THE STRUCTURE OF INTERNATIONAL EXCHANGES IN AGRICULTURAL PRODUCTS INTENDED FOR INDUSTRY AND HOUSEHOLD USE IN ROMANIA

Marian CONSTANTIN[1], Raluca NECULA[2], Iulian DRĂGHICI[3]

Abstract. *Determining the production and forage quality of a permanent grassland is essential for establishing the optimal stocking rate in order to preserve the biodiversity and the traditional landscape. The paper presents an assessment of the productivity of steppic grasslands from the two large geographical entities of the ROSCI 0201 North Dobrogean Plateau protected area, respectively Babadag and Casimcea Plateaus. The grasslands from the Babadag Plateau have undergone an accelerated process of degradation in the last 50 years due to the very large share of sheep and goats, almost 90% of the total grazing livestock, that graze all year round except for the days when the soil is covered with a layer of snow. The grasslands from the Casimcea Plateau have generally maintained their productivity for the last 45-50 years as the structure of the vegetal layer has been better preserved, a situation due to the 27% of the total livestock of cattle and horses that were maintained in the stable in the cold season. Currently, the grazing pressure exceeds carrying capacity of these steppic grasslands for 5.5 times in Babadag and 5 times in Casimcea, which is why it is necessary to balance the structure and number of livestock, expand fodder crops in arable land and implement more efficient management measures.*

Keywords: domestic/foreign commerce, trade balance, industrial/household consumption

1. Introduction

Knowing the international exchanges for agri-food products and beverages, represents for Romania a national necessity both at the decision and execution levels. The presentations given in such a paper by comparing the absolute and percentage values mentioned, the actual situation of these exchanges at national level is highlighted. The comments made show the trends of these export / import exchanges of agri-food products and beverages for the period 2012-2017.

[1]Prof. Ph.D., University of Agricultural Sciences and Veterinary Medicine Bucharest, Romania, Corresponding Member of the Academy of the Romanian Scientists (e-mail: marianconstantin2014@yahoo.com).
[2]Lecturer Ph.D., University of Agricultural Sciences and Veterinary Medicine Bucharest, Romania, (e-mail: raluca_nec@yahoo.com).
[3]Eng., Reviewer, University of Agricultural Sciences and Veterinary Medicine Bucharest, Romania, (e-mail: iuliandraghici35@yahoo.com).

Through the comparative structure of the levels of the value volume of export/
import to basic and processed products, it is finally presented through an analysis
of the elements that nominate the levels for industrial and domestic consumption
[1]. At the same time, the presented balance sheets created the possibility of
knowing the future possibilities in carrying out the export / import exchanges of
agri-food products and beverages in Romania.

2. Material and methods

This paper interpretively framed the international trade in agri-food products and
beverages in Romania, according to some values of the statistical levels of the
period 2012-2017. References were made to basic/primary products and processed
ones, and for each in the bivalence of destinations for industry and household
consumption [2].

The methodology was focused on the use of the indicators of the normative-
constructive system, with presentations in absolute and relative values. In the
evolution of the years 2012-2017, comparisons were made showing the trends of
international trade activities with agri-food products and beverages in Romania.

All these were completed by determining the annual averages and rates and the
coefficient of variation. Thus: the annual average was based on the levels of
annual values and the number of years; the growth rate was represented by the
average annual growth rate; the coefficient of variation whose values were given
by the standard deviation and the string for the respective values with the
interpretation of intervals with low value (10% low risk), medium value (10-20%
moderate risk) and high value (over 20% risk increased) [4].

All these indicators followed the current knowledge of the level and priority of
these international exchanges of agri-food products, but also to outline some
perspective trends.

3. Results and discussions

International trade in food and beverage trade is also a problem for Romania
based on knowledge of the main structural elements. It is necessary to carry out
investigations that need to be linked to the levels of annual export and import
developments. All these structures result in knowledge of the elements that
condition the levels of industrial and household consumption.

3.1. The evolution of Romania's international export of food and beverages

The evolution of Romania's international export of food and beverages represents
an essential element from which to start in the analysis. The values in Table 1

highlight in the dynamics of the years of the analyzed period the structural indicators that analyze the basic (primary) and processed products for industrialization and domestic consumption.

Table 1. The evolution of the international export with food and drinks in Romania, by destinations, for the period 2012-2017

Indicator/Year/MU		2012	2013	2014	2015	2016	2017	Annual average	Annual rhythm	St. Dev./ Var. coeff.	
		mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	%	mil. euro	%
Total goods (intended for international trade) of which	Total goods (intended for international trade) of which	49,562	52,466	54,610	57,392	62,644	53,624	6.8	6,125	11.4	
1. Food & Beverages		2,749	3,737	3,809	3,683	4,411	4,661	3,842	11.1	667	17.4
1.1. Basis products (primary) of which:	Value volume	1,661	2,583	2,640	2,430	3,096	3,215	…2,604…	14.1	554	21.3
	Comparis on level (%)	100	100	100	100	100	100	-	-	-	-
a.for industry	Value volume	1,472	2,337	2,367	2,160	2,852	2,886	14.4	14.4	519	22.1
	% vs. primary prod.	88.62	90.48	89.66	88.89	92.19	89.77	-	-	-	-
b. for domestic consumption	Value volume	189	246	273	270	244	329	11.7	11.7	46	17.7
	% vs. primary prod.	11.38	9.52	10.34	11.11	7.88	10.23	-	-	-	-
1.2. Processed products of which:	Value volume	1,088	1,154	1,169	1,252	1,315	1,446	5.9	5.9	129	10.5
	% vs. processed prod.	100	100	100	100	100	100	-	-	-	-
a. for industry	Value volume	171	215	199	218	181	198	3.0	3.0	18	9.4
	% vs. processed prod.	15.72	18.63	17.02	17.41	13.76	13.69	-	-	-	-
b. for domestic consumption	Value volume	917	939	970	1,034	1,134	1,248	6.4	6.4	128	12.3
	% vs. processed prod.	84.28	81.37	82.98	82.59	86.24	86.31	-	-	-	-

Source: Statistical Yearbook of Romania, INS, 2015, 2018 [3].

The analysis of all the data presented shows the following:
▪ the evolution on the annual total of the export of framed foods and drinks is represented by an increasing evolution of the annual value levels. Represents an average of 3,842 million euros to which can be added a coefficient of variation of 17.4%, respectively a medium variation and a moderate pace;
▪ basic/primary products (from these foods and drinks), are represented by a value evolution but with a variational character. Thus, compared to the annual average of 2,604 million euros, the coefficient of variation of 554 million euros is at a percentage level of 21.3% which is a large variation, an increased annual rate. In the delimitation for destination industry and household consumption it is found: for industrial consumption an increased rate (respectively a large variation of

22.1%), but for household consumption the rate is moderate (the level of 17.7% is a medium variation);

▪ the processed products are presented as a whole and which show evolutionary levels, at which the coefficient of variation which is 129 thousand euros, which represents a percentage of 10.5%, represents a moderate risk and a medium variation. At the same time, the evolutionary level of the products destined for industry is characterized by a coefficient of variation of 9.4% which represents a small variation and a similar (small) risk. Products for household consumption this coefficient of variation is moderate (by the value of 128 million euros and 12.3%).

In this context of exports within the group of food and beverages both as a whole and of industrial and domestic consumption, there are increasing annual levels. At the same time, however, it can be mentioned that these export operations register small and medium variations that render moderate and low risks.

3.2. The evolution of the international import with food and drinks of Romania

The evolution of the international import with food and drinks of Romania both in total and in the structure of the destination for industry and domestic consumption are shown in Table 2 which complete the overall elements of export with these products.

Regarding these destinations of the products mentioned for the dynamics of 2012-2017, the following can be found:

▪ the import of food and beverages is an increase for the period 2012-2016, to which the year 2017 registers a decrease. Compared to the average of the analyzed period, of 4,670 million euros, the variation is high (20.9%), and the annual rate is 10.4%;

▪ with reference to the import of basic / primary products, there is an annual increase that takes place both on the basis of those products intended for industry but also for domestic consumption. The high level of variability (between 21.3% and 33.9%) further delimits the indicators of chained growth that show annual rates between 8.6% and 19.5%;

▪ processed products show an increase in the succession of years, predominantly being the levels of household consumption (88.19% of the average of total processed products). Regarding the coefficient of variation for the total of these products and those intended for industry, there is a classification at a medium variation and household consumption at a large variation. At the same time, the annual rate is negative for products intended for industry (-3.9%) and positive for

total processed products and household consumption (percentage levels being 8.6% and 11.2% respectively).

The results show that Romania's imports for food and beverages are much higher than exports, with high annual levels of variation for primary products. Structurally analyzed, the values of imports of household products have the highest levels of variation (33.9% for commodities and 21.7% for processed products).

Table 2. The evolution of the international import with food and drinks in Romania, by destinations, during 2012-2017

Indicator/Year/MU		2012	2013	2014	2015	2016	2017	Mean	Var. coeff.		Annual rhythm
		mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	%	%
Total goods (intended for international trade) of which		54,703	55,317	58,522	62,971	67,364	75,604	62,414	8,047	12.9	6.7
1. Food & Beverages		3,707	3,904	4,048	4,680	5,587	6,093	4,670	976	20.9	10.4
1.1. Basis products (primary) of which:	Value volume	1,084	1,220	1,294	1,599	2,024	2,132	1,559	437	28.1	14.5
	Comparison level(%)	100	100	100	100	100	100	-	-	-	-
a.for industry	Value volume	549	573	557	654	870	828	672	143	21.3	8.6
	% vs. primary prod.	50.65	46.97	43.04	40.90	42.98	38.84	-	-	-	-
b. for domestic consumption	Value volume	535	647	737	945	1155	1304	887	301	33.9	19.5
	% vs. primary prod.	49.35	53.03	56.96	59.10	57.06	61.16	-	-	-	-
1.2. Processed products of which:	Value volume	2,623	2,684	2,754	3,080	3,563	3,962	3,111	544	17.5	8.6
	% vs. processed prod.	100	100	100	100	100	100	-	-	-	-
a. for industry	Value volume	572	532	426	478	470	468	491	52	10.6	-3.9
	% vs. processed prod.	21.80	19.82	15.47	15.49	13.19	11.81	-	-	-	-
b. for domestic consumption	Value volume	2,052	2,151	2,328	2,603	3,093	3,494	2,620	568	21.7	11.2
	% vs. processed prod.	78.20	80.18	84.53	84.51	86.81	88.19	-	-	-	-

Source: Statistical Yearbook of Romania, INS, 2014, 2018 [3].

3.3. The structure of the main commercial destinations analyzed by the evolution of the balance of international trade in food and beverages

It was analyzed both in total and in the situation of the main commercial destinations (Table 3).

Table 3. The evolution of the balance of international trade in food and beverages in Romania, by destinat

Indicator/Year/MU		2012	2013	2014	2015	2016	2017	Mean	Variation coefficient	
		mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	mil. euro	%
Total goods (intended for international trade) of which		-9,634	-5,755	-6,056	-8,361	-9,972	-12,960	-8,790	2,697	-30.7
1. Food & Beverages		-958	-167	-239	-997	-1176	-1432	-828	513	-61.9
1.1. Basis products (primary) of which:	Value volume	577	1,363	1,346	831	1,072	1,083	1,045	303	29.0
	Comparison level (%)	100	100	100	100	100	100			
a.- for industry	Value volume	923	1,764	1,810	1,506	1,982	2,058	1,674	415	24.8
	% vs. primary prod.	159.96	129.42	134.47	181.22	184.88	190.02			
b.- domestic consumption	Value volume	-346	-401	-464	-675	-911	-975	-629	269	42.7
	% vs. primary prod.	-59.96	-29.42	-34.47	-81.22	-84.88	-90.02			
1.2. Processed products of which:	Value volume	-1,535	-1,530	-1,585	-1,828	-2,248	-2,516	-1,874	417	22.3
	% vs. processed prod.	100	100	100	100	100	100			
a - for industry	Value volume	-401	-317	-227	-260	-289	-270	-294	60	20.5
	% vs. processed prod.	26.08	20.73	14.32	14.22	12.86				
b- domestic consumption	Value volume	-1,135	-1,212	-1,358	-1,569	-1,959	-2,246	-1,580	440	27.9
	% vs. processed prod.	73.92	79.27	85.68	85.78	87.14				

Source: Statistical Yearbook of Romania, INS, 2014, 2018 [3].

a) For the whole and the structure by destinations of the trade balance based on the evolution of the values shown in table 1.3, the following can be deduced:

▪ for the whole balance for all years, there are negative values to which is added an accentuated coefficient of variation (rendered by the percentage value of -61.9% which indicates a large variation);

▪ the balance for basic/primary products is positive, but with a large variation (of 29%).

At the same time, there is an interpretative difference for the structure of product destinations for which: products for industry balance values are positive and have

a significant share, the variation remaining high (24.8%); in the case of household consumption where it is found that for all years the balance values are negative, for which there is a large variation (42.7%);

In the case of processed products, the values both on total food and beverages, as well as in the structure of industrial and household consumption destinations, the balance has negative values. At the same time, a large variation can be noticed, which in percentage values are registered variations between 20.5% and 27.7%.

Table 4. The structure of the structural balance of food trade by destination, in Romania, for the period 2012-2017

Indicator/AN/UM			Total goods (intended for international trade) of which	1. Food & Beverages	1.1. Basis products (primary) of which::	a.- for industry	b.- domestic consumption	1.2. Processed products of which:	a. - for industry	b- domestic consumption
Export	2012	%	100.0	6.1	3.7	3.3	0.4	2.4	0.4	2.0
	2013	%	100.0	7.5						
	2014	%	100.0	7.3	5.2	4.7	0.5	2.3	0.4	1.9
	2015	%	100.0	6.7						
	2016	%	100.0	7.7	5.0	4.5	0.5	2.2	0.4	1.8
	2017	%	100.0	7.4	4.4	4.0	0.5	2.3	0.4	1.9
Import	2012	%	100.0	6.8	5.4	5.0	0.4	2.3	0.3	2.0
	2013	%	100.0	7.1	5.1	4.6	0.5	2.3	0.3	2.0
	2014	%	100.0	6.9	2.0	1.0	1.0	4.8	1.0	3.8
	2015	%	100.0	7.4	2.2	1.0	1.2	4.9	1.0	3.9
	2016	%	100.0	8.3	2.2	1.0	1.3	4.7	0.7	4.0
	2017	%	100.0	8.1	2.5	1.0	1.5	4.9	0.8	4.1
Deviations (+/-)	2012	%	0.0	-0.7	3.0	1.3	1.7	5.3	0.7	4.6
	2013	%	0.0	0.5	2.8	1.1	1.7	5.2	0.6	4.6
					1.7	2.3	-0.6	-2.4	-0.7	-1.7
	2014	%	0.0	0.3	3.0	3.7	-0.7	-2.5	-0.5	-2.0
					2.8	3.6	-0.7	-2.5	-0.3	-2.1
	2015	%	0.0	-0.7	1.9	2.9	-1.0	-2.6	-0.4	-2.2
	2016	%	0.0	-0.6	2.4	3.7	-1.3	-3.0	-0.4	-2.6
	2017	%	0.0	-0.6	2.3	3.5	-1.2	-2.9	-0.3	-2.6

Source: Statistical Yearbook of Romania, INS, 2014, 2018 [3].

b) The balance of the structure of trade in food products was further analyzed by destination with reference to exports and imports for Romania. The comparison of

these activities is shown in Table 4, in which the presentation of the values is given as a percentage, showing the following:

▪ for export this balance for food and beverages has differentiated levels, with reference to the fact that the values for basic/primary products exceed those processed;

▪ in the case of import, a reverse situation is found, finding that the annual level of processed products exceeds the basic/primary ones;

 ▪ the percentage differences of the two parties (export/import) resulted in negative deviations, these being due to the much higher annual levels of imports compared to exports.

In summary, a dynamic analysis of the levels of this balance shows a decrease which, on the whole, is part of a negative maintenance trend (with reference to the predominance of imports of processed products intended for domestic consumption).

Conclusions

The problems presented regarding the contribution with agri-food products and beverages to the international exchanges for Romania during the years 2012-2017 highlight the following analytical aspects:

(1). The form of existence of the evolution of the annual value levels of the exports that in the dynamics of the years that register a growth rhythm but also an annual variation.

(2). Imports with food and beverages register an increase, and at the end of the analyzed period there is a decrease, at the same time being registered the highest variational levels. For the situation of basic/primary products, an increase is reported (according to the products destined for industry), the same growth being maintained but with a very accentuated rhythm also for the products destined for domestic consumption.

(3). From the analysis of the international trade balance for the main commercial destinations the following can be signalled: for the whole and the structure by destinations the value of the balance is negative, to which is added a large coefficient of variation (both for basic/primary products and processed); for export/import destinations differentiated levels can be found due to the fact that for export the values for basic/primary products exceed those processed and for import a reverse situation is found (the value of processed products exceeds basic /primary). In short, the evolutionary trend of some negative levels results from the overall balance of these export/import structures.

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