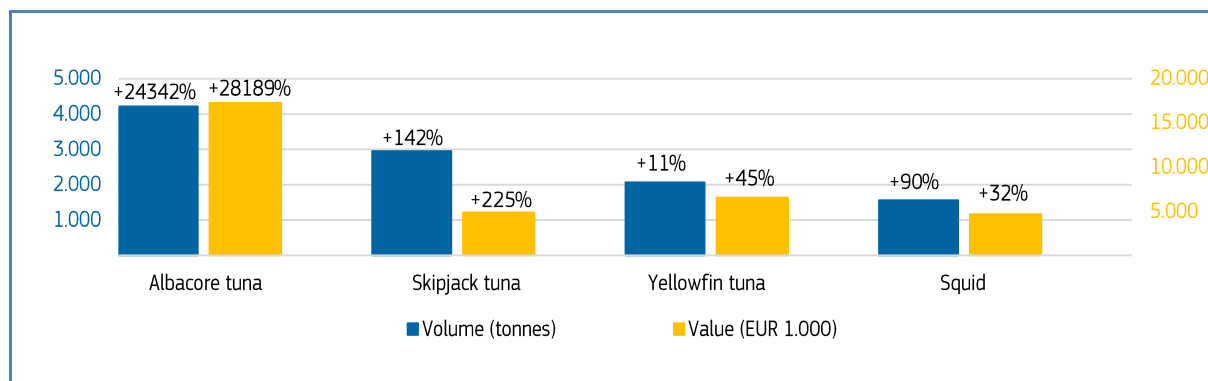
 Spain	First-sales value / trend %	First-sales volume / trend %	Main contributing species	Note
Jan-Sep 2022 vs Jan-Sep 2021	EUR 1.211,5 million, +6%	352.515 tonnes, -8%	Value: Yellowfin tuna, swordfish, mackerel, squid. Volume: Anchovy, hake, Atlantic horse mackerel, other sharks*.	Albacore tuna recorded a high increase in first sales in September 2022 compared to September 2021. The species is caught by the Spanish fleet in three sea basins: North Atlantic, South Atlantic and Mediterranean Sea. The fishing season of this high migratory species usually starts at the beginning of the summer. The albacore has been breaking records with early exploitation of the allocated North Atlantic quota. In 2021, the fishing season closed at the end of August due to fish migrating closer to the fishing grounds near to the coast. In 2022 expectations were similar. However, the tuna moved far from the coast and the catches were less than previous years (in June 40%-50% less). This explains the discrepancies in volume and value. The short fishing season of the past 3 years affects demand and thus the price of this species. High inflation due to the macroeconomic situation and the fact that consumers value the product more are other factors that influence the value of albacore.
Sep 2022 vs Sep 2021	EUR 133,4 million +6%	40.101 tonnes, +1%	Albacore tuna, skipjack tuna, yellowfin tuna, squid.	

Figure 9. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SPAIN, SEPTEMBER 2022**



Percentages show change from the previous year.

Table 12. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN NORWAY**


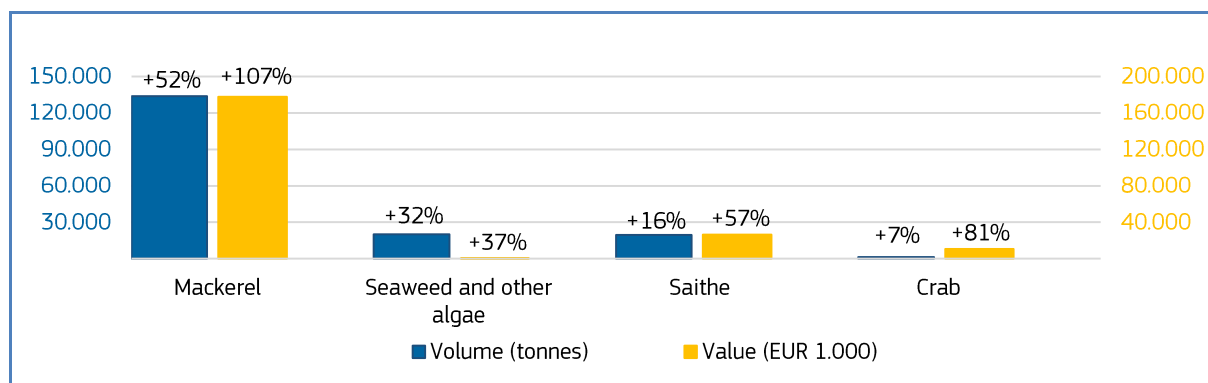
 Norway	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Sep 2022 vs Jan-Sep 2021	EUR 2,5 billion, +27%	2.261 million tonnes, +1%	Cod, mackerel, saithe, miscellaneous small pelagics.
Sep 2022 vs Sep 2021	EUR 312,5 million +48%	251.099 tonnes, +24%	Mackerel, saithe, crab, seaweed and other algae.

Figure 10. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN NORWAY, SEPTEMBER 2022**



Percentages show change from the previous year. *EUMOFA aggregation for species.

Table 13. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE UNITED KINGDOM**


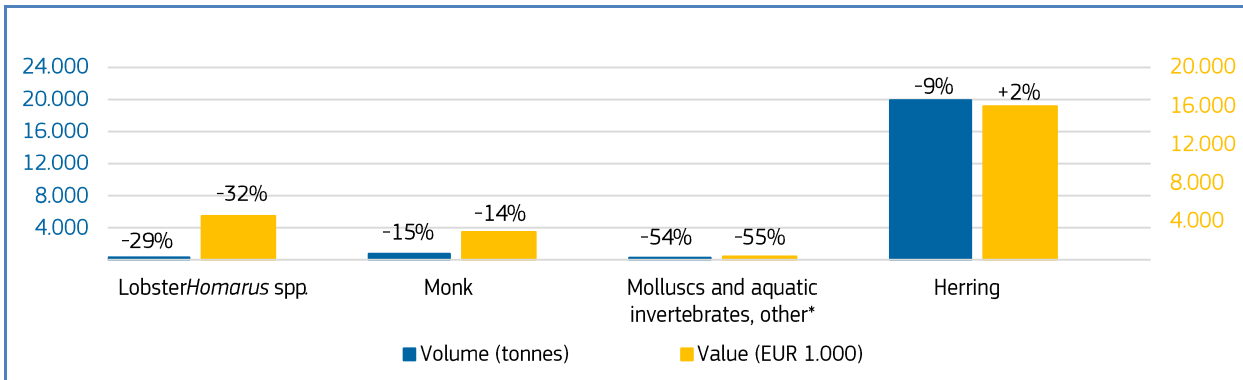
 The United Kingdom	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Sep 2022 vs Jan-Sep 2021	EUR 475,5 million, +8%	223.626 tonnes, -8%	Value: Mackerel, Norway lobster, cod, common sole. Volume: Blue whiting, Norway lobster, other molluscs and aquatic invertebrates*, whiting
Sep 2022 vs Sep 2021	EUR 61,9 million, -3%	36.242 tonnes, -6%	Lobster <i>Homarus</i> spp., monk, other molluscs and aquatic invertebrates*, herring.

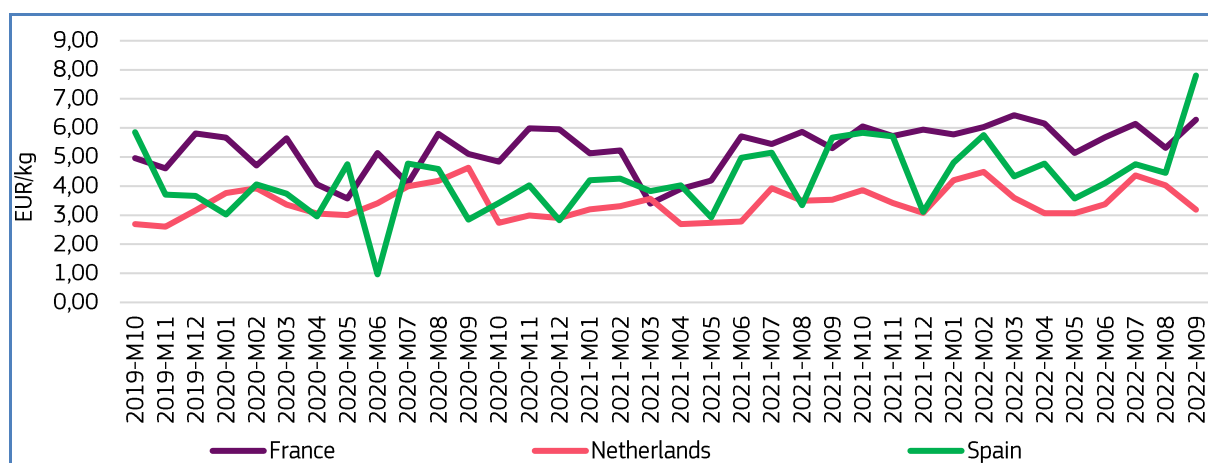
Figure 11. **FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE UNITED KINGDOM, SEPTEMBER 2022**



Percentages show change from the previous year. *EUMOFA aggregation for species.

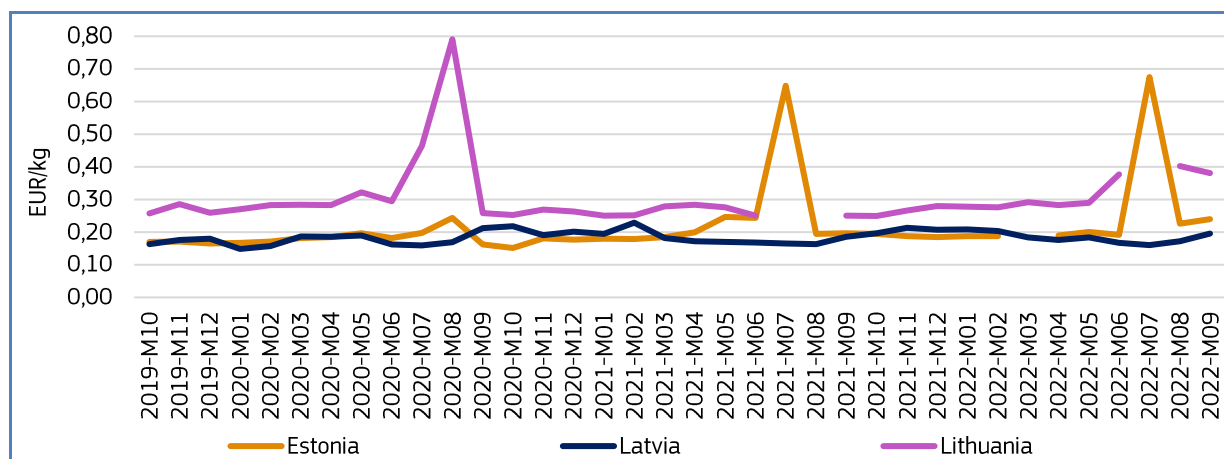
1.4. Comparison of first sales prices of selected species in selected countries⁶

Figure 12. **FIRST-SALES PRICES OF COD IN FRANCE, NETHERLANDS, AND SPAIN**



EU first sales of **cod** occur in several countries, including **France, the Netherlands** and **Spain**. In September 2022, the average first-sales prices of cod were 6,28 EUR/kg in France (up from August 2022 and September 2021 by 18% and 19% respectively); 3,18 EUR/kg in the Netherlands (down from August 2022 and September 2021 by 21%, and 10% respectively); and 7,80 EUR/kg in Spain (up from August 2022 and September 2021 by 75% and 38% respectively). In September 2022, supply increased considerably in France (+931%) due to changes in fishing strategies⁷, and decreased in the Netherlands and Spain (-54%, and -78%, respectively), compared to the previous year. Supply is seasonal, with peaks between May to July in the Netherlands. Volumes sold in France appear to peak in March/April, June to September, as well as December. In Spain supply does not appear to follow a clear seasonality. Over the past 36 months, cod prices showed a stable trend in all countries surveyed. At the same time, supply increased slightly in France and decreased in the Netherlands and Spain.

Figure 13. **FIRST-SALES PRICES OF HERRING IN ESTONIA, LATVIA, AND LITHUANIA**



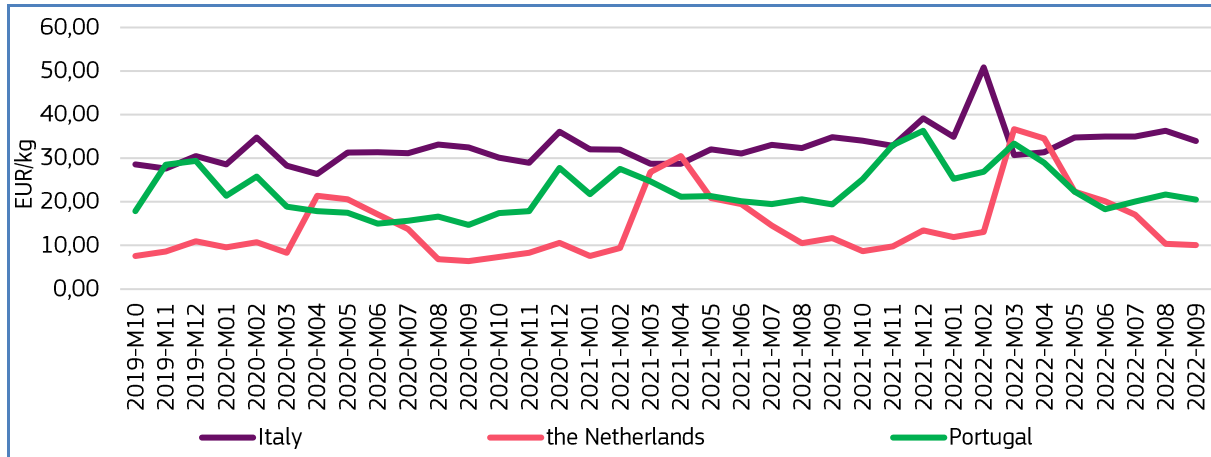
EU first sales of **herring** occur predominantly in **Estonia**, as well as **Latvia** and **Lithuania**. In September 2022, the average first-sales prices of herring were: 0,24 EUR/kg in Estonia (up by 6% from the previous month and up by 22% from the previous year); 0,20 EUR/kg in Latvia (up by 13% from August 2022 and up by 5% from September 2021); and 0,38 EUR/kg in Lithuania (down by 5% from the previous month and up by 52% from the previous year). In September 2022, supply decreased in Estonia and Lithuania (-41%, and -99% respectively), and increased in Latvia (+85%), compared to the previous year. Supply is seasonal, with peaks in May in Estonia. Volumes sold in Latvia and Lithuania peak more often in March, as well as in

⁶ First sales data updated on 26.11.2022.

⁷ Includes fishing fleet decisions in terms of production plan, processing plant needs and storage capacities on board.

October/November. Over the 36-month period observed, herring prices showed a stable trend in all three countries. During the same time, volumes went down in all markets.

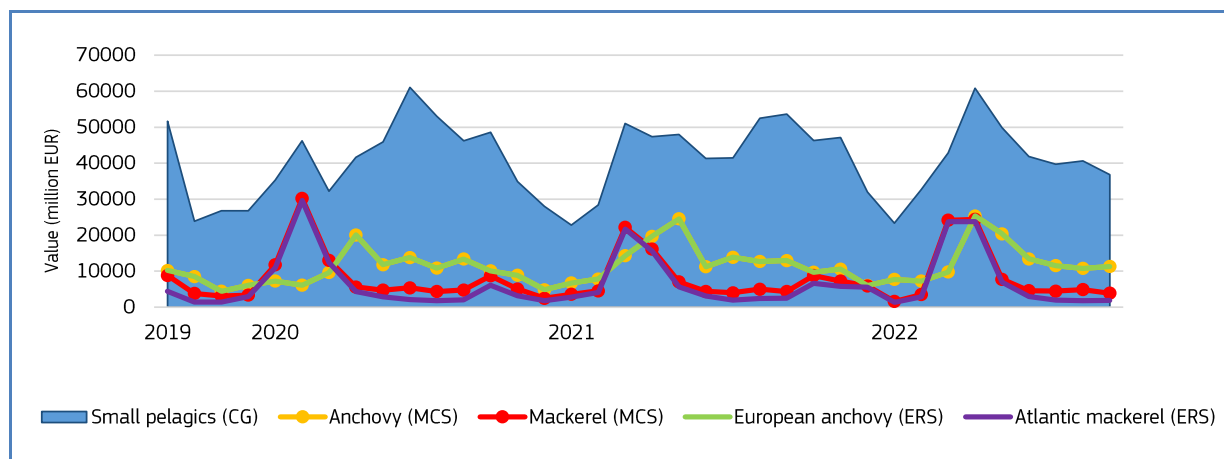
Figure 14. **FIRST-SALES PRICES OF LOBSTER *HOMARUS* SPP. IN ITALY, THE NETHERLANDS, AND PORTUGAL**



EU first sales of **lobster *Homarus* spp.** occur in many countries, as well as **Italy**, the **Netherlands**, and **Portugal**. In September 2022, the average first-sales prices of *lobster homarus* spp. were 33,92 EUR/kg in Italy (down from both the previous month and year by 7%, and 3% respectively); 10,08 EUR/kg in the Netherlands (down by 3% from August 2022 and down by 14% from September 2021); and 20,50 EUR/kg in Portugal (down by 5% from August 2022 and up by 6% from September 2021). In September 2022, supply decreased in Portugal (-32%), and increased in both Italy and the Netherlands (+33% and +6%, respectively), compared to the previous year. Volumes sold in Italy and Portugal peaked between June to August. Supply in the Netherlands peaked in June/July and September to October. Over the past three years, prices showed a slightly upward trend in all countries surveyed, while at the same time supply went up in all three markets.

1.5. Commodity group of the month: small pelagics⁸

Figure 15. **FIRST-SALES COMPARISON AT CG, MCS, AND ERS LEVELS FOR REPORTING COUNTRIES⁹, OCTOBER 2019 – SEPTEMBER 2022**



In September 2022, the “**small pelagics**” commodity group (CG¹⁰) recorded the 4th highest value and the highest position in volume out of the 10 CGs in the countries monitored by EUMOFA¹¹. In the EU reporting countries covered by the EUMOFA database, first sales of “small pelagics” in September 2022 totalled a value of EUR 36,8 million and a volume of 58,635 tonnes, which is a 31% decrease in value and a 6% increase in volume compared to September 2021. In the past 36 months, the highest first-sales value of small pelagics was registered at EUR 61,1 million in July 2020.

The small pelagics commodity group includes eight Main Commercial Species (MCS): anchovy, herring, Atlantic horse mackerel, other horse mackerel, mackerel, miscellaneous small pelagics*, pilchard/sardine, and sprat.

At the Electronic Recording and Reporting System (ERS) level, Atlantic mackerel (5%) and European anchovy (31%) together accounted for 36% of the total first-sales value for “small pelagics” recorded in September 2022.

⁸ First-sales data updated on 29.11.2022.

⁹ Norway and the UK excluded from the analyses.

¹⁰ Annex 3: <http://eumofa.eu/supply-balance-and-other-methodologies>

¹¹ More data on commodity groups can be found in Table 1.2 of the Annex.

1.6. Focus on Atlantic mackerel



Atlantic mackerel (*Scomber scombrus*), a member of the Scombridae family, is abundant in cold and temperate shelf areas. Mackerel forms large schools near the surface. It overwinters in deeper waters but moves closer to shore in spring when water temperatures range between 11°C and 14°C. It is mainly diurnal, feeding on zooplankton and small fish. It is a batch spawner, with pelagic eggs and larvae. After spawning, adults feed very actively moving around in small shoals¹². Mackerel can be found in the North Atlantic, including the Mediterranean. The species has two stocks in the Northeast Atlantic: the North Sea (east) and the British Isles (west).

In the EU, management measures for the Northeast Atlantic stock include minimum conservation reference sizes (30 cm in the North Sea, 20 cm in south and north-western waters and 18 cm in the Mediterranean Sea)¹³, a landing obligation, Total Allowable Catches (TAC)¹⁴, restricted areas, fishery closures, and technical measures (such as minimum mesh sizes). The TAC for mackerel in the Atlantic, the North Sea and international fisheries in which EU vessels participate, is established annually in December based on ICES (International Council for the Exploration of the Sea) advice and agreement among the Council of EU Ministers and third parties involved. This may include Norway, the Faroe Islands and the UK¹⁵ or by virtue of agreements reached in the framework of Regional Fisheries Management Organisations (RFMOs).

Mackerel is a very important fish to anglers both as a recreational and sports fish and as bait¹⁶. The species is traded fresh, frozen, smoked and canned, and is eaten fried, broiled and baked¹⁷.

Selected countries

EUMOFA also covered **Atlantic mackerel** in the following *Monthly Highlights*:

First sales: MH April/2013 (the United Kingdom); MH September/2013 (Portugal) MH 5/2014 (Norway), 8/2015 (Norway), MH 3/2016 (Portugal), MH 9/2016 (the United Kingdom), MH 1/2018 (France, Portugal, Sweden), MH 5/2020 (Denmark, the Netherlands, Spain).

Case studies: MH 7/2022 (Atlantic mackerel in the EU), MH 7/2018 (Atlantic mackerel in the EU).

Table 14. **COMPARISON OF ATLANTIC MACKEREL FIRST-SALES PRICES, MAIN PLACES OF SALE, AND CONTRIBUTION TO OVERALL SALES OF "SMALL PELAGICS" IN SELECTED COUNTRIES**

Atlantic mackerel		Changes in Atlantic mackerel first sales Jan-Sep 2022 (%)		Contribution of Atlantic mackerel to total "small pelagics" first sales in September 2022 (%)	Principal places of sale in Jan-Sep 2022 in terms of first-sales value
		Compared to Jan-Sep 2021	Compared to Jan-Sep 2020		
Italy	Value	-11%	-27%	3%	Porto Tolle, Rimini, Chioggia.
	Volume	+1%	-25%	1%	
The Netherlands	Value	-50%	-77%	5%	Amsterdam, Scheveningen, Ijmuiden/Velsen.
	Volume	-20%	-62%	6%	
Spain	Value	+32%	+31%	3%	Ondárroa, Aviles, Santoña.
	Volume	0%	-17%	2%	

¹² <https://www.fishbase.se/summary/Scomber-scombrus.html>

¹³ Regulation (EU) 2019/1241 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R1241>

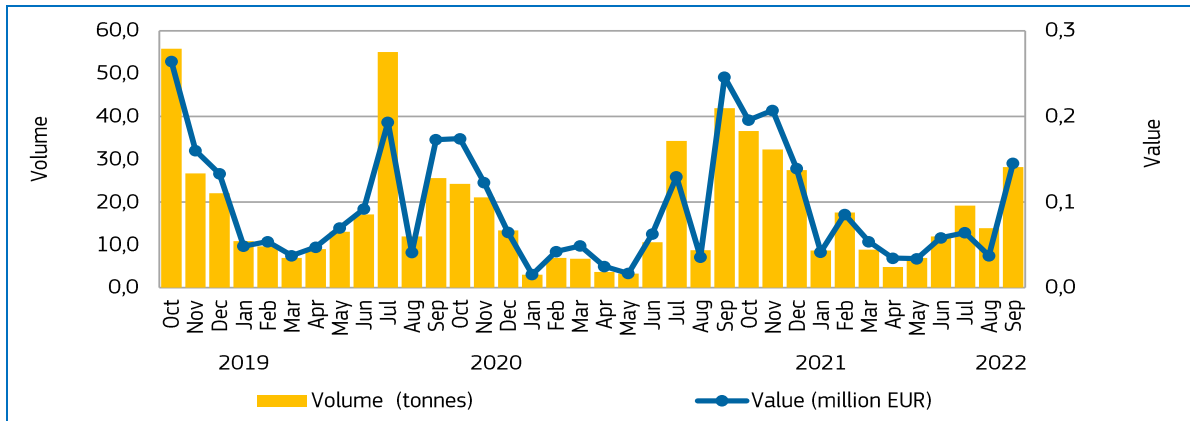
¹⁴ Council Regulation (EU) 2022/109 of 27 January 2022 <https://eur-lex.europa.eu/legal-content/EN/AUTO/?uri=CELEX:02022R0109-20221101>

¹⁵ <https://scottishpelagic.co.uk/wp-content/uploads/2021/11/Mackerel-Agreed-Record-27-Oct-2021.pdf>

¹⁶ <https://britishseafishing.co.uk/mackerel/>

¹⁷ <https://www.fishbase.se/summary/Scomber-scombrus.html>

Figure 16. ATLANTIC MACKEREL: FIRST SALES IN ITALY, OCTOBER 2019 – SEPTEMBER 2022



Over the past 36 months, the highest first-sales value of Atlantic mackerel in **Italy** occurred in October 2019, when 56 tonnes were sold for approximately EUR 260.000.

Figure 17. FIRST SALES: COMPOSITION OF “SMALL PELAGICS” (ERS LEVEL) IN ITALY IN VALUE AND VOLUME, SEPTEMBER 2022

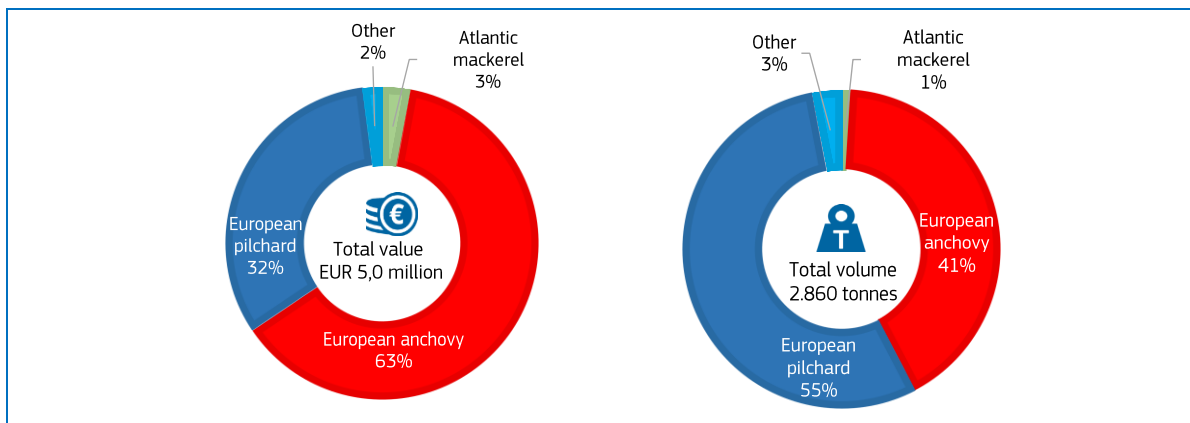
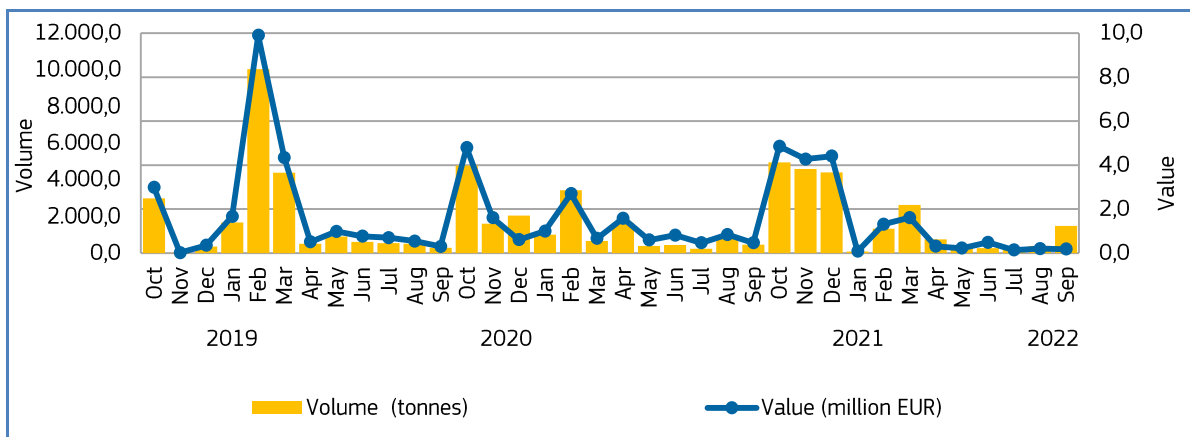


Figure 18. ATLANTIC MACKEREL: FIRST SALES IN THE NETHERLANDS, OCTOBER 2019 – SEPTEMBER 2022



Over the past 36 months in **the Netherlands**, the highest first-sales value and volume of Atlantic mackerel were in February 2020, when 10.045 tonnes were sold for approximately EUR 9,9 million.

Figure 19. **FIRST SALES: COMPOSITION OF “SMALL PELAGICS” (ERS LEVEL) IN THE NETHERLANDS IN VALUE AND VOLUME, SEPTEMBER 2022**

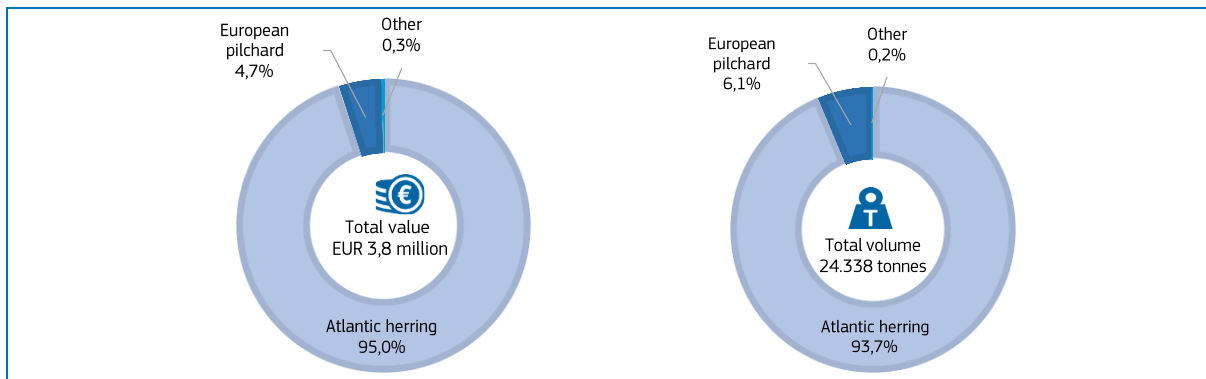
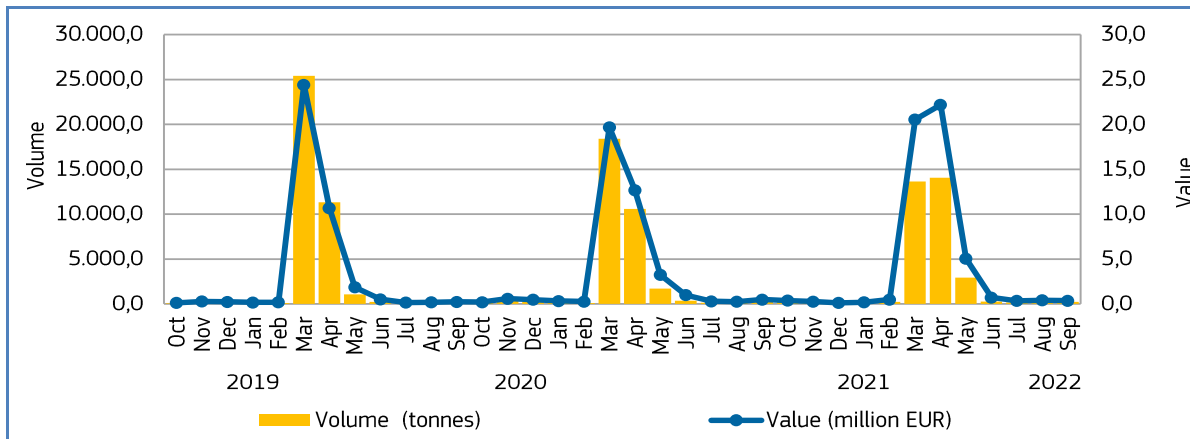
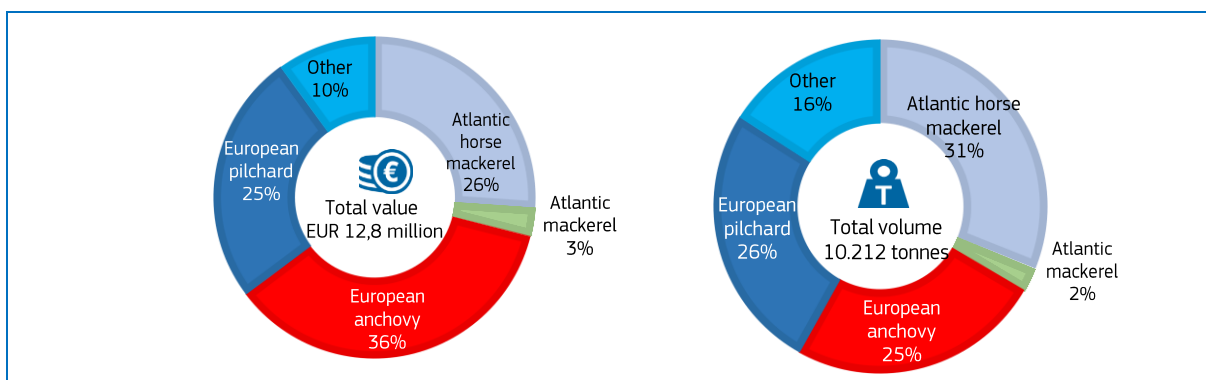


Figure 20. **ATLANTIC MACKEREL: FIRST SALES IN SPAIN, OCTOBER 2019 – SEPTEMBER 2022**



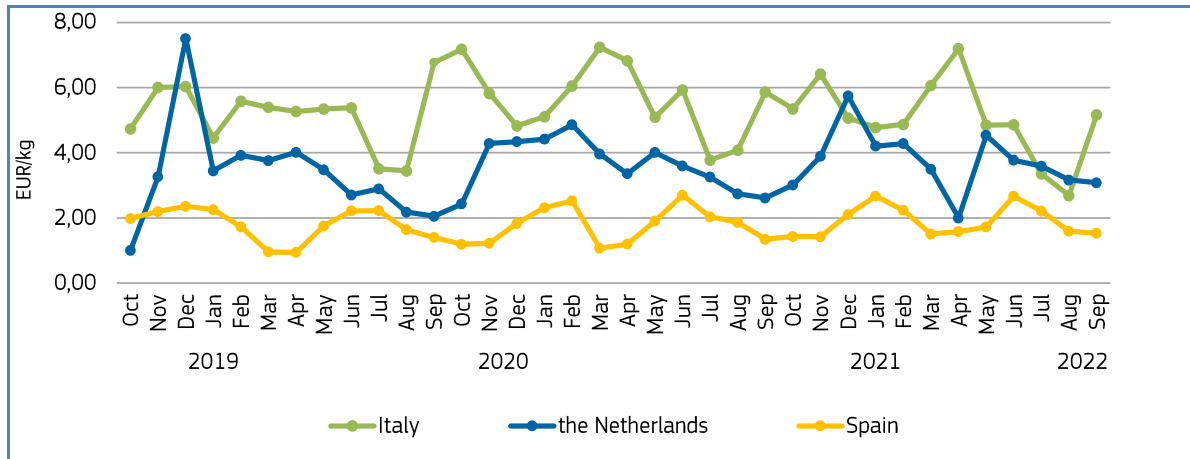
Over the past 36 months in **Spain**, the highest first-sales value and volume of Atlantic mackerel were in March 2020, when 25.407 tonnes were sold for approximately EUR 24,4 million. Most of the Atlantic mackerel fishery sales occurred from March to May every year.

Figure 21. **FIRST SALES: COMPOSITION OF “SMALL PELAGICS” (ERS LEVEL) IN SPAIN IN VALUE AND VOLUME, SEPTEMBER 2022**



Price trend

Figure 22. **ATLANTIC MACKEREL: FIRST-SALES PRICES IN SELECTED COUNTRIES, MARCH 2019 - SEPTEMBER 2022**



Over the 36-month observation period (October 2019 to September 2022), the weighted average first-sales price of Atlantic mackerel in **Italy** was 5,16 EUR/kg, 456% higher than in **the Netherlands** (0,93 EUR/kg), and 314% higher than in **Spain** (1,25 EUR/kg)

In **Italy**, in September 2022, the average first-sales price of Atlantic mackerel (5,17 EUR/kg) decreased by 12% compared with September 2021, and by 24% compared with September 2020. Over the past 36 months, average price ranged from 2,69 EUR/kg for 13,9 tonnes in August 2022, to 7,24 EUR/kg for 6,7 tonnes in March 2021.

In September 2022 in **the Netherlands**, the average first-sales price of Atlantic mackerel was the lowest in the observed 36-month period (0,12 EUR/kg for 1.475 tonnes) representing a decrease of 88% compared to the same month in both 2021 and 2020. Over the observation period, the highest average price (2,35 EUR/kg for 6 tonnes) was recorded in November 2019.

In **Spain**, in September 2022, the average first-sales price of Atlantic mackerel (1,53 EUR/kg) increased by 14% compared with September 2021, and by 9% compared with September 2020. Over the past 36 months, average prices ranged from 0,94 EUR/kg for 11.325 tonnes in April 2020, to 2,70 EUR/kg for 369 tonnes in June 2021.

1.7. Focus on European anchovy



European anchovy (*Engraulis encrasicolus*) is a member of the Engraulidae family. It is an oceanic and marine species, although in some areas it also enters lagoons, estuaries and lakes, especially when spawning. It can be found in the eastern Atlantic: Bergen, Norway to East London, and South Africa, as well as around the Mediterranean, the Black and the Azov Seas, with stray individuals in the Suez Canal and the Gulf of Suez. They are also reported in Estonia¹⁸. It lives in large schools and can tolerate salinities of 5-41 ppt. Anchovy tends to move further north and into surface waters during the summer, while retreating to lower depths during winter. The species feeds on planktonic organisms. The spawning period is from April to November, with peaks usually in the warmest months¹⁹.

Anchovy is subject to fisheries management measures, including fishery closures and total allowable catches (TACs) in the ICES Subarea 8 (Bay of Biscay)²⁰. In the Mediterranean, the anchovy fishery is managed through the General Fisheries Commission for the Mediterranean (GFCM), with regulations and recommendations binding on all members, including the EU (this includes various spatiotemporal and fishing effort measures such as maximum number of fishing days, catch limits per vessel, and fishery closures)²¹.

European anchovy is a highly commercial species. In European waters it is mainly caught by purse seines or small-scale trawlers²². It can be marketed fresh, dried, smoked, canned or frozen, but can also be made into fishmeal. Since anchovies can be preserved by salting or storing in oil, they have been used for long-distance trade for many centuries.

EUMOFA also covered **European anchovy** in the following *Monthly Highlights*:

First sales: MH January/2013 (Greece), MH 2/2015 (Greece), MH 7/2016 (Greece), MH 8/2017 (France, Italy, Greece), MH 5/2020 (Italy, Portugal, Spain), MH 5/2022 (France, Italy, Spain).

Case studies: MH 4/2017 (Anchovy in the EU).

Selected countries

Table 15. **COMPARISON OF EUROPEAN ANCHOVY FIRST-SALES PRICES, MAIN PLACES OF SALE, AND CONTRIBUTION TO OVERALL SALES OF “SMALL PELAGICS” IN SELECTED COUNTRIES**

European anchovy		Changes in European anchovy first sales Jan-Sep 2022 (%)		Contribution of European anchovy to total “small pelagics” first sales in September 2022 (%)	Principal places of sale in Jan-Sep 2022 in terms of first-sales value
		Compared to Jan-Sep 2021	Compared to Jan-Sep 2020		
France	Value	+14%	-30%	0,2%	Le Grau-du-Roi, Port-la-Nouvelle, Saint-Guénolé.
	Volume	+53%	-31%	0,3%	
Portugal	Value	-17%	+74%	35%	Matosinhos, Figueira da Foz, Aveiro.
	Volume	-58%	-4%	12%	
Spain	Value	-5%	+15%	36%	Santoña, Gijón, Isla Cristina.
	Volume	-12%	-7%	25%	

¹⁸ <https://www.fishbase.se/summary/66>

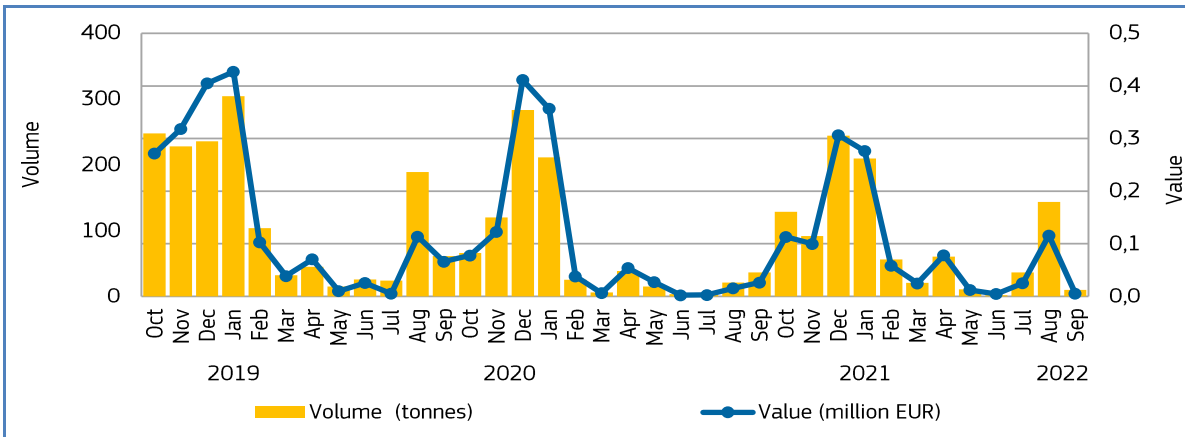
¹⁹ <https://www.fishbase.se/summary/66>

²⁰ Council Regulation (EU) 2022/109 of 27 January 2022 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3A0J.L_.2022.021.01.0001.01.ENG&toc=0J%3AL%3A2022%3A021%3ATOC

²¹ https://www.fishsource.org/stock_page/1741

²² <https://britishseafishing.co.uk/european-anchovy/>

Figure 23. EUROPEAN ANCHOVY: FIRST SALES IN FRANCE, OCTOBER 2019 - SEPTEMBER 2022



Over the past 36 months in **France**, the highest first sales were recorded in autumn and winter, peaking in January 2020 when 304 tonnes were sold for EUR 0,4 million.

Figure 24. FIRST SALES: COMPOSITION OF “SMALL PELAGICS” (ERS LEVEL) IN FRANCE IN VALUE AND VOLUME, SEPTEMBER 2022

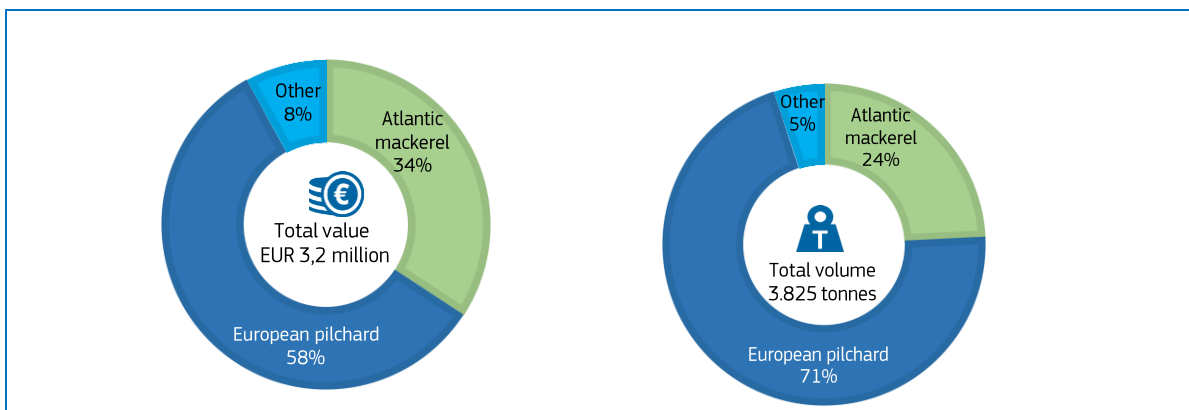
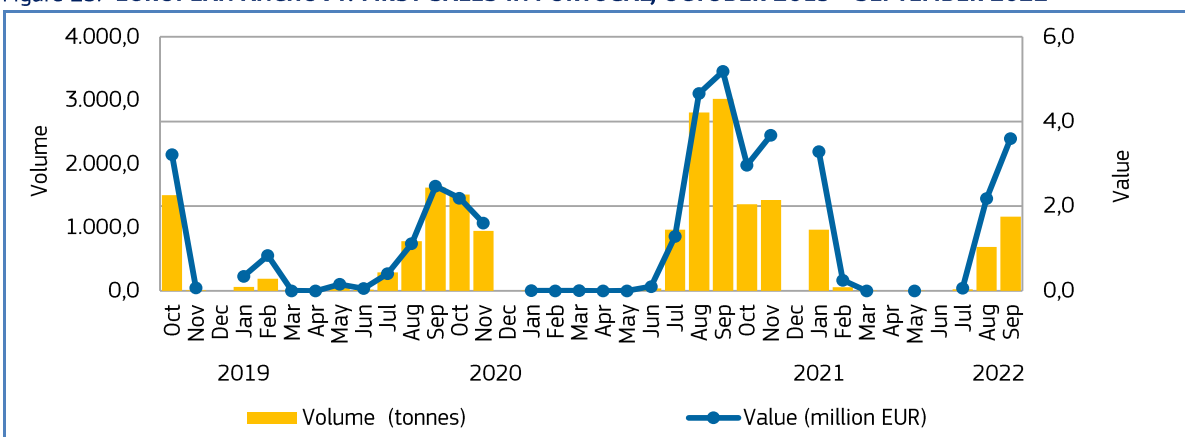


Figure 25. EUROPEAN ANCHOVY: FIRST SALES IN PORTUGAL, OCTOBER 2019 - SEPTEMBER 2022



Over the past 36 months in **Portugal**, the highest first sales were recorded in September 2021 when 3.021 tonnes were sold for EUR 5,2 million. In general, most of the anchovy fishery occurred from August to November in each of the years observed.

Figure 26. **FIRST SALES: COMPOSITION OF “SMALL PELAGICS” (ERS LEVEL) IN PORTUGAL IN VALUE AND VOLUME, SEPTEMBER 2022**

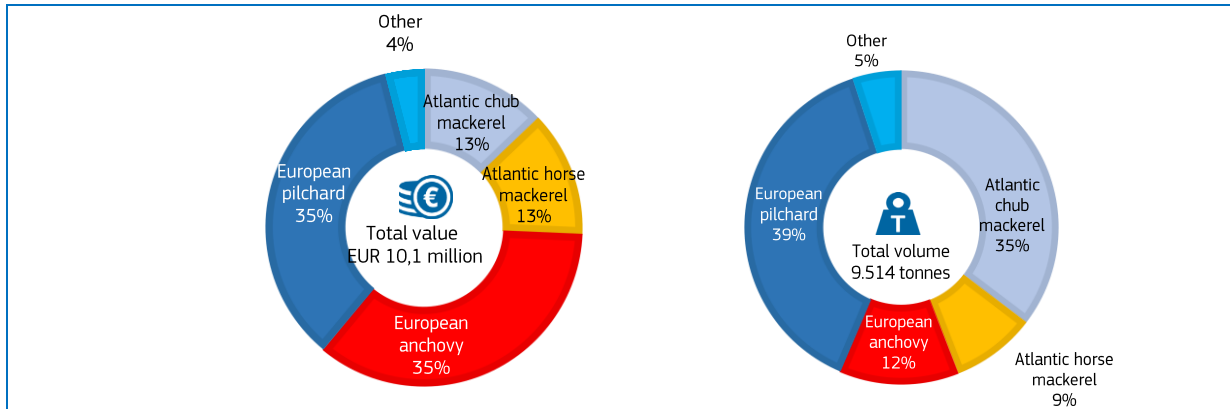
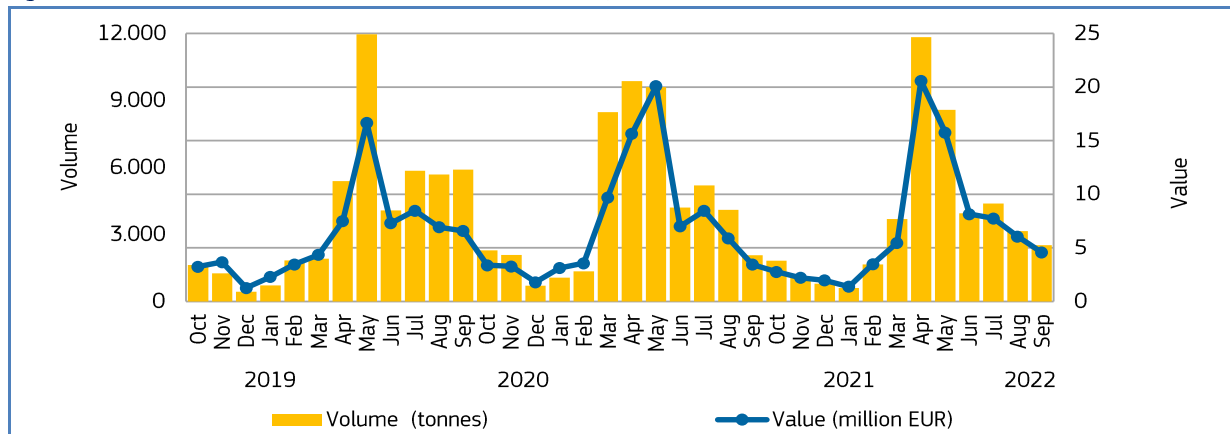


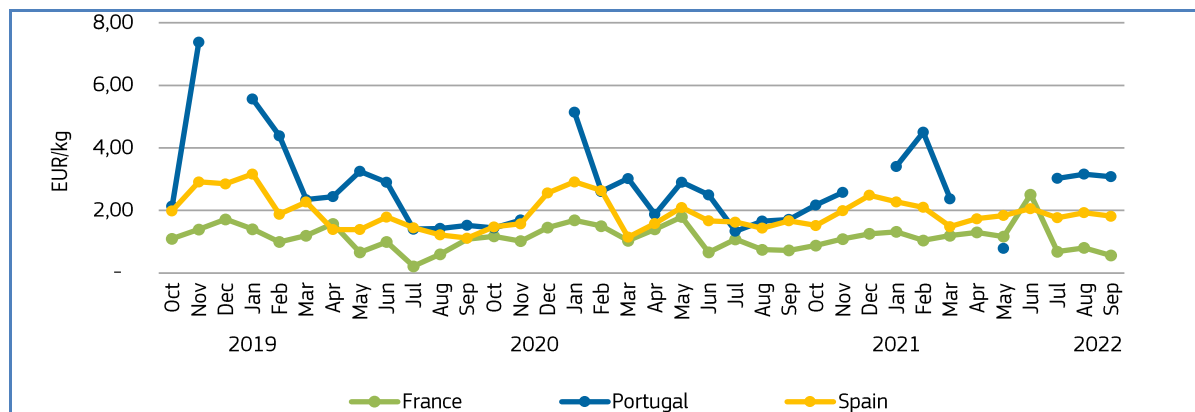
Figure 27. **EUROPEAN ANCHOVY: FIRST SALES IN SPAIN, OCTOBER 2019 - SEPTEMBER 2022**



Over the past 36 months in **Spain**, the highest first sales were recorded in spring, peaking in terms of volume in May 2020 when 11.964 tonnes were sold for EUR 16,7 million. In terms of value, the highest first sales were registered in April 2022 when 11.827 tonnes were sold for EUR 20,6 million.

Price trend

Figure 28. **EUROPEAN ANCHOVY: FIRST-SALES PRICES IN SELECTED COUNTRIES, OCTOBER 2019 - SEPTEMBER 2022**



Over the 36-month observation period (October 2019 to September 2022), the weighted average first-sales price of European anchovy in **Portugal** was 2,04 EUR/kg, 66% higher than in **France** (1,23 EUR/kg), and 22% higher than in **Spain** (1,67 EUR/kg)

In **France** in September 2022, the average first-sales price of European anchovy (0,56 EUR/kg) fell by 22% compared to September 2021 and by 48% compared to September 2020. The lowest average price was recorded in July 2020 at 0,22 EUR/kg for 24 tonnes, whilst the highest average price of 2,51 EUR/kg for 2 tonnes was recorded in June 2022.

In **Portugal** in September 2022, the average first-sales price of European anchovy was 3,08 EUR/kg, 80% and 102% higher than in September 2021 and 2020, respectively. The lowest price in the past 36 months was recorded in May 2022, at 0,79 EUR/kg for 0,3 tonnes. The highest price (7,38 EUR/kg for 9,9 tonnes) was recorded in November 2019.

In **Spain** in September 2022, the average first-sales price of European anchovy was 1,82 EUR/kg, 9% and 63% higher than in September 2021 and 2020 respectively. The lowest price in the past 36 months was recorded in September 2020, at 1,12 EUR/kg for 5.907 tonnes. The highest price (3,17 EUR/kg for 725 tonnes) was recorded in January 2020.

2. Extra-EU imports

The weekly extra-EU import prices (weighted average values per week, in EUR per kg) for nine different species are examined every month. The three most relevant species in terms of value and volume remain consistent: fresh whole Atlantic salmon from Norway, frozen Alaska pollock fillets from China, and frozen tropical shrimp (*Penaeus* spp.) from Ecuador. The other six species change each month; three are chosen from the commodity group of the month, and three are randomly selected. The commodity group for this month is “small pelagics”, and the featured species are frozen herrings from Norway, frozen fillets of mackerel from Iceland, and prepared or preserved sardines from Morocco. The three randomly selected species this month are fresh or chilled yellowfin tunas from the Maldives, frozen bigeye tunas from El Salvador, and fresh or chilled trout from Norway.

Data analysed in the section “extra-EU imports” are extracted from EUMOFA, as collected from the European Commission²³.

Table 16. **EVOLUTION OF WEEKLY PRICE AND VOLUME OF THE THREE MOST IMPORTED FISHERIES AND AQUACULTURE PRODUCTS INTO THE EU**

Extra-EU Imports		Week 43/2022	Preceding 4-week average	Week 43/2021	Notes
Fresh whole Atlantic salmon imported from Norway (<i>Salmo salar</i> , CN code 03021400)	Price (EUR/kg)	6,71	6,76 (-1%)	5,82 (+15%)	Since week one of 2022 prices showed a stable trend, which was also the case for the past three years. Prices ranged from 4,32 EUR/kg (week 44 of 2020) to 11,28 EUR/kg (week 16 of 2022), the highest observed in the past three years.
	Volume (tonnes)	15.778	17.195 (-8%)	17.021 (-7%)	Volumes ranged from 5.672 tonnes (week 15 of 2022) to 19.530 tonnes (week 35 of 2022) and showed a slight upward trend over the past three years. Since week one of 2022 weekly volumes showed an upward trend.
Frozen Alaska pollock fillets imported from China (<i>Theragra chalcogramma</i> , CN code 03047500)	Price (EUR/kg)	3,96	3,96 (0%)	2,91 (+36%)	Over the past three years, including 2022, weekly prices showed a stable trend. Prices ranged from 2,26 EUR/kg (week 52 of 2020) to 4,03 EUR/kg (week 41 of 2022).
	Volume (tonnes)	3.521	3.409 (+3%)	2.750 (+28%)	Weekly volumes fluctuated from 345 tonnes (week 52 of 2019) to 5.433 tonnes (week one of 2020) and showed a slight downward trend over the past three years. Since the beginning of 2022 volumes showed an upward trend.
Frozen tropical shrimp imported from Ecuador (genus <i>Penaeus</i> , CN code 03061792)	Price (EUR/kg)	6,45	6,62 (-3%)	6,31 (+2%)	Weekly prices were stable in 2022, as well as over the past three years. Prices ranged from 4,27 EUR/kg (week 38 of 2020) to 7,18 EUR/kg (week 41 of 2022).
	Volume (tonnes)	3.287	2.325 (+41%)	1.829 (+80%)	Volumes had a slight downward trend in 2022 in contrast to the past three years. Weekly volumes fluctuated from 713 tonnes (week six of 2020) to 4.925 tonnes (week 38 of 2022).

²³ Last update: 21.11.2022

Figure 29. **IMPORT PRICE OF FRESH AND WHOLE ATLANTIC SALMON FROM NORWAY, 2019 - 2022**

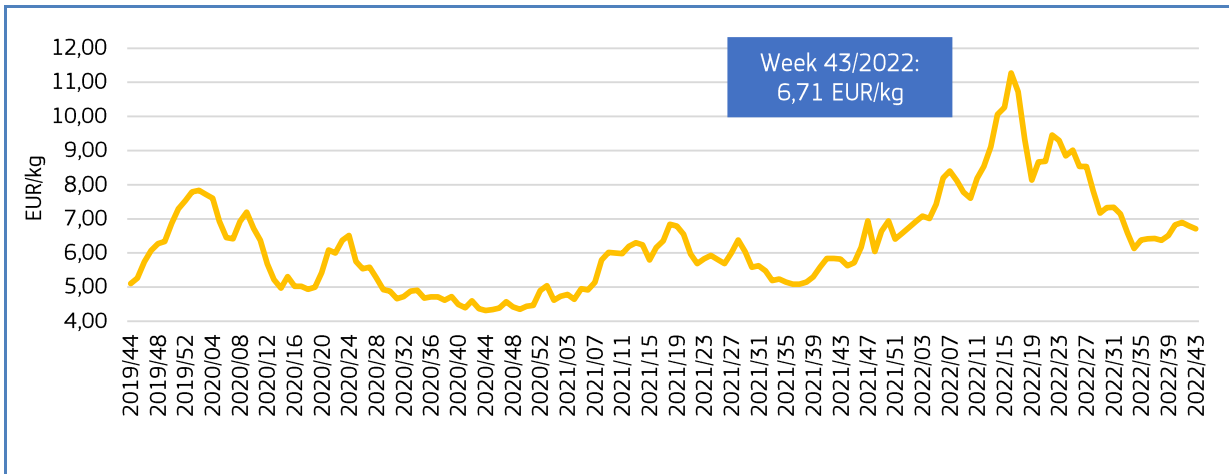


Figure 30. **IMPORT PRICE OF FROZEN ALASKA POLLOCK FILLETS FROM CHINA, 2019 - 2022**

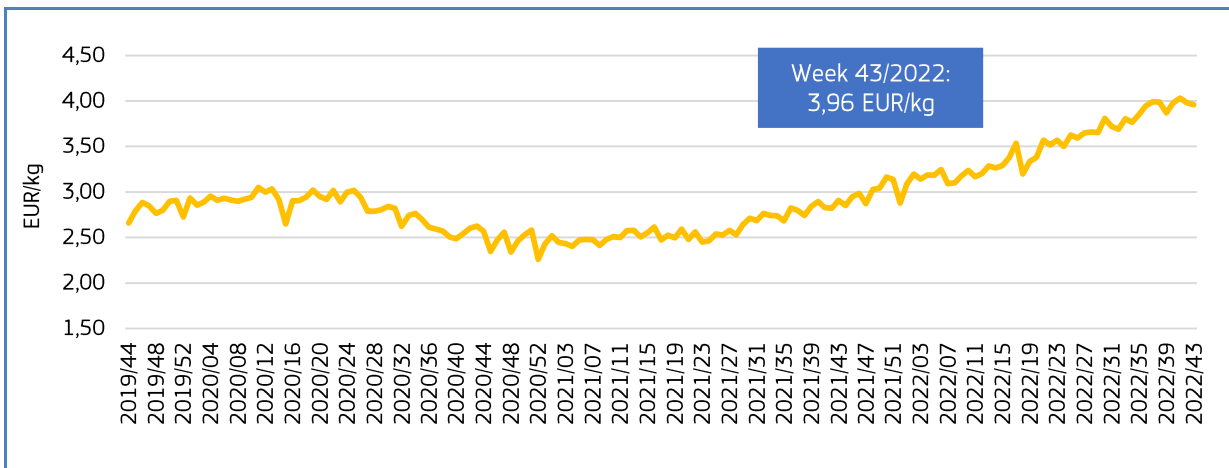


Figure 31. **IMPORT PRICE OF FROZEN TROPICAL SHRIMP FROM ECUADOR, 2019 - 2022**

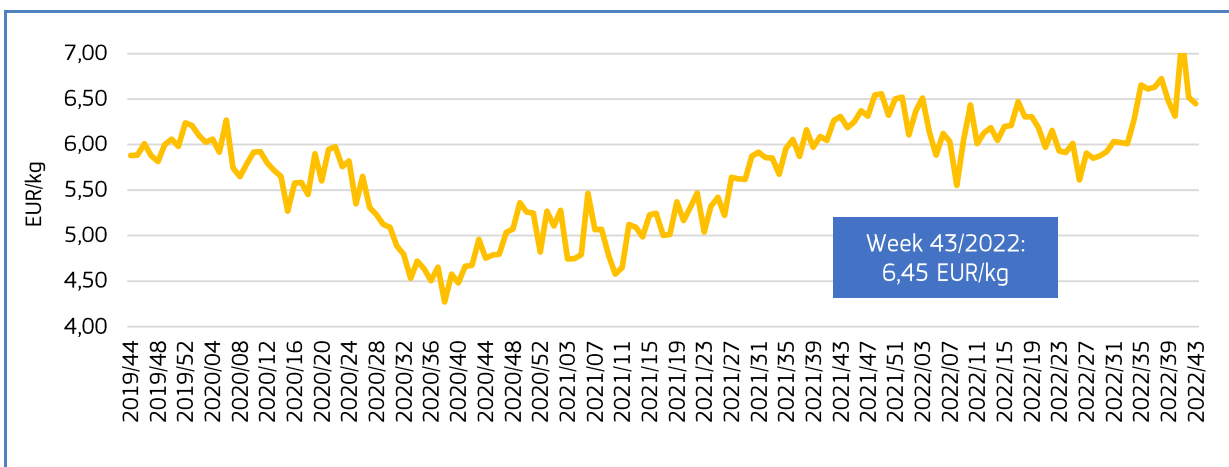


Table 17. **EVOLUTION OF WEEKLY PRICE AND VOLUME OF THIS MONTH'S THREE FEATURED COMMODITY PRODUCTS IMPORTED INTO THE EU**

Extra-EU Imports		Week 43/2022	Preceding 4-week average	Week 43/2021	Notes
Frozen herrings imported from Norway (<i>Clupea harengus</i> , <i>Clupea pallasii</i> , CN code 03035100)	Price (EUR/kg)	1,23	1,26* (-3%)	1,14 (+8%)	Prices showed a stable trend over the past three years. Prices fluctuated from 0,69 EUR/kg (week three of 2020) to 4,43 EUR/kg (week 32 of 2022). The price spike could be attributed to a drop in supply from the previous week. 44% of the weekly prices were lower than 1,00 EUR/kg.
	Volume (tonnes)	261	179* (+46%)	224 (+17%)	Volumes followed a stable trend over the past three years, with high fluctuations in supply from 39 tonnes (week 15 of 2020) to 4.744 tonnes (week 42 of 2021). 31% of the weekly supply was less than 200 tonnes.
Frozen fillets of mackerel imported from Iceland (<i>Scomber scombrus</i> , <i>Scomber japonicus</i> , <i>Orcynopsis unicolor</i> , CN code 03048949)	Price (EUR/kg)	2,88	2,70 (+7%)	2,45 (+18%)	Stable trend from 2019 to 2022. Prices fluctuated from 1,17 EUR/kg (week 52 of 2021) to 3,07 EUR/kg (week 51 of 2019). 68% of the weekly prices were higher than 2,50 EUR/kg.
	Volume (tonnes)	15	57 (-75%)	114 (-87%)	High fluctuations in supply from 2019 to 2022, varying from 2 tonnes (week 25 of 2022) to 1.082 tonnes (week 20 of 2021). Overall stable trend. 53% of the weekly volumes were less than 100 tonnes.
Prepared or preserved sardines whole or in pieces, in olive oil (excl. minced sardines) imported from Morocco (CN code 16041311)	Price (EUR/kg)	4,34	5,26 (-17%)	4,58 (-5%)	Stable trend over the past three years. Prices ranged from 3,19 EUR/kg (week 27 of 2021) to 6,30 EUR/kg (week 16 of 2022). 64% of the weekly prices were between 4,00 EUR/kg and 5,00 EUR/kg.
	Volume (tonnes)	93	153 (-39%)	204 (-54%)	Slightly downward trend over the past three years. Fluctuations in supply from 15 tonnes (week 17 of 2022) to 360 tonnes (week 36 of 2022). 51% of the weekly volumes were less than 100 tonnes.

*Data refers to weeks 39, 40, and 41 of 2022

Figure 32. **IMPORT PRICE OF FROZEN HERRING FROM NORWAY, 2019 - 2022**

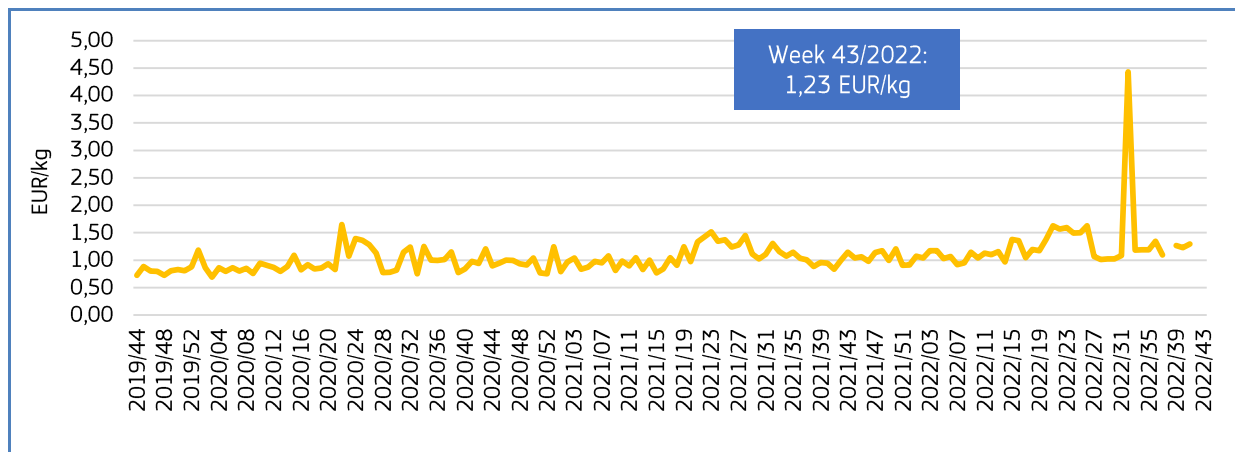


Figure 33. **IMPORT PRICE OF FROZEN FILLETS OF MACKEREL FROM ICELAND, 2019 - 2022**

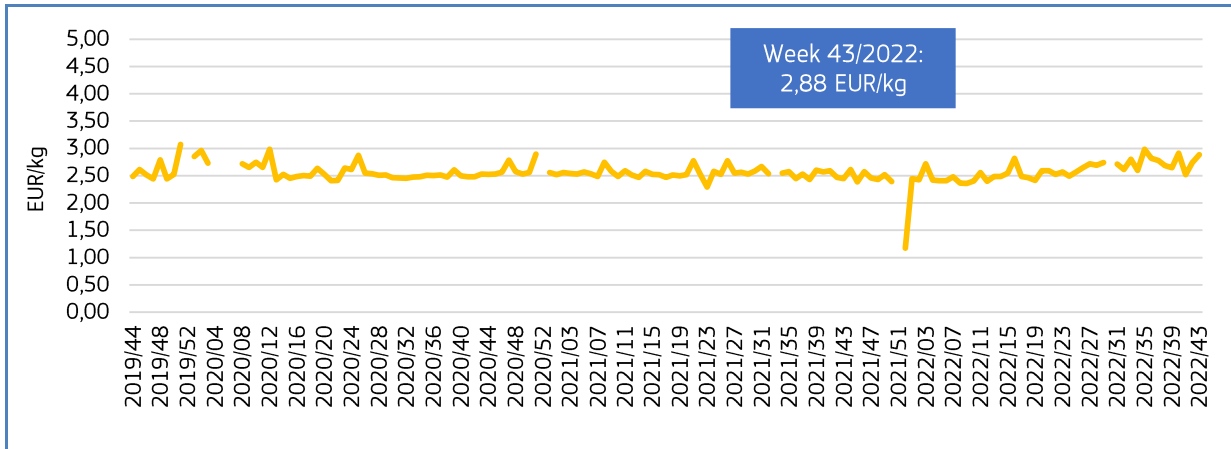
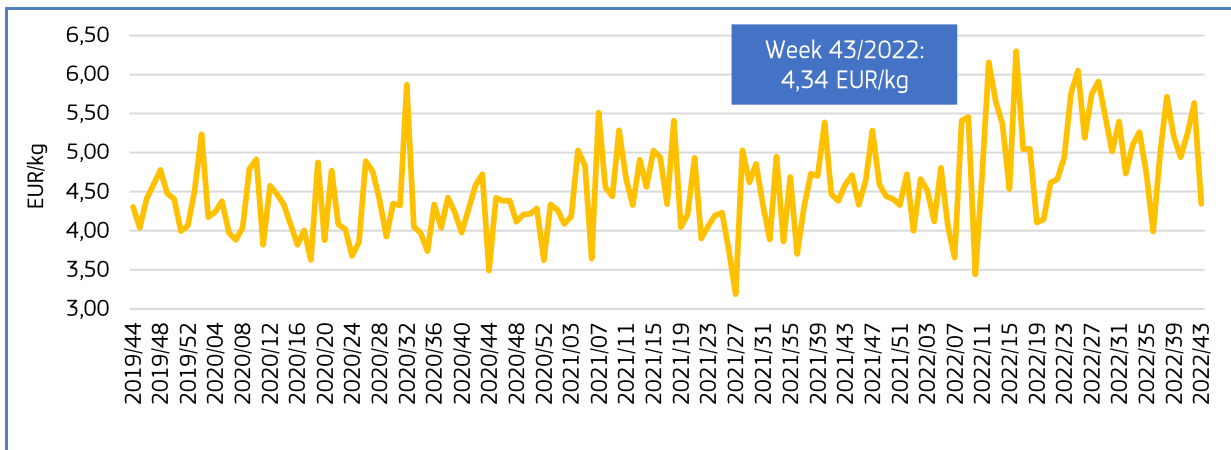


Figure 34. **IMPORT PRICE OF PREPARED OR PRESERVED SARDINES FROM MOROCCO, 2019 - 2022**



Volume of frozen **herring** from **Norway** showed a slightly upward trend in 2022. Price was stable ranging from 0,92 to 4,43 EUR/kg, with weekly supply from 62 to 2.153 tonnes.

Since the beginning of the year, the price of frozen fillets of **mackerel** from **Iceland** had a stable trend. At the same time, volume exhibited a downward trend. Price ranged from 2,36 to 2,98 EUR/kg, and supply from 5 to 711 tonnes.

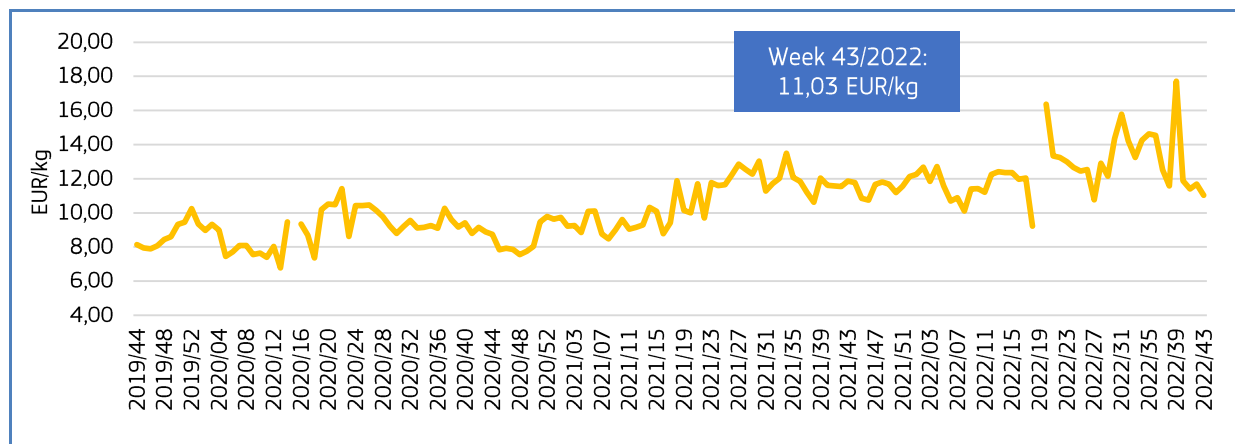
Since week one of 2022 price of prepared or preserved **sardines** from **Morocco** showed a stable trend, while at the same time weekly supply went up. Price ranged from 3,44 to 6,30 EUR/kg, and volume from 15 to 360 tonnes.

Table 18. **EVOLUTION OF WEEKLY PRICE AND VOLUME OF EU IMPORTS OF THREE OTHER FISHERIES AND AQUACULTURE PRODUCTS RELEVANT TO THE EU MARKET**

Extra-EU Imports		Week 43/2022	Preceding 4-week average	Week 43/2021	Notes
Fresh or chilled yellowfin tunas imported from Maldives (<i>Thunnus albacares</i> , CN code 03023290)	Price (EUR/kg)	11,03	13,17 (-16%)	11,87 (-7%)	Stable trend from 2019 to 2022. Prices fluctuated from 6,77 EUR/kg (week 13 of 2020) to 17,72 EUR/kg (week 39 of 2022). The price spike could be attributed to a drop in supply the previous weeks. 57% of the weekly prices were higher than 11,00 EUR/kg.
	Volume (tonnes)	13	3 (+280%)	13 (-4%)	High fluctuations in supply, varying from 0,122 tonnes (week 19 of 2020) to 48 tonnes (week 45 of 2019). Overall stable trend. 53% of the weekly supply were lower than 10 tonnes.
Frozen bigeye tunas imported from El Salvador ²⁴ (<i>Thunnus obesus</i> , CN code 03034490)	Price (EUR/kg)	2,82*	2,69** (+5%)	1,57*** (+79%)	Stable trend over the past three years. Price ranged from 1,23 EUR/kg (week 10 of 2020) to 2,83 EUR/kg (week 40 of 2022). 81% of the weekly prices were less than 2,00 EUR/kg.
	Volume (tonnes)	33*	126** (-74%)	84*** (-61%)	Slightly downward trend over the past three years. High fluctuations in supply from 1 tonne (week 19 of 2021) to 501 tonnes (week 27 of 2021). 69% of the weekly supply were lower than 100 tonnes.
Fresh or chilled trout with heads and gills on, gutted, weighing > 1,2 kg each, or with heads off, gilled and gutted, weighing > 1 kg each imported from Norway (CN code 03021120)	Price (EUR/kg)	7,18	7,01 (+3%)	6,01 (+20%)	Stable trend from 2019 to 2022. Prices ranged from 3,53 EUR/kg (week 35 of 2020) to 9,59 EUR/kg (week 18 of 2022). 57% of the weekly prices were between 4,00 and 6,00 EUR/kg.
	Volume (tonnes)	103	134 (-23%)	102 (+1%)	From 2019 to 2022 weekly supply fluctuated from 40 tonnes (week 07 of 2022) to 548 tonnes (week 29 of 2020). Overall stable trend. 46% of the weekly volumes were between 10 tonnes and 50 tonnes.

²⁴Data refers to week 42 of 2022 (the most recent available). **Data refers to weeks 40 and 41 of 2022. ***Data refers to week 42 of 2021.

Figure 35. **IMPORT PRICE OF CHILLED YELLOWFIN TUNAS FROM MALDIVES, 2019 - 2022**



²⁴ Trends are estimated on the available data 51%

Figure 36. **IMPORT PRICE OF FROZEN BIGEYE TUNAS FROM EL SALVADOR, 2019 - 2022**

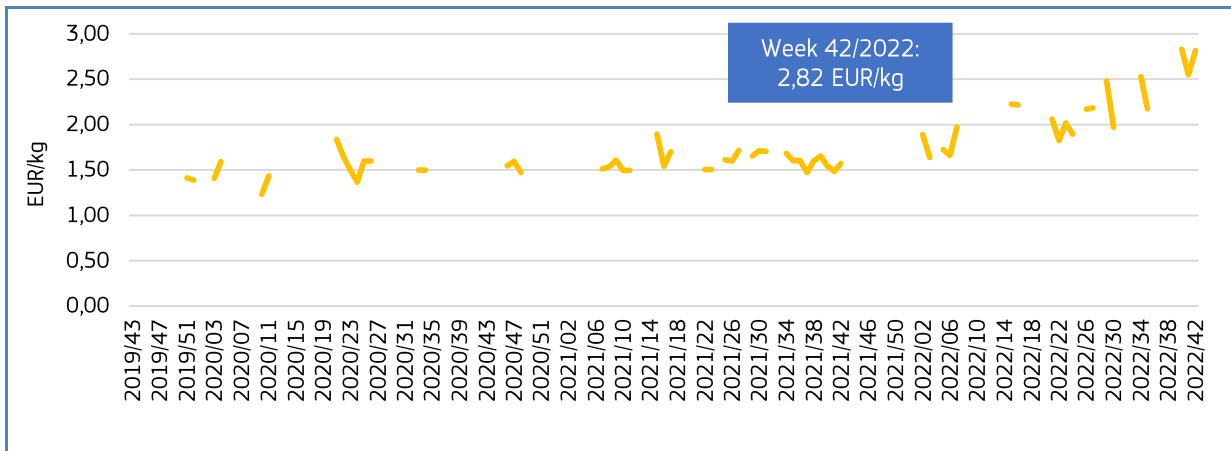
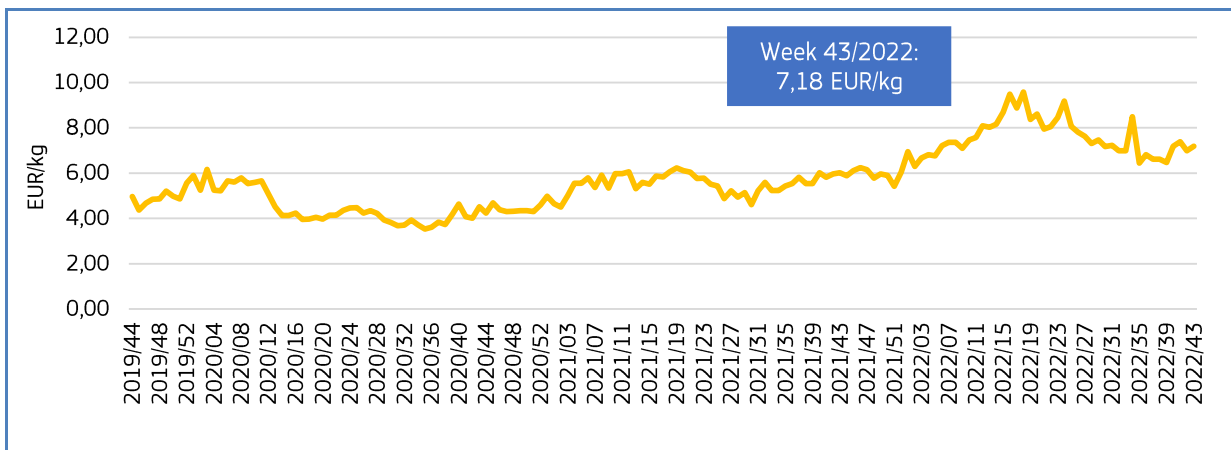


Figure 37. **IMPORT PRICE OF FRESH OR CHILLED TROUT FROM NORWAY, 2019 - 2022**



In 2022, both price and volume of chilled **yellowfin tunas** from **Maldives** showed a stable trend. Price ranged from 9,22 EUR/kg to 17,72 EUR/kg and volume from 0,241 tonnes to 26 tonnes.

Price, as well as volume of frozen **bigeye tunas** from **El Salvador** had a stable trend in 2022. Price ranged from 1,64 EUR/kg to 2,83 EUR/kg and weekly supply from 2 tonnes to 353 tonnes.

Since the beginning of the year, price of fresh or chilled **trout** from **Norway** had a stable trend. At the same time weekly supply went down slightly. Price ranged from 6,30 EUR/kg to 9,59 EUR/kg and supply from 40 tonnes to 374 tonnes.

3. Consumption

3.1. HOUSEHOLD CONSUMPTION IN THE EU

Data analysed in the section “Consumption” are extracted from EUMOFA, as collected from Europanel²⁵.

Compared to October 2021, household consumption of fresh fisheries and aquaculture products In October 2022 declined in both volume and value in all Member States analysed, except for Denmark. The biggest declines in volume were observed in the Netherlands and Italy (25% and 24%, respectively). While Italy also experienced the highest drop in value (19%), it was not that high in the Netherlands, only 9%.

Plaice and mussel *Mytilus* spp. were the main species responsible for the decrease in volume in the Netherlands (77% and 51% respectively), while in Italy these were mainly anchovy and salmon (38% and 34%, respectively). Even though the value of almost all fish commodity groups has also decreased in Italy, highest declines were observed in the values of clam and anchovy (38% and 33%, respectively).

Table 19. **OCTOBER OVERVIEW OF THE REPORTING COUNTRIES (volume in tonnes and value in million EUR)**

Country	Per capita consumption 2020* (live weight equivalent, LWE) kg/capita/year	October 2020		October 2021		September 2021		October 2022		Change from October 2021 to October 2022	
		Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Denmark	35,17	1.066	18,16	1.085	17,97	996	17,97	988	18,21	9%	1%
Germany	12,81	7.320	95,47	6.281	84,65	4.982	78,43	5.697	81,89	9%	3%
Hungary	6,50	392	2,02	409	2,82	220	1,53	339	2,42	17%	14%
Ireland	21,22	1.041	15,41	925	14,19	1.047	17,41	798	13,14	14%	7%
Italy	29,99	23.923	251,66	24.179	269,26	24.105	286,58	18.262	218,83	24%	19%
Netherlands	20,70	2.891	42,02	2.894	43,65	3.344	54,11	2.158	39,61	25%	9%
Poland	13,33	3.882	25,45	3.792	25,86	3.062	24,08	3.139	24,77	17%	4%
Portugal	57,67	6.938	43,39	5.877	40,27	5.088	37,16	5.345	39,94	9%	1%
Spain	44,21	59.006	472,61	49.643	426,77	40.658	369,22	40.521	377,27	18%	12%
Sweden	23,99	1.529	17,45	925	13,03	736	10,96	787	11,39	15%	13%

*Data on per capita consumption of all fish and seafood products for all EU Member States can be found at: https://www.eumofa.eu/documents/20178/521182/EFM2022_EN.pdf

Over the past three years, the average household consumption in Spain and Sweden of fresh fisheries and aquaculture products in October has been above the annual average in both volume and value. In Germany, Hungary, Ireland, Italy, the Netherlands and Poland it was below the annual average in both volume and value.

The most recent weekly consumption data (up to **week 1 of 2023**) are available on the EUMOFA website and can be accessed [here](#).

²⁵ Last update: 01.12.2022

3.2. Fresh swordfish

Habitat: The species belongs to the family of Xiphiidae. They are oceanic, but can sometimes also be found in coastal waters. They prefer a temperature of 18°C to 22°C ²⁶.

Catch area: Swordfish are present in the Atlantic, Indian and Pacific oceans, including the Mediterranean Sea, the Sea of Marmara, the Black Sea, and the Sea of Azov.

Catching countries in the EU: Spain, Italy, Portugal, Greece, France²⁷.

Production method: Caught.

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

Presentation: Whole, gutted steak/slice, loin, skinned.

Preservation: Fresh, frozen.

Means of preparation: Grilled, broiled, baked, or poached.

3.2.1. Overview of household consumption in Italy

Italy is among those EU Member States with a high per capita apparent consumption²⁸ of fisheries and aquaculture products. In 2020, the country's per capita apparent consumption decreased by 4% from 2019 and reached 29,99 kg in LWE. This was 29% higher than the EU average (23,28 kg LWE). However, Italian apparent consumption was 48% less than that of Portugal, the Member State with the highest per capita apparent consumption (57,67 kg LWE) in 2019.

See more on per capita apparent consumption in the EU in Table 19.

Italy is among the five most important producers, as well as consumers of swordfish among EU Member States. In January–October 2022 swordfish consumption in Italy decreased by 16% compared to the same period in 2021. However, in the same period, the average price increased by 25% from 17,58 EUR/kg to 21,95 EUR/kg.

Over the three years from November 2019 to October 2022 the total volume of household consumption of swordfish in Italy was 33.759 tonnes. Italian consumers spent an average of 18,99 EUR per month for a kg of swordfish during the same period.

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

First Sales: France 1/2015; Greece 7/2015; Italy 9/2019; Portugal 9/2019; Spain 9/2019.

Consumption: Italy 2/2020, 3/2015; Spain 3/2015; the UK 3/2015.

Extra-EU Imports: Chile 2/2022, 9/2019; China 10/2022, 10/2020; Morocco 10/2021, 8/2020.

Topic of the month: Swordfish 2/2022; Swordfish in the EU market 10/2017.

²⁶<https://www.fishbase.se/summary/226>

²⁷ <https://www.eumofa.eu/documents/20178/360235/MH+2+2020+EN.pdf/>

²⁸ Apparent consumption²⁸ is calculated by using the supply balance sheet that provides an estimate of the supply of fisheries and aquaculture products available for human consumption at EU level. The calculation of the supply balance sheet is based on the equation: $Apparent\ consumption = ((total\ catches - industrial\ catches) + aquaculture + imports) - exports$. Catches targeted for fishmeal (industrial catches) are excluded. Non-food use products are also excluded from imports and exports. It is worth underlining that the methodologies for estimating apparent consumption at EU and Member State levels are different, the first based on data and estimates as described in the Methodological background, the latter also requiring the adjustment of abnormal trends due to the higher impact of stock changes.

Figure 38. PRICES OF FRESH SWORDFISH PURCHASED BY ITALIAN HOUSEHOLDS

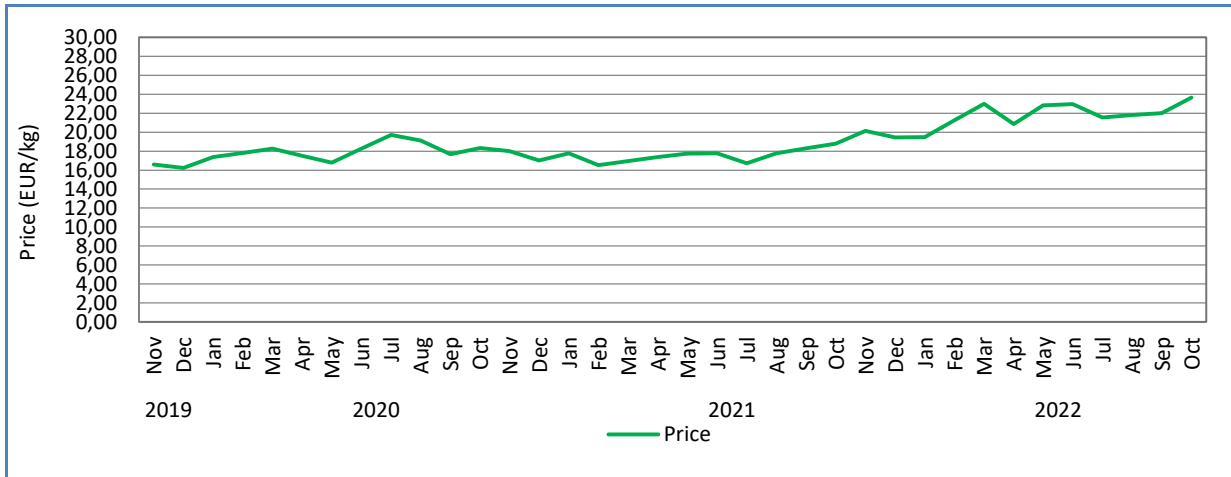
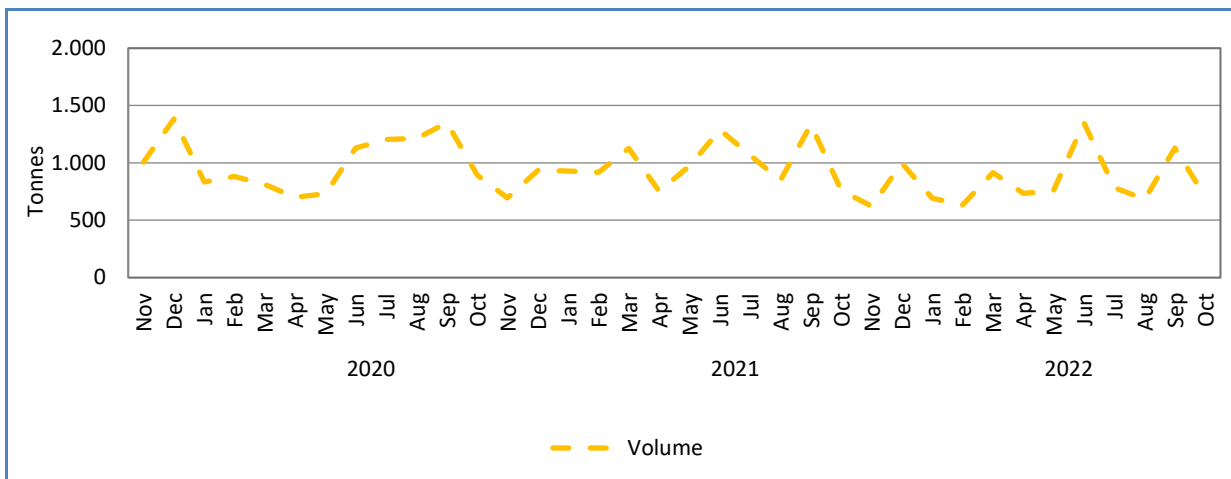


Figure 39. HOUSEHOLD PURCHASES OF FRESH SWORDFISH IN ITALY



3.2.2. Household consumption trends in Italy

Long-term trend (November 2019 to October 2022): Upward trend in price and fluctuating volumes.

Yearly average price: 17,59 EUR/kg (2019), 18,00 EUR/kg (2020), 17,95 EUR/kg (2021).

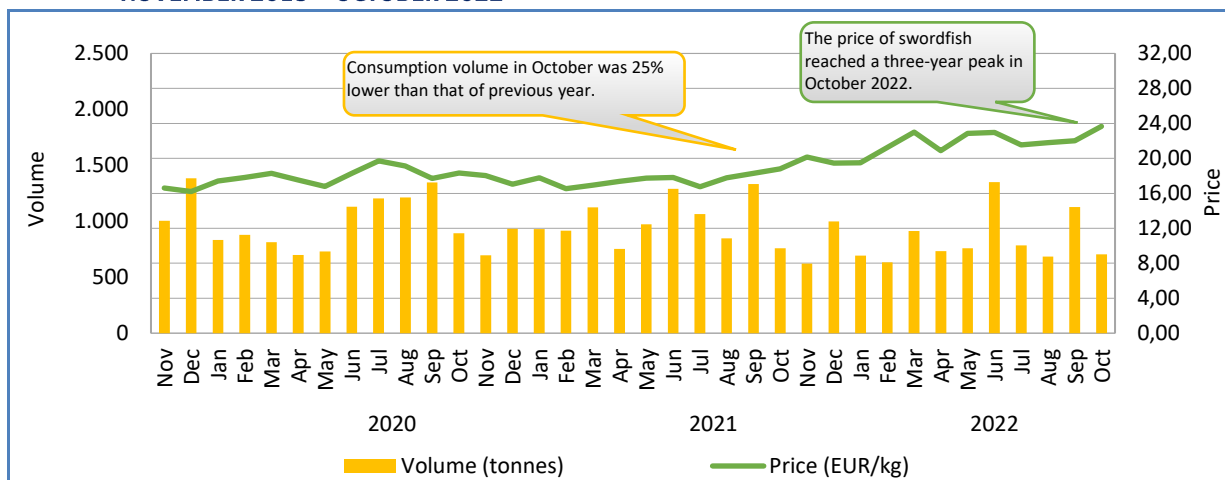
Yearly consumption: 14.097 tonnes (2019), 11.375 tonnes (2020), 11.611 tonnes (2021).

Short-term trend (January to October 2022): Fluctuating volumes and prices.

Average price: 21,95 EUR/kg (2022).

Consumption: 8.383 tonnes (2022).

Figure 40. **RETAIL PRICE AND VOLUME OF FRESH SWORDFISH PURCHASED BY HOUSEHOLDS IN ITALY, NOVEMBER 2019 – OCTOBER 2022**



4. Case study: Octopus in the EU

Octopus is a very important and valuable cephalopod species on the EU market, especially in Mediterranean countries. In 2020, EU-27 landings of octopus species reached 20.967 tonnes with a total landing value of EUR 125 million. To supply the high demand from the market, the EU imports large quantities of frozen octopus, especially from Morocco and Mauritania. In 2021, the EU-27 imported 106.052 tonnes of octopus at a value of EUR 972 million. Spain is a hub for octopus products. It imports from Western African countries and mostly re-exports to the USA or to other EU-27 MS, as well as supplying its significant domestic consumption. From 2021, due to a strong increase in abundance of octopus in the Bay of Biscay, first-sales of octopus soared in France, resulting in increasing French exports, mostly to Italy and Spain.

4.1 Biology resource and exploitation

Biology



Source: Scandinavian Fishing Yearbook

Octopuses belong to the group called cephalopods, along with among others squids and cuttlefish. These species have their feet or tentacles connected to their head, not their body. Most of the species within this group have an ink bag that they empty when they feel threatened. The size varies from a few centimetres to the giant cephalopod which can reach a length of 18 metres. The octopus has a well-developed nervous system and is considered to be the most intelligent invertebrate animal. The most obvious difference between the three groups mentioned is that octopuses have no shell at all, while cuttlefishes have an internal shell and squids have the horny remains of a shell. There is a great number of octopus species around the globe. The main species in European waters is the common octopus (*Octopus vulgaris*). Other important species on the market are Mexican octopus (*Octopus maya*), horned octopus (*Eledone cirrosa*) and musky octopus (*Eledone*

moschata). Octopuses live short lives, grow quickly, mature early and typically reach weights of 2 kg to 3 kg, which is heavy for an invertebrate.

The common octopus is a benthic species occurring from the coastline to the outer edge of the continental shelf (in depths from 0 m to 200 m). Its distribution is worldwide. They live in various habitats: rocks, coral reefs and grass beds. Throughout its distribution range, this species is known to undertake limited seasonal migrations, usually overwintering in deeper waters and occurring in shallower waters during summer. They mostly feed on crustaceans and bivalves. There are two spawning peaks per year. In the Mediterranean, they occur in April/May and in October, spring being the most important. In West Africa, the first spawning peak occurs in May/June and the second (more important) in September.

Resource, exploitation, and management in the EU

Several fishing gears may be used in the octopus fishery: pots, traps, hooks and lines, otter trawls and spears. Octopuses are very popular seafood species, particularly in Mediterranean countries, as well as in South American and Asian countries. They are mainly fished by coastal trawlers and artisanal fisheries that catch common octopus with pots and traps (FPO). A small percentage are caught by small-scale fleets with trammel nets, hooks and other fishing gears. Although these fisheries are regulated by national and regional rules, octopus is a difficult resource to manage due to its biological characteristics (short life span, rapid growth, high natural mortality and sensitivity to environmental conditions with highly recruitment success)²⁹. In the EU, in order to help protect the species, a minimum catch size for octopus is set at 750 g (whole) and 450

²⁹ https://www.frontiersin.org/10.3389/conf.fmars.2019.08.00067/event_abstract

g (gutted) in European waters, except for the Skagerrak/Kattegat³⁰. However, some EU Member States have more restrictive technical measures, for example Croatia, where the minimum catch size for octopus is 1 kg³¹.

In response to the increasing demand for octopus products in the market, in a context of limited natural resources, research into octopus farming has been developed, but has faced multiple obstacles. However, according to recent developments in Spain there are plans to start octopus farming at a commercial scale, although several ethical issues have been raised³².

4.2 Production

Catches

Global production of octopus species amounted to 377.907 tonnes in 2020. Most of the global catches were reported under aggregated species groups: 85% of the world catches were reported under “octopuses, etc, nei” in 2020. The common octopus accounted for 9% of the global catches.

In 2020, the leading producer by volume was China, accounting for 28% of the global catches. Other main producers were Morocco (14%), Mauritania (10%), Mexico and Japan (9% each). The EU-27 ranked 6th with 21.773 tonnes caught in 2020 (6% of the world total). The main EU countries in terms of catch volumes were Spain, Italy and Portugal, accounting for almost three quarters of total EU catches.

Between 2011 and 2020, global catches of octopus species increased overall by 9%. Specifically, catches increased in Morocco (+59%), Mauritania (+133%) and Mexico (+29%) and in other relevant Asian countries, whereas catches declined in China (-17%), Japan (-7%) and in the EU (-44%). The significant decrease in catches by the EU fleet can be partly explained by the strong fall in 2020 due to market disruptions from the Covid-19 crisis. From 2019 to 2020 EU octopus catches fell by 29%.

Table 20. **TOTAL WORLD CATCHES OF OCTOPUS SPECIES³³ (volume in tonnes)**

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
China	126.965	125.800	119.169	121.352	130.245	124.394	110.835	107.789	106.014	104.870
Morocco	32.654	18.411	57.987	49.237	64.963	55.319	52.969	40.620	42.384	51.906
Mauritania	16.716	25.227	24.733	20.798	33.249	30.425	39.013	29.216	41.506	39.015
Mexico	26.895	30.959	24.847	35.636	38.009	38.885	42.191	43.551	36.297	34.627
Japan	35.186	33.640	33.700	34.573	32.568	36.975	35.473	36.161	35.175	32.600
EU-27	38.778	35.761	36.540	31.580	28.461	32.124	27.505	28.378	30.562	21.773
Republic of Korea	19.468	19.510	16.689	17.726	18.535	18.090	19.612	19.241	19.554	19.366
Indonesia	7.674	8.668	9.998	6.838	9.234	8.871	19.215	11.646	11.495	19.171
India	-	-	-	-	11.409	14.585	10.816	15.890	12.123	18.000
Thailand	7.690	10.216	10.260	9.004	5.199	5.013	7.802	7.997	10.247	11.330
Others	35.788	35.068	28.540	28.424	28.855	32.876	34.923	36.516	34.127	25.249
Total	347.814	343.260	362.463	355.168	400.727	397.557	400.354	377.006	379.483	377.907

Source: FAO

³⁰ REGULATION (EU) 2019/1241 <https://eur-lex.europa.eu/eli/reg/2019/1241/oj>

³¹ https://narodne-novine.nn.hr/clanci/sluzbeni/2017_12_122_2785.html

³² Source: <https://www.theguardian.com/environment/2022/mar/11/my-octopus-eater-critics-say-plans-for-farm-are-unethical-and-unsustainable>

³³ Including: Octopuses, etc. nei (*Octopodidae*), Common octopus (*Octopus vulgaris*), Mexican four-eyed octopus (*Octopus maya*), Horned octopus (*Eledone cirrhosa*), Horned and musky octopuses (*Eledone spp*), Musky octopus (*Eledone moschata*), Pinnoctopus cordiformis, Spider octopus (*Octopus salutii*), White-spotted octopus (*Octopus Macropus*), Octopuses nei (*Octopus spp*), Unihorn octopus (*Scaergus unircirrhus*).

Landings in the EU

In 2020, landings of octopus species in the EU-27 amounted to 20.967 tonnes at a total value of EUR 125 million. EU landings were mainly fresh landings which accounted for 98% of the total volume and 99% of the total value. The remainder was landed frozen.

Spain, Italy, Portugal and Greece had the biggest landings with 29%, 24%, 19% and 17% of the EU-27 landings respectively. Other important countries landing octopus species included France, Croatia and Belgium (with 7%, 2% and 1% respectively of the EU-27 landings). In terms of value, the main landing countries get a different ranking, with Italy ranking first, accounting for 31% of the landing value due to a higher average price than in Spain.

From 2011 to 2020, EU-27 landings of octopus species decreased by 32% in volume and 27% in value in real terms³⁴, as a result of the significant fall in landings in the main landing countries (Spain, Italy and Portugal). Over the same period, landing volumes and values increased significantly in Greece and in France. These trends appear to be linked to variations in regional abundance of octopus resources (e.g., less abundance in Western Mediterranean and Iberian coasts and more abundance in the Bay of Biscay and Eastern Mediterranean).

Table 21. **LANDINGS OF OCTOPUS SPECIES IN THE EU (volume in tonnes)**³⁵

COUNTRY	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Spain	11.622	11.138	12.106	8.013	8.649	9.238	7.539	7.076	10.237	6.092
Italy	9.186	7.047	7.214	7.184	7.303	6.691	8.226	9.180	8.603	4.993
Portugal	5.612	7.267	9.702	7.995	5.765	7.934	4.396	5.081	4.439	3.914
Greece	2.284	2.407	2.380	2.466	2.144	3.648	3.097	3.189	3.563	3.638
France	1.732	1.774	2.041	1.642	1.512	1.638	1.835	2.278	2.201	1.546
Croatia	-	-	758	976	828	626	496	428	392	483
Belgium	91	126	110	46	54	63	100	106	161	155
Others	134	181	109	108	104	162	133	65	142	146
Total	30.660	29.939	34.419	28.431	26.359	29.999	25.823	27.403	29.738	20.967

Source: EUMOFA based on Eurostat.

4.3 Octopus: first sales in the EU

Octopus first-sales data were available for all the main EU landing Member States. In 2021, octopus first sales in reporting countries amounted to 20.049 tonnes at a value of around EUR 135 million and an average price of 6,75 EUR/kg. Spain, Portugal and France accounted for 36%, 31% and 22% of the volumes. In 2020, first-sale volumes and value decreased in all main landing countries, probably due to disruptions caused by the Covid-19 crisis affecting fisheries activities and seafood markets. In 2021, first-sales volumes rebounded in Spain (+7%) and Portugal (+38%) and soared in France (+231%). The huge increase in sales in France was due to a sudden increase in the octopus resource along the Atlantic coast, whereas most of the French catches used to occur predominantly on the Mediterranean seaboard. In 2022, over the January-September period, first sales volumes were higher compared to the same period in 2021 in France (+79%), Portugal (+21%) and Spain (+11%), but were lower in Italy (-27%).

In **France**, first-sales data showed a high seasonality, with most first sales occurring during autumn (mainly between September and December). Over the 2020-2022 period, first-sales monthly volumes peaked at 1.206 tonnes in November 2021. The variations in first sale prices always appear to be correlated with first sale volumes. A strong increase in prices occurred with the strong increase in first sales volumes in Q4 2021.

³⁴ Values are deflated by using the GDP deflator (base=2015).

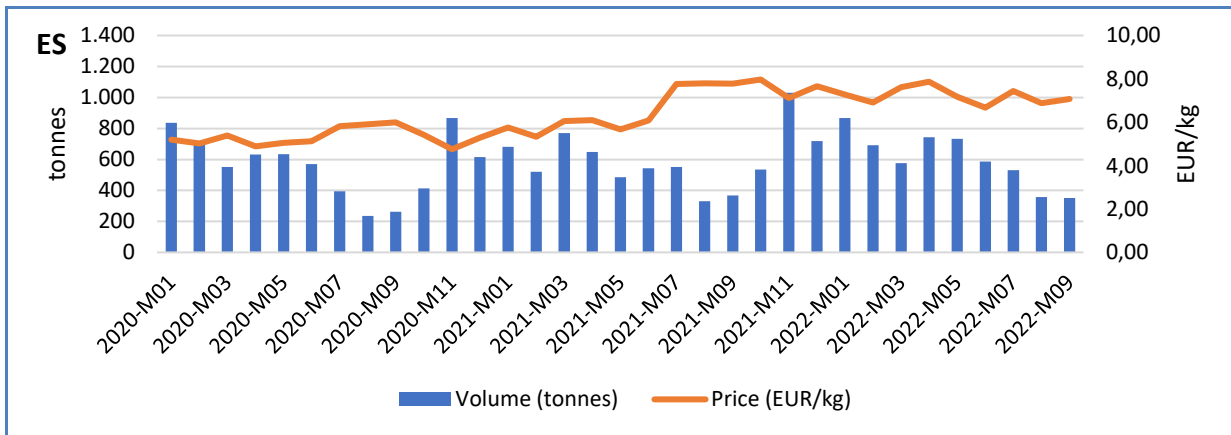
³⁵ Totals do not correspond exactly to actual sums because of roundings.

In **Spain** and **Portugal**, first sales volumes peak in November (resulting in lower average price) and remain high until spring, before falling in summer.

Prices recorded in France between January 2020 and September 2022 (6,13 EUR/kg on average) were lower than prices recorded in other main Member States (7,36 EUR/kg in Portugal and 6,34 EUR/kg in Spain).

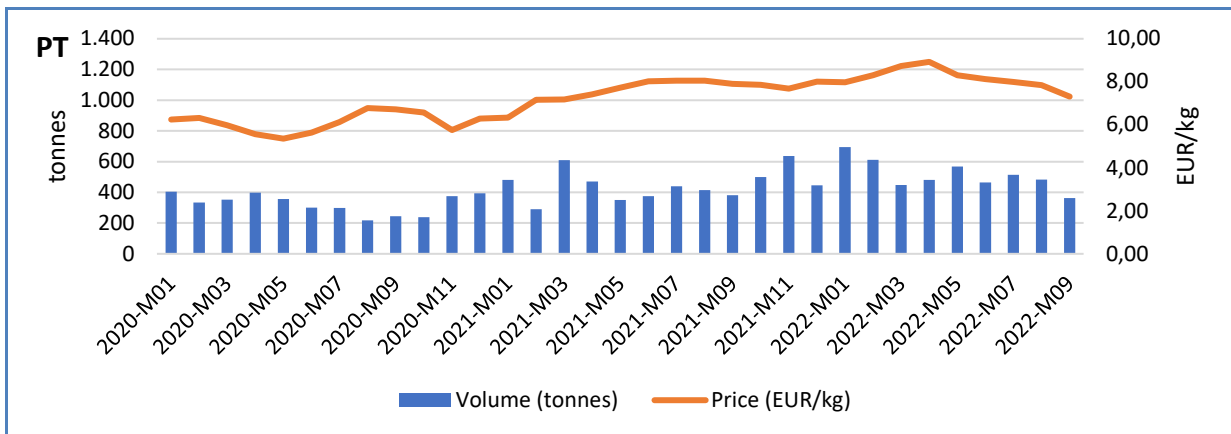
In 2021, the most important sales places octopus by volume were Le Grau-du-Roi, Concarneau, and La Turballe in France (32% of total first-sales volumes at national level), Isla Cristina, Vigo, and Ayamonte in Spain (25%), and Olhão, Portimao and Sesimbra in Portugal (51%).

Figure 41. **FIRST SALES: OCTOPUS IN SPAIN**



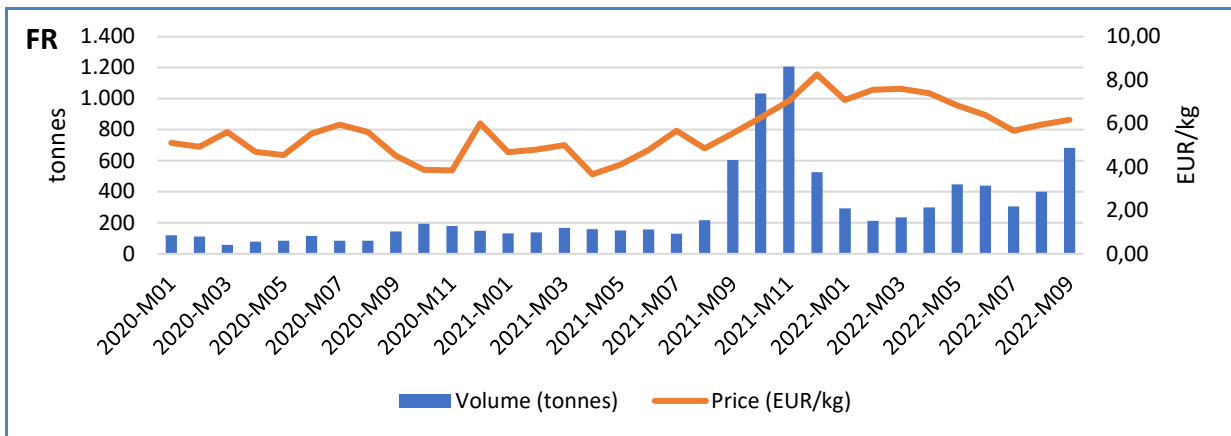
Source: EUMOFA

Figure 42. **FIRST SALES: OCTOPUS IN PORTUGAL**



Source: EUMOFA

Figure 43. **FIRST SALES: OCTOPUS IN FRANCE**



Source: EUMOFA

4.4 International trade

EU trade flows and supply

In the CN nomenclature³⁶ used for registering EU import-export data, octopus was specifically reported as fresh, frozen, dried, salted or in brine, and prepared/preserved³⁷.

In 2021, the EU-27 trade deficit for octopus products amounted to EUR 792 million. In the same year, the EU-27 imported 106.052 tonnes of octopus at a value of EUR 972 million, almost exclusively frozen (99% of the imports value). The major provider of octopus to the EU market was Morocco, accounting for 52% of the extra-EU import value, followed by Mauritania (20%). Other major providers were Senegal (8%), Indonesia and Mexico (4% each). Spain received about two thirds of the octopus extra-EU imports, being the main entry point for Moroccan and Mauritanian octopus in the EU market.

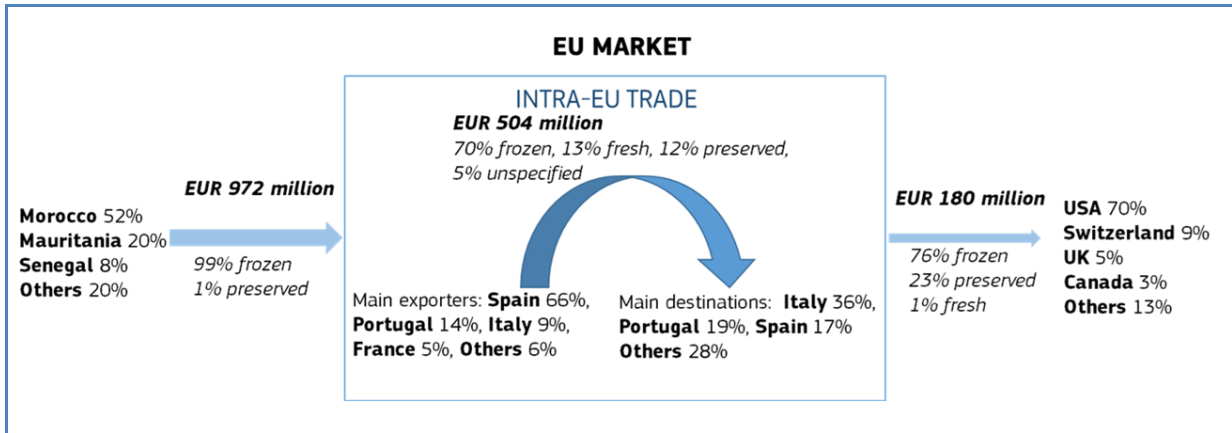
In the same year, EU exports to third countries amounted to 17.809 tonnes at a value of EUR 180 million. Frozen octopus accounted for 76% of the total extra-EU export value, whereas preserved octopus represented 23% of the total. The main destination in value terms was the USA, accounting for 70% of the total extra-EU export value. Other major destinations in value terms were Switzerland (9%), the UK (5%), and Canada (3%). About 80% of these extra-EU exports originated from Spain. Spain is a hub for octopus products. It imports from African countries and mostly re-exports to the USA or to other EU-27 MS, and supplies its significant domestic consumption.

In 2021, intra-EU exports amounted to 53.068 tonnes of octopus products at a value of EUR 504 million. The intra-EU trade was dominated by frozen products which accounted for 70% of the trade value (13% for fresh and 12% for prepared/preserved octopus). The main exporting Member State within the EU was Spain (66% of the intra-EU export value), followed by Portugal (14%). It should be noted that intra-EU exports from France soared in 2021 compared to 2020 (+345%), following the spectacular increase in catches on the Atlantic coasts. Italy (36% of the total intra-EU export value), Portugal (19%) and Spain (17%) were the main destinations of the intra-EU exports.

³⁶ The Combined Nomenclature (CN) is the EU's eight-digit coding system, comprising the Harmonised System (HS) codes with further EU subdivisions. It serves the EU's common customs tariff and provides statistics for trade within the EU and between the EU and the rest of the world.

³⁷ 03 07 51 00: live, fresh or chilled; 03 07 52 00: frozen (03 07 59 10 - before 2017); 03 07 59 00: smoked, dried, salted or in brine (03 07 59 90: smoked, even cooked but not otherwise prepared - before 2017); 16 05 55 00: prepared or preserved (excl. smoked).

Figure 44. **THE OCTOPUS EU-TRADE MARKET IN 2021, IN VALUE**

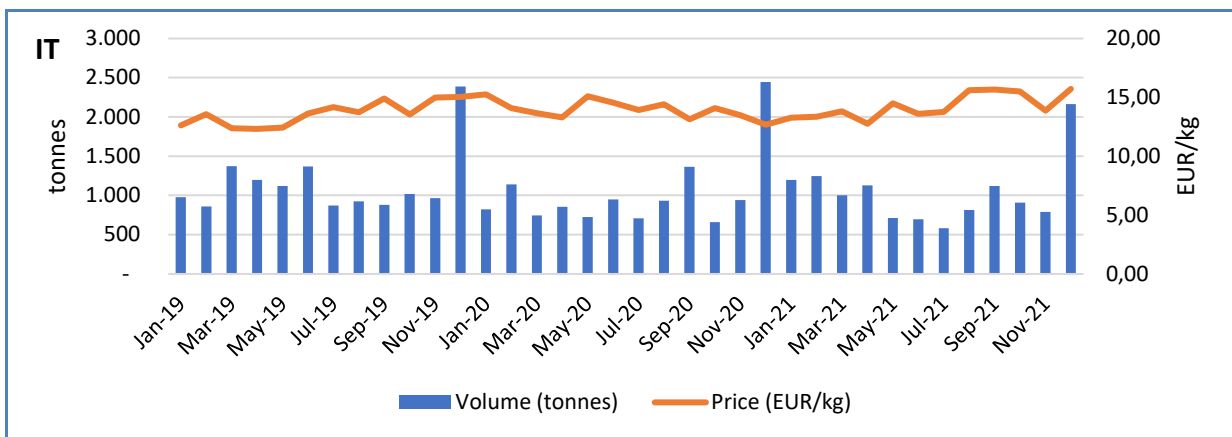


Source: EUMOFA elaboration of EUROSTAT-COMEXT data.

4.5 Consumption

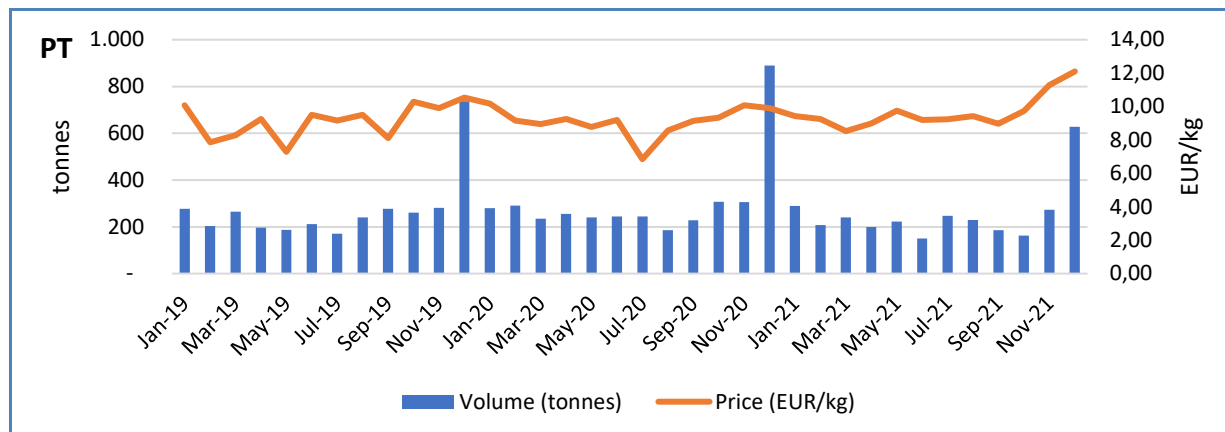
In EUMOFA datasets, monthly household consumption for a selection of fresh products is available for some MS, including monthly consumption volumes and average prices. For octopus, data are available in Italy and Portugal, which are among the main consumption markets for this species. When looking at monthly consumption over the 2019-2021 period, a clear seasonality was observed with a strong peak in consumption volume in December (almost 2.500 tonnes in Italy and 700-900 tonnes in Portugal), corresponding to the Christmas period, and a relatively low consumption in spring. Monthly average consumption prices were much higher in Italy (12,00-16,00 EUR/kg) than in Portugal (7,00-12,00 EUR/kg). In both Member States, prices peaked in December when the demand and consumption was highest.

Figure 45. **HOUSEHOLD CONSUMPTION: FRESH OCTOPUS IN ITALY**



Source: EUMOFA based on EUROPANEL.

Figure 46. **HOUSEHOLD CONSUMPTION: FRESH OCTOPUS IN PORTUGAL**



Source: EUMOFA based on EUROPANEL

5. Case study: Fisheries and aquaculture in Chile

Chile is located on the western seaboard of South America, covering more than 750.000 km² with a coastline that spans approx. 6.400 km. The country has a diverse climate, with deserts in the north, tropical jungles in the middle and arid plains in the south³⁸. In 2019, the population of Chile was about 19 million³⁹. Chile's economy is based on agricultural production, copper, iron and nitrate mining, and the exploitation of marine resources.

Chile has one of the world's most productive fishing grounds due to the Humboldt Current System (HCS) which extends along the west coast of South America from southern Chile up to Ecuador and the Galapagos Islands⁴⁰. Northward flow of cold nutrient-rich water and nutrient-enriched subsurface waters that upwell along the shorelines of Ecuador, Peru and northern Chile characterise the oceanography of the HCS. This pattern is occasionally interrupted by El Niño events, which bring warm nutrient-depleted equatorial waters that reduce upwelling intensity and can last for several years at a time. Upwelling events along the Chilean coast result in an extremely high primary production, which in turn supports zooplankton and fish production over extensive areas. Pelagic fisheries centred on upwelling zones greatly benefit from this prolific marine ecosystem.

Chile is a significant contributor to global production of both fishery and aquaculture products. Fisheries mainly produce small pelagic species, such as Peruvian anchovy, jack mackerel and Araucanian herring, while aquaculture mainly produces Atlantic salmon, Chilean mussel and other salmonid species.



Source: CIA, the world factbook

Fisheries in Chile have suffered several collapses of important stocks⁴¹, and this has led to the development of management schemes, sea zoning, and implementation of TACs and quota regimes. In 2020, Chilean fisheries produced nearly 2,2 million tonnes of seafood, which was approximately 2,4% of global production. Chile is also a large contributor to global production of salmonids, especially Atlantic and coho salmon. In 2020, Chile was the 2nd biggest producer of farmed Atlantic salmon and the biggest producer of farmed Coho salmon. Development and up-scaling of salmonid aquaculture has not been without hazards in Chile, and several setbacks related to outbreaks of disease and mortalities due to algal blooms have occurred throughout its history⁴².

Chile has a strong position on the international market, with 31 trade agreements in place covering 65 economies and representing 88% of the world's GDP. In 2020, Chile exported a total of 1,6 million tonnes of fishery and aquaculture products at a value of EUR 4,8 million, mainly made up of salmon, fishmeal and other marine fish. Total imports of fishery and aquaculture products to Chile in 2020 amounted to 373.116 tonnes at a value of EUR 514.281. Imports mainly consisted of products categorized as other non-food use, fish oil, and tuna. Chile has an Economic Association Agreement with the EU that establishes political and economic association between EU MS and Chile⁴³. In 2021, EU MS exported 2.731 tonnes of fishery and aquaculture products to Chile at a value of EUR 6,0 million and imported 139.639 tonnes of fishery and aquaculture products from Chile at a value of EUR 399 million.

Chileans consume a wide variety of seafood. However, they are well below the global average in terms of per capita consumption⁴⁴. In 2017, per capita consumption of seafood in Chile was 11,8 kg per year⁴⁵.

³⁸ <https://www.worlddata.info/america/chile/index.php>

³⁹ The World Bank. <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=CL>

⁴⁰ Gibson, R.N, et al. (2007). The Humboldt Current System of northern and central Chile.

<https://repositorio.uc.cl/xmlui/bitstream/handle/11534/20998/The%20Humboldt%20Current%20System%20of%20northern%20and%20central%20Chile.pdf>

⁴¹ Díaz-Vega, J. P. (2021). Evaluating marine reserves as a management policy in the central-southern anchovy (*Engraulis ringens*) fishery of Chile. *Lat. Am. J. Aquat. Res.* Vol.49, no. 2. www.scielo.cl/scielo.php?pid=S0718-560X2021000200212&script=sci_arttext&lng=pt

⁴² Asche, F. et al. (2009). The salmon disease crisis in Chile. *Marine Resource Economics*, 24(4), 405-411. www.jstor.org/stable/42629664

⁴³ International Trade Administration. <https://www.trade.gov/country-commercial-guides/chile-trade-agreements>

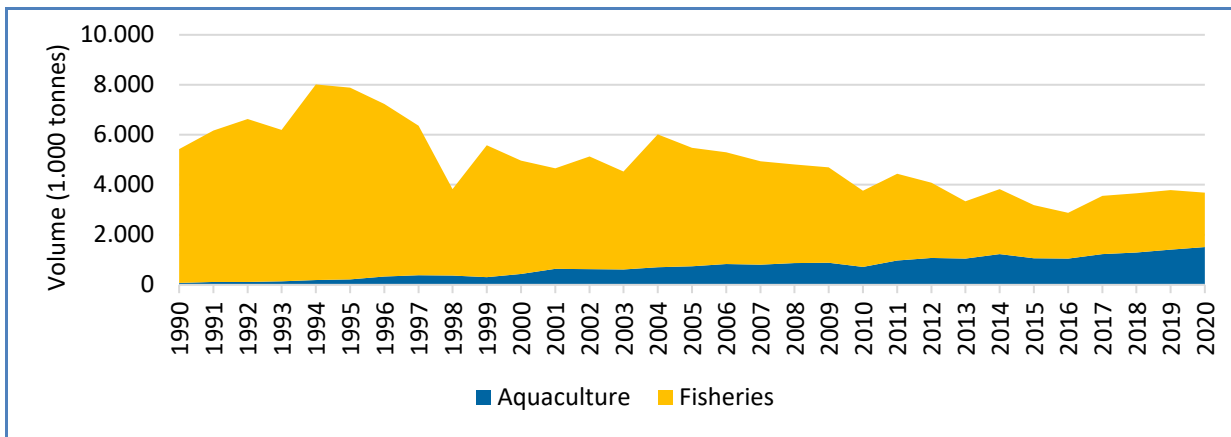
⁴⁴ Statista, <https://www.statista.com/statistics/820953/per-capita-consumption-of-seafood-worldwide/>.

⁴⁵ Our world in data. <https://ourworldindata.org/grapher/fish-and-seafood-consumption-per-capita>

5.1. Fisheries and aquaculture production

According to the Food and Agriculture Organisation (FAO), total production from fisheries and aquaculture in Chile amounted to 3,7 million tonnes in 2020. Fisheries contributed with 59% and aquaculture contributed with 41% of total volume (Figure 48). Compared to total production in 2010, when fisheries contributed with 81% and aquaculture contributed with 19% of total volume, this was a 2% decrease in production volume. A decline in total production has been observed since the 1990s, when production peaked in 1994 (8 million tonnes, of which 98% from fisheries). The contribution from aquaculture has steadily increased during this period, from 1% in 1990 to 41% in 2020.

Figure 47. **CONTRIBUTION OF FISHERIES AND AQUACULTURE TO TOTAL PRODUCTION IN CHILE (VOLUME IN 1.000 TONNES).**



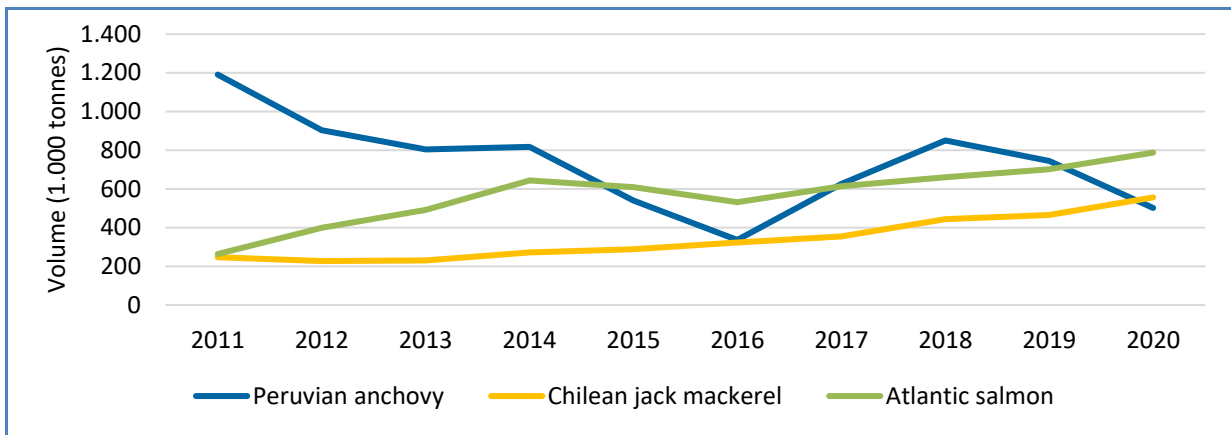
Source: FAO

In 2020, the predominant species produced from fisheries and aquaculture were Chilean jack mackerel, Peruvian anchovy, and Atlantic salmon (Figure 49). Historically, Peruvian anchovy has been an important species for fisheries in Chile, with major production starting in the 1960s. The fishery has experienced several collapses, once in 1965 and again in the early 1970s, due to poor management and ENSO driven variability⁴⁶. In recent years (2013-2018), the central-southern fisheries zone experienced a collapse due to an indiscriminate increase in artisanal fishing⁴¹. The fishery for Peruvian anchovy reached an all-time high in the 1990s with a peak in production of 2,7 million tonnes in 1994. Since then, management of the fishery has improved through quota regimes, regulations, and sea zoning schemes⁴⁷. This has led to a steady decline in production over the past decade, with high year to year fluctuations in production volume.

⁴⁶ ENSO stands for El Niño-Southern Oscillation, which is a recurring climate pattern involving changes in temperature of waters in the central and eastern tropical Pacific Ocean.

⁴⁷ Castilla, J. C. (2010). Fisheries in Chile: small pelagics, management, rights, and sea zoning. *Bulletin of Marine Science*, 86(2). www.researchgate.net/publication/233670742_Fisheries_in_Chile_small_pelagics_management_rights_and_sea_zoning

Figure 48. **PRODUCTION OF PERUVIAN ANCHOVY, CHILEAN JACK MACKEREL, AND ATLANTIC SALMON IN CHILE (2011-2020) (VOLUME IN 1.000 TONNES)**



Source: FAO

Fisheries production of Chilean jack mackerel picked up in the early 1970s and steadily increased until it peaked in 1995 (4,4 million tonnes), followed by a steep decline in production in following years. The decline in production was mainly caused by overexploitation and El Niño (ESNO) driven variability, which caused a near collapse of the fishery. Since 2011, production of Chilean jack mackerel has increased steadily again as a result of Chilean and international science-based management of the fishery⁴⁸.

Aquaculture production of Atlantic salmon in Chile started in the late 1980s and steadily increased until 2000, when production volumes increased greatly (52% increase in volume from 2000-2001) and continued to rise until the salmon disease crisis between 2007-2009. The crisis was caused by infectious salmon anaemia virus (ISAV), and outbreaks resulted in a 60% reduction in production volume and a loss of approximately 8.400 direct jobs⁴⁹. Since the crisis, measures have been taken to mitigate the effects and production volumes have increased and surpassed pre-crisis volumes in recent years.

Fisheries production

Chilean fisheries make a significant contribution to global production through catches of fish, molluscs and seaweed. In 2020, Chilean fisheries produced nearly 2,2 million tonnes of seafood, which was approximately 2,4% of total world production from fisheries⁵⁰. This included 1,6 million tonnes of fish, 89.179 tonnes of molluscs, and 409.258 tonnes of seaweed (representing 2,1%, 1,4% and 35,4% of global production respectively). Much of this production is from artisanal fishers (over 50% of total production from fisheries in 2018), such as divers, inshore fin-fishers and coastal gatherers⁵¹.

Fisheries in Chile are regulated by the Chilean Fishery and Aquaculture Law (FAL, established in 1991), which encompasses conservation, sea zoning, reallocation of the right to fish for the artisanal and industrial fleets, and new management schemes. There are two major fishing fleets in Chile: the artisan fleet, which is heterogeneous with a wide variety of boats, and the industrial fleet, which includes vessels above 50 gross tonnes. Three major sea-zoning schemes are outlined in the FAL; this includes the artisanal exclusive zone (AEZ), where only the artisanal fleet can operate, the territorial user rights for fisheries (TURFs), which allocates exclusive fishing rights to subsistence and small-scale artisanal communities in the form of shallow inner-inshore management and exploitation areas for benthic resources (AMERBs), and marine reserves and parks. The FAL also established management of fisheries through total allowable catch (TACs) and quota regimes based on the degree of species exploitation.

⁴⁸ McDermott, A. (2018). How smart science stopped a Pacific fishery's collapse. *Oceana*. <https://oceana.org/blog/how-smart-science-stopped-pacific-fisherys-collapse/>

⁴⁹ Bachmann-Vargas, P. et al. (2021). Re-farming salmon aquaculture in the aftermath of the ISAV crisis in Chile. *Marine Policy*, Vol. 124. <https://doi.org/10.1016/j.marpol.2020.104358>

⁵⁰ Data from FAO.

⁵¹ Cárcamo, P. F., et al. (2021). Marine stocking in Chile: a review of past progress and future opportunities for enhancing marine artisanal fisheries. <https://doi.org/10.5343/bms.2020.0052>

Production volumes from fisheries in Chile have declined over the past decade, with a 28% reduction in volume from 2010 to 2020. The reduction in production volumes over the past decade can partly be explained by the collapse of the anchovy stock in the central-southern fishery zone, as well as a decrease in catches of Araucanian herring. The dominant species caught in 2020 were Chilean jack mackerel (25%) and Peruvian anchovy (23%), followed by Araucanian herring (12%) and Chilean kelp (9%) (Table 22).

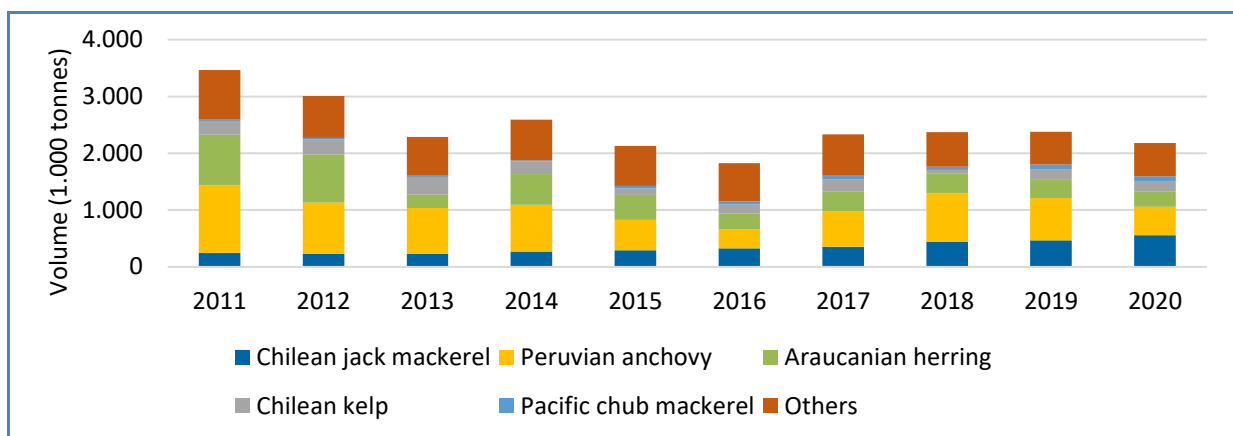
Table 22. **CHILEAN FISHERIES PRODUCTION BY MAIN SPECIES (volume in 1.000 tonnes)**

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Chilean jack mackerel	247	227	231	272	289	323	355	445	466	556
Peruvian anchovy	1.191	904	803	818	540	337	626	850	744	502
Araucanian herring	887	848	237	543	436	280	344	345	320	264
Chilean kelp	242	269	313	220	115	156	211	66	182	188
Pacific chub mackerel	26	24	32	24	46	59	66	60	88	86
<i>Lessonia trabeculata</i>	46	48	39	61	72	50	72	36	63	68
Jumbo flying squid	163	145	106	177	144	181	153	145	58	55
Gracilaria seaweeds	42	24	46	32	45	26	48	58	54	46
Giant kelps nei	19	26	31	26	29	32	30	33	34	43
Southern rays bream	29	23	12	36	34	28	25	28	44	38
Others	573	468	439	385	382	355	405	305	326	336
Total	3.467	3.008	2.289	2.593	2.132	1.827	2.335	2.370	2.380	2.183

Source: FAO.

Peruvian anchovy and Araucanian herring are harvested as part of a mixed pelagic fishery⁵². The fishery has been regulated by means of a study of biological recruitment and recruitment periods since 1996 and by fishing quotas since 2001⁵³. Recruitment levels for Araucanian herring are highly variable and management of the species is complicated. Climatic changes due to El Niño (ENSO) driven variability further complicates management, since these variations greatly impact all stages of their life cycle, and reproductive and recruitment success. The decrease in catches of Araucanian herring could therefore be a result of low recruitment and regulations of the fishery based on scientific evidence.

Figure 49. **CHILEAN FISHERIES PRODUCTION BY MAIN SPECIES (VOLUME IN 1.000 TONNES)**



⁵² IFFO RS. www.marin-trust.com/sites/marintrust/files/approved-raw-materials/137%20WF%20Araucanian%20Herring%20Chile%20SURV%202_2020.pdf

⁵³ Aranis, A. et al. (2022). Meta-estimation of Araucanian herring, *Strangomera bentinckii*, biological indicators in the central-south zone of Chile. *Front. Mar. Sci.*, www.frontiersin.org/articles/10.3389/fmars.2022.886321/full

The harvest of wild kelp and seaweed is one of the most important benthic fisheries in Chile⁵⁴, which provided more than 35% of global production in 2020. The fishery directly or indirectly employs 13.000 people and is valued at EUR 91 million. Chilean kelp (46%) was the predominant species harvested by fisheries in 2020, followed by *Lessonia trabeculate* (17%), Gracilaria seaweeds (11%), and giant kelps nei (10%). Chilean kelp is an intertidal species which is harvested from the shore, while *L. trabeculate* requires boats and surface-air divers for harvesting. Most kelp is processed locally and then exported to international markets as raw and dried material. Kelp fisheries in Chile are regulated through Territorial Use Rights for Fisheries, TURFs, which grant tenure over a specific marine area to its local fishing organization. The artisanal fishing organisations are required to develop a 5-year management plan, approved by the Undersecretary of Fisheries, in order to qualify for a TURF.

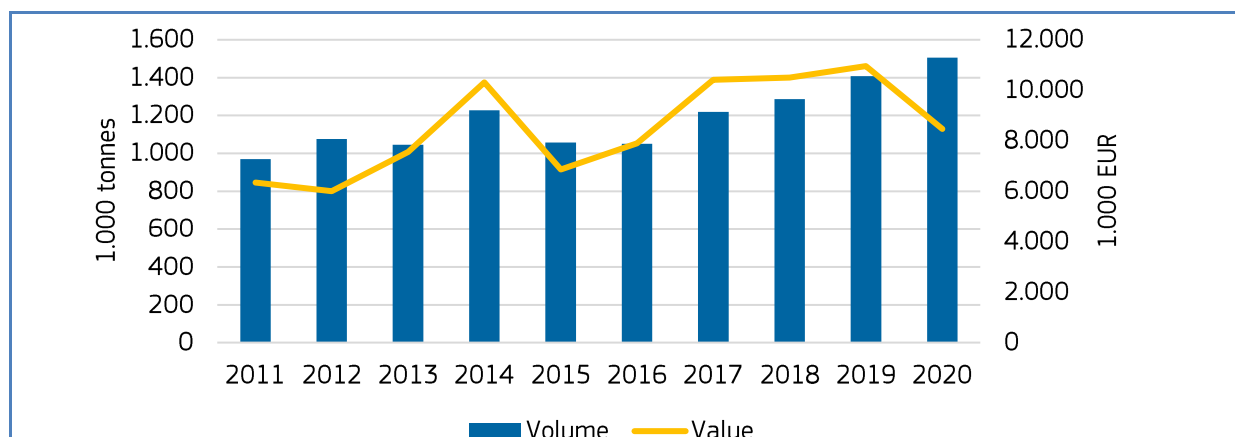
Aquaculture production

The first efforts towards commercial aquaculture in Chile began in the 1920s, driven by governmental issued plans and initiatives for extensive and semi-intensive systems for use in the rearing of molluscs and salmonids⁵⁵. Cultivation centres for scallop and mussel cultures, as well as for salmonid species were created in 1920-1970. However, commercial aquaculture first kicked off in the 1980s and has since become a successful industry which generates jobs, helps develop rural areas and contributes substantially to the national economy.

With prolific oceans along their coastline, Chilean fish have been in high demand on international markets, and this has led to overexploitation of local fishery stocks of native species. This was one of the drivers for the development of the aquaculture industry in Chile, which placed emphasis on developing aquaculture species with a high commercial value internationally. Development of Chilean aquaculture has mostly been in coastal marine environments, but also in some freshwater environments such as lakes and rivers. Different aquaculture systems are used for the production of various species in Chile:

- **Extensive aquaculture systems**⁵⁶ are mostly used for the production of molluscs and seaweeds, often with the goal of re-stocking over exploited fishing resources.
- **Semi-intensive aquaculture systems**, where oyster and mussel seeds are grown under controlled conditions in hatcheries, are used to enhance growth and increase production of oysters and mussels, which in turn allows greater yields of cultivation areas.
- **Intensive aquaculture systems** are mostly used in the rearing of fish, and in Chile's case this is predominantly salmonids. Breeding and smolt rearing take place in land-based facilities, while on-growing occurs in net pens at sea.

Figure 50. **AQUACULTURE PRODUCTION IN CHILE (VOLUME IN 1.000 TONNES, VALUE IN 1.000 EUR)**



⁵⁴ Gouraguine, A. et al. (2021). The intensity of kelp harvesting shapes the population structure of the foundation species *Lessonia trabeculate* along the Chilean coastline. *Marine Biology*, 168. <https://link.springer.com/article/10.1007/s00227-021-03870-7>

⁵⁵FAO, National aquaculture sector overview, Chile.

http://firms.fao.org/fi/website/FIRetrieveAction.do?dom=countrysector&xml=naso_chile.xml&lang=en

⁵⁶ Extensive aquaculture allows the stock to grow on its own, using natural food sources and conditions, whereas intensive aquaculture involves intervention in the growing process, usually under controlled conditions where the farmer can control the environment and feed.

Source: FAO.

Since the salmon disease crisis in 2007-2009, production of Atlantic salmon has grown substantially in Chile (Figure 53). According to the FAO, total aquaculture production in Chile amounted to 1,5 million tonnes in 2020, largely dominated by production of salmonid species (72%). Atlantic salmon accounted for 52% of total aquaculture production, followed by Chilean mussel (27%), coho salmon (14%), and rainbow trout (6%) (Table 23). In 2020, Chile was the second biggest producer (after Norway) of Atlantic salmon (29%), the biggest producer of coho salmon (92%), and the fourth biggest producer of rainbow trout (9%).

Table 23. **CHILEAN AQUACULTURE PRODUCTION BY MAIN SPECIES (volume in 1.000 tonnes, value in 1.000 EUR)**

Species	2016		2017		2018		2019		2020	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Atlantic salmon	532	4.151	614	5.650	661	5.587	702	5.630	787	4.825
Chilean mussel	301	2.195	339	2.507	366	2.808	379	2.858	399	1.545
Coho salmon	111	621	164	1.166	149	992	205	1.247	205	1.003
Rainbow trout	85	694	77	831	78	744	82	722	88	764
Gracilaria seaweeds	15	31	17	35	21	43	22	39	18	216
Other	7	209	9	222	12,8	325	17	462	9	109
Total	1.050	7.901	1.220	10.412	1.287	10.499	1.407	10.958	1.505	8.463

Source: FAO.

Over the past decade, production of Atlantic salmon in Chile has increased rapidly due to implementation of a series of institutional, financial, and production-related measures that were created to mitigate the effects of the salmon disease crisis. The most important policy innovations that restructured production practices were the creation of salmonid concessions and sanitary macro zones. New sanitary and environmental regulations have also been implemented since. Production volume in 2020 increased by 48% compared to 2015, and by 198% compared to 2011. Production value in 2020 increased by 16% compared to value in 2016 and by 117% compared to value in 2011. The price per kg for Atlantic salmon has shown an upward trend. However, in 2020 it experienced the lowest price per kg of the decade due to the COVID-19 pandemic⁵⁷ (6,13 EUR/kg) (Figure 53). This resulted in a strong decrease in production value, as shown in Figure 53.

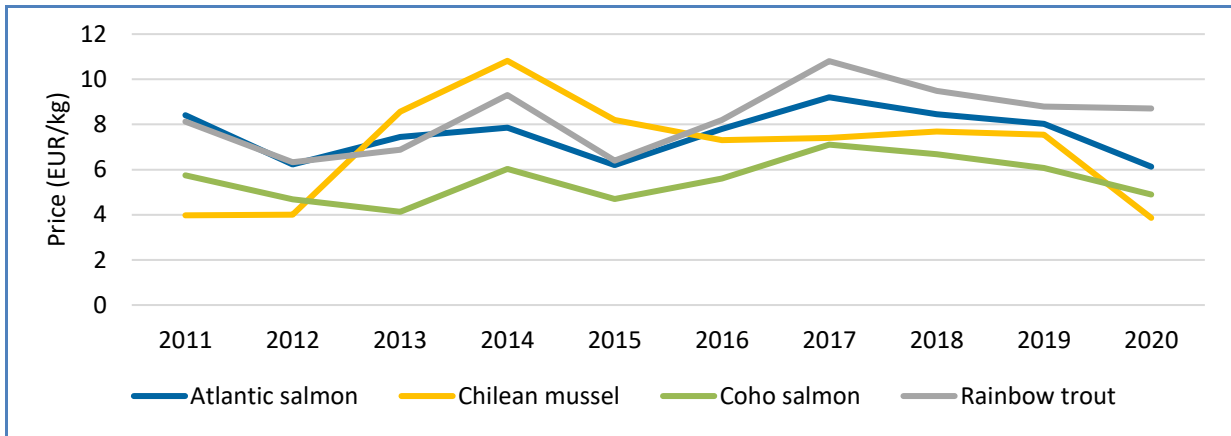
The production volume and value of coho salmon in 2020 increased compared to 2016; volume increased by 84% and value increased by 61%. In 2015 and 2016, the production volume of coho salmon experienced a temporary decrease due to mortalities from algal blooms⁵⁸. Compared to 2011, the production volume was 28% higher and value was 10% higher in 2020. The price per kg has generally increased over the past decade but was low in 2020 (4,90 EUR/kg) compared to prices the four previous years (5,60-7,10 EUR/kg).

The production volume of Chilean mussel has increased over the past decade, up by 33% compared to 2016 and by 38% compared to 2011. The production value has generally increased over the past decade (with prices in the range of 7,30-10,82 EUR/kg). However, the price per kg of Chilean mussel was low in 2011, 2012 and 2020 (3,87-4,00 EUR/kg). Compared to 2015, production value was down by 30% in 2020 but up by 34% from 2011.

⁵⁷ FAO Bulletin 15. https://repositorio.cepal.org/bitstream/handle/11362/46107/1/cb1197_en.pdf

⁵⁸ FAO Globefish. www.fao.org/in-action/globefish/market-reports/resource-detail/en/c/415527/

Figure 51. **PRICE DEVELOPMENT OF MAIN AQACULTURE PRODUCTION SPECIES IN THE PERIOD 2011-2020 (PRICES IN EUR/KG)**



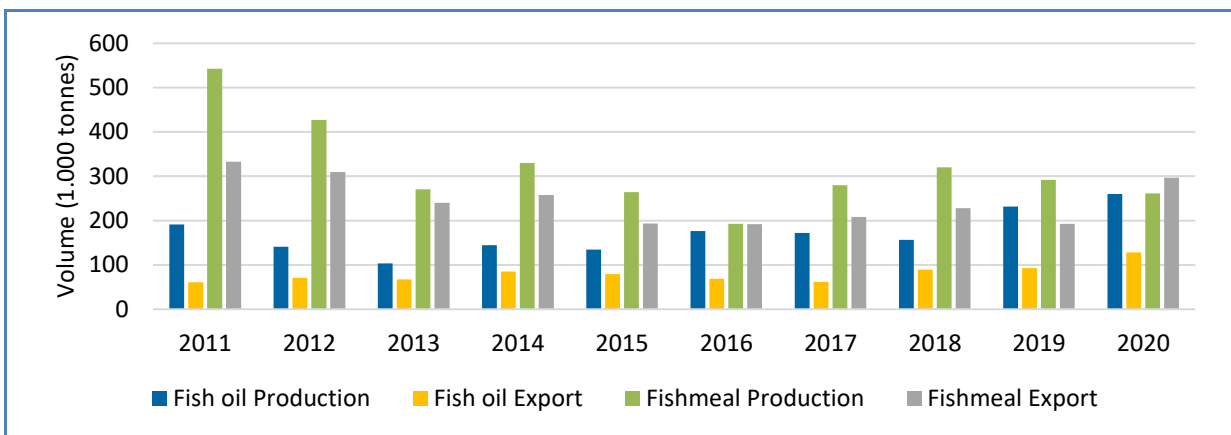
Source: FAO.

Rainbow trout production volume and value have decreased over the past decade. Volume was down by 61% and value by 58% compared to 2011. The price per kg was lower in the first half of the decade (6,33-9,30 EUR/kg) compared to the second half (8,20-10,80 EUR/kg). Price development was heavily influenced by the Chilean peak in production volume in 2011 and 2012 (with a production volume of 224.448 tonnes and 254.353 tonnes, respectively) and the decrease in production volume the following years. In comparison, production volume in 2020 was only 87.742 tonnes. A lower production of rainbow trout in Norway in 2017 and 2018 probably also influenced price development.

5.2. Processing and marketing

Fisheries in Chile mainly consist of small pelagic fisheries where much of the harvested volume is used to produce fishmeal and fish oil. According to FAO, Chile produced 260.958 tonnes fishmeal and 259.743 tonnes fish oil in 2020. According to the Marine Ingredients Organisation IFFO, production of fishmeal and fish oil in Chile in 2021 was 353.000 and 150.000 tonnes respectively. Predominant species used in fishmeal production were anchovy (42%), followed by jack mackerel (25%) and pilchard (22%), while 78% of fish oil production came from fish body oils nei. Other species used in for fish oil production in 2020 were sardines (9%), anchovies (6%), and jack mackerel (5%).

Figure 52. **CHILEAN PRODUCTION AND EXPORT OF FISHMEAL AND FISH OIL (volume in 1.000 tonnes)**



Source: FAO FishStatJ, IHS Markit.

Since 2004, fishmeal production in Chile has declined gradually and was down by 74% in 2020 compared to production in 2004. Production over the past decade was lowest in the period 2015–2017 due to the collapse of the Peruvian anchovy stock in the central-southern fishery zone (Table 24). At the same time, fish oil production in Chile has increased and was

up by 36% in 2020 compared to 2011. However, in 2011 there was a high production of fish oil compared to the following years and production volume in 2019-2020 was higher than the rest of the decade.

Table 24. **PRODUCTION OF PROCESSED PRODUCTS FROM FISHERIES AND AQUACULTURE IN CHILE (volume in 1.000 tonnes)**

Product	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fishmeal	542	427	271	330	264	193	279	320	292	261
Fish oil	191	141	103	144	135	176	172	156	232	260
Jack and horse mackerel, frozen	58	76	108	123	70	73	109	148	170	190
Salmon fillets, fresh or chilled	41	74	84	96	104	98	98	119	125	140
Atlantic salmon and Danube salmon, frozen	68	83	120	169	137	107	135	112	107	123
Pacific salmon, frozen, nei	86	105	89	90	94	67	87	95	95	101
Mussels nei, frozen	70	63	64	65	84	76	86	85	81	95
Salmon fillets, frozen	24	41	64	70	67	69	71	74	69	83
Other	329	337	250	281	246	259	238	220	186	159
Total	1.411	1.346	1.154	1.367	1.200	1.118	1.276	1.330	1.357	1.412

Source: FAO FishStat.

5.3. International trade

Chile has a strong position on the international trade market with memberships of the Organization for Economic Co-operation and Development (OECD), the World Trade Organization (WTO), and the Cairns Group. Chile has negotiated 31 trade agreements that cover 65 economies and represent 88% of the world's GDP. These agreements include 17 Free Trade Agreements (FTAs), three Economic Association Agreements, six Economic Cooperation Agreements, one Partial Association Agreement with India, and a Commercial Protocol with the Pacific Alliance (Colombia, Peru, and Mexico). In 2021, over 95% of exports went to countries with which Chile has FTAs (this includes all commercial products produced in Chile).

Export

In 2021, Chile exported a total of 1,6 million tonnes of fishery and aquaculture products at a value of 5,8 million EUR (Table 25). Compared to 2020, this was an increase of 9% in terms of value for the same volume of fishery and aquaculture products. Over the past decade, the volume and value of export products from the seafood sector in Chile have steadily increased. However, the value decreased in 2020 due to the COVID-19 pandemic. The largest markets for Chilean exports in 2021 were the USA (19%), Japan (13%), the EU (11%), and China (10%).

In 2021 Chilean exports to the US were predominantly made up of fresh and frozen salmon fillets (60%), followed by fishmeal (12%) and frozen cuts from other marine fish (8%). Products exported to Japan mainly consisted of frozen whole salmon and frozen salmon fillets (65%), fishmeal (11%), and frozen trout fillets and whole trout (10%). Exports to the EU mainly consisted of prepared/preserved mussels (27%) and fishmeal (21%), followed by fish oil (19%), salmon (7%) and hake (6%). The majority of salmon exports were frozen fillets (67%) and frozen whole fish (29%), while the majority of hake exports were frozen whole fish (58%), followed by fresh whole fish (24%) and frozen fillets (19%). Exports to China were mainly fishmeal (45%), other non-food use (35%) and frozen and fresh whole salmon (10%).

Table 25. **CHILEAN EXPORT OF FISHERY AND AQUACULTURE PRODUCTS BY MAIN DESTINATION (volume in 1.000 tonnes, value in 1.000 EUR)**

Export to country	2018		2019		2020		2021		2022*	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
USA	216	1.687	230	1.836	265	1.669	310	2.127	186	1.726
Japan	215	1.052	211	1.155	255	1.078	212	977	102	585
EU 27	157	508	136	450	157	452	181	435	101	335
China	192	519	184	482	213	378	156	317	115	288
Brazil	95	512	103	555	104	372	134	580	72	451
Nigeria	71	56	98	76	66	46	111	94	104	90
Others	488	1.540	444	1.424	549	1.341	507	1.296	328	993
Total	1.435	5.873	1.407	5.977	1.608	5.337	1.612	5.826	1.008	4.468

Source: IHS Markit.
*Up to and including July.

In 2021, Chile exported mainly salmon (40%), followed by fishmeal (15%), horse mackerel (15%), fish oil (8%) and mussels (7%) (Table 26). The main markets for salmon products were the USA (32%), Japan (21%), and Brazil (20%). The majority of salmon products destined for Brazil were fresh whole fish (93%). China was the main destination for fishmeal from Chile in 2021, accounting for 29% of total fishmeal exports, followed by South Korea (16%), the EU (16%) and the USA (15%). Chilean exports of fishmeal to the EU were shipped to Germany, which was reported as the destination for 7% of total fishmeal exports. Nigeria, Côte d'Ivoire, Peru, and Burkina Faso were the main destinations for frozen whole horse mackerel exports from Chile in 2021, accounting for 45%, 24%, 9% and 7% respectively.

The EU was the largest market for Chilean fish oil exports in 2021, accounting for 28% of total exports. Of EU MS, Belgium was reported as the main EU entry point for fish oil exports, receiving 60% of exports to the EU in 2021. Japan, Turkey, Vietnam, and China were other major destinations for fish oil exports from Chile, accounting for 11%, 10%, 10%, and 8% of total exports, respectively.

Table 26. **CHILEAN EXPORT OF FISHERY AND AQUACULTURE PRODUCTS BY MAIN COMMERCIAL SPECIES (volume in 1.000 tonnes, value in 1.000 EUR)**

MSC	2018		2019		2020		2021		2022*	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Salmon	554	3.688	560	3.820	617	3.162	649	3.755	368	2.946
Fishmeal	228	319	193	265	297	395	245	332	123	199
Other horse mackerel	142	113	180	141	183	133	244	206	233	205
Fish oil	90	113	93	111	128	149	123	148	69	120
Other mussels	81	177	77	180	88	219	107	229	62	146
Other non-food use	114	135	109	121	114	116	69	89	43	93
Other	226	1.328	195	1.339	180	1.163	176	1.068	111	758
Total	1.435	5.873	1.407	5.977	1.608	5.337	1.612	5.826	1.008	4.468

Source: IHS Markit.
*Up to and including July.

Import

In the period 2011-2020⁵⁹, Chilean imports of fishery and aquaculture products declined considerably. The decline was mainly due to reduced imports of products classified as other non-food use⁶⁰ from Argentina, and to a lesser extent imports of fishmeal from Peru. According to data from IHS Markit, total imports of fishery and aquaculture products to Chile in 2020

⁵⁹ Import data from IHS Markit appear to be incomplete for the years 2021-2022 and have been excluded from the analysis.

⁶⁰ Products classified as "other non-food use" are goods such as fish feed, seaweeds, algae, live ornamental fish, and products of fish or crustaceans, molluscs, and other invertebrates not suitable for human consumption. In Chile's case, this is likely to be imports of fish feed for use in aquaculture production.

amounted to 373.116 tonnes at a value of 514.281 EUR (Table 27). Compared to 2019, this was a decrease of 11% in terms of volume and 2% in terms of value. Compared to import volumes five and ten years earlier, this is a decrease in volume of 23% and 48% respectively. The value of imports has however increased by 9% compared to 2016 and by 8% compared to 2011. The decrease in value in 2020 was likely linked to the COVID-19 pandemic.

Table 27. **CHILEAN IMPORT OF FISHERY AND AQUACULTURE PRODUCTS BY MAIN ORIGIN (volume in tonnes, value in EUR)**

Import from country	2018		2019		2020		2021*		2022***	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
EU 27	58.524	58.853	53.702	56.301	51.538	53.394	1.626	4.315	1.825	5.229
China	42.960	103.554	57.797	94.591	50.359	113.954	51.921	138.271	25.375	89.147
Argentina	113.683	41.162	50.935	22.377	48.591	20.444	2.598	4.723	4.107	6.590
Brazil	38.267	29.300	53.319	39.171	41.018	29.904	5.839	7.952	3.363	5.137
USA	42.206	42.812	55.000	47.307	35.718	28.311	4.501	10.883	1.815	4.008
Peru	37.055	50.664	30.757	45.921	25.129	35.864	21.106	35.066	7.840	19.534
Others	118.719	226.517	115.510	221.721	120.764	232.410	88.077	200.027	48.687	135.609
Total	451.414	552.861	417.021	527.389	373.116	514.281	175.669	401.238	93.012	265.254

Source: IHS Markit.

*Data from the year 2021-2022 appear to be incomplete. **Up to and including July.

In 2020, Chile mainly imported fishery and aquaculture products from the EU (14%), China (13%), Argentina (13%), Brazil (11%), and the USA (10%). Most of the imports from EU MS originated in the Netherlands (29%), France (22%) and Germany (21%). Imports from the EU mainly consisted of products classified as other non-food use (93%) and fish oil from France (5%). Imports originating in China were made up of prepared/preserved cuts from other marine fish (34%), fish oil (25%), prepared/preserved and frozen shrimps (14%), and prepared/preserved tuna (10%). Imports from Argentina, Brazil, and the USA predominately consisted of products classified as other non-food use (96%, 89%, and 88% respectively), fishmeal (from Argentina and Brazil, 2% and 6%, respectively) and fish oil (1%, 4%, and 11%, respectively).

Imports to Chile in 2020 mainly consisted of products classified as other non-food use (52%) and fish oil (22%), followed by tuna (8%), other marine fish (7%) and fishmeal (6%) (Table 28). Imported products classified as other non-food use were probably fish feed for use in salmonid aquaculture. As previously mentioned, most products classified as other non-food use came from the EU, Argentina, Brazil and the USA, whereas 10% of total imports came from the UK. Fish oil was mainly imported from Japan (20%), Peru (18%) and China (15%), followed by Gambia (8%) and Ecuador (6%).

In 2020, imports of tuna mainly consisted of prepared/preserved cuts (97%) which originated in Thailand (49%), Ecuador (22%) and China (17%). Chilean imports of other marine fish were mainly presented as various prepared/preserved cuts (98%) from China (62%), followed by Colombia (16%) and Ecuador (13%). Fishmeal imports in 2020 came predominately from Peru (48%) and Mexico (24%), followed by Brazil (11%) and Norway (9%). Of shrimp imports, 56% were imported as frozen whole shrimp and 44% were imported as prepared/preserved shrimp from China (65%) and Ecuador (33%).

Table 28. **CHILEAN IMPORT OF FISHERY AND AQUACULTURE PRODUCTS BY MAIN COMMERCIAL SPECIES (volume in tonnes, value in EUR)**

MCS	2018		2019		2020		2021*		2022***	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Other non-food use	272.321	185.286	233.876	173.335	192.281	135.837	3.037	4.718	1.059	2.163
Fish oil	78.561	93.098	76.565	95.397	83.491	120.047	58.849	82.259	27.050	50.722
Miscellaneous tuna	19.654	72.360	22.036	80.796	28.008	90.367	28.729	77.427	19.536	61.809
Other marine fish	23.609	60.737	21.893	51.090	27.349	60.475	27.184	59.022	13.765	38.662
Fishmeal	34.597	48.380	25.447	34.169	21.047	23.401	16.371	20.071	9.081	11.864

Miscellaneous shrimp	9.233	52.715	24.608	54.913	10.752	55.493	23.581	109.979	12.012	67.047
Other	13.439	40.284	12.596	37.689	10.188	28.662	17.918	47.760	10.509	32.987
Total	451.414	552.861	417.021	527.389	373.116	514.281	175.669	401.238	93.012	265.254

Source: IHS Markit.

*Data from the years 2021–2022 appear to be incomplete. **Up to and including July.

5.4. Trade flows in the EU

Chile has an Economic Association Agreement with the EU that entered into force on March 1st 2005⁶¹. It established a political and economic association between EU MS and Chile, based on reciprocity, common interest and on the deepening of the relationship in all areas of application. The three main components of the agreement were political dialogue, cooperation and trade.

Data used for the analyses done in this chapter was retrieved from Eurostat-Comext and may differ from the data retrieved from IHS Markit, used for the analyses of international trade.

EU exports to Chile

Exports to Chile from EU MS have increased over the past decade. However, there was a high variability in export volume from year to year. In 2021, EU MS exported 2.731 tonnes of fishery and aquaculture products to Chile, at a value of 6,0 million EUR (Table 29). Compared to 2020, this was a decrease of 57% in terms of volume and 44% in terms of value. The decrease in export volume was mainly due to a 93% reduction in fish oil exports, predominately from France, and to a lesser extent reduced exports of skipjack tuna (35%), hake (67%), and sardine (92%) from Spain.

Exports from EU MS in 2021 mainly consisted of other non-food use⁶² (40%) from Ireland (74%) and France (11%), followed by Spain (9%) and Belgium (5%). Other important export goods were prepared/preserved cuts of skipjack tuna from Spain (14%), other products⁶³ (14%, predominately from Spain (80%)), fish oil from France (13%), and preserved/prepared cuts of miscellaneous tuna from Spain (8%).

Table 29. **EXPORTS TO CHILE FROM EU MS BY MAIN COMMERCIAL SPECIES (volume in tonnes, value in 1.000 EUR)**

MCS	2018		2019		2020		2021		2022*	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Other non-food use	1.950	2.630	1.213	1.701	1.191	952	1.099	1.343	570	411
Skipjack tuna	671	2.651	327	1.186	605	2.077	393	1.516	234	957
Other products	259	448	257	447	222	243	358	382	208	259
Fish oil	857	1.221	775	514	3.494	4.461	242	149	958	1.618
Miscellaneous tuna	45	222	68	330	112	494	214	982	65	369
Others	2.376	4.161	373	869	741	2.330	425	1.588	214	1.446
Total	6.157	11.333	3.013	5.047	6.366	10.558	2.731	5.959	2.248	5.058

Source: Eurostat-Comext.

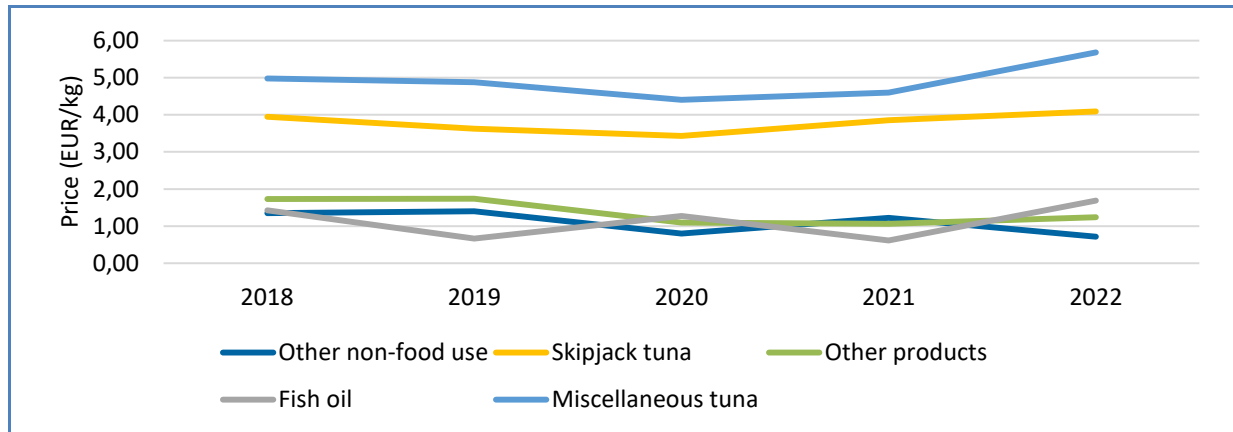
*Up to and including June.

⁶¹ ITAQUA SARL. Evaluation of the economic impact of the trade pillar of the EU-Chile association agreement. https://trade.ec.europa.eu/doclib/docs/2012/august/tradoc_149881.pdf

⁶² Exported products from Chile to EU MS classified as other non-food use: 05119190 – Products of fish and crustaceans, molluscs or other aquatic invertebrates (excl. fish waste); dead fish, crustacean, molluscs or other aquatic invertebrates unfit for human consumption; 12122900 – Seaweeds and other algae, fresh, chilled, frozen or dried, whether or not ground, unfit for human consumption; 23099010 – Fish or marine mammal solubles.

⁶³ Exported products from Chile to EU MS classified as other products: 150410101 – Fish-liver oils and their fractions with vitamin A content of <= 2.500 international units per g, whether or not refined (excl. chemically modified); 16030010 – Extracts and juices of meat, fish, crustaceans, molluscs and other aquatic invertebrates, in immediate packings of <= 1kg; 21041000 – Soups and broths and preparations therefor; 21042000 – Food preparations consisting of finely homogenized mixtures of two or more basic ingredients, such as meat, fish, vegetables or fruit, put up for retail sale as infant food or for dietetic purposes, in containers of <= 250 g.

Figure 53. PRICE DEVELOPMENT OF EXPORTED MCS FROM EU MS TO CHILE (PRICE IN EUR/KG).



Source: Eurostat-Comext.

EU imports from Chile

Imports to EU MS from Chile have decreased steadily over the past decade. In 2021, EU MS imported 139.639 tonnes of fishery and aquaculture products from Chile at a value of 399 million EUR, a 3% decrease in terms of volume and a 13% decrease in terms of value (Table 30). The decrease in import volume was caused by reduced imports of fishmeal to Italy and Denmark (15%), a 44% reduction of salmon imports to EU MS (especially to Spain, Denmark and Lithuania), and reduced imports of products classified as other non-food use⁶⁴ to France (18%). In 2021, imports to EU MS from Chile mainly consisted of prepared/preserved mussels to Spain, France, and Italy (31%), fishmeal to Spain, the Netherlands, Italy and Denmark (16%), and fish oil to Denmark, Belgium and Greece (14%), followed by salmon to France, Spain, Denmark, and Belgium (9%) and hake to Spain (7%).

Table 30. IMPORTS FROM CHILE TO EU MS BY MCS (volume in tonne, value in 1.000 EUR)

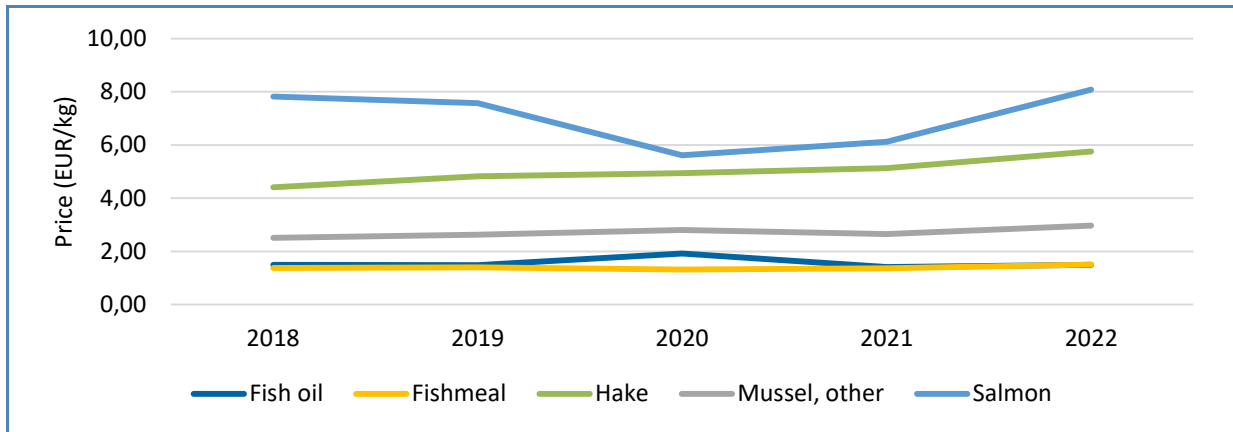
MCS	2018		2019		2020		2021		2022*	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Other mussels	39.053	97.995	34.028	89.548	39.237	110.343	42.804	113.519	20.724	61.532
Fishmeal	19.431	26.846	26.753	37.580	26.313	34.691	22.390	30.713	11.312	17.110
Fish oil	5.868	8.754	27.671	41.149	14.500	27.881	19.019	26.978	603	906
Salmon	20.352	159.257	16.677	126.325	22.593	126.877	12.640	77.366	8.526	68.923
Hake	11.711	51.592	10.464	50.462	9.540	47.090	9.567	49.112	4.697	27.059
Others	49.744	182.940	31.037	139.641	32.029	112.950	33.220	101.505	13.647	50.050
Total	146.160	527.384	146.629	484.705	144.212	459.833	139.639	399.194	59.508	225.580

Source: Eurostat-Comext.

*Up to and including June.

⁶⁴ Imported products classified as other non-food use: 12122900 – Seaweeds and other algae, fresh, chilled, frozen or dried, whether or not ground, unfit for human consumption; 23099010 – Fish or marine mammal solubles; 03039110 – Frozen hard and soft roes for the manufacture of deoxyribonucleic acid and protamine sulphate.

Figure 54. **PRICE DEVELOPMENT OF IMPORTED MCS FROM CHILE TO EU MS (price in EUR/kg).**



5.5. Consumption

Despite being one of the greatest fishing nations in the world, Chile's per capita consumption of fish and seafood is quite low compared to the global average. In 2017, per capita consumption of seafood in Chile was 11,8 kg per year. This was 42% lower than the global average in 2017, which was 20,3 kg per year⁴⁴. Chile's per capita consumption of seafood was higher than most other South American countries. Only Guyana, Peru and Suriname had a higher per capita consumption in 2017. Consumption is expected to increase by 0,2 kg per year in the coming decade.

While Chileans do not appear to consume large volumes of seafood annually, they do consume a wide variety of seafood, such as abalones, sea urchins, crabs, clams, mussels, squids, scallops, octopuses and various types of fish⁶⁵. Their long coastline and varied climate have enabled the development of a diverse and delicious cuisine, with influences from indigenous cultures and Spanish conquerors⁶⁶. Chilean cuisine is said to be simple, with Chilean creole being a staple on the dinner table.

⁶⁵ Reach to teach. www.reachtoteachrecruiting.com/guides/chile/food-in-chile/

⁶⁶ Backroads. www.backroads.com/pro-tips/travel-guides/food-and-drink/food-in-chile

6. Global highlights

EU / ICCAT fisheries: On 21 November 2022 the annual meeting of the EU and the 47 contracting parties of the International Commission for the Conservation of Atlantic Tunas (ICCAT) adopted a new management procedure for Bluefin tuna, a sustainable management plan for south Atlantic shortfin mako shark, an important measure to ensure reduced sea turtle bycatch, and other key measures to ensure the conservation and improved management of ICCAT fisheries. The new management procedure provides the basis for total allowable catches (TAC) of 40.570 tonnes for the eastern stock, with a share of 21.503 tonnes for the EU. Despite the EU's best efforts, no agreement was reached on a recommendation on a new multi-annual conservation and management programme for tropical tunas, which resulted in the rollover of the current temporary measure⁶⁷.



EC / GFCM / Fisheries: On 23 November 2022 the European Commission completed its proposal for the 2023 fishing opportunities in the Mediterranean and the Black Sea, adopted on 14 October 2022. The GFCM Annual Meeting earlier this month resulted in an important agreement on the establishment of several multiannual management plans (MAPs), and the Commission added new elements to the fishing opportunities for several sub-regions of the Mediterranean Sea. The Commission also incorporated into its original proposal the latest GFCM decision for an additional reduction in fishing effort on Adriatic demersal stocks. For the Black Sea, it includes the GFCM decisions to roll over total allowable catches (TAC) for turbot, and to carry over unused EU turbot quotas from 2021 to 2023⁶⁸.

EU / Mediterranean / Fisheries: On 11 November 2022, the EU and neighbouring countries in the Mediterranean agreed for the first time on the establishment of five fully-fledged multiannual management plans (MAPs) based on the principles of the Common Fisheries Policy (CFP). It is a key step in improving the environmental and economic sustainability of fishing in the Mediterranean. It is the outcome of the 45th annual meeting of the General Fisheries Commission for the Mediterranean (GFCM). The EU is also supporting the implementation of all the measures and the new **GFCM 2030 Strategy** with an annual grant of EUR 8 million⁶⁹.

EU / Bulgaria / EMFAF: Following the adoption of the Partnership Agreement 2021-2027 with Bulgaria, the Commission has adopted the European Maritime, Fisheries and Aquaculture Fund (EMFAF) programme for Bulgaria, to implement the EU Common Fisheries Policy and EU policy priorities outlined in the European Green Deal. The total financial allocation for the Bulgarian programme 2021-2027 is EUR 121 million over the next six years, of which the EU contribution accounts for EUR 85 million⁷⁰.

Iceland / Fisheries: According to preliminary data, the total fish catch in October 2022 was about 129.000 tonnes, which is 8,5% more than in October 2021. The demersal catch was 22.000 tonnes and the pelagic catch was 90.000 tonnes. In the 12 month period from November 2021 to October 2022 the total catch was about 1,5 million tonnes, which is 42% more than in the same period the previous year. The pelagic catch was just over 1 million tonnes and the demersal catch was 440.000 tonnes⁷¹.

Slovenia / Fisheries / Fleet: In 2021, 131 fishing vessels were registered. Their total gross tonnage was 642 GT and total engine capacity 7,893 kW. Compared to 2020, the number of registered fishing vessels, measuring between 6,0 and 11,9 m, went down by five, the total gross tonnage by about 4%, and the total engine capacity by 8%. Within the production capacities in aquaculture, the areas of river and lake barrages for freshwater fish farming and the capacity of recirculation systems remained unchanged. The area of shellfish farming increased by 30%⁷².

⁶⁷ https://oceans-and-fisheries.ec.europa.eu/news/eu-achieves-significant-results-annual-meeting-iccat-2022-11-22_en

⁶⁸ https://oceans-and-fisheries.ec.europa.eu/news/sustainable-fisheries-mediterranean-and-black-seas-new-updates-2023-fishing-opportunities-proposal-2022-11-23_en

⁶⁹ https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6842

⁷⁰ https://oceans-and-fisheries.ec.europa.eu/news/european-maritime-fisheries-and-aquaculture-fund-2021-2027-eu85-million-programme-bulgaria-2022-11-24_en

⁷¹ <https://www.statice.is/publications/news-archive/fisheries/fish-catch-in-october-2022/>

⁷² <https://www.stat.si/StatWeb/en/News/Index/10488>

7. Macroeconomic Context

7.1. Marine fuel

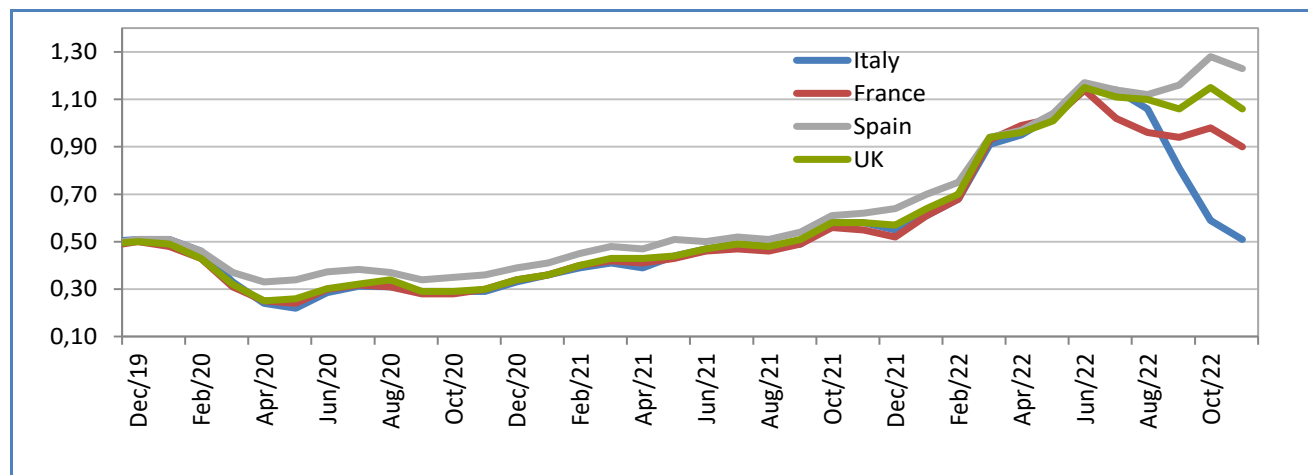
Average prices for marine fuel in **November 2022** ranged between 0,51 and 1,23 EUR/litre in ports in **France, Italy, Spain** and the **UK**. Prices fell by an average of about 7,5% compared with the previous month, and they increased by an average of 58,8% compared with the same month in 2021.

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

Member State	Nov 2022	Change from Oct 2022	Change from Nov 2021
France <i>(ports of Lorient and Boulogne)</i>	0,90	-8%	64%
Italy <i>(ports of Ancona and Livorno)</i>	0,51	-14%	-12%
Spain <i>(ports of A Coruña and Vigo)</i>	1,23	-4%	98%
The UK <i>(ports of Grimsby and Aberdeen)</i>	1,06	-8%	83%

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

Figure 55. **AVERAGE PRICE OF MARINE DIESEL IN ITALY, FRANCE, SPAIN, AND THE UK (EUR/litre)**

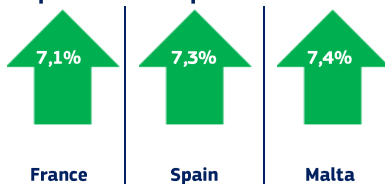


Source: Chamber of Commerce of Forlì-Cesena, Italy; DPMA, France; MABUX.

7.2. Consumer prices

In October 2022, the EU annual inflation rate was 11,5%, up from 9,9% in September 2022. A year earlier, the rate was 4,4%.

Inflation: lowest rates in October 2022, compared with September 2022.



Inflation: highest rates in October 2022, compared with September 2022.



Table 32. HARMONISED INDEX OF CONSUMER PRICES IN THE EU (2015 = 100)

	October 2020	October 2021	September 2022	October 2022	Change from September 2022	Change from October 2021
Food and non-alcoholic beverages	109,01	111,55	128,29	130,80	↑ 2,0%	↑ 17,3%
Fish and seafood	112,39	115,29	129,44	130,18	↑ 0,6%	↑ 12,9%

Source: Eurostat.

7.3. Exchange rates

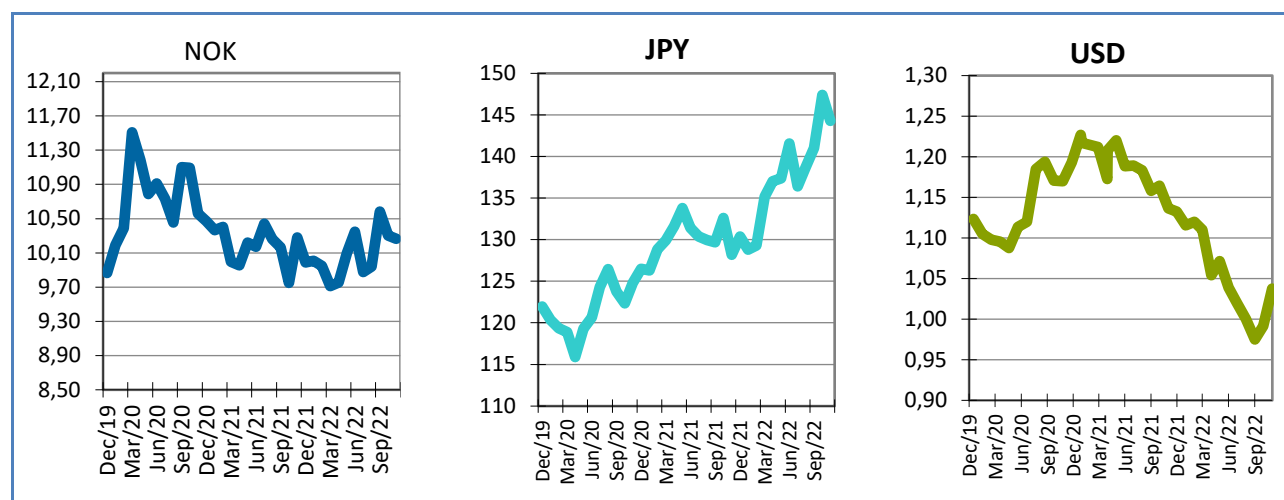
Table 33. EURO EXCHANGE RATES FOR SELECTED CURRENCIES

Currency	Nov 2020	Nov 2021	Oct 2022	Nov 2022
NOK	10,561	10,2795	10,3028	10,2648
JPY	124,79	128,2	147,4	144,28
USD	1,193	1,1363	0,9914	1,0376

Source: European Central Bank.

In November 2022, the euro appreciated against the US dollar (4,7%) and depreciated against the Norwegian krone (0,4%) and the Japanese yen (2,1%), compared to the previous month. In the past six months, the euro has fluctuated around 141,56 against the Japanese yen. Compared with November 2021, the euro has appreciated by 12,5% against the Japanese yen, and depreciated by 8,7% against the US dollar, and by 0,1% against the Norwegian krone.

Figure 56. TREND OF EURO EXCHANGE RATES



Source: European Central Bank.

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

First sales: EUR-Lex, FishBase, Scottish pelagic, British sea fishing, Fish source

Consumption: EUMOFA, Fishbase

Case studies: FAO, EUR-Lex, Eurostat-Comtext, Europanel, Frontiers, Narodne Novine, The Guardian, CIA Factbook, Britannica, World Bank, Repositorio UC, SciELO, JSTOR, TRADE, Statista, Our World in Data, ResearchGate, Oceana, ScienceDirect, Ingenta, Marin-Trust, Springer, HIS Markit, European Commission, Reach to Teach, Backroads, Marine policy.

Global highlights: DG Mare - European Commission, Statice.is, Stat.si, FAO.

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

The underlying first-sales data is in an 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 and expressed in nominal values.

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