



European Commission



CASE STUDY

CANNED SARDINE IN PORTUGAL



PRICE STRUCTURE IN THE SUPPLY CHAIN

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SUMMARY

- World production of *Sardina pilchardus* was 1,2 million tonnes in 2015. Morocco provides 72% of this production and the EU 17%.
- The EU has a sardine trade deficit of EUR 100 million, attributable mainly to the import of canned sardine but also, to a lesser extent, to the imports of frozen sardine needed by the EU canning industry.
- The EU market for canned sardine is dominated by France and Spain, with Spain and Portugal being the two major processing countries and Portugal the main exporter.
- We focus here on the price transmission in Portugal, where the sardine is an emblematic species and where landings of sardines have heavily decreased in the last 5 years, falling from 64.000 tonnes in 2010 to less than 14.000 tonnes in 2015, due to severe conservation measures taken by the government.
- The ex-factory price of the canned sardine was not impacted by the price of the raw material (sardine), as long as raw material did not account for more than 30% of the ex-factory price of the can, i.e. until 2011.

The picture has completely changed from the beginning of 2012, in relation to the dramatic drop in Portuguese catches. The ex-factory price of canned sardine now reflects the increased price of the raw material, which represents 42% of the total production cost of sardines in vegetable oil in 2015, against 29% in 2011.

- This situation has shrunk operating margins of canners, which have been reduced by 25% between 2011 and 2015.

0 TASK REMINDER – Scope and content

0.1 Case study scope

Reminder

The rationale for choosing sardines for an analysis of price transmission and distribution of value in some EU supply chains is described in the following table.

- The study describes the main canned sardine markets in the EU and particularly focuses on one of the most important markets (in terms of per capita consumption) for both fresh and canned sardines: Portugal. Analyses are particularly developed for canned sardine but also concern the supply take in fresh sardine.
- An overview of available information and preliminary analysis is proposed for the other relevant markets where both fresh and processed segments are significant (Spain, France, Italy).

Products	Origin	Characteristics	Market and price drivers
Sardine (whole, for fresh market and canning industry)	Fisheries (EU + extra-EU)	<p>Emblematic species in Portugal</p> <p>Strong export tradition of canned sardines</p> <p>Fresh product affected by uncertain supply (seasons, size, volume) and market issues</p> <p>Competition with imported raw materials (fresh sardines from Spain, frozen sardines from Spain and Morocco) and imported finished products (Morocco)</p>	<p>Supply/demand balance (market stability)</p> <p>Price of imported sardines (fresh, frozen and canned)</p> <p>Differentiation of EU products vs. imported products</p>

Key elements of the analysis concerns:

- The supply-demand balance (stability of the market);
- The competition with imported products (frozen and canned sardines from Morocco);
- The impact of MSC certification of fisheries on added value;
- The positioning of EU products vs. imported canned sardines.

Species - Products	Main MS (focus)	Other MS (overview)
Sardine (fresh and canned)	Portugal	Spain, France, Italy

0.2 Content of the document

The methodology proposed and agreed for developing case studies on price transmission in EU supply chains involves two main complementary tasks:

- First, collection of the maximum of available data and statistics and development of specific investigations;
- Secondly, interviews with experts and stakeholders in the objective of getting qualitative comments on structured data produced in task 1, and for collecting complementary information on standard costs and margins.

The present document includes:

- A structured presentation of available quantitative information on catches of sardines, international trade, structure of the canning industry (concentration, specialisation), structure of supply chains of fresh and canned sardines, detailed description of the market and of the trends, price and margin analysis;
- Key elements of analysis for each chapter, organized on a synthetic way, with specific consideration on price transmission and distribution of value in the chains.

1 DESCRIPTION OF THE PRODUCTS AND MARKETS

1.1 Product: name, presentation, place in the nomenclature

The case study concerns canned sardine.

Main product

Name: Sardine or European pilchard (*Sardina pilchardus*).

FAO 3-alpha code: PIL.

Presentation:

- fresh: whole fish mostly, some fillets,
- processed: frozen sardines, canned sardines (in vegetable oil, in olive oil, in tomato sauce), pâté (in cans).

Substitutes

According to the stakeholders met, there is no real substitute for the fresh sardine, which is sold on many mobile grill stands in the street during the summer months. In the restaurant the main competitors are the other fish for grilling (e.g. seabream, seabass).

In the canned product market, the sardine has also a special status. The substitutes are other canned fish (mackerel, tuna).

Related codes in the product nomenclature (fresh sardine):

Sardina pilchardus is differentiated from other sardines and sardinellas in the COMEXT nomenclature (but not in PRODCOM):

- 03 02 43 10: Sardines of the species *Sardina pilchardus*, fresh or chilled (03 02 61 10 before 2012),
- 03 02 43 30: Sardines of the genus *Sardinops*; sardinella (*Sardinella spp.*), fresh or chilled (03 02 61 30 before 2012).

The same distinction exists for the frozen sardine (whole):

- 03 03 53 10: Sardines of the species *Sardina pilchardus* (03 03 71 10 before 2012),
- 03 03 53 90: Sardines of the genus *Sardinops*; sardinella (*Sardinella spp.*) (03 03 71 30 before 2012).

Fish fillets of sardines are not itemized in the CN.

This differentiation of *Sardina pilchardus* is not used in the chapter dedicated to prepared or preserved fish (CN 16.04). All sardines are grouped together, a specific code being attributed to sardinellas and sprats (together):

- 16 04 13 11: Sardines in olive oil,
- 16 04 13 19: Sardines, other,
- 16 04 13 90: Sardinellas and sprats.

PRODCOM

PRODCOM code 10 20 25 30 includes “prepared or preserved sardines, sardinellas, brisling and sprats, whole or in pieces (excluding minced products and prepared meals and dishes)”, i.e. all kinds of preserved sardines and sprats together. As Portugal (as well as Italy, Spain and France) does not process sprats, this means that only sardines and sardinellas are concerned for Portugal.

Some discrepancies exist between PRODCOM and national sources. This is the case for Spain (in 2015 PRODCOM indicates a production of 15.991 tonnes while the national association of fish canners ANFACO quotes 24.784 tonnes). This is not the case for Portugal: both sources (PRODCOM and the national association ANICP indicate the same data).

1.2 World and EU production

Key analysis:

- World production of *Sardina pilchardus* amounted to 1,17 million tonnes in 2015, 6% down on 2010, best year in the last decade.
- Producer n°1 is Morocco by far, which provided 72% of total world production in 2015. The other most significant producers, outside the EU, are Mediterranean countries (Algeria, Turkey, Tunisia), and Russia, which fishes in the Eastern Central Atlantic.
- EU production provided less than 17% of world supply in 2015, which is the lowest contribution ever to global production. Croatia is the main producer with 25% of EU supply. Other significant producers in the EU are Spain (17%), Italy (15%), France (11%), Germany (9%), the Netherlands (7%) and Portugal (7%).

Table 1 – World production of sardine *Sardina pilchardus* (tonnes)

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Croatia	16 357	16 521	16 950	16 900	21 194	32 191	29 600	46 051	43 734	53 085	55 783	50 108
France	31 450	37 724	40 295	38 658	29 657	39 780	26 233	24 109	20 387	27 484	25 601	21 112
Germany	1 398	194	662	348	43	-	445	8 166	10 455	214	4 011	17 866
Greece	9 217	11 258	11 321	9 410	10 544	10 072	6 511	5 809	4 993	6 865	8 404	7 953
Ireland	12 997	8 442	1 281	82	236	2 887	14 143	4 378	8	236	19	277
Italy	11 891	12 038	14 215	14 134	12 025	15 637	16 274	14 377	19 947	22 606	25 729	28 865
Latvia	1 645	5 528	8 281	6 282	6 454	8 229	9 756	13 802	7 535	2 048	985	412
Lithuania	15	920	8 711	4 073	9 123	15 017	27 159	25 565	4 620	2 415	11 615	3 400
Netherlands	46 770	31 825	20 259	10 318	9 608	33 933	46 861	52 091	27 028	4 605	50 868	14 129
Poland	-	-	-	-	3 006	6 151	1 639	5 313	1 103	1 449	333	563
Portugal	75 928	74 374	74 133	91 645	71 165	60 927	63 765	57 286	32 344	27 752	16 129	13 936
Spain	64 353	66 032	70 103	60 317	56 479	44 281	46 512	49 830	51 118	44 142	45 104	33 625
United Kingdom	2 682	3 630	2 191	3 673	28 339	6 322	8 223	5 490	7 629	3 977	3 889	4 307
Other EU	1 323	1 320	2 926	315	411	435	463	315	99	69	1 033	1 060
EU-28	276 026	269 806	271 328	256 155	258 284	275 862	297 584	312 582	231 000	196 947	249 503	197 613
Algeria	63 796	69 512	83 928	73 703	40 047	55 289	31 219	33 975	31 873	35 873	35 762	36 514
Belize	1 375	5 214	23 533	25 479	19 024	20 192	14 402	29 849	4 514	2 820	425	1 565
Russia	7 851	13 330	35 103	40 175	15 802	16 164	42 027	29 410	1 333	5 690	20 353	25 719
Morocco	644 743	630 000	542 002	519 293	646 979	790 632	771 547	504 029	672 836	705 898	851 355	844 912
Mauritania	8 092	14 779	9 120	22 319	15 276	13 409	16 674	27 955	11 361	1 491	1 532	14 793
Saint-Vincent/Grenadines	3 172	1 745	2 373	3 333	2 280	3 200	4 266	13 458	2 491	3 491	802	199
Tunisia	14 256	18 612	24 802	19 871	18 386	19 024	14 359	21 468	20 577	20 449	19 279	19 276
Turkey	12 883	20 656	15 586	20 941	17 531	30 091	27 639	34 709	28 248	23 919	18 077	16 693
Ukraine	30 675	38 024	51 464	29 450	27 565	13 606	14 425	13 205	3 358	n.a.	n.a.	n.a.
Other	262	4 724	275	2 123	4 123	7 119	11 814	16 521	11 866	5 049	10 676	17 327
Total	1 063 131	1 086 402	1 059 514	1 012 842	1 065 297	1 244 588	1 245 956	1 037 161	1 019 457	1 001 627	1 207 764	1 174 611

Source: FAO-Fishstat

Sardine caught by the EU fleet comes from three fishing areas:

- the Mediterranean (50% of total catches in 2015), where Croatia, Italy, and Spain are the main fishing nations;
- the Northeast Atlantic (32%), where Spain, France, and Portugal are the main fishing nations;
- the Eastern-Central Atlantic (18%), where Germany, the Netherlands and Lithuania catch sardine in the framework of the Sustainable Fisheries Partnership Agreements signed with Morocco and Mauritania.

1.3 EU trade

In 2015 the EU had a sardine deficit of EUR 100 million 2015, mainly attributable to the import of canned sardine but also, to a lesser extent, to the imports of frozen sardine needed by the EU canning industry.

EU trade balance of sardine in 2015 (value in 1.000 EUR)

	Trade flow	Fresh	Frozen	Prepared/canned	Total
Extra EU	Export	953	11.805	41.071	53.829
	Import	95	21.752	132.210	154.057

Source: EUMOFA

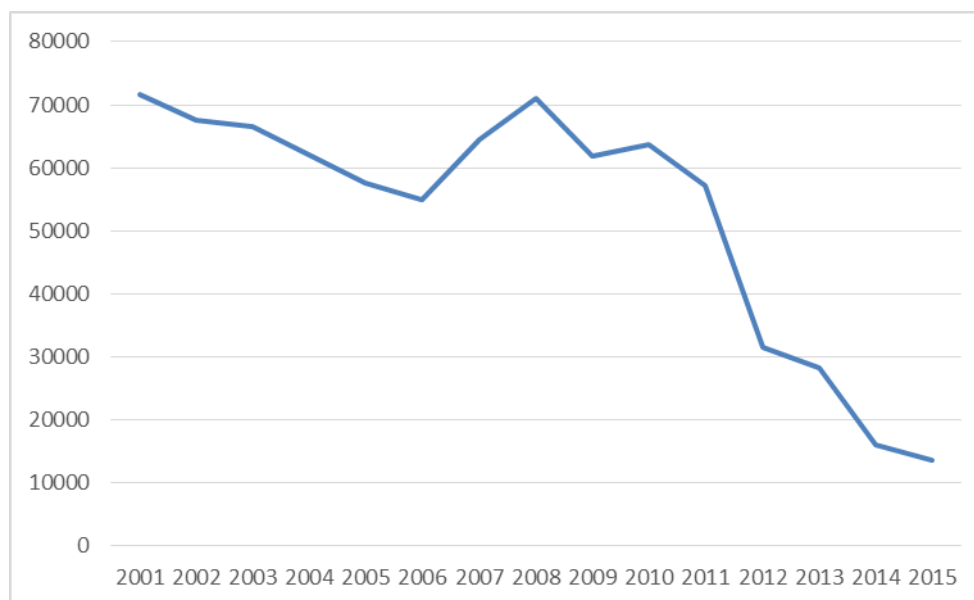
Morocco is by far the main supplier of both frozen sardine (23.100 tonnes in 2015) and canned sardine (36.000 tonnes). Intra-EU trade flows exist for each preservation state. Spain and Croatia are the main suppliers of both fresh and frozen, while Portugal dominates the intra-EU trade for the canned product.

Extra-EU imports of fresh sardine are almost non-existent (78 tonnes in 2015), demonstrating that there is no alternative to the European sardine for fresh supply. Because of its fragility and its limited suitability to manipulation, fresh sardine must be consumed quickly. Flows of fresh sardine are mostly limited to neighbouring countries (from Croatia to Italy and from Spain to Portugal). The main landing ports for small pelagics in Morocco are Dakhla and Laayoune, situated 2.000 km and 1.500 km from Tangier, respectively. The distance is too great to make exports of fresh sardine to Europe feasible.

1.4 Portugal catches and availability of sardine

Portuguese landings of sardines have heavily decreased in the last 5 years, falling from 64.000 tonnes in 2010 to less than 14.000 tonnes in 2015.

Figure 1. Evolution of the Portuguese landings of sardines (Continental Portugal¹) – tonnes



Source: DGRM

The Portuguese purse seine sardine fisheries were awarded the MSC certification in January 2010 after an assessment that commenced in 2008. ANOPCERCO (National Association of Purse Seine Producer Organisations), which manages the fishery, includes 120 purse seiners which caught 55.000 tonnes of sardines in 2010.

This certificate was suspended for the first time in January 2012 following a surveillance report that found insufficient scores for some major MSC principles (stock status, stock rebuilding, harvest strategy and harvest control rules). In response to the suspension, ANOPCERCO prepared a “Sardine Fisheries Management Plan 2012-2015” issued in April 2012, addressing the reasons for the suspension. The following surveillance audit took note of the progress made and lifted the suspension. But the fourth annual surveillance report lead in August 2014 to a new suspension, which has not been lifted in 2015 and 2016.

For 2015 the Portuguese administration, the Ministry of Agriculture and Sea (Ministério da Agricultura e do Mar), had set catch limits at 13.000 tonnes: 4.000 tonnes for the period 1 March-31 May and 9.000 tonnes for the period 1 June-31 October. These quantities were distributed among producer organisations on the basis of average landings in 2012-2014.

¹ Continental Portugal is used to distinguish the continental territory of Portugal from its insular territory (Madeira and Azores).

Sardine landings in Azores (25 t in 2015) and Madeira (14 t) are negligible compared to mainland (13.690 t).

Table 2. Distribution of sardine catches allowed for 2015 by producer organisations (tonnes)

PO	1/3-31/5	1/3-31/10	Total
APARA	307	691	998
APROPESCA	48	108	156
ARTESANALPESCA	176	396	572
BARLAPESCAS	224	504	728
CENTRO LITORAL	565	1 272	1 837
OLHÃOPESCA	193	436	629
OPCENTRO	414	931	1 345
PROPEIXE	1 163	2 617	3 780
SESIBAL	509	1 145	1 654
VIANAPESCA	280	630	910
Non-OP vessels	120	270	390
Total	4 000	9 000	13 000

Source: Ministerial Orders n° 2179-A/2015 and n° 5119-H/205

The catch limits for 2016 for purse seiners have been set in three successive decrees: interdiction for January-February, 6.800 tonnes for March-July and 4.760 tonnes for August-December.

1.5 Seasonality

The Portuguese market for sardines is traditionally divided into two segments, which correspond to two specific parts of the year.

The fresh market is mainly limited to the summer months (June-September) and pays higher prices than the processing industry market. In 2015 the average price paid to the producer was 2,83 EUR/kg in June-September versus 1,07 EUR/kg for the rest of the year. At the level of Matosinhos, largest sardine port, the average price was 2,29 EUR/kg in the summer months, while it was 0,93 EUR/kg the rest of the year.

Table 3. First sales of sardines in the Portuguese ports in 2015

PORTUGAL CONTINENTAL				MATOSINHOS		
	kg	EUR	Average price (EUR/kg)	kg	EUR	Average price (EUR/kg)
January	1 839	1 715	0,93	22	7	0,32
February	6 509	5 128	0,79	0	0	-
March	441 504	390 868	0,89	0	0	-
April	1 525 632	1 243 323	0,81	694 418	567 329	0,82
May	1 781 984	2 011 671	1,13	808 855	824 618	1,02
June	2 501 239	7 242 345	2,90	278 824	834 443	2,99
July	2 795 790	7 893 790	2,82	995 879	2 206 570	2,22
August	2 168 082	6 723 301	3,10	890 996	2 068 263	2,32
September	1 266 140	2 856 265	2,26	490 838	984 491	2,01
October	775 729	1 167 042	1,50	57 613	55 943	0,97
November	278 632	327 911	1,18	8 900	6 987	0,79
December	147 509	145 199	0,98	0	0	-
Total 2015	13 690 589	30 008 558	2,19	4 226 345	7 548 651	1,79

Source : EUMOFA

2 THE EU MARKETS FOR CANNED SARDINE

2.1 Apparent market by Member State

The EU market for canned sardines is dominated by France and Spain.

The highest per capita consumption is recorded in Spain, with more than 400 g per head.

Table 4 – Major EU markets for canned sardine in 2015

Member States	Production (t)	Import (t)	Export (t)	Apparent market (t)	Population (1000)	Consumption per capita (g)
France	7 592	15 254	395	22 451	66 415	338
Spain	15 991	6 144	3 004	19 131	46 450	412
United Kingdom	0	12 114	1 147	10 967	64 767	169
Portugal	12 057	591	11 306	1 342	10 374	129
Italy	1 791	3 631	774	4 648	60 796	76
Germany	0	7 055	2 092	4 963	81 198	61
Greece	1 511	614	258	1 867	10 858	172
Croatia	4 928	374	4 193	1 109	4 225	262

Sources:

Production: PRODCOM

Import-Export: COMEXT

Apparent market: calculated (Production + Import – Export)

Population: Eurostat (population on 1/1/2015)

Consumption per capita: calculated (Apparent market / Population)

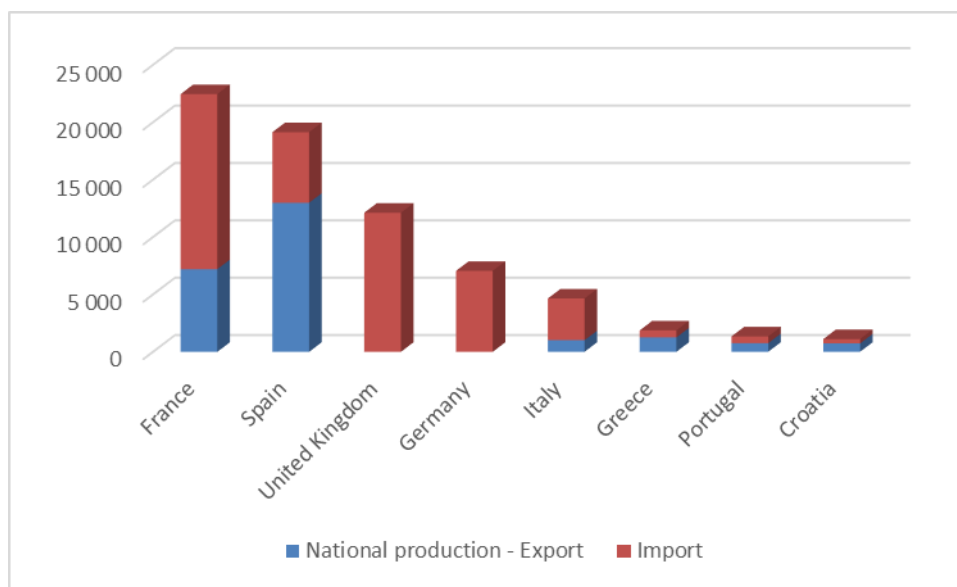
It has to be remembered here that the calculations above do not take into account the stocks, which are not known. In the years of low production of canned sardines (which is the case in 2015), stocks are used to supplement the supply of both domestic and export markets.

In Chapter 3 below, deeper analysis on Portugal including assumptions on stocks shows that the apparent consumption is approximately 282 g per capita in 2015.

2.2 Supply of the main EU markets for canned sardine

Spain, Greece and Croatia are the Member states where the share of domestic production in the total market supply is the most important (around 67%). Then comes Portugal (56%), followed by France (32%) and Italy (22%).

Figure 2 – Supply of the main European markets for canned sardines in 2015
(volume in tonnes)



Source: see box “sources” of table 4

EU Member States bought 62.500 tonnes of canned sardines in 2015, out of which 35% was supplied by EU countries and 65% by third countries. Morocco is the biggest single supplier with 35.800 tonnes exported to EU.

France (15.300 tonnes) and UK (12.100 tonnes) are the major importers.

Figure 3 – Main EU importers of canned sardines in 2015 (t)

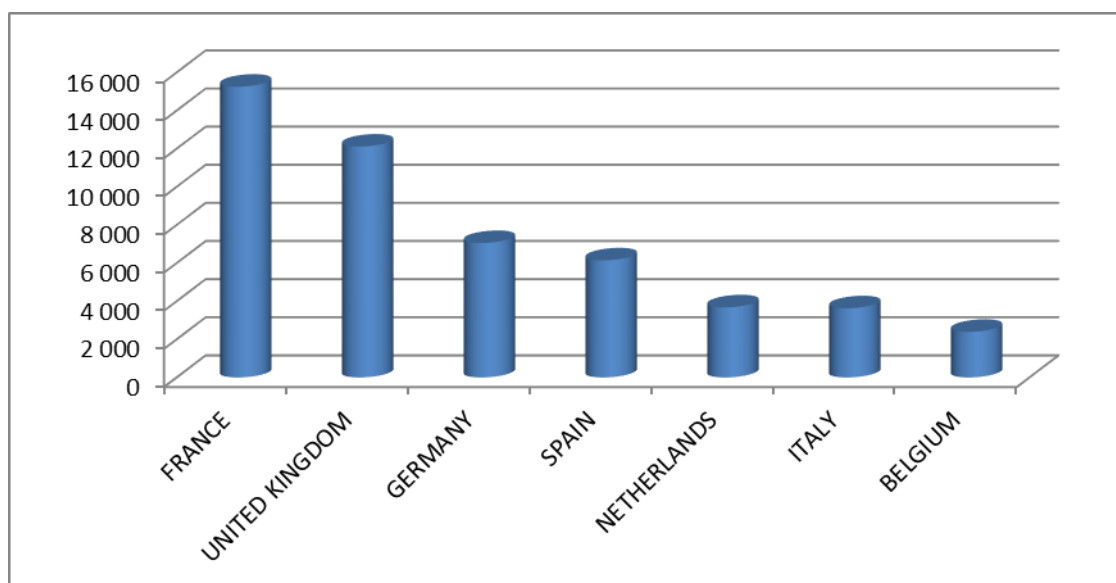


Table 5 - Main EU importers of canned sardines in 2015

<i>Member State</i>	<i>t</i>
FRANCE	15 254
UNITED KINGDOM	12 114
GERMANY	7 055
SPAIN	6 144
NETHERLANDS	3 681
ITALY	3 631
BELGIUM	2 395

Source: COMEXT for CN codes 16 04 13 11 + 16 04 13 19 – IntraEU + ExtraEU

2.3 Main exporting countries within the EU

Portugal is by far EU exporter n°1 and is particularly present on the EU market, 80% of its exports being destined for intra-EU markets.

Table 6 – Main EU exporters of canned sardines in 2015

<i>Member State</i>	<i>t</i>	<i>of which Intra-EU</i>
Portugal	11 306	80%
Croatia	4 193	28%
Netherlands	2 753	97%
Spain	3 004	78%

The main destinations are France (5.400 tonnes) and United Kingdom (3.900 tonnes) which together take in 43% of total intra-EU exports of the EU.

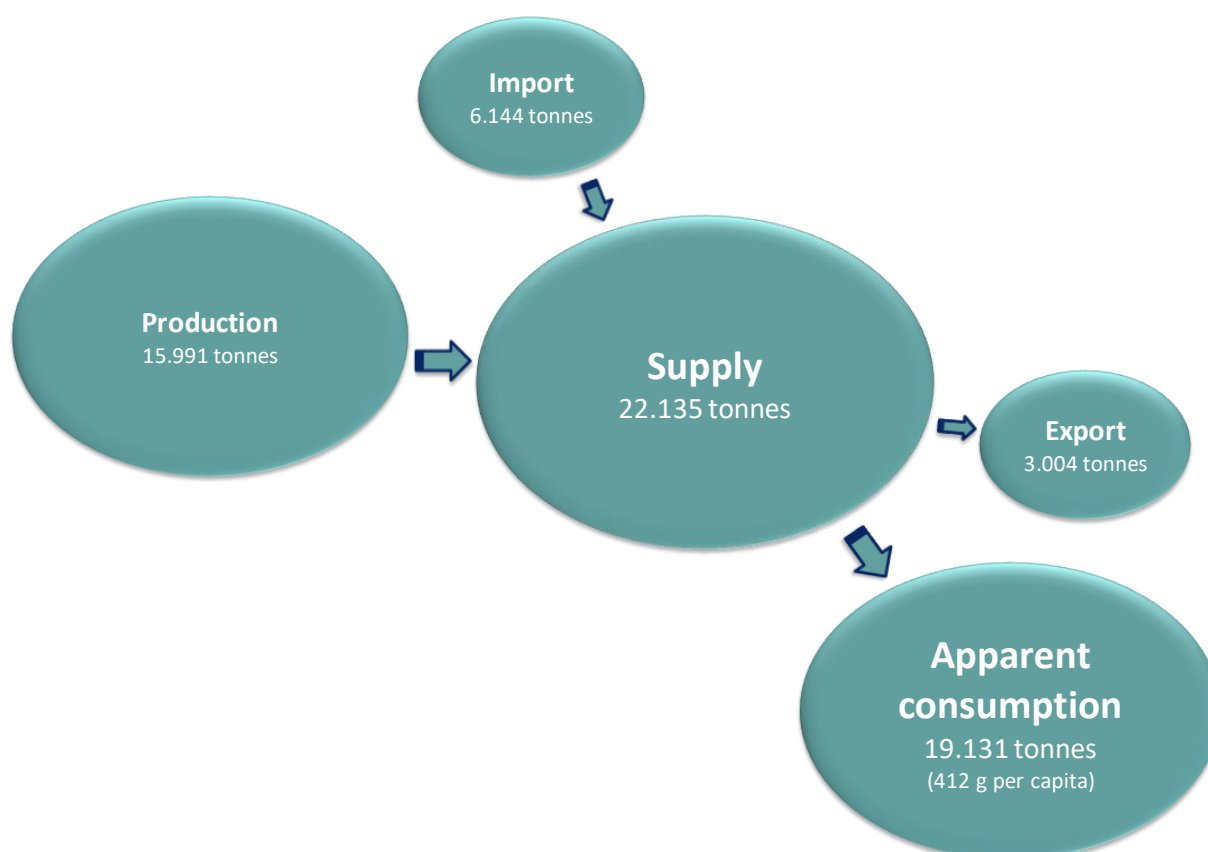
2.4 Overview of the main EU markets

2.4.1 Spain

The Spanish market for canned sardine is the second largest in the EU, after France, but has significantly decreased in the last years, from 23.000 tonnes in 2010 to 19.000 tonnes in 2015.

Like Portugal, Spain is more a market for fresh sardine than for canned sardine.

Figure 4 – Spanish apparent market for canned sardine in 2015



The Spanish market relies mainly on the domestic production, which is the largest in Europe. According to ANFACO data, the Spanish canning industry has maintained a regular production level at 28.000 tonnes until 2011 and then experienced a limited but regular decrease (-3,2% per year on average between 2011 and 2015). Quite stable around 3,16 EUR/kg in the years 2009-2011, the ex-factory price of the Spanish canned sardine has strongly increased in 2012 (+11,9%). The upward trend has then continued, but on a slower pace (+6,2% in 2013, +5,3% in 2014 and +3,5% in 2015).

In 2015, sardine represented 7,2% in value of the total production of the fish canning sector, which is dominated by tuna (63,7%).

Table 7 – Spanish production of canned sardines

	Volume (t)	Value (1000 EUR)	Price (EUR/kg)
2006	28 627	87 800	3,07
2007	28 341	88 063	3,11
2008	27 973	90 969	3,25
2009	29 400	92 334	3,14
2010	28 106	88 825	3,16
2011	28 190	89 713	3,18
2012	26 921	95 903	3,56
2013	26 006	98 205	3,78
2014	25 264	100 660	3,98
2015	24 784	102 170	4,12

Source : ANFACO

Spain exports 12% of its canned sardine production in volume.

Table 8 – Spanish exports of canned sardines

	Volume (t)	Value (1000 EUR)	Price (EUR/kg)
2006	3 512	10 358	2,95
2007	3 477	10 333	2,97
2008	3 181	10 699	3,36
2009	2 105	7 536	3,58
2010	2 796	9 706	3,47
2011	2 144	8 230	3,84
2012	2 373	10 012	4,22
2013	1 879	8 513	4,53
2014	2 320	10 600	4,57
2015	3 004	14 099	4,69

Source : Comext

Spanish exports of canned sardines strongly decreased in the years 2006-2009 (-40% in volume) and then oscillated until 2014 around a yearly average of 2.200-2.300 tonnes. In 2015 they experienced a strong increase and reached their highest level since 2008. During the whole period, prices have continuously increased to reach 4,95 EUR/kg in 2015, i.e. 59% more than in 2006.

The average export price has risen much faster than the average ex-factory price (+34% in the same 2006-2015 period). This can be explained by three facts:

- the larger portion of sardines in olive oil in the total exported (38,4% in volume in 2015 vs. 32,5% in 2006),

- the larger portion of sardines in fillets (whose unit price is much higher than whole sardines²),
- the refocusing on EU markets, in particular France, where Spanish exports more than quadrupled between 2006 and 2015 (intra-EU exports represent 78,0% of total exports in volume in 2015 vs. 58,1% in 2006).

The main destinations are France (825 tonnes in 2015), Italy (533 tonnes), Portugal (462 tonnes), and the USA (143 tonnes).

In 2015 Spanish imports of canned sardines were at approximately the same level as in 2008. Morocco is the main supplier with 5.100 tonnes (82% of the total), followed by Portugal (600 tonnes).

Table 9 – Spanish imports of canned sardines

	Volume (t)	Value (1000 EUR)	Price (EUR/kg)
2006	5 814	13 877	2,39
2007	5 307	14 438	2,72
2008	5 953	16 756	2,81
2009	6 932	20 039	2,89
2010	7 633	21 872	2,87
2011	2 479	7 718	3,11
2012	4 909	15 317	3,12
2013	5 370	16 288	3,03
2014	5 686	16 420	2,89
2015	6 144	18 307	2,98

Source : Comext

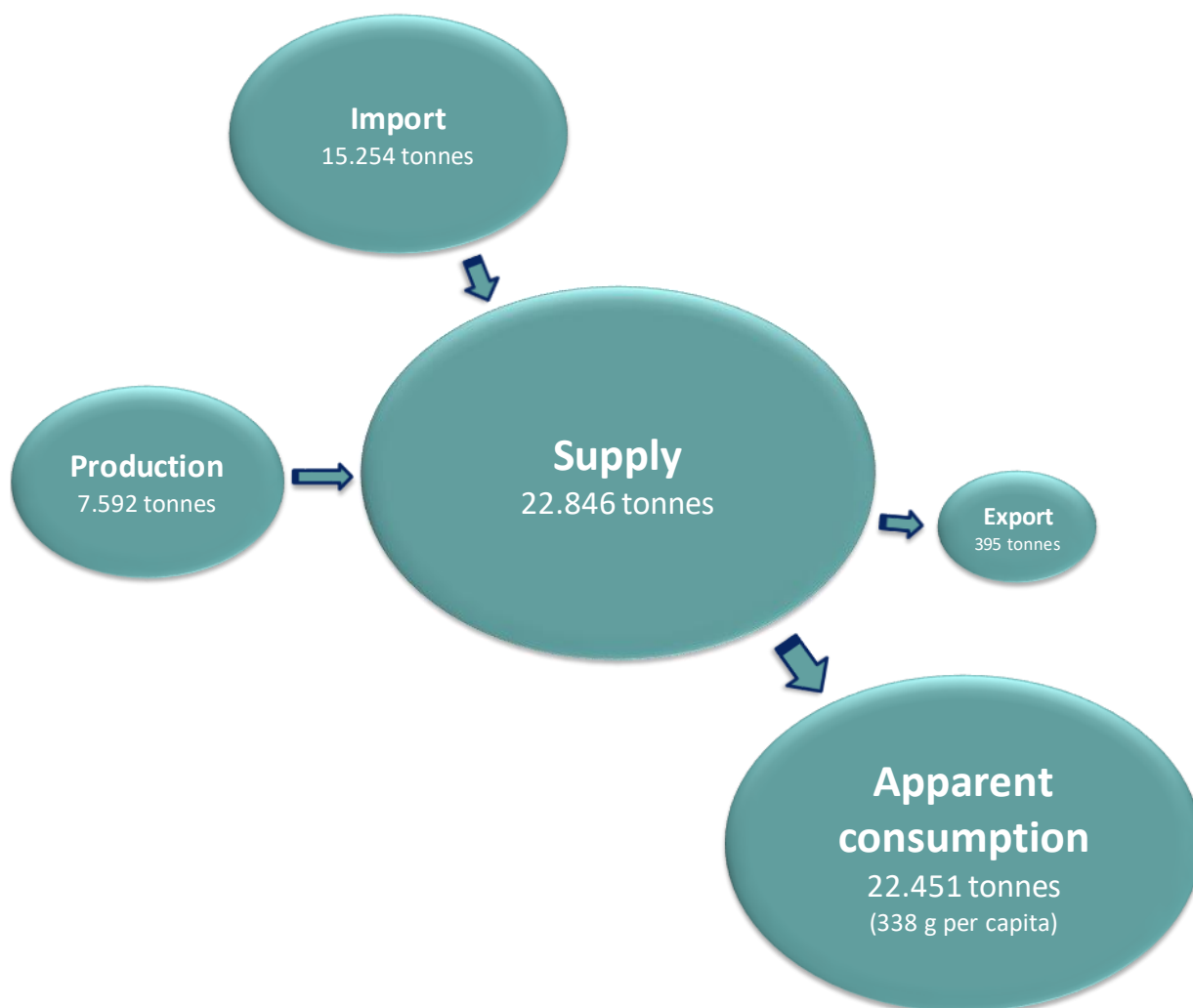
The average import price has increased (+24,7% in the 2006-2015 period) less than the ex-factory price in the Spanish industry (+34,2%). It even decreased between 2012 and 2014 (-7,4% in 2014 compared to 2012), while the Spanish ex-factory price rose by 11,8% in the same period). This is due to the dominant share of Moroccan sardines, whose unit price fell from 3,23 EUR/kg in 2012 to 2,99 EUR/kg in 2014, in the Spanish imports. In the same time, ex-factory price increased, partly due to limited availability of raw materials.

² At retail level, sardine fillets in tomato sauce under the CARREFOUR retailer's brand are sold at 17,23 EUR/kg in CARREFOUR supermarkets in Spain, while whole sardines in tomato sauce are sold at 7,44 EUR/kg (January 2017).

2.4.2 France

The French market for canned sardine reaches 22.500 tonnes and is the largest one in the EU, just before Spain.

Figure 5 – French apparent market for canned sardine in 2015



The contribution of domestic production to the supply of the market is still noticeable: the 10 canneries processing sardine provide 38% of the domestic market in 2014. The production increase observed until 2011 (+43% in volume between 2006 and 2011) was mainly underpinned by the growth of the fillet segment (+63%). In 2012-2013, all segments decreased, with the exception of sardines in tomato sauce and other preparations (mainly sardines in brine).

In 2014 the production of whole sardines in olive oil or in tomato and other preparations experienced a strong growth (+34% and +74% respectively); in contrast, the production of sardine fillets decreased significantly (-13%) as this segment has been affected by the lack of suitable raw materials (large sardines).

Table 10 – French production of canned sardines

Presentation	Whole			Fillets	TOTAL
	in olive oil	in vegetable oil	in tomato and other preparations		
2006	1 893	1 488	1 167	1 795	6 343
2007	1 810	1 544	1 313	2 289	6 956
2008	2 047	1 307	1 257	2 439	7 050
2009	2 504	1 998	1 159	2 500	8 161
2010	2 303	1 688	993	2 835	7 819
2011	2 424	2 133	1 578	2 931	9 066
2012	2 143	2 197	1 951	2 245	8 536
2013	2 122	1 734	1 856	2 548	8 260
2014	2 844	1 386	3 238	2 225	9 693

Source : ADEPALE

The raw materials used by the French canning industry come from the national fisheries and from import. With almost 10.000 tonnes, the French fleet provides more than 60% of the total supply of the factories. Since 2011 all purchases are made in the Atlantic ports; purchases in the Mediterranean have completely disappeared. Imported sardines are mostly supplied by Morocco, since the availability of sardines from Italy, Spain and Portugal dramatically fell in the last years.

The purchases are made up of 39% of fresh sardines (6.300 tonnes in 2014) and 61% of frozen sardines (9.900 tonnes)³.

Table 11 – Sardines (as raw materials) processed by the French canning industry (in tonnes)

³ The French fleet does not supply frozen sardines. But a significant part of the sardines landed by the fleet are frozen on land, especially in case of big landings, and stored, to be sold later to the canning industry. There is one major actor specialized in freezing of small pelagics in Dournenez (Brittany).

Origin	France		Import		TOTAL
	Atlantic	Mediterranean	IT-ES-PT	Morocco	
2006	3 507	3 305	1 782	3 654	12 248
2007	5 488	3 532	1 485	2 886	13 391
2008	7 293	874	2 636	1 761	12 564
2009	8 296	305	2 380	4 319	15 300
2010	7 172	127	2 568	5 907	15 774
2011	8 057	0	3 902	6 169	18 128
2012	7 247	0	3 043	6 297	16 587
2013	8 188	0	2 615	6 358	17 161
2014	9 852	0	1 303	5 047	16 202

Source : ADEPALE

France is the main EU importer of canned sardines with an import level over 15.000 tonnes a year. Morocco is still the first supplier with 61% of total imports in 2015. But its historical competitor, Portugal, has regained market share in recent years (from 21% in 2010 to 25% in 2014-2015).

Table 12 – French imports of canned sardines

	Volume (t)	Value (1000 EUR)	Price (EUR/kg)
2006	16 849	46 768	2,78
2007	14 917	44 360	2,97
2008	18 062	56 030	3,10
2009	19 028	61 978	3,26
2010	16 715	54 386	3,25
2011	12 253	42 235	3,45
2012	16 347	60 598	3,71
2013	16 499	64 837	3,93
2014	16 858	66 619	3,95
2015	15 254	61 203	4,01

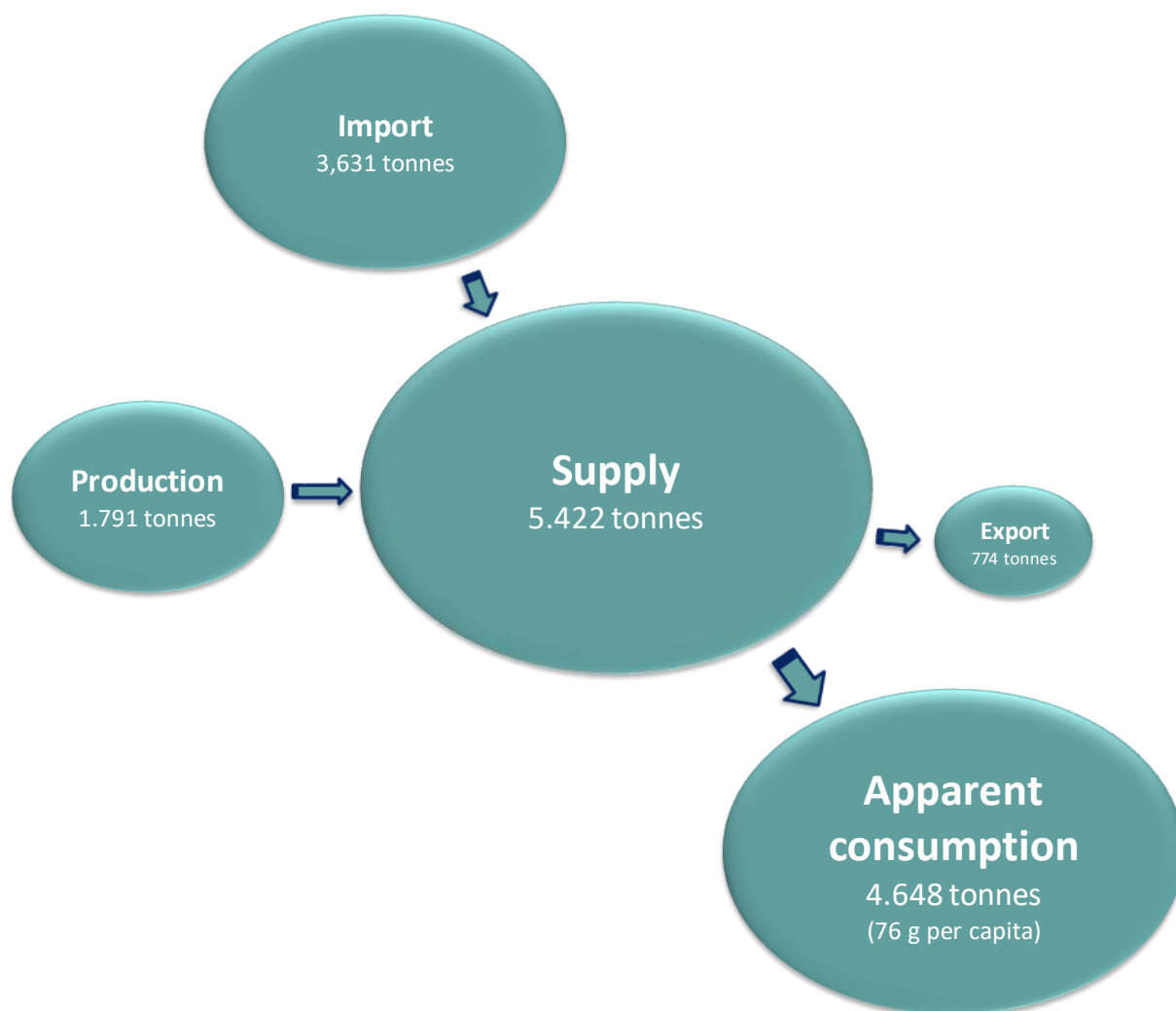
Source : Comext

2.4.3 Italy

Formerly an important canned sardine producer (9.000 to 10.000 tonnes/year in the eighties, with a maximum of 11.500 tonnes in 1985) and a noticeable exporter (up to 8.900 tonnes in 1985), Italy has then witnessed a progressive reduction of its processing sector.

In the shadow of an important and dynamic anchovy market, the market for canned sardines is a small market.

Figure 6 – Italian apparent market for canned sardine in 2015



Italy imports 3.000 to 4.000 tonnes of canned sardines per year.

Over the years sardines in olive oil have lost ground to the benefit of other presentations (mainly sardines in vegetable oil). The share of sardines in olive oil in the total imports of canned sardines fell from 72% in 2006 to 62% in 2010 and to less than 55% in 2015.

Table 13 – Italian imports of canned sardines

	Volume (t)	Value (1000 EUR)	Price (EUR/kg)
2006	3 362	10 681	3,18
2007	3 024	9 168	3,03
2008	3 774	12 441	3,30
2009	3 935	12 820	3,26
2010	3 819	12 097	3,17
2011	3 216	10 574	3,29
2012	3 506	12 830	3,66
2013	3 585	12 490	3,48
2014	3 807	14 260	3,75
2015	3 631	14 066	3,87

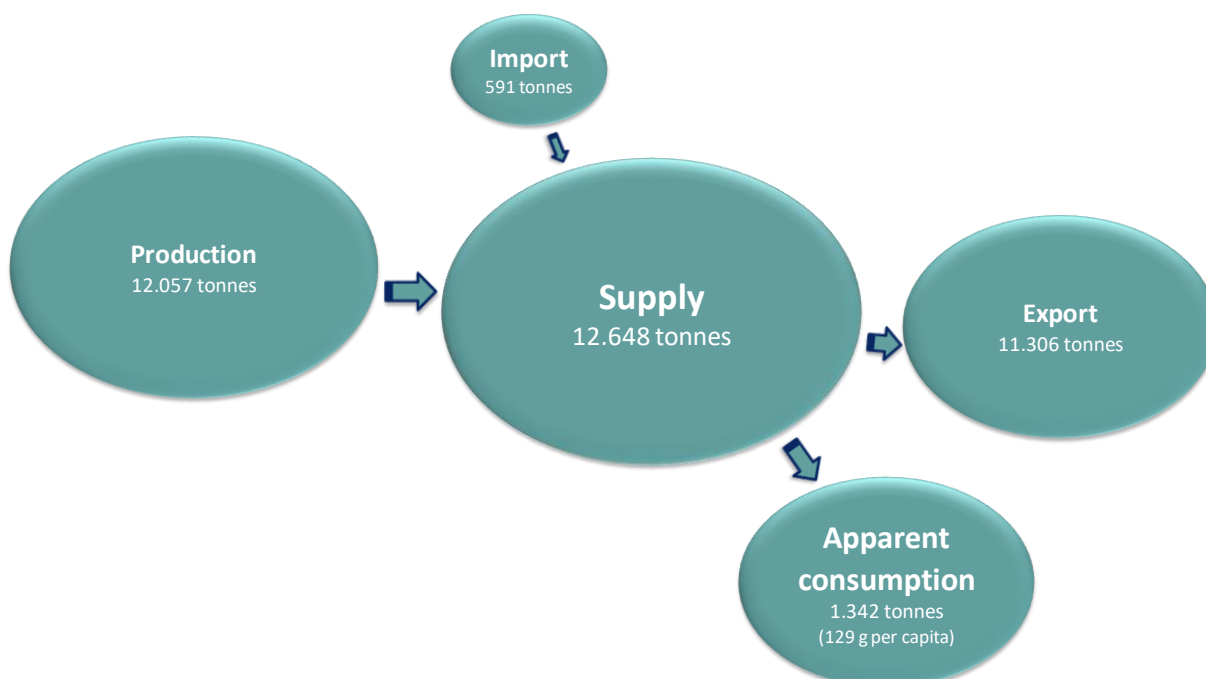
Source : Comext

3 The Portuguese market

3.1 A market affected by competition with the fresh product

The Portuguese market for canned sardines suffers from competition with the fresh market, which is more willing than the canning industry to pay the high prices resulting from the production shortage.

Figure 7 – Portuguese apparent market for canned sardine in 2015



The apparent market (as calculated in the table below) shows big annual variations because stocks are not known and therefore not taken into account.

Table 14a – The Portuguese apparent market for canned sardines

(t)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Production	17 054	12 230	17 378	20 765	16 459	17 874	19 607	17 704	14 054	11 665	12 057
Import	941	1 076	1 131	2 377	1 141	1 018	727	957	2 027	896	591
Export	11 623	12 352	14 384	16 559	13 275	15 019	15 625	16 298	17 890	11 933	11 306
Apparent market	6 372	954	4 125	6 583	4 325	3 873	4 709	2 363	-1 809	628	1 342

Sources:

Production: PRODCOM

Import-Export: COMEXT

Apparent market (AM): calculated (Production + Import – Export)

Table 14a shows a calculated apparent market fluctuating a lot and even reaching negative values in 2013, which is not possible. Stocks have thus to be taken into consideration.

In the absence of data, we make the assumption that there was a stock of 4.000 tonnes, which corresponds to 3 months of production, at the end of 2004.

We also make an assumption for the consumption (apparent market): we take the average of the apparent market on 11 years (2005-2015) as calculated in Table 14a, i.e. 3.042 tonnes; based on interviews with stakeholders, we consider that consumption was stable in the years 2005-2011 and then decreased by 1% per year until 2015.

Table 14b displays the evolution of stock levels. The assumptions made seem plausible, as the resulting stock at the end of the period surveyed is at its lowest level, after three consecutive years of low production, but corresponds to 4 months of the last year's production. The table shows a stock increasing in the years of high production (2007-2011) and then rapidly decreasing following the difficulties in the sourcing of raw materials.

Table 14b – Evolution of stocks of canned sardines

(t)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Production	17 054	12 230	17 378	20 765	16 459	17 874	19 607	17 704	14 054	11 665	12 057
Stock end of year	7 372	5 284	6 367	9 908	11 191	12 022	13 689	13 040	8 249	5 925	4 345
Import	941	1 076	1 131	2 377	1 141	1 018	727	957	2 027	896	591
Export	11 623	12 352	14 384	16 559	13 275	15 019	15 625	16 298	17 890	11 933	11 306
Domestic market	3 042	3 042	3 042	3 042	3 042	3 042	3 042	3 012	2 982	2 952	2 922

Sources:

Production: PRODCOM

Import-Export: COMEXT

Domestic market (assumption): estimated for the first year as equal to the 11-year average of apparent market (as calculated in Table 14a), considered as stable until 2011 and then decreasing by 1% per year

Stock end of year: estimated at 4.000 tonnes at the end of 2004 and then calculated

Stock end of Year 2 = Stock end of Year 1 + Production Year 2 + Import Year 2 – Export Year 2 – Domestic market Year 2

3.2 Structure of the supply chain

The Portuguese fish canning industry is composed by 19 specialized companies, out of which 14 process sardines.

Matosinhos, which shelters 7 of these 14 companies, is the main sardine port and the main sardine processing center in Portugal.

3.3 Segmentation of the market

The main segmentation of the market is the segmentation by product. Three main categories of products share the market:

- canned sardines in vegetable oil,
- canned sardines in olive oil,
- canned sardines in tomato sauce.

There is no segmentation by size. Almost all whole sardines are in cans of 120/125 g on the retail market, with one exception: some hard discounters propose products in packs of two 88 g cans. Fillets may also be proposed in smaller cans (100 g).

There is no segmentation by quality, but consumers can be brand-driven and looking for a specific brand, e.g. Ramirez.

Table 15 - Canned sardines in the Portuguese large-scale retail (October 2015)

Product	Brand	Net weight (g)	Unit price (EUR/can)	Price per kg (EUR/kg)
Sardines in vegetable oil	PEIXEIRA	120	0,59	4,92
Sardines in vegetable oil	CONTINENTE	120	0,99	8,25
Sardines in vegetable oil	RAMIREZ	120	1,04	8,67
Sardines in vegetable oil	VASCO DA GAMA	120	1,29	10,75
Sardines in vegetable oil	NIXE	125	0,59	4,72
Sardines in olive oil	CONTINENTE	120	0,99	8,25
Sardines in olive oil	VASCO DA GAMA	120	1,44	12,00
Sardines in olive oil	RAMIREZ	125	0,95	7,60
Sardines in olive oil	NIXE	2x88	1,65	9,38
Sardines in tomato	MANNA	120	1,39	11,58
Sardines in tomato	RAMIREZ	125	1,14	9,12
Sardines in tomato	VASCO DA GAMA	120	1,29	10,75
Sardines in tomato	ALVA	120	0,41	3,42
Sardines in tomato	PEIXEIRA	120	0,59	4,92
Sardines in tomato	CONTINENTE	120	0,99	8,25
Sardines in tomato	NIXE	2x88	1,65	9,38
Sardines in brine	GENERAL	125	0,97	7,76
Fillets of sardines in vegetable oil	RAMIREZ	100	1,39	13,90
Fillets of sardines in olive oil	RAMIREZ	100	1,29	12,90
Fillets of sardines in olive oil, skinless	PINGO DOCE	120	1,49	12,42
Fillets of sardines in tomato sauce	RAMIREZ	100	1,35	13,50

Source: price observations in three large-scale retailers (CONTINENTE, PINGO DOCE, LIDL) in October 2015

4 PRICES DOWNSTREAM THE SUPPLY CHAIN

This chapter analyses available price data and price trends at different levels of the canned sardine supply chain in Portugal.

4.1 Price of raw material

Until 2011 the Portuguese sardine canning industry relied mostly on Portuguese catches and, for a limited volume, on imported frozen sardines. The situation has completely changed from 2011 with the limitation measures taken by the Portuguese administration as a consequence of the stock's decline. This led to a dramatic fall in catches.

The price of sardine has tripled since 2011.

Table 16. Average annual price of sardines sold in the Portuguese ports

	EUR/kg
2005	0,65
2006	0,55
2007	0,64
2008	0,64
2009	0,70
2010	0,64
2011	0,76
2012	1,30
2013	1,43
2014	2,00
2015	2,19

Source : DGPA

Until 2011, Portugal imported about 5.000 tonnes of frozen sardines per year, coming from two main origins, Spain (about 70% of the total) and Morocco. More than half of frozen sardines imported from Spain are imported in the last three months of the year (55% in 2014). Imported frozen sardines mainly go to the processing industry.

Imports tripled in 2012 to exceed 22.000 tonnes and then decreased to stabilise at around 16.000 tonnes.

Table 17 – Portuguese imports of frozen sardines (t)

Origin	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Spain	2 660	3 512	3 883	2 508	4 239	5 436	12 790	8 816	8 926	10 901
Morocco	631	358	699	1 897	882	933	5 395	8 166	3 819	4 097
Others	752	111	764	185	648	865	4 128	1 433	2 599	1 284
Total	4 043	3 981	5 346	4 590	5 769	7 234	22 313	18 415	15 344	16 282

Source : COMEXT

Portugal also imports around 9.000 tonnes of fresh sardines yearly, almost exclusively from Spain. In 2014, more than 60% of these imports took place in the last three months of the year, at the end of the fishing season in Portugal.

Table 18 – Portuguese imports of fresh sardines (t)

Origin	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Spain	9 616	9 606	9 074	8 865	7 292	5 997	9 447	7 631	9 163	8 935
Others	9	20	1	0	0	5	245	22	17	62
Total	9 625	9 626	9 075	8 865	7 292	6 002	9 692	7 653	9 180	8 997

Source : COMEXT

Until the end of the decade 2000-2010, imported sardines (fresh and frozen) contributed to the supply of the Portuguese sardine industry for about 10-15% of the total. With the new situation resulted from the Portuguese stock situation, imports now represent more than 2/3 of the raw material supply.

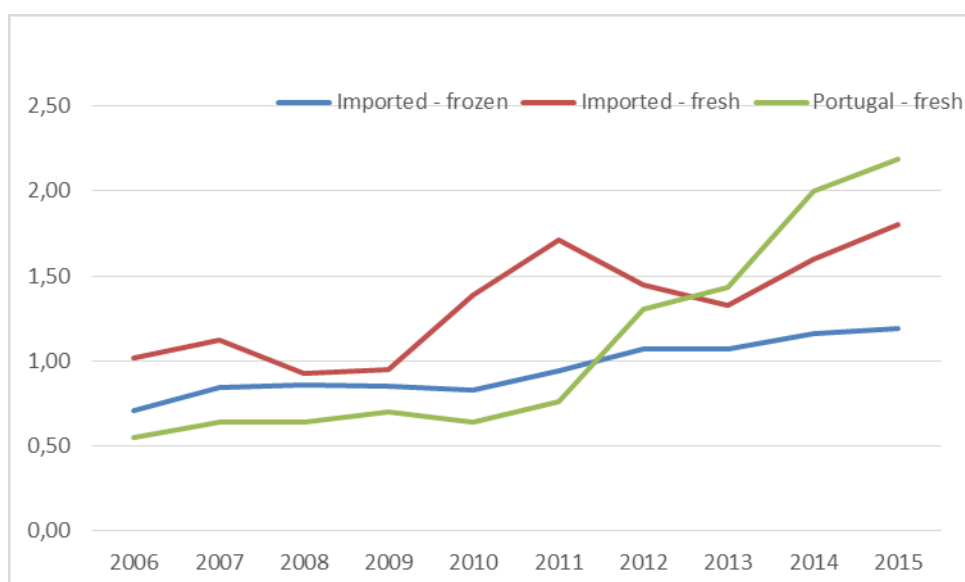
Table 19 – Average yearly prices of imported sardines (EUR/kg)

Year	Fresh	Frozen
2006	1,02	0,71
2007	1,12	0,84
2008	0,93	0,86
2009	0,95	0,85
2010	1,39	0,83
2011	1,71	0,94
2012	1,45	1,07
2013	1,33	1,07
2014	1,60	1,07
2015	1,80	1,19

Source : DGPA

The first sale Portuguese price, which was below import prices of both fresh and frozen sardines until 2011, is now clearly above these levels.

Figure 8. Evolution of prices of “raw material” sardine (EUR/kg)


Sources:

- Price of the imported frozen sardines: COMEXT (CN 03 03 71 10)
- Price of the imported fresh sardines: COMEXT (CN 03 03 53 10)
- Price of the Portuguese fresh sardine: Datapescas (Direcção-Geral das Pescas e Aquicultura)

4.2 Ex-factory prices

Average ex-factory prices for canned sardines can be obtained from two sources on a yearly basis:

- PRODCOM statistics (code 10202530 “Prepared or preserved sardines, sardinella, brisling and sprats, whole or in pieces (excluding minced products and prepared meals and dishes)”, which provides data on the whole canned sardine production :

Table 20 – Portuguese sold production of canned sardines

	2009	2010	2011	2012	2013	2014	2015
Quantity (t)	16 459	17 874	19 607	17 704	14 054	11 665	12 057
Value (1000 EUR)	59 050	62 859	67 324	71 832	60 213	52 171	58 220

Source : PRODCOM

- Data published by INE, the National Institute of Statistics, in the framework of the Annual Survey on Industrial Production, which gives separate data on the three main segments of the industry.

Table 21 – Portuguese sold production of canned sardines by category

Product	2007		2008		2009		2010		2011		2012		2013		2014	
	t	1000 EUR	t	1000 EUR	t	1000 EUR	t	1000 EUR	t	1000 EUR	t	1000 EUR	t	1000 EUR	t	1000 EUR
Sardines in olive oil	6 024	22 916	6 596	25 775	5 791	24 990	6 174	27 035	5 585	22 158	5 629	25 241	3 925	20 148	4 467	21 726
Sardines in other vegetable oils	6 390	18 036	7 921	22 789	5 507	17 216	5 673	17 579	7 531	22 058	6 351	22 876	6 251	22 541	3 322	13 743
Sardines in tomato sauce	4 706	12 677	5 247	14 782	4 235	13 017	4 684	13 744	5 077	17 977	4 331	17 439	2 841	11 771	2 792	11 159
Total	17 120	53 629	19 764	63 346	15 533	55 223	16 531	58 358	18 193	62 193	16 311	65 556	13 017	54 460	10 581	46 628

Source : INE

The average ex-factory prices are quite close in the two sources, with a difference reaching at most 2,4% (2013).

Table 22 - Ex-factory prices of canned sardines in Portugal (all types of presentation) – EUR/kg

Source	2008	2009	2010	2011	2012	2013	2014	2015
PRODCOM	3,28	3,59	3,52	3,43	4,06	4,28	4,47	4,83
INE	3,21	3,56	3,53	3,42	4,02	4,18	4,41	n.a.

Sources: PRODCOM, INE

The analysis of ex-factory prices by segment shows that, along the period 2005-2014, prices of sardines in vegetable oils increased 66%, i.e. faster than sardines in tomato (+47%) and sardines in olive oil (+37%).

Table 23 – Ex-factory prices of canned sardines in Portugal by product category – EUR/kg

Product	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sardines in olive oil	3,53	3,62	3,80	3,91	4,32	4,38	3,97	4,48	5,13	4,87
Sardines in other vegetable oils	2,50	2,57	2,82	2,88	3,13	3,10	2,93	3,60	3,61	4,14
Sardines in tomato sauce	2,72	2,73	2,69	2,82	3,07	2,93	3,54	4,03	4,14	4,00
Total	2,92	2,98	3,13	3,21	3,56	3,53	3,42	4,02	4,18	4,41

Source : INE

If we relate these ex-factory prices to the standard can on the market (120 g), the theoretical ex-factory prices per can are as follows in 2014:

- sardines in olive oil:	0,58 EUR
- sardines in vegetable oil:	0,50 EUR
- sardines in tomato sauce:	0,48 EUR.

In reality, due to the part of smaller cans (88, 90 and 100 g) and also some bigger ones (125 g), the average weight of the can on the market is probably around 113 g, which would lead to the following ex-factory prices in 2014 :

- sardines in olive oil:	0,55 EUR
- sardines in vegetable oil:	0,47 EUR
- sardines in tomato sauce:	0,45 EUR.

4.3 Retail prices

As there is no consumer survey, retail prices of canned sardine can be approached by store surveys (see Table 15).

The price observations made in October 2015 in three major large-scale retailers highlight wide price ranges for the three segments:

- from 7,60 to 12,00 EUR/kg for sardines in olive oil,
- from 4,72 to 10,75 EUR/kg for sardines in vegetable oil,
- from 3,42 to 10,75 EUR/kg for sardines in tomato sauce.

These observations also show that products under private labels (CONTINENTE, NIXE) as well as under some entry level producer's brands (PEIXEIRA) are equally priced, regardless of the ingredients used (olive oil, vegetable oil).

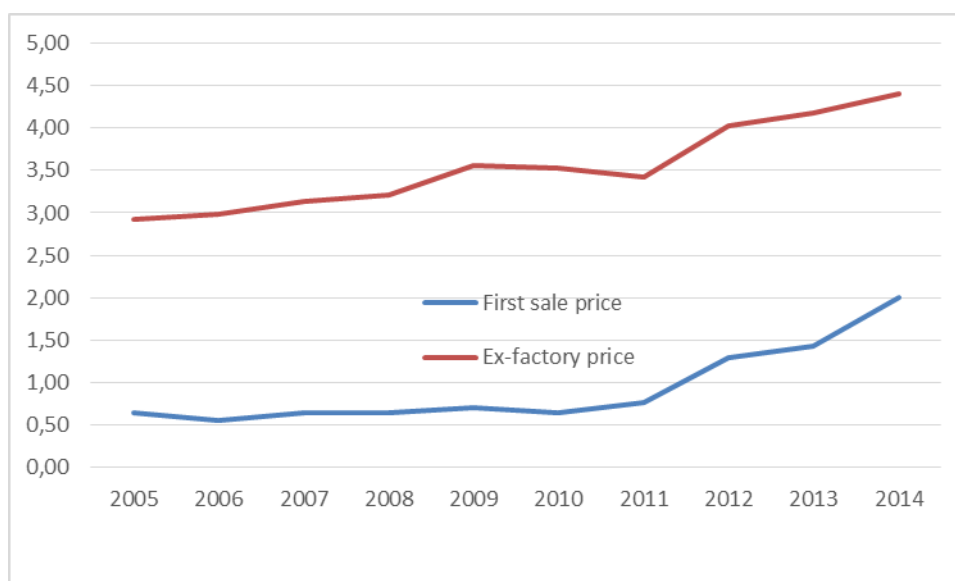
5 PRICE TRANSMISSION IN THE SUPPLY CHAIN

5.1 Price time series analysis

5.1.1 Raw material prices and ex-factory prices

The following figure presents on the same graph the prices of the raw material (sardines bought in Portuguese ports) and the average ex-factory prices (all product categories together) of the Portuguese canning industry.

Figure 9 – Comparative evolution of average annual prices of canned sardines (all product categories together) and first sale prices (EUR/kg)



Sources :

- Average first sale price of the sardine (fresh) in the Portuguese ports (Continental Portugal), in EUR/kg: Datapescas (Direcção-Geral das Pescas e Aquicultura)
- Average ex-factory price of canned sardines (all product categories together), in EUR/kg: INE (statistics on quantities of canned sardines marketed by the processing industry)

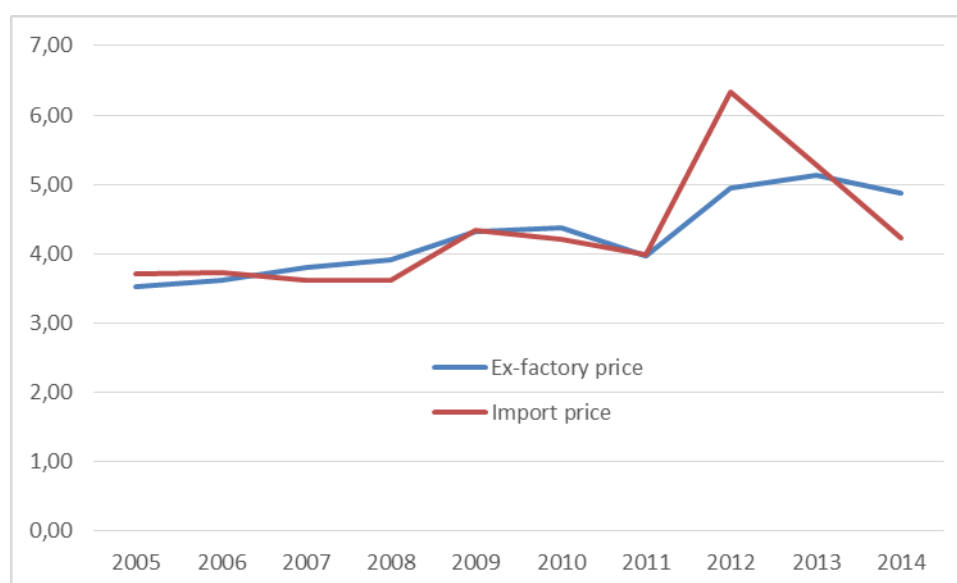
This graph shows that the evolution of the ex-factory price of the canned sardine did not seem to be impacted by the price of the raw material (sardine), as long as raw material did not account for more than 30% of the ex-factory price of the can, i.e. until 2011.

The picture has completely changed from the beginning of 2012, in relation to the dramatic drop in Portuguese catches. The ex-factory price of the canned sardine now reflects the increase of the raw material cost, which now represents more than 40% of the total production cost.

5.1.2 Ex-factory prices and import prices

Figure 10 presents on a same graph the prices of the sardines in olive oil produced by the Portuguese canning industry and the average import price of the same product imported.

Figure 10 – Comparative evolution of average annual prices of sardines in olive oil processed in Portugal and sardines in olive oil imported (EUR/kg)



Sources:

- Average ex-factory price of canned sardines in olive oil, in EUR/kg: INE (statistics on quantities of canned sardines marketed by the processing industry)
- Import prices: average import prices of sardines in olive oil imported by Portugal (all origins together): COMEXT (CN 16 04 13 11).

The graph shows that the ex-factory price of the Portuguese product and the price of imported cans experienced a similar evolution until 2011. In 2012 the imported product has a much higher price (but 2012 is also the year with the lowest import level of the period surveyed, with less than 40 tonnes imported). Then the import price decreased to a level far below the Portuguese ex-factory price in 2014 (3,85 EUR/kg vs. 4,87 EUR/kg).

5.2 Price transmission analysis

Tables 24 and 25 present two examples of breakdown of costs and margins in the Portuguese canning industry:

- for canned sardines in vegetable oil (table 24),
- for canned sardines in olive oil (table 25).

Sources used, assumptions made and calculations are explained in the boxes below the tables. Cost items are defined after Table 25.

Table 24 - Costs and margins in sardine canning industry in Portugal (September 2015)

Canned sardines in vegetable oil

Processing		
Production cost of a box of 100 cans 1/4 club (EUR/box)		
September 2015	Total	%
Raw material - Sardines	23,75	42,2%
Auction levy	0,53	0,9%
Vegetable oil	3,24	5,8%
Tins	12,05	21,4%
Labour	7,89	14,0%
Other production costs	5,25	9,3%
Commercial + logistic costs	2,25	4,0%
Operating margin	1,32	2,3%
Price ex factory (per box)	56,28	100,0%
Price ex factory per can	0,56	
Marketing		
Distribution cost of a can 1/4 club		
September 2015	EUR/can	%
Purchase cost retailer	0,56	56,6%
Transport/distribution cost	0,21	21,2%
Other costs + operating margin retailer	0,16	16,2%
Retail price, exclusive of VAT	0,93	93,9%
VAT	0,06	6,1%
Consumer price	0,99	100,0%

Source: elaboration by EUMOFA, based on data provided by a processor

¼ club: this designation, commonly used by the industry, corresponds to the standard can

Assumptions:

- Purchase fresh sardine: average price 1,055 EUR/kg
- Raw material necessary for 100 cans: 22,5 kg
- Auction levy: 2%
- Transport/distribution cost from canning factory to retailer and from retailer to point of sale: 0,21 EUR/can
- VAT: 6%
- Consumer price: 0,99 EUR/kg (prices noted in the shops : from 0,59 to 1,29 EUR/standard can)

Table 25 - Costs and margins in sardine canning industry in Portugal (September 2015)

Canned sardines in olive oil

Processing		
Production cost of a box of 100 cans 1/4 club (EUR/box)		
September 2015	Total	%
Raw material - Sardines	23,75	35,5%
Auction levy	0,53	0,8%
Olive oil	13,90	20,8%
Tins	12,05	18,0%
Labour	7,89	11,8%
Other production costs	5,25	7,8%
Commercial + logistic costs	2,25	3,4%
Operating margin	1,32	2,0%
Price ex factory (per box)	66,94	100,0%
Price ex factory per can	0,67	
Marketing		
Distribution cost of a can 1/4 club		
September 2015	EUR/can	%
Purchase cost retailer	0,67	61,5%
Transport/distribution cost	0,21	19,3%
Operating margin retailer	0,15	13,8%
Retail price, exclusive of VAT	1,03	94,5%
VAT	0,06	5,5%
Consumer price	1,09	100,0%

Source: elaboration by EUMOFA, based on data provided by a processor

¼ club: this designation, commonly used by the industry, corresponds to the standard can

Assumptions:

- Purchase fresh sardine: average price 1,055 EUR/kg
- Raw material necessary for 100 cans: 22,5 kg
- Auction levy: 2%
- Transport/distribution cost from canning factory to retailer and from retailer to point of sale: 0,21 EUR/can
- VAT: 6%
- Consumer price: 1,09 EUR/kg (prices noted in the shops : from 0,95 to 1,44 EUR/standard can)

Cost items included in the ex-factory price can be defined as follows:

- “Raw material – Sardines” is the cost of the fresh sardines bought in auction.
- “Auction levy” is the tax which applies to the products sold in the auction. This levy is 2% when the product is sold to a processor.
- Oil (“vegetable oil” or “olive oil”) usually represents 25% of the net weight of the can.
- “Tins”: as already mentioned, the dominant can size is the ¼ club can, which has a net weight of 120-125 g and a drained net weight of 85-90 g.
- “Labour” represents the cost of the labour employed in the canning factory.

- “Other production costs” include cost of boxes, other ingredients (salt...), maintenance, depreciation.

Figure 11 - Price transmission for canned sardine in vegetable oil in Portugal (September 2015)
(eurocents/can)

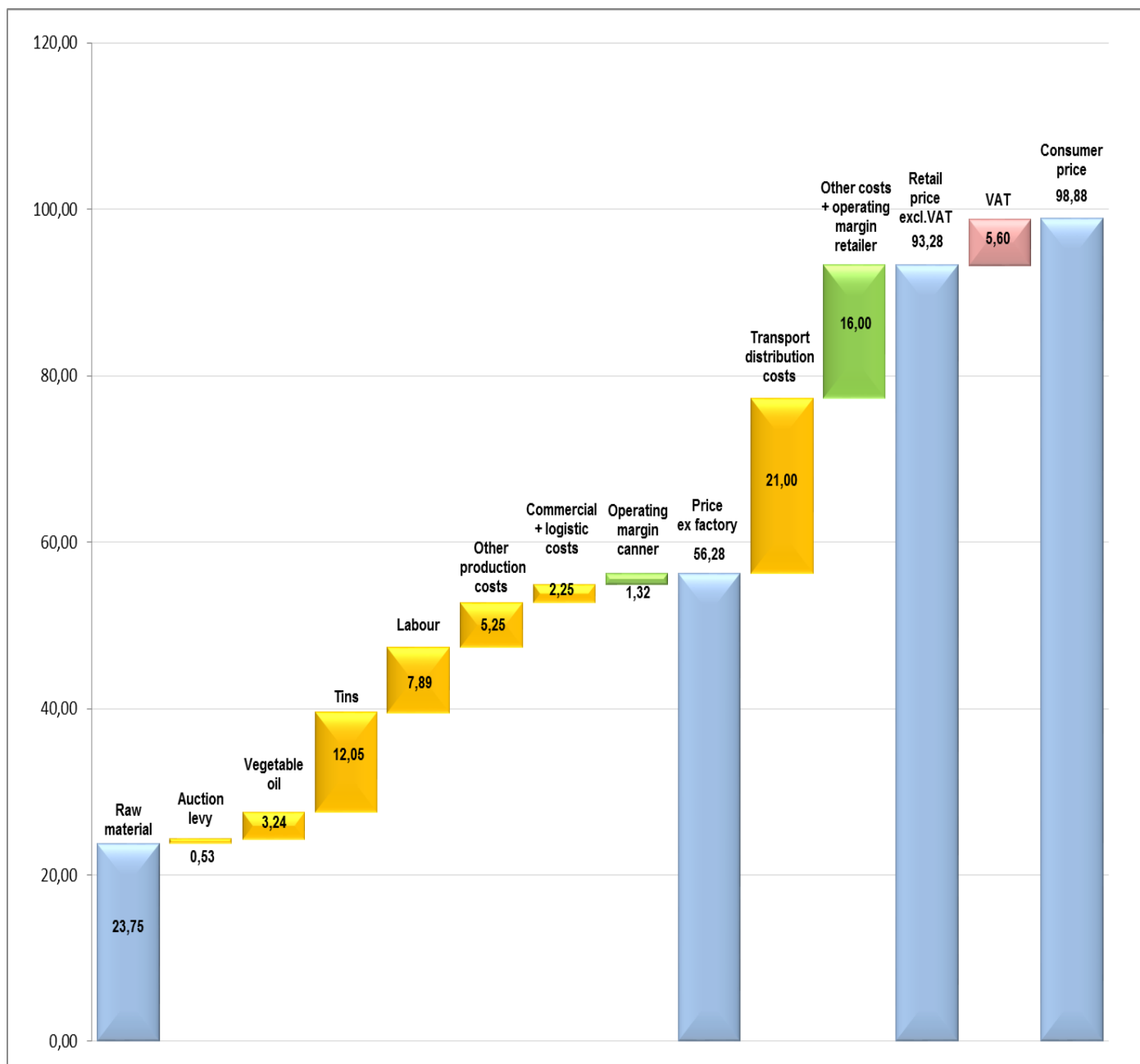
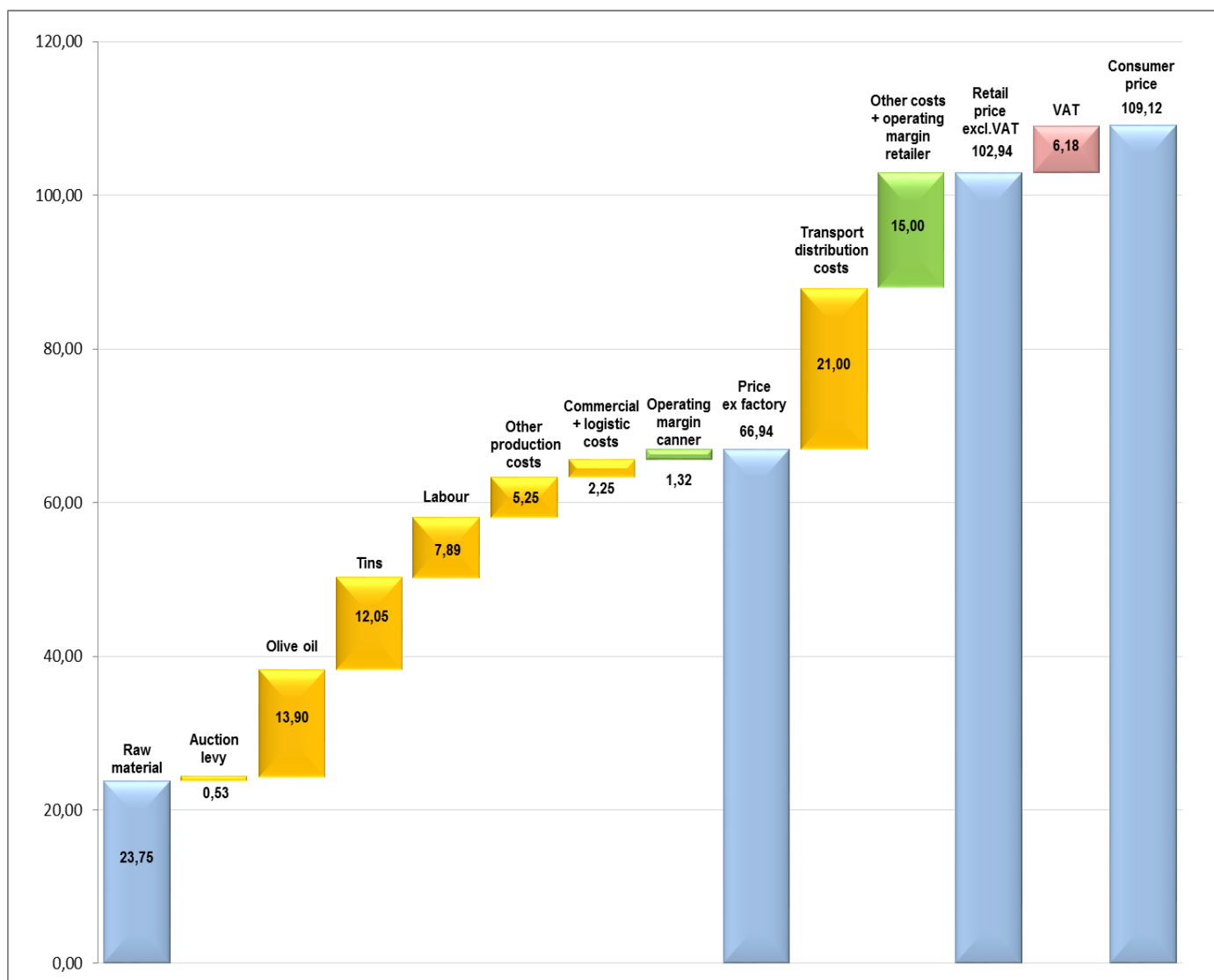


Figure 12 - Price transmission for canned sardine in olive oil in Portugal (September 2015)
(eurocents/can)



The price transmission analysis shows that:

- sardine, as raw material, is by far the largest cost item: 42% of production cost and 24% of consumer price for sardines in vegetable oil, 35% and 22% respectively for sardines in olive oil.

This difference is linked to the impact of oil, which is much stronger in the case of olive oil (21% of production cost) than for vegetable oil (6%).

- the other production costs than sardine and oil (tins, labour and other production/commercial/logistic costs) are the same in absolute terms for the two products analysed and therefore weigh more for sardines in vegetable oil (49% of total production cost) than for sardines in olive oil (41%).

- the breakdown of the total price (retailer price exclusive of VAT) between processor and large retailer shows that the distributor's share is smaller for the most expensive products (35% for sardines in olive oil vs. 40% for sardines in vegetable oil).

5.3 Impact of the supply situation

The supply situation has dramatically changed in the last five years due to low availability of the sardine and to the implementation of severe catch restrictions. This has had two consequences for the Portuguese canning industry:

- the purchasing price of sardine has strongly increased,
- the supply structure has evolved from a supply widely covered by the domestic fleet to a supply dominated by imports.

This double change put high pressure on the industry and it is interesting to see how this evolution is reflected in the production costs.

Tables 26 and 27 show the composition of production cost for sardines in vegetable oil and sardines in olive oil respectively, at three different moments: April 2011, April 2012 and September 2015.

For canned sardines in vegetable oil (table 26), it is interesting to note that the biggest changes occurred in the first period (between April 2011 and April 2012): the severe quota reduction which followed the first suspension of MSC certificate in January 2012 led to a strong increase of the sardine price, which almost doubled between April 2011 and April 2012. Between April 2012 and September 2015, the price increase of sardine was moderate (+7,7%). However the share of sardine in the total production cost rose from less than 29% in April 2011 to more than 42% in September 2015. The other items experienced limited increases.

The canned sardine in olive oil (table 27) also suffered from the price increase of sardine but had in addition to cope in 2015 with soaring prices of olive oil, which rose from 2,10 EUR/l in January 2015 to 3,90 EUR/l in September 2015.

This situation shrank operating margins of canners, which have been reduced by 25% between 2011 and 2015.

Table 26 – Price ex-factory of sardines in vegetable oil in April 2011 and April 2012

(EUR for 100 tins ¼ club)

Item	April 2011	%	April 2012	%	September 2015	%
Raw Material - Sardines	12,40	28,9%	22,05	40,5%	23,75	42,2%
Auction Levy	0,25	0,6%	0,45	0,8%	0,53	0,9%
Vegetable Oil	3,00	7,0%	3,45	6,3%	3,24	5,8%
Tins	12,00	28,0%	12,20	22,4%	12,05	21,4%
Labour	7,25	16,9%	7,50	13,8%	7,89	14,0%
Other Production Costs	4,55	10,6%	5,15	9,5%	5,25	9,3%
Commercial + Logistic Cost	1,65	3,9%	2,10	3,9%	2,25	4,0%
Operating Margin	1,75	4,1%	1,55	2,8%	1,32	2,3%
Production cost	42,85	100,0%	54,45	100,0%	56,28	100,0%

Source: data provided by one processing company

Table 27 – Price ex-factory of sardines in olive oil in April 2011 and April 2012

(EUR for 100 tins ¼ club)

Item	April 2011	%	April 2012	%	September 2015	%
Raw Material - Sardines	12,40	27,0%	22,05	38,7%	23,75	35,5%
Auction Levy	0,25	0,5%	0,45	0,8%	0,53	0,8%
Olive Oil	6,00	13,1%	6,00	10,5%	13,90	20,8%
Tins	12,00	26,2%	12,20	21,4%	12,05	18,0%
Labour	7,25	15,8%	7,50	13,2%	7,89	11,8%
Other Production Costs	4,55	9,9%	5,15	9,0%	5,25	7,8%
Commercial + Logistic Cost	1,65	3,6%	2,10	3,7%	2,25	3,4%
Operating Margin	1,75	3,8%	1,55	2,7%	1,32	2,0%
Production cost	45,85	100,0%	57,00	100,0%	66,94	100,0%

Source: data provided by one processing company

6 ANNEXES

6.1 Contacts

- Ministério da Agricultura e do Mar-DGRM (Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos)
- DOCAPESCA Portos e Lotas, S.A.
- ANICP (Associação Nacional dos Industriais de Conservas de Peixe)
- Fish canning companies

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