EVIDENCE-BASED AND POLICY COHERENT OCEANS ECONOMY AND TRADE STRATEGIES

Vinicio Sandi Meza, PhD
Consultant
UNCTAD

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EVIDENCE-BASED AND POLICY COHERENT OCEANS ECONOMY AND TRADE STRATEGIES

PROJECT OVERVIEW

Project Overview

- The project “Evidence-based and policy coherent Oceans Economy and Trade Strategies” aims to support developing countries such as Barbados, Belize and Costa Rica, in realizing trade and economic benefits from the sustainable use of marine resources within the framework of the 1982 United Nations Convention on the Law of the Sea (UNCLOS).

- This presentation will show detailed sectorial information of the four ocean sectors selected in Costa Rica to facilitate the identification and informed selection of key sectors to be considered for the next phase of the project.

GENERAL DATA

Costa Rica Fishery Context, Landings, Fishing Fees in Costa Rica, Costa Rican Fishing Fleet, Evolution and Destinations of Imports and Exports, and Employment

Fishery Context

Land: 51,100 km²

Coasts lengt: 1,290 km²

Pacific maritime space: 538,273 km² (*)

Caribbean maritime space*: 26,000 km² (*)

Main Pacific landing points: Cuajiniquil, Playas del Coco, Puntarenas, Quepos y Golfito

Main Caribbean landing points: Barra del Colorado, Puerto Limón

*(*Source:http://files.snitcr.go.cr/Visor/limites/MAPA%20OFICIAL%20CONTINENTAL%20INSULAR%20Y%20MARITIMO.pdf)*

Landings

- National Landings in Costa Rica have slightly declined since 2011, from 16,081 tons to 13,382 tons in 2015.

- Landings reached a total of US$ 48,591,831 in 2015, US$ 21,172,149 less than in 2011.

Fishing Fees in Costa Rica

For the 2016-2017 period, some of the fees (by 2018) set by INCOPESCA (in colones) are:

₡ Small scale commercial fishing license: **23,700**

₡ Medium scale commercial fishing license: **71,000**

₡ Advanced scale commercial fishing license: **260,800**

₡ Fishing inputs tax exemption authorization: **3,400** per year

₡ Authorization to place fishery products in primary rural markets: **23,600**

₡ Authorization to transport fishery products: **40,600–93,600**

₡ Authorization to export fishery products: **22,400**

₡ Authorization to import fishery products: **28,400**

₡ Purchase order of fuel (individual or consolidated): **2,600** (per order)

₡ Authorized fuel: **5,00** (per liter)

₡ Captain and crew ID card (all types of vessels, national or resident): **5,000** per year

*. 5 CRC must be paid per every authorized litter. Represents a specific data.

Source: Directive Council Agreement No. AJDIP/328-2016 (Session No. 034-2016, Sept. 08, 2016), INCOPESCA, 2017

Costa Rican Fishing Fleet

- The Costa Rican fishing fleet is classified into Small and Medium scale fleet and large-scale fleet.
- According INCOPESCA, Costa Rican fishing fleet has decreased significantly since 2010. In 2010 the fishing fleet was two and a half times larger (5,112 vessels) than in 2015 (1,903 vessels)

Small and Medium-scale fleet:

Vessels with engines
LOA 0 - 11.09 (mts)

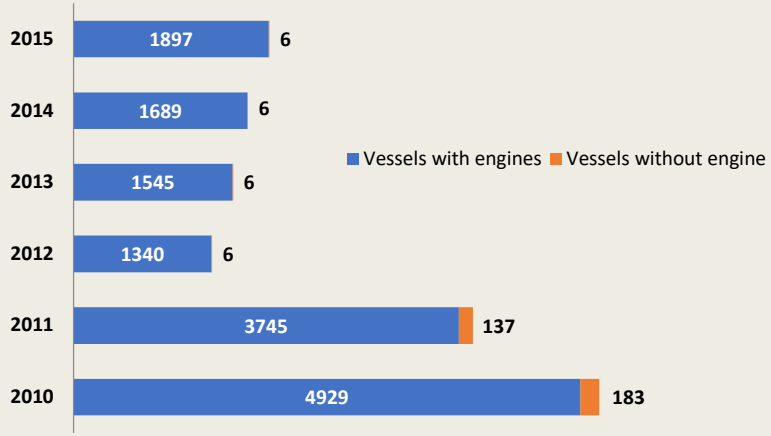
(Artisan shrimp, squid, sharks, scales fishes)

Advanced-scale fleet:

Vessels with engines
LOA 12 - 23.9 (mts)

(Large pelagic and demersal species)

Fishing fleet 2010-2015 (in vessel numbers)



Source: Statistic Department, Research Department, INCOPESCA, 2017

Evolution and Destinations of Imports and Exports

Livestock and Fishing sector exports 2013-2017 (in US$ mill and % of total CR exports)					
	2013	2014	2015	2016	2017
Dairy	116.1	144.9	119.1	134.9	135.6
	1.30%	1.60%	1.30%	1.40%	1.30%
Fishing	124.3	112.8	99.3	83.2	89.1
	1.40%	1.20%	1.10%	0.80%	0.80%
Meats	61.8	85.6	89.2	72.1	73.8
	0.70%	0.90%	1.00%	0.70%	0.70%
Other	21.6	22.1	26.6	27.8	27.7
	0.30%	0.20%	0.30%	0.30%	0.30%
TOTAL	323.8	365.3	334.2	318.1	326.4
	3.80%	4.00%	3.60%	3.20%	3.10%
Source: Statistical Yearbook, 2017, PROCOMER					

- In 2017 Costa Rica exported US$89,100,000 in fish products, which in terms of relative share, represented only 0.80% of the total country exports in 2017.

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Evolution and Destinations of Imports and Exports

Livestock and Fishing sector imports 2013-2017 (in Mil USD)				
2013	2014	2015	2016	
35.3	40.8	43.5	47.1	
60.9	72.8	76.6	81.1	
55.2	56.1	78.6	104.1	
22.4	26.0	24.8	31.9	
173.8	195.8	223.5	264.2	
Source: Statistical Yearbook, 2017, PROCOMER				

- During 2017, 33% of the value in US$ of imported Livestock and Fishing products represented only fishing products, amounting to US$ 90,000,000.

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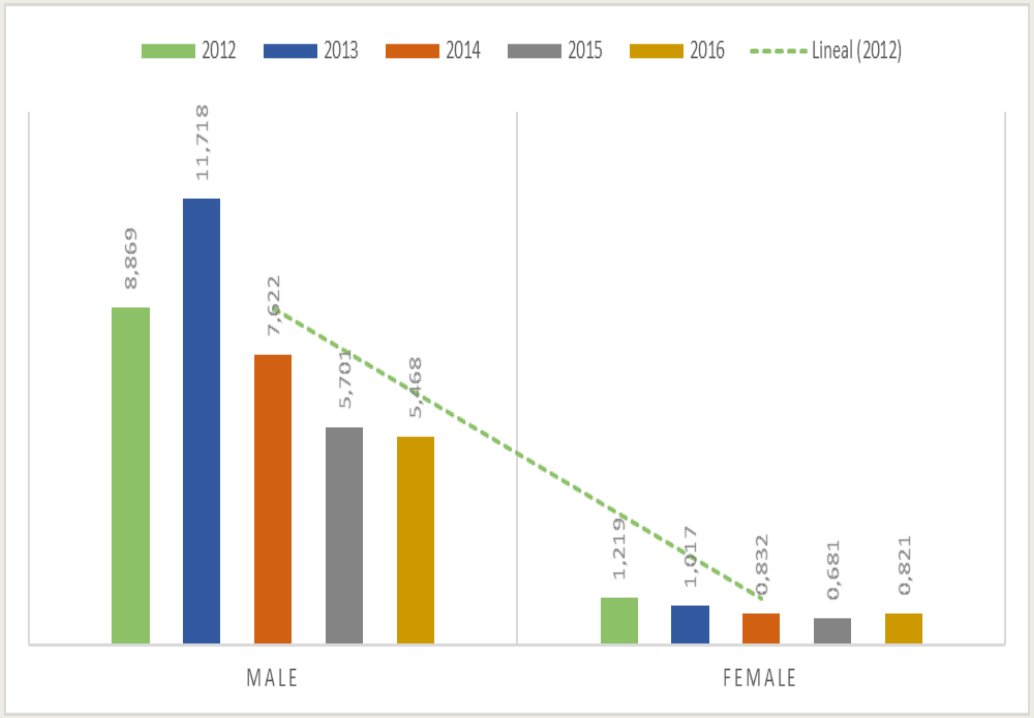
Destinations and Companies

Number of fishing products, destinations and companies 2013-2017*						
2013	Products	69	Destination	29	Companies	31
2014		63		38		34
2015		54		23		28
2016		45		18		22
2017		51		22		26
*Includes all fishing products exports Source: Statistical Yearbook, 2017, PROCOMER						

Note: The data represents the situation of the sector in general, as data on specific products was not provided by the sources consulted.

- The number of products, destinations and exporting companies has decreased in the recent five years.
- The number of fishing products exported decreased from 69 in 2013 to 51 in 2017, as well as the number of destinations and companies, from 29 and 31 in 2013 respectively, to 22 and 26 in 2017

Employment in fishery

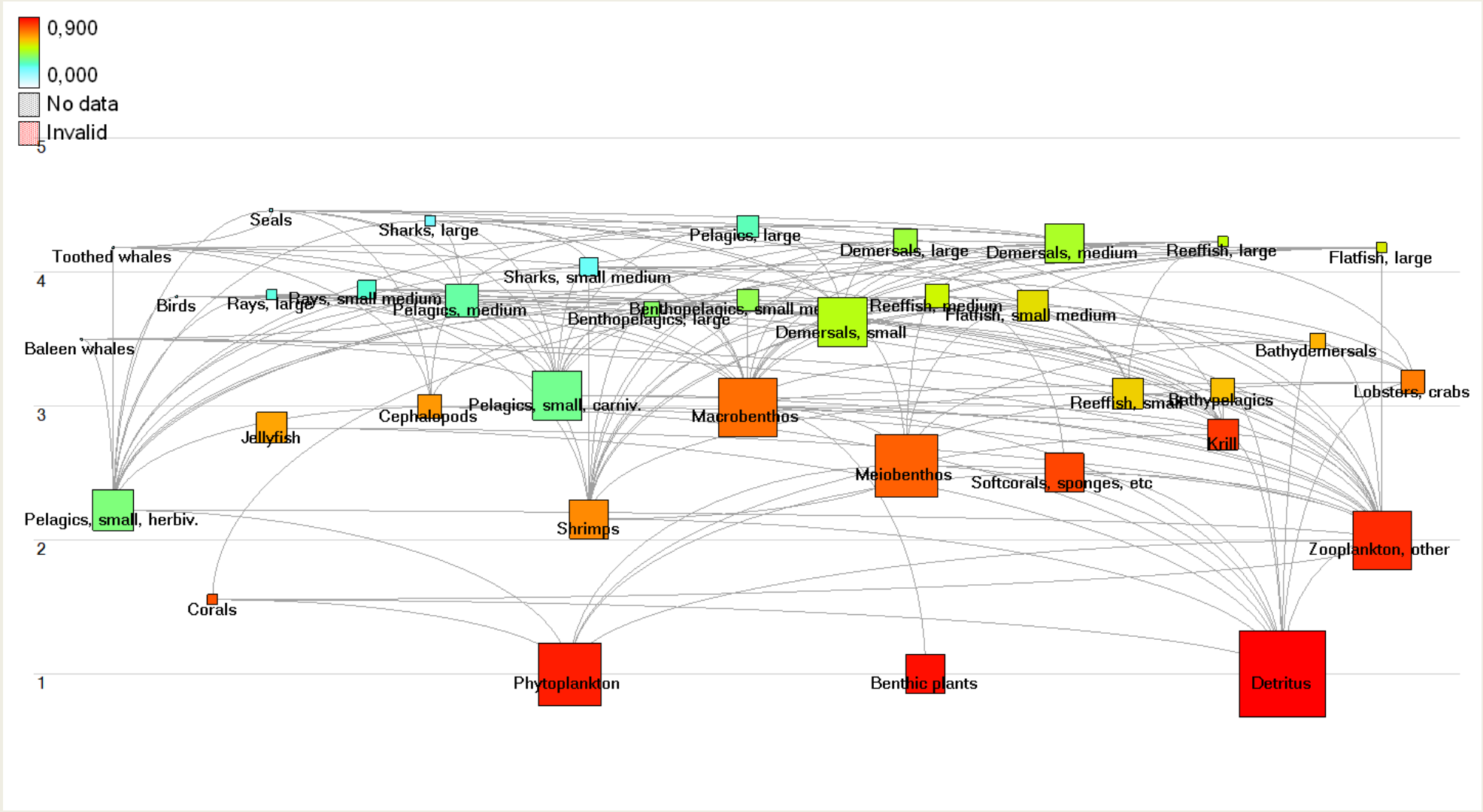


- In relation to employment, the graph shows the total employment rates, that include fishing activity in general, and also aquaculture and manufacturing.
- There is a greater employability of men, where in 2013, it reached the highest value with a total of 11,718. The largest number of women was employed in 2012, totaling 1,219.
- *Source: Adapted by author from data provided by INEC, 2017.*

ANALYZED SECTORS

Marine Fisheries (all fish but tuna), Tuna, Crustaceans and Seafood Manufacturing

Trophic Relations



MARINE FISHERIES (ALL FISH BUT TUNA)

Marine Fisheries (all fish but tuna): overview

- Marine fisheries are usually defined as the industry or occupation devoted to the catching, processing, or selling of fish, shellfish, other aquatic species except tuna.

- Trade in marine fisheries is an important contributor to economic development, exports, hard currency, income, employment, and food security, especially of SIDS and LDCs.

Landings

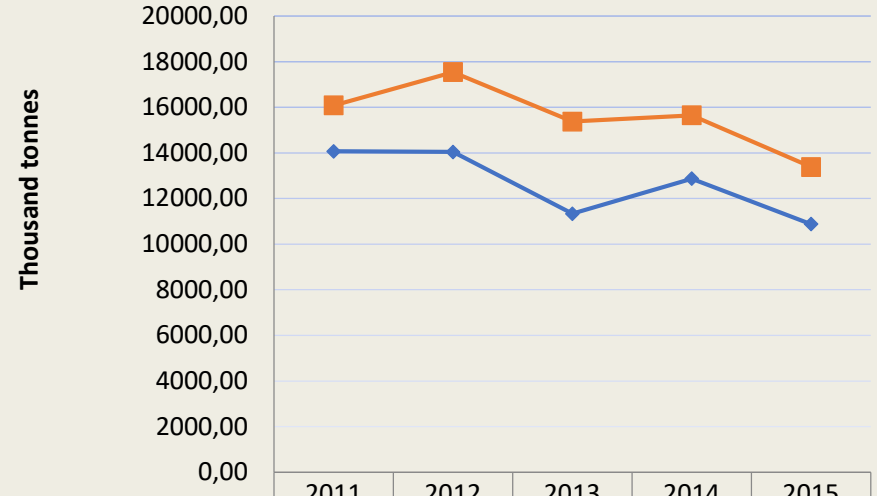
- Around 80% of all production in 2015 (10,881 tons) are for all fish (except tuna) species cached in the Pacific coast.

- In 2015, around 77% of the total value in US$ corresponds also to fish species (except tuna) such as sharks, rays, skates, etc (US$ 15,002,871), swordfish (US$ 4,871,911) and common dolphinfish (US$ 4,381,717).

- Because of its landing volumes, sharks, rays and skates (3,431 tons), and swordfish (1,366 tons) are some of the most important fish species landed in 2015 in the small-scale commercial sector.

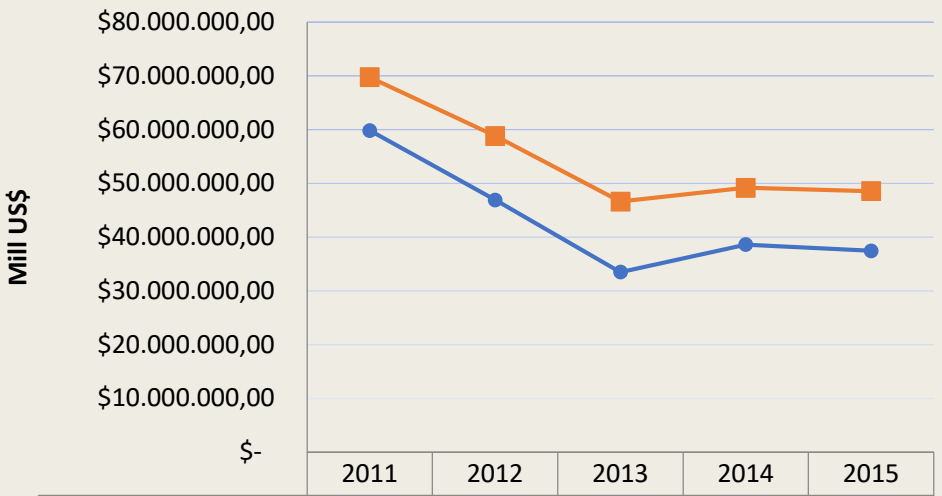
Landings (per tons and mill USD)

Landings of fish in domestic ports 2011-2015 (thousand tonnes)



	2011	2012	2013	2014	2015
All fish (but tuna)	14070,35	14041,17	11334,20	12872,57	10881,20
TOTAL landings	16081,35	17542,21	15372,57	15648,72	13382,02

Landings of fish in domestic ports 2011-2015 (mill US$)



	2011	2012	2013	2014	2015
All fish (but tuna)	$59.850	$46.946	$33.518	$38.640	$37.484
TOTAL US$	$69.763	$58.835	$46.632	$49.203	$48.591

Source: Adapted by author from data provided by CRI Trade Metrics, 2017.

Sea Product Prices (except tuna)

Table 1: Average prices paid 2013-2017 (in thousand colones)

	Paid to the:	Fisherman*	Wholesaler**	Retailer***
Bigeye thresher (Tiburón tresher)	2013	₡475	₡675****	n/a
	2014	₡468	₡875****	₡2,333
	2015	₡461	₡1,050****	₡2,600
	2016	₡359	₡750****	₡2,400
	2017	₡287	₡600****	n/a
Croaker (small) (Corvina pequeña)	2013	₡1.695	₡1,900	₡7,406
	2014	₡1,834	₡2,350	₡3,701
	2015	₡1,883	₡3,250	₡3,931
	2016	₡2,089	₡2,850	₡4,056
	2017	₡1,766	₡2,750	₡3,800
Dolphinfish II (Dorado II)	2013	₡1,022	₡1,150	₡5,558
	2014	₡1,344	₡1,800	₡6,405
	2015	₡1,663	₡2,000	₡7,158
	2016	₡2,540	₡2,450	n/a
	2017	₡2,407	₡2,550	n/a

n/a (not available)
Source: Marketing Department, INCOPESCA

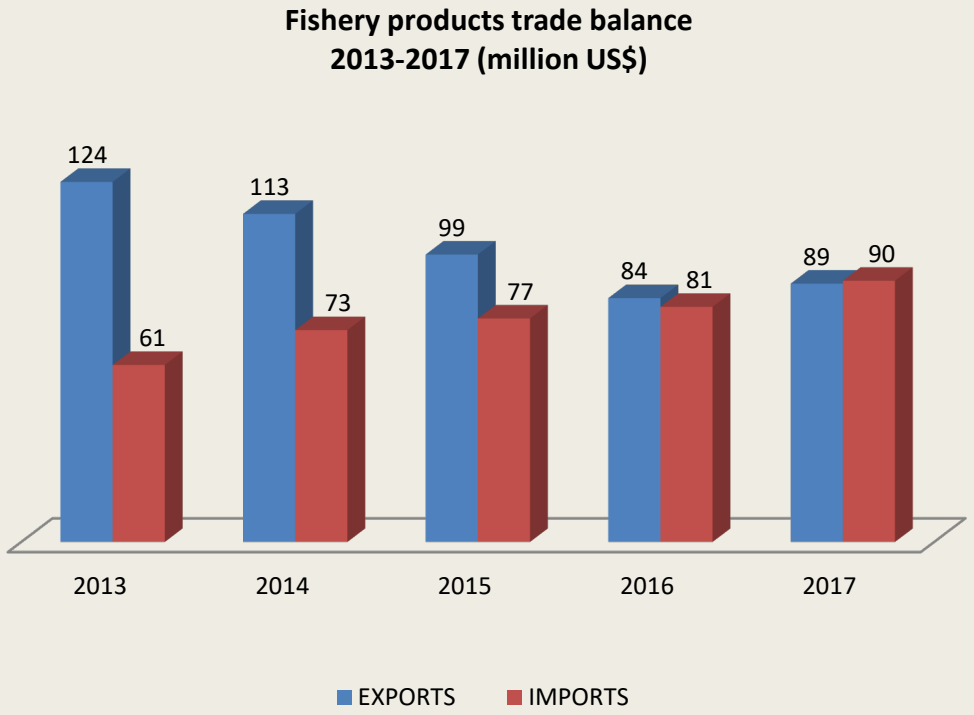
* Average prices paid in stalls 1, 2, 3, 4
**Average between minimum and maximum price. Product placed on the National Supply Central (CENADA), 2017
***Average between Market price, Super 1 and Super 2
****Prices for Bigeye Thresher I

The price in the charts is in Costa Rican Colones, as provided by the source. However, at this point an exchange rate of US $ 1 = 585 (September 19, 2018, Central Bank of Costa Rica, exchange rate of sale) was considered.

Exports

As of 2017 Costa Rica had a negative trade balance of US$1,000,000 in fishery products.

As compared to their positive trade balance in 2013 (US$ 63,000,000 mill), 2014 (US$ 40,000,000), 2015 (US$22,000,000) and 2016 (US$ 3,000,000).



All fish trade metrics 2015-2016 (Except Tuna)

Exports	Export Value (Sum in Mil USD)		Export Destinations (average)		Revealed Comparative Advantage (RCA)		Share of products with RCA > 1		Annualized Growth in Global Market Demand (average)		Sophistication (Product Complexity)	Export Quality Rank (average)
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2016	2016
Crustaceans	15.7	11.3	1.250	0.833	0.986	0.253	0.33	0.08	3.822	3.822	-1.542	0.797
Fish (but Tuna)	53	44.4	0.833	0.781	7.922	7.251	0.25	0.25	0.740	0.912	-0.687	0.913
Seafood Manufacturing	36.2	31.3	1.950	2.000	0.961	0.738	0.10	0.14	-0.850	-0.889	-0.633	0.801

	Low Values
	Medium Values
	High Values

The data shows that despite the positive values, in relation to exports and imports, the averages on the RCA, the annual growth of global market demand, index of product complexity, and the quality ranking of the export present very low or negative values.

Source: Adapted by author from data provided by CRI Trade Metrics, 2017.

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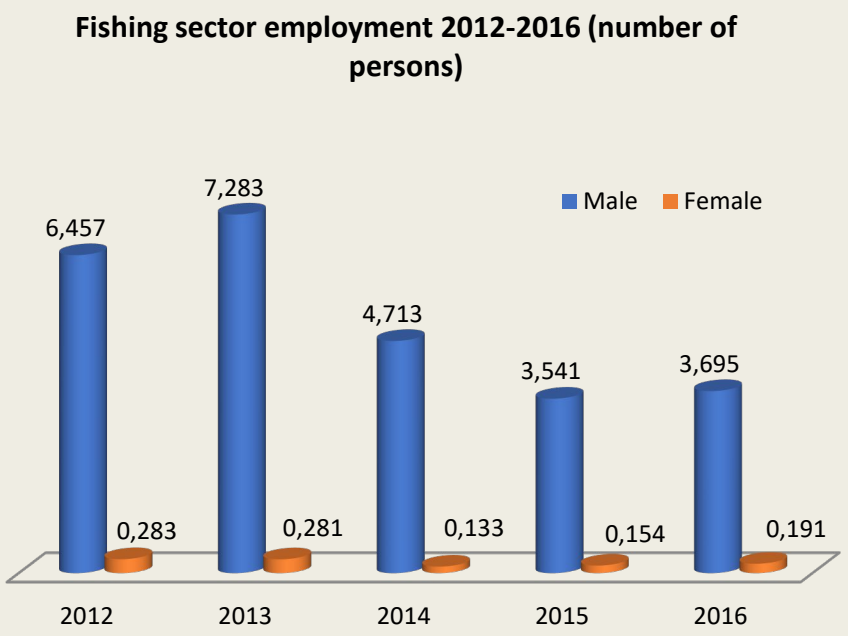
Exports of fishery products: value and weight

- The fish products of greater volume and amount of exports are those in the HS tariff line 0304 for an amount of US $ 263,799,000 in the period 2013-2017 (in 2017 alone, exported products in this tariff line accounted for 6,109 tons in the amount of US $ 42,528,000)
- And the tariff line 0302 for an amount of US $ 116,501,000 in the 2013-2017 period (in 2017 alone, 3,871 tons were exported for US $ 22,150,000).

Imports of fishery Products

- During 2017, fishing products represented 33% (US$ 90,000,000) of the total value of imported Livestock and Fishing sectors (US$ 276,000,000).
- The trade balance for fish is still positive for Costa Rica, with a surplus of approximately US$ 10,000,000.
- Fishing products of greater volume and amount of imports are those in the tariff line 0304, valued at US $ 159,661,000 for the period 2013-2017 (in 2017 alone 12,784 tons were exported for an amount of US $ 37,529,000)
- Those in the tariff line 0302 for an amount of US $ 60,746,000 for the 2013-2017 period (in 2017 alone, 5,711 tons were exported for US $ 8,398,000)

Employment in fishery



Source: Salarios Mínimos Sector Privado año 2018, Decreet Nº 40743-MTSS, published in La Gaceta 228, Alcance N°291 on December 1, 2017, Ruling on 1º de enero del 2018

- During 2012 and 2013, the sector employed 6,741 and 7,563 individuals respectively, reaching a low of 3,836 workers during 2016. The fishing sector employs mostly men.
- Many of these workers are classified as Nonqualified Workers, working mainly in the agricultural, livestock, wildlife and fishing activities.
- Minimum salary is 10,060.71, which therefore can be considered as the minimum income for Nonqualified Workers (TNC).
- *Source: Adapted by author from data provided by INEC, 2017.*

COSTA RICA: WILD TUNA HARVESTING/FISHING

Wild tuna harvesting/fishing: overview

- Currently, the fishing industry faces a profound resource crisis, thus being able to manage the country's fishing sector in a scientific and sustainable manner has become of great importance.

- Although the tuna-fishing sector carries great importance in trade terms and it has seen a recent boom in activity, it requires attention to ensure its proper and full contribution to the sustainable development of Costa Rica's ocean-based economy.

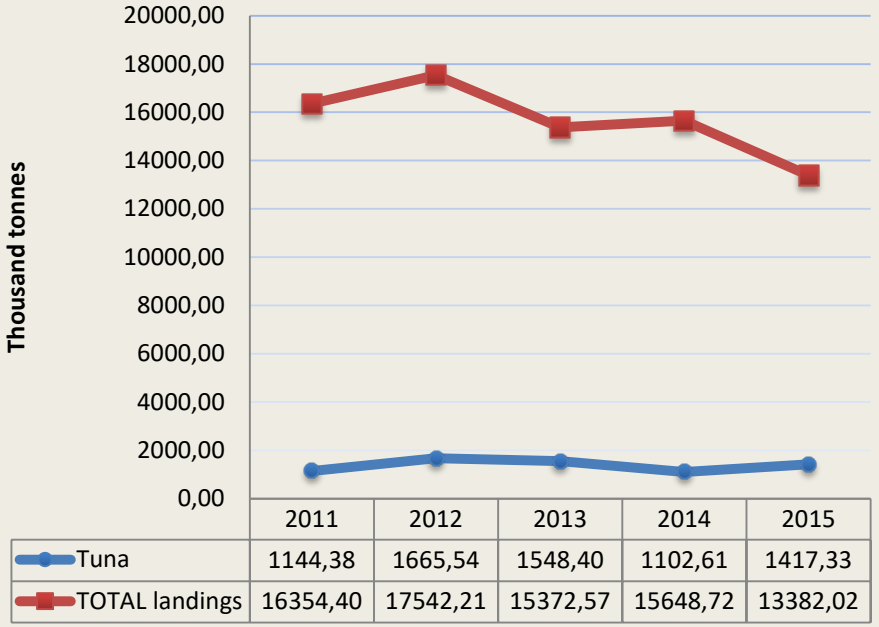
Tuna fishing and harvesting

- Tuna is a key export of Costa Rica, specially to the United States of America.
- Between 2006-2015 the catches included five species of tuna. The most exploited was yellowfin tuna (192,605 tons), which represented 75.14% of the total catches.
- The skipjack tuna accounted for 23.54% of the catch, while the remaining 1.32% was divided between bigeye and black skipjack.
- The catch of yellowfin tuna consisted mainly of medium age groups (3.8 to 5 years old), followed by tuna over 5 years of age

(Source: Mug, 2013 in Jiménez, JA & E. Ross Salazar - Editors 2017).

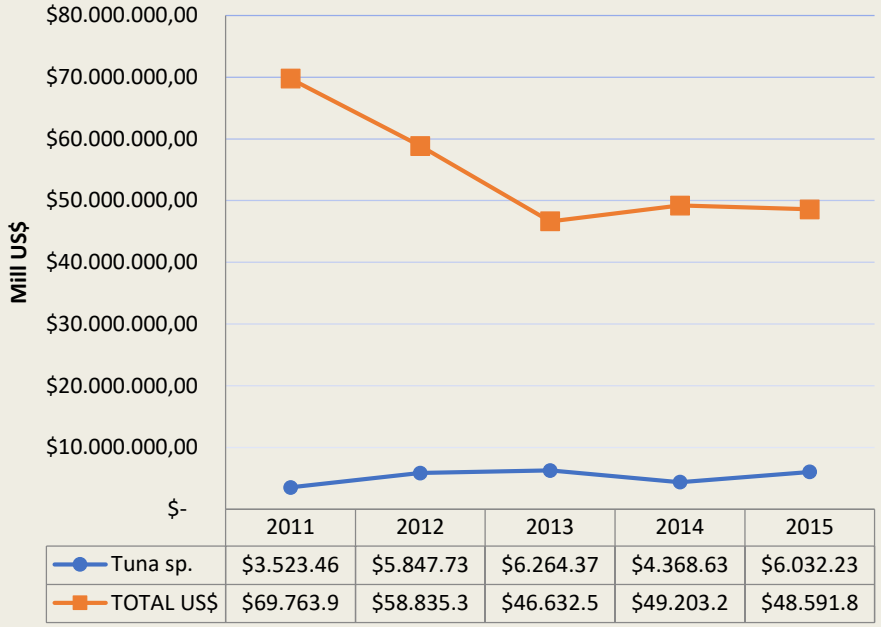
Tuna Landings

Tuna landings in domestic ports 2011-2015 (thousand tons)



	2011	2012	2013	2014	2015
Tuna	1144,38	1665,54	1548,40	1102,61	1417,33
TOTAL landings	16354,40	17542,21	15372,57	15648,72	13382,02

Tuna landings in domestic ports 2011-2015 (mill US$)



	2011	2012	2013	2014	2015
Tuna sp.	$3.523.46	$5.847.73	$6.264.37	$4.368.63	$6.032.23
TOTAL US$	$69.763.9	$58.835.3	$46.632.5	$49.203.2	$48.591.8

Source: Adapted by author from data provided by CRI Trade Metrics, 2017.

Tuna Landings

- Around 10.6% of the fishery production in 2015 (1,417.33 tons) was for tuna.
- For 2011, 1,144.38 tons of tuna were recorded, which increased significantly in 2012 and 2013 (1,665.54 and 1,548.40, tons respectively).
- In 2015, tuna imports accounted for approximately 12.4%of all fish imports.
- Despite the irregular situation in relation to the recorded tons of tuna landings, the price of tuna has trended upwards over the last 5 years.

Trade Metrics: tuna-products prices

Average prices paid 2013-2017 (in thousand colones)				
Paid to the:		Fisherman*	Wholesaler**	Retailer***
Yellow Fin Tuna I	2013	n/d	₡4,047****	n/a
	2014	₡2,050	₡3,686****	₡10,335
	2015	₡1,300	₡3,307****	₡14,730
	2016	₡1,500	₡2,955****	₡11,465
	2017	n/d	₡3,720****	n/a
Yellow Fin Tuna II	2013	₡1,183	₡1,450	n/d
	2014	₡1,093	₡1,400	₡5,000
	2015	₡1,002	₡1,750	n/d
	2016	₡1,015	₡2,500	n/d
	2017	₡876	n/d	n/d
Black Fin Tuna	2013	₡200	₡259	n/d
	2014	n/d	₡223	n/d
	2015	₡200	₡212	n/d
	2016	n/d	₡361	n/a
	2017	n/d	₡220	n/a
n/a (not available) Source: Marketing Department, INCOPESCA, 2017				

* Average prices paid in stalls 1, 2, 3, 4
**Average between minimum and maximum price. Product placed on the National Supply Central (CENADA)
***Average between Market price, Super 1 and Super 2.
****. Tuna I and II. Market Quality Classification (It is a process of the supermarkets to classify the quality of the product)

Tuna trade metrics (2015-2016)

Exports	**Export Value** (Sum in Mil USD)		**Export Destinations** (average)		**Revealed Comparative Advantage** (RCA-Average)		Share of products with RCA > 1		Annualized Growth in Global **Market Demand** (average)		**Sophistication (Product Complexity)**	**Relative Export Quality Rank (average)**
	2015	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2016**	**2016**
Crustaceans	15.7	11.3	1.250	0.833	0.986	0.253	0.33	0.08	3.822	3.822	-1.542	0.797
Seafood Manufacturing	36.2	31.3	1.950	2.000	0.961	0.738	0.10	0.14	-0.850	-0.889	-0.633	0.801
Tuna	8.9	8.1	1.429	1.333	5.351	5.620	0.29	0.33	-1.947	-2.586	-1.627	1.048

	Low Values
	Medium Values
	High Values

Source: Adapted by author from data provided by CRI Trade Metrics, 2017.

Tuna trade metrics (2015-2016)

- Tuna is a key product for the economic activity of the country, it helps the country maintain a great number of destinations for exports and it also maintains a very positive comparative advantage and has the potential to be a more competitive product in the market.
- The RCA of tuna products are over 1, with 5,351 and 5,620 for 2015 and 2016 respectively. This means that this sector maintains a comparative advantage over the same product in other markets, but with the capacity to improve competitively
- Between 2015 and 2016, it had a negative average annual growth of global market demand, more so in 2016. However, the scenario becomes positive, especially considering the possibilities of improvements that can be implemented.

Exports of tuna products: value and weight

- The following information considers fish, fillet and other fish meat presentations, fresh fish, refrigerated and frozen fish, dried, smoked and salted fish, among others.

- The most sales in US$ and tons of exported tuna in Costa Rica are recorded under tax tariff 0302320000 (Tunas,yellowfin,fresh/chilled,excluding fish of No 03.04).

- The lowest production of tuna in the country was in 2014, with a total of 758.7 tons produced.

Exports of tuna products: value and weight

Value and Weight of Exports of Tuna products 2013-2017 (Thousands US$ and Tons)

	2013		2014		2015		2016		2017		2013-2017 (TOTAL GENERAL)	
Tariff Item	(USD)	(Tonnes)	(USD)	Tonnes)	(USD)	Tonnes)	(USD)	(Tonnes)	(USD)	Tonnes)	$	TONNES
030231000000									0,9	0,1	**0,9**	**0,1**
0302320000	9878,3	1060,5	5916,7	676,5	6952,5	866,6	6987,9	1362,0			**29735,3**	**3965,6**
030232000000									6863,6	873,4	**6863,6**	**873,4**
0302330000	10,9	5,1									**10,9**	**5,1**
0302340000	257,0	24,6	84,0	8,3	164,2	17,6	84,2	9,1			**589,4**	**59,6**
030234000000									65,5	8,9	**65,5**	**8,9**
0303410000	208,4	62,4									**208,4**	**62,4**
0303420000	136,7	15,0	35,7	7,5	5,2	1,0					**177,6**	**23,5**
030342000000									3,4	0,5	**3,4**	**0,5**
0303430000					1,2	3,5					**1,2**	**3,5**
030343000000									189,8	98,0	**189,8**	**98,0**
0304870000	753,9	77,3	564,1	66,4	59,9	11,7	541,1	80,4			**1919,0**	**235,9**
030487000000									228,5	24,4	**228,5**	**24,4**
0305590010	183,5	2,4									**183,5**	**2,4**
Total general	**11428,6**	**1247,3**	**6600,5**	**758,7**	**7183,0**	**900,4**	**7613,2**	**1451,6**	**7351,7**	**1005,3**	**40176,9**	**5363,4**

Source: Export Statistics, PROCOMER, based on Central Bank statistics

Tuna. Trade metrics (2013-2016)

Product (2013)	Export Value (in Mil USD)	Import Value (in Mil USD)	Number of Export Destinations	Number of Import Destinations	Revealed Comparative Advantage of export_value	RCA>1	Product Density	Asymmetric Product Density	Economic Complexity Index | RCA>1	Product Complexity Index | RCA>1	Opportunity Value	Opportunity Gain	Product Complexity (percentile distribution)	Annualized Growth in Global Market Demand	Export Quality Rank	Relative Export Quality	AVE of Technical NTMs
Yellowfin tunas	11,50	1,40	4,00	1,00	46,93	1,00	0,14	0,16	0,06	-2,16	0,23	0,00	-2.16 (3%)	1,26	47,00	1,04	0,75
Bigeye tunas	0,20	0,00	1,00	0,00	3,27	1,00	0,15	0,16	0,06	-1,72	0,23	0,00	-1.72 (6%)	0,54	47,00	1,04	0,78
Atlantic and Pacific bluefin tunas	0,00	0,00	1,00	0,00	0,15	0,00	0,09	0,12	0,06	-0,57	0,23	0,00	-.56 (27%)	12,63	47,00	1,04	0,00
Albacore or longfinned tunas	0,20	0,30	1,00	2,00	0,82	0,00	0,11	0,12	0,06	-1,70	0,23	0,00	-1.70 (7%)	0,91	45,00	1,06	n/a
Yellowfin tunas	0,20	11,20	2,00	10,00	0,18	0,00	0,13	0,14	0,06	-2,19	0,23	0,00	-2.19 (3%)	-5,57	45,00	1,06	n/a
Tunas, skipjack or stripe-bellied bonito	1,00	0,40	3,00	7,00	1,07	1,00	0,14	0,15	0,06	-2,04	0,23	0,00	-2.03 (4%)	2,73	34,00	1,04	n/a

Product (2014)	Export Value (in Mil USD)	Import Value (in Mil USD)	Number of Export Destinations	Number of Import Destinations	Revealed Comparative Advantage of export_value	RCA>1	Product Density	Asymmetric Product Density	Economic Complexity Index | RCA>1	Product Complexity Index | RCA>1	Opportunity Value	Opportunity Gain	Product Complexity (percentile distribution)	Annualized Growth in Global Market Demand	Export Quality Rank	Relative Export Quality	AVE of Technical NTMs
Yellowfin tunas	8,60	0,90	2,00	1,00	16,72	1,00	0,08	0,09	0,06	-1,55	0,64	0,00	-1.54 (8%)	1,26	47,00	1,04	0,75
Bigeye tunas	0,10	0,00	1,00	0,00	0,41	0,00	0,06	0,07	0,06	-1,76	0,64	0,00	-1.75 (6%)	0,54	47,00	1,04	0,78
Atlantic and Pacific bluefin tunas	0,00	0,00	1,00	0,00	0,02	0,00	0,05	0,07	0,06	-0,77	0,64	0,00	-.76 (22%)	12,63	47,00	1,04	0,00
Albacore or longfinned tunas	0,00	0,00	0,00	1,00	0,00	0,00	0,05	0,06	0,06	-1,34	0,64	0,00	-1.34 (11%)	0,91	45,00	1,06	n/a
Yellowfin tunas	0,00	2,30	3,00	2,00	0,03	0,00	0,07	0,08	0,06	-2,11	0,64	0,00	-2.10 (3%)	-5,57	45,00	1,06	n/a
Bigeye tunas	0,00	0,00	1,00	0,00	0,09	0,00	0,06	0,07	0,06	-1,91	0,64	0,00	-1.90 (5%)	-8,62	45,00	1,06	n/a

Product (2015)	Export Value (in Mil USD)	Import Value (in Mil USD)	Number of Export Destinations	Number of Import Destinations	Revealed Comparative Advantage of export_value	RCA>1	Product Density	Asymmetric Product Density	Economic Complexity Index | RCA>1	Product Complexity Index | RCA>1	Opportunity Value	Opportunity Gain	Product Complexity (percentile distribution)	Annualized Growth in Global Market Demand	Export Quality Rank	Relative Export Quality	AVE of Technical NTMs
Albacore or longfinned tunas	0,00	0,00	0,00	1,00	0,00	0,00	0,11	0,13	0,15	-1,19	0,17	0,00	-1.19 (14%)	-4,88	47,00	1,04	n/a
Yellowfin tunas	8,70	0,60	3,00	1,00	35,49	1,00	0,16	0,17	0,15	-1,88	0,17	0,00	-1.87 (5%)	1,26	47,00	1,04	0,75
Bigeye tunas	0,10	0,00	2,00	0,00	1,84	1,00	0,16	0,17	0,15	-1,74	0,17	0,00	-1.74 (6%)	0,54	47,00	1,04	0,78
Albacore or longfinned tunas	0,00	0,00	0,00	1,00	0,00	0,00	0,11	0,13	0,15	-1,51	0,17	0,00	-1.50 (9%)	0,91	45,00	1,06	n/a
Yellowfin tunas	0,00	16,50	2,00	5,00	0,02	0,00	0,14	0,15	0,15	-2,15	0,17	0,00	-2.15 (2%)	-5,57	45,00	1,06	n/a
Bigeye tunas	0,00	0,00	1,00	0,00	0,05	0,00	0,12	0,14	0,15	-1,76	0,17	0,00	-1.75 (6%)	-8,62	45,00	1,06	n/a
Tunas, skipjack or stripe-bellied bonito	0,10	0,80	2,00	4,00	0,06	0,00	0,12	0,14	0,15	-1,75	0,17	0,00	-1.75 (6%)	2,73	34,00	1,04	n/a

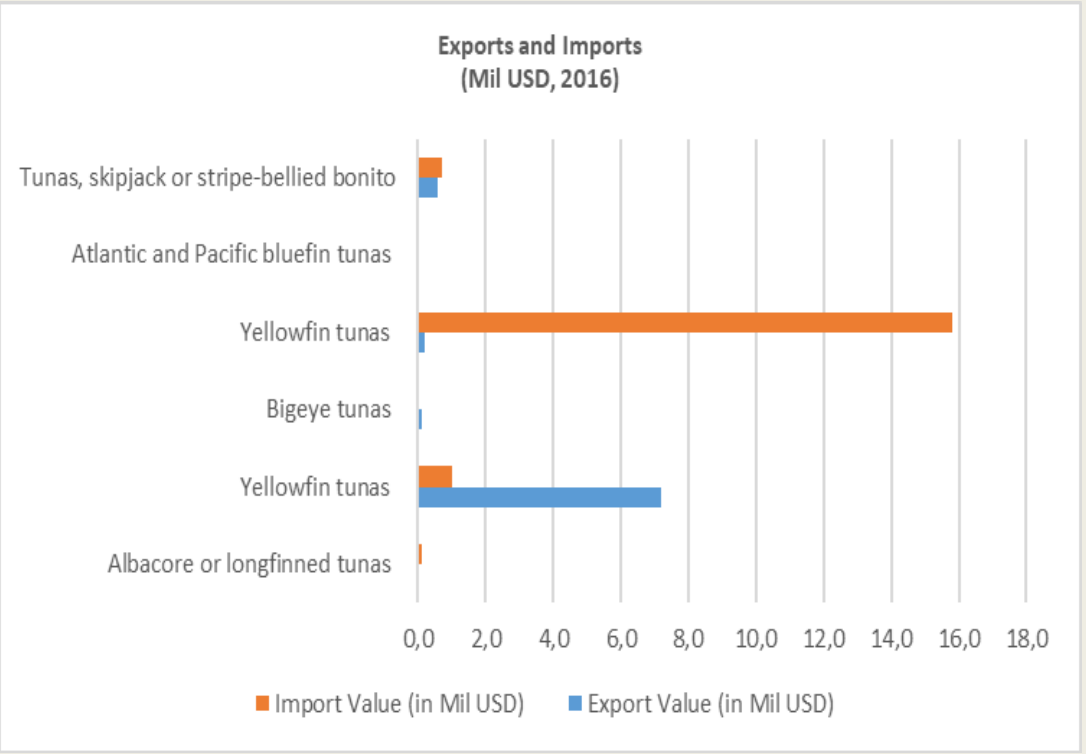
Product (2016)	Export Value (in Mil USD)	Import Value (in Mil USD)	Number of Export Destinations	Number of Import Destinations	Revealed Comparative Advantage of export_value	RCA>1	Product Density	Asymmetric Product Density	Economic Complexity Index | RCA>1	Product Complexity Index | RCA>1	Opportunity Value	Opportunity Gain	Product Complexity (percentile distribution)	Annualized Growth in Global Market Demand	Export Quality Rank	Relative Export Quality	AVE of Technical NTMs
Albacore or longfinned tunas	0,00	0,10	0,00	1,00	0,00	0,00	0,10	0,12	0,25	-1,50	0,14	0,00	-1.5 (9%)	-4,88	47,00	1,04	n/a
Yellowfin tunas	7,20	1,00	3,00	1,00	31,66	1,00	0,15	0,16	0,25	-1,97	0,14	0,00	-1.97 (4%)	1,26	47,00	1,04	0,75
Bigeye tunas	0,10	0,00	1,00	0,00	1,24	1,00	0,14	0,15	0,25	-1,66	0,14	0,00	-1.65 (7%)	0,54	47,00	1,04	0,78
Yellowfin tunas	0,20	15,80	1,00	10,00	0,25	0,00	0,13	0,14	0,25	-2,11	0,14	0,00	-2.10 (3%)	-5,57	45,00	1,06	n/a
Atlantic and Pacific bluefin tunas	0,00	0,00	0,00	1,00	0,00	0,00	0,08	0,10	0,25	-0,57	0,14	0,00	-.56 (28%)	-9,59	45,00	1,06	n/a
Tunas, skipjack or stripe-bellied bonito	0,60	0,70	3,00	5,00	0,57	0,00	0,11	0,12	0,25	-1,95	0,14	0,00	-1.95 (4%)	2,73	34,00	1,04	n/a

Source: Adapted by author from data provided by CRI Trade Metrics, 2017.

Tuna. Trade metrics (2013-2016)

- Yellow fin tuna is the most representative product within the data set regarding the years included within this analysis.
- The yellow fin tuna is ranked highest in import, exports and revealed comparative advantage metrics.
- The data also demonstrates that bigeye tuna is also of great importance.

Exports and imports: trade metrics (mil usd)



- The country's imports surpass the exports of the product, specifically the yellow fin tuna, which is the main competing product.

Source: Adapted by author from data provided by CRI Trade Matrics, 2017

CRUSTACEANS FISHING AND AQUACULTURE

Crustaceans Fishing and Aquaculture: (overview)

- The crustacean fishing industry has been rather significant in Costa Rica; almost 8,000 tons have been landed in Costa Rican ports in the last 4 years. However, it hit a low in 2015, which had a significant impact.

- Export values during 2015 and 2016, reached 15,7000,000 and 11,300,000 million dollars, respectively. Although there was a reduction, it remained above the export values of tuna

- “Other shrimps and prawns” (tariff lines 30617 and 30627), are those that account for the highest values exported and imported into Costa Rica

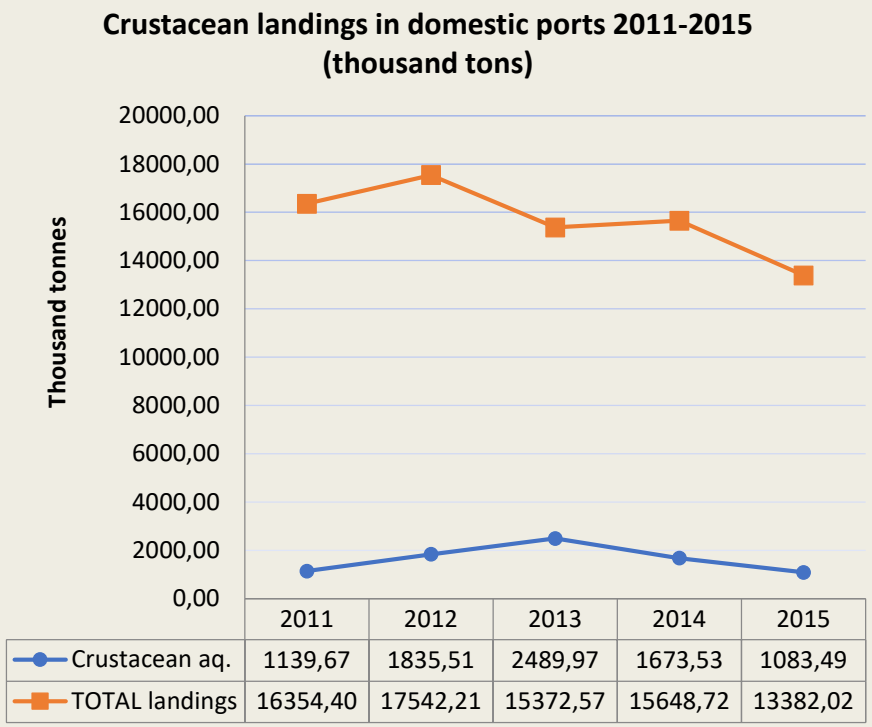
- Revealed Comparative Advantage coefficient in relation to the product is less than 1, which represents a negative situation in the market in relation to similar products.

Crustacean fishing and harvesting

- The production in the country is mainly driven by high prices in major markets and the possibility they represent to acquire foreign currency.
- The industry has encountered significant technical difficulties with intensive breeding species, due to the complex biological cycles of these organisms.
- The most cultivated species are white shrimp, white prawns, camel shrimp, Fidel shrimp, pink shrimp and Pacific lobster (green lobster), which are found in the Eastern Pacific Ocean
- The main landing ports are in Puntarenas and in the Gulf of Nicoya.

Source: Manual of Commercial Species of Costa Rica, INCOPESCA, PROCOMER AND CANEPP*) *(It has no year of publication, but it was revised online on August 14, 2018.)*

Landings



	2011	2012	2013	2014	2015
Crustacean aq.	1139,67	1835,51	2489,97	1673,53	1083,49
TOTAL landings	16354,40	17542,21	15372,57	15648,72	13382,02

Source: Statistic Department, Research Department, INCOPESCA, 2017

- Around 8% of the disembarked tons during 2015 correspond to crustaceans. Sales values for the same year correspond to about 8% ($ 3,926,300).
- While in 2011 the total weight of crustaceans caught was 1,139.67 tons, by 2015 it had decreased to 1,083.49 tons; dropping from $6,389,900 to $3,926,300 respectively.

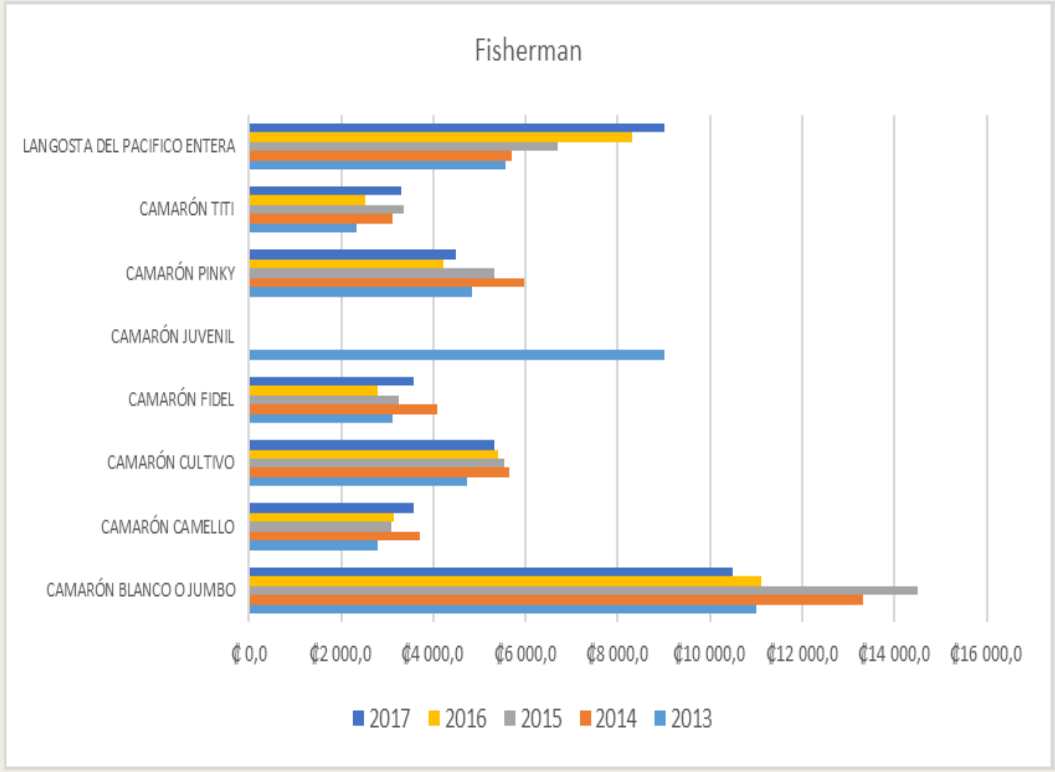
Crustacean product prices

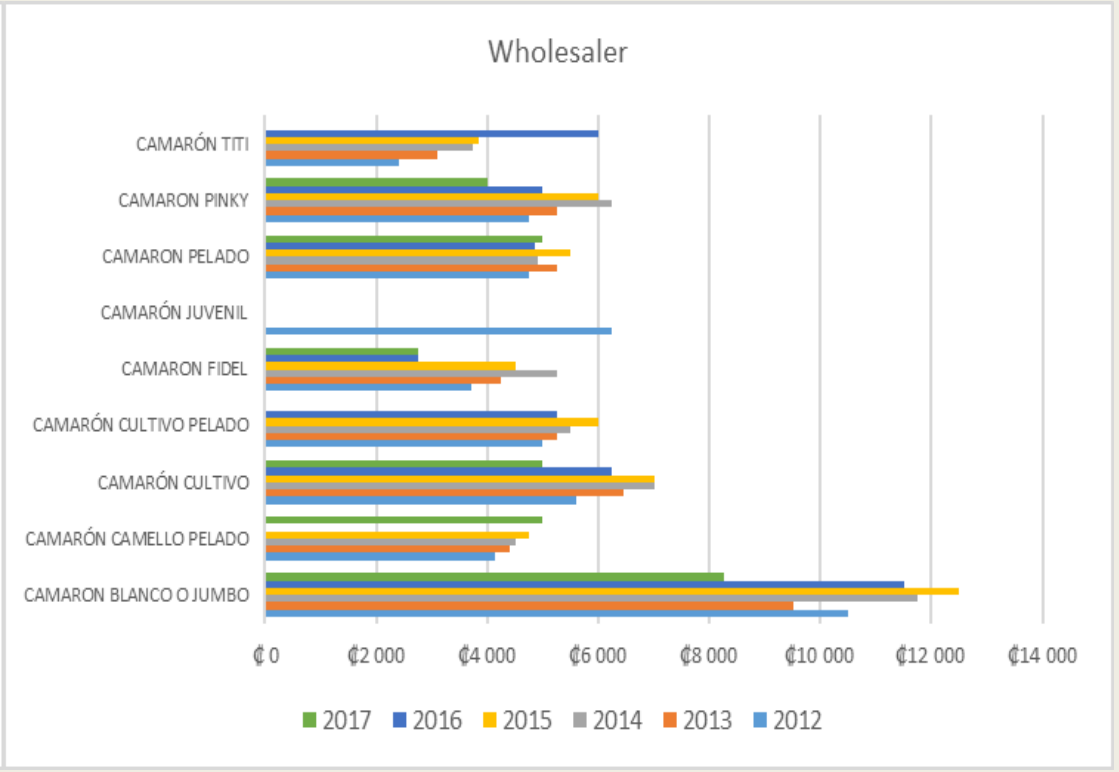
- The dock-side (fishermen) and wholesale prices are very similar for crustaceans, but of higher value at the retail (supermarkets) level.

- White shrimp or jumbo shrimp have the highest prices in the three markets for both purchase and sale.

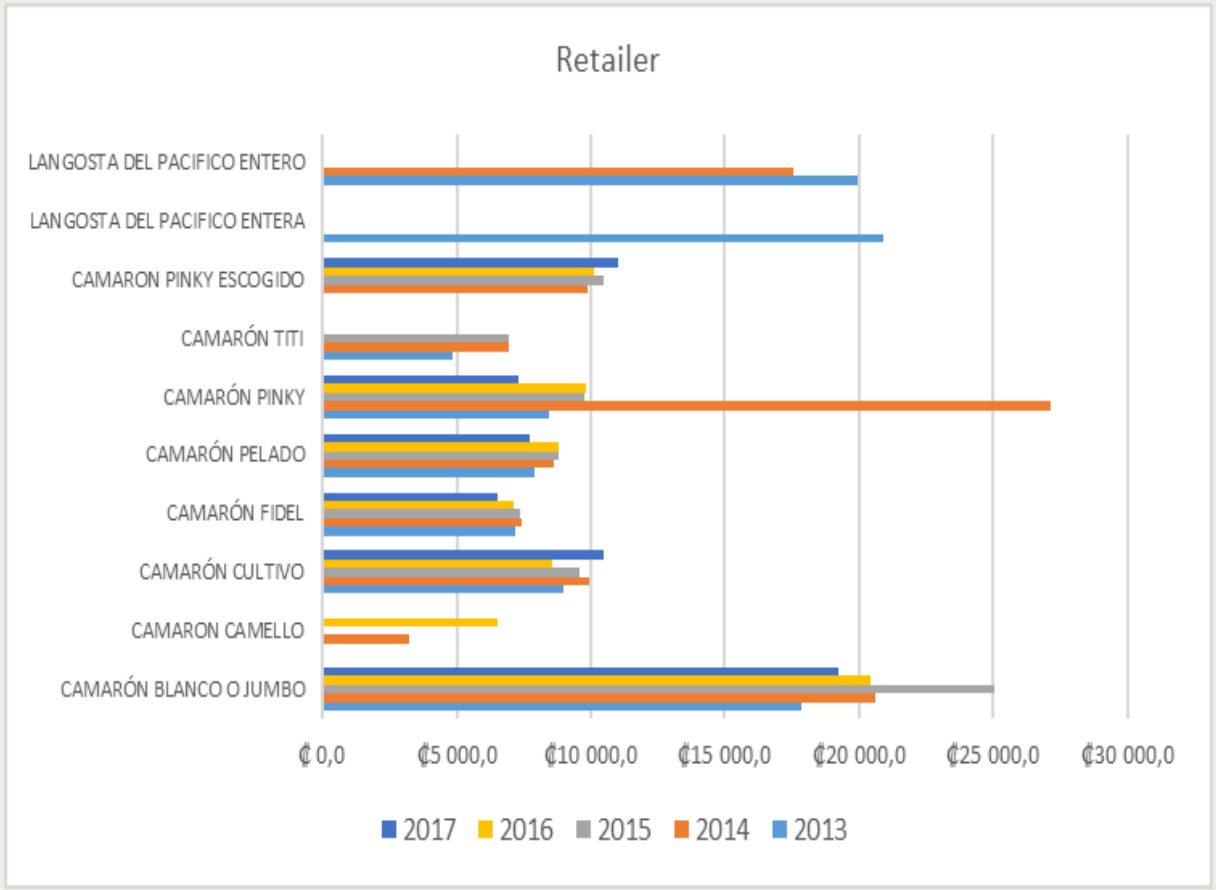
- White shrimp or jumbo shrimp, achieved their highest price in 2015 in the 3 markets, reaching prices between 12,000 and 25,0000 colones.

Crustacean Product Prices





Source: Marketing Department, INCOPESCA, 2017



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Source: Marketing Department, INCOPESCA, 2017

*Fisherman: Average prices paid in stalls 1, 2, 3, 4

**Wholesaler: Average between minimum and maximum price. Product placed on the National Supply Central (CENADA)

***Retailer: Average between Market price, Super 1 and Super 2

**** Varieties of analysis. Varieties most sold in relation to kilos and prices. The last quinquennium is included as representative of the data.

Crustaceans trade metrics (2015-2016)

Exports	**Export Value** (Sum in Mil USD)		**Export Destinations** (average)		**Revealed Comparative Advantage** (RCA)		Share of products with RCA > 1		Annualized Growth in Global **Market Demand** (average)		**Sophistication (Product Complexity)**	**Export Quality Rank (average)**
	2015	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2016**	**2016**
Crustaceans	15.7	11.3	1.250	0.833	0.986	0.253	0.33	0.08	3.822	3.822	-1.542	0.797
Seafood Manufacturing	36.2	31.3	1.950	2.000	0.961	0.738	0.10	0.14	-0.850	-0.889	-0.633	0.801
Tuna	8.9	8.1	1.429	1.333	5.351	5.620	0.29	0.33	-1.947	-2.586	-1.627	1.048

	Low Values
	Medium Values
	High Values

Source: Adapted by author from data provided by CRI Trade Metrics, 2017.

Crustaceans trade metrics (2015-2016)

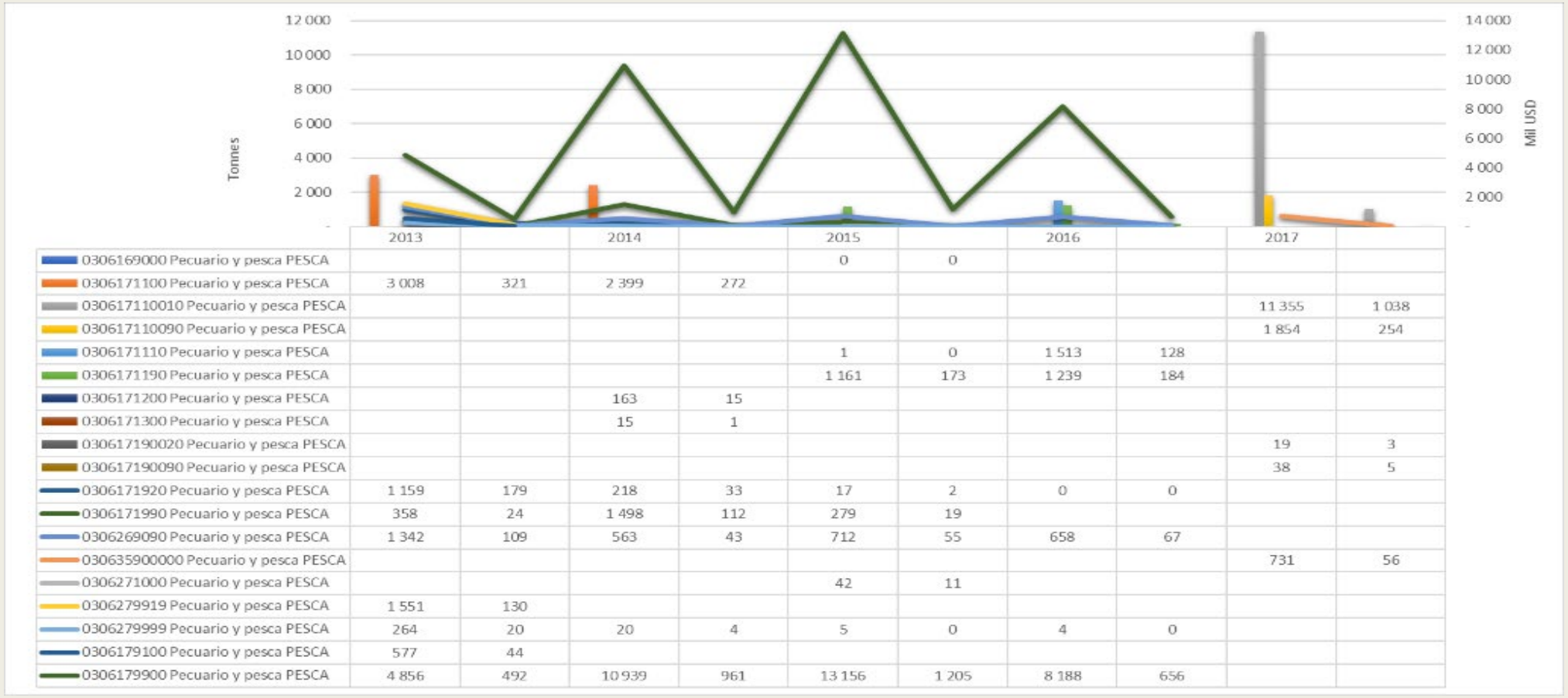
- Although of great value, the product has seen a significant reduction in output. Exported values dropped between 2015 and 2016, from 15,700,000 USD to 11,300,000 USD, respectively

- The number of export destinations decreased went from 15 in 2015 to 10 in 2016.

- Some revealed comparative advantage was lost, for an average of 0.33 in 2015 to 0.08 in 2016.

- The complexity in the product (sophistication) and the ranking in the export quality is very low. There may be possibilities for improvement in the competitiveness of this product.

Exports of crustacean products: value and weight



	2013		2014		2015		2016		2017	
0306169000 Pecuario y pesca PESCA					0	0				
0306171100 Pecuario y pesca PESCA	3 008	321	2 399	272						
030617110010 Pecuario y pesca PESCA									11 355	1 038
030617110090 Pecuario y pesca PESCA									1 854	254
0306171110 Pecuario y pesca PESCA					1	0	1 513	128		
0306171190 Pecuario y pesca PESCA					1 161	173	1 239	184		
0306171200 Pecuario y pesca PESCA			163	15						
0306171300 Pecuario y pesca PESCA			15	1						
030617190020 Pecuario y pesca PESCA									19	3
030617190090 Pecuario y pesca PESCA									38	5
0306171920 Pecuario y pesca PESCA	1 159	179	218	33	17	2	0	0		
0306171990 Pecuario y pesca PESCA	358	24	1 498	112	279	19				
0306269090 Pecuario y pesca PESCA	1 342	109	563	43	712	55	658	67		
030635900000 Pecuario y pesca PESCA									731	56
0306271000 Pecuario y pesca PESCA					42	11				
0306279919 Pecuario y pesca PESCA	1 551	130								
0306279999 Pecuario y pesca PESCA	264	20	20	4	5	0	4	0		
0306179100 Pecuario y pesca PESCA	577	44								
0306179900 Pecuario y pesca PESCA	4 856	492	10 939	961	13 156	1 205	8 188	656		

Source: Adapted by author from Export Statistics, PROCOMER, based on Central Bank statistics

Exports of crustacean products: value and weight

- In 2017, frozen white and torpedo squids, and edible crustaceans, prawns and others, were the most exported crustacean products to foreign destinations according to PROCOMER.

- In the case of the tariff item 0306179900, belonging to prawns and other decapods, these represent the largest volume in thousands of dollars and metric tons exported between the years 2013 and 2017.

Source: Adapted by author from Export Statistics, PROCOMER, based on Central Bank statistics

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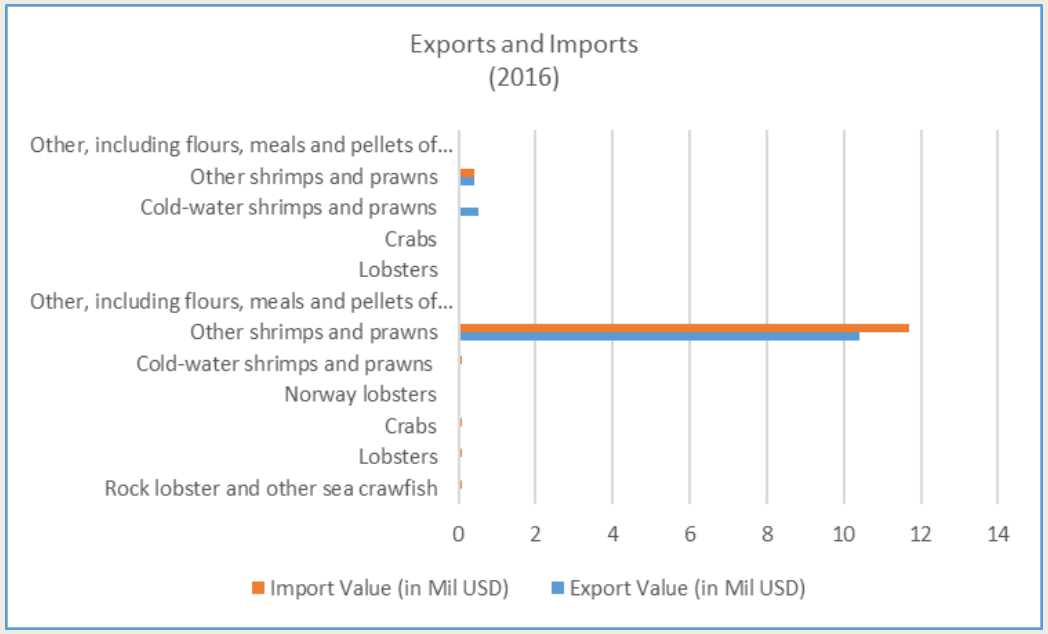
Exports and imports: trade metrics (mil usd)

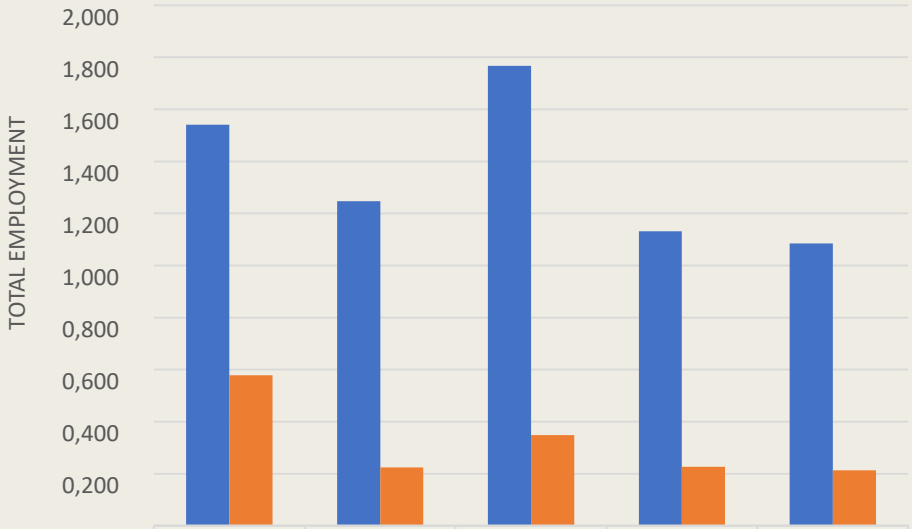


Source: Adapted by author from data provided by Matrics Trade, 2017.

- Between 2013 and 2016, the exported values, except for 2016, are greater than imports.
- The years 2013, 2015 and 2016 show typical values with export averages between 10 and 14 million of US$ dollar.
- There is an increase in the value of exports in 2015 and an even greater increase in 2016, when imports had a higher value than exports.

Employment

Crustacean Activity Employment 2012-2016 (number of persons)



	2012	2013	2014	2015	2016
AQUACULTURE Total Male	1,541	1,248	1,768	1,132	1,085
AQUACULTURE Total Female	0,578	0,224	0,349	0,226	0,213

- The workforce is mostly male, however, it has been trending downwards, and employed 1,085 men in 2016, below the number in 2012 with 1,541 and 2014 with 1,768.
- Women have little participation in the activity, and although there was a rebound in the total employability of 349 women for 2014, it was reduced to 213 women employees for 2016.

Source: Adapted by author from data provided by INEC, 2017

SEAFOOD MANUFACTURING

The seafood manufacturing sector: (overview)

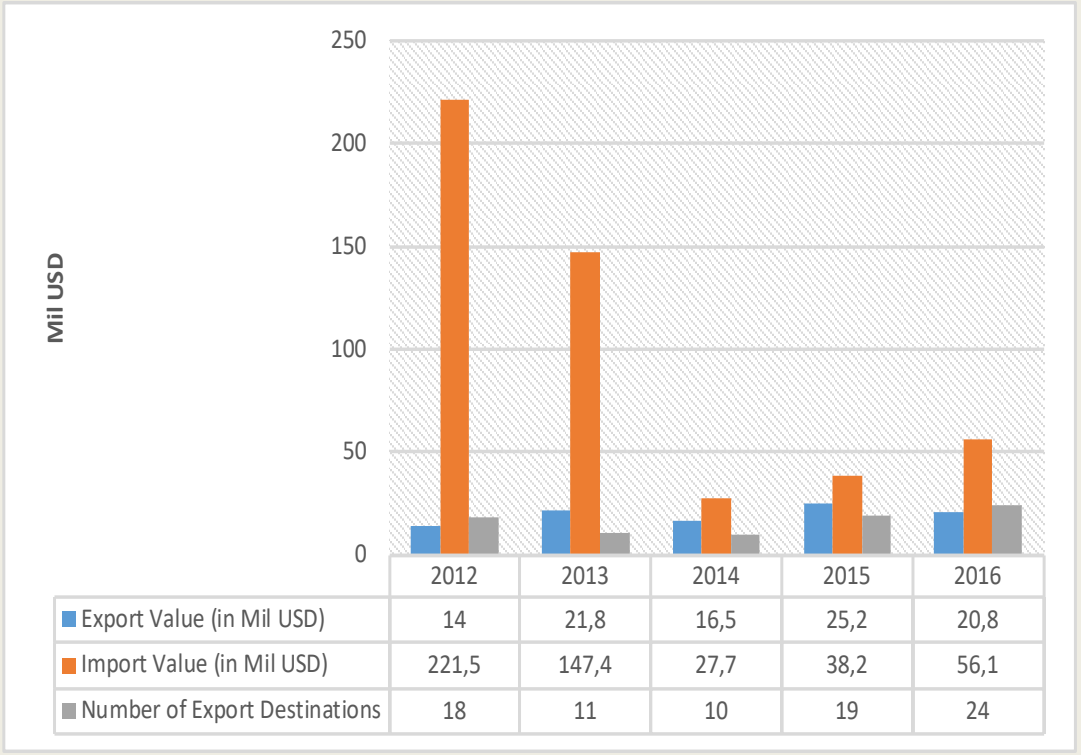
- Costa Rica imports more then it exports within this sector. Despite the reduction in imports, from 227,700,000 USD in 2012, to 74,500,000 USD in 2016, the value of exports has remained lower (from 26,500,000 for 2012, to 31,300,000 for 2016).

- Tariff *items Prepared fish - Sardines, sardinella and brisling or sprats* and *Prepared fish - Tunas, skipjack and bonito* show the greatest Revealed Comparative Advantage (RCA), of 11.76 and 5.30 respectively.

- Overall average of manufactured seafood is less than 1 for the years 2015 and 2016, with values of 0.1 and 0.14 respectively.

- The data related to sophistication (complexity), quality of the exported product, and the annual growth of global market demand present negative or relatively low values.

Seafood Manufacturing

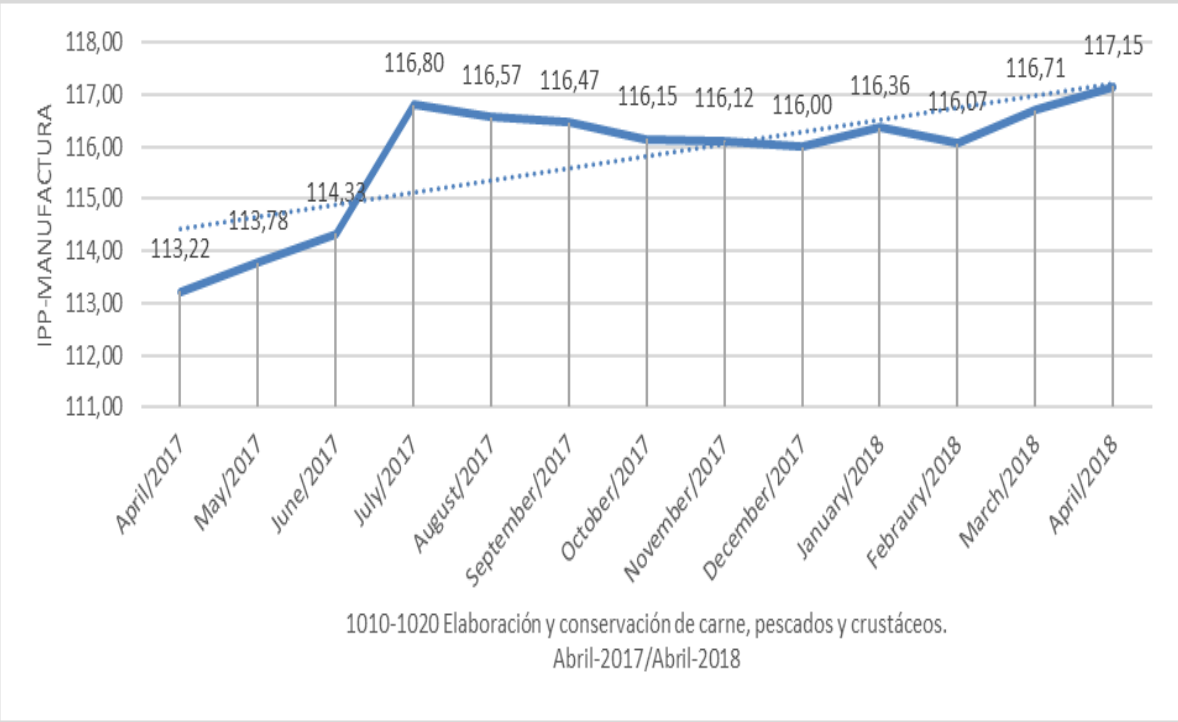


	2012	2013	2014	2015	2016
Export Value (in Mil USD)	14	21,8	16,5	25,2	20,8
Import Value (in Mil USD)	221,5	147,4	27,7	38,2	56,1
Number of Export Destinations	18	11	10	19	24

Source: CRI Trade Metric. The Seafood Manufacturing Sector, 2017

- Total value of exports between 2012 and 2016 totaled 152,700,000 dollars. The value of imports totaled 559,900,000 dollars for the same period.
- There has been a recovery of the total value of imports after 2014, a different situation with the exported values, which went from 36,200,000 USD in 2015 to 31,300,000 USD in 2016.

THE SEAFOOD MANUFACTURING SECTOR. MANUFACTURER PRICE INDEX AND THE PERCENTAGE OF VARIATION (IP-PM - %V)



- This includes 2,532 products and 449 informants and it was published for the first time in February 2015, with monthly data since January 2012.
- The variation in the IPP-MAN was drastic for the month of July 2017, at 3.30%. In the following months, the variations ranged between the levels of 116 and 117.

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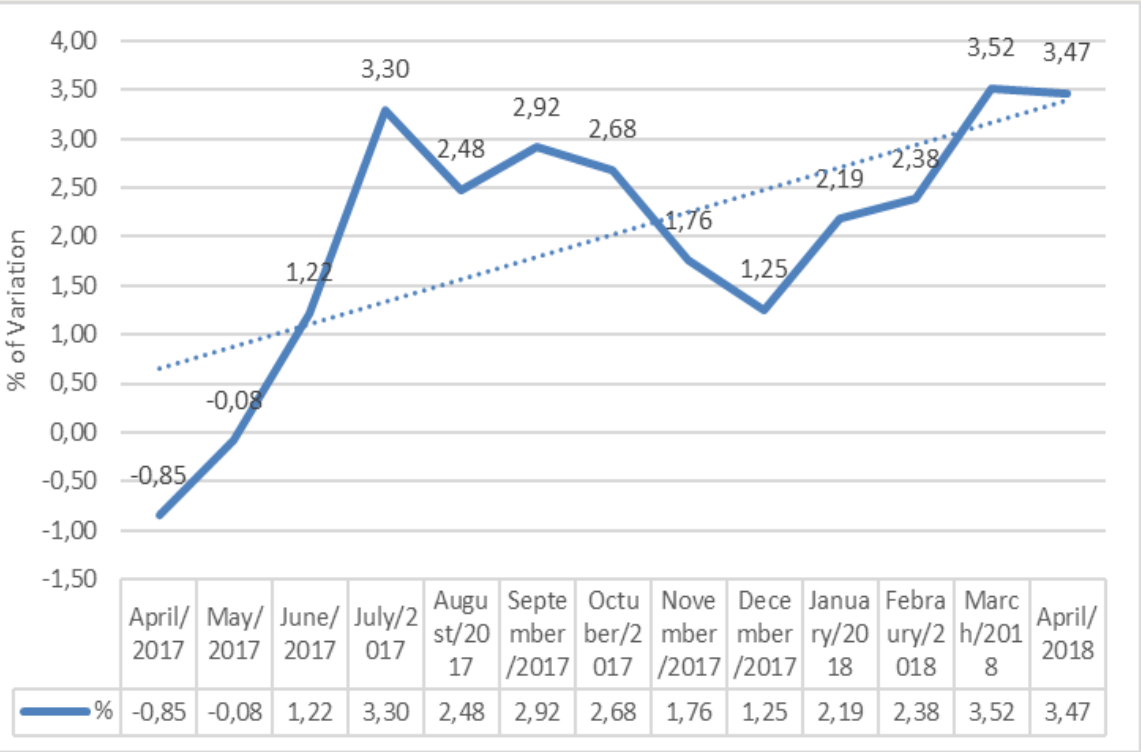
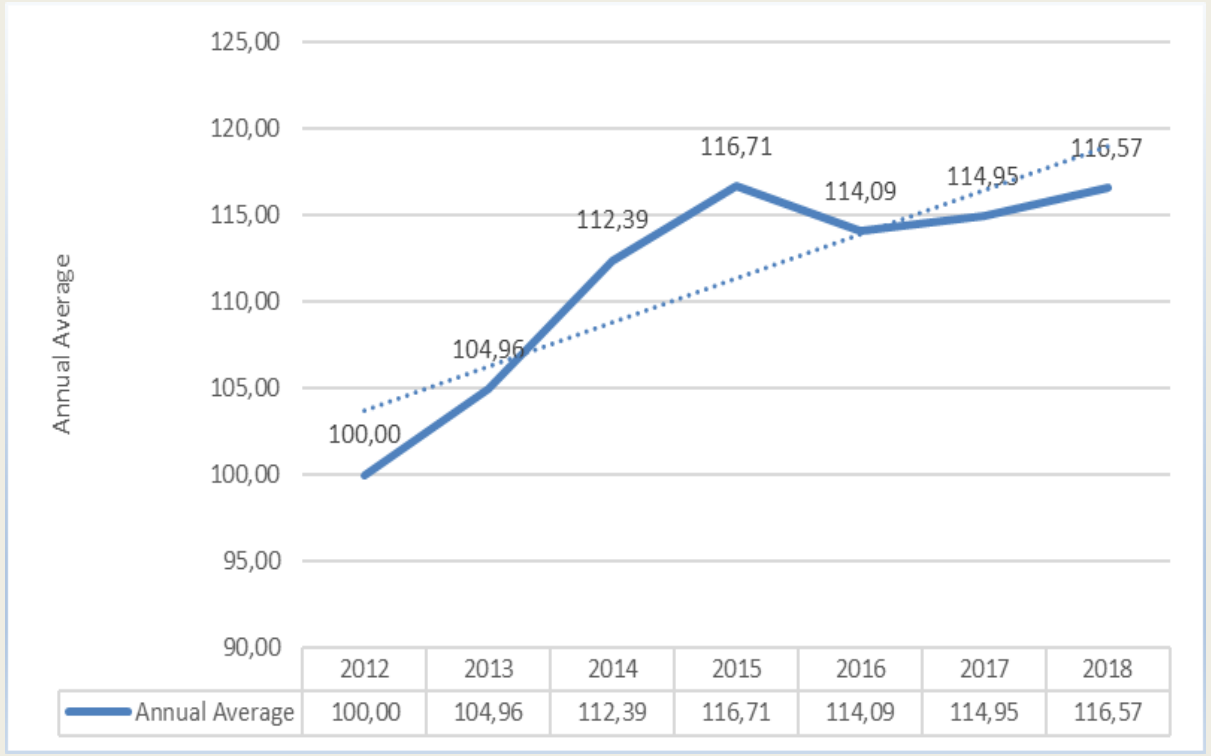
IPP-MAN



- In the case of the percentage changes of the IPP-MAN, the greatest change occurred during the month of April 2018. This reached a change of 3.47%.

IPP-MAN: General Average per year



- The years 2015 and 2018, present similar variations. For 2016 and 2017, the values are similar as well.
- Between April 2017 and April 2018, the data of variability for the month of July 2017 increases considerably, but remains constant after, with small changes, up to the month of December 2017

Seafood Manufacturing: Trade Metrics 2015-2016

Exports	**Export Value** (Sum in Mil USD)		**Export Destinations** (average)		**Revealed Comparative Advantage** (RCA)		Share of products with RCA > 1		Annualized Growth in Global **Market Demand** (average)		**Sophistication (Product Complexity)**	**Export Quality Rank (average)**
	2015	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2016**	**2016**
Crustaceans	15.7	11.3	1.250	0.833	0.986	0.253	0.33	0.08	3.822	3.822	-1.542	0.797
Seafood Manufacturing	36.2	31.3	1.950	2.000	0.961	0.738	0.10	0.14	-0.850	-0.889	-0.633	0.801
Tuna	8.9	8.1	1.429	1.333	5.351	5.620	0.29	0.33	-1.947	-2.586	-1.627	1.048

	Low Values
	Medium Values
	High Values

Source: Adapted by author from data provided by CRI Trade Metrics, 2017.

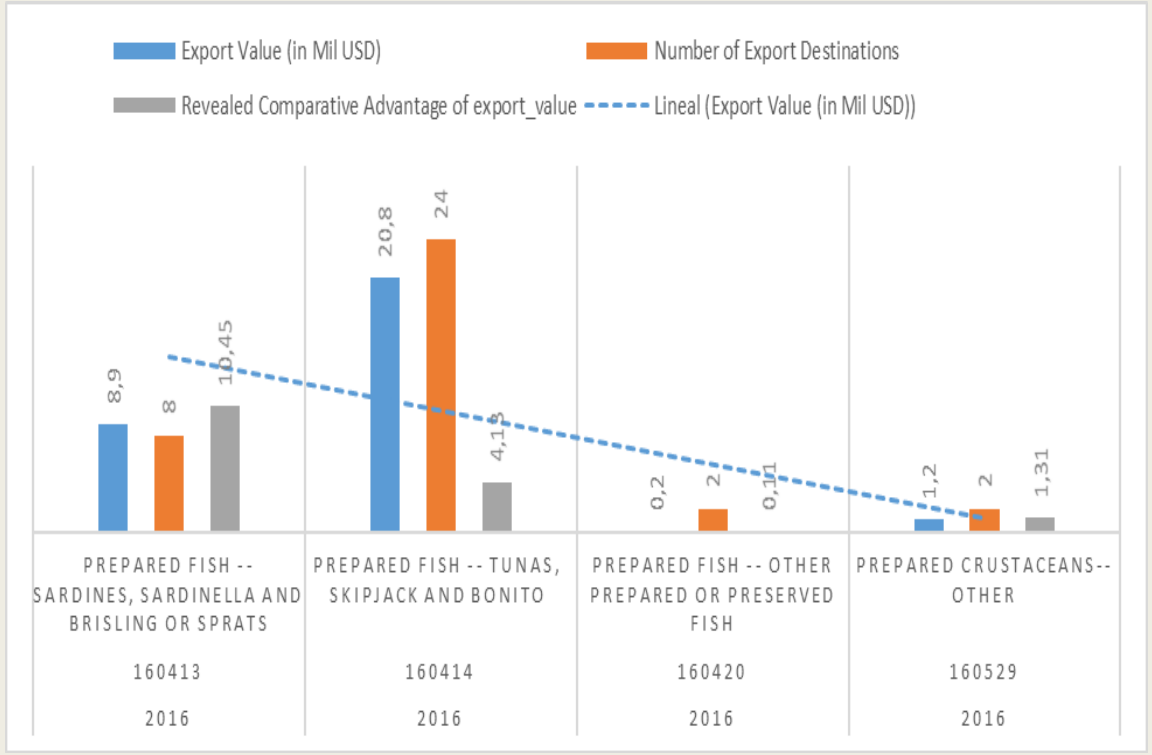
Seafood Manufacturing: Trade Metrics 2015-2016

- The total value exported for the years 2015 to 2016 represented more than 30,000,000 dollars, well above the values of exported tuna and crustaceans-based products for the same years.

- In 2015, the average RCA of manufactured seafood was 0.961 and for 2016 it was 0.738. *Prepared fish - Sardines, sardinella and brisling or sprats* and *Prepared fish - Tunas, skipjack and bonito*, are the tariff items that show the highest RCA data with 11.76 and 5.30 respectively.

- In considering the averages for both years, the data points less than 1 are an indicator of absence of RCA. However, there's a clear RCA for *Sardines, sardinella and brisling or sprats and Prepared fish - Tunas, skipjack and bonito.*

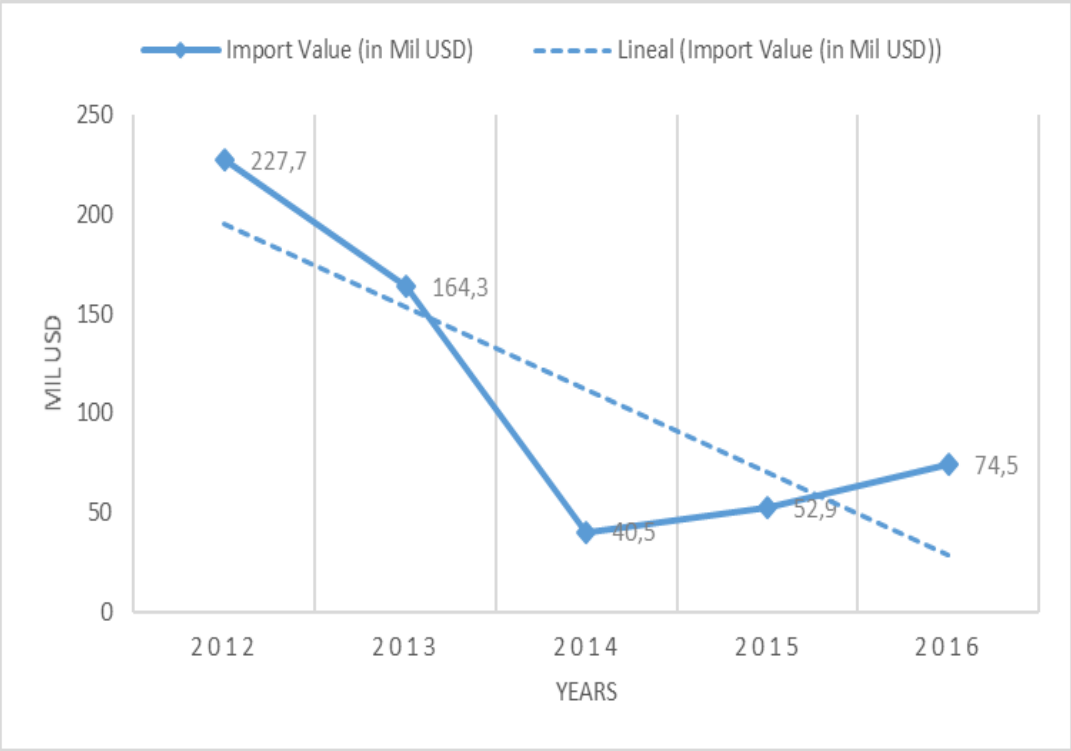
Seafood Manufacturing Exports



Source: CRI Trade Matrix. The Seafood Manufacturing Sector, 2017.

- Tariff line 160414, Prepared fish - Tunas, skipjack and bonito, and departure tariff line 160413, Prepared fish - Sardines, sardinella and brisling or sprats, represent the largest in millions of dollars exported since 2012.
- Export destinations went from 18 in 2012 to 24 in 2016.
- The Revealed Comparative Advantage for these two tariff items has been positive with values ranging from 1.23 to 11.76 between 2012 and 2016.

Seafood Manufacturing Imports



- In the case of the total value of imports, there has been a significant reduction from 2012 to 2016: from 227,700,000 dollars to 74,500,000.

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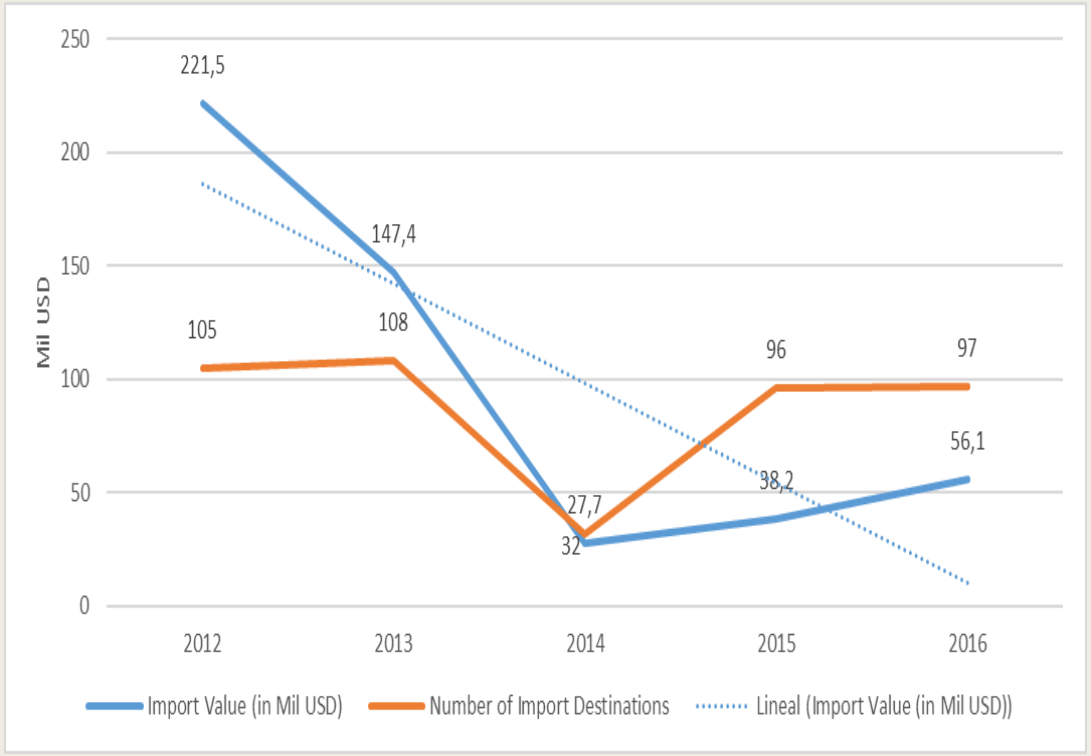
Source: CRI Trade Matrix. The Seafood Manufacturing Sector, 2017.

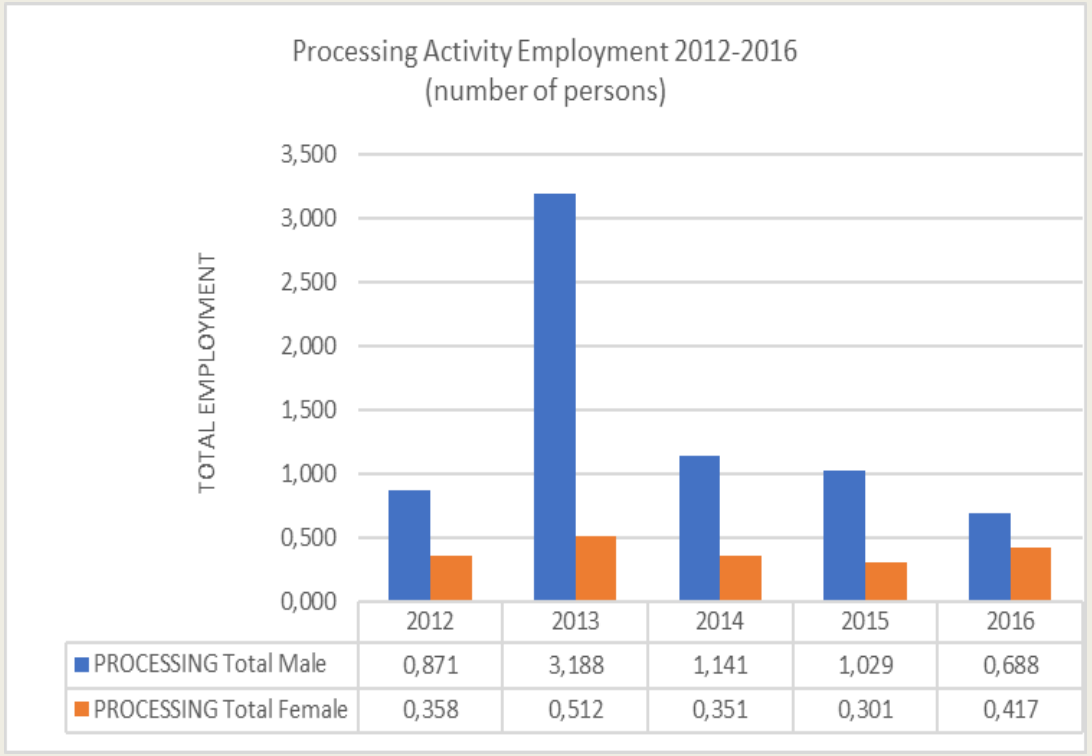
Seafood Manufacturing Imports



Source: CRI Trade Matrix. The Seafood Manufacturing Sector, 2017.

- The graph shows specific data on Prepared fish - Tunas, skipjack and bonito, which represent the highest values in imports and exports.
- The number of destinations where the imports come from, went from 105 and 108 in 2012 and 2013, and 96 and 97 respectively in 2015 and 2016.
- The year 2014, has the lowest value, in millions of dollars in imports for that item.

Employment in Seafood Manufacturing



- The employment rate reached the highest values in 2013, where it was 3,188 for men and 512 for women.

- The general average of employment, during the last 5 years, reached 1,383 for men and 387 for women.

Source: Adapted by author from data provided by INEC, 2017.

CONCLUSIONS AND RECOMMENDATIONS

References and Bibliography