



## CASE STUDY

# FRESH ORGANIC SALMON PACKED FILLETS IN THE EU



## PRICE STRUCTURE IN THE SUPPLY CHAIN

FOCUS ON IRELAND, FRANCE,  
GERMANY AND THE UK

# EUMOFA

European Market Observatory for  
Fisheries and Aquaculture Products

Maritime Affairs  
and Fisheries

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## Summary

Atlantic salmon (*Salmo salar*) ranks third among the most consumed fish species within the European Union, with an overall market estimated about 920.000 tonnes GWE (Gross Weight Equivalent) in 2017. The EU self-sufficiency rate for salmon was 16% in 2016, with 175.000 tonnes<sup>1</sup> almost exclusively produced by Scottish and Irish farms. The EU market is mostly supplied by imports from Northern European countries: mainly Norway, Iceland and the Faroe Islands.

The EU average consumption was 2,2 kg/capita/year in 2016 (EUMOFA), of which 47% was in the form of fillets (fresh or frozen), and 28% as smoked products.<sup>2</sup>

Recent trends in EU food demand have supported strong growth in responsibly produced food, including organic products; and convenience products (e.g. portioned, pre-packed, ready to cook/eat). In tune with this:

- The consumption of organic fish in the five main EU markets (DE, FR, IT, ES and UK) has grown by 150% between 2013 and 2017;
- The production of organic salmon in Norway, Ireland and Scotland, has grown by 43% between 2014 and 2017, with Irish production increasing twofold in volume. In 2017, almost all salmon production in Ireland was organic.

This case study focuses on a fast-growing niche market product: pre-packed in MAP (Modified Atmosphere Packaging) portioned fillets of organic salmon.

Price formation is analysed in detail in four key markets:

- Ireland, the main producing country for organic salmon, with a high per capita consumption (4,7 kg/capita/year);
- France, one of the two biggest markets for salmon products within the EU (along with Germany) and main importing country for Irish salmon;
- Germany, one of the two biggest markets for salmon products within the EU (with France) and the biggest market for organic food and the second for organic fish;
- The United Kingdom, second largest producer of organic salmon in the EU and the biggest market for organic fish.

Price transmission analyses are developed for:

- Different supply chains: domestic production – domestic market and imported products – domestic market;
- Different origins of salmon (Ireland, Scotland and Norway), taking into consideration differences in production costs and margins of salmon farming and their impact on ex-farm prices;
- Different types of retailers: supermarkets, discount stores, specialized retailers.

The analysis shows that the difference in ex-farm price between Norway (low-price), Scotland (medium price) and Ireland (high-price) leads to different positioning of products. The higher production costs in Ireland induce the marketing of Irish salmon as a premium product, while the competitive price of Norwegian salmon farming allows the sale of organic salmon fillets in discounters.

**The analyses reported in this study were carried out in the first semester of 2019, when the UK was still a Member State of the European Union.**

<sup>1</sup> From FAO statistics in Marine Harvest / Mowi salmon farming industry handbook 2018

<sup>2</sup> Source Mowi, former Marine Harvest company

## 0 Scope and content

### 0.1 Case study scope

- The study focuses on a secondary processed product (pre-packed cuts of fillets) in an emerging market (organic salmon / convenience product) in four national markets within the EU (France, Germany, Ireland and the UK). Please note that the analyses reported in this study were carried out in the first semester of 2019, when the UK was still a Member State of the European Union.

The key elements of the analyses are:

Product	Origin	Characteristics	Market and price drivers
Atlantic Salmon ( <i>Salmo salar</i> )	Aquaculture in Ireland, Scotland, and Norway	<ul style="list-style-type: none"> <li>• Secondary processed product (filleted, cut, packed in MAP)</li> <li>• Value added product Premium product (organic), convenience product (portions, ready to cook)</li> </ul>	<ul style="list-style-type: none"> <li>• Growing demand for convenience salmon products.</li> <li>• Farming costs (feed) and margins and relations with ex-farm price.</li> <li>• Trends in the global demand and balance between production and demand.</li> <li>• Processing and marketing costs.</li> <li>• Competition with organic trout.</li> </ul>

### 0.2 Content of the document

In conformity with the methodology developed within EUMOFA and available on the EUMOFA website<sup>3</sup>, the document includes:

- A description of the product;
- A description of the most relevant EU producers and markets for fresh organic Atlantic salmon, with a special focus on Ireland, France and the UK;
- An analysis of the price transmission along the supply chains in Ireland, France and the UK.

<sup>3</sup>[https://www.eumofa.eu/documents/20178/0/Guidelines\\_Pricestructure.pdf/76af127b-7353-4526-a10d-e48a6c87a02e](https://www.eumofa.eu/documents/20178/0/Guidelines_Pricestructure.pdf/76af127b-7353-4526-a10d-e48a6c87a02e)

# 1 Description of the product

## 1.1 Biological and commercial characteristics

### 1.1.1 Name, presentation, place in the nomenclature

The case study focuses on fresh Atlantic salmon convenience products sold in cuts, e.g. ready to cook and pre-packed individual portions (“darnes”).

#### Main product

**Name:** Atlantic salmon (*Salmo salar*)

**FAO 3-alpha code:** SAL

Farmed Atlantic salmon is the main raw material. Some quantities of wild salmon are marketed as premium products.



© Scandinavian Fishing Year Book

**Presentation:** Whole, gutted, head-on, fresh or refrigerated. Size: 2-3 kg.

Filleting, cutting and packing operations are realized by specialized companies supplying retailing companies.

**Related codes** in the product nomenclature:

Atlantic and Pacific salmon are not differentiated in the COMEXT and PRODCOM nomenclatures. Origins may nevertheless allow distinguishing the two species.

Raw material:

- 03021400 – FRESH OR CHILLED ATLANTIC SALMON "SALMO SALAR" AND DANUBE SALMON "HUCHO HUCHO"

Final products:

- 03044100 – FRESH OR CHILLED FILLETS OF PACIFIC SALMON "ONCORHYNCHUS NERKA, ONCORHYNCHUS GORBUSCHA, ONCORHYNCHUS KETA, ONCORHYNCHUS TSCHAWYTSCHA, ONCORHYNCHUS KISUTCH, ONCORHYNCHUS MASOU AND ONCORHYNCHUS RHODURUS", ATLANTIC SALMON "SALMO SALAR" AND DANUBE SALMON "HUCHO HUCHO"

The main products competing with organic Atlantic salmon are:

- Organic farmed rainbow trout (*Onchorynchus mykiss*), in large sizes;
- Wild Atlantic salmon, chum salmon (*Onchorynchus keta*);
- Sockeye salmon *Onchorynchus nerka*).

## 1.2 Production cycle and processing of Atlantic salmon

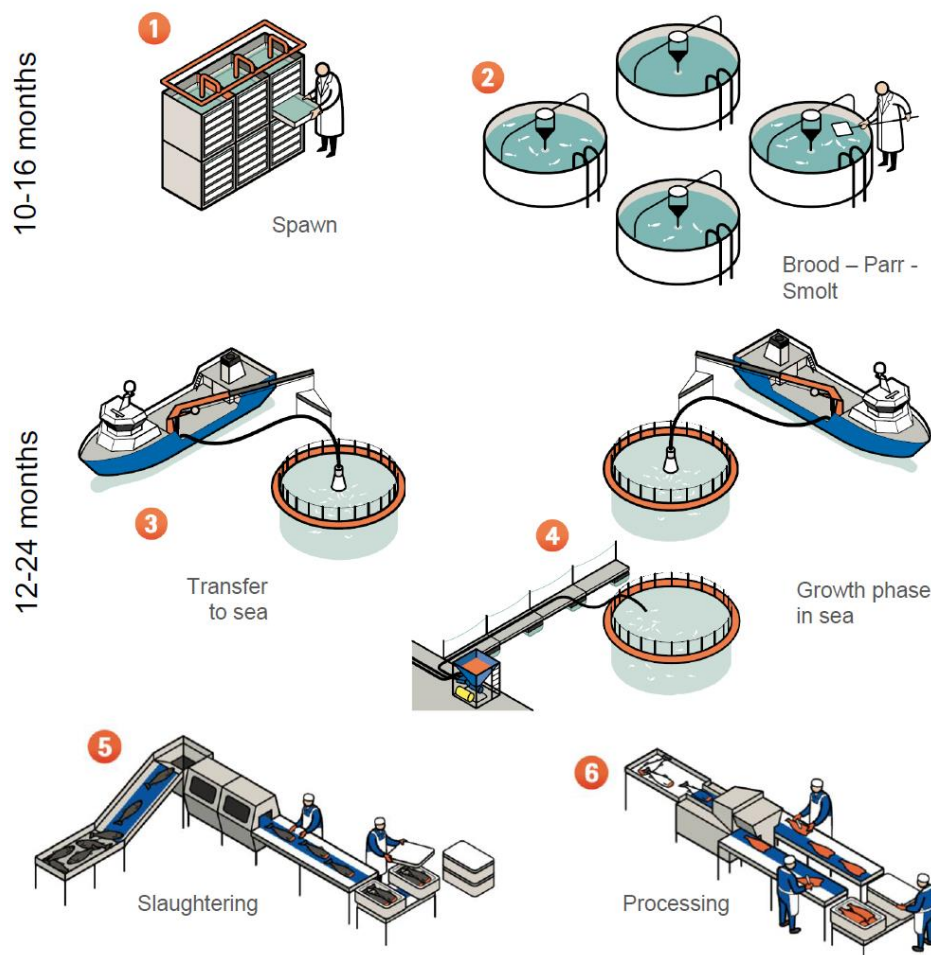
### 1.2.1 Fresh salmon production and primary processing

Atlantic salmon is a euryhaline anadromous species which needs both freshwater and saltwater to accomplish its biological cycle. The salmon farming production cycle is about 3 years. During the first year of production the fish is grown from eggs to a weight of approximately 100-150 g (smolts) in a controlled freshwater environment.

Fish is then transported to seawater cages where it is grown to around 4-5 kg over a period of 12-24 month. The growth is heavily dependent on seawater temperatures.

When the salmon reaches harvestable size, it is transported by wellboats (vessels with a tank for the storage and transport of live fish) to processing plants where most of it is slaughtered, gutted and sold as whole, gutted, head-on, on ice. Further processing steps are realized in specific units (cutting, packaging, smoking, preserves and other preparations).

**Figure 1: Farmed salmon production and processing cycle**



Source: MOWI Salmon farming industry handbook 2019.

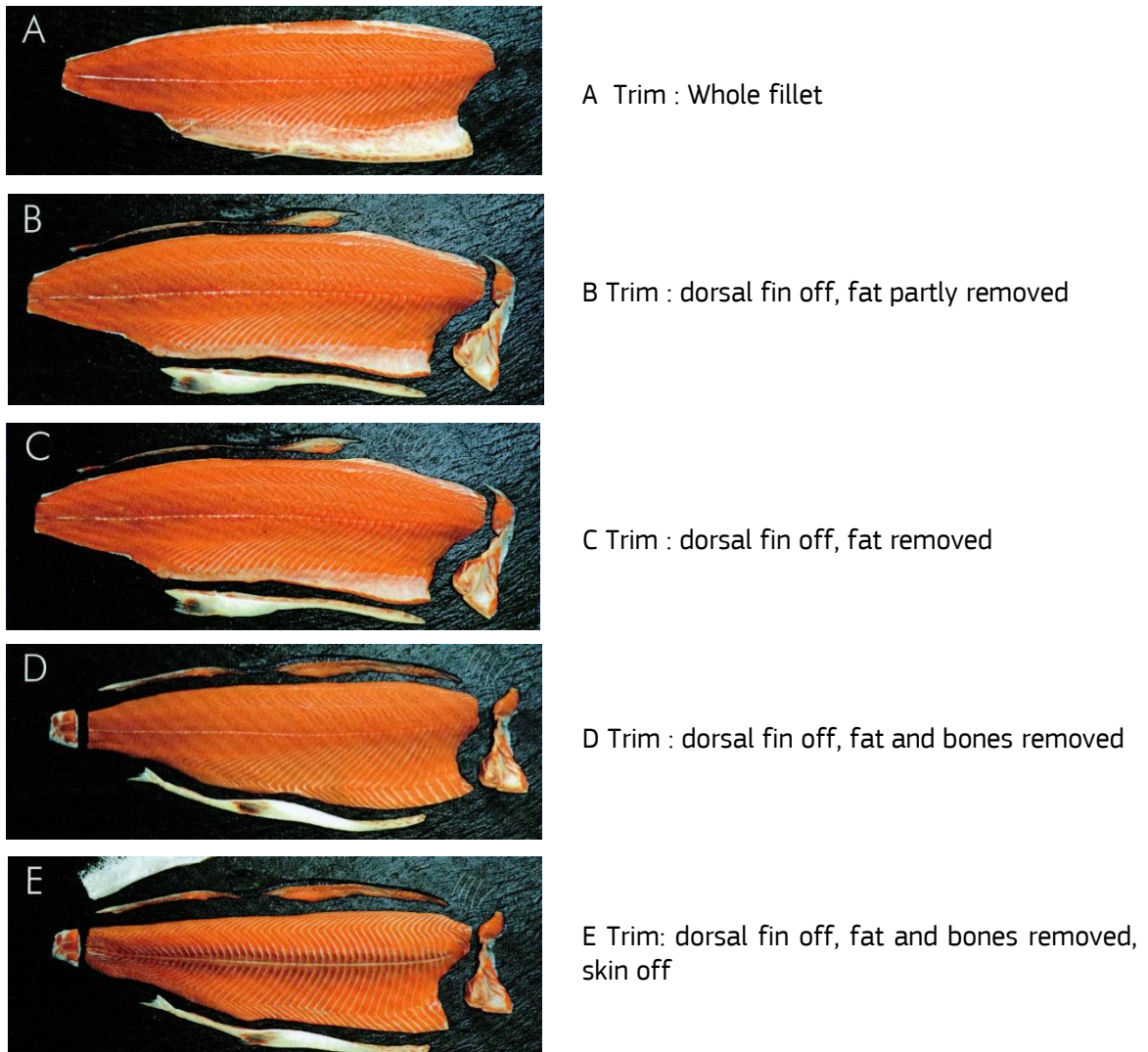
### 1.2.2 Fresh salmon-processing steps

Slaughtering and gutting are defined as primary processing. These operations happen in farming areas before shipping products to the different markets.

Secondary processing encompasses filleting, fillet trimming, portioning, packing in modified atmosphere (MAP) and diverse elaborated products (smoked, cooked, preserved, prepared meals). Secondary processed products are called value-added products.

Filleting of salmon is generally done by specialized companies proposing different presentations (figure 2) from “raw” fillet (A trim) to boneless, skinless, fins and fat removed fillets (E-trim).

**Figure 2 : Different cuttings of salmon fillets**



Source : [www.jpmaaree.fr](http://www.jpmaaree.fr)

Average yields and processing conversion rates from live fish to fillets are as follows.



**Table 1 - Estimated yields and conversion rates for fresh Atlantic salmon**

	Yield	Conversion rate
Live fish	100%	1,00
Loss of blood/starving	7%	
Harvest weight/round bled fish (live)	93%	
Offal	9%	
Gutted fish, approx. (GWT)	84%	1,19
Head approx.	7%	
Head off, gutted	77%	1,30
Fillet (skin on) – A Trim <sup>(1)</sup>	56-64%	1,56 - 1,79
Fillet (skin on) – C Trim <sup>(1)</sup>	60%	1,67
Fillet (skin off) – E Trim <sup>(1)</sup>	47-56%	1,79-2,13

(1) See Figure 2

Source: MOWI Salmon farming industry handbook 2018.

Packed fresh fillets of organic salmon are becoming “standard” products in different national markets within the EU. Typically, a pair of portion fillet cuts (also denominated “pavés” or “darnes”) of fresh organic salmon packed under MAP (figure 3). This is sold to consumers as a ready-to-cook product in Ireland, the UK, France and Germany; and increasingly in other EU Member States.

**Figure 3 : Packed “darnes” or “pavés” of fresh Atlantic salmon – Two portions**



Sources: Online shops of French, German, British and Irish retailers.

## 1.3 The market for farmed Atlantic salmon

### 1.3.1 The global market for Atlantic salmon

The world supply of farmed Atlantic salmon is expected to reach 2,6 million tonnes in 2019. 61% of the total volume is produced in Europe, with Norway as the main supplier (it produces 51% of world supply). EU production (Scotland + Ireland) accounts for 7% of global supply and 12% of European production.

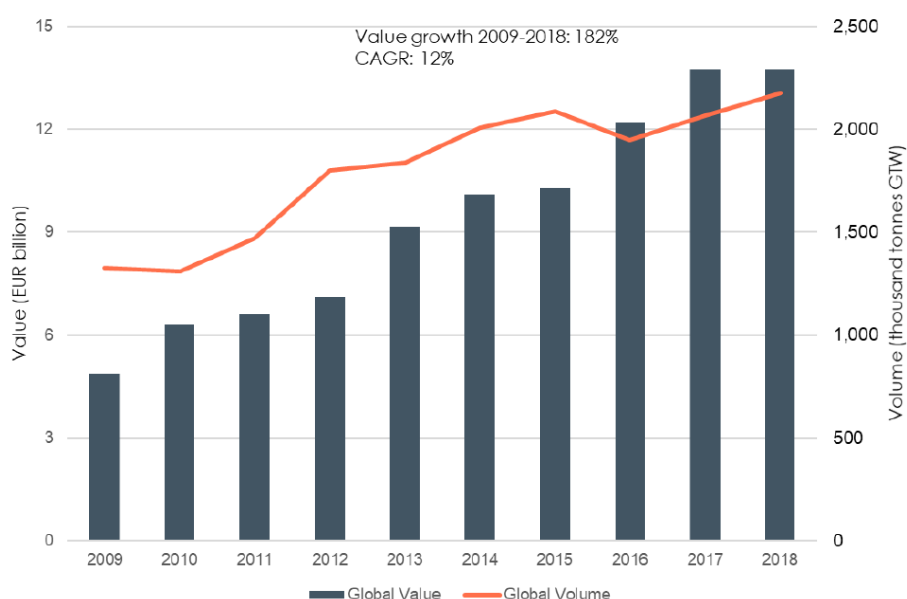
**Table 2 – Global supply (production in 1.000 tonnes – whole fish equivalent) of farmed Atlantic salmon**

1000 tonnes WFE	2014	2015	2016	2017	2018	2018/2017 %	2019E	2019/2018 %
Norway	1.198	1.234	1.171	1.208	1.253	3,7%	1.321	5,4%
United Kingdom	171	170	158	177	154	-13,0%	179	16,2%
Faroe Islands	82	77	77	80	72	-10,0%	80	11,1%
Ireland	12	16	16	19	12	-36,8%	12	0,0%
<b>Europe</b>	<b>1.463</b>	<b>1.497</b>	<b>1.422</b>	<b>1.484</b>	<b>1.491</b>	0,5%	<b>1.592</b>	6,8%
<b>Annual growth</b>	<b>5,4%</b>	<b>2,3%</b>	<b>-5,0%</b>	<b>4,4%</b>	<b>0,5%</b>		<b>6,8%</b>	
Chile	583	605	504	564	677	20,0%	711	5,0%
North America	125	162	165	161	165	2,5%	164	-0,6%
Others	54	75	70	85	87	2,4%	122	40,2%
<b>Total Other</b>	<b>762</b>	<b>842</b>	<b>739</b>	<b>810</b>	<b>929</b>	14,7%	<b>997</b>	7,3%
<b>Annual growth</b>	<b>17,0%</b>	<b>10,5%</b>	<b>-12,2%</b>	<b>9,6%</b>	<b>14,7%</b>		<b>7,3%</b>	
<b>Total global supply</b>	<b>2.224</b>	<b>2.339</b>	<b>2.161</b>	<b>2.294</b>	<b>2.420</b>	5,5%	<b>2.589</b>	7,0%
<b>Supply growth</b>	<b>9,0%</b>	<b>5,2%</b>	<b>-7,6%</b>	<b>6,2%</b>	<b>5,5%</b>		<b>7,00%</b>	

Source: Elaborated from FAO statistics, national sources and Kontali analysis (forecasts)

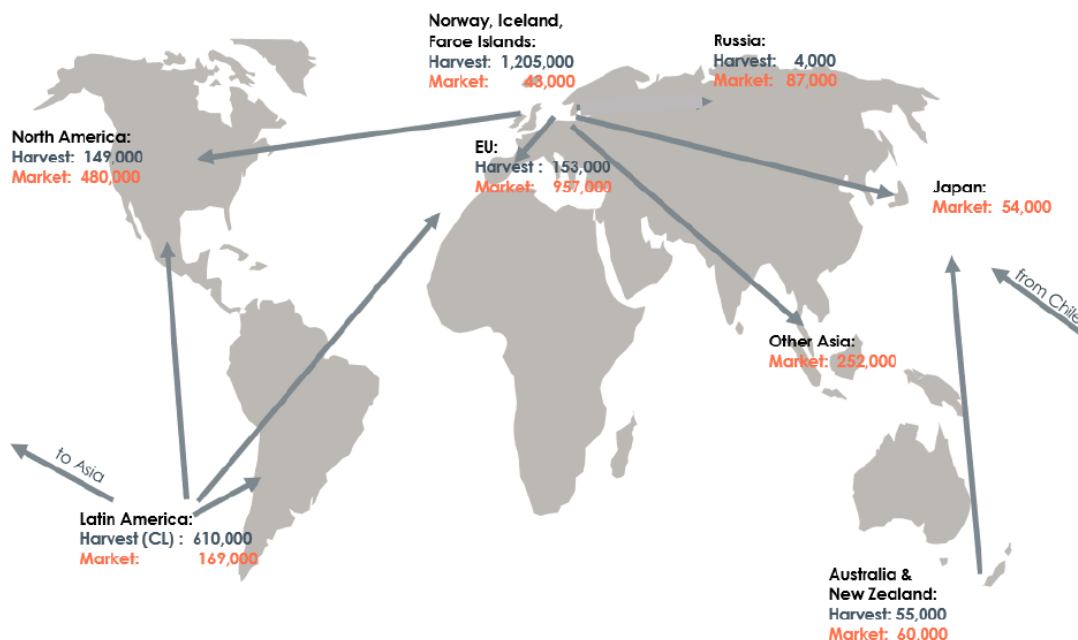
The global market for Atlantic salmon increased with an annual average growth of 12% in the last decade (2009- 2018). EU production faced a decrease of -15% in volume in 2018, with a strong slowdown in Ireland (-37%).

**Figure 4: Global trend in farmed salmon markets (supply balance in volume – whole fresh equivalent)**



Source: MOWI- Salmon farming industry handbook 2019. from Kontali analysis

**Figure 5: Global trade flows of farmed Atlantic salmon (tonnes in live weight equivalent)**



Source: MOWI Salmon farming industry handbook 2018 (data 2017).

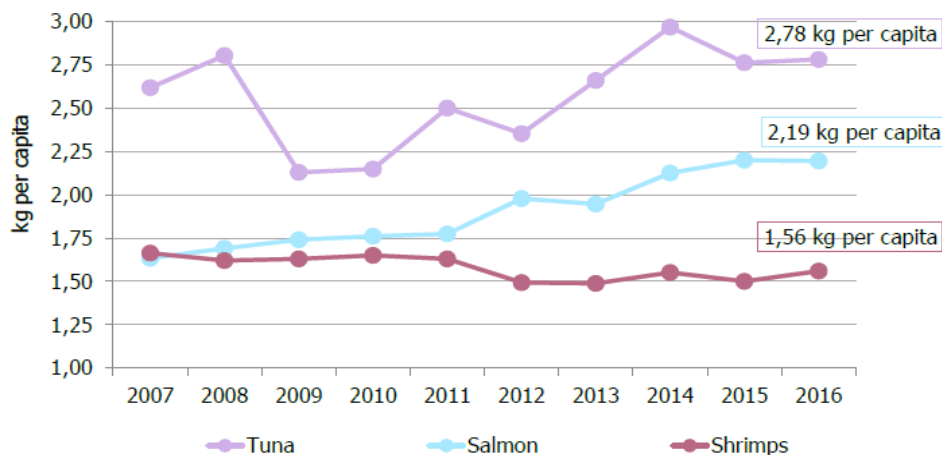
Historically the main markets for each production origin are relatively separated geographically:

- Norway supplies the EU and Asia;
- Scottish production supplies mainly the UK market and other EU markets;
- Chile supplies the USA, South America and Asia;
- Canada supplies the USA (west coast and east coast);
- Russia imports salmon from Chile and Faeroe Islands, since the import ban on EU seafood imposed in august 2014.

### 1.3.2 The EU market for farmed Atlantic salmon

The EU market for Atlantic salmon was estimated around 1 million tonnes in 2018.<sup>4</sup> More than 99% of commercially available Atlantic salmon is farmed. Salmon is the main fresh fish consumed by EU citizens and consumption per capita has significantly grown from 2007 to 2016.

**Figure 6: Trend in per capita consumption of main fish products in the EU**



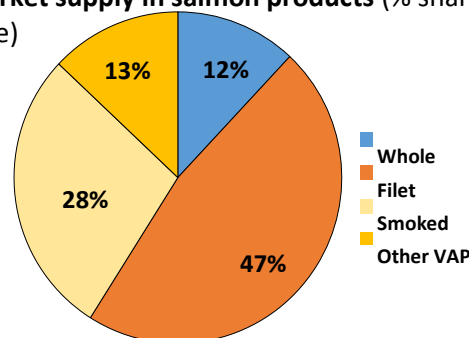
Source: EUMOFA, based on EUROSTAT, National sources, FEAP and FAO data.

<sup>4</sup> Source: Kontali analyze

Among the different salmon products, fillets are the first in volume (47%) on the EU market. Smoked salmon ranked at the second place (28%).

Salmon fillets are marketed mostly fresh (France, Ireland, the UK) or frozen (Germany).

EU market supply in salmon products (% shares in volume)



Source: MOWI Salmon industry handbook 2018

### 1.3.3 EU production and markets for organic salmonids

Two EU Member States produce organic salmon: Ireland and the UK (Scotland). Their production of organic fish is not separately identified in national statistics. The EUMOFA survey<sup>5</sup> of EU organic aquaculture estimated the EU production to be over 15.000 tonnes in 2015, representing only 8% of the overall production of Atlantic salmon of the EU aquaculture sector.

**Table 3 – Production of organic salmonids in the EU – Volume in tonnes whole fish equivalent**

Species produced under organic standards	Total production of salmonids (FAO 2015)	Estimated production under organic standards (2015)	Estimated share of organic production	Main producing Member States	Main producing companies
Atlantic salmon	185.995	15.400	8%	Ireland UK	MOWI (IE) ISPG (IE) Glenarm Organic Salmon (UK)
Rainbow trout	185.889	Nearly 6.000	3%	France Denmark Italy Spain	Aqualande (FR) KaerhedeDambrug (DK) Musholm A/S (DK)

Source: EUMOFA, EU organic aquaculture March 2017

Irish salmon production met the EU organic production standard<sup>6</sup> in 2016 and grew up to 19.300 tonnes in 2017, while Scottish organic salmon production was 3.000 tonnes. **The share of organic fish in the overall EU salmon production reached 11,7% in 2017.** It was only 6,1% in 2015, and the growth was driven by Irish production, which was down by 37% in 2018.

EU markets are also supplied in organic fish by Norway. Norwegian production of organic salmon was estimated at 17.000 tonnes in 2017, representing 1,4% of the overall Norwegian salmon production in volume terms.

<sup>5</sup> [http://www.eumofa.eu/documents/20178/84590/Study+report\\_organic+aquaculture.pdf](http://www.eumofa.eu/documents/20178/84590/Study+report_organic+aquaculture.pdf)

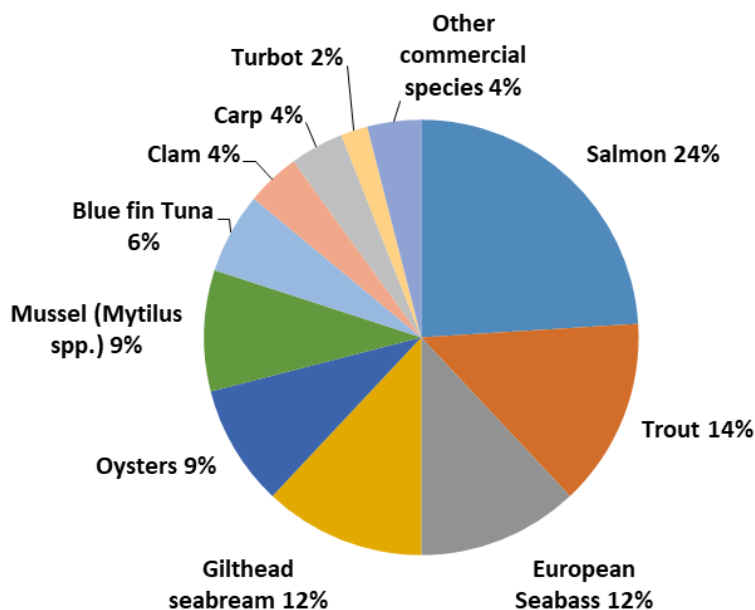
<sup>6</sup> COMMISSION REGULATION (EC) No 710/2009 on the implementation of Council Regulation (EC) No 834/2007 on organic aquaculture animal and seaweed, available at [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L\\_2009.204.01.0015.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_2009.204.01.0015.01.ENG)

## 2 The EU markets for organic salmon

### 2.1 Production and supply of organic Atlantic salmon

EU aquaculture production remained fairly steady in volume terms from 2007 to 2016. A value growth was observed for almost all main commercial species, especially for salmon (almost entirely Atlantic salmon), which increased its value by EUR 400 million and its value share of total EU farmed production by 5%. With this, salmon accounted for almost one-quarter of total farmed production in 2016.

**Figure 7: EU aquaculture production breakdown by main species (2016, % of value)**



Source: EUMOFA based on EUROSTAT, FEAP and FAO data

Two EU Member States are involved in the organic production of Atlantic salmon, which is the major species organically certified in the EU. The largest portion of EU organic salmon is produced in Ireland. The rest is produced in the United Kingdom: most of the volume in Scotland and, to a much lesser extent, in Northern Ireland.

**Table 4 - European production of organic Atlantic salmon in 2015 and 2017 (tonnes)**

Countries	2015		
	Total Salmon	Organic	% organic
Norway	1.258.356	16.000	1,3%
United Kingdom	179.022	3.588	2,0%
Ireland	9.400	7.869	84%

Countries	2017		
	Total Salmon	Organic	% organic
Norway	1.206.000	17.000	1,4%
United Kingdom	171.000	3.000	1,8%
Ireland	19.305	19.305	100%

Source: 2014-2015 OrAqua project, 2017 BIM and experts' estimates.

The organic production, which was estimated at 12.500 tonnes in 2012<sup>7</sup>, has increased by 32% in 2017, driven largely by growth in Ireland (+300%), while Scottish organic production decreased by half in the period 2012-2017.

The history of Irish organic aquaculture started in the mid-nineties with salmon. Ireland used to also have production of organic ocean-farmed trout, but the producer concerned has now switched to salmon.

The main driver behind organic salmon farming in Ireland is the regulatory framework for conventional (i.e. non-organic) salmon. The producers realized that it is very difficult for small scale producers to compete with Scotland and Norway in terms of costs and consequently price. Therefore, the Irish salmon farming industry chose to focus on the organic segment of the market.

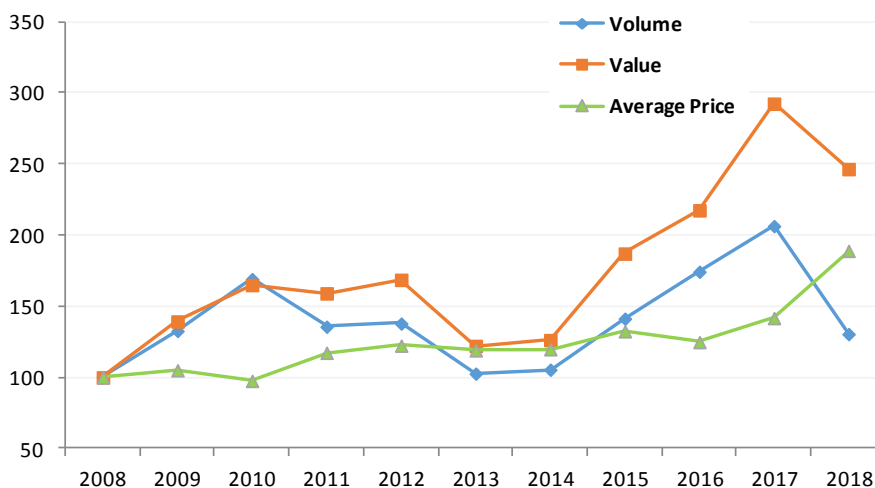
**Table 5 – Production and ex-farm value for Atlantic salmon in Ireland**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Volume</b> (tonnes)	12.408	15.819	12.685	12.891	9.598	9.855	13.214	16.300	19.305	12.200
<b>Value</b> (1 000 €)	67.242	79.620	76.792	81.388	58.941	60.928	90.300	105.000	141.200	119.000

Source: Bord Iascaigh Mhara (BIM).

Irish production of organic salmon faced a decrease in volume during the 2012-2014 period, when there was over-supply, leading farmers to sell a share of their production at conventional product prices. Since 2015, the demand for organic fish has increased strongly in some MS (mainly in France, Germany and the UK) and now supply cannot satisfy market demand. The imbalance between supply and demand for organic salmon increased in 2018 with the decrease in Irish production, leading to a +33% increase in the ex-farm price.

**Figure 8: Evolution of Irish aquaculture production (Index: 2008 = 100)**

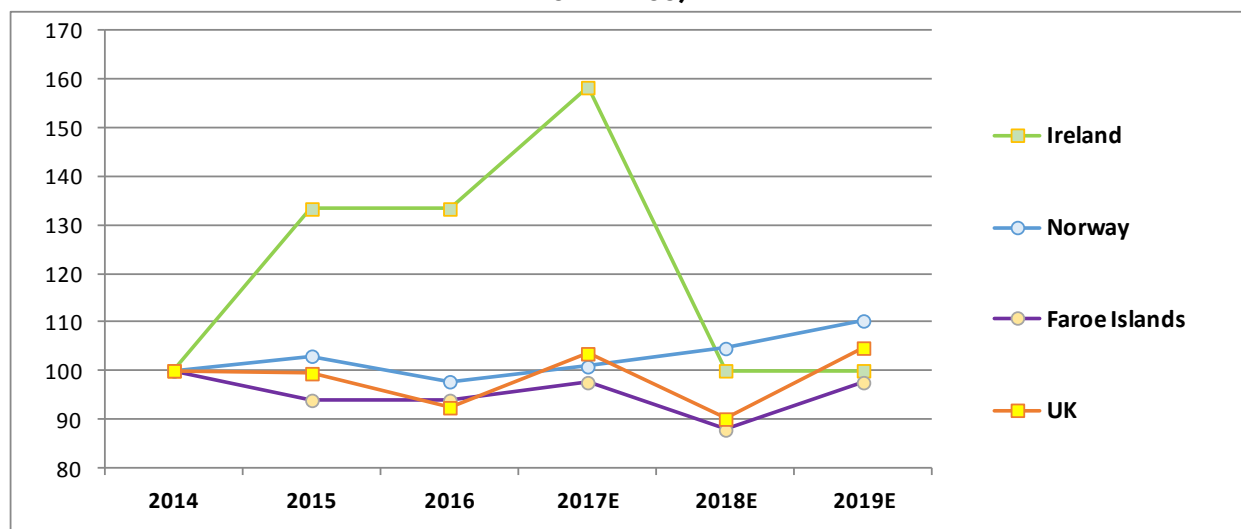


Source: our elaboration from BIM.

Compared with other European countries, Irish production of organic salmon shows much higher growth rates from 2014 to 2017, but it faced issues in relation to maintaining a regular supply for the market in 2018. Despite prices reaching high levels for organic Irish salmon, production reduced as operators were not able to develop new sites for production. Nevertheless, according to Norwegian companies interviewed in the context of this study, production in Norway is expected to develop. This amounted to around 17.000 tonnes in 2017 and is partly exported to the EU market.

<sup>7</sup> European aquaculture society.

**Figure 9: Trend in production of Atlantic salmon by countries supplying EU markets (index: 2014 = 100)**

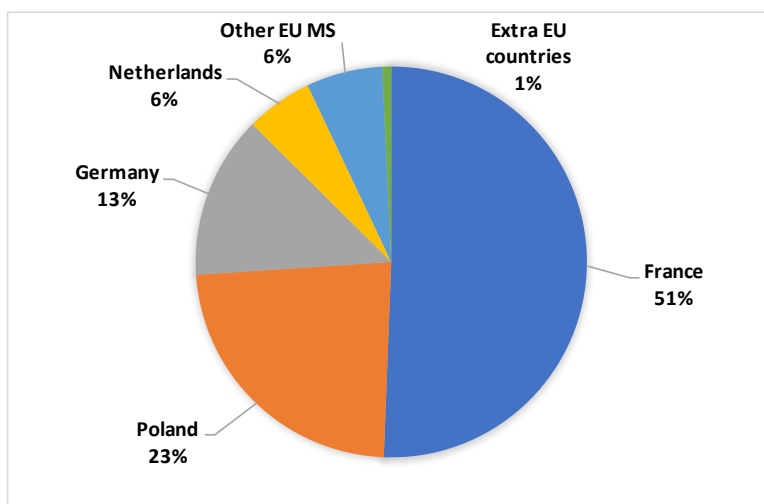


Source: Elaboration from MOWI Salmon farming industry handbook 2018 and Kontali.

One key issue for analyzing national markets in the EU for organic salmon is the lack of customs data on intra-EU trade and imports from Norway. Organic salmon is not distinguished from conventional products in the COMEXT nomenclature and professional data are scarcely disclosed, due to the concentration of the business in Norway (two companies involved in organic salmon business) and Scotland (linked financially to Norwegian companies). So, it is not possible to carry out a fine-grained analysis of trade flows from Norway and the UK to EU Member States.

The situation is different when analysing Ireland trade flows, as the whole salmon production in the country is at organic standards. In 2017, France accounted for more than half of Irish exports of this product, while Germany and the UK for a combined share of almost 20%.

**Figure 10: Export of Irish salmon by destination (in volume - 2017)**



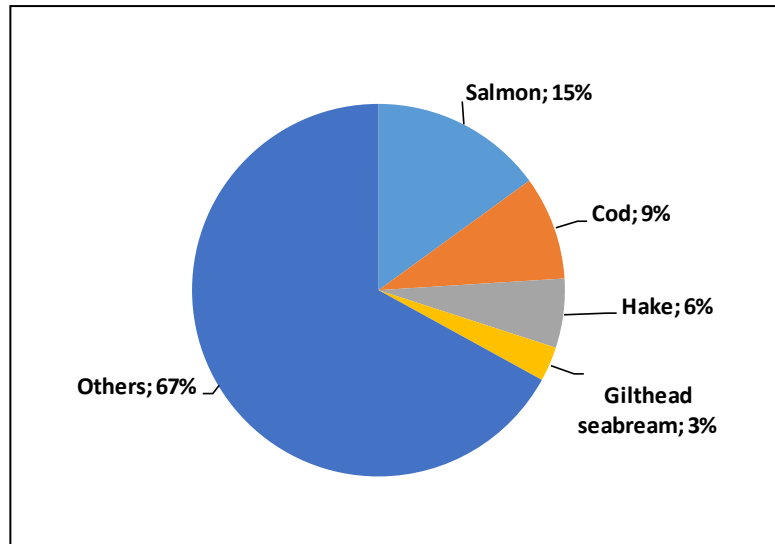
Source: EUMOFA - Elaboration from Comext

The following analysis will focus on the markets for Irish salmon, which represent between 60% and two-third of the supply of organic salmon to the EU Member States (as half of the Norwegian organic salmon is consumed in Norway).

## 2.2 Consumption of Atlantic salmon in Europe

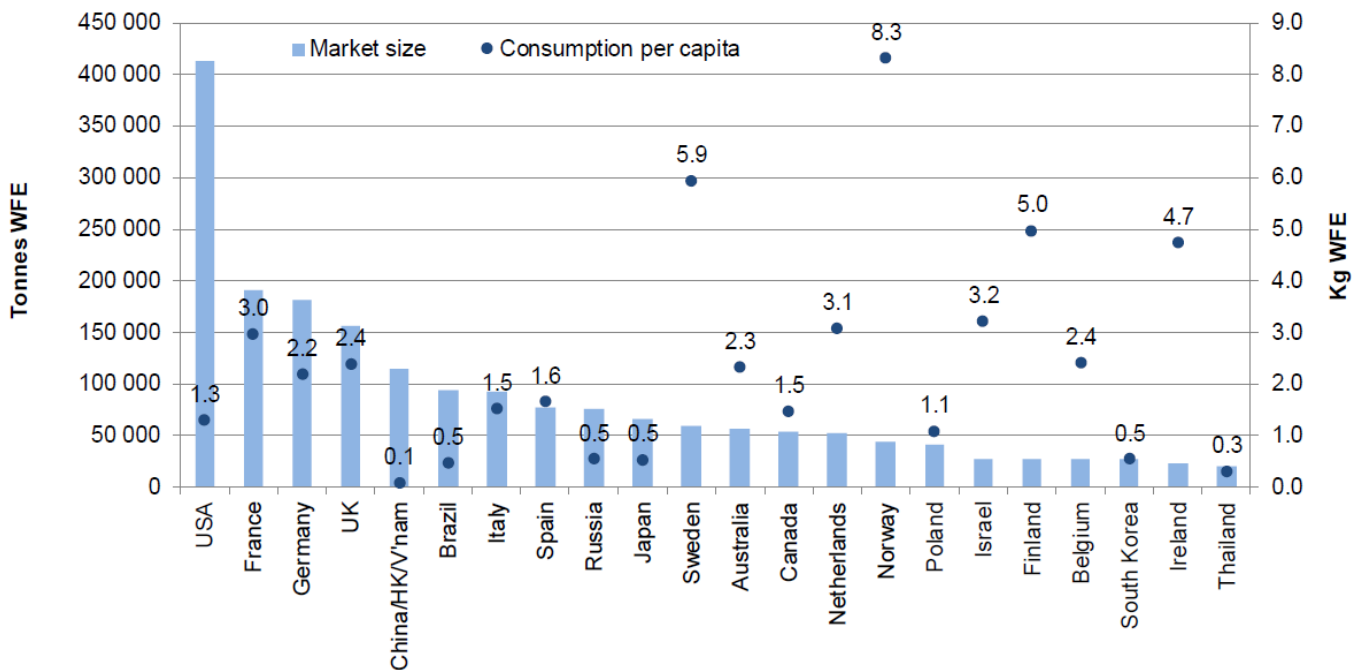
Salmon is the main fresh fish consumed in the EU, with 15% of the value spent by household for fresh seafood. France, Germany and the UK are the most important markets in volume terms, while the highest yearly per-capita consumption is observed in Scandinavian countries (up to 8,3 kg per capita in Norway) and in Ireland.

**Figure 11: Main fresh products consumed by households (2017) in value**



Source: EUMOFA elaboration of EUROPANEL data

**Figure 12: Apparent consumption of Atlantic salmon by country (2016) in whole fish equivalent (WFE)**



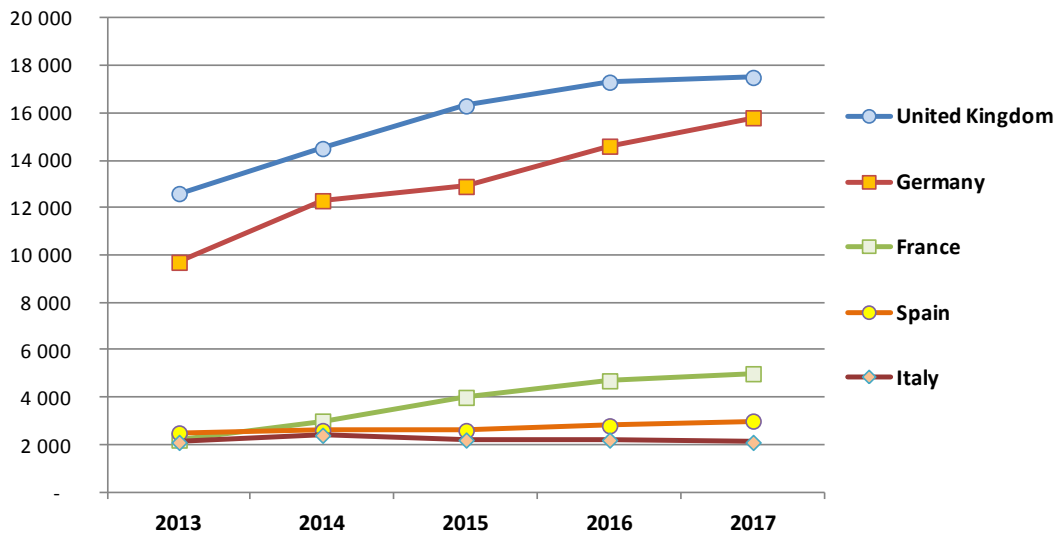
Source: MOWI – Intrafish seminar



## 2.3 Consumption of organic fish in the EU

Demand for organic seafood is growing and main products in the retail markets include salmon, shrimps, trout and mussels. Germany and the UK are the largest EU markets for organic fish (fresh, frozen and processed). France ranks third but shows the strongest growth rate from 2013 to 2017 (+220%). According to experts interviewed, organic salmon and trout, fresh and smoked, account for the majority of the volume in France.

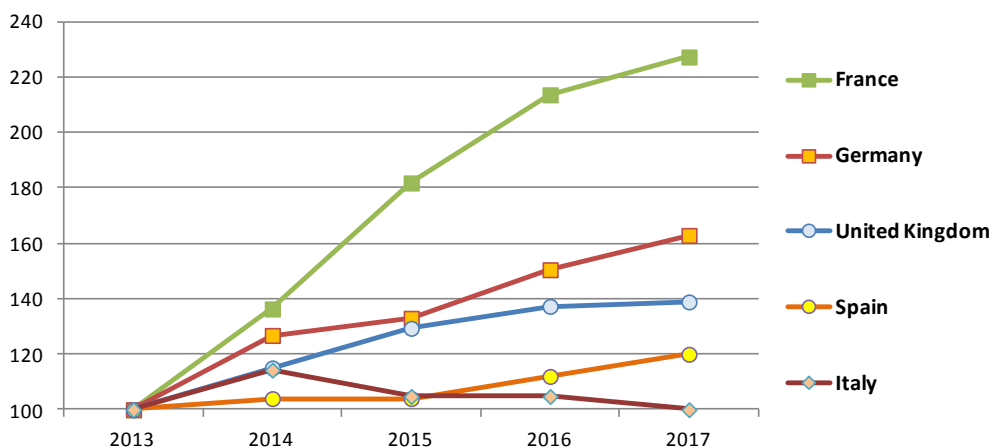
**Figure 13: Trend in the consumption of organic fish in the main MS (volume in tonnes)**



Member State	2013	2014	2015	2016	2017
UK	12.600	14.500	16.300	17.300	17.500
Germany	9.700	12.300	12.900	14.600	15.800
France	2.200	3.000	4.000	4.700	5.000
Spain	2.500	2.600	2.600	2.800	3.000
Italy	2.100	2.400	2.200	2.200	2.100

Source: EUMOFA – The EU fish market 2018 – elaborated from Euromonitor

**Figure 14: Trend in the consumption of organic fish (index: 2013 = 100)**



Source: Elaboration from Euromonitor

## 2.4 Production costs and margins in salmon farming

A pan European, EU funded, survey (OrAqua – Assessment of organic aquaculture for further development of European regulatory framework - (<http://www.oraqua.eu/Dissemination/Project-deliverables/Final-project-report>) provides information on 2015 production costs and ex-farm sales prices for the three main European countries producing conventional and organic salmon. Differences in the structure of production costs in the three countries lead to significant differences in ex-farm sales price for organic salmon. Higher production costs, and consequently higher prices, are observed in Ireland where the business is smaller compared to Scotland and Norway (scale effects and concentration of the sector). Irish ex-farm sales prices are 74% higher than those observed in Norway and 30% higher than those of Scotland.

**Table 6 - Production costs and margins in conventional and organic salmon farming in 2015 (EUR/kg)**

Cost items EUR :Kg	Norway		Ireland		UK (Scotland)	
	Conventional	Organic	Conventional	Organic	Conventional	Organic
Other income	-0,16	-0,16	-0,05	-0,05	-0,01	-0,01
Livestock (juveniles)	0,28	0,43	0,56	0,86	0,04	0,04
Feed	1,35	1,79	1,83	2,42	1,34	1,51
Energy	0,00	0,00	0,17	0,17	0,03	0,03
Repair and maintenance	NI	NI	0,29	0,75	0,14	0,36
Other operational costs	0,58	0,62	1,47	1,57	1,29	1,36
Wages and salaries	0,19	0,22	0,97	1,11	0,19	0,22
Depreciation	0,14	0,37	0,09	0,24	0,14	0,37
Financial costs	0,05	0,14	0,01	0,02	0,00	0,01
Cost of production - excluding subsidies & Other costs	2,59	3,57	5,39	7,14	3,17	3,90
Cost of production	2,43	3,41	5,34	7,09	3,16	3,89
<b>Ex-farm sales price</b>	<b>3,13</b>	<b>4,07</b>	<b>5,46</b>	<b>7,10</b>	<b>4,19</b>	<b>5,45</b>
Cost organic/conventional		0,98		1,75		0,73

Source: OrAqua Project. NI = non isolated (merged in other operational costs)

OrAqua data have been integrated with information collected from other sources (DCF-JRC, BIM and Norwegian companies) interviewed in the context of this study for estimating production costs and ex-farm prices in 2017, aiming to elaborate reference prices at production level (i.e. first sale), allowing a price transmission analysis.

**Table 7 - Production costs and margins in organic salmon farming in 2017**

Cost items	Ireland		Scotland		Norway	
	EUR/Kg	%	EUR/Kg	%	EUR/Kg	%
Feed	2,40	32,8%	1,56	27,7%	1,85	44,0%
Livestock (juveniles)	0,80	10,9%	0,04	0,7%	0,44	10,5%
Repair and maintenance	0,75	10,3%	0,37	6,6%	-	0,0%
Other operational costs	1,57	21,5%	1,40	25,0%	0,64	15,2%
Wages and salaries	1,11	15,2%	0,23	4,0%	0,38	9,0%
Energy	0,17	2,3%	0,03	0,6%	-	0,0%
Depreciation	0,24	3,3%	0,38	6,8%	0,38	9,1%
Financial costs	0,02	<b>0,3%</b>	0,01	0,2%	0,14	3,4%
<b>Ex-farm sales price</b>	<b>7,31</b>	<b>100%</b>	<b>5,63</b>	<b>100,0%</b>	<b>4,20</b>	<b>100%</b>

Source: Elaborated from OrAqua Project, JRC, BIM, Marine Harvest.

## 3 The Irish market for organic salmon

### 3.1 Structure of the Irish supply chain

Irish aquaculture produces quite exclusively salmon at organic standard, supplying the domestic market (50% in 2017) and export. The supply chain for fresh organic fillets packed in MAP is as follows:

- **Production farms**
- **primary processing** (in-home or in external processing units)
- transport to **secondary processing units** (filleting, cutting and packaging)
- transport to **retailing platforms/stores**.

The Irish salmon aquaculture is compliant with different Bio-certifications in Europe, as below reported:



Naturland: Organic standards agency in Germany  
[www.naturland.de](http://www.naturland.de)



IOFGA: The Irish Organic Farmers and Growers Association  
[www.irishorganic.ie](http://www.irishorganic.ie)



Bio Suisse: Organic standards agency in Switzerland  
[www.bio-suisse.ch](http://www.bio-suisse.ch)



European Regulation (EC) N° 889/2008.  
 Certified by IMO



The European certification gives permission of usage of the French AB logo  
[www.ec.europa.eu/agriculture/organic](http://www.ec.europa.eu/agriculture/organic)

Source: EUMOFA elaboration of BIM and EUROSTAT-COMEXT data

### 3.2 Characteristics of the Irish market and consumption

In 2017, consumption of fresh fish decreased by 8% in value and by 10% in volume from 2016. Two species, namely salmon and cod, together accounted for 63% of the total consumption of fresh fish products in value and 56% in volume.

Ireland ranks third in the EU for per capita consumption of salmon, amounting to 4,7 kg in 2017. In 2017, almost half of the organic salmon farmed in Ireland was consumed on the domestic market. The volume exported increased by 500% since 2012, in relation with growing demand for organic salmon on the EU market.

**Table 8 - Apparent domestic market for organic salmon in Ireland (volume in tonnes LWE)**

	2012	2013	2014	2015	2016	2017
<b>Production</b>	12.891	9.598	9 855	13 214	16 300	19 305
<b>Export</b>	2.343	1.207	5.175	8.124	6.869	11.691
<b>Internal supply</b>	10.548	8.391	4.680	5.090	9.431	7.614

Source: EUMOFA elaboration of BIM and EUROSTAT-COMEXT data

### 3.3 Prices along the supply chain in Ireland

#### **Ex-farm price**

Average annual price at first sale (ex-farm) can be calculated from annual aquaculture reports of BIM, dividing overall value by overall volume. A significant increase is observed between 2016 and 2017 (+ 13,5%).

**Table 9 – Ex-farm price for organic salmon in Ireland (EUR/kg)**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Average price (EUR/kg)</b>	5,16	5,42	5,03	6,05	6,31	6,14	6,18	6,83	6,44	7,31

Source: BordlascaighMhara (BIM).

#### **Export price**

Average annual export prices are calculated from value and volume reported in EUROSTAT-COMEXT database. The table below presents data for main destination Member States for Irish organic salmon.

**Table 10– Average export price for Irish organic salmon (EUR/kg)**

	2012	2013	2014	2015	2016	2017
<b>France</b>	6,45	8,59	6,70	7,38	7,85	9,51
<b>Germany</b>	9,69	11,01	8,44	8,81	8,59	10,01
<b>UK</b>	4,36	1,65	7,12	8,73	7,41	6,00
<b>Other EU</b>	10,72	12,26	6,55	7,94	8,84	9,01
<b>Extra EU</b>	7,96	5,57	11,43	9,51	10,34	10,91
<b>TOTAL</b>	7,46	8,75	6,91	7,76	8,02	9,26

Source: EUMOFA elaboration of EUROSTAT-COMEXT data

**Note:** export prices will be used for price transmission analysis in France, Germany and the UK. For Ireland, the analysis will concern Irish salmon sold on the domestic market.

#### **Processing and logistic costs**

The OrAqua survey provides an analysis of the costs and price transmission in the supply chains for conventional and organic salmon in the EU (average situation).

The OrAqua model takes into consideration different processing yields (gutting, filleting) and global margins of actors of the supply chain (processors and retailers). These elements can be used for analyzing price transmission for packed fillets in MAP, by adjusting the different yields (60 % for filleting considering packed fillet are generally proposed skin-on) and processing costs (MAP packaging for individual portions).

**Table 11 – Average export price for Irish organic salmon (2015, EUR/kg)**

Supplychain	Conventional	Organic
Farmer's price	3,90	5,00
Cost of gutting	0,60	0,60
Guttingloss (10%)	0,50	0,70
Price of guttedfish	5,00	6,30
Price per kg fillet (yield 55%)	9,10	11,50
Processing margin	4,90	6,20
LSR purchase price	14,00	17,70
LSR margin	6,20	12,80
Consumer price (excl. VAT)	20,20	30,50
VAT	1,30	1,50
Consumer price	21,50	32,00

Source: OrAqua.

**Retail price**

There are no available retail price statistics for fresh organic salmon fillets. Prices may be collected from online shops of supermarkets and/or retailers specialized in salmon or premium seafood products.

The following table provides some illustration of price for supermarkets in 2018 (average price 31,4 EUR/kg). The average reference price for 2017 is calculated taking into consideration the increase of 5,5 % observed on websites for the same product between 2017 and 2018, leading to a price of 30,00 EUR/kg.

**Table 12 – Average retail price for organic salmon fillets in Ireland (2018)**

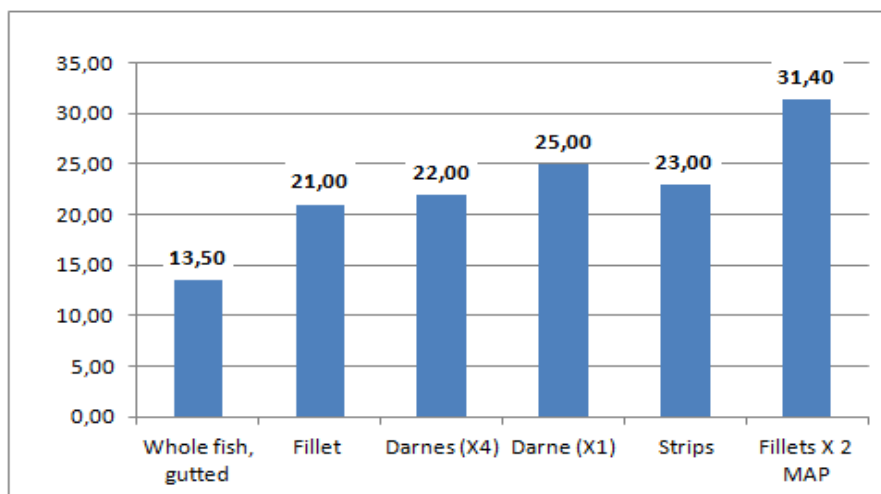
Brands	Weight (grammes)	Price per unit	Price/kg
Brand 1	220	7,69	34,95
Brand 2	240	6,7	27,92
Brand 3	220	NA	NA



Source: online stores

Online stores specialized in salmon or seafood products propose different type of fresh salmon products: whole fish, fillets or fillet cuts. Prices observed appear lower than those of packed fillets in MAP available in supermarkets, confirming their status of premium products.

**Figure 15: Price of different fresh organic salmon products sold online (in EUR/kg)**



Source: Online shops.

### 3.4 Costs and margins along the supply chain

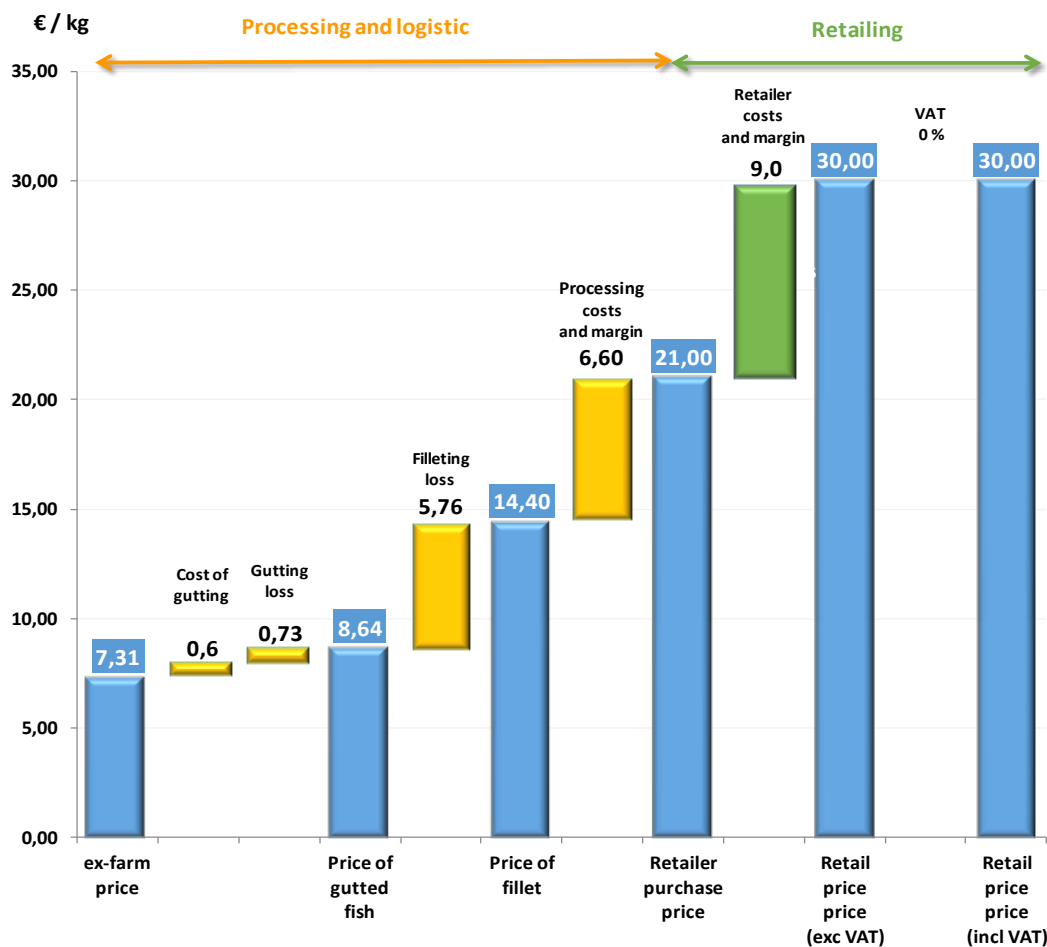
The following estimations can be made from available price data in the supply chain for packed fillet cuts of Irish fresh organic salmon proposed by supermarkets in Ireland.

**Table 13 – Price transmission of packed organic salmon fillets in supermarkets in Ireland (2017)**

Supply chain	EUR/Kg	% / cons. price
Ex-farm price	7,31	24,4%
Cost of gutting	0,60	2,0%
Gutting loss (10%)	0,73	2,4%
Price of gutted fish	8,64	28,8%
Filleting yield 60 %	5,76	19,2%
Price of fillet	14,40	46,1%
Processing costs + margin	6,60	22,0%
LSR purchase price	21,00	70,0%
LSR costs + margin	9,00	30,0%
Consumer price, exc VAT	30,00	100,0%
VAT - zero rate		
Consumer price	30,00	100,0%

Source: Elaborated from Or-Aqua survey, DCF, online stores (retail prices)

**Figure 16: Price structure for organic salmon fillet in Irish supermarkets (source Tab 13)**



## 4 The French market for organic salmon

### 4.1 Structure of the supply chain

In France, salmon is not farmed at organic standards. All organic salmon is imported from Ireland, the UK (Scotland) and Norway. Within available statistics, the volumes of fish imported from Scotland and Norway mix conventional and organic salmon.

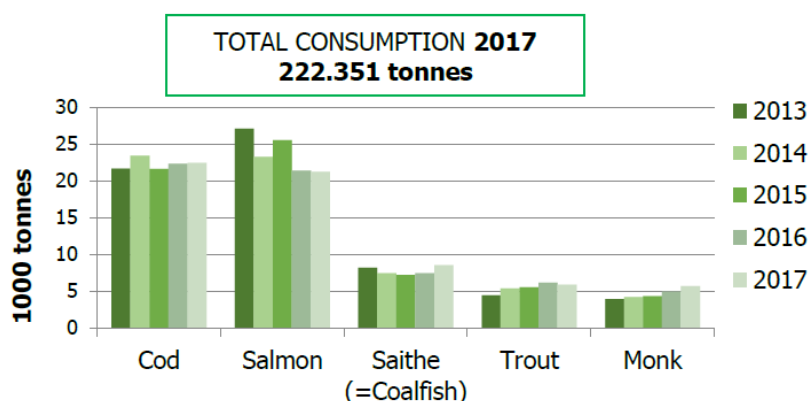
The supply chain for fresh organic fillets packed in MAP is as follows:

- **Import of whole fresh salmon to France** (direct purchase or through traders)
- transport to **secondary processing units** (filleting, cutting and packaging), mostly located in Boulogne sur mer
- transport to **retailing platforms/stores**.

### 4.2 Characteristics of the French market

Salmon and cod prevail among main fresh seafood consumed in France. Consumption of salmon, which historically has been ranking first, has decreased by more than 5.000 tonnes from 2013 to 2016 and amounted to around 21.000 tonnes in 2017.

**Figure 17: Main fresh species consumed by households in France**



Source: EUMOFA – elaboration from EUROPANEL data

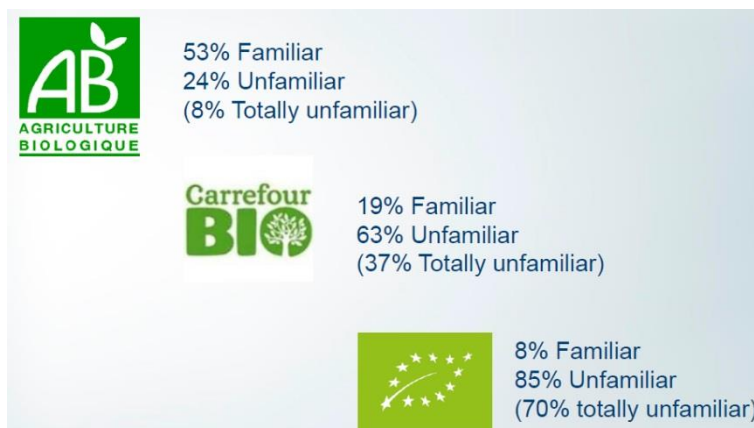
The consumption of organic salmon is not subject to specific monitoring, but the market for organic fish is estimated at around 5.000 tonnes of different products in 2017. Considering that France imported 4.600 tonnes of fresh gutted Irish (organic) salmon in 2017, it can be estimated that organic salmon is the main organic seafood, with shrimps, consumed in France, both fresh and smoked. Smoked organic salmon consumed in 2015 amounted to almost 1.000 tonnes (source ADEPALE).

The demand for organic salmon is still growing in France, despite the fact that the press highlighted the presence of toxic chemicals in organic salmon flesh at levels sometimes higher than those observed in conventional salmon. These elements have been counterbalanced by a TV report<sup>8</sup> questioning the use of ethoxyquin in conventional salmon farming.

French consumers are familiar with Bio-logos, in particular towards the French logo “Agriculture Biologique”, often associated with the EU logo.

<sup>8</sup> “Global saumon” – Thalassa – 25/11/2016. [https://www.huffingtonpost.fr/2016/11/25/global-saumon-lenquete-choc-de-thalassa-et-de-60-millions-de-a\\_21614008/](https://www.huffingtonpost.fr/2016/11/25/global-saumon-lenquete-choc-de-thalassa-et-de-60-millions-de-a_21614008/)

**Figure 18: Familiarity of the Bio-Logos for French consumers**



Source: OrAqua project.

Large scale retailers, hypermarkets and supermarkets, are the main marketing channels for fresh salmon products in France, accounting for 88,2% of the volume and 84,1% of the value in 2017.<sup>9</sup>

### 4.3 Prices along the supply chain in France

#### Import Price

France relies significantly on Irish supply for fresh organic salmon. COMEXT data allows calculating average annual prices for fresh, gutted, whole salmon exported from Ireland and imported to France.

**Table 14 – Average yearly price of salmon imported to France from Ireland**

	2012	2013	2014	2015	2016	2017	2018
<b>Export price IRL</b>	6,45	8,59	6,70	7,38	7,85	9,51	10,54
<b>Import price FR</b>	6,00	6,73	6,49	6,64	7,66	8,99	9,57

Source: EUMOFA elaboration of EUROSTAT-COMEXT data

Export price from Ireland are FOB price and import price in France are CIF price.<sup>10</sup>

Considering purchases of French companies could be done directly and/or through traders, the reference price for Irish salmon imported in France has been estimated as an average of the two values, at 9,30 EUR/kg for 2017.

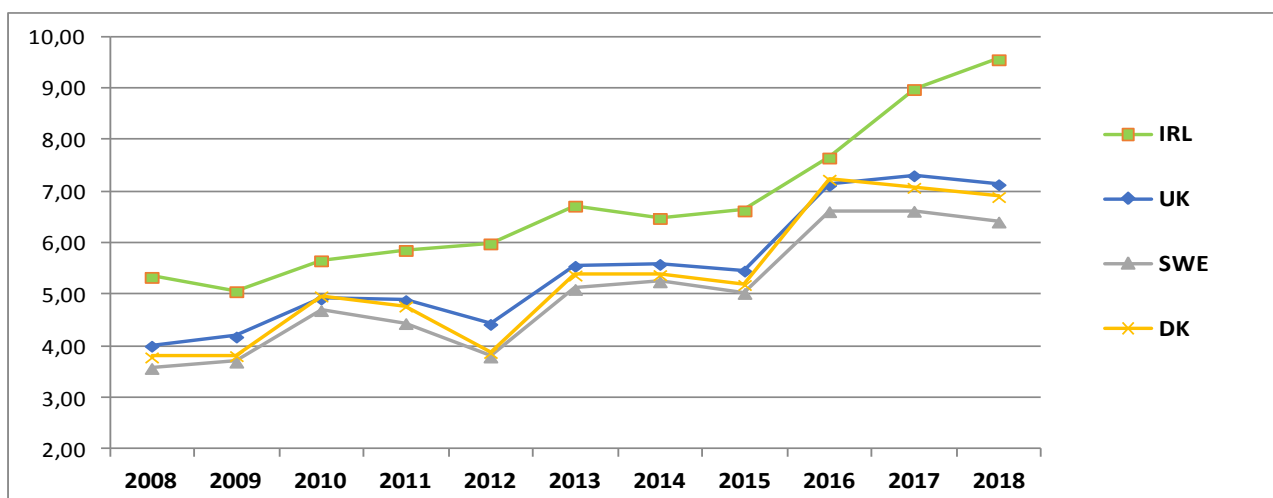
Import prices from Norway and the UK appear much lower than those for Ireland, because they aggregate large volumes of conventional salmon with comparatively small volumes of organic salmon. It is thus impossible to estimate the average import price for organic salmon for these origins.

<sup>9</sup> FranceAgriMer from Kantar Worldpanel.

<sup>10</sup> CIF price (Cost, Insurance and Freight) is always higher than FOB price (Free On Board price, not including Freight)



**Figure 19: Import price of Atlantic salmon in France from four main countries of origin (EUR/kg)**



Source: EUMOFA elaboration of EUROSTAT-COMEXT data

### **Processing costs and margins**

Standard processing yields (see table 1 page 7) are applied for gutting (in Ireland) and filleting (in France, for skin on C-trim fillet).

Other processing costs are estimated on the basis of OrAqua data in % of the final price available to consumers in 2017.

### **Retailing costs and margins**

Costs and margins of large-scale retailers (LSR) are monitored by the Observatory of price and margin in the agriculture and food sector in France. A specific dataset is available for fresh fish counter of LSR. The gross margin of fish counters appears to have decreased from 27,3% in 2013 to 25% in 2017. If transversal (whole store) costs are taken into consideration, the net margin/result appears negative by 5,2% in 2017. It should be noted that the gross margin is higher for self-serve products, at an estimated 35%.

**Table 15. Costs and margins of large retailers (fish counter) –in % of turnover**

	2013	2016
Turnover	100	100
Purchase cost	72,7	75
<i>Gross margin</i>	27,3	25
Staff costs	15,6	15,1
Operational costs	2,4	2,3
<i>Net margin (counter)</i>	9,3	7,6
Other costs (store)	13,7	12,8
<i>Net result</i>	-4,4	-5,2

Source: French observatory of price and margins in the agriculture and food sector.

**Retail price**

Prices of packed organic salmon fillets are not available. Prices of products sold on websites of retailers are thus used as reference for consumer price, for hypermarkets and supermarkets. The following table shows higher prices in supermarkets, in relation to the lower volumes.

The average retail price used as reference for 2017 is calculated from 2018 average price, considering a price decrease of -11% between 2017 and 2018 (observed on retailers' websites), at 39,80 EUR/kg.

**Table 16 - Retail price of packed *darnes* of organic salmon in hypermarkets and supermarkets**

	Brands	Weight (g)	Price per unit (€)	Price/kg	Origin
Hypermarkets	Brand 1	250	8,95	35,80	Ireland or Norway
	Brand 2	280	9,97	35,60	Norway
	Brand 3	250	8,99	35,96	Ireland
Supermarkets	Brand 4	280	11,96	42,71	Scotland
	Brand 5	250	11,95	47,80	Ireland
Discount stores	Brand 6	140	3,79	27,07	Ireland or Scotland

Source: online stores

### 4.4 Costs and margins in the supply chain (origin Ireland)

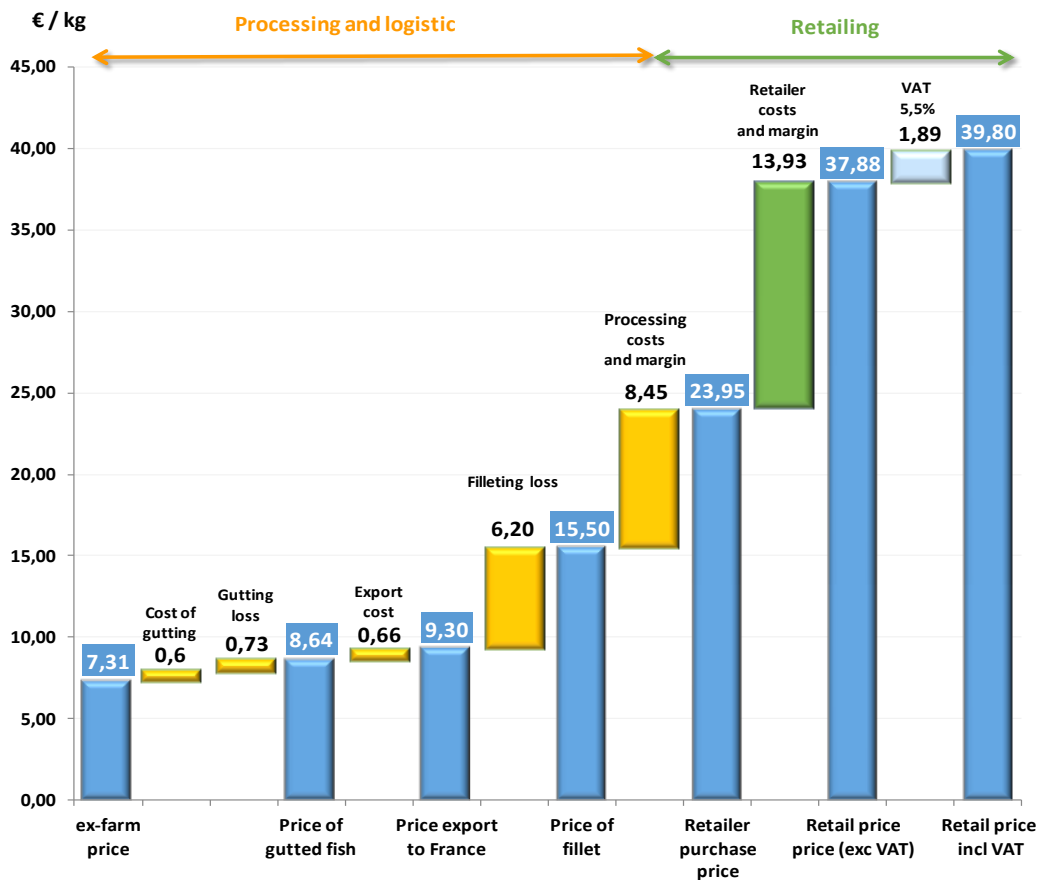
The following estimates result from available price data in the supply chain for packed fillet cuts of Irish fresh organic salmon proposed by large scale retailers (LSR) in France.

**Table 17. Price structure for packed fresh salmon fillets (origin Ireland) in French LSR**

Supplychain	EUR/Kg	% / cons. Price
Ex-farm price	7,31	18,4%
Cost of gutting	0,60	1,5%
Gutting loss (10%)	0,73	1,8%
Price of gutted fish	8,64	21,7%
Export logistic cost	0,66	2%
Price exported to France	9,30	23,4%
Filleting yield 60 %	6,20	16%
Price of fillet	15,50	38,9%
Processing costs + margin	8,45	21,2%
LSR purchase price	23,95	60,2%
LSR costs + margin	13,93	35,0%
Consumer price, exc VAT	37,88	95,2%
VAT - 5,5%	1,89	4,8%
Consumer price	39,80	100,0%

Sources: BIM, COMEXT, OrAqua Survey, Observatoire des marges FAM.

**Figure 20: Price structure for packed fresh salmon fillets (origin Ireland) in French LSR (source Tab. 17)**



## 5 The German market for organic salmon

### 5.1 Structure of the supply chain

Germany does not produce any salmon. All organic salmon is imported from Ireland, the UK (Scotland) and Norway. In EUROSTAT - COMEXT statistics, the volumes of fish imported from Scotland and Norway mix conventional and organic salmon. Organic salmon is not specifically monitored.

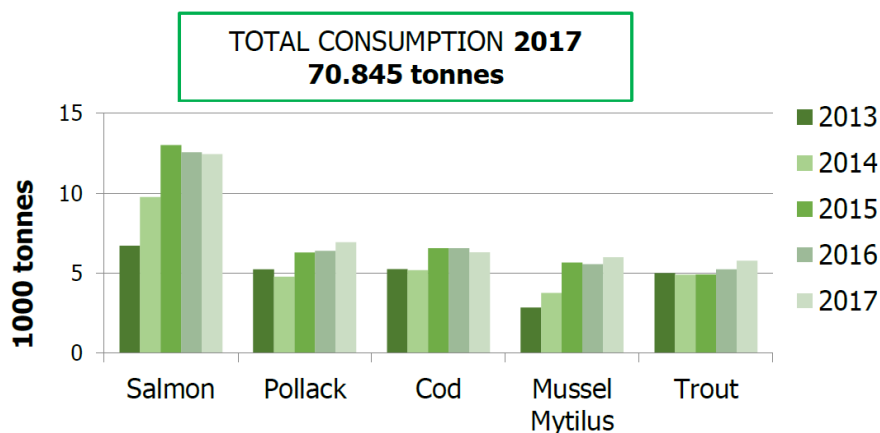
The supply chain for fresh organic fillets packed in MAP is as follows:

- **Import of whole fresh salmon to Germany** (direct purchase or through traders)
- transport to **secondary processing units** (filleting, cutting and packaging)
- transport to **retailing platforms/stores**.

### 5.2 Characteristics of the German market

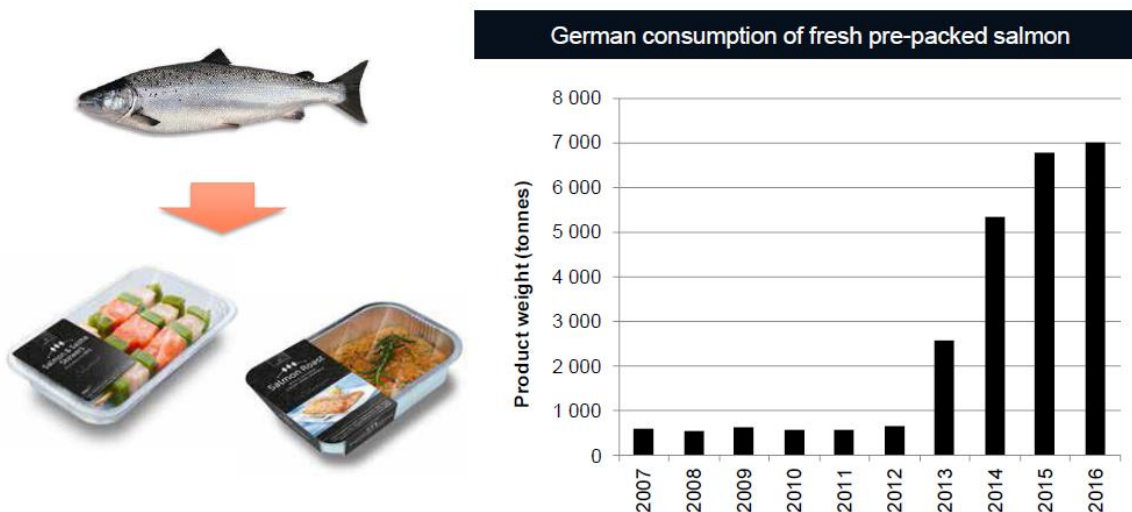
Salmon is the most-consumed fresh fish in Germany, with about 12.500 tonnes in 2017. It increased by almost 6.000 tonnes from 2013 to 2015 and remained steady in 2016-2017.

**Figure 21: Main fresh species consumed by households in Germany**



Source: EUMOFA elaboration of EUROPANEL data

**Figure 22: Evolution of the demand for convenience salmon products in Germany**



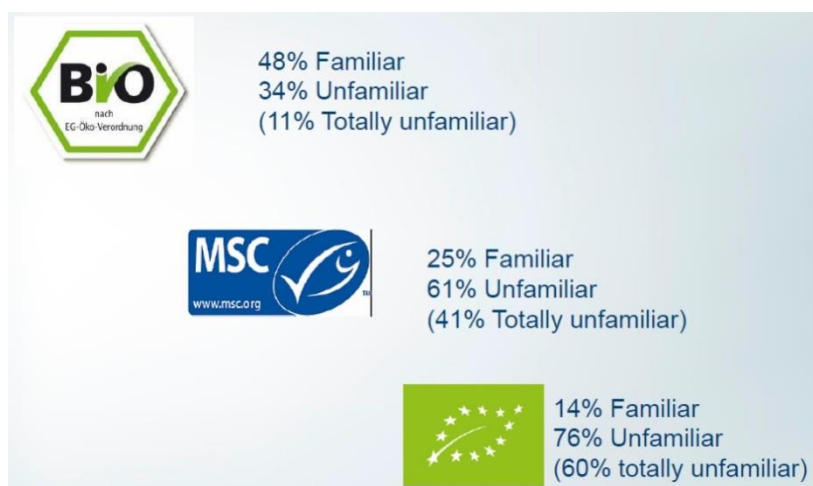
Source: MOWI.

The demand for convenience salmon products (portioned, pre-packed, ready to cook etc.) has been growing fast since 2013 in the German market. Fresh pre-packed salmon products amounted to 7.000 tonnes in 2016 (+ 875%).

Germany ranks second for the consumption of organic fish, with 15.800 tonnes in 2017, among which 800 tonnes of organic salmon from Ireland (representing 480 tonnes of edible weight). The volumes of organic salmon imported from Norway or the UK are not known, as they are not distinguished from conventional salmon in COMEXT.

Germany is the largest EU market for all organic food products in general and German consumers have a good familiarity with different Bio-logos and/or sustainable fish production logos.

**Figure 23: Familiarity of the Bio-Logos for German consumers**



Source: OrAqua project.

### Import Price

**Table 18 – Price of salmon imported from Ireland to Germany (EUR/kg, fresh, gutted)**

	2012	2013	2014	2015	2016	2017	2018
<b>Export price Ireland</b>	9,69	11,01	8,44	8,81	8,59	10,01	10,39
<b>Import price Germany</b>	7,54	8,66	8,46	7,23	8,34	9,24	10,25

Source: EUMOFA elaboration of EUROSTAT-COMEXT data

Export prices from Ireland are FOB prices and import prices in Germany are CIF prices.<sup>11</sup> Considering German companies can purchase directly and/or through traders, the reference price for Irish salmon imported to Germany is estimated as an average of 9,60 EUR/kg for 2017 (rounded average of import and export price). Import prices from Norway and the UK are not relevant because they aggregate large volumes of conventional salmon with comparatively small volumes of organic salmon. It is thus not possible to estimate the average import price for organic salmon for these origins.

### Processing cost and margins

Standard processing yields are applied for gutting (in Ireland) and filleting (60% for skin on C-trim fillet). Other processing costs are estimated on the basis of OrAqua data in % of consumer price.

### Retailing costs and margins

Costs and margins of the retailing sector are not monitored In Germany. They are estimated by difference between sales prices of processors (pre-packed products) and consumer price.

<sup>11</sup> CIF price (Cost, Insurance and Freight) is always higher than FOB price (Free On Board price, not including Freight)

### Retail Price

Price of packed organic salmon fillets is available on websites of different retailers and can be used as reference for consumer price. Significant differences are observed between discount stores (20,00 – 24,00 EUR/kg, origin Norway), supermarkets (40,00 – 50,00 EUR/kg, origin Ireland) and specialized salmon online retailers (37,00 – 69,00 EUR/kg origin Ireland and Scotland).

**Table 19 – Retail price of fresh organic salmon fillets (MAP) in different stores in Germany**

	Brands	Weight (g)	Price per unit (€)	EUR/kg	Origin
Discount stores	Brand 1	200	3,99	19,95	Norway
	Brand 2	250	5,99	23,96	Norway
Supermarkets	Brand 3	300	14,99	49,97	Ireland
	Brand 4	300	11,99	39,97	Ireland
Salmon retailers	Brand 5	400	16,9	42,25	Ireland
	Brand 6	1 200	44,5	37,08	Ireland
	Brand 7	160	8,95	55,93	Ireland, Scotland
	Brand 8	100	6,9	69,00	Ireland

Source: Online shops; specialized press 2018.

The average reference price can be calculated for 2017 based on a price increase of +5,5% (observed on retailers’ websites) between 2017 and 2018. Reference prices are calculated for products sold in two different sales channels:

**Norwegian-origin salmon sold by discount stores: 22,00 EUR/kg**

**Irish-origin salmon sold by supermarkets: 44,00 EUR/kg**

A price transmission analysis is developed for the two product-channel couples in the following pages.



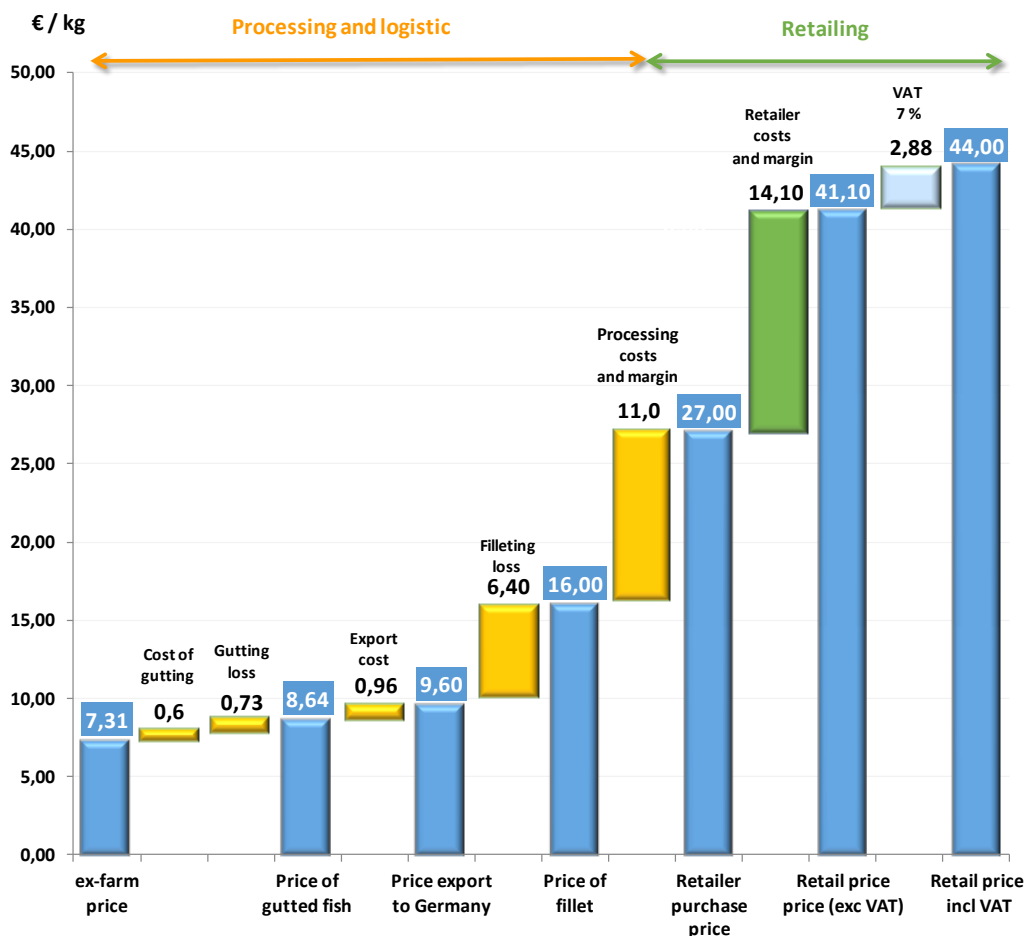
### 5.3 Costs and margin for organic salmon (origin Ireland) in LSR

**Table 20 – Price structure for packed fresh salmon fillets (origin Ireland) sold in German LSR**

Supply chain	EUR/kg	% / cons. Price
Ex-farm price Ireland	7,3	16,6%
Cost of gutting	0,6	1,4%
Gutting loss (10%)	0,7	1,7%
Price of gutted fish	8,6	19,6%
Export logistic cost	1,0	2,3%
Price imported to Germany	9,6	21,8%
Filleting yield 60 %	6,4	14,5%
Price of fillet	16,0	36,4%
Processing costs + margin	11,0	25,0%
LSR purchase price	27,0	61,4%
LSR costs + margin	14,1	32,0%
Consumer price, exc VAT	41,1	93,4%
VAT - 7%	2,9	6,5%
Consumer price	44,0	100,0%

Sources: BIM, COMEXT, OrAqua Survey, Online stores, EUROSTAT.

**Figure 24: Price structure for packed fresh salmon fillets (origin Ireland) sold in German LSR (source tab. 20)**



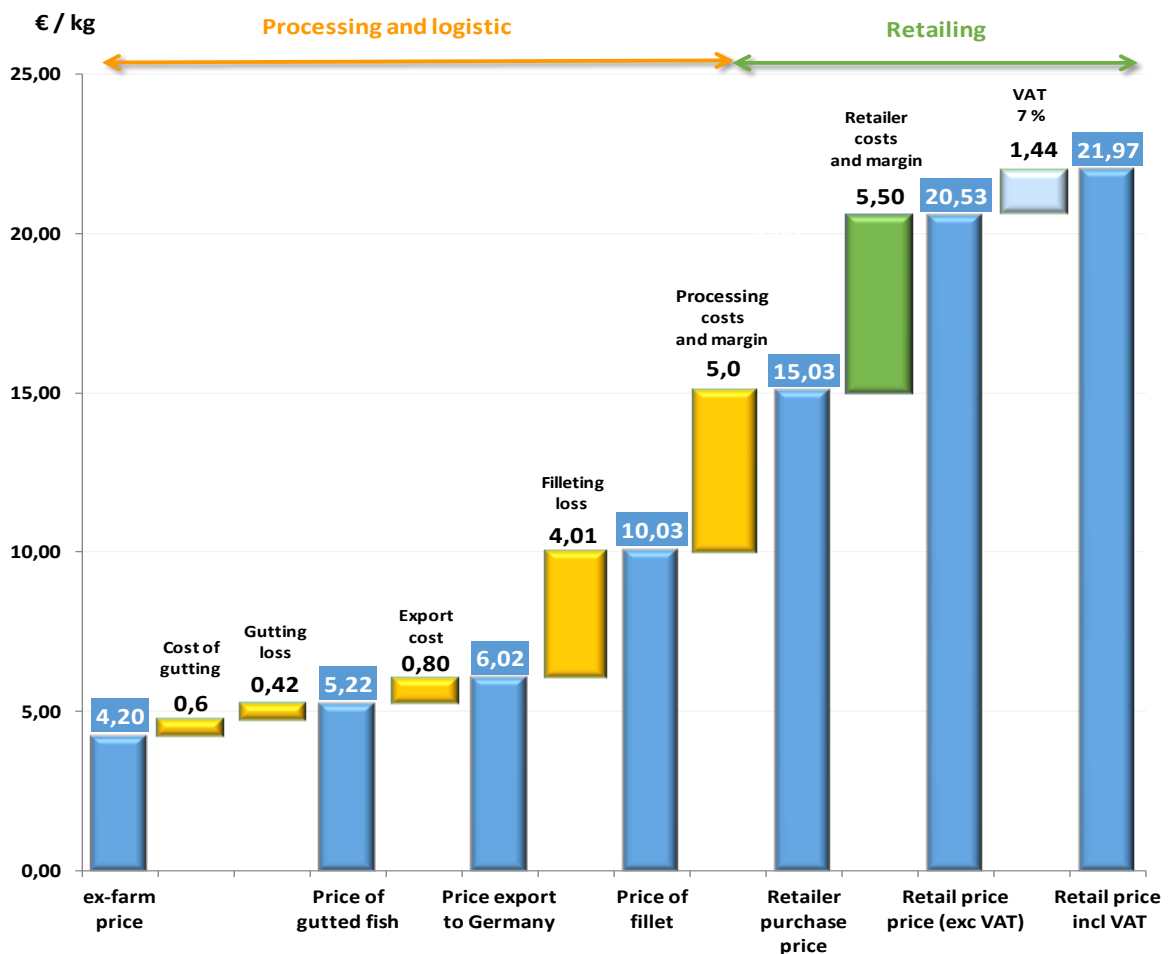
## 5.4 Costs and margins for organic salmon (Norway) in discount stores

**Table 21 – Price structure for Norwegian organic salmon fillet sold in German discount stores (2017)**

Supply chain	EUR/Kg	% / cons. price
Ex-farm price	4,2	19,1%
Cost of gutting	0,6	2,7%
Gutting loss (10%)	0,4	1,9%
Price of gutted fish	5,2	23,8%
Export logistic cost	0,8	3,6%
Price exported to Germany	6,0	27,4%
Filleting yield 60 %	4,0	18,3%
Price of fillet	10,0	45,7%
Processing costs + margin	5,0	22,8%
LSR purchase price	15,0	68,4%
LSR costs + margin	5,5	25,0%
Consumer price, exc VAT	20,5	93,5%
VAT - 7%	1,4	6,5%
Consumer price	22,0	100,0%

Sources: COMEXT, OrAqua Survey, Online stores, EUROSTAT.

**Figure 25: Price structure for Norwegian organic salmon fillet in German discount stores (source tab.21)**





## 6 The UK market for organic salmon

### 6.1 Structure of the supply chain

Scottish aquaculture produced around 3.000 tonnes of organic salmon in 2017. Organic salmon is also imported from Ireland and Norway, but trade statistics available mix conventional and organic salmon.

Two different supply chains for fresh organic fillets packed in MAP coexist in the UK, both analysed within this study.

#### **Scottish supply chain:**

- **Production farms – primary processing** (in-home or in external processing units)
- transport to **secondary processing units** (filleting, cutting and packaging)
- transport to **retailing platforms/stores**

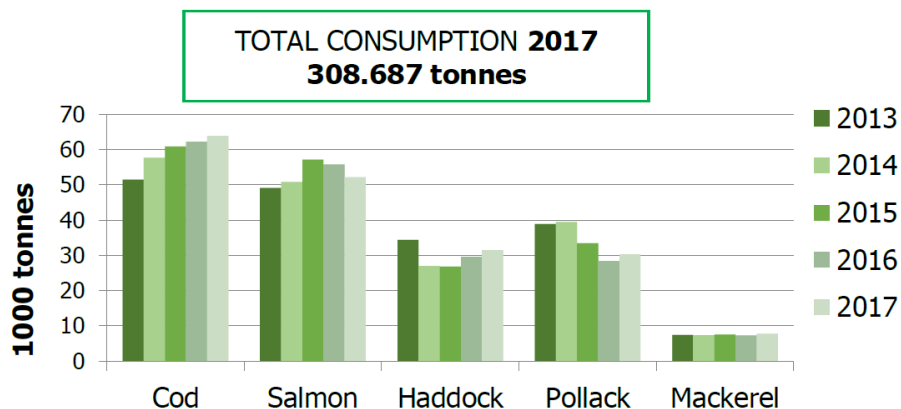
#### **Import supply chain:**

- **Import of whole fresh salmon to the UK** (traders)
- transport to **secondary processing units** (filleting, cutting and packaging)
- transport to **retailing platforms/stores**

### 6.2 Characteristics of the UK market

In 2017, the United Kingdom was the second largest EU consumer of fresh fish in value and the third in volume. Cod ranks first among main species consumed in terms of volume, followed by salmon (almost 50.000 tonnes in 2017).

**Figure 26: Main fresh species consumed by households in the UK**

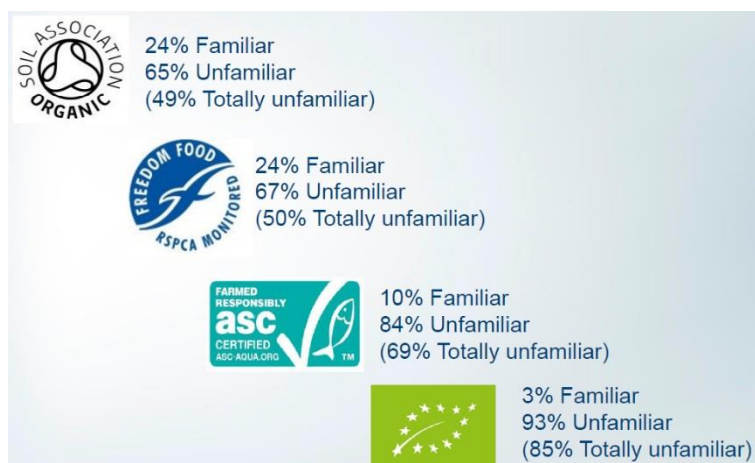


Source: EUMOFA – elaboration from EUROPANEL data.

According to Euromonitor, the UK is the largest market for organic fish in the EU, with 17.500 tonnes of seafood products in 2017. The consumption of organic fish grew by +40% between 2013 and 2017. The share of organic salmon is not available.

British consumers appear to have more familiarity with national organic logos or sustainable production system – logos than with the EU Bio-logo.

**Figure 27: Familiarity of the Bio-Logos for British consumers**



Source: OrAqua Project.

### **Ex-Farm Price**

The ex-farm sales price of organic salmon in Scotland is estimated from OrAqua survey results, using trends estimates in costs and price (see chapter **Errore. L'origine riferimento non è stata trovata.**).

Ex-farm price for Scottish organic salmon is estimated at 5,63 € in 2017.

### **Import Price**

The comparison of COMEXT data for import-export between Ireland and the UK from 2012 to 2018 reveals discrepancies between data. This is particularly so for the export price from Ireland in 2013 and the UK import price from 2013 to 2015.

The reference price for Irish salmon imported in the UK is estimated as an average of 9,00 EUR/kg for 2017.

**Table 22 – Average yearly price of salmon imported from Ireland to the UK (EUR/kg)**

	2012	2013	2014	2015	2016	2017	2018
<b>Export price Ireland</b>	4,36	1,65	7,12	8,73	7,41	6,00	8,65
<b>Import price UK</b>	5,86	3,98	1,38	3,09	7,54	8,39	9,37

Source: EUMOFA elaboration based on EUROSTAT-COMEXT data

### **Processing cost and margins**

Standard processing yields are applied for gutting (10%) and filleting (60% for skin on C-trim fillet). Other processing costs are estimated on the basis of OrAqua calculations adjusted on price growth basis.

### **Retailing costs and margins**

Costs and margins of the retailing sector are not monitored in the UK for fish counter. They are estimated by difference between sales prices of processors (pre-packed products) and consumer price.

### **Retail Price**

Very few prices for pre-packed organic salmon fillets are available online for supermarkets in the UK. Only Waitrose and Tesco provide data. According to these online data, the reference retail price for 2017 is estimated at 34,00EUR/kg.

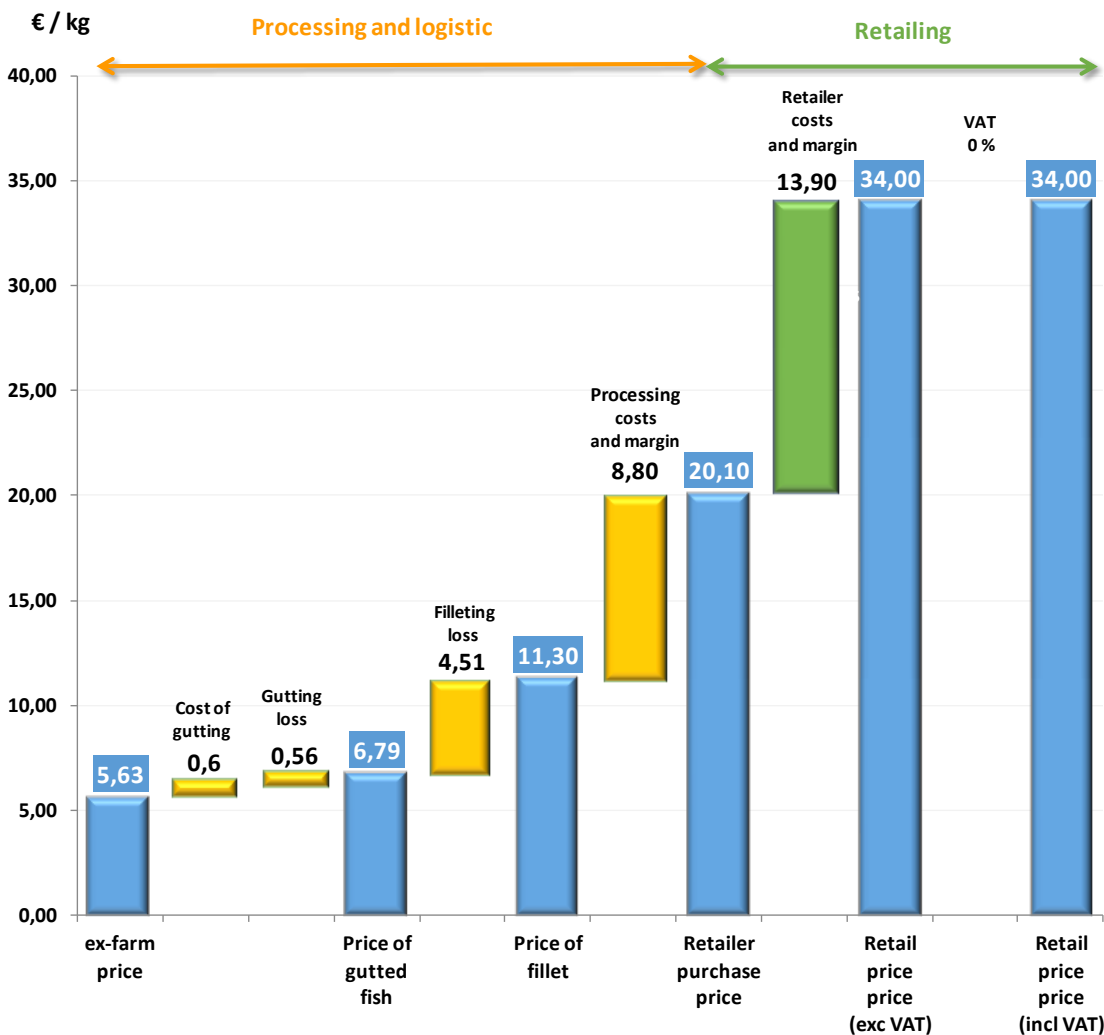
### 6.3 Costs and margins for organic salmon (origin Scotland) in LSR

**Table 23 – Price structure for Scottish organic salmon fillet sold in UK Large retailers (2017)**

Supply chainfresh	EUR/Kg	% / cons. price
Ex-farm price	5,63	16,6%
Cost of gutting	0,60	1,8%
Gutting loss (10%)	0,56	1,7%
Price of gutted fish	6,79	20,0%
Filleting yield 60 %	4,51	13,3%
Price of fillet	11,30	33,2%
Processing costs + margin	8,80	25,9%
LSR purchase price	20,10	59,1%
LSR costs + margin	13,90	40,9%
Consumer price, exc VAT	34,00	100,0%
VAT - zero rate		
Consumer price	34,00	100,0%

Sources: COMEXT, OrAqua Survey, Online stores, EUROSTAT.

**Figure 28: Price structure for Scottish fresh organic salmon fillet sold in UK Large retailers (source Tab.23)**



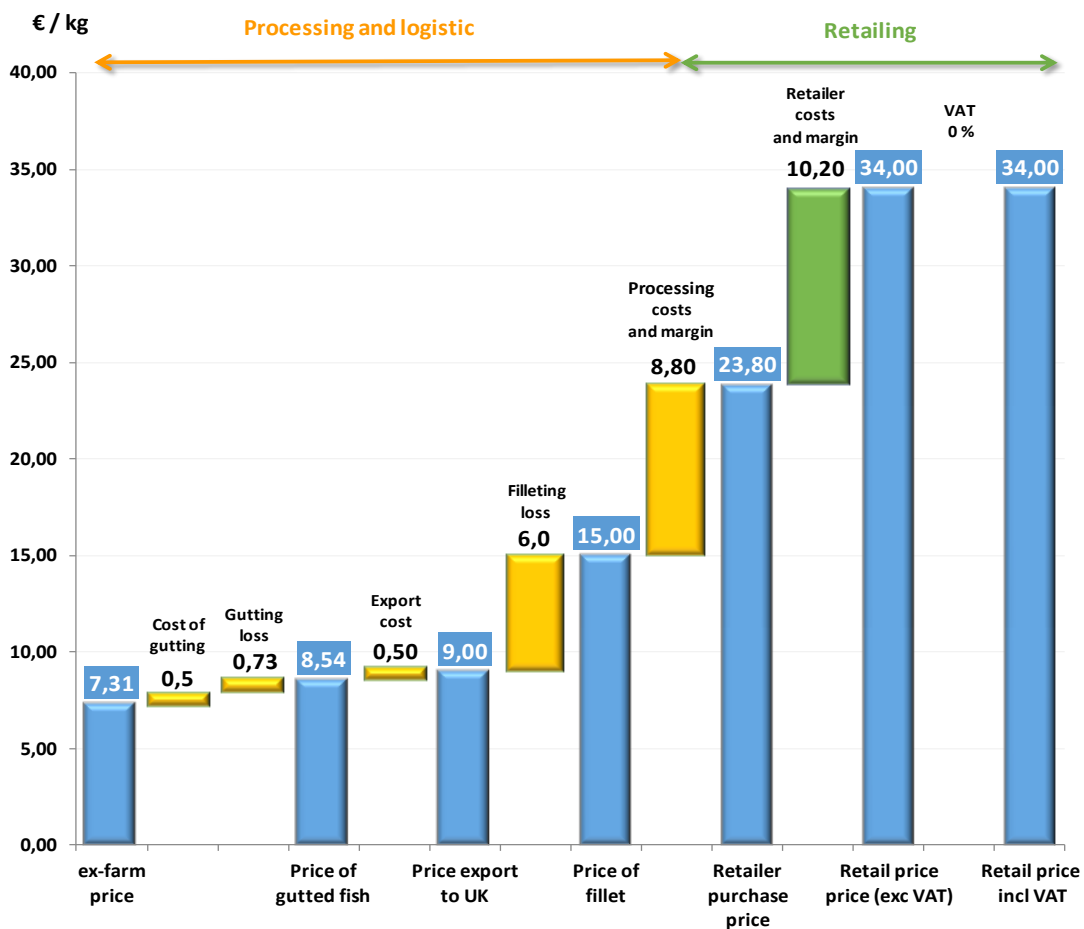
## 6.4 Costs and margins for organic salmon (origin Ireland) in LSR

**Table 24 – Price structure for fresh Irish organic salmon sold in UK LSR (2017)**

Supplychain	EUR/Kg	% / cons. price
Ex-farm price	7,3	21,5%
Cost of gutting	0,6	1,8%
Gutting loss (10%)	0,7	2,2%
Price of gutted fish	8,6	25,4%
Export logistic cost	0,5	1,5%
Price exported to the UK	9,1	26,8%
Filleting yield 60 %	6,1	0,0%
Price of fillet	15,2	44,6%
Processing costs + margins	8,8	25,9%
LSR purchase price	24,0	70,5%
LSR costs + margin	10,0	29,4%
Consumer price, exc VAT	34,0	99,9%
VAT - zero rate	0,0	0,0%
Consumer price	34,0	100,0%

Sources: BIM, COMEXT, OrAqua Survey, Online stores, EUROSTAT.

**Figure 29: Price structure for fresh Irish organic salmon sold in UK LSR (source Tab.24)**



## 7 Conclusion on price structure in different markets

The following table and figure present a comparison of price structure of the product in different supply chains and different Member States of the EU analysed in this report, and the repartition of value between actors.

The comparison between prices proposed to consumers in the different countries and supply chains shows:

- A wide range of price in Germany, from 22,00 EUR/kg in discount stores (Norwegian fish) to 44,00 EUR/kg in LSR (Irish fish), not surveyed in the other countries analysed;
- In all countries, a relationship between the final consumer price and the distance between the production area and the final market (logistic costs), i.e. a higher distance means a higher final cost of the product;
- In all countries, a relationship between the ex-farm price of salmon from different origins and the consumer price. Discount products can be offered in Germany at a lower price when the raw material processed originated from Norwegian salmon, with an ex-farm price 43% cheaper than Irish salmon.

**Table 25 – Price structure of organic salmon packed fillets in different supply chains (EUR/kg)**  
**LSR: large-scale retailers; DS: Discounts**

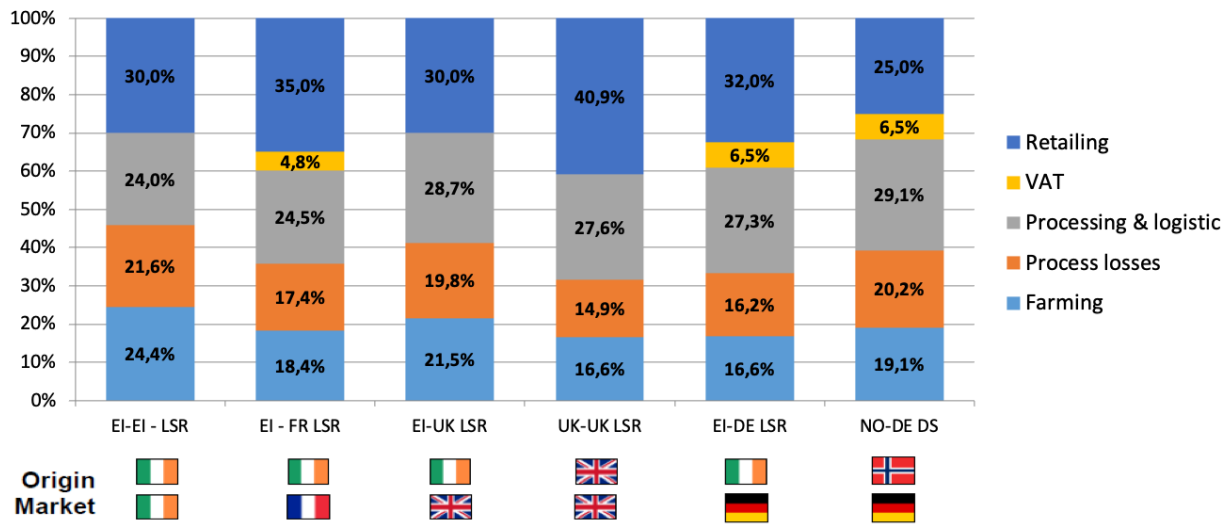
Supply chain	Ireland	France	United Kingdom		Germany	
	orig.: IE sold in IE LSR	orig.: IE sold in FR LSR	orig.: IE sold in UK LSR	orig.: UK sold in UK LSR	orig.: IE sold in DE LSR	orig.: NO sold in DE DS
Ex farm price	7,3	7,3	7,3	5,6	7,3	4,2
Cost of gutting	0,6	0,6	0,6	0,6	0,6	0,6
Gutting loss (10%)	0,7	0,7	0,7	0,6	0,7	0,4
Price of gutted fish	8,6	8,6	8,6	6,8	8,6	5,2
Export logistic cost		0,7	0,5		1,0	0,8
Price exported to final market		9,3	9,1		9,6	6,0
Filleting yield 60 %	5,8	6,2	6,1	4,5	6,4	4,0
Price of fillet	14,4	15,5	15,2	11,3	16,0	10,0
Processing costs + margins	6,6	8,4	8,8	8,8	11,0	5,0
LSR purchase price	21,0	23,9	24,0	20,1	27,0	15,0
<b>LSR costs + margin</b>	<b>9,0</b>	<b>13,9</b>	<b>10,0</b>	<b>13,9</b>	<b>14,1</b>	<b>5,5</b>
Consumer price exc VAT	30,0	37,9	34,0	34,0	41,1	20,5
VAT		1,9			2,9	1,4
Consumer price	30,0	39,8	34,0	34,0	44,00	22,0

Sources: Analysis of previous chapters

Concerning the value distribution among actors involved in the price formation of this product (figure 30):

- Salmon farmers obtain between 17% and 24% of the value of the price at consumer level depending on the importance of logistics costs (domestic market / export) and the final consumer price.
- Logistics and processing, which do not differ technically in all surveyed countries, represent between 24% and 29% of the total value depending on the ex-farm price and logistic costs.
- Process losses account for 15% up to 22% of the final value depending on freight costs and competitiveness of processing units (size, cost structures in the different countries, etc.).

**Figure 30: Comparison of value distribution among actors involved in the price formation of organic salmon**

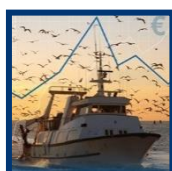


Sources: Analysis of previous chapters

- Taxes have a significant influence on consumer price. VAT is at 0% in Ireland and the UK while it represents 4,8% of the consumer price in France and 6,5% in Germany.
- Large retailing stores obtain between 30% and 40% of the total value, and discount stores (Germany) only 25%.

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