



# Analysis of EU seafood trade flows: The proportion of CN codes 1604 and 1605 in EU fish trade

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# Background

As part of the revision of the EU fisheries control system, the European Commission has proposed to overhaul the seafood traceability system in the EU. Mainly this is by making seafood traceability digital and covering all products in the market in that traceability system. However, amendments have been suggested by parts of the Council of Ministers as well as members of the European Parliament to remove processed and preserved fisheries products from the scope of the traceability article (Article 56a and 58 of the Commission proposal).

Specifically, this relates to all fisheries products falling under the headings 1604 and 1605 in the combined nomenclature which is an international classification system for trade goods. CN 1604 covers prepared or preserved fish as well as caviar and caviar substitutes prepared from fish eggs, and CN 1605 covers crustaceans, molluscs and other aquatic invertebrates, prepared or preserved (see annex I for complete lists).

The suggestion to remove these specific fisheries products from the EU seafood traceability system has raised concerns as CN codes 1604 and 1605 cover a number of products that could be liable to fraud and IUU fishing.

This study analyses EU trade statistics to better understand the seafood flows classified under CN codes 1604 and 1605 and their significance.

While the seafood traceability system proposed by the European Commission would cover all products in the market, ie. both wild capture and aquaculture and both EU-caught and imported products, this study focuses mainly on the imported products.

# Methodology

Eurostat aggregates all EU Member State trade data in the Comext database. This data can be accessed through Eurostat's online query (DS-016890) classified by CN8 digit code. CN codes 1604 and 1605 are those codes with either 1604 or 1605 as the first four digits. Data is available from 1988 until 2019.

While Eumofa is another commonly used data source for EU seafood trade, Eumofa applies conversion factors to have consistent weights that can be summed and summarizing the HS code to meaningful coding for presentation (e.g. whole, fillet) and preservation (e.g. fresh/frozen) which is not necessary for this study. Furthermore, the Eumofa data is not formally recorded by CN 8 digit code which leaves room for error in assigning CN codes to the data (e.g. whether frozen fillets of herring (PS2, PR5, 036, 05) could be either CN code 3048600 or 16041210).

Where averages are calculated by specific CN code, a 2017-2019 period was used as several CN codes were reclassified starting in 2017. When broader classifications are analysed, a longer period from 2015-2019 was applied.

In the first part of this study, only extra-EU imports are considered, while in the second part of the study on net trade both flows extra-EU and intra-EU exports are required for the analysis.

## Caveats

In addition to the 03 and 1604 and 1605 CN codes, other codes were included if they specified fish or seafood in the name (e.g. flours, meals and pellets of seafood - 023012000). This method is unlikely to be fully exhaustive or fully exclusive due to the nature of mixed food products.

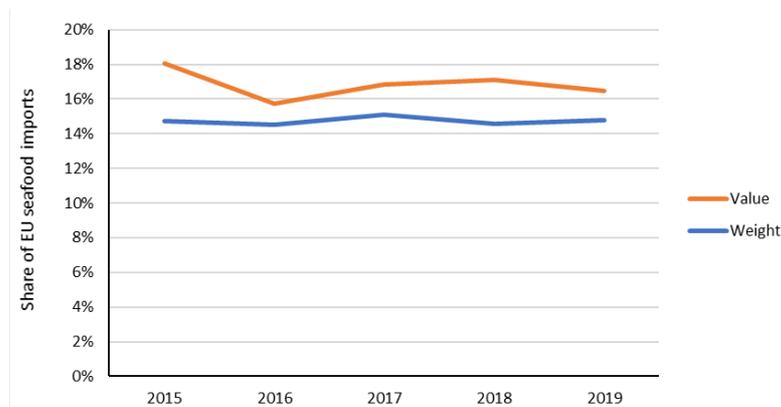
All of the data from Eurostat's online query was used in the calculations. Therefore the only potential issue for missing data is if trade between countries has not been recorded in the Comext database.

CN codes are used for trade (e.g. for applying the correct tariff) but are not used in internal markets. This means it is not possible to link CN codes to production or consumption, although the difference between imports and exports (i.e. net exports) gives an indication with the exception of domestic production that is also consumed domestically.

# Results

## Significance of CN codes 1604 and 1605

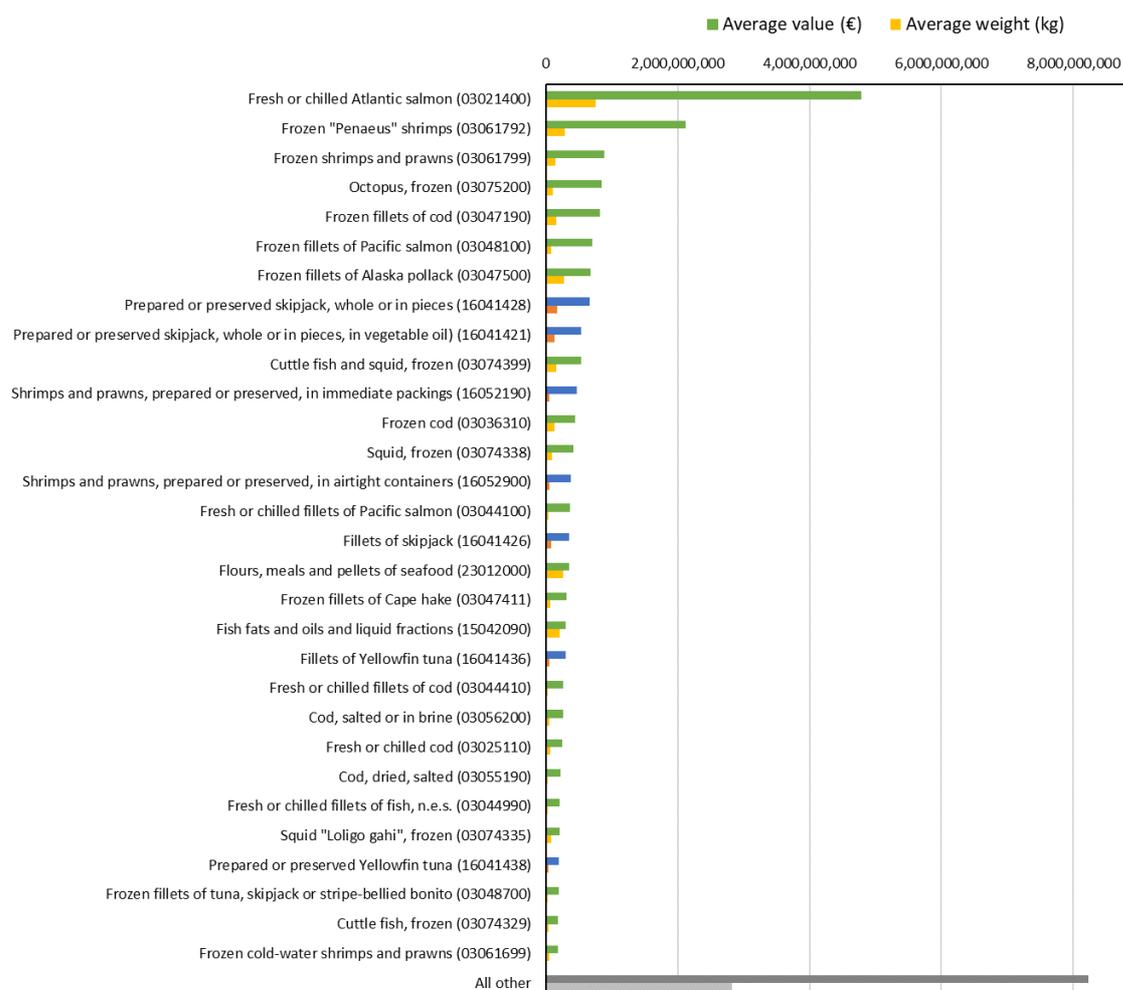
On average (2015-2019), CN codes 1604 & 1605 account for 17% of extra-EU seafood imports by value and 15% by weight (Figure 1). These shares have remained stable over the past several years.



**Figure 1: Share of extra-EU seafood imports traded under CN codes 1604 & 1605**

Source: Author's calculations based on Eurostat query DS-016890. Note: All monetary values are nominal.

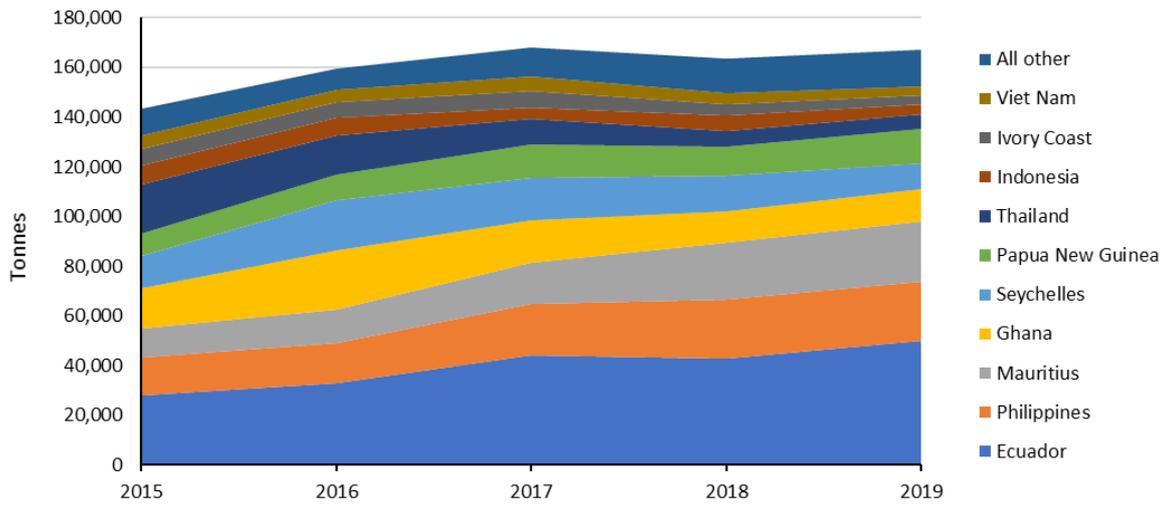
Disaggregating extra-EU seafood imports reveals that of the top 30 flows by CN code, seven are CN codes 1604 and 1605 from three species types: skipjack tuna, shrimps and prawns, and yellowfin tuna (**Figure 2**). The largest EU imports by CN code are not from CN codes 1604 and 1605 and cover Atlantic salmon, shrimps and prawns, octopus, and cod. As CN codes differ by preservation and presentation type, the same species can feature as CN codes 1604 and 1605 for one trade flow but not for another (e.g. shrimps and prawns are listed in the top 30 under CN code 1604 as well as 0306).



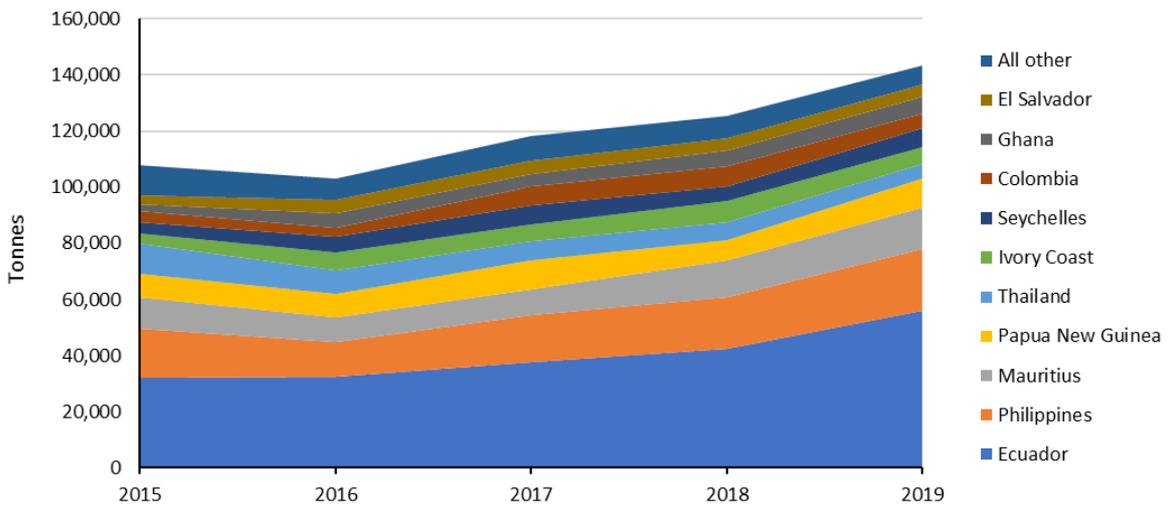
**Figure 2: Top 30 imports of seafood products into the EU by CN code**

Source: Author's calculations based on Eurostat query DS-016890 using a 2017-2019 average. Note: CN code descriptions shortened for display purposes. Results for CN codes 1604 and 1605 codes are darkened. All monetary values are nominal.

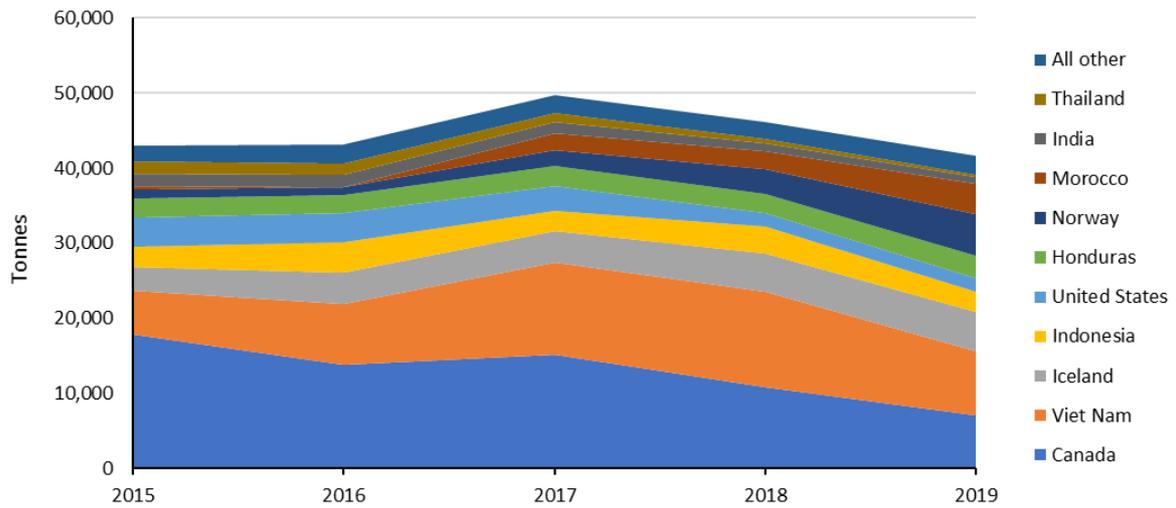
Trade flows of these seven 1604 and 1605 CN codes enter the EU from many different partner countries. For some CN codes, the composition of the exporting partner countries has changed significantly over time, for example a shift from Canada to Viet Nam as a source of 'Shrimps and prawns, prepared or preserved, in immediate packings (16052190)', a shift from Ecuador to China as a source of 'Fillets of skipjack (16041426)', and a decrease in imports from Thailand across all seven CN codes.



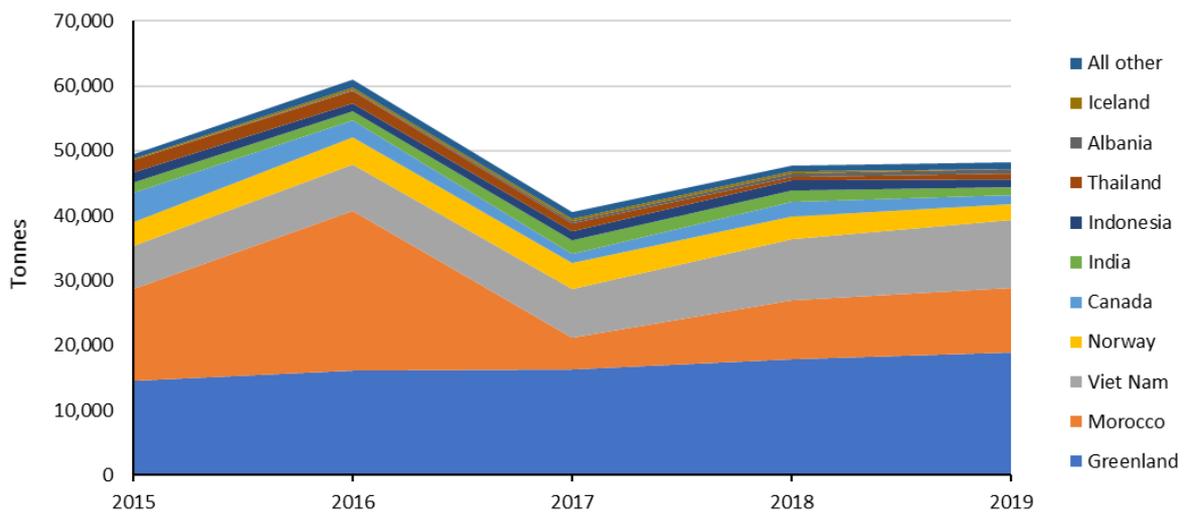
**Figure 3a: EU imports of Prepared or preserved skipjack, whole or in pieces (16041428) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.



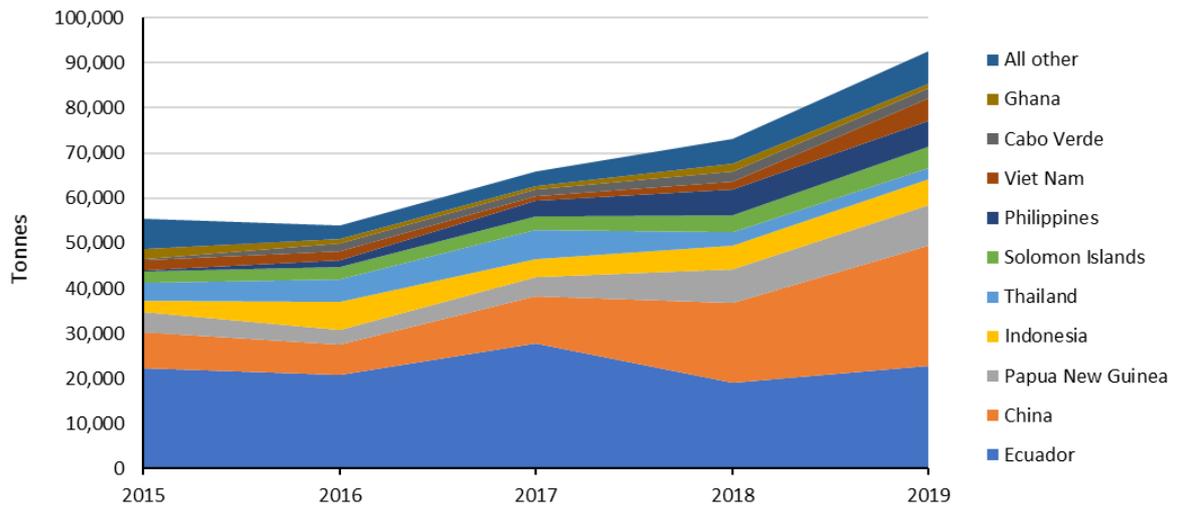
**Figure 3b: EU imports of Prepared or preserved skipjack, whole or in pieces, in vegetable oil (16041421) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.



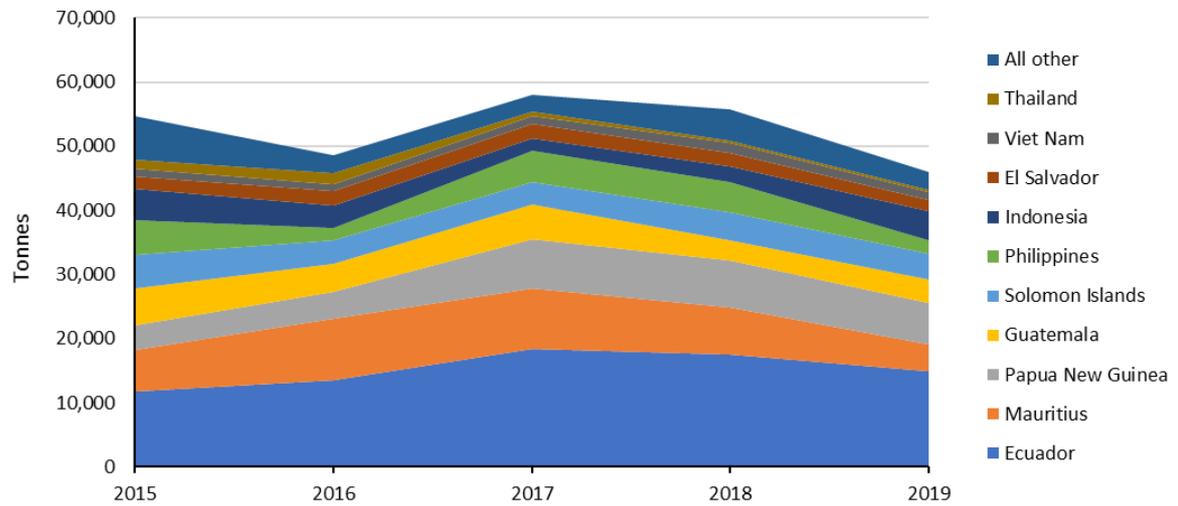
**Figure 3c: EU imports of Shrimps & prawns, prepared or preserved, in immediate packings (16052190) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.



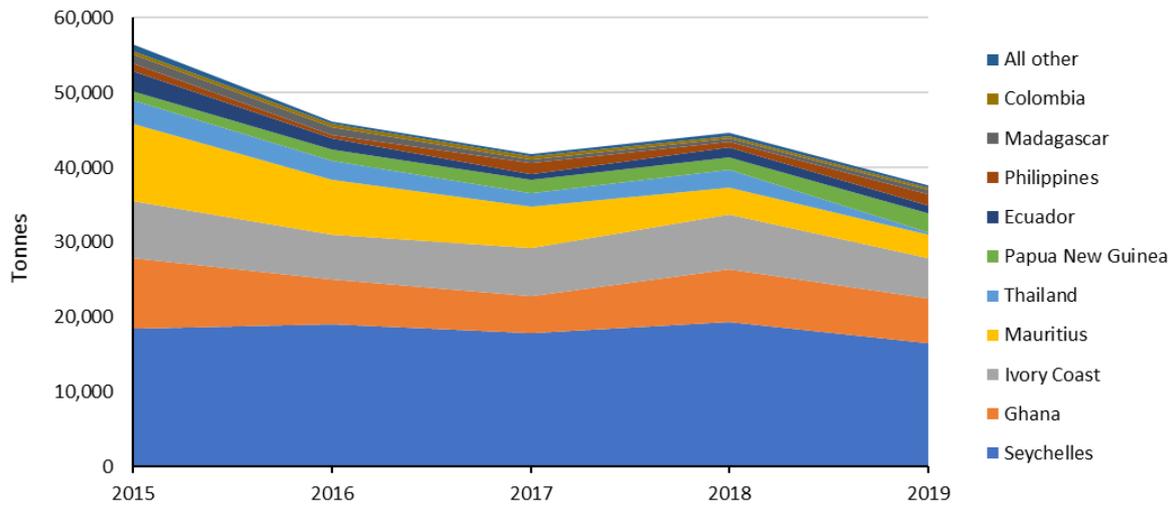
**Figure 3d: EU imports of Shrimps & prawns, prepared or preserved, in airtight containers (16052900) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.



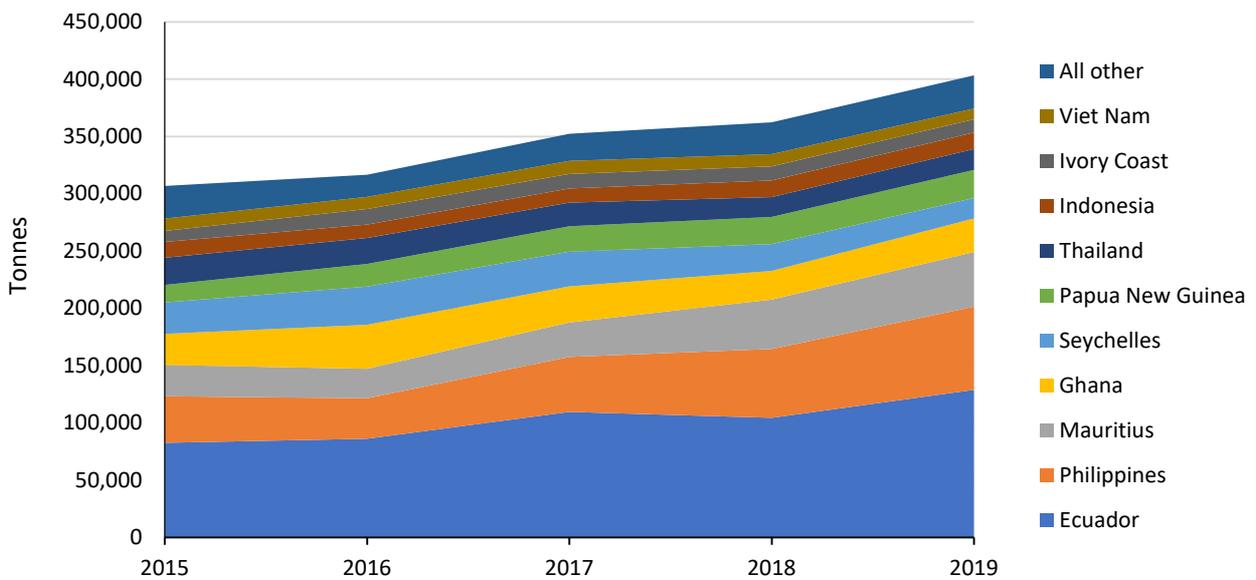
**Figure 3e: EU imports of Fillets of skipjack (16041426) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.



**Figure 3f: Fillets of Yellowfin tuna (16041436) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.

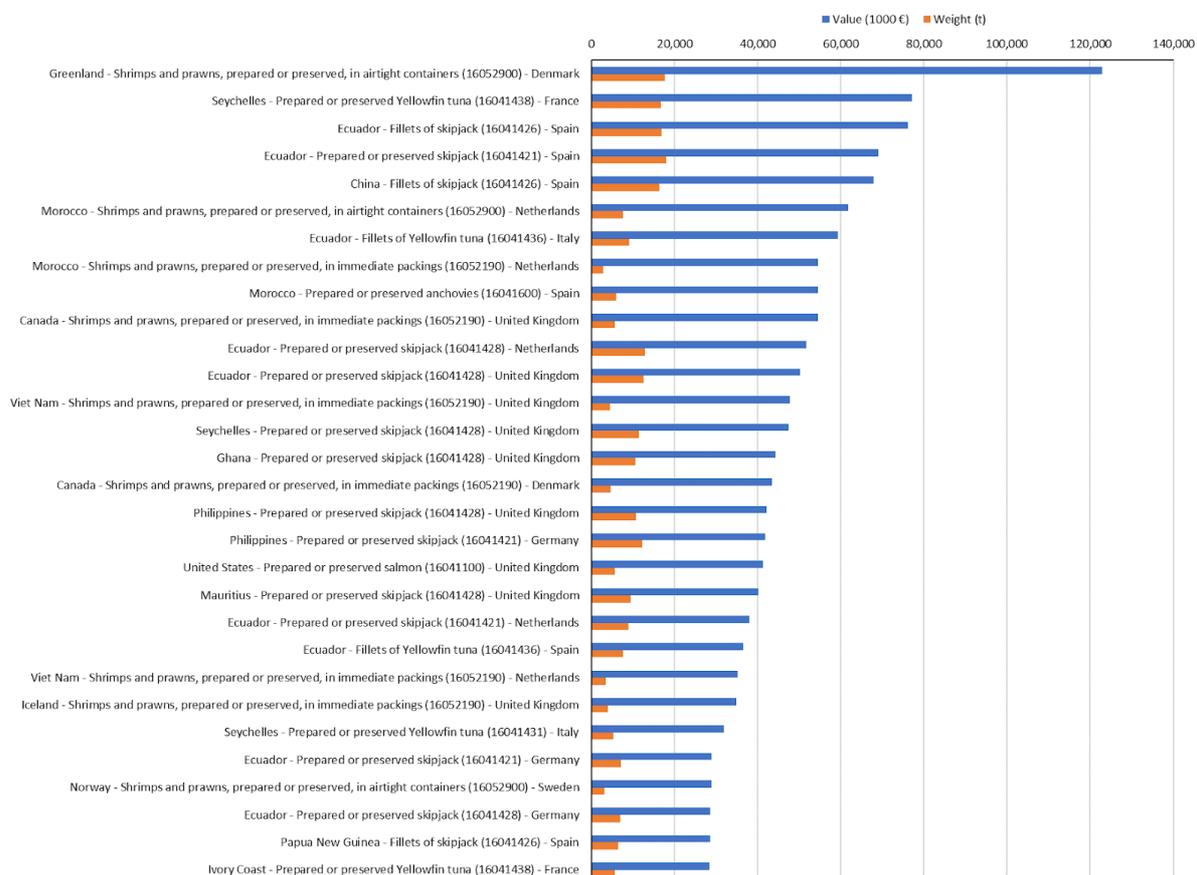


**Figure 3g: Imports of Prepared or preserved Yellowfin tuna (16041438) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.



**Figure 3h: Imports of all CN 1604-coded skipjack tuna products (16041428, 16041421 and 16041426) by partner country**  
 Source: Author's calculations based on Eurostat query DS-016890.

The largest imports by CN code can be further disaggregated by partner country (where the imports were sent from but not necessarily the country of origin) and import country (the entry point into the EU but not necessarily the final market). Analysing just the CN 1604 and 1605 codes reveals, again, that skipjack tuna, shrimps and prawns, and yellowfin tuna are the largest import flows under this classification (Figure 4). Ecuador is the most frequent partner country as the source of skipjack tuna and Yellowfin tuna for many EU Member States. France, Spain, Netherlands, and the United Kingdom are all frequent import destinations into the EU.

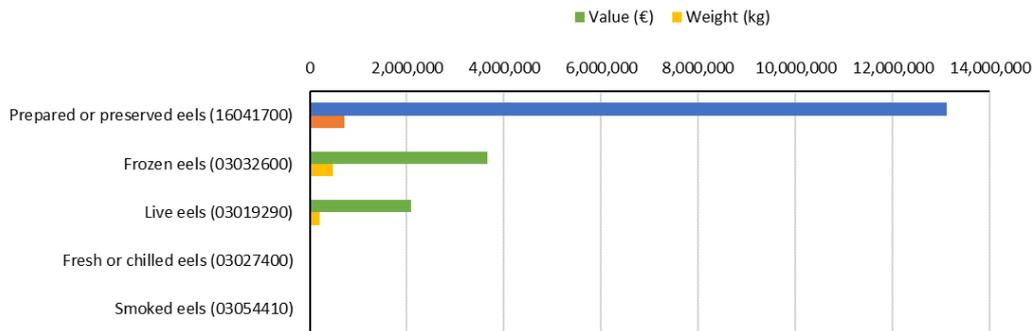


**Figure 4: Top 30 imports of CN code 1604 and 1605 seafood products into the EU by partner and importing country**

Source: Author's calculations based on Eurostat query DS-016890 using a 2017-2019 average. Note: CN code descriptions shortened for display purposes. Trade flows beyond the top 30 are not displayed. All monetary values are nominal.

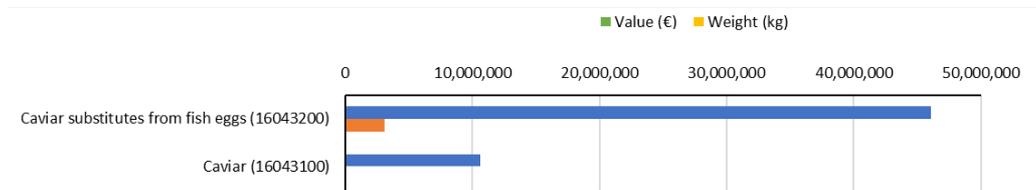
## Seafood fraud and illegal, unreported and unregulated (IUU) fishing

To analyse risk of seafood fraud and IUU fishing, Yellowfin tuna, eel, and caviar were specifically analysed in further detail. In all three cases, the majority of extra-EU imports are classified under CN codes 1604 and 1605 by both value and weight. For Yellowfin tuna, CN codes 1604 and 1605 compose 68% of extra-EU imports by value and 51% by weight (Figure 5). For eel, CN codes 1604 and 1605 compose 69% of extra-EU imports by value and 51% by weight (Figure 6). And for caviar, CN codes 1604 and 1605 compose 100% of extra-EU imports by both value and weight (Figure 7).



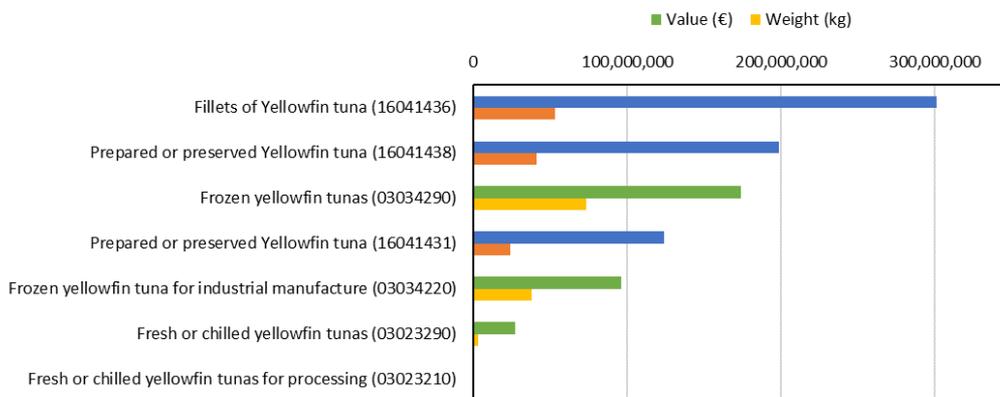
**Figure 5: Extra-EU imports of Yellowfin tuna by CN code**

Source: Author's calculations based on Eurostat query DS-016890 using a 2017-2019 average. Note: CN code descriptions shortened for display purposes. Results for CN codes 1604 and 1605 codes are darkened. All monetary values are nominal.



**Figure 6: Extra-EU imports of eel by CN code**

Source: Author's calculations based on Eurostat query DS-016890 using a 2017-2019 average. Note: CN code descriptions shortened for display purposes. Results for CN codes 1604 and 1605 codes are darkened. All monetary values are nominal.



**Figure 7: Extra-EU imports of caviar by CN code**

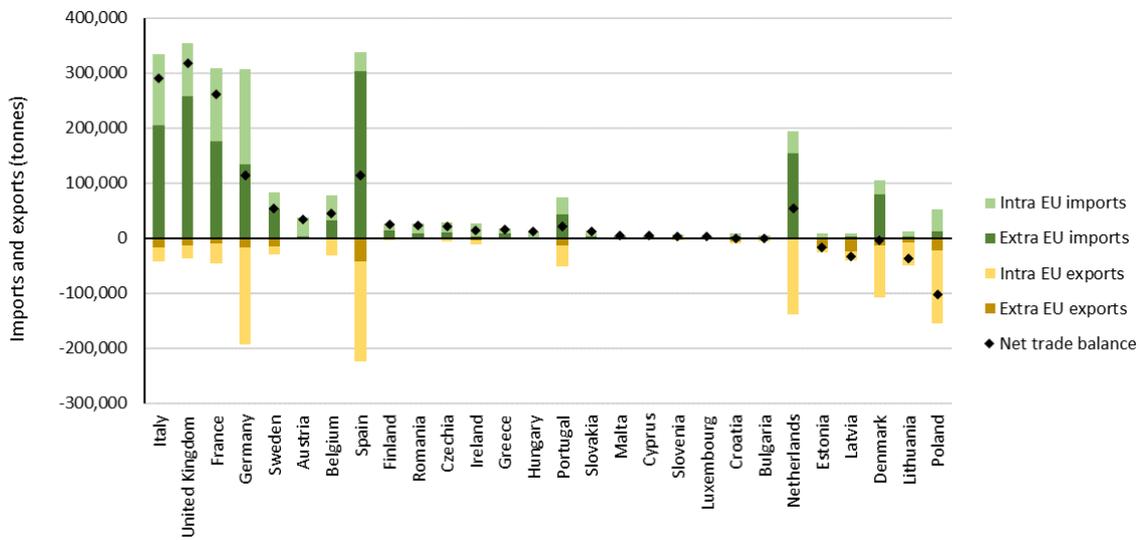
Source: Author's calculations based on Eurostat query DS-016890 using a 2017-2019 average. Note: CN code descriptions shortened for display purposes. Results for CN codes 1604 and 1605 codes are darkened. All monetary values are nominal.

## Consumption and production within the EU

While the previous figures analysed extra-EU trade imports, some of these imports may simply be re-exported (i.e. transshipment). To explore this possibility, both imports and exports of CN codes 1604 and 1605, including both extra-EU and intra-EU were analysed. While CN codes are not used for internal sales and consumption, the level of net exports (exports minus imports) indicates whether these products are being consumed in the EU, passed on as transshipment, or produced within the EU.

The results reveal that the EU is a net importer and therefore a consumer of these products. In general, only small amounts of products under CN codes 1604 & 1605 are exported from the EU, although there is a large

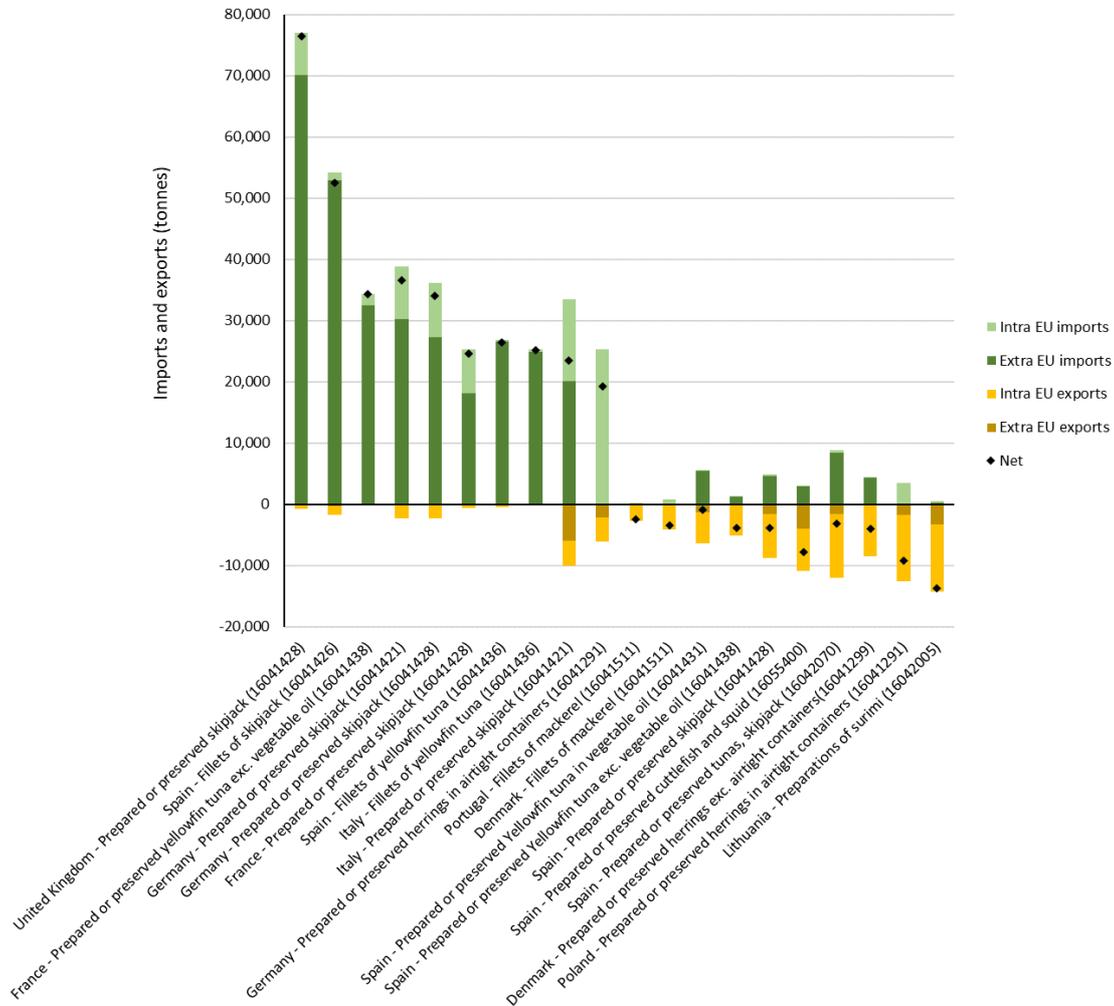
amount of trade of these products within the EU internal market (most of which originated outside the EU). At the Member State level, Italy, the UK, and France are the largest net consumers and Poland, Lithuania, and Denmark are the largest net producers of seafood products under CN codes 1604 and 1605 (Figure 8). These results align with expectations given the high levels of fish consumption in Italy, UK, and France, and the relatively large processing centres in Poland, Lithuania, and Denmark.



**Figure 8: Net trade balance of CN codes 1604 & 1605 by EU Member State**

Source: Author's calculations based on Eurostat query DS-016890 using a 2017-2019 average.

This analysis of net exports across intra and extra-EU trade was also applied to individual CN product codes, revealing the products that are either produced or consumed in large volumes in Member States (Figure 9). The most consumed CN codes are Yellowfin and skipjack tuna products. This closely aligns with the most imported flows (Figure 2 and Figure 4) as only small amounts of products under CN codes 1604 and 1605 are exported from the EU. The most produced CN codes are a more diverse mix that includes surimi, herring, and cuttlefish. It is unclear where the raw material for these products originates from (i.e. domestic production, intra-EU imports, or extra-EU imports).



**Figure 9: Top ten and bottom ten trade balances of CN codes 1604 & 1605 by EU Member States**  
 Source: Author's calculations based on Eurostat query DS-016890 using a 2017-2019 average. Note: CN code descriptions shortened for display purposes.

# Annex I

## Full list of subheadings under CN 1604

CN code	Description
1604	Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs
16041100	Prepared or preserved salmon, whole or in pieces (excl. minced)
160412	Prepared or preserved herrings, whole or in pieces (excl. minced)
16041210	Fillets of herring, raw, merely coated with butter or breadcrumbs, whether or not pre-fried in oil, frozen
16041291	Herrings, prepared or preserved, whole or in pieces, in airtight containers (excl. minced herrings and herring fillets, raw, merely coated with batter or breadcrumbs, whether or not pre-fried in oil, frozen)
16041299	Herrings, prepared or preserved, whole or in pieces (excl. minced herrings and herring fillets, raw, merely coated with batter or breadcrumbs, whether or not pre-fried in oil, frozen and in airtight containers)
160413	Prepared or preserved sardines, sardinella and brisling or sprats, whole or in pieces (excl. minced)
16041311	Sardines, prepared or preserved, whole or in pieces, in olive oil (excl. minced sardines)
16041319	Sardines, prepared or preserved, whole or in pieces (excl. minced sardines and sardines in olive oil)
16041390	Prepared or preserved sardinella, brisling or sprats, whole or in pieces (excl. minced)
160414	Prepared or preserved tunas, skipjack and Atlantic bonito, whole or in pieces (excl. minced)
16041421	Prepared or preserved skipjack, whole or in pieces, in vegetable oil (excl. minced)
16041426	Fillets known as "loins" of skipjack, prepared or preserved, whole or in pieces (excl. such products in vegetable oil or minced)
16041428	Prepared or preserved skipjack, whole or in pieces (excl. minced, fillets known as "loins" and such products in vegetable oil)
16041431	Prepared or preserved Yellowfin tuna "Thunnus albacares", whole or in pieces, in vegetable oil (excl. minced)

16041436	Fillets known as "loins" of Yellowfin tuna "Thunnus albacares", prepared or preserved, whole or in pieces (excl. such products in vegetable oil or minced)
16041438	Prepared or preserved Yellowfin tuna "Thunnus albacares", whole or in pieces (excl. minced, fillets known as "loins" and such products in vegetable oil)
16041441	Prepared or preserved tunas, whole or in pieces, in vegetable oil (excl. minced, skipjack and Yellowfin tuna "Thunnus albacares")
16041446	Fillets known as "loins" of tuna, prepared or preserved, whole or in pieces (excl. such products in vegetable oil or minced, skipjack and Yellowfin tuna "Thunnus albacares")
16041448	Prepared or preserved tuna, whole or in pieces (excl. minced, fillets known as "loins" and such products in vegetable oil, skipjack and Yellowfin tuna "Thunnus albacares")
16041490	Prepared or preserved bonito "sarda spp.", whole or in pieces (excl. minced)
160415	Prepared or preserved mackerel, whole or in pieces (excl. minced)
16041511	Fillets of mackerel of the species <i>Scomber scombrus</i> and <i>Scomber japonicus</i> , prepared or preserved
16041519	Mackerel of the species <i>Scomber scombrus</i> and <i>Scomber japonicus</i> , prepared or preserved, whole or in pieces (excl. minced mackerel and fillets of mackerel)
16041590	Prepared or preserved mackerel of species <i>Scomber australasicus</i> , whole or in pieces (excl. minced)
16041600	Prepared or preserved anchovies, whole or in pieces (excl. minced)
16041700	Prepared or preserved eels, whole or in pieces (excl. minced)
16041800	Prepared or preserved shark fins, whole or in pieces (excl. minced)
160419	Prepared or preserved fish, whole or in pieces (excl. minced, merely smoked, and salmon, herrings, sardines, sardinella, brisling or sprats, tunas, skipjack, bonito "sarda spp.", mackerel, anchovies, eels and shark fins)
16041910	Prepared or preserved salmonidae, whole or in pieces (excl. salmon and minced)
16041931	Fillets known as "loins" of fish of the genus "Euthynnus" prepared or preserved (excl. of skipjack [ <i>Euthynnus Katsuwonus pelamis</i> ])
16041939	Prepared or preserved fish of the genus "Euthynnus", whole or in pieces (excl. minced, fillets known as "loins" and of skipjack [ <i>Euthynnus Katsuwonus pelamis</i> ])
16041950	Prepared or preserved fish of species <i>Orcynopsis unicolor</i> , whole or in pieces (excl. minced)

16041991	Frozen raw fish fillets, coated with batter or breadcrumbs, whether or not pre-fried in oil (excl. salmonidae, herrings, sardines, sardinella, brisling or sprats, tunas, skipjack and Atlantic bonito, bonito "sarda spp.", mackerel, anchovies, fish of species Euthynnus and fish of species Orcynopsis unicolor)
16041992	Cod of the species <i>Gadus morhua</i> , <i>Gadus ogac</i> , <i>Gadus macrocephalus</i> , prepared or preserved, whole or in pieces (excl. finely minced and fillets, raw, merely coated with batter or breadcrumbs, whether or not pre-fried in oil, frozen)
16041993	Coalfish " <i>Pollachius virens</i> ", prepared or preserved, whole or in pieces (excl. finely minced and fillets, raw, merely coated with batter or breadcrumbs, whether or not pre-fried in oil, frozen)
16041994	Hake " <i>Merluccius</i> spp., <i>Urophycis</i> spp.", prepared or preserved, whole or in pieces (excl. finely minced and fillets, raw, merely coated with batter or breadcrumbs, whether or not pre-fried in oil, frozen)
16041995	Alaska pollock " <i>Theragra chalcogramma</i> " and pollack " <i>Pollachius pollachius</i> ", prepared or preserved, whole or in pieces (excl. finely minced and fillets, raw, merely coated with batter or breadcrumbs, whether or not pre-fried in oil, frozen)
16041997	Fish, prepared or preserved, whole or in pieces (excl. minced, merely smoked, and salmonidae, herrings, sardines, sardinella, anchovies, brisling, sprats, tunas, bonito "Sarda spp.", mackerel, eels, shark fins, <i>Euthynnus</i> spp., <i>Orcynopsis unicolor</i> , cod, coalfish, hake, Alaska pollock and pollack; fillets, raw, merely coated with batter or breadcrumbs, even pre-fried in oil, frozen)
160420	Prepared or preserved fish (excl. whole or in pieces)
16042005	Preparations of surimi
16042010	Prepared or preserved salmon (excl. whole or in pieces)
16042030	Prepared or preserved salmonidae (excl. salmon and whole or in pieces)
16042040	Prepared or preserved anchovies (excl. whole or in pieces)
16042050	Prepared or preserved sardines, bonito, mackerel of species <i>Scomber scombrus</i> and <i>japonicus</i> and fish of species <i>Orcynopsis unicolor</i> (excl. whole or in pieces)
16042070	Prepared or preserved tunas, skipjack or other fish of genus <i>Euthynnus</i> (excl. whole or in pieces)
16042090	Fish, prepared or preserved (excl. fish whole or in pieces, preparations of surimi and salmonidae, anchovies, sardines, bonito, mackerel of the species <i>Scomber scombrus</i> and of the species <i>Scomber japonicus</i> and fish of the species <i>Orcynopsis unicolor</i> , tunas, skipjack and other fish of the species <i>Euthynnus</i> )
16043100	Caviar
16043200	Caviar substitutes prepared from fish eggs

## Full list of subheadings under CN 1605

CN code	Description
1605	Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved (excl. smoked)
16051000	Crab, prepared or preserved (excl. smoked)
160521	Shrimps and prawns, prepared or preserved, not in airtight containers (excl. smoked)
16052110	Shrimps and prawns, prepared or preserved, in immediate packings of a net content of ≤ 2 kg (excl. merely smoked, and in airtight containers)
16052190	Shrimps and prawns, prepared or preserved, in immediate packings of a net content of > 2 kg (excl. merely smoked, and in airtight containers)
16052900	Shrimps and prawns, prepared or preserved, in airtight containers (excl. smoked)
160530	Lobster, prepared or preserved (excl. smoked)
16053010	Lobster meat, cooked, for the manufacture of lobster butter or of lobster pastes, pâtés, soups or sauces
16053090	Lobster, prepared or preserved (excl. merely smoked; lobster meat, cooked, for the manufacture of lobster butter or of lobster pastes, pâtés, soups or sauces)
16054000	Crustaceans, prepared or preserved (excl. smoked, crabs, shrimps, prawns and lobster)
16055100	Oysters, prepared or preserved (excl. smoked)
16055200	Scallops, incl. queen scallops, prepared or preserved (excl. smoked)
160553	Mussels, prepared or preserved (excl. smoked)
16055310	Mussels, prepared or preserved, in airtight containers (excl. merely smoked)
16055390	Mussels, prepared or preserved (excl. in airtight containers, and merely smoked)
16055400	Cuttlefish and squid, prepared or preserved (excl. smoked)
16055500	Octopus, prepared or preserved (excl. smoked)
16055600	Clams, cockles and arkshells, prepared or preserved (excl. smoked)
16055700	Abalone, prepared or preserved (excl. smoked)
16055800	Snails, prepared or preserved (excl. smoked and sea snails)

16055900	Molluscs, prepared or preserved (excl. smoked, oysters, scallops, mussels, cuttle fish, squid, octopus, abalone, snails, and clams, cockles and arkshells)
16056100	Sea cucumbers, prepared or preserved (excl. smoked)
16056200	Sea urchins, prepared or preserved (excl. smoked)
16056300	Jellyfish, prepared or preserved (excl. smoked)
16056900	Aquatic invertebrates, prepared or preserved (excl. smoked, crustaceans, molluscs, sea cucumbers, sea urchins and jellyfish)



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