

LEVELS AND TRENDS IN INTERNATIONAL AGRO-FOOD TRADE OF ROMANIA IN THE 2011-2018 PERIOD

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Abstract. *The paper highlights the foreign trade situation of Romania focused on agricultural products. At national level, for 2011/2018, the annual variational aspect of export / import is reproduced, by the value levels of the annual balances. From the dynamic analysis of the external trade balance, for the agri-food products can be delimited periods reflecting: a negative level with reference to the period 2011-2013 (the values being between -425 and -751 million €); a positive level for 2013 and 2014 (values between 332 and 456 million €) and a negative level for the period 2016-2018 (values between -137 and -1134 million €). The average for the whole period remains negative (-€ 412 million). The analysis of the balance in the structure of the main groups of agri-food products signifies a differentiation of the respective annual values: positive levels for plant products, negative annual values for live animals and animal products, along with food, beverages and tobacco. For the group of animal or vegetable fats and oils, the positive values of the balance are ascertained. In conclusion, from the analysis of the balance of agri-food products, the question arises of a concern from which the profitability of the export as a whole or with reference to the live animal products and animal products arises.*

Keywords: export, import, trade balance, average, annual rate

1. Introduction

The presented paper highlights the commercial situation of foreign trade of Romania focused on agri-food products. At national level, in the structure of the period 2011/2018, the annual variational aspect of export / import is presented, for which the value levels of the annual balances are analyzed, with differences being noted. Effectively the dynamics analyzed by expressing value and percentage-comparative of the balance for the agri-food products in the system of the external trade in the analyzed dynamics can be delimited periods that reflect positive and negative levels. Synthetically, it is intended to present the variational annual rhythm levels for the main groups of agri-food products, according to which the export / import trends can be known.

2. Working methodology

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Suitable for highlighting the level and exchanges of foreign trade in agri-food products, the methodology used was appropriate to surprise this problem. The database constituted the export / import activities and the balance of foreign trade by analyzing in the staggered structure of four main groups of agri-food products (e.g. vegetables, livestock and animal products, food, beverages and tobacco, p. animal or vegetable fats and oils). The name and structural classification of these agri-food products was taken according to the delimitations mentioned in the specialized literature [1] [5] [6].

In the annual dynamics of the period 2011-2018 the analysis was based on the indicators that were presented in absolute and percentage values. The percentages achieved annually in the agri-food sector were presented by comparisons both with respect to the total national level and by forms of the structure of the groups of agri-food products with respect to the base year 2011 and the average of the represented period.

The determination of the annual growth rates surprised the existence of the oscillations of the indicators that was due to a permanent change due to the levels of exports / imports (the differentiation between the level of export / import indicators at certain times for the dynamics of the period 2011-2018). So how many times is the level of export / import from the end of the period compared to the one from the beginning of the analyzed period [2] [3] [6].

2.1 . The overall exchange of agri-food products

In all the historical stages of Romania, the issue of foreign trade with agri-food products had an importance that was permanently taken into consideration. The paper refers to the elements of export / import / balance by absolute values but also by percentage-comparative forms. With reference to the period 2011-2018, the data presented in Table 1 reflect the structure of the overall level of the external agri-food trade.

The export analysis shows annual variational levels of growth, with reference both to the total and to the agri-food products. Effectively compared to the annual average as well as the annual growth rate, by comparing the level of trade with agri-food products with the total country, there are variational levels that register a decreasing tendency.

The import expressed through the annual values rendered records lower levels, which in the succession of the years are played through increases. At the same time, they express for the import of agri-food products, an annual average of € 5902 million and an annual rate of 1.08% (noting that this level of the rate is lower than the total country).

The situation of the balance structure expresses for the agri-food products negative situations for all the years of the period analyzed both on the whole country and on the whole of these agri-food products.

Table 1. Structure of the overall level of the external agri-food trade compared to the total foreign trade in Romania, for the period 2011-2018

	Export			Import			Balance		
	Total country	Agri-food	% from the total	Total country	agriculture	% from the total	Total country	Agri-food	% from the total
	mil €	mil €	%	mil €	mil €	%	mil €	mil €	%
2011	45,292	4,021	8.88	54,952	4,446	8.09	-9,660	-425	4.4
2012	45,069	4,044	8.97	54,703	4,795	8.77	-9,634	-751	7.79
2013	49,562	5,284	10.66	55,317	4,952	8.95	-5,755	332	-5.78
2014	52,466	5,577	10.63	58,522	5,121	8.75	-6,056	456	-7.53
2015	54,610	5,918	10.84	62,971	6,055	9.62	-8,361	-137	1.64
2016	57,392	6,169	10.75	67,364	6,789	10.08	-9,972	-620	6.22
2017	62,644	6,407	10.23	75,604	7,423	9.82	-12,960	-1,017	7.84
2018	67,723	6,501	9.6	82,840	7,635	9.22	-15,116	-1,134	7.5
Average	54,345	5,490	10	64,034	5,902	9	-9,689	-412	4.25
Annual rhythm	1.06	1.07	1.01	1.06	1.08	1.02	x	x	x

Source: N.I.S., 2019, Exports (FOB) by counties and by sections / chapters of the Combined Nomenclature (NC), <http://statistici.insse.ro:8077/tempo-online/>, Accessed on Feb.15, 2020 [4]

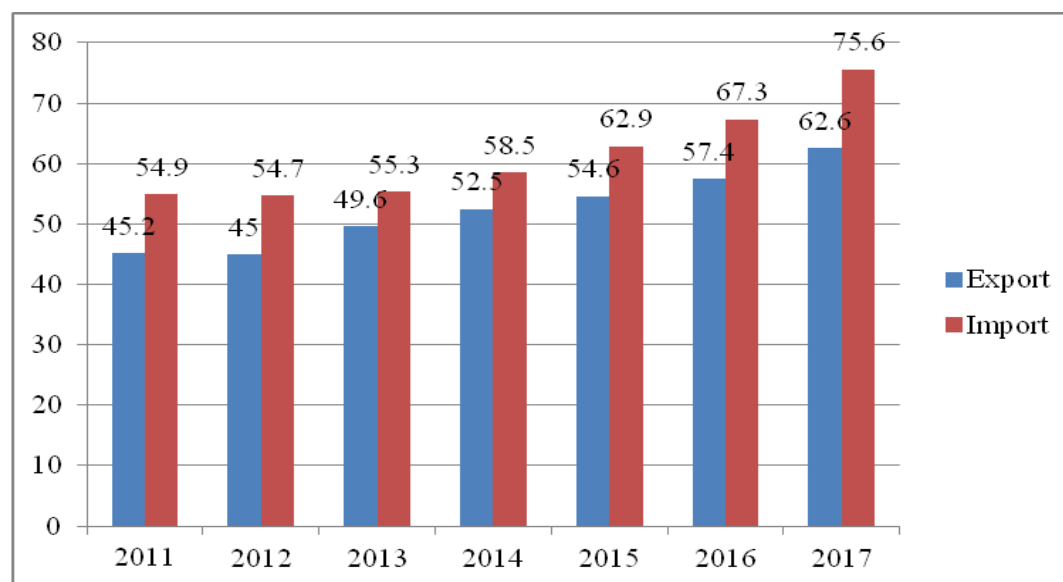


Fig. 1. The evolution of total foreign trade in Romania (Million Euro)

Figure 1 shows graphically the export / import levels in the dynamics of the analyzed years.

From the analyzed set results import values that exceed both the level of export of the national economy and for the export of agri-food products. At the same time, it can be mentioned that the annual rhythms register levels close to both export and import.

2.2 . The structure of the exchanges of agri-food products for export / import from Romania

It is an aspect to be analyzed for the main product groups which is the subject of foreign trade activities. This is because the groups of agri-food products register different levels and comparative forms in the dynamics of the years. For this the whole of the export of agri-food products is presented under the quantitative aspect (percent versus total rendered against the annual value levels), next to the qualitative aspect (aspect reproduced by a comparison in the dynamics of the analyzed period, but expressed as a percentage for each of these groups of products).

a) The structural level of the agricultural products involved in foreign trade in Romania. It seeks to know at national level, the levels of product groups as a percentage of export / import contribution (Table 2).

Table 2. The structure of the agri-food products of the foreign trade in Romania, for the period 2011-2018

Year	Export					Import				
	Total export agri-food products mil €	From which %				Total import agri-food products mil €	From which %			
		Vegetal products	Animal s and anima products	food, beverage s and tobacco	animal or vegetabl e fats and oils		Vegetal product s	Animal s and anima product s	food, beverage s and tobacco	animal or vegeta ble fats and oils
2011	4,021	52.15	14.52	27.33	6.01	4446	29.77	21.70	42.98	5.51
2012	4,044	48.71	18.07	28.68	4.52	4795	29.53	21.58	43.89	4.98
2013	5,284	56.49	14.09	24.88	4.54	4952	29.38	22.49	43.96	4.13
2014	5,577	55.08	13.32	27.77	3.81	5121	29.56	23.94	43.31	3.20
2015	5,918	51.96	13.21	31.05	3.785	6055	33.64	20.71	42.60	3.03
2016	6,169	55.71	13.19	27.94	3.14	6789	34.30	21.22	41.68	2.78
2017	6,407	54.65	14.76	27.26	3.29	7423	32.26	22.75	42.39	2.58
2018	6,501	55.23	13.76	27.54	3.44	7635	30.34	23.23	44.16	2.25
Average	5,490	54.02	14.20	27.83	3.93	5902	31.31	22.22	43.08	3.37

Source: N.I.S., 2019, Exports (FOB) by counties and by sections / chapters of the Combined Nomenclature (NC), <http://statistici.insse.ro:8077/tempo-online/>, Accessed on Feb.15, 2020 [4].

The total export recorded in the analyzed dynamics registers an increase, which is found only in the case of the group of vegetable products to which a majority

comparative level can be added (between 48.71% and 56.49% against the total export). Similarly, significant levels can be considered the group of food, beverages and tobacco (which dynamically recorded percentage levels against the total between 24.88% and 31.05%), the group of live animals and animal products (comparative weights record values between 13, 19% and 18.07%), and finally the group of fats and oils can be listed (the weights being between 3.14% and 6.01%).

The import for the same product groups is represented by comparative levels, compared to the food, food and beverages and tobacco (between 41.68% and 43.96% comparative weights), followed by the vegetable products (the weights comparison being between 29.38% and 34.30%), live animals and animal products (with weights between 21.22% and 23.94%), followed by the group of fats and oils with the lowest levels (at this the group being noticed the succession of a decrease in the dynamics of the years, which varies between 42.98 / 43.96% and 41.68%).

Fig. 2 shows the evolution of the export / import of agri-food products, showing the annual variations.

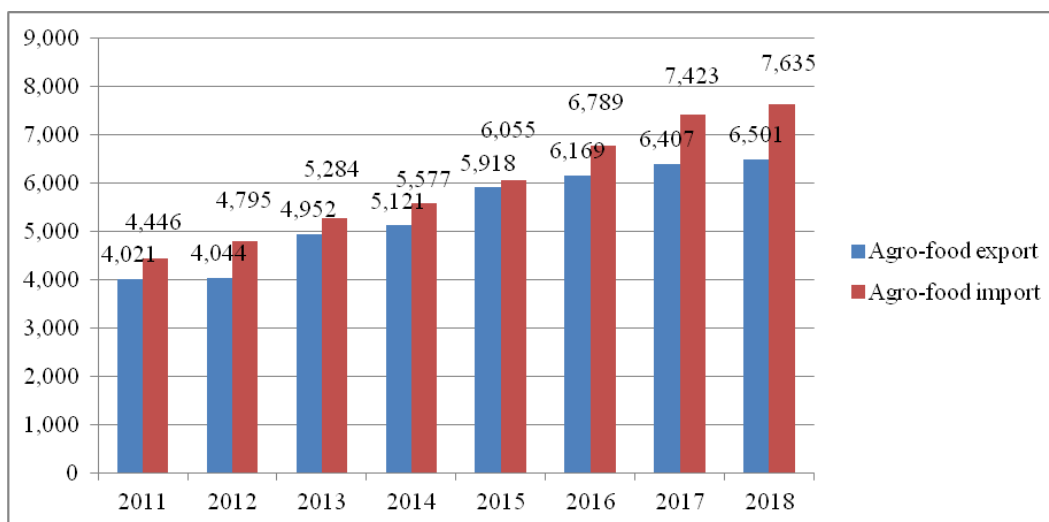


Fig. 2. Evolution of the import and export of agri-food products for the period 2011-2018 (Million Euro)

Synthetically, on this side of the analysis, it is emphasized that for the period analyzed, the share of exports is a priority over imports only to vegetable products and fats. For imports, there is a priority in the group of food, beverages and tobacco, along with the group of live animals and animal products.

b) Foreign trade in plant products from Romania. It represents the most important sector of the Romanian agricultural trade, with special reference to the share held. The analysis of the data presented in Table 3 shows through the comparative forms shown with respect to 2011 as well as to the average of the aspects considered edificatory regarding the foreign trade with plant products:

-the export of vegetable products records in the annual dynamics analyzed successive growths, the annual rate being 1.08. By comparing with the base year 2011, it shows differentiated levels, with a maximum growth of 171.24% in 2018 being highlighted.

- the import for the group of plant products is maintained in a successive growth, so that the annual rate is similar to the export. Looking at the comparison with 2011, there are exceedances of these levels in the successive years (the oscillations being between +6.94% and +75.90%). Considering as a basis of comparison the average of the period can be found below the average levels (> 100%) for the period 2011-2014 and levels above the average (< 100%) for the period 2015-2018.

Table 3. Foreign trade in plant products from Romania, for the period 2011-2018

Year	Export			Import			Balance		
	Total mil €	% compared to:		mil €	% compared to:		mil €	% compared to:	
		2011	average		2011	average		2011	average
2011	2,097	100	70.70	1,324	100	71.64	773	100	69.14
2012	1,970	93.94	66.41	1,416	106.94	76.62	554	71.66	49.55
2013	2,985	142.34	100.64	1,455	109.89	78.73	1,529	197.80	136.76
2014	3,072	146.4	103.57	1,514	114.35	81.92	1,558	201.55	139.35
2015	3,075	146.63	103.67	2,037	153.85	110.22	1,037	134.15	92.75
2016	3,437	163.90	115.88	2,329	175.90	126.02	1,108	143.33	99.10
2017	3,502	167.00	118.07	2,395	180.89	129.59	1,107	143.20	99.01
2018	3,591	171.24	121.07	2,317	175.00	125.37	1,274	164.81	113.95
Average	2,966	141.44	100	1,848	139.57	100	1,118	144.63	100
Annual rhythm	1,08	x	x	1,08	x	x	x	x	x

Source: N.I.S., 2019, Exports (FOB) by counties and by sections / chapters of the Combined Nomenclature (NC), <http://statistici.insse.ro:8077/tempo-online/>, Accessed on Feb.15, 2020 [4].

-The situation of the annual levels of the balance highlights the export / import relationship, the results of all the years being favorable. At the same time in the successive years, the favorable growth trend can be signaled. By comparison both with respect to the base year 2011, but also to the average of the period, there is a

maximum ceiling for the period 2013-2014 (this being between +36.7% and +39.35%).

Indeed, as can be seen from Fig. 3, it appears that the export / import activities for plant products have a tendency to manifest in parallel evolutionary form which are graphically rendered.

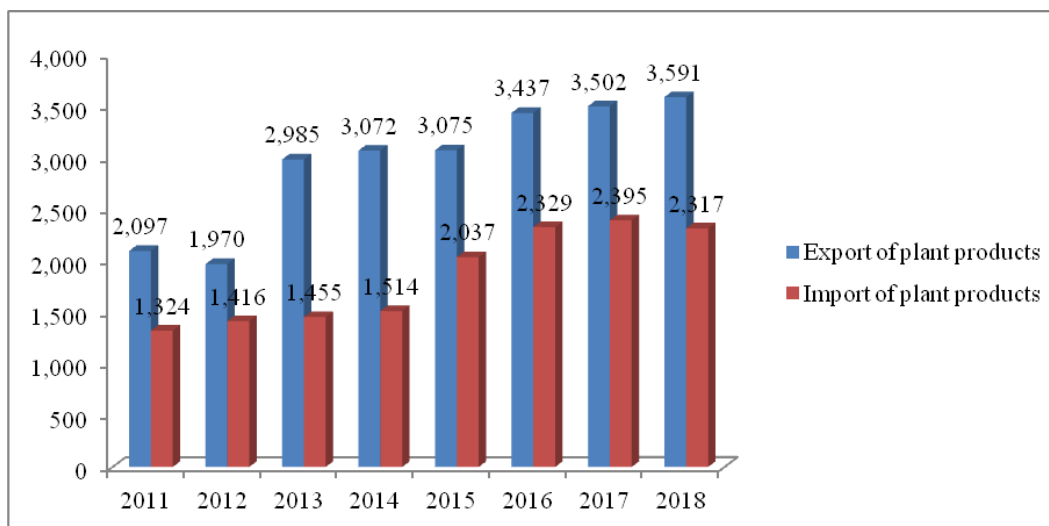


Fig. 3. Evolution of the import and export of plant products for the period 2011-2018 (Million Euro)

c) Foreign trade with live animals and animal products. They show annual levels whose oscillations have variable tendencies in the export / import situations. The values shown in Table 4 frame absolute and relative values by which the following can be highlighted:

- the export in the dynamics of the period analyzed by comparison with 2011, is represented by an annual increase (reaching + 33.56% in 2018), with variation levels at which the average of the period are different (between -25, 13% and + 21.28%). In this situation, the annual growth rate is 1.06%;

- for the import activities, higher values are registered, at which the level of 2018 compared to 2011 is + 83.83%. At the same time, the levels of variations compared to the average of the period are between -26,45% and + 35,21%. The annual import rate for this category of products is higher than for export, which is 1.09%;

- the balance that synthesizes the variations \pm of the export / import is negative for each year of the analyzed dynamics (comparative interpretations compared to 2011 and compared to average representing differentiated levels).

Table 4. Foreign trade with live animals and animal products from Romania, for the period 2011-2018

Year	Export			Import			Balance		
	Total mil €	% compared to:		mil €	% compared to:		mil €	% compared to:	
		2011	Mean		2011	Mean		2011	Mean
2011	584	100	74.87	965	100	73.55	-382	100	71.80
2012	731	125.17	93.71	1,035	107.25	78.88	-304	79.58	57.14
2013	745	127.56	95.51	1,114	115.44	84.90	-369	96.59	69.36
2014	743	127.22	95.25	1,226	127.04	93.44	-483	126.43	90.78
2015	782	133.90	100.25	1,254	129.94	95.57	-472	123.56	88.72
2016	814	139.38	104.35	1,441	149.32	109.83	-627	164.13	117.85
2017	946	161.98	121.28	1,689	175.02	128.73	-742	194.24	139.47
2018	895	153.25	114.74	1,774	183.83	135.21	-879	230.10	165.22
Average	780	133.56	100	1,312	135.95	100	-532	139.26	100
Annual rhythm	1,06	x		1,09	x	x	x	x	x

Source: N.I.S., 2019, Exports (FOB) by counties and by sections / chapters of the Combined Nomenclature (NC), <http://statistici.insse.ro:8077/tempo-online/>, Accessed on Feb.15, 2020 [4].

The curves shown in Fig. 4 show the tendency of the import level to exceed the export.

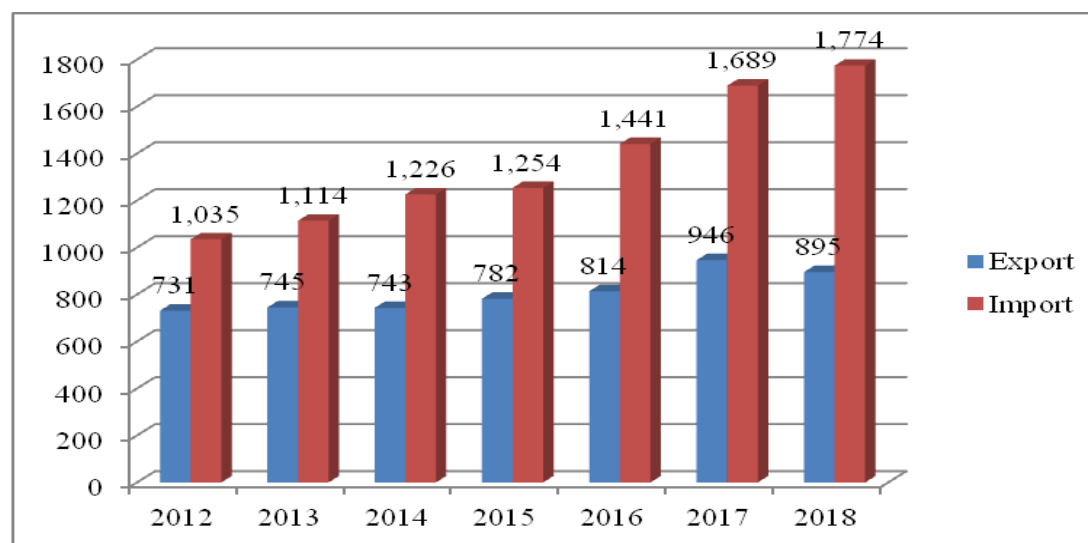


Fig. 4. Evolution of the import and export of live animals and animal products for the period 2011-2018 (Million Euro)

d) Foreign trade in food, beverages and tobacco. It represents a group of products that can be considered a significant evolution in foreign trade. In absolute and relative figures, rendered by the percentage-comparable forms, they

are presented in table 5 according to the dynamics of the 2011-2018 period, to which the following can be highlighted:

- the level of exports analyzed compared to the comparison year 2011, reflects an increase that in 2018 is + 62.96%, and compared to the average growth for the same year is + 17.21%. Throughout the period, the growth rate is 1.07%;

- the import reflects the same variational growth trend. It should be mentioned that these variation levels compared to 2011 recorded oscillations between + 10.15% and +76.45%. At the same time, it can be seen that, compared to the average period, the annual levels show oscillations, but they are between -24.86% and + 32.59%, the annual rate being 1.08.

Table 5. Foreign trade in food, beverages and tobacco in Romania, for the period 2011-2018

Year	Export			Import			Balance		
	Total mil €	% compared to:		mil €	% compared to:		mil €	% compared to:	
		2011	average		2011	average		2011	average
2011	1,099	100	71.92	1,911	100	75.14	-812	-100	80
2012	1,160	105.55	75.91	2,105	110.15	82.77	-945	-116.37	93.10
2013	1,315	119.65	86.06	2,177	113.91	85.60	-863	-106.28	85.02
2014	1,549	140.94	101.37	2,218	116.06	87.21	-668	-82.26	65.81
2015	1,838	167.24	120.28	2,580	135.00	101.45	-742	-91.37	73.10
2016	1,724	156.86	112.82	2,830	148.09	111.28	-1106	-136.20	108.96
2017	1,747	158.96	114.33	3,147	164.67	123.75	-1400	-172.41	137.93
2018	1,791	162.96	117.21	3,372	176.45	132.59	-1581	-194.70	155.76
Average	1,528	139.03	100	2,543	133.07	100	-1015	-125	100
Annual rhythm	1,07	x	x	1,08	x	x	x	x	x

Source: N.I.S., 2019, Exports (FOB) by counties and by sections / chapters of the Combined Nomenclature (NC), <http://statistici.insse.ro:8077/tempo-online/>, Accessed on Feb.15, 2020 [4].

The balance in this case of the of these products records for all the years negative levels, a situation caused by the existence of the higher levels of the import towards the export. The comparative percentage structures compared to 2011 also recorded negative values, at the same time with significant fluctuations compared to the period average (between -20.00% and + 55.76%).

Suggestively in Fig.5., these annual variations for export / import highlight the more pronounced trend of increasing the import.

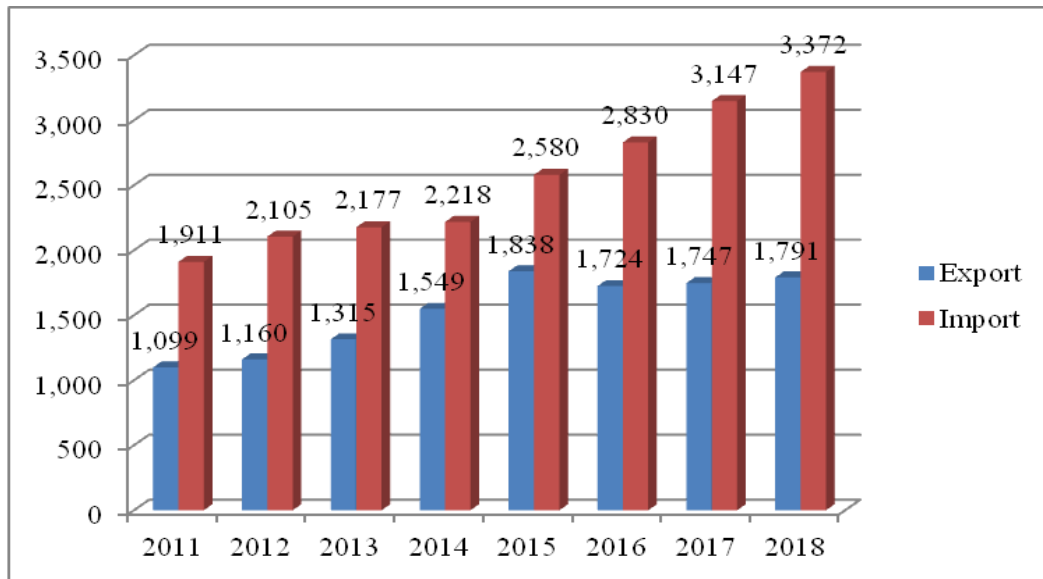


Fig. 5. External evolution with food, beverages and tobacco, for 2011-2018 (Million Euro)

e) Foreign trade in animal or vegetable fats and oils. They are considered products with a much lower weight in the agri-food market and even in the decline phase. At the same time, in the foreign trade for these products, there is a mobility through the forms of the export / import activities, at which the value and percentage comparative form of the values are shown in table 6, where the following results: - with reference to the export values below the level of 2011 are found (between -24.39% and -0.83%), and by comparison with the average of the period results varying levels markedly differentiated (between -15.28% and +12, 03%). The annual rate itself is 0.99%;

-the import, which is maintained in this group of products, is recorded by levels below 2011 (between -39.07% and -2.45%), and by annual comparisons with the average period, oscillations are recorded that are between +23, 11% (2011 considered the first year of the analyzed dynamics) and -17.59% (2014). Even with the existence of these oscillations during the analyzed period, a growth rate of 0.95% is maintained;

- the analysis of the levels of the balance presented according to the values rendered in million € shows the existence of a negative level only in the first two years (2011 and 2012), after which for the rest of the years of the same period (2013-2018) the values are positive. Comparisons with 2011 show positive values only in 2012, after which (in the comparison years 2013-2018) these balance sheets are negative. Comparative levels compared to the average of the period

show variations similar to those obtained from the dynamics of value analysis in € million (negative in 2011-2012 and positive in 2013-2018).

Table 6. Foreign trade in animal or vegetal fats and oils from Romania, for the period 2011-2018

Year	Export			Import			Balance			
	Total mil €	% compared to:		mil €			Total mil €	% compared to:		
		2011	average		2011	average		2011	average	
2011	242	100	112.03	245	100	123.11	-4	100	-23.52	
2012	183	75.61	84.72	239	97.55	120.10	-56	1,400	-329.41	
2013	240	99.17	111.11	205	83.67	103.01	34	-850	200	
2014	213	88.01	98.61	164	66.93	82.41	49	-	1,225	288.23
2015	224	92.56	103.70	184	75.10	92.46	40	-	1,000	235.29
2016	194	80.16	89.81	189	77.14	94.97	5	-125	29.41	
2017	211	87.19	97.68	192	78.36	96.48	19	-475	111.76	
2018	224	92.56	103.70	172	70.20	86.43	52	-	1,300	305.88
Average	216	89.25	100	199	81.22	100	17	-425	100	
Annual rhythm	0,99	x	x	0,95	x	x	x	x	x	

Source: N.I.S., 2019, Exports (FOB) by counties and by sections / chapters of the Combined Nomenclature (NC), <http://statistici.insse.ro:8077/tempo-online/>, Accessed on Feb.15, 2020 [4].

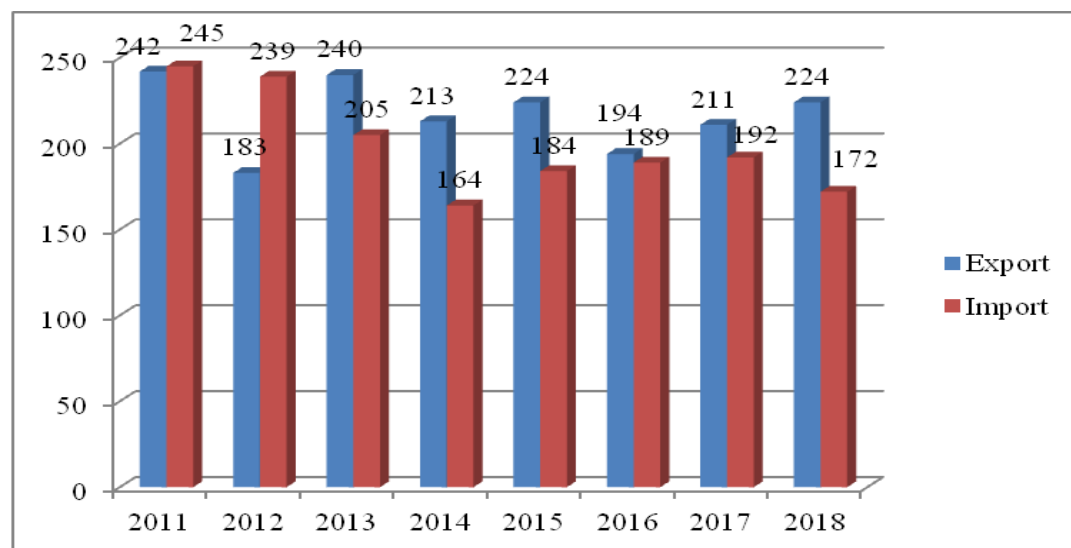


Fig. 6. Evolution of foreign trade in animal or vegetable fats and oils, for the period 2011-2018 (Million Euro)

It turns out that for the foreign trade the variational ensemble analyzed in the successive years for the products of fats and oils, there is a tendency of increase of

the export with regard to the import (the form of this tendency can be noticed by the tendency shown in Fig.6.

Conclusions

From the analysis of the foreign trade activities for the main groups of agri-food products in Romania, according to the indicators in absolute and percentage-comparative values, the following can be summarized:

(1). The levels of the foreign trade activity in the agri-food field reflect annual variations, in which the average levels compared to the total period analyzed are of 9-10%. At the same time, the value and percentage-comparative levels of the balances highlight the existence of negative situations for all the years of the period analyzed, both for the whole country and for the whole group of agri-food products.

(2). Regarding the foreign trade activities classified in the group of vegetable products, there is an annual rhythm of the increase of the export which has determined favorable levels of balance. At the same time, from the balance sheet analysis of the foreign trade of these products, according to the comparative situations with respect to the base year 2011 and the average of the period, it indicates an increasing tendency.

(3).The external trade with live animals and animal products shows for all the years a lower level of export vis-à-vis the import, which results in an unfavorable balance. Compared to the same product group, we can see (compared to 2011 and the average period) levels within an annual growth rate.

(4). Framed in significant levels the group of food, beverages and tobacco, frames a tendency in which the import is predominant in the annual structure of the whole period analyzed. As such, the balance in the case of these products records for all the years negative levels, although in the analysis of the comparative forms, compared to the base year 2011 and the average of the period, it shows a tendency of growth.

(5). Products classified as animal or vegetable fats and oils, although they have a much lower weight in the whole of foreign trade with agri-food products, indicate for most years a tendency to favor the balance. This results from the variation in annual levels, which results in a decrease in imports, for which annual exports maintain a relatively constant level.

Foreign trade analyzed by the structure of the value and percentage levels of the main groups of agri-food products can be deduced the following: only vegetable products and oils / fats show a certain tendency of favorability (export> import), to which is added the group of live animal products / animal products and of food

/ beverages/tobacco for which unfavorable tendencies are manifest (export< import). In conclusion for the national level, the problem is raised of some concerns from which result the export profitability especially to the products classified to live animals and animal products, concluding the necessity of the growth in a more accentuated rate of the degree of valorization of the agri-food products, expressed in this work through export value.

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