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BEEF MARKET IN ROMANIA

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Abstract

This scientific paper presents the cattle market dynamics in Romania during 2007-2013. In order to realize this research there were used certain indicators, as following: herds of cattle, realized beef production, selling price, human consumption, import and export. The data were collected from the Ministry of Agriculture and Rural Development, National Institute of Statistics and Faostat. During the analysis, the presented indicators were modified from a period to another, because of both internal and external factors. Consumption demand is being influenced by: beef price, beef quality, price of other meat categories, consumers incomes, population's food consumption pattern and so on.

Key words: *beef, consumption, market, price, Romania*

INTRODUCTION

Cattle breeding sector is a traditional one in Romania, especially for population in rural areas**.** Producing beef has a double advantage, both for the producer and for consumer. For producer, breeding cattle has numerous advantages such as:

-Low energy consumption and the nature of forages which he exploits;

-Source of income for population in rural and mountain areas;

-Workforce stability for residents in rural area;

-Production is realized with low costs [17].

Beef has an important place within the structure of agricultural products in every country [2].

Beef consumption has an advantage for population because it has a great content in proteins, minerals and vitamins. In comparison with other types of meat (pork and lamb meat), beef has the lowest content in cholesterol and saturated fat [10].

Its biological value is being presented in table 1.

Nowadays, globally, beef is very sought after pork, there is a huge discrepancy between beef supply and demand, highlighting the fact that one could start profitable business in breeding cattle field.

Table 1. Biological value of beef in comparison with other animal products

Appreciation Index	Beef -adult cattle-	Beef -young cattle-	Pork	Cow milk	Eggs
Biological value	69.79	62	74 - 75	90	94
Coefficient of global usage	76	62	71 - 79	86	94
Protean efficiency	3.2	2.9	3,0	2.9	3.8

Source: [17]

In the recent period of time, beef market recorded an ascending trend because consumption grew on emergent markets such as China, Argentina and Brazil. Global beef market is dominated by four representative companies, as following: Tyson Foods, JBS, National Beef Company and Cargill Meat Solutions. These enterprises covered more than 70% of the market, in 2013 [16]. Regarding the evolution of beef market in Romania, one could estimate an extension of this market, becoming more attractive for all operators within this sector because the European Union gives a financial support, not negligible. Concerning the total beef consumption (adult and young cattle) for 2020, one could estimate an increase of consumed meat (215 thousand tons). For 2030 there is predicted a doubling of beef production in comparison with the one in 2010. As beef production increases, one could observe an increase of population's average consumption, as follows: in 2020, the consumed quantity will be of 10 kg/ capita. In 2030, beef consumption will be equal to the European average one [11].

MATERIALS AND METHODS

The statistical data which were used for accomplishing this research were given by Ministry of Agriculture and Rural Development, National Institute of Statistics and Faostat. In order to better highlight the dynamics of beef market there were consulted many speciality magazines, books, studies and reports. In order to realize the analysis of beef market there were used many indicators, among which: herds of cattle, realized beef production, human consumption, external trade.

RESULTS AND DISCUSSIONS

The dynamics of herds of cattle both at national and regional level, during 2007-2013 is being presented in table 2.

In accordance with data given by the National Institute of Statistics, one could easily observe that the total number of cattle decreased during the analyzed period, from 2,818,983 heads in 2007 to 2,022,408 heads, in 2013. During 2007 and 2011 there were recorded consecutive declines for herds of cattle.

The herds of cattle differ a region to another. In 2013, the north-east region recorded the biggest herd of cattle (524,521 heads). Starting with 2012, one could observe a growth of herds of cattle. Regarding the herds of cattle, Romania is among the 10th countries that breed cattle in the European Union: France, Germany, United Kingdom, Ireland, Italy, Spain, Poland, Holland and Belgium [8].

Table 2. Dynamics of herds of cattle both at national and regional level (head)

Specification	2007	2008	2009	2010	2011	2012	2013	2013/2007 (%)
ROMANIA	2,818,983	2,683,611	2,512,296	2,001,105	1,988,939	2,009,135	2,022,408	71.7
North-West Region	453,616	413,146	405,039	348,075	347,662	348,878	351,552	77.4
Center Region	389,545	366,449	360,448	320,403	313,255	316,131	320,786	82.3
North-East Region	698,521	689,961	651,004	506,137	510,817	515,339	524,521	75.0
South -East Region	320,539	312,390	292,040	231,400	231,879	240,415	238,677	74.4
South Muntenia Region	399,709	371,700	342,121	238,761	237,696	234,459	232,359	58.1
Bucharest – Ilfov Region	19,254	17,925	17,310	8,142	7,171	7,429	6,676	34.6
South-West Oltenia Region	315,860	304,805	259,419	195,695	196,712	193,519	194,177	61.4
West Region	221,939	207,235	184,915	152,492	143,747	152,965	153,660	69.2

Source: [14]; own calculations

In table 3 there is presented the dynamics of cattle number for 100 hectares of agricultural land, both at national and regional level during 2007-2013.

At national level, one could observe a decrease from 21.4 cattle in 2007 to 15 cattle in 2013. At regional level, the same descending tendency is being maintained in 2013 in comparison with 2007. In 2013, the highest number of cattle per 100 ha of agricultural land was in the North-East Region (27.3 heads).

At the opposite side, the smallest number of cattle was assigned for 100 ha, being recorded in the West Region (9.0 heads). According to some data publish in Farm Magazine and Agricultural Newspaper, in 1990, the number of cattle reported to 100 ha of agricultural land was 45.2 heads in 1990, but having a significant reduction to 14.9 heads in 2013. In which it concerns the number of inhabitants per a cow, it increased from 2.54 in 1990 to 6.87 in 2010. Globally, this reference index is represented by a cow per 5 inhabitants, in comparison with only 2.38 cattle heads in France, 2.66 cattle heads in Denmark, 3.26 cattle heads in Holland and 3.56 cattle heads in Belgium [18] . Referring to the number of cattle per 100 ha of agricultural land, Romania does not have an advantageous position; by contrast, it is at the end of the ranking, being followed only by Bulgaria [8]. Holland is the country with the biggest number of cattle per 100 ha of agricultural land, 227.7 heads (2013), being followed by Belgium (186.1 heads) and by Ireland (139.2 heads) [12]. The weight dynamics of live cattle designed to slaughter for consumption, both at national and regional level for 2007-2013 period is presented in table 4. In 2013 meat production registered the following structure: poultry (49.4%); pork (45.77%); beef (4.35%); sheep and goats (0.48). Beef production is on the third place, being visible surpassed by poultry and pork. According to data from the National Institute of Statistics, in 2013, there were slaughtered 139,632 cattle at national level [3]. The number of slaughtered cattle oscillated one region to another, as following: North-East (73,650 heads); South-East (14,258 heads); South-Muntenia (11,973 heads); South-West Oltenia (16,924 heads); West (994 heads); North-West (11,007 heads); Centre (10,826 heads); Bucharest – Ilfov (-).

Table 3. Dynamics of cattle number for 100 ha of agricultural land both at national and regional level, during 2007-2013 (heads)

Specification	2007	2008	2009	2010	2011	2012	2013	2013/2007 (%)
ROMANIA	21.4	20.4	19.1	14.6	14.7	14.8	15.0	70.0
North-West Region	23.8	22.1	22.3	18.5	18.5	18.5	19.2	80.6
Center Region	22.6	21.4	20.5	17.8	17.3	17.4	17.4	76.9
North-East Region	35.1	35.5	33.8	25.4	27	27.2	27.3	77.7
South -East Region	15.4	14.3	13.4	10.3	10.4	10.7	10.6	68.8
South Muntenia Region	17.7	16.4	14.7	10.5	10.3	10.2	10.1	57.0
Bucharest –Ilfov Region	21.1	20.1	17.2	7.1	7.5	7.8	9.2	43.6
South-West Oltenia Region	21.1	19.5	16.5	12	12	11.8	12.3	58.2
West Region	13.7	13.4	12.4	8.7	8.6	9.2	9.0	65.6

Source: [14]; own calculations

Referring to cattle slaughtered in specialized industrial units, in 2013, there was a growth with 3.6 % than in 2012. Cattle slaughters were representative within North-East regions

(52.8%), South-West Oltenia (12.1%) and South-East (10.2%) [13]. At national level, cattle production expressed in tons live weight recorded a decrease from 333,282 tons in 2007 to 192,206 tons in 2013. In specialized abattoirs, in 2013, slaughtered cattle's live weight was of 60,476 tons than in 2012. Referring to carcase weight, this was of 29,338 tons, into specialized abattoirs. Cattle carcase weight was of 29,338 tons in 2013 than 28,714 tons in 2012. It had a different evolution one region to another as following: North-East (14,846 tons); South-East (2,866 tons); South-Muntenia (2,517 tons) ; South-West Oltenia (4,052 tons); West (254 tons); North-West (2,327 tons); Centre (2,477 tons); Bucharest–Ilfov (-) [4].

The average weight for pig species at abattoirs level was of 433.1 kg in 2013 than 437.3 kg in 2012 [13]. Nowadays, the price represents a very important indicator both for producer and consumer.

Market economy functions in normal conditions based on supply and demand, while the central axis is represented by price. In economy, price has the role to adjust the market.

This could be possible only in conditions of a normal competitive environment [9]. In table 5 is being presented the dynamics of base price and annual average one.

Base price increased from 4,490 Ron per tone to 6,980 Ron per tone in 2013, which signifies an increase of 55.4%.

Regarding the annual average price of acquisition, it recorded a crescent tendency during the analyzed period.

In 2013, for beef, it was double than in 2007. In 2007, the demand for beef was diminished than in 2006 [7].

First of all, the price is influenced by farmers' costs. In order to realize a picture of cattle breeding sector in Romania, there are being used "Economic Accounts for Agriculture". These are presented in table no. 6.

There must not be forgotten the fact that "Economic Accounts for Agriculture" represent a solid support for realizing some pertinent analysis, predictions and least, but not last they are important for political decisions (14).

For cattle species, the value for producer's price decreased from 1414.75 million Ron (current prices) in 2007 to 1339.45 million Ron (current prices) in 2013.

In table 7 is presented the monthly average consumption per capita at national, urban and rural level.

Analyzing the data in table 7 one could observe a decrease of average consumption per capita from 0.284 kg in 2007 to 0.201 kg in 2013. This decrease is due to: a growth of prices for beef; a decrease of money purchasing power; population's consumption preferences; beef quality; appearance of some diseases at cattle and so on [1].

Also, one could notice that the population in urban areas consume more beef. In 2013, there was recorded within the urban areas a monthly average consumption of 0.257 kg per capita in comparison with the rural sector, where the consumption had a value of 0.134 kg per capita.

Monthly average expenditures for buying beef are connected to the consumed quantity and to market price.

The dynamics of monthly average expenditures per capita for buying beef during 2008-2013, is being presented in table 8.

At national level, monthly average money expenditures per capita for buying beef decreased from 3.92 Ron in 2008 to 3.83 Ron in 2013, representing a decrease of 2.3%. Decreases are also recorded in 2013 in comparison with 2007, at the 1st Macro-region (-16.1%) and the 3rd one.

At the opposite side there were registered increases in 2013 in comparison with 2007, in the 2nd Macro-region (+12.2%) and the 4th one (+10.4%). These expenditures depend on consumption preferences and consumers' incomes [5].

According to data given by Faostat, Romania imported a number of 12049 live cattle in 2011 in comparison with 5984 ones in 2007, representing a doubling of imports.

There must be remembered that there were imported breeds of superior quality with a higher productivity. In 2011 imports value was of 15,925 thousand dollars in comparison with 11,028 thousand dollars in 2007.

Table 4. Weight dynamics of live cattle designed to slaughter for consumption, both at national and regional level for 2007-2013 (tons, live weight)

Specification	2007	2008	2009	2010	2011	2012	2013	2013/2007 (%)
ROMANIA	333,282	306,373	264,155	205,347	211,971	198,510	192,206	57.6
North-West Region	61,048	51,180	46,135	30,320	29,863	28,603	25,252	41.3
Center Region	46,843	44,708	39,449	33,605	44,831	38,255	35,248	75.2
North-East Region	67,823	67,808	57,229	53,708	50,384	50,532	50,671	74.7
South -East Region	34,837	31,506	23,720	18,991	18,963	17,797	20,595	59.1
South Muntenia Region	63,727	55,673	54,434	35,636	33,332	31,465	29,411	46.1
Bucharest –Ilfov Region	2,656	3,015	1,379	1,304	1,068	803	818	30.7
South-West Oltenia Region	34,195	31,899	26,089	18,903	17,788	16,688	16,536	48.3
West Region	22,153	20,584	15,720	12,880	15,742	14,367	13,675	61.7

Source: [14]; own calculations

Table 5. The evolution of base price and annual average one of acquisition for beef in Romania, during 2007-2013

Specification	2007	2008	2009	2010	2011	2012	2013	2013/2007 (%)
Beef	Base price (Ron/tone)							
	4,490	8,109	9,672	5,655	6,500	6,640	6,980	155.4
	Annual average price (Ron/kg live)							
	2.98	3.52	4.79	4.85	5.51	5.73	6.0	201.3

Source: [14]; own calculations

Table 6. Economic Accounts for Agriculture in Romania for cattle species, from 2007 to 2013

Specification	2007	2008	2009	2010	2011	2012	2013	2013/2007 (%)
	Economic Accounts for Agriculture (current prices – millions Ron)							
Value to producer's price	1,414.75	770,4	1,129.26	887,69	1,079.76	1,282.41	1,339.45	94.6
Subventions for products	254.72	709,94	770.18	0,8	-	-	-	-
Value to base price	1,669.47	1480,34	1,899.44	888,49	1,079.76	1,282.41	1,339.45	80.2
	Economic Accounts for Agriculture (prices of previous year-millions Ron)							
Value to producer's price	1,685.43	694,63	828.78	903.41	938.56	1,255.37	1,274.2	75.6
Subventions for products	65.84	125,07	763.73	616.14	0.85	-	-	-
Value to base price	1,751.27	819,69	1,592.51	1519.55	939.41	1,255.37	1,274.2	**72.7**

Source: [14]; own calculations

Referring to beef imports, they registered a decrease in 2011 (437 tons) than in 2007 (1,793 tons). The value of beef imports was of 14,897 dollars in 2011. During the first nine months in 2014, cattle exporters in Romania delivered calves for 95.0 million Euro. In terms of value, exports earnings place Romania on the 2nd place through the European Union, concerning exports of live cattle.

Table 7. Dynamics of monthly average consumption of beef per capita in Romania, from 2007 to 2013 (Kg)

Specification	2007	2008	2009	2010	2011	2012	2013	2013/2007 (%)
Beef	TOTAL							
	0.284	0.297	0.271	0.228	0.195	0.194	0.201	70.7
	URBAN							
	0.361	0.393	0.346	0.289	0.255	0.245	0.257	71.1
	RURAL							
	0.19	0.18	0.179	0.154	0.123	0.132	0.134	70.5

Source: [14]; own calculations

Table 8. Dynamics of monthly average expenditures per capita for buying pork both at national and macro-regional level, during 2009-2013 (Ron)

Specification	2008	2009	2010	2011	2012	2013	2013/2008 (%)
Monthly average expenditures per capita	Total						
	3.92	4.21	3.72	3.29	3.44	3.83	97.7
	Macro-regions 1						
	3.62	3.29	3.04	2.68	2.85	3.04	83.9
	Macro-regions 2						
	4.07	4.79	4.02	3.58	4.05	4.57	112.2
	Macro-regions 3						
	4.62	4.88	4.19	3.79	3.66	3.95	85.4
	Macro-regions 4						
	3.17	3.54	3.49	2.95	2.93	3.5	110.4

Source: [14]; own calculations

France is the European Union's leader in the export of live cattle because it has the biggest cattle live stock. At the opposite side, processed beef exports in 2013 were 8.3 times lesser than the value of live cattle. This situation placed Romania on the 17th place in Europe [20]. There must be remembered the existence of competitivity regarding import beef, leading to a deterioration between internal supply and demand [6]. Starting with 2015, the European Union resumes beef exports to United States, after an embargo that lasted 17 years. This export interdiction happened because of mad cow disease. In this context, Romania is getting ready and hopes to regain the access on the American market. Romania was one of the ten countries that exported meat to markets outside the European Union [19]. In order to relaunch the sector of cattle breeding, there must be considered the following aspects:

-Growth of cattle herds and production;
-Increasing of slaughter weight ;
-Increasing productivity within forages production sector;
-Reducing costs with beef processing;
-Financial support in order to organize exploitations in associations
-Realizing an organized system for supplying abattoirs with animals and so on [15].

CONCLUSIONS

After analyzing the beef market in Romania, one could consider the following conclusions:

-Cattle herd registered a descendent tendency during 2007-2013;
-The number of cattle for 100 ha agricultural land has been reduced from 21.4 heads in 2007 to 15 heads in 2013;
-Is being recorded a decrease of live cattle weight designed to slaughter for consumption, from 333,282 tons live weight in 2007 to 192,206 tons live weight in 2013.
-Average acquisition price for beef doubled in 2013 than in 2007;
-Beef monthly average consumption per capita decreased in 2013 than in 2007;
-At national level, beef monthly average expenditures recorded decreases in 2013 than in 2007.
-The value of live cattle exports exceeds the value of processed beef exports.

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