


Rabobank
Rabobank
**Food & Agribusiness
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Contents

Seafood: A myriad of globally traded aquatic products	1
The EU, US and Japan are still the main seafood import markets	2
China and Norway are the leading exporters of seafood	2
The diversity of the seafood industry	3

Rabobank World Seafood Trade Map 2015

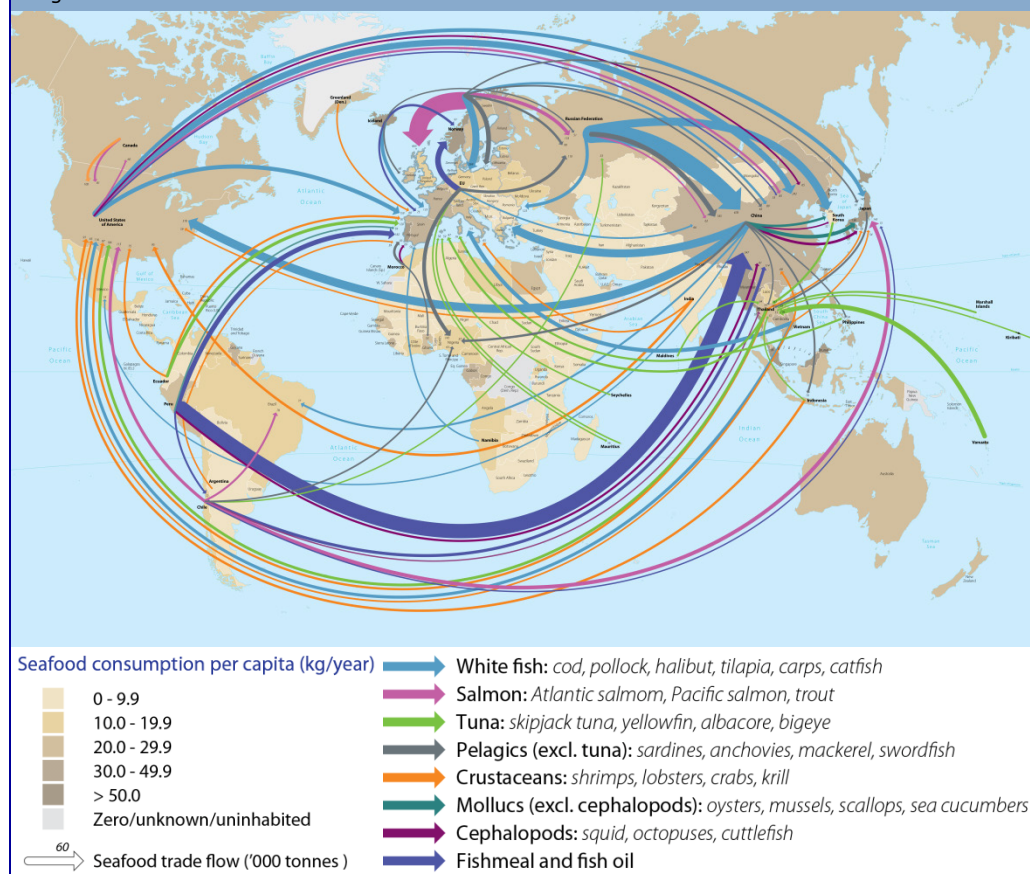
**Seafood Trade Flows Are in
Constant Flux**

Seafood is the most widely traded animal protein globally. Localised production and global consumption preferences have created a global business. With an estimated traded value of over USD 140 billion in 2014, exports have nearly doubled in value in the last five years. This growth comes from the rise of aquaculture, but can also be explained by processing in regions with lower labour costs and rising prices on a per unit level. In the coming years, China is expected to maintain its leading role as a seafood exporter. Other growing export-oriented aquaculture countries such as Norway, India, Vietnam, Indonesia and Ecuador are also positioned to further boost exports. The EU and the US remain key import markets, while Japan—once the leading destination for seafood—is gradually losing its prominence. We expect China to become a key destination for high-value seafood as its population grows increasingly affluent.

Seafood: A myriad of globally traded aquatic products

The seafood industry is more of a global business than any other animal protein industry. Total trade flow value was more than USD 140 billion in 2014, having doubled in the past five years. The industry is very diverse and offers a wide range of products, with each having its own export and import markets. Mapping these trade flow patterns illustrates the international nature of the industry and the importance of trade (see Figure 1).

Figure 1: Global seafood trade flows

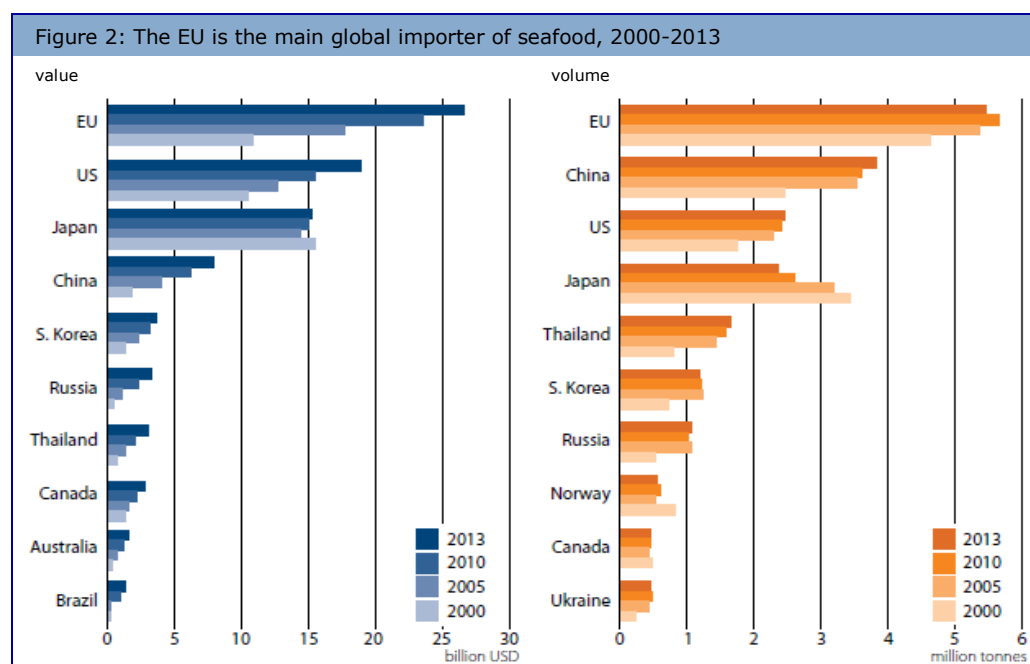


Source: Rabobank, 2015

The major consumption markets for seafood are the European Union (EU), the United States (US) and Japan. However, China—being both the largest exporter and the fourth-largest import region—is the lead character in the seafood story. The trade flow volume from Peru to China highlights the amount of fish meal originating from Peruvian small pelagic fisheries for use in Chinese aquaculture. Asia is the most important region for farming fish, with large quantities of Chinese tilapia, Vietnamese pangasius and Thai, Indonesian and Indian shrimp finding their way to markets across the globe. Norway and Chile dominate the high-value cultured salmon industry. In fact, the Norway-to-EU trade flow—mostly, but not entirely made up of fresh Atlantic salmon—is by far the single largest and most valuable seafood trade flow globally. Wild-catch fisheries are found in all oceans, with most being in the Pacific.

The EU, US and Japan are still the main seafood import markets

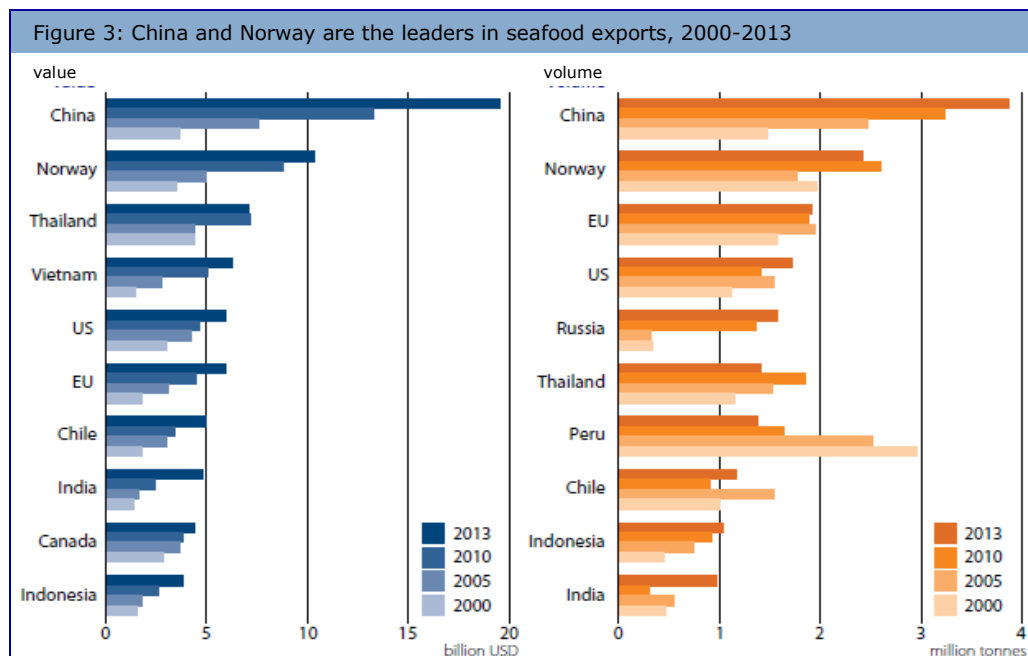
Globally, the EU remains the largest seafood buyer by value, importing seafood worth over USD 26 billion in 2013, a figure nearly USD 10 billion higher than in 2005 (see Figure 2). This value growth is based exclusively on the increasing value per unit of the imported seafood, as there has been virtually no growth in the EU's import volumes for close to a decade. A similar development can be observed in the US—the second-largest seafood importer—as imports of USD 19 billion show strong value growth, while volume growth is marginal. Nevertheless, both of these markets have performed substantially better than Japan. In the early 2000s, Japan was the leading seafood importer, but a declining population—combined with falling per capita seafood consumption and the depreciating yen, which has made imports more expensive—has resulted in a long-term contraction in imports. In volume terms, China has surpassed all import regions other than the EU, although its imports are at least in part made up of relatively low-value commodities destined for processing and re-export.



Source: Rabobank, Uncommtrade, Eurostat, 2015

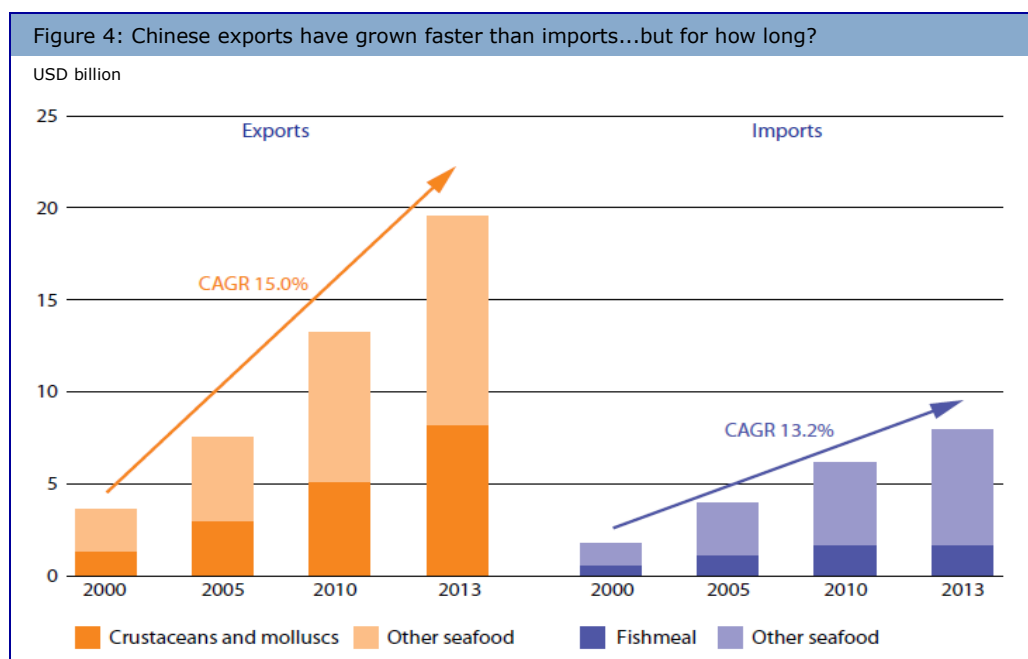
China and Norway are the leading exporters of seafood

As a seafood exporter, China is in a class of its own, with exports reaching nearly USD 20 billion in 2013. This is twice as much as Norway, which placed second with exports of USD 10 billion (see Figure 3). While Norwegian exports are primarily destined for the EU (mostly fresh salmon), the Chinese seafood industry exports a great variety of products to nearly every country in the world. Some of these products include groundfish, salmon and other wild-catch seafood imported from Russia, Europe and the US, which is then processed and re-exported. China also has a number of successful aquaculture industries, such as tilapia and shrimp farming, which have a strong export orientation. In addition, China has the world's largest long-distance fleet, which exports part of its diverse landings.



Source: Rabobank, Uncommtrade, Eurostat, 2015

Rabobank expects that it is only a matter of time before the Chinese net export position begins to reverse. The drivers are all in place: a growing middle class—demanding higher-value seafood from distant regions (e.g. salmon from Norway)—and rising labour and land costs that erode the competitiveness of exports. In addition, Chinese producers are increasingly aware that the domestic market for products such as shrimp and tilapia offers better prices than the foreign market. In spite of this, between 2000 and 2013 Chinese exports have grown by an impressive CAGR of 15 percent in value terms (see Figure 4).



Source: Rabobank, Uncommtrade, Eurostat, 2015

In the same period, imports have expanded slower than exports, and consequently, China's net trade position has expanded. However, we do not expect this dynamic to continue in the future.

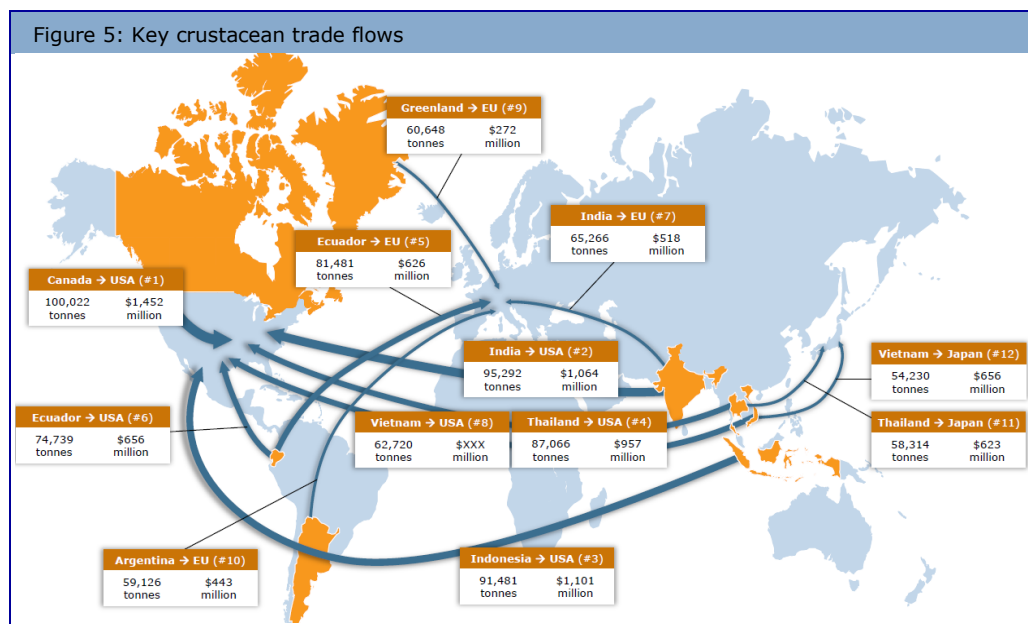
The diversity of the seafood industry

The global seafood industry is highly diverse, with each species being in its own category as there is little substitutability and few similarities in production processes. We have identified seven seafood categories based on species.

Crustaceans: Trade is dominated by farmed shrimp

Lobsters, crabs and various types of shrimp are part of the large, premium crustacean industry, with global production of more than 12 million tonnes. Close to 3 million tonnes

are exported, with a value of more than USD 25 billion due to the high unit price. This makes crustaceans the single most important traded seafood in value terms. The rise of shrimp aquaculture in the tropics along with strong consumption in the EU, the US and Japan have been the main drivers of the large global shrimp trade (see Figure 5). In 2013, shrimp imports to the US and the EU were nearly 700 thousand tonnes and 600 thousand tonnes, respectively. Since 2011, the shrimp farming sector has been taunted by the outbreak of early mortality syndrome (EMS). This has led to a sharp decline of production in China and Thailand—countries that were previously key suppliers of western markets. Demand for shrimp has remained strong throughout this period, which has supported prices and encouraged others to expand their shrimp farming industries. In 2013, India became the number one supplier to the US, a position that was held by Thailand in the past. Like India, Ecuador was not affected by EMS. As a result, it has strengthened its position as the Latin American shrimp export leader. It is interesting to observe that exports from Ecuador to Asia—and especially to China—have also been growing recently. It is questionable whether or not this will continue if the Chinese shrimp industry recovers from EMS.

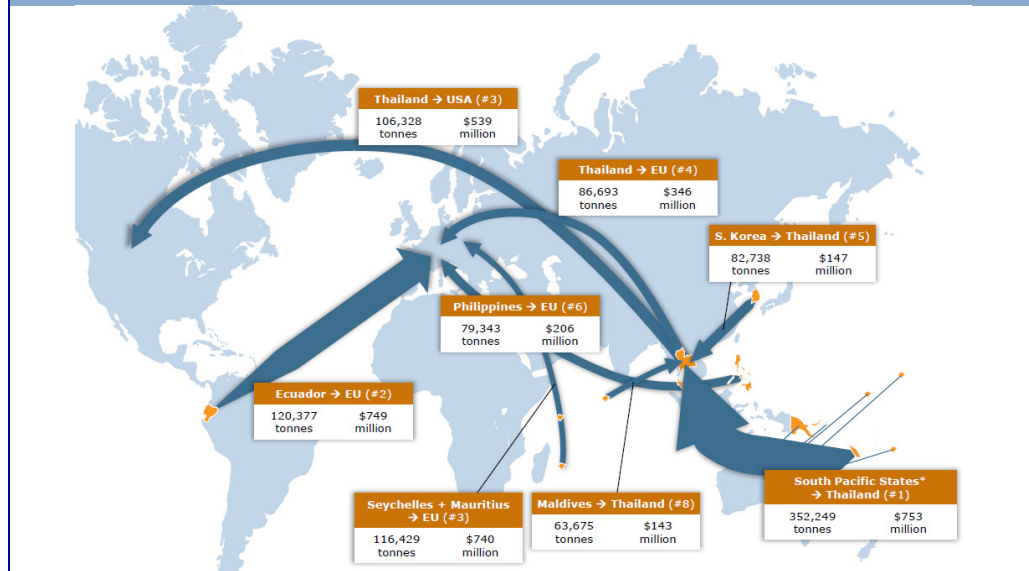


Source: Rabobank, 2015

Tuna: The rising significance of island nations

The largest tuna trade flows are made up of canned/preserved or frozen products (whole fish, loins or fillets). Frozen loins are mostly a raw material for the canning process, while frozen fillets and whole fish are for use in the foodservice industry (e.g. sushi restaurants). There are large trade flows from island nations such as Kiribati, Vanuatu, the Maldives and the Marshall Islands to Thailand (see Figure 6). These are frozen tuna products used in the loining or canning process. Thailand is the leading Asian tuna exporter, exporting either canned finished products or intermediate processed product (frozen loins) that are used in canneries in the import markets. Some island nations such as the Philippines, and some smaller islands such as the Maldives and the Seychelles, export directly to the EU. This is the result of the development of a successful canning industry. In the future, Papua New Guinea could also export directly to the EU, but it remains to be seen if the recently installed tuna canning capacity will produce a competitive export product.

Figure 6: Key global tuna trade flows

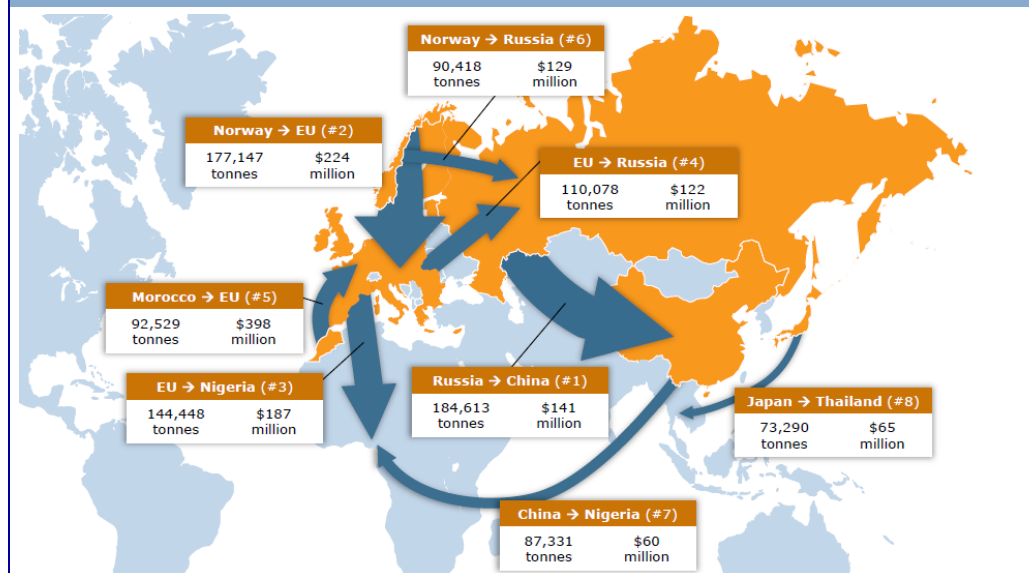


Source: Rabobank, 2015

Small pelagics: One of the most competitively priced proteins globally

With a wild catch of 20 million to 23 million tonnes globally, small pelagics is a large-volume industry. The leading exporter globally is Norway, exporting mostly Atlantic herring and mackerel (see Figure 7). Other key exporters are the EU and China. Small pelagics are one of the few fish species in which African countries play an important role in global trade. Due to its large sardine fishery, Morocco is the fourth-largest exporter of pelagics in volume terms, but number two exporter in value terms, mainly supplying the EU. As an importer, Nigeria is among the top-five importers of pelagics in the world. But this may change in the future. In 2013, the trade flow of pelagics from the EU to Nigeria was still at 140,000 tonnes.

Figure 7: Key global small pelagics trade flows



Source: Rabobank, 2015

Fishmeal and fish oil trade in the grip of El Niño

Fishmeal and fish oil are products of the small pelagics industry, as these proteins and oils are made by processing small pelagics species. Fishmeal and fish oil are mostly used as ingredients in feed for farmed fish such as salmon and shrimp, and for livestock, including pigs and poultry. Fishmeal and fish oil are highly traded globally, with Peru being the world's leading producer and exporter of both products. Most of this is exported to China, as can be seen by the fishmeal trade flow of over 500,000 tonnes in 2013—one of the largest trade flows in the seafood industry. In 2H 2014 and 1H 2015, the Peruvian fishmeal industry faced major challenges. The second anchovy fishing season in 2014 (typically lasting from

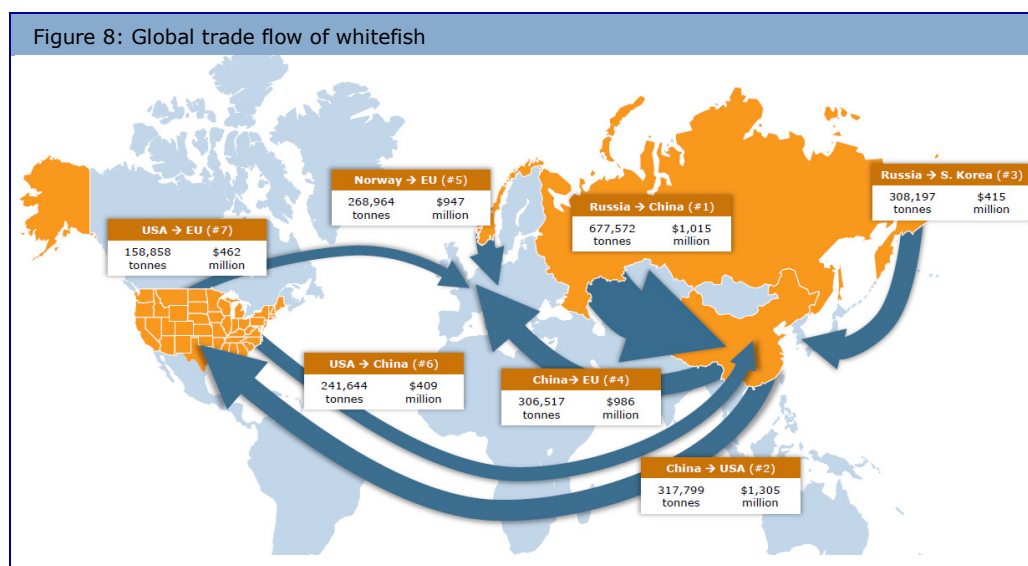
November to January) was closed because of effects of El Niño on fish stocks. Fortunately, although the industry remains volatile, the expectation is that fishing will return to normal later in the year.

Cephalopods: A valuable wild-catch based niche

The total value of cephalopods trade flows was nearly USD 6 billion in 2013. In terms of volume, China is both the biggest importer and the biggest exporter in the cephalopods market, with total exports of 445 thousand tonnes and imports of 362 thousand tonnes. Exports from China are worth more than USD 1.5 billion and mainly go to Japan, the EU, Korea and the US. Other major exporters in the octopus, squid and cuttlefish markets are Peru, India and the US. In value terms, the EU is the largest importer, with more than USD 1.2 billion annually. Morocco is the EU's most important trade partner, with total volumes of more than 68 thousand tonnes and a total value of over USD 360 million.

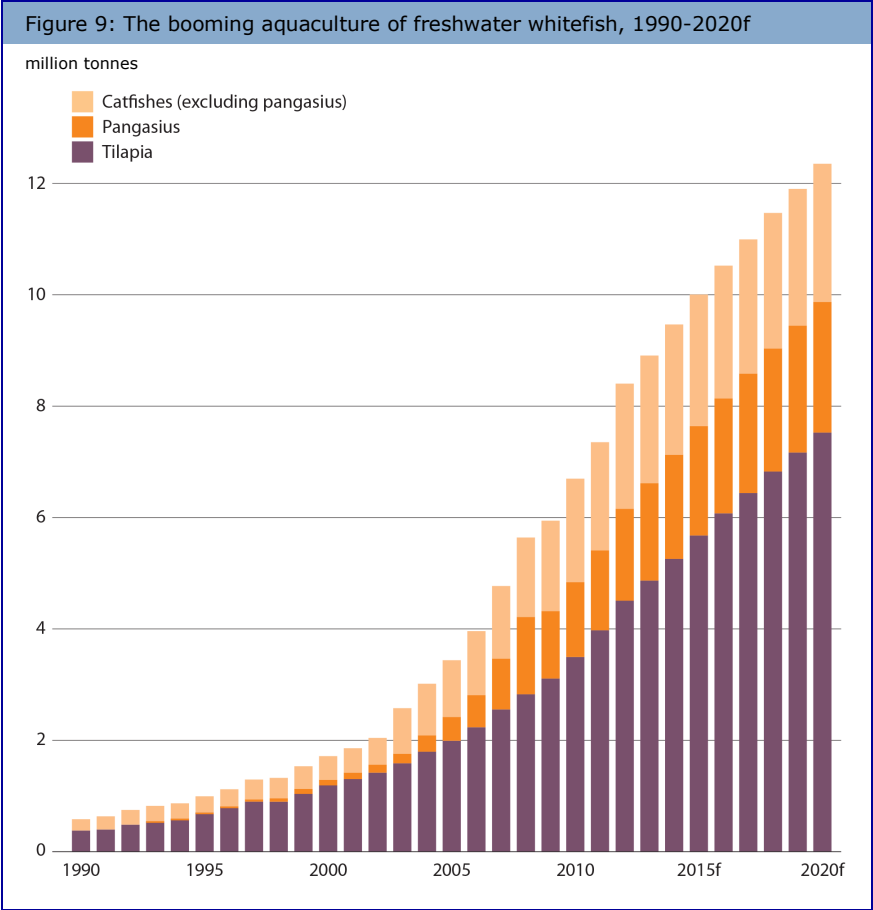
Whitefish: Wild groundfish and farmed whitefish

The whitefish sector is one of the largest and most diverse sub segments of the seafood industry. In volume terms, it is the most-traded category, with total exports reaching more than 4 million tonnes. In value terms, at over USD 12 billion, it is still behind crustaceans and salmon. The whitefish sector is made up of both farmed and wild-caught species. Wild-catch fisheries for whitefish mostly focus on groundfish, such as cod and pollock from the Bering Sea and Barents Sea. Key catchers and exporters of these species are Russia, Norway and the US. A large amount of whitefish is exported by Russia to China for further processing (see Figure 8). The significance of Russia as a producer and the EU as a key importer means that there is potential for volatility in this market if the current political conflict between these regions escalates further.



Source: Rabobank, 2015

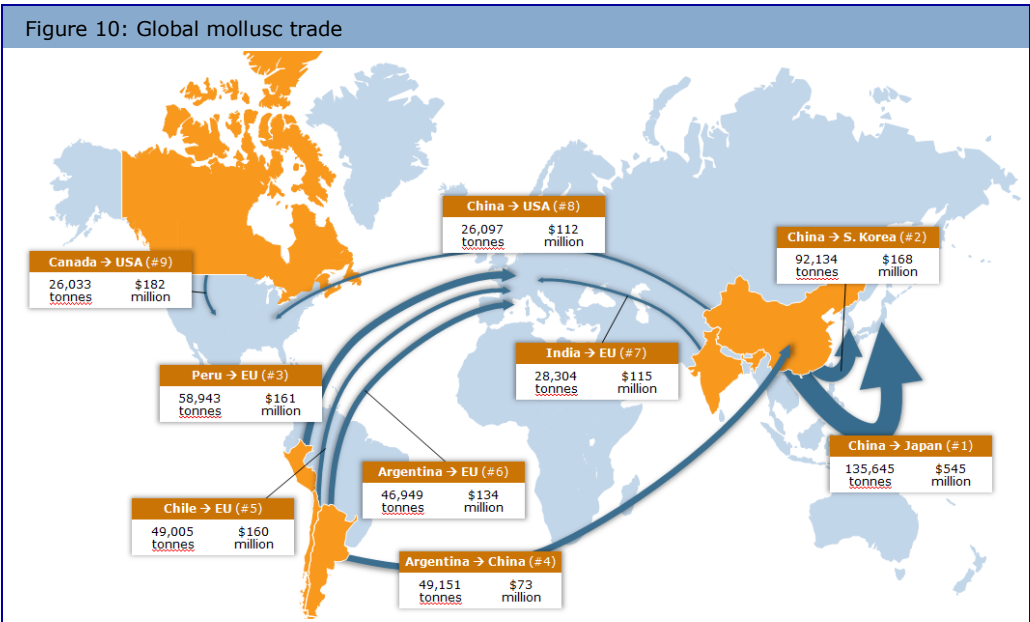
Whitefish aquaculture is booming (see Figure 9). Trade flows of farmed whitefish come from Asia and supply the key consumer markets in the US and Europe. China is the leading tilapia producer with exports going mostly to the US (a country with total tilapia imports valued at USD 1 billion annually). Vietnam is a key producer of pangasius and supplier to the European market. These products are quite similar when looking at farming practices—and also in flavour and use—but each have their own end market. Tilapia sales in the US have increased rapidly over the past year, and this product is now consumed in larger quantities than traditional whitefish products such as cod or pollock. In the coming years, trade flows are expected to shift somewhat, with Latin American producers set to take a larger share of the US market. These countries now only export small amounts of fresh fillets, but as they are in a good position for production—because of location as well as good access to natural resources and feed—this is likely to change in the future.



Source: Rabobank, 2015

Molluscs: A sizable industry but with limited trade

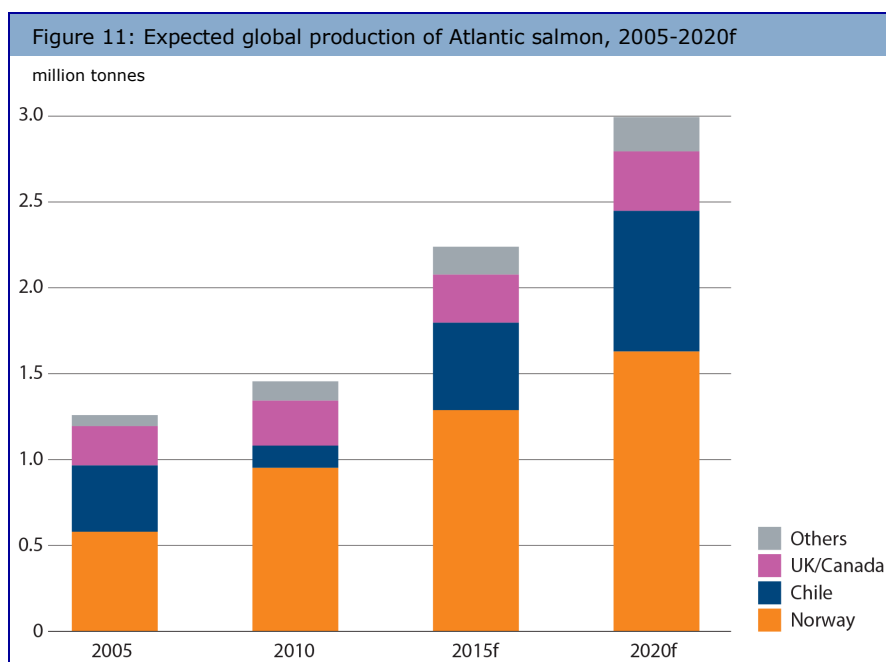
Globally, the production of molluscs was above 22 million tonnes in 2012 and growing steadily; but trade is limited due to their relatively high bulk and low value. Trade volumes are less than 1 million tonnes annually, but as only the most valuable products are traded (i.e. oysters, scallops, clams and mussels), the total value is still more than USD 5 billion (see Figure 10). China is the largest overall exporter, trading some 30 percent of all molluscs worldwide or 242 thousand tonnes annually, at a value of USD 1.4 billion. Total exports of mussels increased by 6 percent in 1H 2014, compared to the same period in 2013. Chile is the key exporter of mussels, with Spain and New Zealand ranking second and third. For oysters, South Korea is the largest exporting nation and Japan the largest importer.



Source: Rabobank, 2015

Salmonids: Trade flows dominated by farmed Atlantic salmon

Although a relatively small industry in volume terms, salmon is a highly traded product, with exports totalling more than USD 14 billion in 2013. The primary reason for the large amount of trade is because production is concentrated in Norway, Chile and, to a lesser extent, Canada and the UK, and these producers have relatively small domestic markets (see Figure 11). Russian and US-based wild salmon is frequently processed in Asia, especially China, but it should be noted that the trade of wild salmon has now become a fraction of the trade based on farmed products. Norway is by far the number one exporter—shipping more than 1 million tonnes annually—and is a key supplier of the European and Russian markets. The Norway-to-EU salmon export is the most valuable global seafood trade flow. Chilean salmon production is second worldwide (exporting 500 thousand tonnes) and predominantly supplies the US, Japan and Brazil. Since the Russian ban in 2014, salmon trade flows have shifted. Chile's exporters have moved significant volume to Russia, while Norway has been forced to redirect salmon to other markets such as the EU, the US and a number of emerging markets in Asia and the Middle East. In spite of this situation, we expect salmon trade flows to continue to grow. Especially in value terms, the prospects are good as the industry enjoys a favourable demand function.

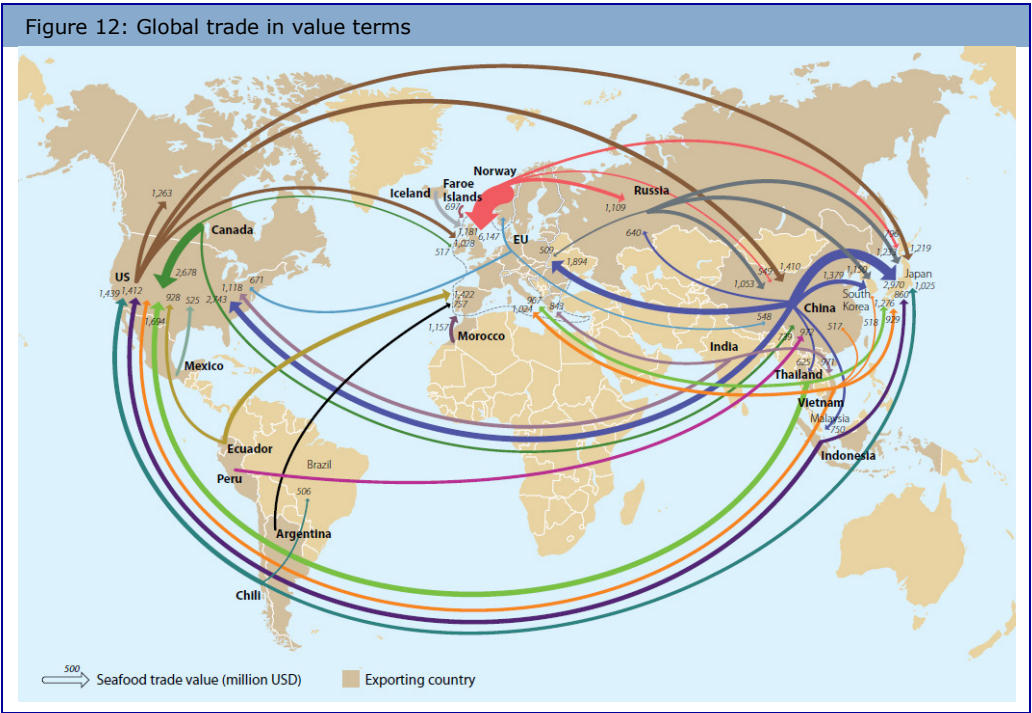


Source: Rabobank, 2015

Seafood industry and trade flows to remain in constant flux

The global seafood trade is characterised by its diversity and continuously changing nature. Several countries play an important role in the industry, with four major importing regions: the EU, the US, Japan and China and a wide range of exporters led by China and Norway. The most valuable trade flow is from Norway to the EU, consisting mostly of salmon and also some whitefish (see Figure 12). When considering each individual species, there has been strong volatility in trade flows in recent years. Such as in shrimp aquaculture, which was impacted by the outbreak of EMS in 2012 and 2013. This led to changes in trade patterns, with India rising as key exporter and main supplier to the US. The wild-catch sectors also see constant movement in supply and prices, like the Peruvian fishmeal industry, which was impacted by El Niño events that temporarily reduced anchovies available for export and processing.

Figure 12: Global trade in value terms



Source: Rabobank, 2015

The growing aquaculture industry—especially freshwater whitefish, shrimp and salmon—is becoming more and more important for global seafood trade flows, particularly from Asia to the West—and, in the case of salmon, from Norway and Chile. Aquaculture, a large reprocessing industry and increasingly affluent domestic consumers are the key reasons why China is by far the biggest player on the world seafood stage. China remains the leading exporter in the seafood industry and is also a key importer of several products, such as fishmeal to feed its large fish farming industry. We expect China to increasingly import high-end seafood products in the future, while its seafood production industry will focus more on domestic demand, gradually stabilising its enormous positive net trade position.

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