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Commission



EU CONSUMER HABITS REGARDING FISHERY AND AQUACULTURE PRODUCTS

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1 Context and purpose of the Study

Under the new common organisation of the markets (CMO) in fishery and aquaculture products (FAPs), consumers play a pivotal role: not only they should be enabled to make informed choices, but a more “sustainable consumption” is also to be pursued. In the same vein, the European Maritime and Fisheries Fund (EMFF) also envisages among its priorities to foster marketing and processing, supporting and funding initiatives aimed at improving the conditions for the placing of fishery and aquaculture products (FAPs) on the market and at promoting the overall quality of the products marketed.

On the other hand, targeted policies need a preliminary understanding of the sector in which they are called to operate, and specifically as regards the preferences and purchasing behaviour of consumers in the EU. Information available across different countries is scattered and fragmented, and not all EU Member States have a tradition of monitoring the market for FAPs.

Based on these needs, and in order to support the appropriate implementation of the Common Fisheries Policy (CFP) and the CMO, the European Commission – DG MARE launched a study aimed at surveying and analysing EU consumer attitudes and habits regarding FAPs. This Study was launched within the European Market Observatory for Fisheries and Aquaculture products (EUMOFA, www.eumofa.eu), and has been integrated with findings of the Eurobarometer survey on EU consumer habits regarding FAPs run in June 2016 in all EU Member States. More details on methodology adopted are reported below.

2 Methodological steps of the Study

2.1 Overall methodology

The main purpose of this study was to survey and analyse the two components of the FAP market, namely the supply, represented in this specific instance by retailers, and the demand, represented by consumers, and corroborate the analysis with further qualitative and quantitative data on consumption trends in all EU Member States.

Bearing in mind this overarching purpose, the study has been structured into four Tasks:

- ➔ **Task 1 - “Mapping and analysis of existing studies on consumer habits”**, that has been based upon the following activities:
 - Review of studies compiled in the 2008 survey to check whether authors/institutions listed at that time have continued to produce analyses and studies on the same topics.
 - Collection of market data (type and presentation of products purchased, distribution channels, seasonality, ...) through desk research (including EUMOFA library already, which already has market data on major consumer countries).

Findings of this Task are reported in Annex 1. Furthermore, all data have been reported in dedicated fact sheets for all EU Member states.

- ➔ **Task 2 - Retailer survey**, aimed at evaluating the evolution of the offer and its adaptation to consumer needs and expectations by surveying information through a set of interviews to retailers (i.e. Large scale retailers) and fishmongers. Out of a total of 67 interviews planned, 62 interviews have been carried out, 53 with large-scale retailers (LSR) and 9 with national fishmongers’ associations. Five LSR refused to be interviewed in different countries.

Findings of this Task have been reported in a specific report (Annex 2) analysing all feedbacks received from interviews.

➔ **Task 3 - Consumer survey - Mapping of national campaigns**, which included:

- an inventory of all national campaigns aimed at promoting FAPs, carried out at Member State or EU level;
- an analysis of the results of the Eurobarometer survey for all EU countries.

Specifically as regards the second point, it should be recalled here that the European Commission entrusted Eurobarometer to carry out an opinion poll on a sample of consumers in all EU countries, in order to survey (i) consumer habits regarding fishery and aquaculture, (ii) what influences consumption, (iii) reasons for buying or eating FAPs, or not, (iv) consumer preference from different aspects (wild vs farmed, marine vs freshwater, etc.), and (v) consumers' opinion on information (i.e. labels) accompanying FAPs. The Eurobarometer survey was carried out on 27.818 EU citizens from different social and demographic categories and results of the analysis have been reported in the "Special Eurobarometer 450 – Fishery and aquaculture products", June 2016.

➔ **Task 4 - Analysis of results – recommendations**, whose purpose is to gather and further elaborate information, analysis and conclusions obtained in the previous tasks. More specifically, this report examines in depth the information originating from the Eurobarometer survey, comparing and combining these findings with those originated from the previous Tasks 1, 2 and 3. The report consists of two parts: the first part analyses a general framework, at EU and at sub-regional levels and mainly focuses on the findings of the previous tasks, the second part summarises the main information and findings at Member State level, through fact sheets, attached to this document.

The final output of this task is to provide overall conclusions on FAPs consumers in the EU and define to what extent consumer attitudes are reflected in their purchasing choices and to what degree the EU market is responsive to consumer expectations. On this basis, this study should contribute to a thorough understanding of the EU consumer profile(s) and of the market adaptation to his/her (their) needs.

2.2 Problems encountered and limits

In carrying out the activities envisaged for each task, several limits and problems emerged. In general, it is worth recalling that not all Member States analyse or monitor their fishery and aquaculture sector in the same manner, and especially consumption. Indeed information across EU countries is not homogeneously available and obviously the sector is better monitored where the supply chain has a greater value or where consumption is more relevant.

On the other hand, the EUMOFA is contributing to overcome this limit, creating a wide basis of data and information on the fishery and aquaculture sector, and also on consumption, providing therefore a useful basis for analysing and comparing consumption patterns across countries.

Other limits emerged in the implementation of Task 2 (i.e. interviews to retailers). One of the most significant limits was the difficulty to schedule meetings with retailers, due to availability of staff in charge of purchases or willingness to share information. Furthermore, some retailers did not answer all questions because of the company's confidentiality policy. For this reason, the level of representativeness is not the same for all issues and for all countries.

Another limit encountered in Task 2 was the coverage of the full product scope (fresh, frozen, smoked, canned, prepared...) as LSR usually have different purchase departments for these different product categories. We thus targeted the persons in charge of fresh product purchases, who seemed most likely to have a specific understanding of fish, while frozen fish and canned fish often depend on wider departments including all kinds of products (e.g. meat, fruit and vegetables).

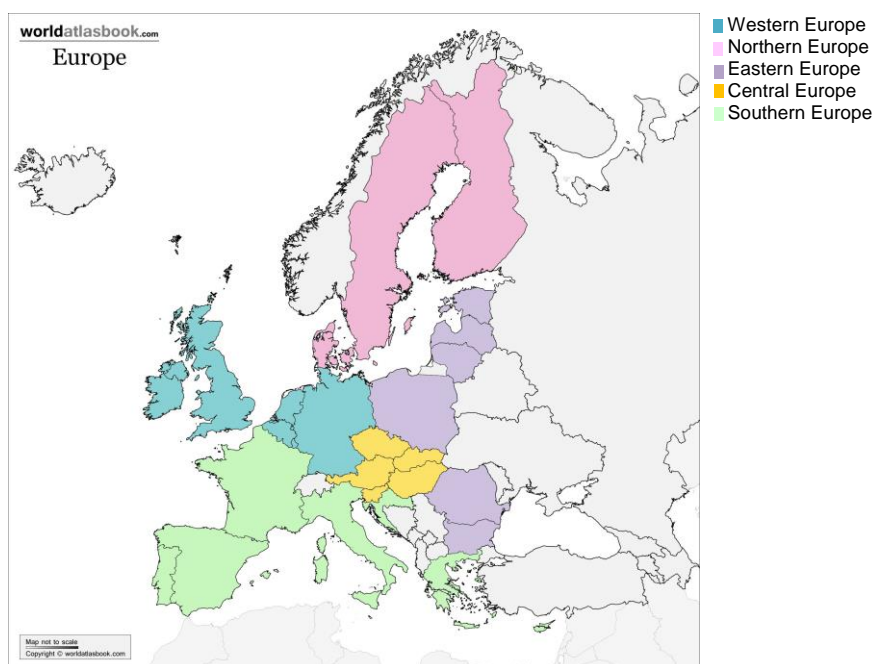
2.3 Identification of European sub-regions

Based on previous studies and especially on the 2008 study “Image survey on the perception of fishery and aquaculture products”, five sub-regions have been identified at EU level based on common consumption features. These sub-regions are presented in the following table and map. This division has been used for the purpose of carrying out the individual tasks under the study.

Table 1 – EU Member States’ breakdown by sub-regions

Western EU	Northern EU	Central EU	Eastern EU	Southern EU
Ireland (IE)	Denmark (DK)	Austria (AT)	Lithuania (LT)	Portugal (PT)
United Kingdom (UK)	Sweden (SE)	Czech Republic (CZ)	Latvia (LV)	Spain (ES)
Netherlands (NL)	Finland (FI)	Slovakia (SK)	Estonia (EE)	France (FR)
Belgium (BE)		Slovenia (SI)	Romania (RO)	Italy (IT)
Luxemburg (LU)		Hungary (HU)	Bulgaria (BG)	Croatia (HR)
Germany (DE)			Poland (PL)	Greece (EL)
				Cyprus (CY)
				Malta (MT)

Figure 1 - Map of the European sub-regions



3 Review of literature on consumer habits and of national campaigns

3.1 Literature review and data availability

The analysis of existing information revealed that in 25 EU Member States there are analyses of consumer habits. Only in Cyprus, Malta and Slovakia no study of relevance has been found. In general, however, there is a wide difference across countries when it comes to research of consumer habits. These differences include the extent to which studies on consumer habits are carried out at all, the scope of the studies, the methodology used and the timing of the studies.

In general, the regularity of studies is low, while market data and statistics, when available, are provided on a more regular basis.

As the consumption of FAPs differs significantly between Member States, the focus on consumer habits regarding FAPs also varies: for some Member States, production (fisheries and/or aquaculture) and consumption issues are important, while for others both are not or little important.

It is interesting to note that in some important markets for FAPs, which also have an important internal production (both from fisheries and aquaculture), a higher availability of studies on consumer habits has been found, e.g. in the UK, compared to other markets where internal production and consumption is low, e.g. as in Hungary. Furthermore, in several Member States analyses are made, but they are not publicly available, e.g. reports from Seafish (UK) which are available only to UK fish levy payers.

In the mapping of existing studies of consumer habits, approximately 175 existing studies have been analysed. Among these, 10 studies covered more than 1 Member State, and 1 covered the whole EU.

In general, the studies of consumer habits covered the following topics and findings:

- **Effect of health risk vs. benefit perception of seafood consumption**, and information related to this: in general, studies found that consumption is less affected by risk-benefit perceptions than by traditions and habits.
- **Consumer use of information (mandatory or other) and interest in potential information placed on labels**: studies found that there is a high use of on-label information and consumers are interested in information. Consumers are most familiar with expiry date, price, species name and weight and they feel able to derive clear quality expectations from the information the labels convey. Consumers display the strongest interest in additional information, such as safety guarantee and quality marks for seafood. Cross-country differences in both use and interest in information are observed.
- **Image and perceptions related to farmed vs wild fish and effect on consumption**: studies found that consumers have in general a very positive image of fish products, especially with respect to health benefits. Fish origin seems to be of limited importance; however, wild fish is preferred when compared with farmed fish.
- **Reasons and barriers to eating fish**: the main reasons for eating fish are health and taste, while the main barriers are price perception, smell when cooking fish and the fact that fish does not deliver the same level of satiety as meat. Significant differences across Member States are found with respect to preparation skills and the use of quality cues¹.

¹ Cues are pieces of information such as colour, smell, brand or price used to build quality expectations, and may be divided into intrinsic and extrinsic cues.

The analysis on literature has been structured by sub-region. The main results are reported in the table below. Detailed results are presented in the following chapters, matching results of all tasks and providing a holistic analysis of consumer habits in the EU.

Eastern EU countries

- Internal supply is important and influences/affects consumer habits due to traditional local/regional fisheries and FAPs' availability.
- Consumption of FAPs is low, largely related to local species as carp. The interest in local and traditional products is diminishing – especially among the younger consumers.
- Price is an important factor for purchase, many consumers consider FAPs as not affordable. However, consumption of fresh products and convenience products is increasing.
- Growing imports from other regions increases the availability of FAPs, which in turn seems to increase consumption of FAPs.
- There is an increasing focus on health benefits resulting from fish consumption.

Central EU countries

- Central EU countries form a landlocked region with quite low consumption of FAPs, albeit increasing. Locally produced carp is an important species, especially in Hungary and in the Czech Republic and consumption is influenced by tradition.
- Availability of saltwater fish depends on imports from other regions. Growing import increases the availability of FAPs and changes consumer habits, although traditional habits are strong.
- Consumption and purchase is value-oriented (price sensitive).
- Urbanization increases demand for convenience products.

Western EU countries

- These countries have a significant own supply both from fisheries and from aquaculture, and consumption of FAPs is an important part of their culinary traditions.
- Fish consumption is relatively high and consumption of products from aquaculture is trending upwards.
- Consumption is value-oriented (price sensitive).
- Purchase in traditional fish markets or specialized fish shops are down, while buying at super- and hypermarkets is increasingly common.
- Higher availability of fresh fish, convenience products and sushi changes consumption habits from more traditional meals, especially among the younger consumers
- Expenses per capita are increasing, but consumption per capita is down in UK.
- There is an increasing focus on health benefits and sustainability.
- Communication with consumers through social networks is increasing.

Northern EU countries

- Fish consumption is highly dependent on imports.
- Consumption is relatively low, well below EU average.
- FAPs are generally considered expensive products.
- Consumers are increasingly aware of sustainability issues.
- There is an increasing interest in FAPs due to higher availability, fresh fish consumption specifically has increased in parallel to FAPs' availability.

Southern EU countries

- There is a large diversity within these countries regarding fish consumption, e.g. Croatia has a fish consumption level well below EU average, while Portugal is well above.
 - All countries have an important self-supply of FAPs.
 - Price seems to be an important consumption driver.
-
-

3.2 Review of national campaigns and main findings

Whether carried out by public authority or by private operators or organisations, campaigns are a well-developed and widespread instrument to promote fishery and aquaculture products.

The survey and the analysis of promotional campaigns of fishery and aquaculture products carried out in different Member States revealed differences in the scope, number, and nature of the campaigns. In general, however, their objective is to **increase the consumption of fishery and aquaculture products by raising consumer awareness of the products' health/nutritional benefits in the human diet.**

The **main findings** regarding the national campaigns include the following:

- A total of 685 promotional campaigns and projects² **to promote consumption of fishery and aquaculture products and to improve the image of these products** were carried out between 2007 and 2015 in 26 EU Member States. No relevant campaigns were carried out in 2 EU Member States (Austria and Luxembourg).
- Southern European countries organised the largest number of promotional campaigns, and the broadest ones. Spain had by far the most campaigns as well as the largest scope of activities. Spain was responsible for the majority of the campaigns run both in the Southern EU sub-region and across the EU. Its EFF operational programme in 2007-2013 focused on improving the competitiveness and productivity of the fishing industry, **promoting fishery and aquaculture products and securing their positive image.**
- France, Portugal, and Italy's many campaigns focused on **strengthening the image of local fishery products**, highlighting **underutilised regional species** as a potential driver of their regional and national economic development.
- Eastern and Central EU countries with large aquaculture industries carried out many promotional campaigns with broad scopes. Poland, Romania, and Bulgaria focused their campaigns on **improving the image of fishery and aquaculture products, highlighting farmed domestic species.**
- The overall objective for all Member States was **to increase consumption of fishery products and raise public awareness of the benefits of fishery and aquaculture products in the human diet.** In several countries across the EU, the primary goal of the campaigns was **to increase the demand and consumption of fishery and aquaculture products caught/farmed in a sustainable way taking into consideration environmental aspects.** Training and educational programmes were developed **to raise consumer awareness of quality, sustainability and safety aspects of fishery and aquaculture products.**

Detailed results are reported within the report, matching results of all Tasks and providing a holistic analysis of consumer habits in the EU. An in-depth analysis of promotional campaigns and market trend has been also developed in the box in § 4.1.

² The total number of promotional campaigns also includes promotional projects due to the specific campaign encoding system in Spain and France.

4 Per capita consumption and expenditure trends

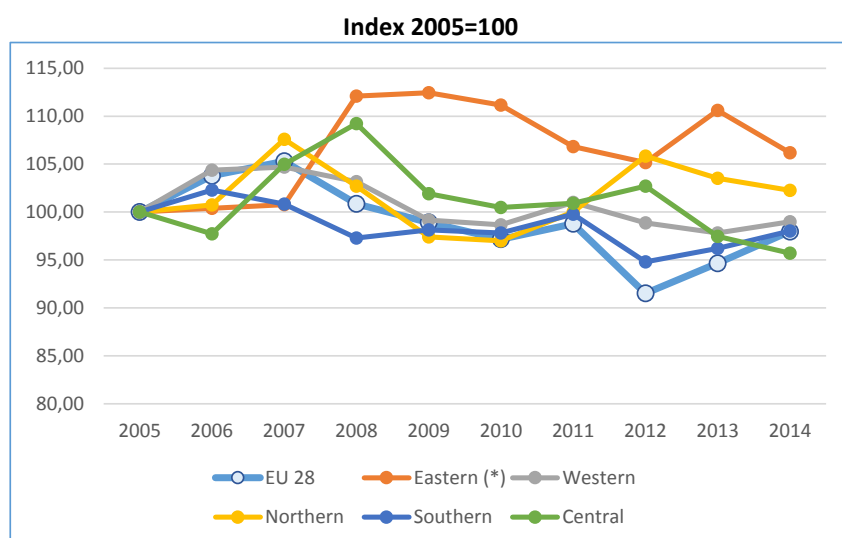
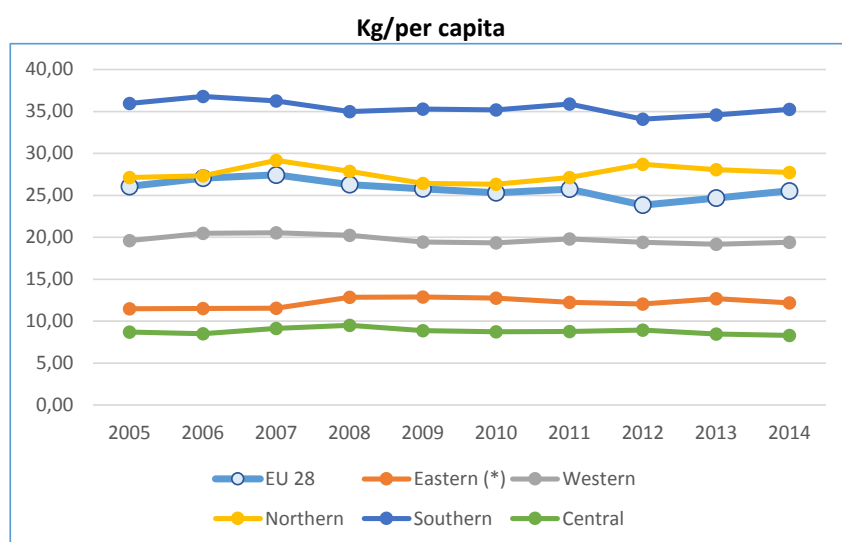
In this chapter the development of per capita consumption (in live weight equivalent) and the per capita purchase of fishery and aquaculture products are analysed for the 2005-2014 period. The chapter also examines the consumption / expenditure ratio.

4.1 Per capita consumption trends

The evolution of per capita consumption of fishery products (in kg live weight equivalent) has been analysed based on data extrapolated from Eurostat and, for aquaculture, FAO, elaborated by the EUMOFA.

The results show that the average per capita consumption in the EU is around 25,8 kg (on average between 2005 and 2014), with a negative trend registered between 2007 and 2012 and a recovery recorded in 2013 and 2014.

Table 2 - Consumption of fish, seafood per capita, EU-28 and sub-regions (live weight equivalent)



(*) NB: for BG and RO 2005 and 2006 data are missing. In order to complete the aggregate Eastern EU, for these two years, 2007 data have been used.

The EU average is summing up very divergent contexts and consumption behaviours surveyed at Member State and at sub-regional levels. The sub-regions even present remarkable differences with the EU average, in a range between +37% (Southern EU) and -66% (Central EU) for the entire period analysed.

Table 3 - Differences in % between Sub-regions' per capita consumption and the EU average

	2005	2014	Average 2005-2014
Eastern (*)	-56,0%	-52,3%	-52,6%
Western	-24,8%	-24,0%	-23,4%
Northern	4,1%	8,7%	7,0%
Southern	38,0%	38,0%	37,4%
Central	-66,6%	-67,4%	-65,9%

(*)NB: for BG and RO 2005 and 2006 data are missing. In order to complete the aggregate Eastern EU, for these two years, 2007 data have been used.

Looking at historical series, it is possible to note that divergences from the EU average have been progressively reduced, with an overall tendency to come closer to the EU average, except for Northern EU countries. This could be due to different values of the "Annual Average Growth Rate"³, which shows positive results for Northern and Eastern EU countries and negative results for the others, including for the EU as a whole.

Annual Average Growth Rate of per capita consumption for the period 2005-2014

	AAGR %
EU	-1,0%
South	-0,5%
North	0,14%
Western	-0,5%
Eastern	0,8%
Central	-0,5%

4.2 Consumption trends and national promotional campaigns

Comparing per capita consumption in each EU Member State with national campaigns as surveyed in Task 3, some considerations are worth mentioning. The table below summarises the average per-capita consumption at the beginning (2005) and at the end (2014) of the period analysed, together with the Annual Average Growth Rate (%).

Furthermore, the table shows the Member States where promotional campaigns had among their objectives the increase in consumption of:

- FAPs in general;
- FAPs with local origin.

³ The annual average growth rate, abbreviated as AAGR, shows an average value for the annual rate of change over a period of time (typically several years) allowing for the compound effect of growth. The average growth rate is calculated by determining the 'least squares' regression line of best fit using the natural log (LN) of the time series data. The growth rate is the slope in % of that line.

Per- capita consumption in 2005 and 2014 (kg, live weight equivalent) and AAGR between 2014 and 2005, matched with objectives of the national campaigns aimed at increasing consumption, by Member State

		2005	2014	% AAGR	Objectives of Campaigns	
					Increasing FAPs consumption (in general)	Increasing consumption (local products)
Eastern EU	Estonia	17,4	18,1	-0,01	Y	
	Latvia	27,2	25,5	-0,40	Y	
	Lithuania	43,9	44,7	-0,01		
	Bulgaria (*)	4,8	6,0	1,91	Y	
	Romania (*)	5,3	6,3	0,57	Y	
	Poland	11,3	13,0	1,96		Y
Central EU	Austria	13,2	13,4	0,06		
	Czech Republic	9,5	7,5	-2,30		Y
	Hungary	4,5	4,6	-0,10		Y
	Slovenia	9,9	10,8	0,00		
	Slovakia	7,7	7,8	0,78		Y
Western EU	United Kingdom	25,2	24,9	-0,80		Y
	Ireland	23,2	23,0	-0,40		Y
	Netherlands	21,9	22,6	0,71	Y	
	Germany	14,3	13,3	1,10		
	Belgium	24,2	24,9	-0,10		Y
	Luxembourg	28,6	33,1	0,41		
Northern EU	Sweden	31,2	33,2	0,12	Y	
	Denmark	24,3	22,1	0,20	Y	
	Finland	23,1	23,9	0,50	Y	
Southern EU	France	35,2	34,4	-0,20		Y
	Greece	22,5	17,3	-4,50		
	Portugal	57,8	55,3	-0,40		Y
	Spain	46,4	46,2	-0,60		Y
	Croatia	8,0	18,4	9,42		Y
	Italy	29,9	28,9	-0,70		
	Cyprus	23,6	25,0	0,23	Y	
	Malta	30,6	32,0	0,19	Y	

as regards Bulgaria and Romania, 2005 and 2006 data are missing. For these two years, 2007 consumption data have been used.

As regards the average per-capita consumption, besides absolute values registered by each Member State, a very limited growth can be observed in all EU countries, excepted in a couple of cases:

- Greece (-4,5%), whose decrease is linked to the economic and financial crisis the country has undergone;
- Croatia (+9,2%), whose positive trend is probably linked to the economic development of the latest years following the breakdown of Yugoslavia and its EU accession.

An average growth of 0,8% was observed in **Eastern EU**. Among Baltic countries, Poland was the only one reporting a marked increasing per capita consumption (almost +2%) while stable consumption was observed in Estonia and Lithuania, and Latvia reported a 0,4% decline. With the exception of Lithuania, all countries of this area implemented campaigns aimed at increasing FAPs consumption. While Poland encouraged the specific consumption of local FAPs, the other countries opted to promote consumption of FAPs in general.

As regards **Central EU**, per capita consumption decreased on average by 0,5%. This was mainly due to the decrease observed in Czech Republic (-2,3%) while the other four countries of this area reported slight variations. In the three countries where national campaigns on FAPs consumption were implemented (namely the Czech Republic, Hungary and Slovakia), these had the specific objective to promote local products.

In **Western EU** countries, per capita consumption declined on average by 0,5%. The United Kingdom and Germany, two of the top-5 Member States in terms of consumption, are part of this group. These two countries reported opposite variations, with consumption declining by 0,8% in the UK and rising by 1,1% in Germany. National campaigns aimed at promoting FAPs consumption in general were implemented in the Netherlands, while in the UK and Ireland the focus was specifically on increasing consumption of local FAPs.

The three countries of the **Northern EU** sub-region reported an average growth of 0,14% in per capita consumption. The most significant increase (+0,5%) was observed in Finland. In all countries, national campaigns promoting consumption of FAPs in general were implemented.

Per capita consumption in **Southern EU** declined on average by 0,5%. As explained above, the two major variations were recorded in Greece (-4,5%) and Croatia (+9,2%). This sub region includes France, Italy and Spain, three of the top-5 Member States in terms of consumption. In these countries, a decline in their per capita consumption was observed, notably by 0,7% in Italy, by 0,6% in Spain and by 0,2% in France. National campaigns on FAPs consumption implemented in this area covered FAPs in general in Cyprus and Malta they regarded FAPs in general, , while they specifically encouraged consumption of local products in France, Portugal, Spain and Croatia.

Consumption trends from the Large Scale Retailers' perspective

The results of the survey carried out at the Points of sale (POS) seem to be in contrast with the findings of the statistical analysis. In fact, while consumption trends in all EU countries are declining or marginally increasing, large-scale Retailers (LSR) declared a positive market development for FAPs during the 2010-2015 period: compared with total food sales, the market share of FAPs increased or remained stable for all LSR.

- **Stable market share:** this concerns one third of LSR, notably in Central, Eastern and Southern Europe.
- **Moderate increase** (less than 20% over the 2010-2014 period, or less than 5% a year on average) for 45% of the LSR, this concerns all Northern LSR.
- **Strong increase** (more than 20% over the 2010-2014 period, or more than 5% a year on average) for 22% of LSR, mainly in Western Europe. This situation does not concern any of the LSR in Northern and Central Europe.

These findings lead to state that sales of FAPs in absolute terms have increased in the majority of cases, either strongly or slightly, in particular pre-packed fish.

However, information regarding the POS survey refers to LSR's sales, and not to the entire market. The combination of the statistical information and the survey puts into evidence the increase in the LSRs' market share over traditional retailers. Interviews with independent fishmongers confirm the favourable trend for LSRs, and this for two main reasons: on the one hand, the reduction of independent retailers' sales and, on the other hand, the reduction of independent retailer number (due to closure).

Consumption trends from national studies

National studies that analysed this issue also confirmed this phenomenon, as emerged in Task 1. More in detail:

Austria: fish purchasing frequency in supermarkets has increased over the last years (2002-2010), while purchasing frequency in specialised retail shops remained stable.

Netherlands: the main distribution channel is represented by supermarkets, with a growing trend in terms of coverage. In 2013, the supermarket segment covered 85% of the market, while in 2006 it was less than 70%.

Germany: between 2011 and 2013, discounters' share of fish products sales slightly increased, from 39% to 40% (value). Market share of other large-scale retailers remained stable at 37%, while fishmongers saw their share slightly reduced (from 11% to 10%).

Belgium: FAPs are mainly sold by large retailers with 43,2% of the sales. This share reaches 77,4% if one takes into account hard discount and small supermarkets. These retail channels are also showing an increasing trend: they accounted for 75,6% of the sales in 2008. Fishmongers account for 12% of the sale in 2014 (15,4% in 2008).

Finland: almost all fishery products, including processed, are sold through supermarkets, hypermarkets and other stores belonging to one of the few retail groups that operate in the country.

France: large-scale retailers are dominant, including for fresh fish. They have a smaller market share for frozen fish (50% in value) due to the strong position of retailers specialized in frozen products (31%) and also account for a small segment in home delivery (14%).

Portugal: in 2012, large scale retail became the most dominant sale channel (with 45,6% in value), mainly due to the 2010 legislation that allowed such stores to have more flexible opening hours.

Spain: Large scale retailers cover more than two thirds of the markets (67,3% in volume); the market share of specialised shops has decreased between 2010 and 2014 while the market share of supermarkets increased.

Italy: the increasing importance of selling fish and seafood processed products through LSR has been registered as well as a parallel decrease of the fishmongers' market share.

The results in general confirm that **LSRs' sales position** improved in all EU countries despite the economic crisis. It could be argued that a wider availability of farmed and cheaper products⁴ in LSRs compared to fishmongers, who prefer to sell wild and more expensive products, has also contributed to the improvement of the market shares of LSR in all EU countries, on top of the increasing presence of fresh stands at POs.

⁴ Source: Stakeholders' survey, Task 2 of the present Study.

4.3 Per-capita expenditure trend and comparison with the per-capita consumption trend

For the 2005-2014 period, the real expenditure per inhabitant, expressed in PPPs⁵ has also been analysed. The methodology for calculating the indicator is summarised in the following box.

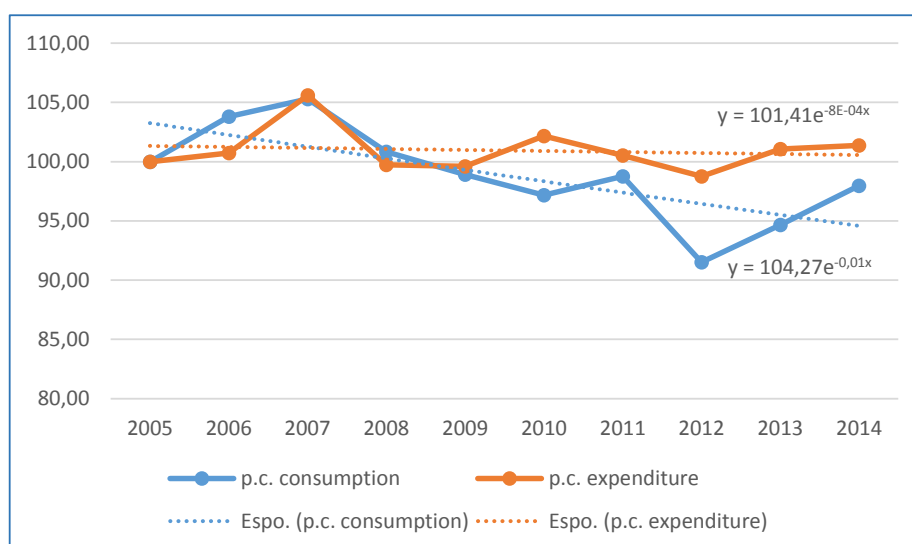
The methodology used for calculating the Real expenditure per inhabitant in PPPs includes the following three points:

- 1- "Per capita real expenditure" - it has been calculated for each year from 2005 to 2014 by multiplying the value of the EU expenditure in real terms for the "volume indices of real expenditure per capita in PPP (EU28=100)", source Eurostat;
- 2- Value of expenditure in real terms in EUR - it has been calculated by deflating "Nominal expenditure per inhabitant" (in EUR, source Eurostat) of year t for the difference $(100 - \text{price annual variation } t/t-1)$ of index of fish and seafood prices (source Eurostat). Real expenditure $t = \text{Nominal expenditure } t * (100 - \% \text{price var } t/t-1) / 100$;
- 3- "Real expenditure per inhabitant in PPPs" - it has been calculated by multiplying the EU28 expenditure in real terms in EUR with the "volume indices of real expenditure per capita (for fish) in PPP"

The trend of the real expenditure per inhabitant in PPPs (as well as the per-capita consumption trends in kg) has been calculated for all Member States. The results are presented in the country sheets attached to this report. While it is possible to determine this indicator for the whole EU, it is not possible to calculate it based on sub-regional aggregates.

In the graph below, the evolution of the indexes "per capita consumption (Kg, live weight)" and "per capita real expenditure (PPPs)" (2005=100) for the EU are compared.

Figure 2 - Per capita consumption (Kg live weight) and per capita real expenditure (PPPs) trends (Index 2005 =100)



⁵ Purchasing Power Parities

We can observe that the per capita consumption trend in kg is slightly negative (AAGR = -0,1%), while the per capita real expenditure in PPPs trend is basically flat (AAGR = -0,004%). These trends highlight a progressive widening of the gap between the two indicators.

In general, this behaviour supposes an **increase of the average unit value of consumption**, through a change in **consumption towards products with higher prices and presumably of higher quality** (in a nutshell: less quantity of products with low quality/price ratio, more quantity of products with higher quality/price ratio).

However, in this context as well, the EU average hides different situations: for some Member States, this increase in value was actually witnessed, while other countries repositioned towards less qualitative products. In some other cases, there was no significant repositioning at all. The table below summarises the results of the analysis per Member State grouped in sub-regions.

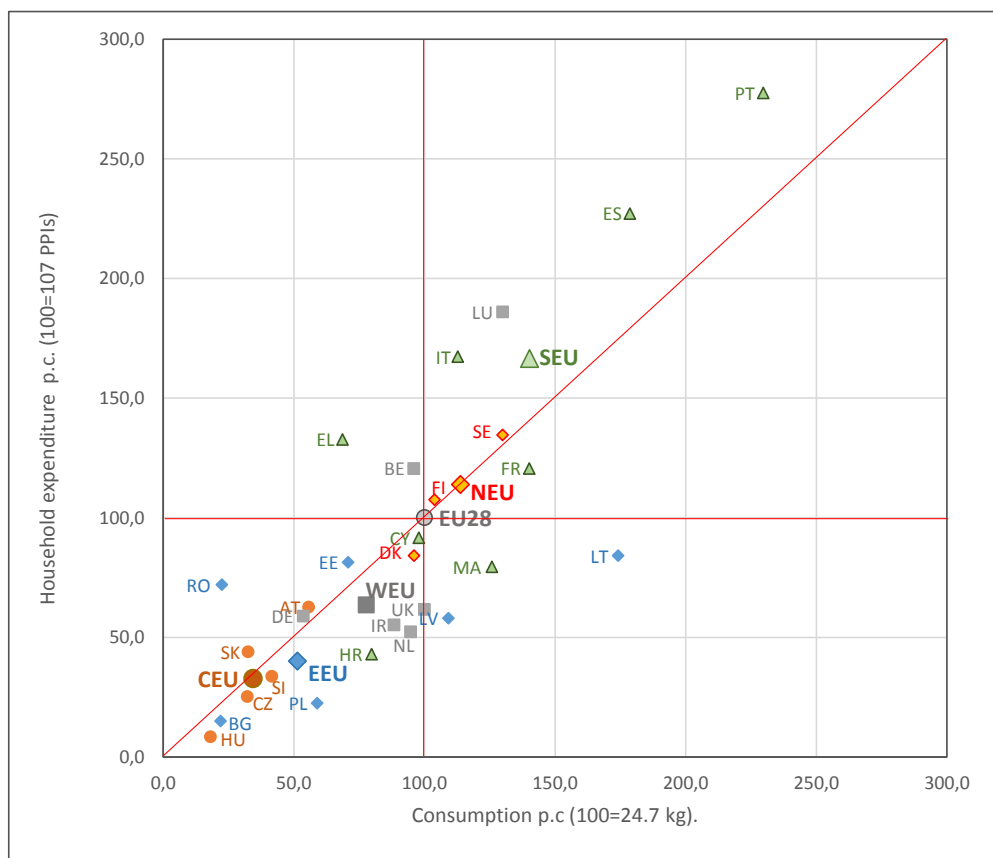
Table 4 - Change of the average unit value of consumption for Member States in the period 2005-2014

	Increase	Reduction	No change
Eastern EU countries	Estonia Latvia Lithuania Bulgaria Romania		Poland
Central EU countries	Austria Hungary Slovakia	Czech Republic	Slovenia
Western EU countries	Ireland Germany Luxembourg		United Kingdom Netherlands Belgium
Northern EU countries	Sweden Denmark Finland		
Southern EU countries	Italy	France Greece Spain Croatia Cyprus Malta	Portugal

Beyond the trends observed during the 2005-2014 period regarding the repositioning of consumption towards products with higher or lower quality, it is useful to carry out the comparison in a static situation.

With reference to 2013, the following chart highlights the positioning of Member States and sub-regions, considering the indices values *per capita consumption* (Kg live weight equivalent) and *per capita household expenditure in PPPs*. The indices have been calculated correlating Member States' and sub-regions' values with the EU28=100.

Figure 3 - Per capita consumption (Kg live weight) and per capita household expenditure (PPP) index: Member states and sub-regions (2013, EU28 =100)



On the basis of the graph above, it is possible to formulate the following observations:

- a- **Southern EU countries and Northern EU countries rank above the EU average** for the two variables (more expenditures and more quantity). However:
- The first sub-region (Southern EU) is above the bisector of the chart. Therefore, the index of expenditure is higher than the index of quantity. This leads to believe that in these countries there is a consumption of products with higher average unit value (a higher level of price and quality) compared with the EU average. Nonetheless, the positioning of the sub-region hides considerable differences among the Member States that compose it. In fact, Italy, Spain, Greece and Portugal share the average positioning, while France, Malta, Cyprus and Croatia are below the bisector (lower average unit values)⁶. In addition, Croatia has a level of expenditure and consumption lower than the EU average.
 - The second sub-region (Northern EU) is almost positioned over the bisector of the chart (the expenditure index is equal to the quantity index). This leads to believe that, on average, consumed products have the same price/quality levels as the EU average. The positioning of the three countries composing the sub-region is rather homogeneous: they are more or less aligned along the bisector.

⁶ However, Greece and Malta register a positioning a bit abnormal: Greece for expenditure and consumption respectively higher and lower than the EU average; Malta is exactly the opposite.

b- **Western EU countries, Eastern EU countries and Central EU countries** are below the EU average for both variables. However:

- The Western EU and Eastern EU sub-regions are below the bisector. Therefore, the expenditure index is lower than the quantity index. This leads to believe that there is a consumption of products with lower average unit value (lower levels of price and quality) compared to the EU average.

As regards the Eastern EU region, the Member States that compose it show different positioning: Romania and Estonia are above the bisector while the others are below it, more or less strongly. All Member States are within the same quarter, with the exception of Latvia and Lithuania, which show an abnormal positioning.

Also for the Western EU sub-region, the positioning of Member States is defined as follows: the United Kingdom, Ireland, Germany and the Netherlands are all positioned below the EU average and below the bisector (with the exception of Germany). Belgium and Luxembourg are significantly above the bisector, registering higher values (Luxembourg) than the EU average or close to it (Belgium).

- The Central-EU sub-region is almost on the bisector of the chart (the expenditure index is equal to the quantity index). Therefore, this means that in these countries the consumption of products with price/quality levels is aligned with the EU average. The Member States that compose it are all within the same quarter and slightly above (Austria, Slovakia) or below (Slovenia, Czech Republic, Hungary) the bisector.

Results of the analysis above substantially confirm the analysis carried out in each Member State under Task 1 (review of studies on FAPs' consumption and market data). These results could be summarised as follows:

- **Most Member States positioned below the bisector mainly consume freshwater and farmed fish** (salmon, carp, pangasius) **or wild marine fish with lower average unit value** (mackerel, cod, hake, Alaska pollock);
- **Most Member States above the bisector consume mainly marine fish, often wild** (seabass, seabream, shrimp, squid, octopus), but also cod, hake and salmon.

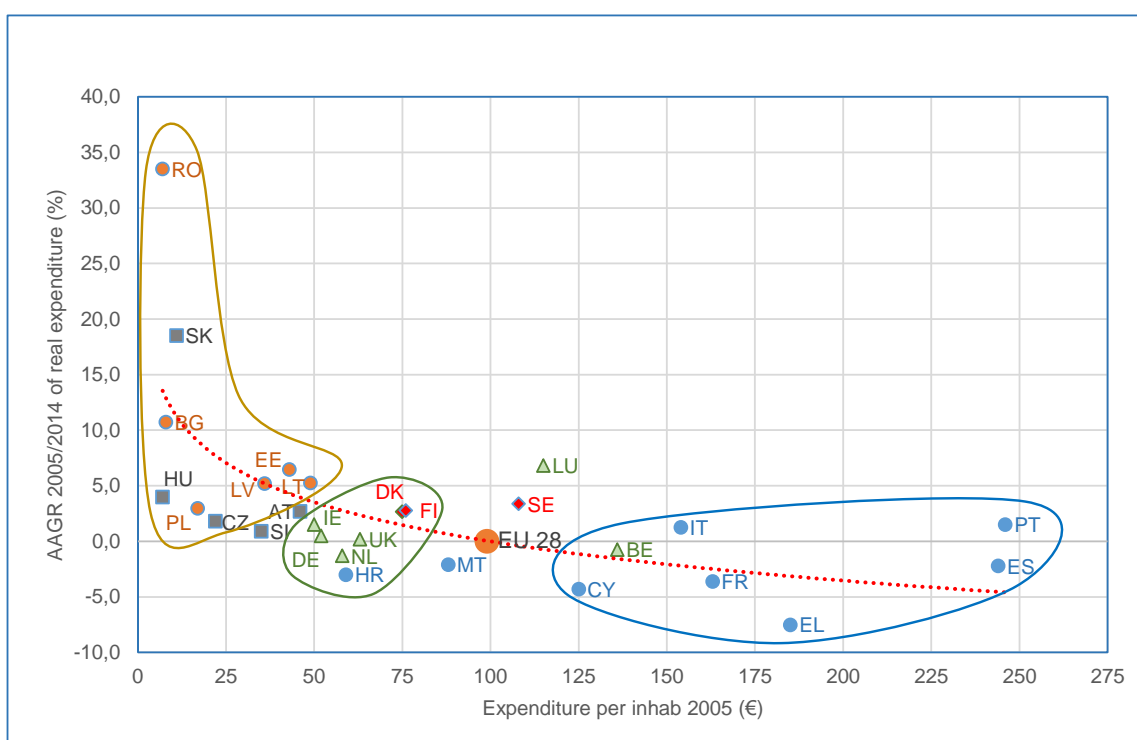
4.4 Per capita expenditure and Annual Average Growth Rate

The following chart shows the distribution of Member States according to two variables:

- “per capita household real expenditure” in 2005 (start of the reference period) expressed in EUR, and
- the “Average Annual Growth Rate” (AARG) of expenditure between 2005 -2014.

The purpose is to analyse the differences in the evolution of expenditure for purchasing fishery and aquaculture products.

Figure 4 - Per capita household real expenditure (€ 2005) an AARG (%): Member States and sub-regions



The chart highlights an inverse ratio between the above variables. Therefore, two opposed groups are clearly recognisable:

- the first group consist of countries of Eastern and Central EU that accessed the EU more recently. In this group, the lowest per capita expenditure in 2005 recorded a more rapid development (i.e. higher AARG).⁷
- the second group includes most of the Southern EU countries and Belgium. This group, which shows the highest per capita expenditure in 2005, recorded very weak or negative growth rates.

There is actually a third group, which includes most of the other countries, regardless of their geographical location, presenting a per capita expenditure in 2005 slightly below the EU average and a limited evolution in consumption.

⁷ However, the per capita expenditure trend in Romania suggested a problem of reliability for 2005 and 2008-2009.

5 Knowing consumers' habits

This chapter investigates consumers' habits regarding FAPs, both in terms of **consumption frequency** and **preferences** for the different aspects of products, namely type of products, characteristics of products according to the origin (marine or freshwater) and the type of production (wild or farmed).

In addition, the chapter examines the preferences in terms of presentation (loose or pre-packed) and the habits in terms of where purchases of fishery and aquaculture products mainly occur.

The numerical information (percentages) originates from data elaborated from the Eurobarometer survey. Findings are compared with information from the other Tasks, and in particular from Task 2 (Stakeholders' survey).

5.1 Regular consumers Vs non-consumers

The first issue regards the **consumption frequency** of the entire population (over the age of 15), regardless of their level of consumption.

Below, two charts have been elaborated, which analyse the following aspects:

- The Member State positioning and the grouping in sub-regions;
- The positioning of members of different age groups and different socio-professional conditions⁸

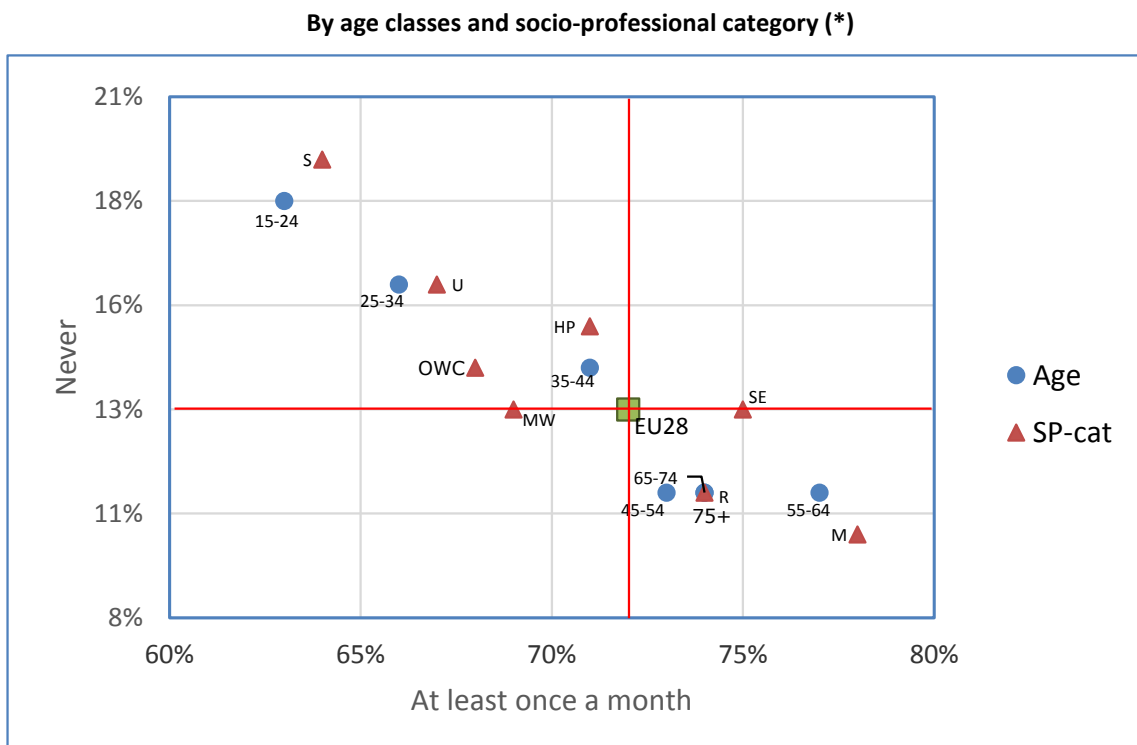
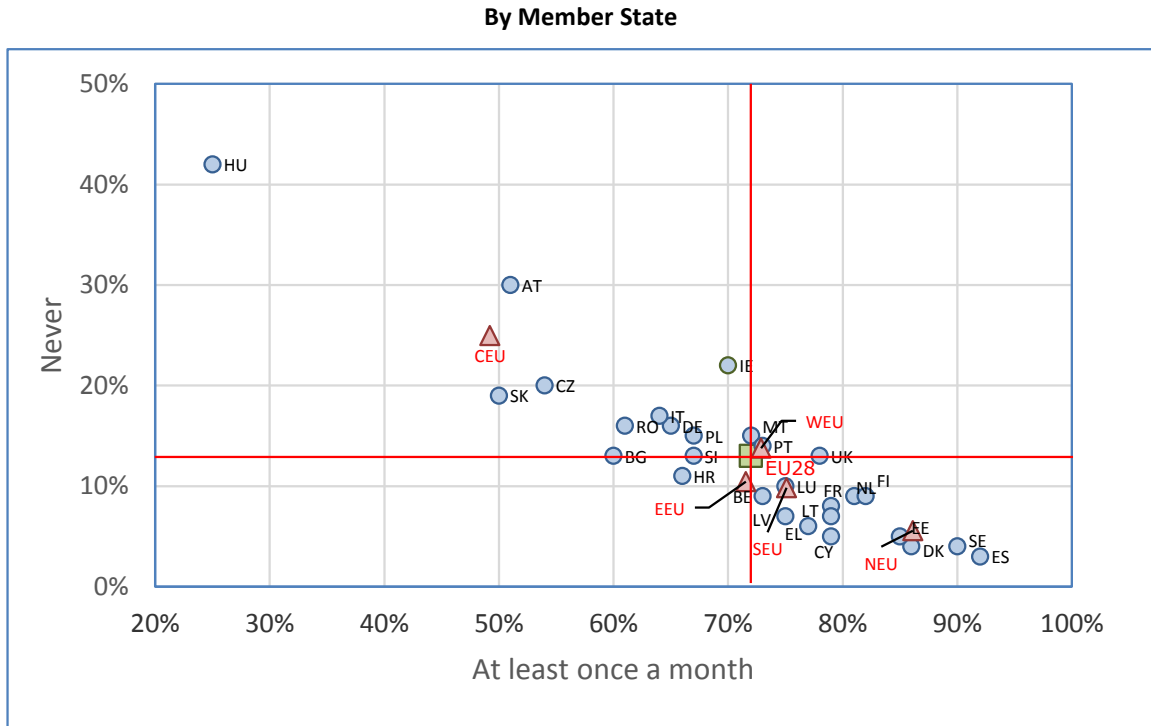
The two parameters of the chart represent:

- **The regular consumers of FAPs:** namely the percentage of the entire sample consuming FAPs at least once a month. Therefore, occasional consumers who consume FAP rarely are excluded;
- **The non-consumers:** namely the percentage of the entire sample not consuming FAPs at all.

In the positioning charts below, four quarters have been identified, and they are defined through the intersection of respective percentages of regular consumers and non-consumers for the entire EU sample (72% and 13% respectively).

⁸ These two parameters have been analysed because they resulted to be the most significant compared to the others of the Eurobarometer survey. In particular, the division of sample for gender does not show (at EU average) substantial differences.

Figure 5 - Regular consumers versus non consumers



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R = Retired; S = Student

As regards the positioning of Member States and sub-regions, the chart highlights that some Member States of the Northern and Southern sub-regions show the highest percentage of regular consumers (it is maximum in Spain). In this group there are also Member States showing a per capita consumption lower than the EU average (for example: Estonia, Denmark, Finland and Greece). On the other side, there is a group of Member States, together with the Central EU sub-region, with the highest percentage of non-consumers and the lowest of regular consumers (it is maximum in Hungary). This group consists also of Member States expressing a higher per capita consumption compared to the EU average (e.g. Italy).

Based on the results of the positioning, Member States have been divided into four groups. Grouping criteria are not based on the geographical location but on combinations of different ranges (defined hypothetically) of percentages of regular consumers and non-consumers.

Regardless of the consumption level and/or the per capita expenditure, these groups could represent specific targets, to which it could be possible to address policy actions.

Table 5 – Member States positioning according to the two parameters: “% Regular consumers” (RC) and “% Non-consumers” (N)

RC >80% N < 10%	60% < RC < 80% N <10%	60% < RC < 80% N >10%	RC < 60% N > 10%
Spain	Cyprus	United Kingdom	Bulgaria
Sweden	Lithuania	Portugal	Czech Republic
Denmark	France	Malta	Slovakia
Estonia	Greece	Poland	Austria
Finland	Latvia	Slovenia	Hungary
Netherland	Luxembourg	Croatia	
	Belgium	Germany	
		Italy	
		Romania	
		Ireland	

In some Member States of the Eastern, Western, Central and Northern sub-regions, some promotional campaigns (analysed in depth in Task 3⁹) were carried out that aimed at improving the image of fishery and aquaculture products and also at improving the FAP penetration rate (i.e. increase of regular consumers' percentage).

Only some countries in the Southern EU sub-region (Italy, Spain, Portugal, and France) did not have campaigns directed at improving the image of fisheries and aquaculture products, presumably because consumers in those countries already have a positive image of fish products.

As regards the positioning of the two socio-demography parameters, the chart (EU average data) shows that:

⁹ Campaigns carried out in Bulgaria, Estonia, Denmark, and Germany directly targeted the improvement of the products' image by informing consumers about the health benefits and high value of fishery and aquaculture products and reducing prejudices against the products (such as negative perceptions related to aquaculture products).

- The **consumption frequency is positively correlated with age (i.e. the older, the higher frequency)**: all age groups above 44 years are located in the second quarter (higher frequency of regular consumers and lower percentage of non-consumers). On the contrary, all age groups up to 45 years are located in the fourth quarter (with higher percentage of non-consumers and lower frequency of regular consumers). Young people (15-24 years) are the age group with the highest percentage of non-consumers.
- Young people (15-24 years) are mainly composed of students, while managers and retired people show the highest frequency and lowest percentage of non-consumers. Therefore, it is evident the correlation between age, social position and higher consumption;
- In general, **the upper classes** (Managers, self-employed) **consume FAPs more often than other classes with lower economic availabilities** (students, unemployment, manual workers).

Therefore, the **adulthood and higher economic availabilities**, connected with the professional condition, represent the two variables that mostly **maximize the consumption frequency**. On the contrary, the **young age and lower economic availabilities**, connected with the professional condition, represent the two variables that **mostly maximized the non-consumption**.

It has to be highlighted that the difference surveyed at EU level between youngest and eldest in terms of consumption frequency has also been identified at Member State level. In fact, the Eurobarometer analysis carried out for each Member State on classes 15-24 years old for young people and over 55 years old for elder shows that:

- In all Member States, the percentage of regular consumers > 55 years is higher than the national average of regular consumers, excluding Hungary, Slovenia, Germany and Italy;
- In all Member States, the percentage of regular consumers in the class 15-24 is lower than the national average of regular consumers, except in Hungary, Slovakia and Germany.

The analysis of literature carried out in Task 1 shows that consumption across socio-demographic groups has been analysed only in 13 Member states.

These **studies broadly confirm the Eurobarometer's results**, with only few exceptions. In fact, it emerges that consumption (and/or consumption frequency):

1. **is highest in groups of people with higher education and higher income** (and standard of living) (Latvia, Poland, Czech republic, Sweden, Spain)

An exception is Croatia, for which there is no relationship between social status, educational level and frequency of fish consumption. Partly, also Greece should be considered as an exception, for which *the cluster with lower income purchases fish at a higher frequency (1-2 times per week, vs 1-2 times per month for the group with higher income*.

Furthermore, in some countries consumption frequencies and the penetration rate are changing. For instance, in the Czech Republic, *“consumers are expected to change consumption habits due to factors such as increasing focus on health and healthy diets encouraged by government initiatives, in particular households with children as these consumers seems to have a significant level of disposable income”*

2. **is highest for elder people and lowest for younger people** (Poland, Slovenia, Netherlands, Belgium, Finland, France)

The critical positioning of young people (students) is to be stressed, due to the large distance with the EU average.

The criticality of the young segment is confirmed in the results of the survey on stakeholders, which highlights that, **for some retailers, the development of the consumption for youngest population is a key challenge in the long term.**

The perception of this criticality induced the majority of Member States to undertake campaigns and promotional activities aimed at educating young people and increasing the awareness of fishery products among younger and children.

These campaigns, which often saw the involvement of kindergartens, schools, universities, were carried out in Poland, Romania, Latvia, Bulgaria, Germany, Hungary, Denmark, Sweden, France, Greece, Portugal, Spain, Italy, Cyprus and Malta. In some instances, campaigns underlined the linkages between consumption of fish and health (Task 3)¹⁰.

5.2 Relationship between consumption frequency and per-capita consumption

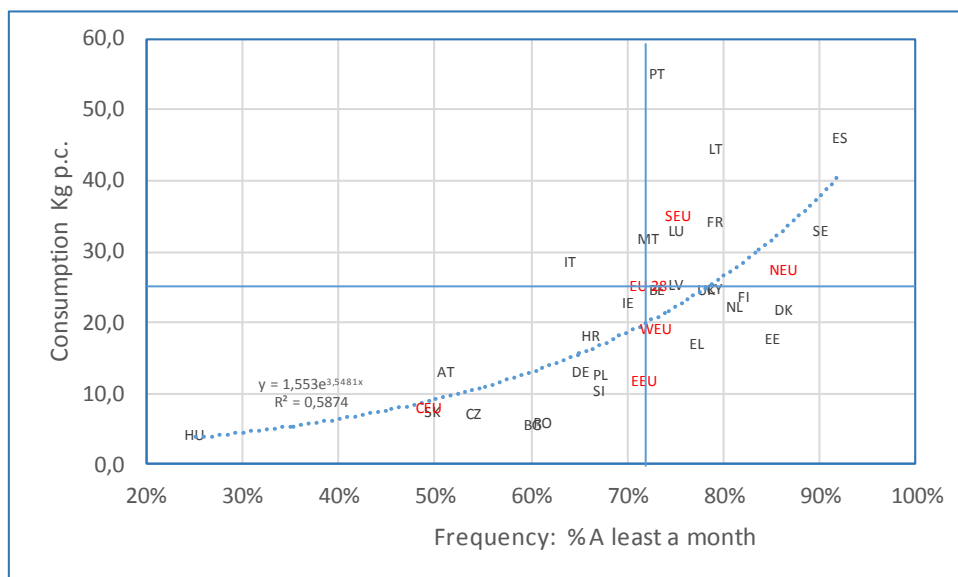
The purpose of this section is to verify the possible existence of a relationship between consumption frequency (percentage of regular consumers, who consume FAPs at least once a month) and the quantity of FAPs consumed (kg per capita, in live weight equivalent).

The following chart shows that:

- This relationship exists and is positive: in general, when the percentage of regular consumers increases, also the average per-capita consumption increases;
- The relationship is not “linear”: in general, when the percentage of regular consumers increases, the average per-capita consumption increases more than proportionally.

¹⁰ The objectives were to teach young people about the nutritional value of fish products, how to recognise different fish species, and the differences between marine and farmed fish. Various specialised projects were presented in kindergartens, schools, universities, which included presentations by nutritional experts, tasting events, competitions, excursions to fisheries companies, and other activities.

Figure 6 - Relationship between consumption frequency and per-capita consumption



5.3 Consumers' preferences about FAPs

The second issue investigated relates to consumers' preferences regarding FAPs. We analysed purchasers of FAPs¹¹.

Preferences are analysed under different perspectives:

1. Preferences about the product. In particular, preferences about the **preservation states** (i.e. fresh fish, frozen products, etc.); preferences about the **production method** (wild vs farmed products) and preferences about **marine vs freshwater origin**.
2. Preferences about the **products' main presentations** (loose vs pre-packed).
3. Habits about the **FAPs' places of sale (POS)**.

5.3.1 Preferences about the product

The present analysis is based on the combination of the percentages of purchasers reporting to buy FAPs often / never¹².

It is worth highlighting that the analysis has some limits, notably:

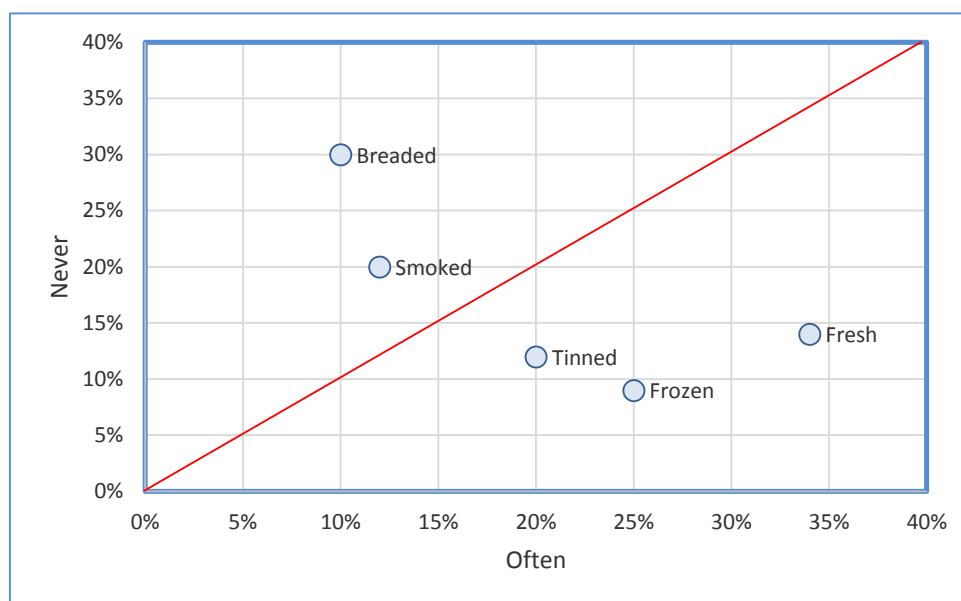
- The *never* concept has a well-defined "dimension" (never means zero), while the *often* concept is non-dimensional and can vary depending on the person interviewed.
- The number of "*often*" answers depends on the types of products in terms of preservation state: fresh products are purchased with more frequency than others, as their shelf life is shorter.

Bearing in mind these limits, the following chart shows the different positioning of seafood products at EU level:

¹¹ Clearly the number of buyers is lower than the number of consumers.

¹² Only FAPs' purchasers are analysed, so the alternatives "often / never" just refer to the purchase of those specific FAPs under analysis.

Figure 7 - "Regular purchasers" vs "Non-purchasers", by product type (% on total purchasers, EU averages)



The resulting data allows making the following conclusions:

- **Tinned, frozen and fresh products have a higher percentage among regular purchasers compared with non-purchasers.** This is particularly true for fresh products, which have a very low percentage (less than 15%) among non-purchasers. In any case, the percentage of purchasers buying often the different types of FAPs is quite low, as its peak value is only 35% (for fresh products).
- On the other hand, for **smoked and breaded products, the percentage on non-purchasers is higher than that of regular purchasers.** For breaded products, the percentage of non-purchasers is around 30%, while it is 10% for regular purchasers. As a consequence, the purchase (and household consumption) of smoked and breaded fishery and aquaculture products is occasional, as it is not within the "food-habits" of EU citizens.

Based on averages at EU level, for each type of product we elaborated the following charts showing:

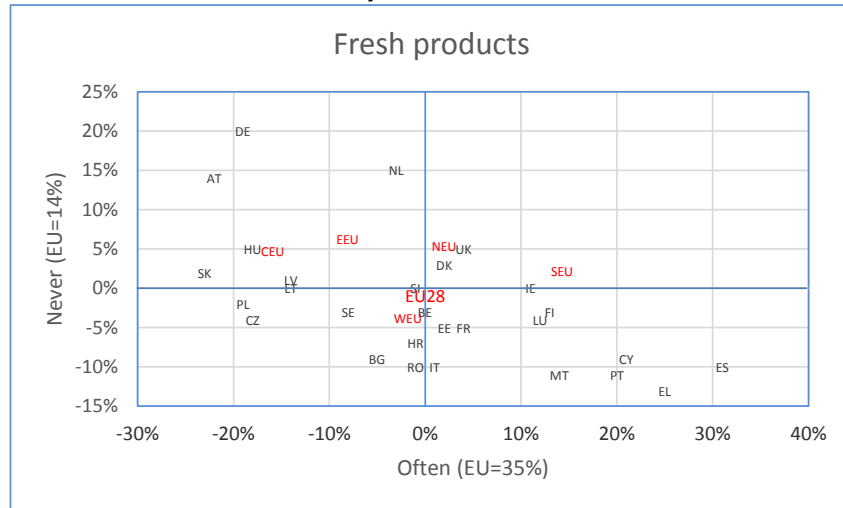
- ✓ The positioning of Member States (Member States) and sub-regions, in terms of difference with respect to the EU28 averages (EU28 average = 0 for both variables)
- ✓ The positioning of people interviewed based on their class of age and socio-professional category in terms of difference with respect to the EU28 averages (EU28 average = 0 for both variables)

While examining the charts below, it should be considered that:

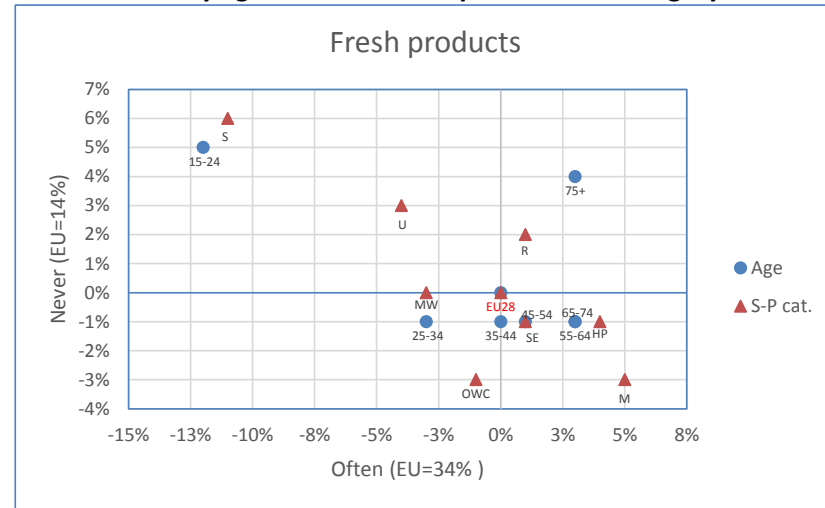
- each Member State has a different percentage of regular purchasers (the highest being in Spain, the lowest in Hungary)
- each Member State has a different structure in terms of class of age and socio-professional categories.

Figure 8 - Regular purchasers vs non-purchasers, by product type (differences with the EU average)

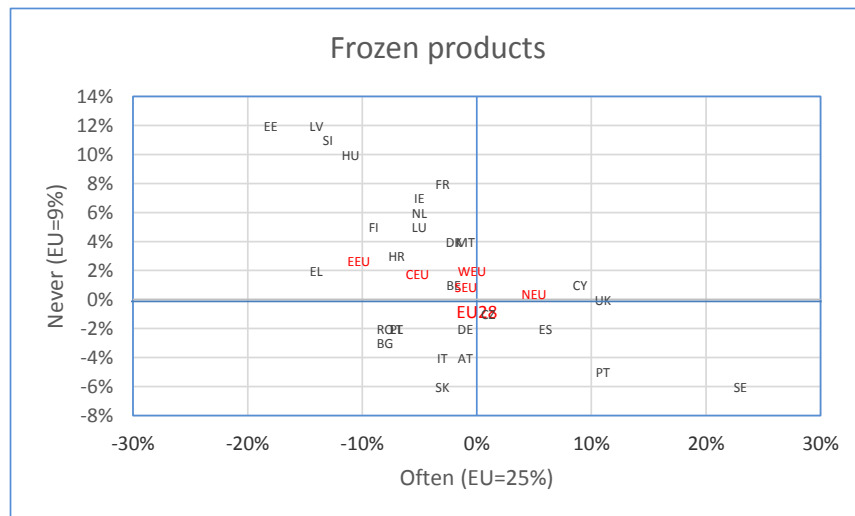
By Member State



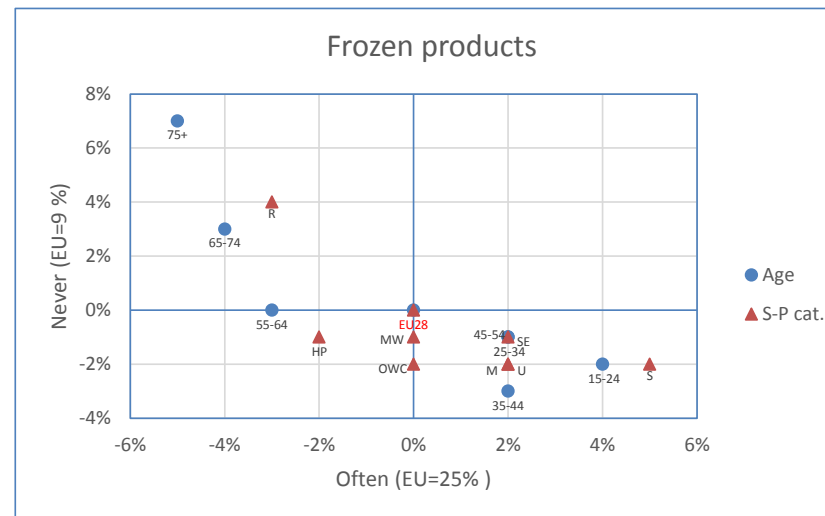
By age class and socio-professional category

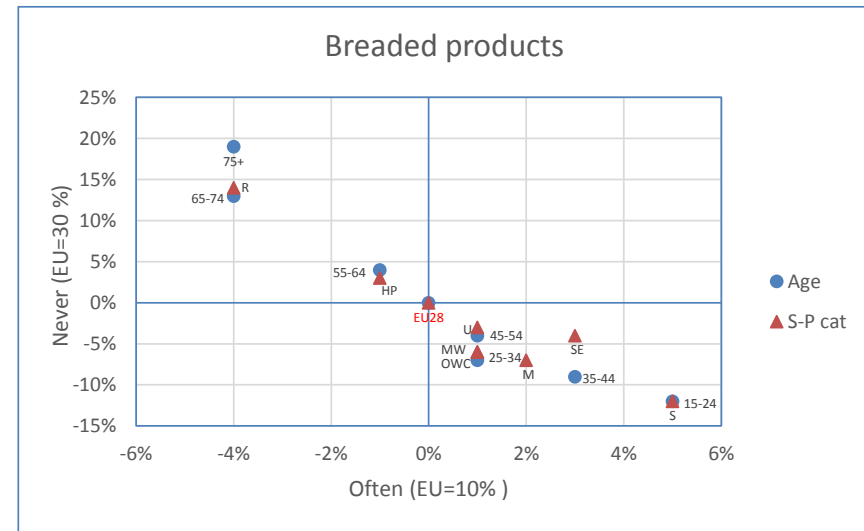
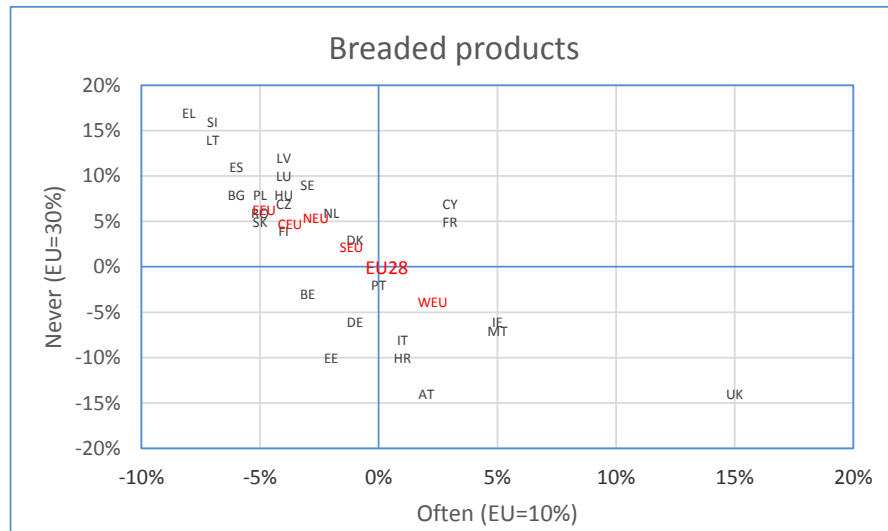


Frozen products



Frozen products





(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

At Member State and sub-regional levels, the resulting data leads to the following conclusions:

- In general, the **divergence of each Member State from the EU average is significant**, sometimes higher than 30% or 40% (e.g. fresh products regularly purchased in Spain; smoked products never purchased in Hungary, etc.).
- With few exceptions, the positioning of each Member State belonging to the same sub-region can be very different, as the **regular purchases and/or the absence of purchases of the different product types are based on the consumer habits of a single Member State** (e.g. sardine or canned tuna are purchased very often in Spain, while their purchases in Greece is very rare). Therefore, the aggregation in terms of geographical areas is not the best way to explain the phenomena under analysis.

As regards the single product types:

- For fresh products, some of the Southern EU countries are positioned in the 2nd quarter (“often” is above the EU average and “never” is below it). This is particularly true for Spain, Greece, Cyprus and Portugal, where the “often” category is more than 20% higher than the EU average and the “never” category is 10% lower than the EU average. On the other hand, Germany and Austria are the Member States showing the highest differences compared to the EU average, as “often” purchasers are more than 20% lower and “never” purchasers are more than 15% higher than the EU average.
- For frozen products, Sweden has the highest frequency of regular purchasers (more than 20%) and the lowest of non-purchasers (less than 6%). The opposite is reported for some Eastern EU countries (Estonia, Latvia) and Central EU countries (Slovenia and Hungary).
- For smoked/dried products, the United Kingdom and most of all Denmark are the Member States with the highest frequency of regular purchasers and the lowest of non-purchasers (for DK, more than 25% and less than 10%, respectively). On the other hand, in some Central EU countries (Hungary and Slovenia), the “never” category is more than 30% higher than the EU average, while regular purchasers are about 10% lower.
- For tinned products, Member States belonging to the same sub-region show very different positioning. For example, Malta and Spain show the highest percentage of the “often” category and the lowest of “never” with respect to the EU average (for Malta, more than 30% and 10%, respectively); Greece has a positioning below 15% within the “often” category and above 15% for the “never” category compared to the EU average.
- For breaded products, the UK has an abnormal positioning compared to other Member States, with a percentage of “often” which is more than 15% above the EU average and a percentage of “never” below 15%. This could be partly explained by the popularity of fish and chips in the country. Greece, Slovenia, Lithuania and Spain have opposite positioning.

If we look at socio-demographic categories, the differences between each class and the EU average are quite limited ($\pm 6\%$), with the exception of fresh and breaded products.

Nevertheless, the combined analysis of preferences for the different product types shows that young people (and students) purchase few fresh products, as they prefer frozen and processed products (smoked/ dried and breaded products). On the other hand, adults and old people prefer fresh fish and limit the purchase of processed products.

As regards socio-professional categories, besides the combinations young/student and old/retired, managers and self-employed are positioned in the 2nd quarters of the charts (“often” is above the EU average and

“never” is below it). This is true for almost all types of products, with the only exception of tinned products, which show a position of managers above the EU average for both “often” and “never”.

Unemployed people prefer frozen and tinned products as they are cheaper, while they limit their purchases (or do not purchase at all) fresh and smoked products, which are generally more expensive.

Based on the results above, there are specific “targets” of combinations Often/Never which can be identified for each product type. This is linked to age classes and socio-professional categories, which are in turn related to socio-economic and cultural classes (e.g. young student vs old retired; manual workers and unemployed vs managers and self-employed).

Only few national studies (Task 1) tackled the issue of consumers’ preferences for the different products categories, and only in absolute terms and not in terms of purchase frequency.

Most of these confirmed the indications provided by Eurobarometer about an overall preference of consumers towards fresh fish, even if some changes are ongoing. More in detail:

- **Estonia:** people still prefer fresh fish. The consumption of smoked and salted fish has increased. The popularity of frozen fish has not increased.
- **Ireland:** Studies of consumer habits show increasing interest for fresh consumption, while available market data figures show an opposite trend: increase for frozen products, decrease for fresh ones (2015 vs 2014), with ready-to-cook frozen products being the main driver behind this trend.
- **Belgium:** Fresh fish is preferred. Almost all segments increased, at the exception of frozen fish.
- **Sweden:** consumers are positive towards fresh fish, although they perceive that category to be less available than other fish presentations.
- **France:** Fresh products dominate the market.
- **Croatia:** 91% of consumers prefer fresh to frozen fish.

In other countries the situation is more controversial. More in detail:

- **Poland:** Over 45% of consumers prefer to buy fresh and frozen fish (frozen fish has been slightly decreasing) while the rest gives preference to processed products.
- **Slovenia:** Frozen fish took has become more common than fresh mainly due to the modern lifestyle and the relatively easy accessibility of frozen fish, as these products are available in almost every store.
- **Finland:** Preserved (canned) FAPs increased.
- **Portugal:** consumption of frozen products and ready-to-cook meals has increased, not only because of the economic crisis (fresh/chilled fish are generally more expensive), but also because lifestyles have changed.

As regards preferences under a socio-demographic point of view, only a study in Latvia tackled the issue, from which it is possible to deduce (in line with Eurobarometer findings) that households with higher income prefer fresh and smoked fish; households with lower income tend to buy cured fish. Fish sticks are also popular among Latvian youngsters.

The survey carried out with retailers highlighted that fresh, frozen and processed products are an important factor for the purchase of fishery and aquaculture products, as each of the presentations or retail methods constitutes a specific segment with specific market trends.

Fresh and convenient products show positive market trends while frozen seafood faces more difficulties. Loose and pre-packed fresh products both register increases (particularly pre-packed products).

The fresh fish counter is an asset for the points of sale (POS) to attract consumers. However, this implies important costs (space, logistics, staff) that not all POS can bear.

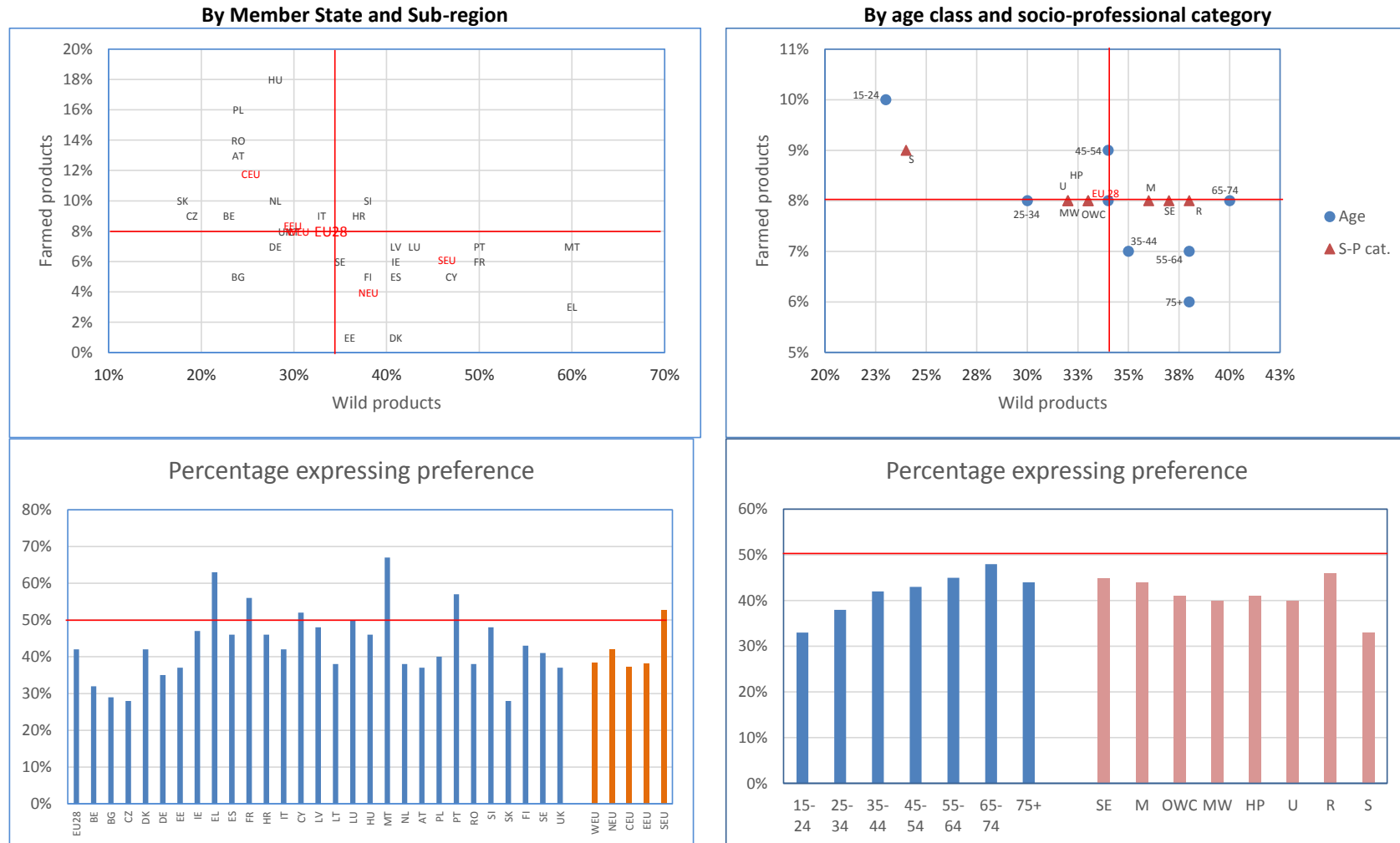
5.3.2 Preferences about wild vs farmed FAPs and marine vs freshwater FAPs

In this paragraph, we analysed the preferences of purchasers about two features of the products:

- ✓ the production method (wild vs farmed products);
- ✓ marine vs freshwater origin.

The results of the analysis carried out with specific focus to the **production method** are shown in the charts below, where Member States are positioned in comparison with the EU average. The percentages of purchasers expressing no preferences are also shown.

Figure 9 - Preferences about production method



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R = Retired; S = Student

The first aspect emerging from the analysis is that **few purchasers expressed a preference**: only for 5 Member States (all belonging to the South-EU area) and in one sub-region (South) the 50% threshold was exceeded. On the other hand, for the Czech Republic, Slovakia and Bulgaria the peak was at 30%. Similarly, if we look at socio-demographic categories, no category exceeds the 50% threshold, and young (student) are few points above 30%.

Among purchasers expressing a preference, **wild fish is significantly preferred** (around 34% at EU level, while farmed products are at 8%). If we look at this from a geographical perspective, most of Southern EU countries prefer wild fish, along with all Northern EU countries. On the other hand, most of Central EU countries (landlocked) and some Eastern EU countries (Poland and Romania) express high percentages of preference for farmed products, although they still prefer wild products.

The preferences show very different values for different age classes. Indeed, young people tend have a preference for farmed products that is higher than the EU average, while older people prefer wild fish. In terms of socio-professional categories, students (young) and other categories show a preference for farmed products similar to the EU average, while preference for wild fish varies between 32% and 39% with respect to the EU average.

Only in eight Member States national studies (Task 1) compared the consumption of wild vs farmed fish, albeit not in a homogeneous way. For 5 Member States, the preference towards wild fish is clear (**Lithuania, Portugal, Spain, Croatia and Greece**). On the other hand, studies confirmed a higher habit towards farmed fish in the Netherlands (as a possible result of the replacement of wild catches with fish from aquaculture) and in Finland (farmed salmonids dominate consumption).

In **Romania**, 72% of consumers do not know if the fish they buy has been farmed or caught.

A study carried out in **Portugal** highlights that, despite the increasing importance of frozen fish products in the Portuguese diet, fresh/chilled fish products represent the main culinary choice, underlining a low interest for processed products. This preference is suggested by the perception of loss of the original and natural characteristics of the fish product: the longer distance between the fisherman and the consumer and the higher uncertainty in terms of safety, quality and nutritional features.

Furthermore, a study in Greece identified two consumers groups, the first one with lower educational level and income (low potential aquaculture consumers), the second one with higher educational level and higher incomes (high potential aquaculture consumer), in contrast with general findings at EU level of the Eurobarometer survey.

Consumers preferences, more orientated towards wild fish, are not the same of LSR. Indeed, the retailers' survey shows that the **majority of LSR (54%) purchase more farmed than wild FAPs**, in particular in Central, Eastern and Northern EU¹³. On the other hand, there is a balanced supply between fishery and aquaculture products for 21% of the Western LSR. Fishery products are dominant for 25% of LSR only, in particular in Southern EU LSR, where they dominate in 44% of LSR.

The importance of aquaculture products is linked to retailers' requirement of availability in the supply. Indeed, aquaculture production allows regular supplies year-long with stable prices, while the availability of wild seafood depends on stock evolutions, seasonal phenomena and climatic events.

¹³ The largest share for aquaculture product is 85% (for Northern LSR), in relation with the importance of salmon in this area.

Therefore, **the share of farmed products increased between 2010 and 2015 for most retailers (56%), while the ratio wild / farmed products remained stable for 44% of them.**

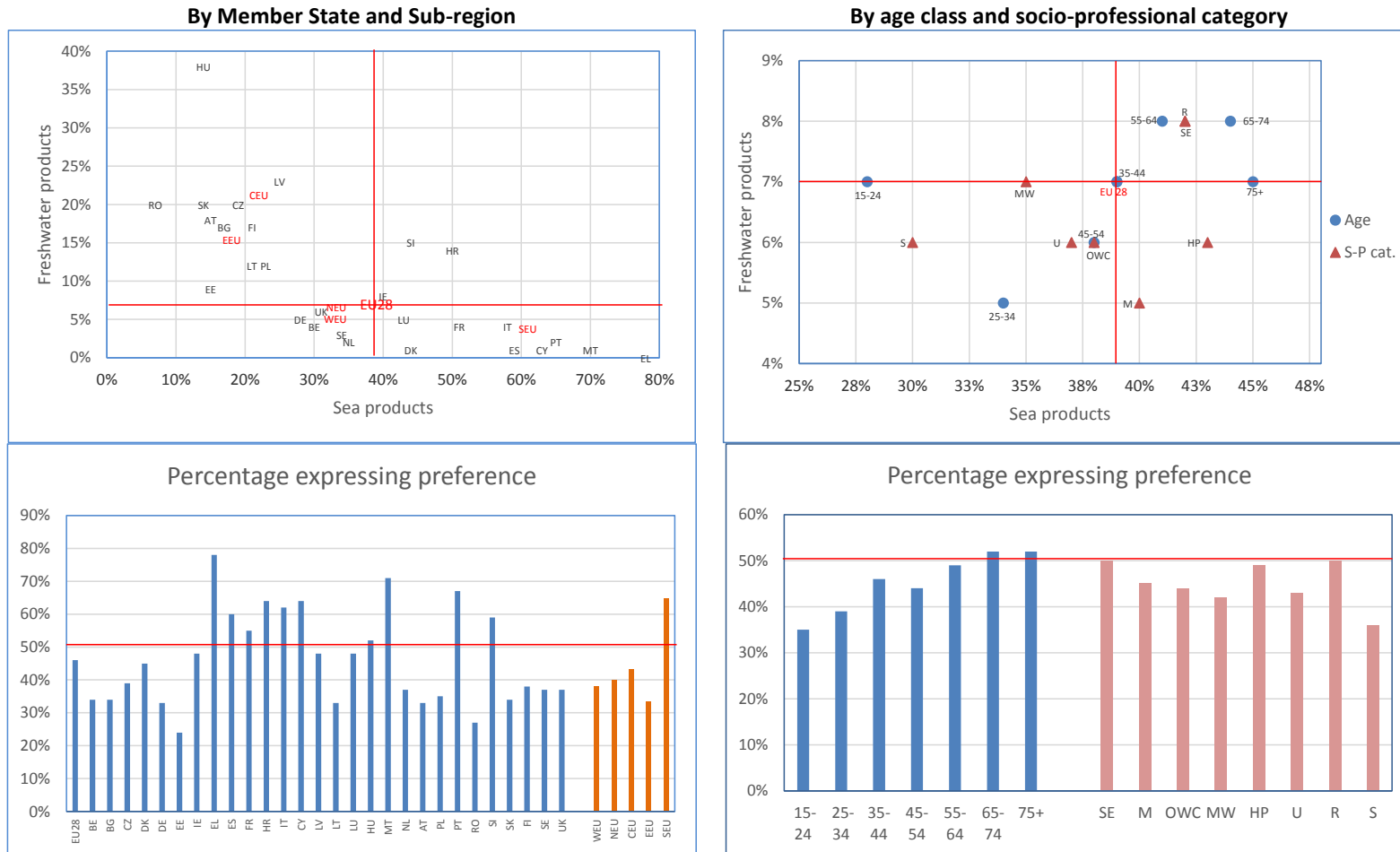
Furthermore, it should be considered that the **actual consumers' behaviour, beyond their individual preferences, is piloted by LSR choices** (consumers buy what is offered)¹⁴. In addition, **supplies' continuity and stability are crucial for LSR (but not for consumers)**. Therefore **supplies' continuity and stability** have no impact on the total consumption of FAPs.

As regards the short-term evolution expected, the ratio fishery/aquaculture should be stable for 50% of the LSR between 2015 and 2020. An increase of farmed products is expected in 67% of the LSR in Western, Central and Southern regions, and in 30% of the LSR in Northern and Eastern regions. On the other hand, the ratio is expected to remain stable for 44% of the LSR compared with the last five years. None of the retailers expects an increase of the share of wild products.

As regards the marine vs freshwater origin, the percentage of purchasers expressing a preference is more limited compared to aquaculture vs wild. In this case, more than 50% of purchasers interviewed have expressed a preference in 10 Member States, but only in one area (the South area) and only by two classes of age (the elder ones).

¹⁴ Nonetheless, while supply and selling policies that favour farmed products are declared by LSR, they are not necessarily envisaged by traditional retailers (fishmongers, specialist shops). Indeed, for them it could be more convenient to choose the wild fish segment, in order to reduce the competition with LSR.

Figure 10 - Preferences about product origin



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

From the above it emerges that, for interviewees expressing preferences:

- all Southern EU countries prefer marine fish (preferences for freshwater products are lower than 5%), while also in this case the majority of Central and Eastern EU countries prefer freshwater fish more than the EU average. In Romania, Slovakia, Czech Republic, Austria and mainly in Hungary freshwater fish are the favourite (in Hungary, at 37% against 13% for wild fish). The geographical aspect is also important in this case, as these countries are landlocked. Furthermore, established food habits may determine these preferences.
- If we look at socio-demographic classes, the differences with respect to the EU average are more limited and scattered. Again, young people (students) have different preferences, with a lower level of preference for marine fish, while they are at the average for freshwater products.

The combined analysis of preferences results about **production method** (wild vs aquaculture) and **marine vs freshwater origin** shows that:

- **Those not expressing preferences about production method do not express preferences about wild vs freshwater origin either.** Basically, for this type of buyers, **these aspects do not drive their purchases of FAPs**. Other factors (e.g. price) play a more important role.
- **Those preferring marine fish also prefer wild fish:** this suggests that there is a “mental” liaison between these 2 categories for the subjects interviewed.

Only in three Member States national studies in Task 1 compared marine vs freshwater fish consumption, even if not in a homogeneous way.

Preferences for marine fish are strong in Slovenia, but more than what surveyed by Eurobarometer (77,9% of adults preferred marine fish while the 22,1% preferred freshwater fish).

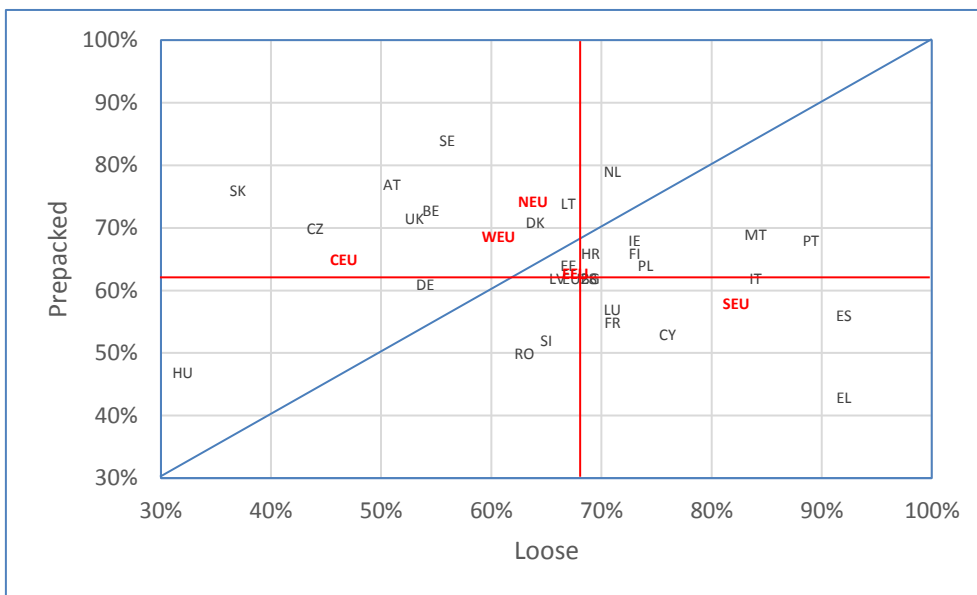
On the other hand, freshwater fish are preferred in Austria (the consumption of freshwater species has increased more than the average) and in Finland (salmonids dominate consumption). In both cases, Eurobarometer data are confirmed.

5.3.3 Preferences about products' main presentations

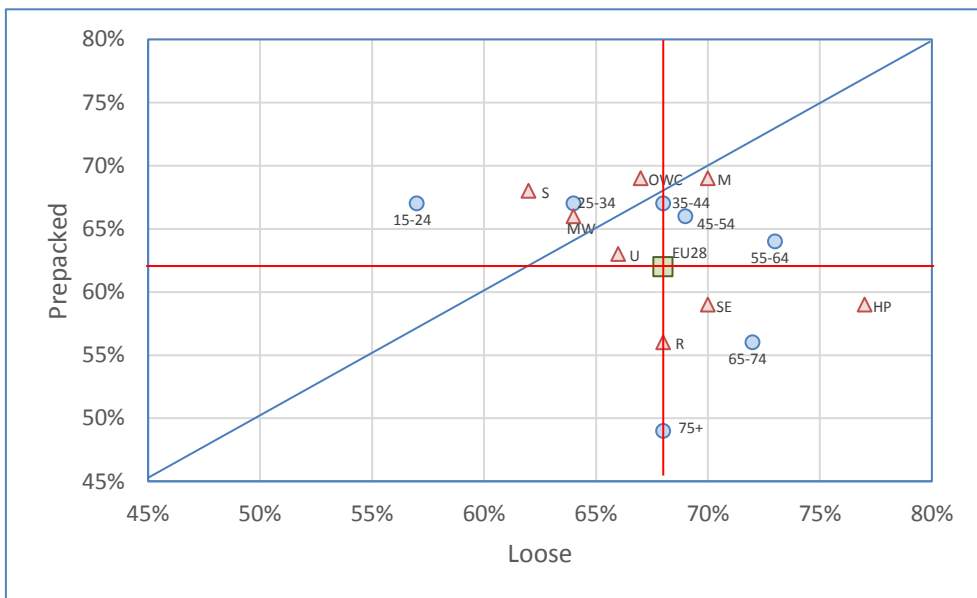
This paragraph mainly concerns the purchasers' preferences between loose and pre-packed FAPs.

Figure 11 - Preferences about products' main presentations

By Member State and Sub-region



By age class and socio-professional category



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

The resulting data allows making the following conclusions:

- The preference for **pre-packed products** prevails in **landlocked** (or with short coastlines) Central EU countries, as well as in the UK and Belgium.

- The preference for **loose products prevails in Southern countries**, as well as in **other countries with long coastlines** (Ireland, Poland, Finland, Romania and some Eastern EU countries).
- The preference for pre-packed vs loose products is **linked to the proximity of the sea**. Indeed, as highlighted in the next chapter, in countries with a long coastline there are more fishmongers or specialist shop (selling mostly loose products).

The preferences show very different values for different socio-demographic classes:

- **Young people (and students) prefer pre-packed products**. This is linked to the inclination towards innovation and their preference for frozen products;
- **Aged people (with a low education level), retired and house persons prefer loose products**. These categories are generally more conservative and less open to innovations.

Again, the preferences derive from the different lifestyles and cultural aspects.

Preferences between pre-packed and loose products is analysed by national studies only in four Member States (Task 1).

In three out of four countries (Austria, Ireland and Germany), the preference for pre-packed products is clear and presents a growing trend. For Austria and Germany, this is consistent with Eurobarometer results, while it is less consistent for Ireland.

In Poland, the situation is more complex, especially for frozen fish (Though most of the frozen fish comes packed, a lot of consumers still prefer to buy “loose” fish by weight). This seems to be consistent with Eurobarometer’s results.

The **survey of retailers confirms the Eurobarometer findings**: most LSR sell fresh fish, mostly pre-packed. Therefore, purchasers’ habits depend on such supply type, especially in those Member States with a large number of supermarkets and hypermarkets. On the other hand, the loose fresh fish counters are more common in Southern countries, also within LSR (please see the chart on main places of sale in the next chapter).

Results of LSR interviews show a **stronger growth of the pre-packed products market with respect to loose products** (albeit also increasing) during 2010-2015.

It is expected that both segments will see increases in the future, especially pre-packed as it can still meet consumers’ expectations about freshness and convenience.

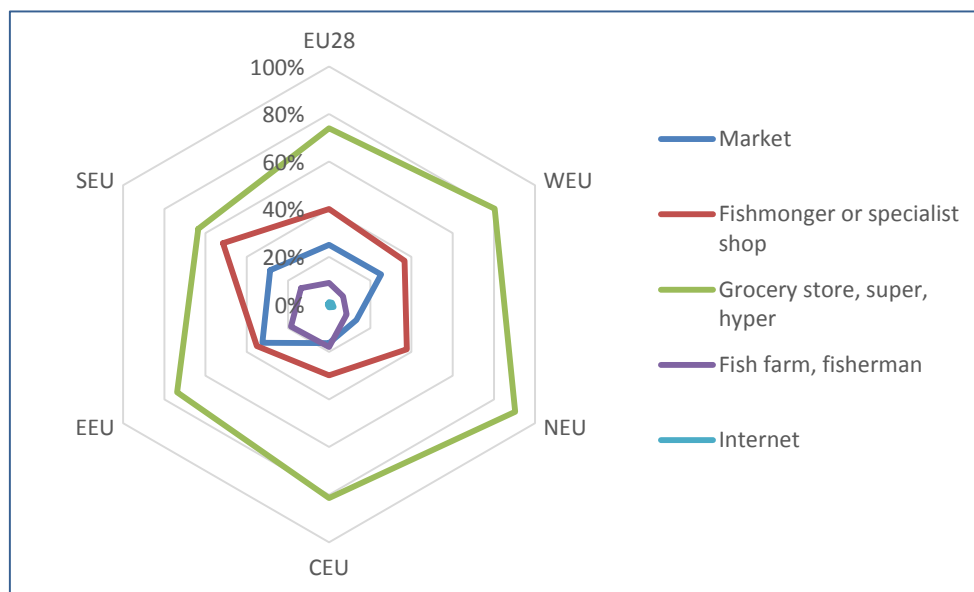
These conclusions should however be treated carefully, since they derive from the experience and expectations of LSR, and not of retail operators in general (LSR + traditional shops) and thus fail to take into account the point of view of traditional shops.

5.3.4 Preferences about FAPs places of sales (POS)

This paragraph concludes the research into consumer preferences regarding FAPs and analyses the habits concerning the place where purchasers actually buy their FAPs.

The chart below shows the results of the Eurobarometer survey, at EU and sub-regions levels.

Figure 12 - Frequency of purchases by FAPs place of sale



These data highlight two important aspects, which are strictly linked:

1. Structure of the distribution channels in the different sub-regions. Supermarkets and hypermarkets are typical places in Northern countries for purchasing FAPs while markets are not common. On the opposite side, in Southern countries, the lower resort to supermarkets and hypermarkets for buying FAPs is compensated by higher purchases at fishmongers and specialist shops.
2. Importance of the presence of the sea. The availability and the length of countries' coastlines determines the presence / absence of fishmongers or specialist shops and, as described in the box above, the strategies of LSR.

Reasons driving preferences about POS where purchases take place can be derived from studies carried out in six Member States (Task 1). All studies show that the preference depends on the products one would like to purchase: type of product (fresh / frozen / processed); their presentation (fillets / whole), production method (wild / farmed), etc.

More in detail in the six Member States, it has been reported that:

- **Estonia:** consumers prefer to buy processed fish and frozen fish products in shops, while they turn to alternative channels for fresh fish (e.g. directly from fishermen or fishmongers);
- **Romania:** The most frequent buying location for fresh fish is specialised fish shops and traditional markets, while super- and hypermarkets are the most frequent buying locations for frozen products. These choices are related to freshness when it comes to buying fresh fish at specialized fish shops, while price is the reason for choosing traditional markets and super-/hypermarkets when buying both fresh and frozen products.
- **Poland:** fish fillets are mostly sold through supermarkets while over 50% of whole gutted fish is sold through traditional retail.
- **Denmark:** Fresh fish sales in supermarkets are increasing, while sales of canned, frozen and fish ready meals are decreasing.
- **Italy:** With 40% of the total, the most used distribution channel is the large-scale retail, where processed products register significant level of purchases (above all, frozen products, prepared

and preserved products and salted and smoked products). Fishmongers are chosen for purchases of molluscs and wild products; Large-scale retailers are preferred for farmed products.

- **Spain:** There are large differences for the retail channels depending on the type of products sold: Sales in specialised shops are notably important for fresh hake, whiting and anchovy, fresh and frozen sole, frozen mussels and fresh crustaceans. Sales in supermarkets are notably important for frozen hake and anchovy, fresh salmon, cooked crustaceans, canned and smoked products.

6 Main reasons for purchasing/not purchasing or consuming/not consuming FAPs, and factors affecting their consumption/purchase

This chapter analyses the reasons **driving** or **affecting** the purchase and consumption of FAPs, along with the reasons driving the “non-purchase” and “non-consumption” of those persons who never eat or buy FAPs.

6.1 Main reasons for purchasing or consuming FAPs

The main factors for purchasing or consuming FAPs can be grouped as follows:

1. **Personal factors:** purchasers’/consumers’ reasons, and
2. **External factors:** factors not linked to individual aspects but impacting (in a positive or negative way) the inclination to purchase.

6.1.1 Main personal factors

These factors derive from the grouping of those items surveyed in the Eurobarometer survey that can be associated due to their connection with the same underlying motivation¹⁵. Based on this:

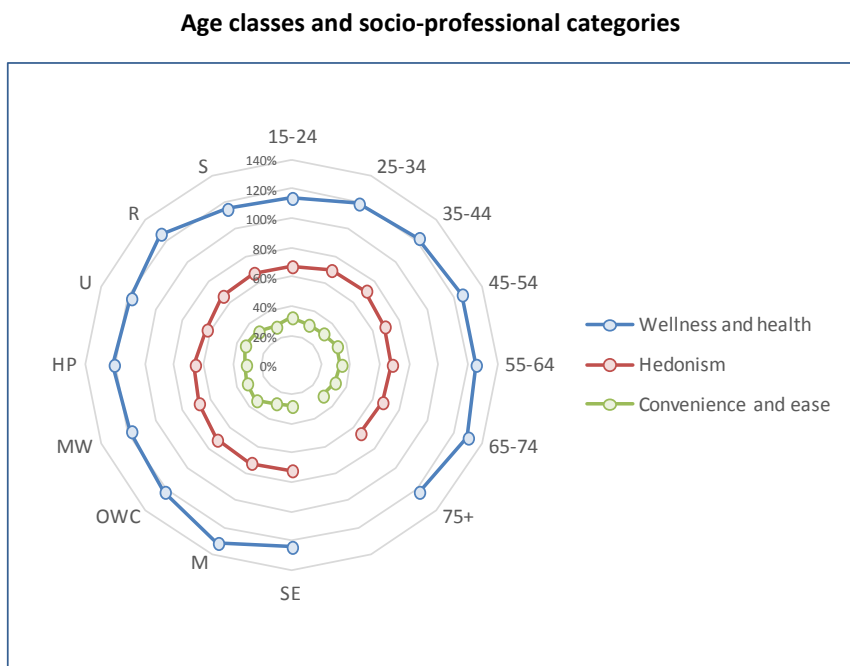
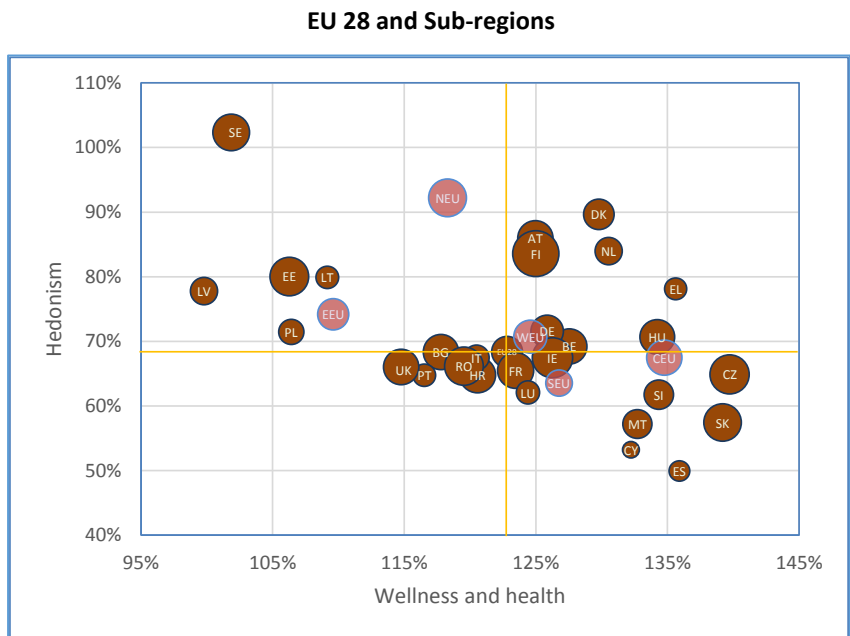
- The factor “**Wellness and health**” combines the items: “*They are healthy*”; “*They contain little fat*”; “*They are easy to digest*”
- The factor “**Hedonism**” combines the items: “*They taste good*”; “*They are products for special occasions*”; “*They look good on the table*”
- The factor “**Convenience and ease of preparation**” combines the items: “*They are easy to prepare*”; “*They are quick to prepare*”

¹⁵ The Eurobarometer question was: “In your opinion, what are the main reasons for buying or eating fishery and aquaculture products? (MAX. 3 ANSWERS)”. The eight items listed in the question have been grouped in the factors. For each factor, the total percentage is the sum of percentages of each item, therefore, as in the case “wellness and health”, the percentage could be more than 100%.

	Items	Factors	% factors
a	They are healthy	Wellness and health	=Σ(%a+%b+%c)
b	They contain little fat		
c	They are easy to digest		
d	They taste good	Hedonism	=Σ(%d+%e+%f)
e	They look good on the table		
f	They are products for special occasions		
g	They are quick to prepare	Convenience and ease	=Σ(%g+%h)
h	They are easy to prepare		

The chart below shows the positioning of Member States and sub-regions with respect to these 3 factors. The bubbles' dimension represents the percentage of consumers mentioning the items of "Convenience and ease"¹⁶. The three factors are also displayed by socio-demographic class level.

Figure 13 - Main personal factors driving purchase and consumption of FAPs



At EU level, *Wellness and health* results to be the main factor (123%): therefore, the **main motivation for purchasing FAPs is the positive link between consuming fish and health**. The factor *Hedonism* ranks second (68%), while *Convenience and ease* is the least important, as it is mentioned by 32% of consumers only.

¹⁶ Since the factors are the sum of percentages referring to more items, the factors' dimension can be >100%.

Member States and sub-regions have a highly differentiated positioning with respect to these average results. In particular, the purchase and consumption motivations for **Central EU countries** rely in the **factor *Wellness and health***, while the factor ***Hedonism*** is more important for **Eastern EU countries** and **Northern EU countries**. Among them, Sweden is the most sensitive to this factor; Denmark and Finland give more importance to both factors (*wellness and health* and *hedonism*) with respect to the EU average. Finland is also the Member State giving more relevance to the third factor (*Convenience and ease*).

The other sub-regions report results closer to the EU average. However, some Member States have more marked positioning. They are, among Southern EU countries, Spain, Cyprus and Malta (where the factor *Wellness and health* is more relevant) and Greece (where both *Wellness and health* and *Hedonism* are more important than the EU average).

Romania, Ireland, Estonia and, above all, Finland give more importance to the third factor (*Convenience and ease*), while it is marginal in all Southern EU countries, especially in Cyprus and Spain.

Finally, if we compare these results with the chart showing the preferences about FAPs production methods (wild/farmed), it emerges that those who give more importance to the **factors *Wellness and health* and *Hedonism* prefer wild fish**.

At socio-demographic category level, we can observe that:

- old and retired people give more relevance to the factor *Wellness and health*; less importance is given by young people and students;
- adults in the age group 25-44, managers and self-employed give more relevance to the factor *Hedonism*; less importance is given by old people and unemployed;
- old people in the age group 55-64, retired and unemployed tend to give more relevance to the factor *Convenience and ease*; slightly minor importance is given by managers, self-employed and students.

As a conclusion, with respect to the EU average:

- **Elderly people are more sensitive to health aspects** and therefore for them consumption of FAPs is linked to the positive effects on their personal well-being;
- The highest socio-professional classes are more sensitive to elements satisfying hedonism, especially during special occasions.

Some studies carried out in a few Member States (Task 1) are perfectly in line with Eurobarometer's findings: the most important reasons for fish consumption are linked to the health and nutritional issues (Romania, Czech Republic, Ireland, Portugal, France, Spain, Croatia).

Other factors (linked to hedonism, good taste, pleasure, togetherness) are less mentioned (France and Croatia).

In line with Eurobarometer results, the "Wellness and health" factor has been one of the objectives of national promotional campaigns in Latvia, Romania, Poland, Slovakia, Germany, Croatia, Spain, Italy and Malta (Task 3). In these Member States, promotional initiatives aimed at strengthening the perception of nutritional aspects and awareness of benefits of products across the population (encompassing both regular consumer and non-consumers). In some cases, this issue has been (also) focused on the target "young people".

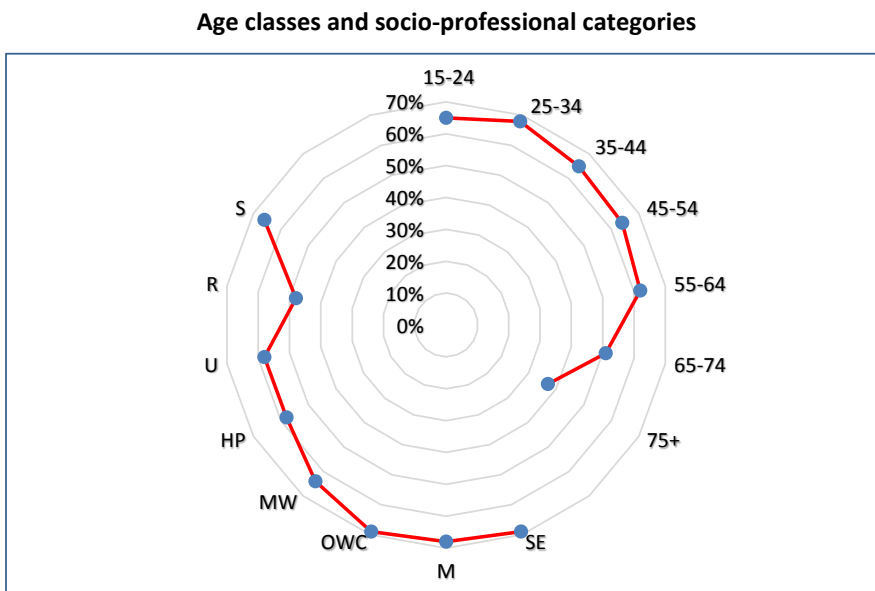
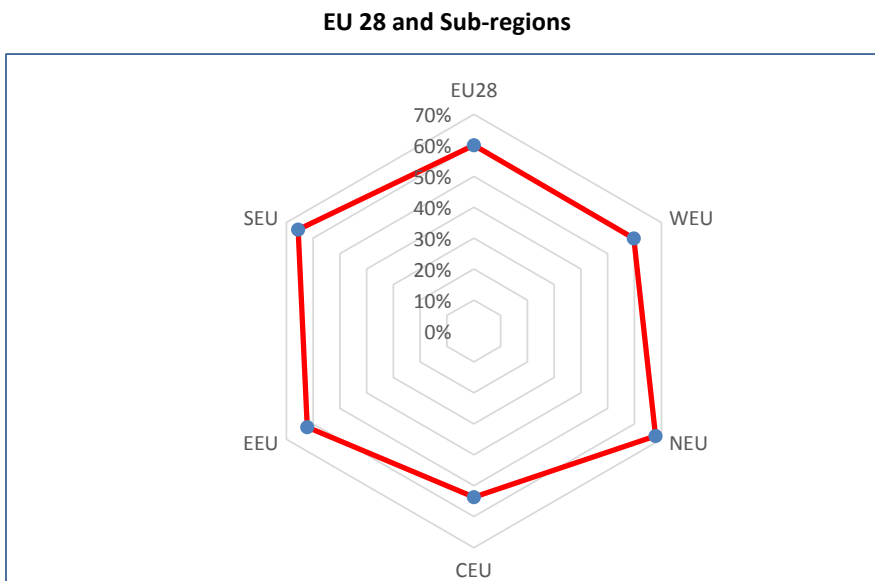
According to the survey carried with retailers, the increase of convenience/ready-to-eat products for consumers is a key driver for FAP consumption in all European areas. This seems partly in contrast with the very marginal interest of consumers towards this factor, as emerged from the Eurobarometer survey.

6.1.1.1 Willingness to experience new products

One of the personal factors that can impact diversification in FAPs’ consumption is people’s willingness to experience new products, which is shown by 60% of consumers (buyers) in the EU.

The survey’s results show that this is more significant in Northern and Southern EU countries, and lower in Central EU countries.

Figure 14 - Inclination to experience new products



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

Looking at socio-demographic categories, old people (retired) and those with the lowest levels of education show a lower inclination to experience new products. On the other hand, young people (students) and the highest professional classes (wealthiest people dining out) show a higher inclination to experience new products.

Therefore, **cultural aspects motivate curiosity and the inclination to experience new things in general**, also due to external solicits, especially from the *media*. Indeed, the results of the survey are coherent with those of marketing specialist literature regarding consumption clusters (lifestyles)¹⁷.

6.1.2 Main external factors

In general, the main external factors group includes those deriving from third parties (mainly distributors of FAPs) namely¹⁸:

- Price levels;
- Products assortment (=diversification of the supply) of the POS;
- Promotional strategies adopted by the POS.

At **EU level, 68% of consumers would increase their FAPs consumption if their price level was lower**. Therefore, price represents a factor slowing the FAPs consumption growth and, as a consequence, promotional strategies adopted by POS could encourage FAPs purchase (and consumption).

Moreover, 51% of consumers would increase their FAPs consumption if they could choose within a wider products assortment. Therefore, **the diversification of the supply**, independently from the price level and in connection with promotional strategies, **would encourage FAPs purchase** (and consumption). In fact, as illustrated in the previous chapter, the inclination to experience new products is relevant for 60% of purchasers. This inclination can be negatively affected by a low assortment of products adopted by the POS.

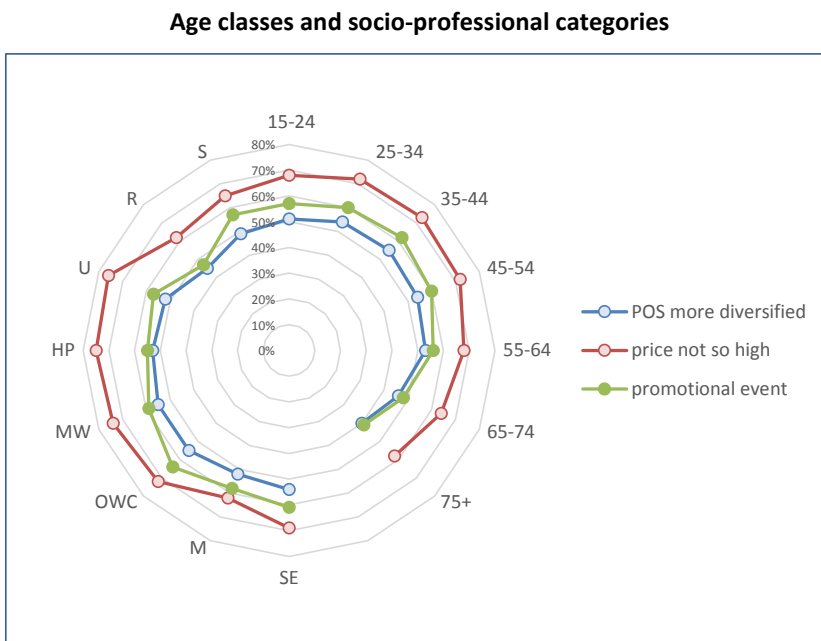
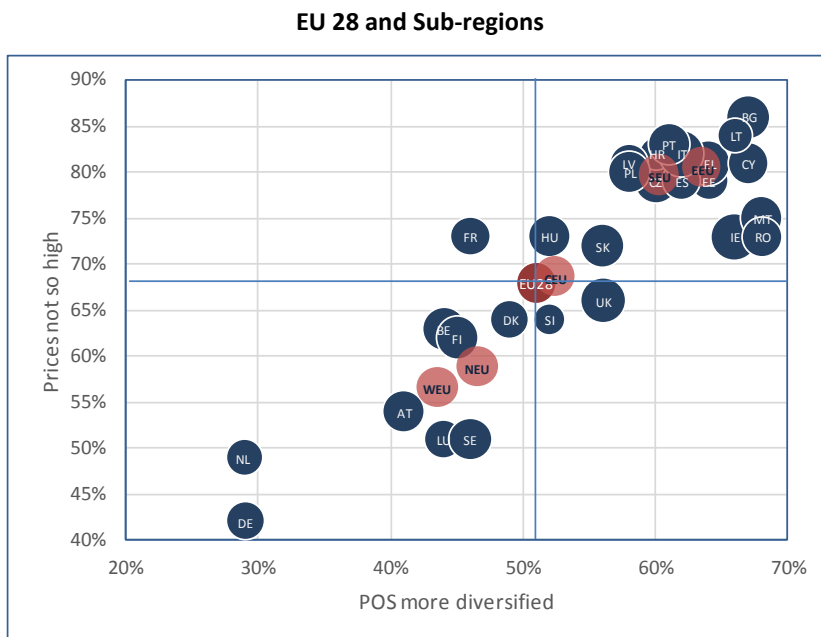
Overall, 56% of purchasers indicate that they are willing to try new products when there are promotional events. This openness can be exploited through promotional strategies that aim either at introducing new products or at making products already known by consumers more affordable.

With respect to the EU averages, the charts below show the Member States' (and sub-regions) and socio-demographic categories' positioning:

¹⁷ In literature about strategic marketing, potential consumers can be clustered on the basis of a series of factors more or less wide (socio-demographic, cultural, behavioural, consumption and fruition of communication means), which define the "lifestyle". For instance, elder people, with a minor educational degree and more hostile to innovation belong to a cluster that express a lifestyle that can be defined as "traditional consumers". On the other hand, wealthiest people with higher educational degree are clustered in a group where consumption criteria are "emotional": the orientation is towards distinction (in the sense of sophistication), the purchase is based on instinct, and there is a great attention towards new products. The behavioural orientation as regards food is moderate and attentive, but also innovating. (see Sinottica Eurisko, 2004)

¹⁸ The factors are recalled by some Eurobarometer questions, asking the following question to consumers: "Do you agree or disagree with the following statements regarding fishery and aquaculture products? : a) You try new products when there is a promotional event, for example at the supermarket; b) You would buy or eat more fishery and aquaculture products if the choice and the points of sale were more diversified; c) You would buy or eat more fishery and aquaculture products if the price was not so high.

Figure 15 - Main external factors encouraging the increase of FAPs purchase and consumption



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

Member States' and sub-regions' positioning is quite marked, as a group of countries is below the EU averages for all three factors and another group is positioned above them. More in detail:

- The first group (third quarter in the chart) includes Western and Northern sub-regions, with the Netherlands and Germany being more reluctant with respect to the EU average (along with Sweden, Luxembourg and Austria) to consume more FAPs. This means that in these countries/regions, FAP consumers' habits are quite consolidated and are likely to only be slightly impacted by external factors.

- The second group (first quarter in the chart) includes the Eastern and Southern sub-regions, with Bulgaria, Latvia and all Southern countries, except France, being more sensitive to the three factors. This means that, in these countries/regions, external factors could have a strong impact on the level of purchase/consumption¹⁹.

Finally, it can be observed that a few countries (United Kingdom, Slovenia, France) are positioned in the 2° and 4° quarters of the chart. Nonetheless, they report values close to the EU average.

If we look the survey's results by socio-demographic categories, it emerges that:

- Elder people (over 65), as well as retired and students, are the less sensitive to external factors. For these categories, these factors would have a marginal impact on their consumption of FAPs.
- On the other hand, people of the age group 35-44 are the most likely to increase consumption as a result of changes in external factors. Also unemployed are subject to consumption changes when price levels and promotional strategies change.

When it comes to the diversification of supply, the survey conducted with retailers highlighted that the range of fresh fish varies between 15 (in some retailers of landlocked countries) to 300 references (and sometimes even more) in hypermarkets of Southern Member States.

In landlocked countries (Central-Eastern), the range of fresh fish can include as many freshwater species as marine species.

Within the same LSR, the number of species also varies according to the surface of the stores: the bigger the surface, the wider the range.

The range of products may also be significantly wider in stores with fresh fish counters than in stores where fresh fish is only sold pre-packed.

Several elements can justify a range differentiation linked to location:

- distance to the sea: coastal stores vs hinterland stores (this is mostly the case of Southern Member States).
- socio-economic characteristics, in particular consumers' wealth.
- density of population: densely populated or urban areas vs rural areas.
- experience and expertise of the staff: in the chains where the retailer's policy is to have a minimal range common to all stores and an additional range left to the discretion of the local fish counter manager, the range of products is wider in those supermarkets where the fish counter is managed by skilled staff.
- regional consumption specificities: supermarket chains present in different regions of a country may have different fish sale patterns and therefore different ranges of products adapted to local specificities.

From the interviewed retailers' point of view, **the width and the diversification of supply can impact consumption**, depending on both the area and the strategy of the POS. However, it is more important to have a products assortment adapted to consumers' needs rather than a high diversification.

¹⁹ However, the diversification of the supply by the POS would surprisingly encourage the consumption growth in all those countries (Southern) where this diversification is already high.

As regards price policies adopted by the POS, there is no “fixed rule”. Nevertheless, in some Western countries, retailers may have three different price ranges (possibly with different corresponding brands, when it comes to prepacked fish): entry level (lowest prices), core level (core prices) and the top range (high-priced/premium).

However, the number of items in each category is not fixed and can change depending on needs and conditions. Price is not key to the retail strategy, which instead mainly concerns the adjustment of the number of items rather. For example, in some Southern Member States we can observe a reduction of the number of fresh products during the week and an increase during the weekend, since it can be an economic disadvantage to sell too many fresh fish products with a low turnover. On the other hand, changes may occur in the definition of price, from “free price” (which can be defined by each single supermarket manager, according to the product and the rivalry) to “stable price” (the same price for the same product applied in all stores of the retailer). This “stable price” concept is mainly used for farmed products, such as seabream, seabass and salmon. The price range for wild fish is less manageable, due to fluctuating availability.

In those countries where discount retailers play a pivotal role, supermarket chains keep an eye on price and operate as price matchers to the discount shops.

In a nutshell, we can state that **there is usually no specific rule regarding the number of items and price categories**, in particular in Southern EU countries. **The main factor influencing the number of products supplied and their price is their availability on the market**, which can fluctuate a lot from one year to another and according to seasons.

The issue of diversification of products in the POS as a factor aimed at increasing the consumption of FAPs has been also tackled by national studies (Task 1). However, beyond diversification of products, the majority of studies makes references to the diversification of the service offered to clients. In this regard, the following points should be kept in mind:

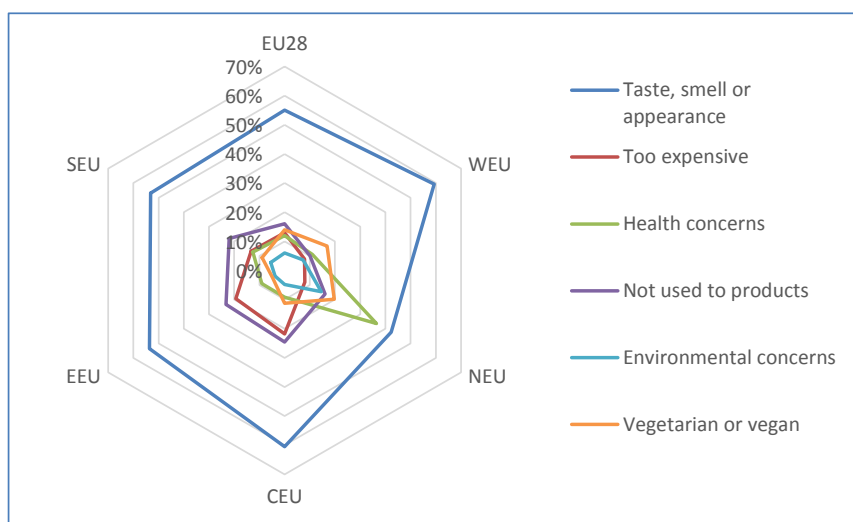
- **Estonia:** in order to increase consumption, fish should be made more affordable and available.
- **Romania:** consumers would like to have an additional service like gutting offered by the sellers.
- **Germany:** hard discounters started to sell fresh fish.
- **Denmark:** supermarkets offers door-to-door service for fresh fish, in addition to fresh fish counters. Fresh fish has become more easily accessible thanks to the development of home-delivery activity by online fish retailers and delivery of fish boxes to households.
- **France:** In front of a large range of products, consumers focus on species they know and which reassure them. Secondly, the organisation of the shop may encourage the purchase in self-service compared to loose fish.

6.2 Main non-consumption factors

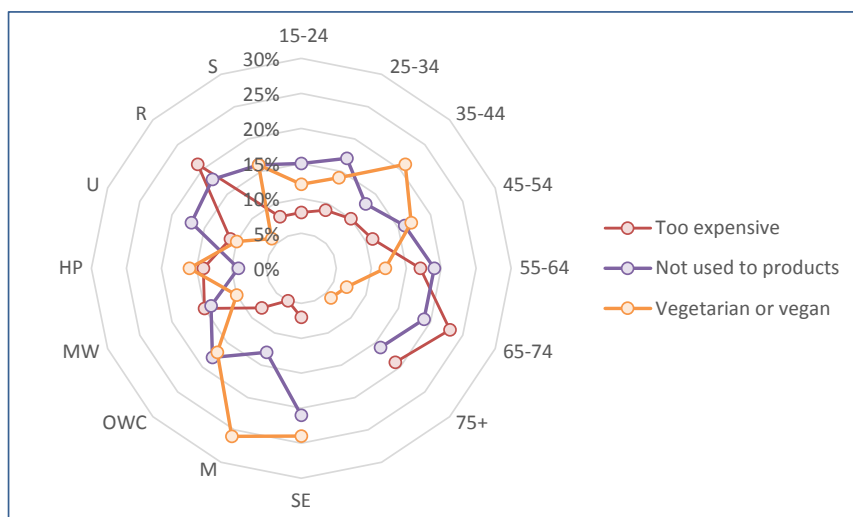
Up to now, this report has analysed consumers of FAPs. In this chapter, the reasons behind the decision not to eat/ buy FAPs²⁰ are investigated, trying also to identify possible ways to enlarge the number of consumers.

The charts below show the main reasons driving the decision of 13% of EU population not to consume FAPs. Results are reported by sub-region and by socio-demographic group.

**Figure 16 - Main non consumption/ non purchasing factors
EU 28 and Sub-regions**



Age classes and socio-professional categories



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

At EU and sub-regions' levels, it emerges that:

- 14% of non-consumers of FAPs are not eating any animal product for ideological issues (veganism/vegetarianism). Most of them (20%) are from Northern countries, and their minimum

²⁰ The analysis is based on non-consumers / non-purchasers as surveyed by Eurobarometer. Non-consumers represent 13% of respondents.

number is in Eastern countries (5%). 12% of non-consumers are driven by medical factors (allergies, etc.). Most of them (36%) are from Northern countries, and their minimum number is in Eastern and Central countries (9%). Non-consumers for veganism/vegetarianism and non-consumers for medical factors cannot be influenced by any external solicitations to consume fish.

- The majority of non-consumers of FAPs (55%) do not appreciate the organoleptic characteristics of seafood itself (taste, smell, appearance). The highest values are reported in the Central region (62%) while the lowest in the Northern region (42%). For such type of non-consumers, external solicitations have a very slight impact on their consumption choices. However, offer of new products could be a way to get this part of the population to eat FAPs.
- The lack of “habit” (factor deriving from their food traditions and therefore a lack of or limited knowledge of “fish”) cover 16% of non-consumers. Most of them (25%) are from Central EU countries, and their minimum number is in Western countries (10%). Potentially, **identifying specific initiatives aimed at enlarging fish consumption can have effect on this type of non-consumers** (increase of the penetration of non-traditional food habits). This is particularly true in the case of **Central EU countries** as they have **the lowest amount of per-capita consumption, the lowest purchase frequency** and the **highest percentage of non-consumers** (see chapter on regular purchasers vs non-purchasers).
- The “price” factor has a lower (13%) impact on non-consumers. The highest values are reported in the Central region (22%) while the lowest in the Western and Northern regions (8%).

The reasons for low fish consumption have been identified by some national studies (Task 1).

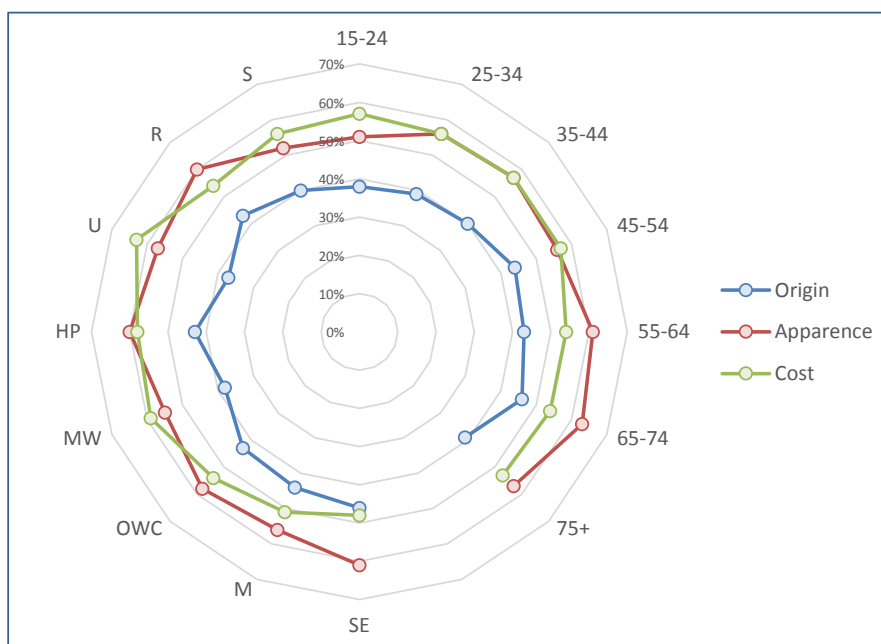
A study carried out in **Slovenia** confirmed that a high price of fish products and a poor offer of fish products in the vicinity of purchasing stores, as well as the presence of bones (an obstacle to higher consumption among children) and the difficulty of preparation (cleaning fish and a disturbing smell) represent the main reasons of the low consumption of these products.

Another study carried out in **France** stated that FAPs are also linked to pollution risks, high prices, cooking difficulties and product fragility.

At socio-demographic categories’ level, it emerges that

- Vegans/vegetarians are mainly non-consumers of the age ranging 35-44, managers and self-employed. The lowest number of vegans/vegetarians are in the age group over 75 and retired.
- Healthy factors mostly impact on non-consumers of the age range 45-54 and self-employed.
- The organoleptic characteristics of fish are more relevant for the youngest non-consumers, unemployed and students. They are less important for non-consumers of the age group 45-54 and house persons.
- The absence of a habit to consume FAPs mainly concerns non-consumers of the age group 55-74 and self-employed. It is marginal for non-consumers of the age group 35-44 and house persons.
- The price factor’s impact on eldest non-consumers is higher than on the EU average. This is also true for retired and manual workers. Young non-consumers, managers and self-employed are not so sensitive to price changes.

Age classes and socio-professional categories



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

At EU level, **appearance is the factor with the highest impact on purchasing decisions (58%)**; the cost and geographical origin factors follow, at 55% and 42% respectively²².

In general, the following observations can be made:

- one sub-region (Southern) and 3 Member States (Greece, France and Finland) report values above the EU average for all 3 factors.
- one sub-region (Western) and 3 Member States (Ireland, Netherlands and the United Kingdom) report values below the EU average for all 3 factors.
- The geographical origin of FAPs is a relevant factor (above the EU average) also in the Northern (especially in Sweden and Finland) and Central (especially in Hungary, Austria and Slovenia) regions, as well as in Germany, Croatia, Italy and Luxembourg.

As regards the combination cost / appearance, the chart shows a significant dispersion of Member States and sub-regions' positioning around the EU averages, as all quarters are full.

The interpretation of the chart allows the following observations:

- For those Member States and sub-regions positioned in the right part of the chart (1° and 2° quarters), appearance is a relevant factor (more relevant than at EU average level). Nonetheless, for some Member States, mainly included in the Eastern and Southern regions, this factor is combined with that of cost (1° quarter). Therefore, in these Member States /sub-regions, the price/quality ratio is a key driver of purchasing choices. For another group of Member States (Luxembourg, Malta, Italy and Denmark), positioned in the 2° quarter, the cost is less relevant. Therefore, in these Member

²² We are not analysing here other suggested factors for which a very low percentage of answers were collected (brand or quality labels; environmental, social or ethical impact; how easy and quick it is to prepare)

States, the key factor determining purchasing behaviour is appearance rather than the price/quality ratio.

- For those Member States and sub-regions positioned in the left part of the chart (3° and 4° quarters), appearance is not so relevant (below the EU average level). In addition, for a group of Member States mainly included in the Central region (Hungary, Slovakia, Slovenia), as well as for Croatia, this is combined with a strong relevance of the cost factor. Therefore, in these Member States, the key factor determining purchasing behaviour is FAPs' price.

Looking at socio-demographic classes, we can observe that:

- **Appearance and geographical origin** are considered more relevant for interviewees within the **age groups 45-74**, while they are less relevant for the youngest. In addition, the geographical origin is considered more relevant for wealthiest socio-professional categories and for those with the highest levels of education (managers, self-employed, other white collar)
- On the other hand, the **cost factor is the most relevant for the youngest** (within the age groups 15-44), as well as for **students, manual workers, unemployed and house persons** (i.e. all socio-professional categories with scarce financial resources or more focused on home-economics). Clearly, the cost factor is not so relevant for the wealthiest socio-professional categories.

Finally, comparing these results with those of the survey about the production method (wild/farmed), the marine/freshwater origin and the preservation state (fresh, frozen, etc.), it emerges that:

- For those expressing a preference in terms of production method (wild/farmed) and marine/freshwater origin, the factor geographical origin is more relevant;
- For those expressing a preference for wild and marine seafood, the factor appearance is more relevant;
- For those expressing a preference for fresh fish, the factor appearance is more relevant;
- Where preferences about production method (wild/farmed) and marine/freshwater origin are less relevant, the cost factor is a key driver of purchasing choices (consumers purchase cheaper products).

What factors affect the demand and the behaviours of purchasers has been investigated (more or less in depth) by national studies in 13 Member States (Estonia, Latvia, Lithuania, Bulgaria, Romania, Slovenia, United Kingdom, Sweden, Finland, Spain, France, Greece, Portugal, Croatia).

The findings of the national studies present some differences compared to Eurobarometer data, but in general both sources agree upon the **identification of price and appearance as the key factors influencing purchasing behaviours**. More in detail:

- In all countries, the price (or the ratio price/quality) resulted as the most mentioned factor. It represents the most important aspect in Lithuania, Bulgaria, Romania, Slovenia, UK, Croatia, or the second most important one in Estonia, France, Spain, Greece.
- The appearance (and freshness in particular) has been explicitly mentioned in fewer Member States (Estonia, Latvia, Lithuania, Romania, United Kingdom, France Greece, Spain) and it resulted as the most important factor only in France, Greece and Spain.

On the other hand, as surveyed in national studies, the **product origin appeared to be more marginal compared to what resulted from the Eurobarometer**. It has been mentioned only in Spain, Estonia (but only for fresh and smoked products, and not for frozen) and in Slovenia (only for persons aged 56-65, with high incomes and high educational degree).

Finally, a study covering Spain provides information also with reference to consumers typologies according to specific behaviour and socio-demographic parameters: consumers who are mainly interested in freshness are frequent consumers (between 1 and 3 times a week) and this attention to freshness increases with the age (35% of the 18-30 years old and about 55% of consumers who are more than 45 years old). Consumers for whom the first criterion is the price are young people (less than 30 years old) and not frequent consumers.

The Stakeholders surveys confirm that the product's **price and its price-quality ratio are important factors for consumption.**

According to the interviews' results, FAPs have an image of expensive products for many consumers, even if affordable fish products are available in most assortments. Thus, promotion on price plays a pivotal role to attract new consumers.

Price-quality ratio is an important factor since many consumers are willing to pay for fish if the quality is high (in terms of freshness and convenience).

As regards the **geographical origin, for LSRs in Southern and Western EU countries it is an important factor, while it is less relevant in other areas.** However, for the same LSRs, this factor is not a key driver of purchasing choices. More specifically, details on local/national origin provided by LSRs are considered more relevant, as the basic information about EU/non-EU origin does not impact on FAPs purchase.

The **issue of FAPs' origin** was also the subject of different national promotional campaigns (in Estonia, Poland, Czech Republic, Hungary, Slovakia, United Kingdom, Ireland, Belgium, Sweden, France, Greece, Portugal, Croatia, Spain, Italy). The choice to insist on the issue of origin seems "excessive" compared to findings resulting from Eurobarometer, and in contrast with what has been reported by national studies and (partly) with comments from LSR. Therefore, **the focusing of campaigns on this topic seems to be driven by the needs of the local industry rather than the effective sensibility of consumer on this factor.**

7 Information on fisheries and aquaculture products (FAPs)

This chapter concerns the topic on information related to FAPs under two perspectives:

1. In terms of availability of information deriving from:
 - Member States' national promotional campaigns carried out during 2004-2015;
 - Other sources (both private and institutional).
2. Information provided, specifically in terms of details provided in products' labels:
 - Mandatory
 - Voluntary
 - Expected by consumers

7.1 National campaigns during 2004-2015

The collection of national campaigns on information and promotion about FAPs allowed to identify 635 campaigns for the 2004-2015 period within the EU. The content and objectives of these campaigns are summarised under Annex 3.

As shown in the synoptic table below, some key elements emerge:

- Southern EU countries ran the great majority of campaigns. They covered the highest number (and the highest level of diversification) of both focus areas and FAPs species.
- Other countries included in the remaining sub-regions ran a limited number of campaigns, mainly aimed at increasing the consumption of local (and therefore few) species.

Table 6 - Synoptic table summarizing information campaigns between 2004 and 2015- by Member State and sub-region ²³

		N.camp	Main objectives	Types of products
Eastern EU countries	Estonia	2	Increasing consumption; Improving the image; Promoting domestic fish species	Fisheries and aquaculture products
	Latvia	6	Increasing consumption; Promotion of the sector; Promotion the nutritional aspects	Salmon, lamprey, sturgeon, carp, trout, eel, crayfish, herring, cod, perch
	Lithuania	5	Promotion of the sector; Promoting products from small-scale enterprises	African catfish, trout, salmon, carp, tench, pike, sturgeon
	Bulgaria	18	Increasing consumption; Improving the image	Fisheries and aquaculture products
	Romania	8	Increasing consumption; Raising consumer awareness of benefits of products	Carp, European catfish, sander, trout, mackerel, salmon
	Polonia	13	Increasing consumption of domestic species; Raising consumer awareness of benefits of products	Trout, carp, herring, pike, cod, pike-perch, halibut, sprat, flounder
Central EU countries	Austria	0		
	Czech Rep.	3	Increasing consumption of local species;	Carp
	Hungary	2	Increasing consumption of local species;	Carp
	Slovenia	0		
	Slovakia	1	Increasing consumption of local species; Raising consumer awareness of benefits of products	Carp, trout, sander, pike
Western EU Countries	United K.	3	Increasing consumption for sustainable species; Development of new value-added products from local species; Training of chain operators	Herring, salmon, haddock, sea trout, cod, scampi prawn, brown crab, velvet crab, lobster, scallop
	Ireland	3	Increasing consumption for sustainable products; Raising consumer awareness of the origin of the species; Promoting of local species focusing on sustainability	Mussels, hake
	Netherlands	1	Increasing consumption; Diversifying activities in the fisheries industry; Training of industry operators	Plaice, hake
	Germany	3	Improving the image of industry; Raising consumer awareness of benefits of products; Training of industry operators; Developing educational programmes for schools	Fisheries and aquaculture products
	Belgium	1	Increasing consumer awareness and demand for products offered by local companies	Fisheries and aquaculture products
	Luxembourg	0		
Northern EU Countries	Sweden	7	Increasing consumption; Strengthening market opportunities for local species	Northern pike, burbot, vendace, walley, European perch, flounder, halibut, herring, lobster, oyster
	Denmark	3	Increasing consumption (in general, by children and in national food-service sector); Improving the image; Increasing consumer awareness	Fisheries and aquaculture products
	Finland	5	Increasing consumption; Increasing consumer interest and knowledge	Herring, pike, crayfish, ide, roach
Southern EU countries	France	49	Increasing and promotion consumption for domestic species from French fleet; Increasing consumer interest and knowledge; Increasing the awareness among young	All fisheries and aquaculture products with a focus on domestic species
	Greece	9	Promoting the significance of the local aquaculture industry; Increasing the awareness among young; Promoting market opportunities for local small-scale fishermen	Sprat, herring, mackerel, cod, salmon, redfish, mullet, anchovy, Mediterranean seabass, seabream, perch, mussels, octopus, squid, shrimp, cuttlefish
	Portugal	18	Increasing consumption of local products; Increasing market value and recognition of local fish; Educational and training programmes for younger consumers	All fisheries and aquaculture products with an emphasis on species of low commercial value - Atlantic chub mackerel, octopus, cuttlefish
	Croatia	3	Increasing consumption of local species; Raising consumer awareness of benefits of products	Seabass, seabream, turbot, oysters, mussels, Albacore tuna, Bluefin tuna, anchovy, sardine, hake, mackerel, horse mackerel, rainbow trout, octopus, squid
	Spain	455	Increasing consumption of local species; Improving the image; Raising consumer awareness of benefits of products; Promotion of sustainable catching methods; Increasing the awareness among young	Sardines, anchovy, rainbow trout, carp, seabass, seabream
	Italy	15	Increasing responsible consumption; Increasing value of local species of low commercial value; Identifying new domestic markets; Improving the quality, safety and sustainability of products; Educating and training programmes (for chain operators and younger consumers	Anchovy, sardinella, sardine, Chub mackerel, Atlantic horse mackerel, Albacore tuna, Atlantic bonito, sprat, Cow bream, East Atlantic peacock wrasse, comber, barracuda, common pandora, Silver scabbard fish, Flathead grey mullet, bottarga, hake, carp, octopus, seabass, seabream, trout, salmon, turbot, mussels, lobster, oyster, clam and other fish and seafood species
	Cyprus	1	Increasing consumption; Increasing consumer interest and knowledge	Fisheries and aquaculture products
	Malta	1	Increasing consumption; Education, strengthening consumer awareness and adding diversification in the national consumption patterns.	European hake, chub mackerel, Atlantic horse mackerel, amberjack, ray, European seabass, Gilthead seabream, Saddled seabream

²³ The higher number of promotional campaigns in Spain and France is explained by the way in which campaigns are calculated (in Spain, the number also includes promotional projects, according to extractions from the EFF monitoring system)

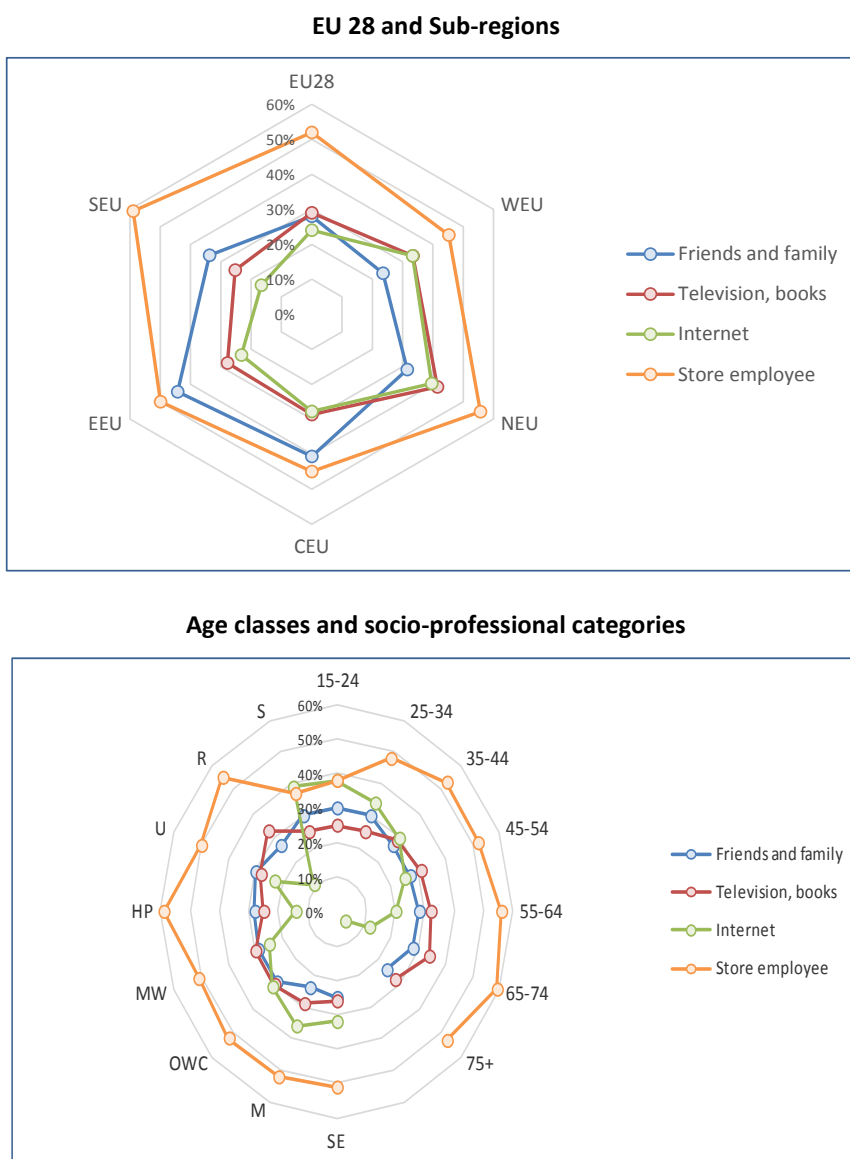
7.2 Sources of information for consumers

The Eurobarometer survey enabled to analyse which sources consumers resort to in order to collect information about FAPs.

At EU level, **store employees or fishmongers are by far the main source of information for consumers (52%)**. Friends and family, television and the internet follow, reporting percentages within the range 24%-29%. Public institutions and non-governmental organisations only play a marginal role (4%-5%).

At sub-regional and socio-economic category levels, some differences emerge:

Figure 18 - Sources of information for consumers



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

At sub-regional level, we can observe that:

- The Northern region reports values higher than the EU average for all sources of information, especially for television and the internet.
- The Central region reports values higher than the EU average for friends and family, the internet and public institutions.
- The Eastern region reports values higher than the EU average only for friends and family.
- The Southern region reports values higher than the EU average for friends and family and for store employees or fishmongers.
- The Western region reports values higher than the EU average for all sources of information except store employees or fishmongers.

Therefore, in general, while the Northern and Western regions prefer impersonal sources of information that entail no interaction (such as media), the Southern and Eastern regions prefer sources entailing a higher level of interaction.

Looking at socio-demographic classes, we can observe that:

- The store employee or the fishmonger are more important than the EU average for adults/old people, as well as for house persons and retired (i.e. those classes with more time available to spend shopping for groceries).
- The source friends and family is more important than the EU average for the youngest (age range 15-34), as well as for students and unemployed.
- The source television is more important than the EU average for adults within the age group 45-74, as well as for retired and manual workers.
- On the other hand, the Internet is preferred by young people and it is less and less used as age increases. Furthermore, while it is preferred by student, it is less important than the EU average for all active professional categories (managers, self-employed, other white collar, manual workers).

As a consequence, the sources of information used by FAPs consumers appear to be linked to their socio-demographic profiles. Indeed:

- More innovative sources (such as the internet) are used by young people and active people that probably use them also out of home;
- More traditional sources entailing less interaction (such as television, magazines, etc.) are used by less active and eldest people, presumably at home;
- Sources entailing a higher level of human interaction (such as store employees or fishmongers) are used by people with more time available to spend shopping, who consider going to POS as a “social moment”.

7.3 Consumers' attitude towards information on products' labels

This chapter concerns the analysis of two aspects emerging from the Eurobarometer survey:

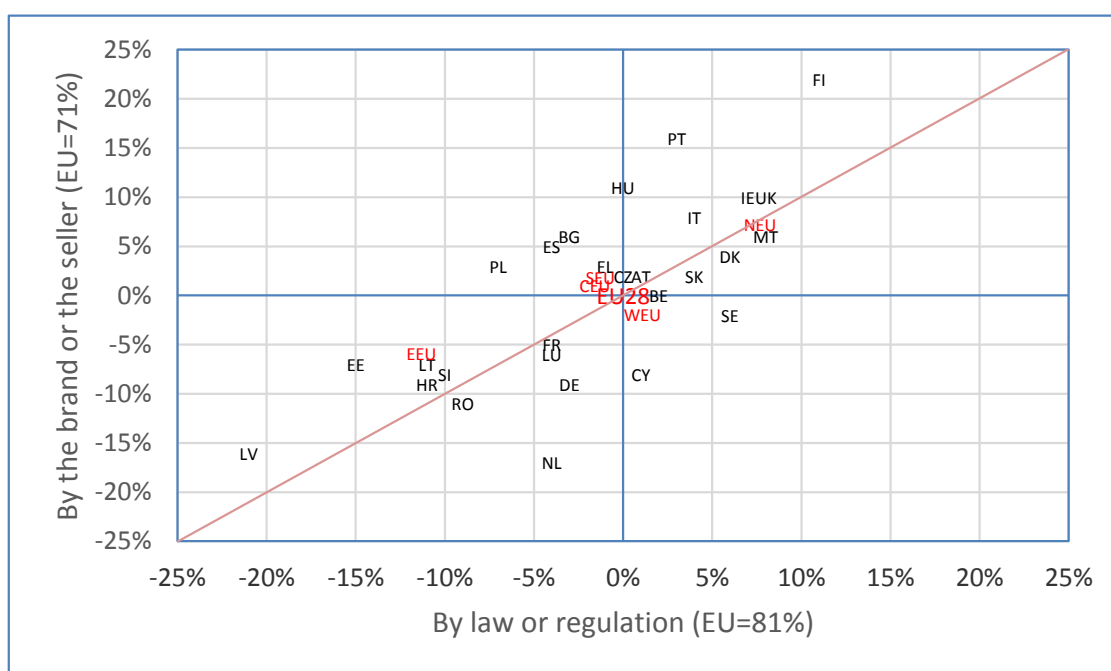
1. Consumers' trust in mandatory information (by law or regulation) vs voluntary information (provided by the brand or the seller);
2. Clarity and simplicity of information reported on FAPs.

7.3.1 Trust in information

At EU level, 81% of FAPs' consumers express trust in mandatory information, while 71% affirm to trust voluntary information (provided by the brand or the seller). In absolute terms, the percentage of FAPs' consumers expressing trust in **mandatory information** is higher than the percentage of consumer expressing trust in **voluntary information** in all Member states, excepted for Portugal, Finland and Hungary.

In relative terms, the chart below shows the positioning of Member States and sub-regions with respect to the two types of information (mandatory vs voluntary), expressed as differences from the EU average (EU=0).

Figure 19 - Total trust information accompanying fish or aquaculture products



Combining the two types of information it emerges that some countries (Finland, Portugal, Italy, Ireland, United Kingdom, etc.), as well as the Northern sub-region, are positioned in the first quarter of the chart. This means that for these countries, the **trust level is higher than the EU average** for both types of information (especially in Finland). The graph also shows that the countries above the bi-sector tend to trust voluntary information (i.e. the market) even more than the EU average, and *vice versa*.

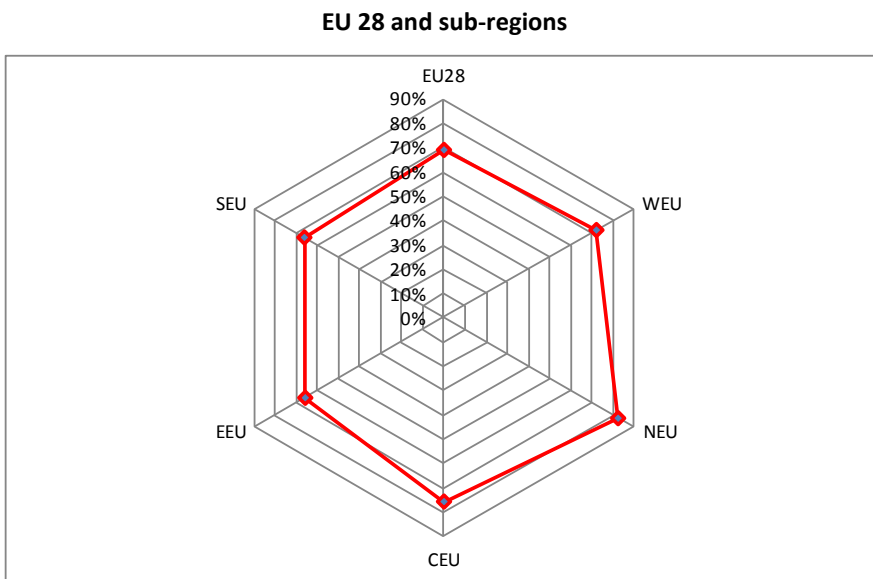
On the other hand, a large number of countries positioned in the third quarter have a lower trust (compared with the EU average) in both types of sources. Among them, Baltic countries, Croatia, Slovenia, as well as the Eastern region, stand out. Also in this case, the lowest trust in each type of information varies according to the positioning above/below the bisector.

7.3.2 Clarity of the information

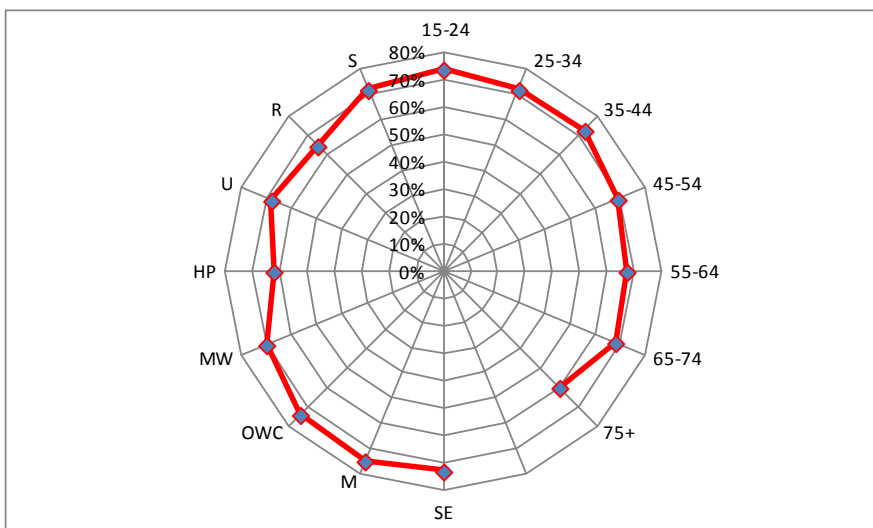
At EU level, 69% of purchasers consider the information on FAPs clear.

At sub-region level, significant differences emerge. The highest level of clarity is recorded in the Northern region (82%) while the lowest in the Southern and Eastern regions (66%).

Figure 20 - Clarity of the information



Age classes and socio-professional categories



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R= Retired; S = Student

Looking at socio-demographic categories, clarity is rather linked to age classes (higher levels for young people: 75%; lower levels for over 75: 60%) and socio-professional classes, as they also express the cultural level and interaction skills – such as reading skills and ability to understand (higher levels for managers and other white collar: 75% and 74%, respectively; lower levels for house persons and retired: 62% and 65%, respectively).

7.4 Consumers expectations about information available on FAPs' labels

This chapter summarises the results of previous tasks concerning consumers/purchasers attitude towards information available on FAPs' labels.

The level of consumers'/purchasers' interest is analysed both with respect to mandatory information and voluntary information that could be added on labels.

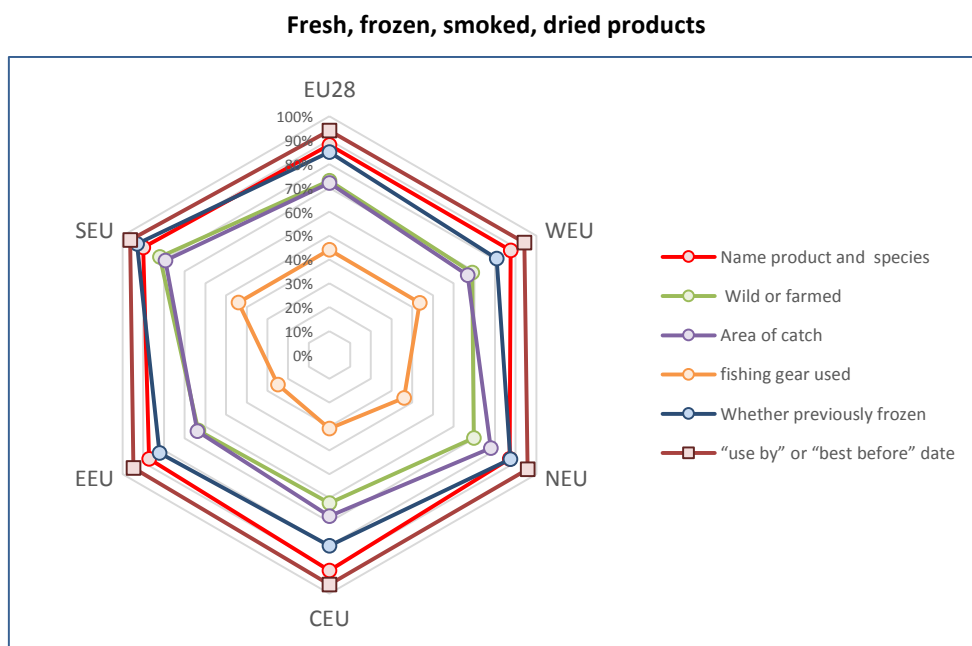
7.4.1 Consumers'/Purchasers' attitude towards mandatory information

The Eurobarometer survey includes fresh, frozen, smoked and dried products.

Interviewees were asked to express an opinion about the relevance of a suggested list of information.

The chart below show the survey's results summarised at EU and sub-region levels. They report the percentages of consumers/purchasers considering the suggested information as important.

Figure 21 - Importance of mandatory information on FAPs labels (%)



(*) SE = Self-employed; M = Manager; OWC = Other white collar; MW = Manual worker; HP = House person; U = Unemployed; R = Retired; S = Student

The following conclusions can be made:

- All suggested information is considered very important (>70%), except that regarding the fish gear used, which is important for only 44% of consumers;
- The product's expiry date is the most important information, mentioned by 94% of consumers/purchasers at EU level. At sub-regional level, no significant difference emerges with respect to the EU average;
- "Product and species names" ranks second (88% at EU-28 level), with limited differences at sub-regional level;

- “Whether previously frozen” is the third most important information (85% at EU-28 level), with significant differences at sub-regional level (Southern region: 93%; Central region: 80%);
- The Southern region is the one expressing a level of interest higher than the EU average for all suggested information.

7.4.2 Information expected by FAPs purchasers (voluntary)

The last part of the analysis concerns the consumers’ attitude towards some voluntary information that could be provided about FAPs.

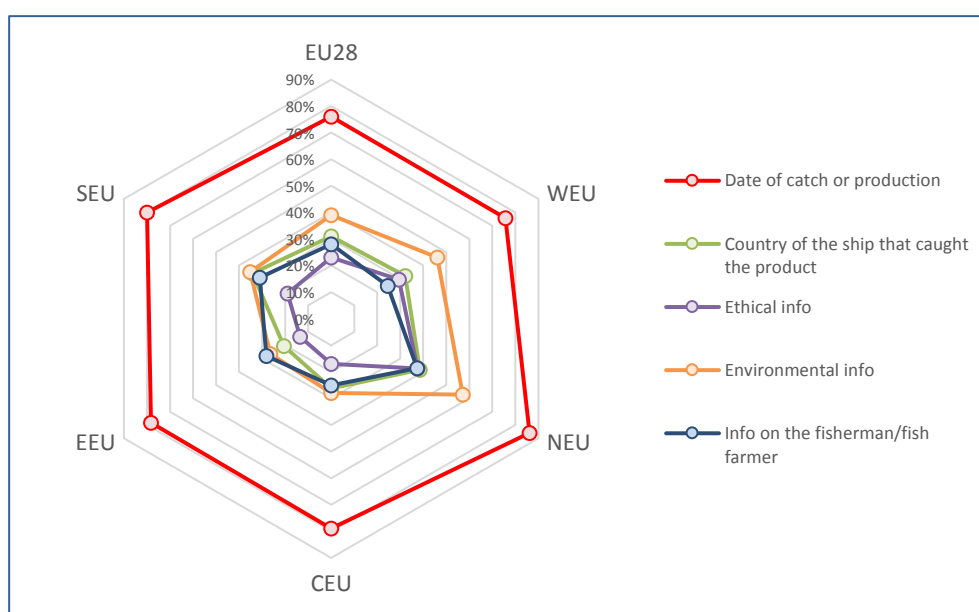
However, it is worth highlighting that all this information was suggested to the interviewees on the basis of examples spelled out in legislation. Therefore, it is likely that some entries would not be mentioned if spontaneous answers were requested. In fact, only one information (“Date of catch or production”) is considered important by more than 50% of consumers. All other categories are largely below 50%, therefore not statically relevant.

Almost all other pieces of information suggested were basically considered as not important (i.e. they may be ‘nice to have’, but consumers do not particularly expect to have this information and are not particularly looking for it), namely: port in which the product was landed, nationality of the vessel that caught the product, ethical information, social information, information on the fisherman / fish farmer.

As shown in the chart below, besides the “Date of catch or production” which is important for all sub-regions (especially for the Northern region), the percentage of importance is >50% for “Environmental information” only in the Northern Region.

Looking at socio-demographic categories, the interest about environmental information is higher for youngest people and for socio-professional categories with the highest levels of education and wealth. Therefore, these categories could be the target of specific campaigns about environmental issues.

Figure 22 - Voluntary information for all FAPs



The results of this part of the survey is quite discouraging in terms of consumers’ interest about the voluntary information suggested. This is not the case for the information on the “Date of catch or production” and for other items in the Northern region.

Finally, a certain correlation emerges between the level of interest about information “Date of catch or production” and the percentages of consumers preferring wild fish. This correlation does not exist for farmed products, i.e. consumers eating farmed products pay less attention to the “Date of catch or production”.

Figure 23 - Info on the date of catch or production / consumers preferring wild fish

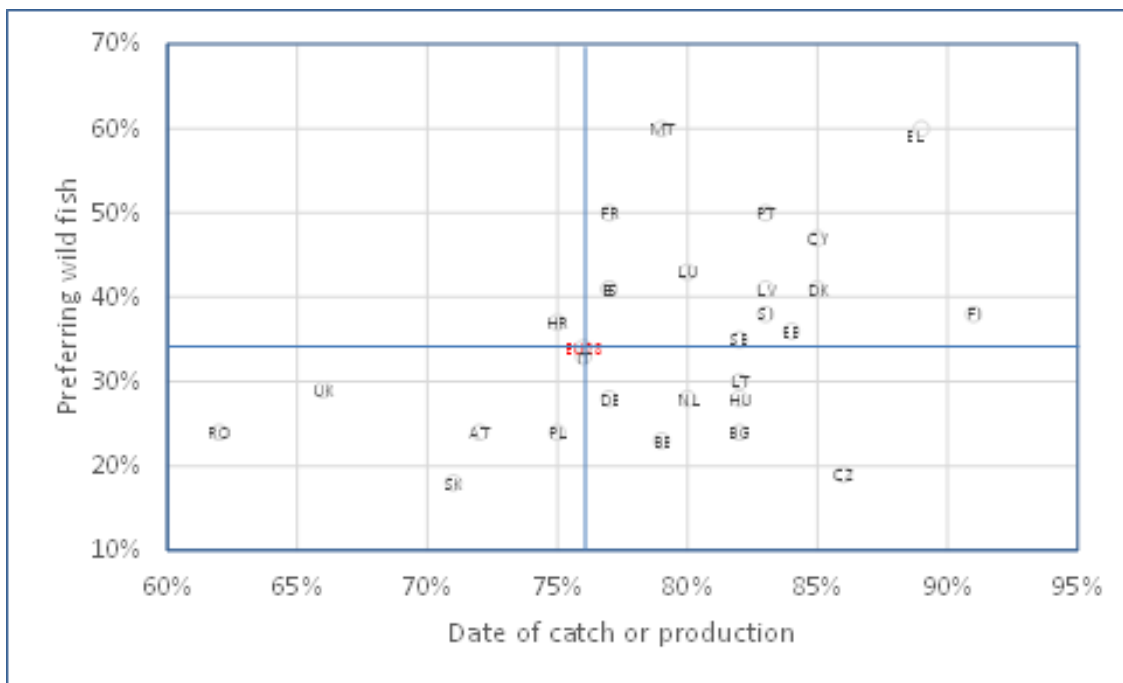
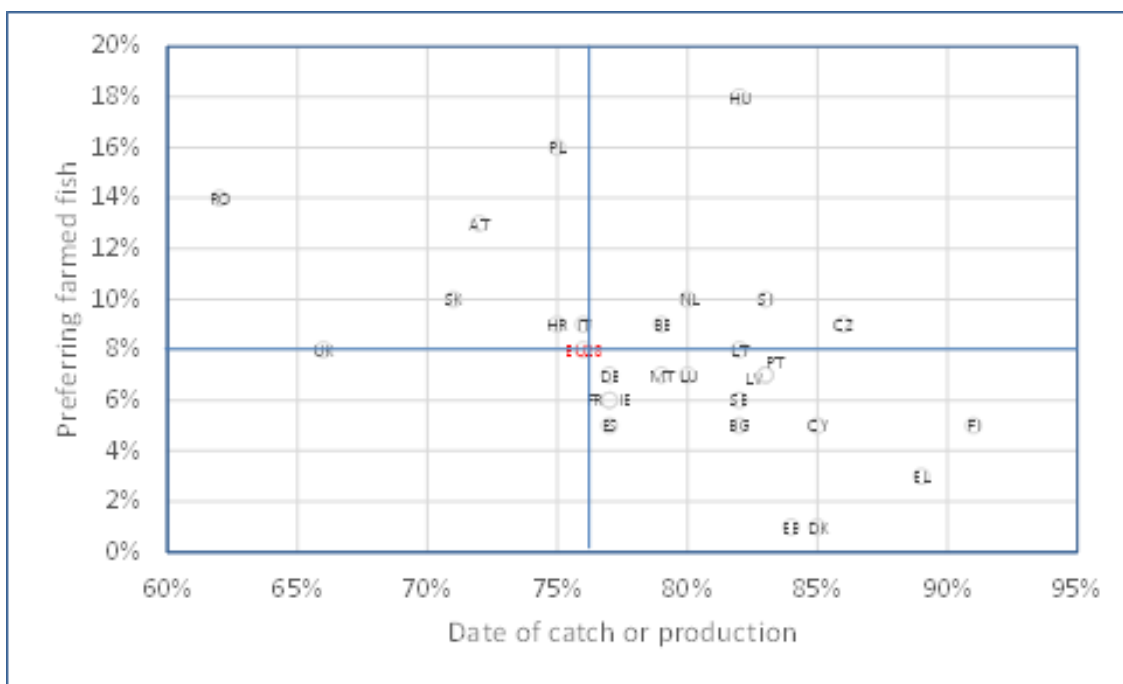


Figure 24 - Info on the date of catch or production / consumers preferring farmed fish



The retailers' survey confirmed that **information provided to consumers should be clear and targeted, as well as useful**, and that this plays a pivotal role in the increase in consumption registered in the Northern, Southern and Western regions. However, this information does not necessarily influence consumers' choices.

According to the retailers surveyed, the most relevant elements to inform consumers about are: *how to use fish* (preparation, cooking), *production method* (wild/farmed) and *origin* (local, specific scheme related to origin). On the other hand, interviewees reported that the information about the fishery method, the tools used and the fishing zone do not impact sales, as consumers do not understand them.

Labelling and branding are mentioned by only 26% of LSRs as a factor that may drive sales. This factor is more important in the Northern and Southern regions (for respectively 50% and 40% of LSRs).

Eco-labelling has showed an important increase in the last decade. It is an expectation for some consumers but LSRs indicate that it has a low impact on sales. However, sustainability is likely to remain a major issue for FAPs.

Branding remains limited in the sector and it is not a key driver. In some areas, quality schemes (PGI, Label Rouge) play an important role by providing segmentation and advertisement in the shelves.

8 Conclusions and recommendations

This final chapter focuses on some of the aspects highlighted in the previous ones, which can be object of some recommendations.

- A. The first aspect concerns the development of the market and future perspectives. Exception made for a few instances, the statistical analysis showed, on a ten-year basis, a limited growth of per-capita consumption volumes. Nonetheless, the evolution of consumption affected market players (i.e. distribution) in a different way, registering an increase of LSR market shares and a decrease of other sales channels. According to LSR expectations, this evolution should continue also in the future.

If this happens, it is likely that the composition of consumption could further change in the future. In fact, making reference to “fresh market”, the analysis highlighted that LSR have in general a higher interest in selling farmed fish compared to wild fish, given that:

- The “industrial” approach of producing fish allows to better adapt supply flows to demand changes, and grants a higher prices stability compared to wild fish;
- Supply contracts are often directly signed with aquaculture companies, with a further reduction of intermediate costs.

In this scenario, and given that consumers purchase what is offered them by distributors (and not always this reflects the expectations and preferences of consumers), it can be argued that market shares of farmed products will keep on growing in the future, while wild fish will decrease. This should take place regardless of the preferences expressed by consumers about wild fish.

This process could be further strengthened in case the economic stagnation will persist in the near future, considering that within this economic context, consumers’ purchases are significantly driven by price (in general lower in LSR compared to other POS, and lower for farmed products compared to wild)²⁴.

The growth in market share of farmed fish might also be supported (and / or accelerated) by the objective of some national promotional campaigns aimed at:

- Reducing negative perceptions related to farmed products, and having as a main objective the relocation of consumers’ preferences from wild to farmed fish.
- Promoting the local origin of products (in countries in which aquaculture is developed), although the analysis has shown that this focus overestimates the importance of this factor (i.e. the local origin) for consumers.²⁵.

- B. The second aspect concerns the relationship between the consumption level and the percentage of regular consumers of FAPs (penetration rate). The study shows the existence of a relationship

²⁴ Eurobarometer data, confirmed by national studies, put into evidence that caught species are preferred by a large part of consumers, more than farmed species in almost all EU Member States. Furthermore, the study highlighted a preference towards wild fish for those consumers which have “*Wellness and Health*” as the main factor driving the purchase of FAP, and having “*Appearance*” as the main factor affecting purchases. However, most consumers of almost all Member States did not express any preferences, since purchases are significantly driven by price (or price/quality ratio) and not by specific preferences on production methods, which play a much less important role.

²⁵ Therefore, more than simply meeting expectations/preferences of consumers, these campaigns seem to be functional to combined interests of aquaculture producers and LSR.

between the level of per-capita consumption and the penetration rate. This means that, especially in countries with low per-capita consumption, the consumption growth is (also) linked to the growth of the product penetration rate, and the initiatives that affects the second echoed also on the first.

In this sense, beyond price decreases, some initiatives seem to play a positive role, and therefore should be supported and continued. More in detail, favourable initiatives could be:

- Promotional initiatives and a wider assortment of products in the POS, which could stimulate the interest of non-regular consumers and (partly) non-consumers, in particular those inclined to try new products;
- Initiatives aimed at diversifying the service offered to clients (gutting service, door-to-door service, etc.), which could contribute to overcome some reasons for non-consuming fish;
- National campaigns, which tend to involve non-regular consumers and (partly) non-consumers in “sensitive issues” (e.g. health).

- C. The third aspect concerns **consumers’ attitude towards FAPs according to their socio-demographic category**. The analysis highlighted a significantly diverse behaviour in consumers/purchasers with different ages or socio-professional backgrounds, including different levels of education and economic status (young students, old retired, managers and self-employed, etc.).

According to the main elements that emerged in the study, three consumers’ targets are summarised in the tables below, as they show diverse behaviours with respect to FAPs.

Keeping in mind different contexts in each Member State, the **table below may represent a tool for the modulation of policies** and communication strategies for the development of the sector, with relation to the different target-groups.

Indeed, depending on the objectives that one wants to achieve, different uses of this table can lead to a number of strategic approaches. For instance, if the objective is to increase the consumption of aquaculture products, it could result more appropriate to modulate the national campaigns communication according to the different orientations of “old people” and “high socio-professional classes”, and by young people/students on the other side, for the purpose of increasing the penetration rate within the target potentially “more available” (young people/students in this case).

TARGET PARAMETERS	YOUNG PEOPLE / STUDENTS	OLD PEOPLE / RETIRED	HIGH SOCIO-PROF. CLASSES
<i>Consumption frequency</i>	Low	High	High
<i>Preference wild or farmed</i>	Farmed	Wild	Wild
<i>Type of product preferred</i>	Processed products	Fresh products	Fresh products
<i>Type of presentation preferred</i>	Pre-packed	Loose	Both
<i>Propensity for experimentation</i>	High	Low	High
<i>Personal key-factor</i>	None	Wellness and health	Hedonism
<i>Product factor</i>	Cost	Appearance, origin	Origin
<i>Sources of info on FAPs</i>	Internet, Friends & family	Store employees, television	Internet

The analyses also highlighted that the target “young/student” is the weakest link of the FAPs purchase/consumption system. All communication initiatives and educational campaigns developed by public authorities and that could be launched for involving young consumers could prove crucial for the sector’s future. We therefore recommend the continuation of such initiatives.

- D. The fourth aspect concerns the **information provided to consumers**. The study highlighted that, among the items listed in legislation that can be provided as voluntary information on FAPs, only “*Date of catch or production*” was considered relevant by consumers, who thought it should appear on labels.

Therefore, extending information on FAPs’ labels beyond what is mandatory by legislation and beyond the addition of the catch / production date may not necessarily interest consumers at large. Specific consumer groups may be interested in one or the other voluntary information. However, the decision to provide this additional information should be carefully evaluated against the targeted consumer group, in order to avoid any risk of information fatigue.

- E. The last one is a methodological aspect, concerning the **criteria based on which Member States and sub-regions are grouped**.

For all topics (from per-capita consumption and expenditure and consumption habits to factors impacting FAPs purchasers choices), the analysis highlighted that the positioning of each Member State belonging to the same sub-region can be very different, as it depends on food habits and patterns with a high level of peculiarity for each country. On the other hand, Member States of different sub-regions could also show similar positioning. Therefore, grouping geographical areas according to countries’ homogeneous characteristics is not so effective for targeting policies (such as institutional communication). It is rather recommended to identify different clustering solutions that could be based on criteria other than geographical location, such as:

1. Socio-economic classes deriving from the combination of per capita expenditure and Annual Average growth Rate (see chap. 0)
2. Combination of parameters referring to consumers’ habits (e.g. different buying frequency of regular purchasers and non-purchasers) (see **Table 5** in chap. 5.1).

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