

# **Study on the Competitiveness of the Romanian Meat Processing Industry**

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## **Abstract**

Meat processing is a strategic industry that can contribute significantly to the increasing competitiveness of the local food industry on foreign markets. The natural potential available to Romania and the tradition in animal husbandry can provide enough raw materials to cover the needs of manufacturing industry and obtain substantial income by exporting processed products. Currently meat market in Romania is dominated by imports of meat, as carcasses or processed products. Mainly live animals or semi-finished products with low added value are exploited for export. This article proposes an analysis of the local meat processing industry in terms of meat production, consumption and trade transactions. An overview of the international meat market is needed to fully assess the national industry. Financial performance and assessing the level of concentration of companies with this profile are important in assessing the competitiveness of the industry.

**Keywords:** meat, production, competitiveness, market;

**JEL Classification** L11, L25, L66

## **Introduction**

Meat processing is one of the most important industries of the Romanian economy. Meat is a high nutritional, energy and sensory value food, ensuring the body through metabolism, the necessary nutrients and vital energy. Meat proteins are characterized by an optimal content of essential amino acids. Annual meat consumption per capita is an indicator characterizing economic welfare. Residents of economically developed areas cover the nutritional requirements of the body especially by consuming food of animal origin (Gerbens - Leenes, Nonhebel and Krol, 2010). Meat sector ensures the transformation of these live animals in finished products intended for direct consumption or as culinary treatments. Units for meat industrialization are dependent of raw materials from domestic agriculture or imports. The technology and processing conditions can decisively influence the quality of finished products, ensuring food safety criteria required for food. Economically, the processing industry increases the value of raw materials from primary sector. Traditionally, the value added in meat processing units is achieved by simple technological processes (appropriate cutting and packing), which make products available to consumers and increase shelf life. Storage and distribution of meat to the consumer places require a cold chain, compulsory for maintaining product quality and compliance with temperature parameters specified by the processor. New directions in meat processing aim at innovative products based on increasing added value through the manufacture of products with high nutritional value, superior sensory characteristics and low fat/cholesterol. Lack of time necessary for culinary activities, changing lifestyles, family structure and eating habits have led to an increased demand for ready meal type (ready to

eat/ready to cook) on the external market and an increased share in the meat sector. Although progress has been made lately, Romanian market of ready meal meat products, estimated at about 1,500 tons/year, has not yet reached maturity (Meat Factory, 2013). Financial reasons and the perception of these products as being less healthy by the Romanian consumer maintain low sector sales, this being considered a range niche. The reduction in meat processing costs can be achieved by optimizing the technological process, using the new ingredients with a lower value (proteins from soy, cereals, milk), or by adding some by-products resulted from poultry slaughter, in particular at product types with lower prices (Deogade, Zanjadand and Raziuddin, 2008). Last years, local meat processing industry faced problems due to a decline in consumption and the economic - financial crisis. EU integration has provided domestic producers a market of 500 million consumers and increasing competition from Community producers. The display of critical incidents at international level (bird flu, swine flu, food contaminants, food forgeries and frauds etc.) or at national level (altered meat, poultry contaminated with Salmonella) affected domestic producers and consumer confidence.

### **Global production and consumption of meat**

Estimated at 311 million tons, global meat production continues the moderate growth recorded last years. After the historical levels (2012), feed prices recorded a cheapening process in 2013, which allowed profit for meat producers. The effects were felt mainly on porcine meat and poultry prices, the most dependent on concentrated feed. For the next period FAO analysts still forecast a slight increase in meat production, mainly driven by a rising demand and production in developing countries (OECD-FAO, 2014). Meat prices continued to rise on the international market, surpassing historical standards recorded over the last three years. Prices increased for all categories of meat, especially bovine. It was a slight reduction in porcine and ovine meat prices in 2013. With a growth rate almost double than that of beef, pig meat was the most dynamic, exceeding the poultry sector. In 2014, international transactions with meat reached the level of 31, 6 million tons, with an annual growth rate of 2.3%. The short term anticipated increase is below the average recorded in recent years, due to production constraints recorded in some of the world's major manufacturers, epidemics in recent years in animal populations and trade restrictions. Mutton is the only meat that recorded a decrease of transactions in 2014, amid Bluetongue and Scrapia outbreaks. The most traded product on international markets is poultry, followed by bovine, pig and ovine meat. Annual average consumption per capita has relatively constant values in recent years, with a slight decrease in industrialized areas, but is offset by the increased demand in developing areas. Meat Price Index generally oscillating around 185 points. All categories recorded last period price increases, especially bovine meat, although towards the end of the period, some reduction was evidenced for porcine and ovine meat.

Last year is characterized by the overall increase in the price of the main types of meat, amid rising demand and some modest developments in production (OECD - FAO, 2014). Europe is one of the leading meat producers and consumers in the world. Community production of meat, registered in the year 2013 reaches the value of 43.4 million tons, with a slight decrease from the previous year. As a share, 28 EU contributes with about 14% of the total quantity of internationally produced meat. Estimations for 2014 predict a slight increase in production, at an annual growth rate close to the value recorded at world level (Table no. 1). Coefficients to transform carcass weight into retail weight were 0.7 for beef and veal meat, 0.78 for pig meat and 0.88 for both poultry meat and sheep and goat meat. Reducing EU meat exports is mainly due to problems appeared in the livestock sector

(Bluetongue and Scrapia outbreaks), applying new EC regulations on animal welfare and exports banned to the Russian Federation.

**Table no. 1 Meat market balance sheet for the EU-28 (thousands tons)**

	2012	2013	2014*	2015**	2014/2013(%)
Meat Production	43,798	43,420	44,358	44,905	+2.16
Imports of meat	1,326	1,311	1,318	1,358	+0.58
Export of meat	3,702	3,698	3,511	3,655	-5.08
EU 28 meat consumption	41,422	41,032	42,166	42,608	+2.76
Meat consumption (kg/capita year) in retail weight	65.2	64.5	66.1	66.7	+2.45
Self- sufficiency rate (%)	106.3	106.3	105.7	105.9	-0.56
EU Meat Price Index (2005=100)***	123	124	123.7	123.4	- 0.24

\*estimated data \*\* forecast \*\*\* change Dec 2014 over Dec. 2013

Source: EC, Short Term Outlook, 2015.

### Romanian meat production and consumption

The estimated Romanian meat production was 931 million tons in 2014, with a growth rate almost double than that of EU 28. In the whole Community meat production Romania occupies a modest place, with a share of 2.1% of total. Poultry accounted for nearly half of the domestic quantity produced, followed by porcine and bovine meat. Bovine and ovine meat production has been reduced in the last year, amid Scrapie and Bluetongue outbreaks that affected the local livestock sector (Stanciu and Sârbu, 2014). With a growth rate of 6.2% last year, the poultry sector is the most dynamic area of national food production. The poultry sector is the only one which had an overall increase during 2000-2014, recording an active trade balance, too. The year 2013 is the first year after the 1990s when export exceeds the poultry import. Pork has also a positive growth rate in 2014 due to higher domestic consumer demand (table no. 2)

**Table no. 2 Romanian meat production 2000-2014 (thousands tons)**

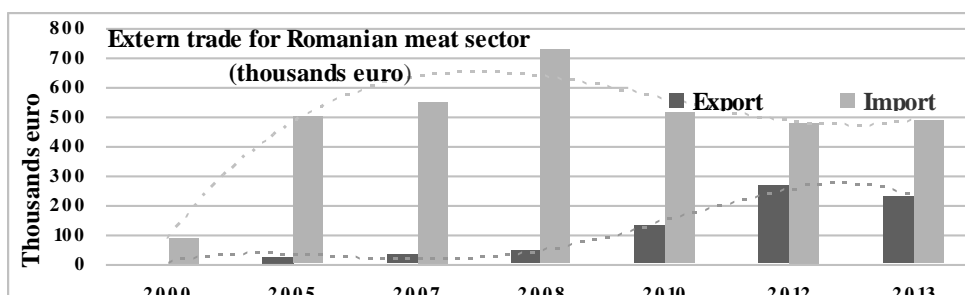
	2000*	2007	2010	2012	2013	2014*	Variation (%)		Annual growth rate 2000-2014
							2014 /2000	2014 /2013	
Total Meat	982	1086	926	898	894	931	-5.19	+4.13	-0.4
Beef	162	211	102	101	93	93	-42.5	-0.1	-3.9
Pork	503	491	418	426	421	438	-13.0	+3.9	-1.0
Poultry	259*	312*	349*	313	326	346	+33.2	+6.2	+2.1
Sheep / goat	58	72	57	58	54	54	-7.2	+0.3	-0.5

\*estimated data

Source: EC, Short Term Outlook, 2015.

The year 2008 recorded the highest level of imports of meat, with almost 730 million Euros, after which there was a slight reduction in imports, together with increased exports. Statistical data from NIS (2015) on livestock and meat transactions are shown in figure no. 1. In Romania the structure of exports is disadvantaged, the favorite products of foreign

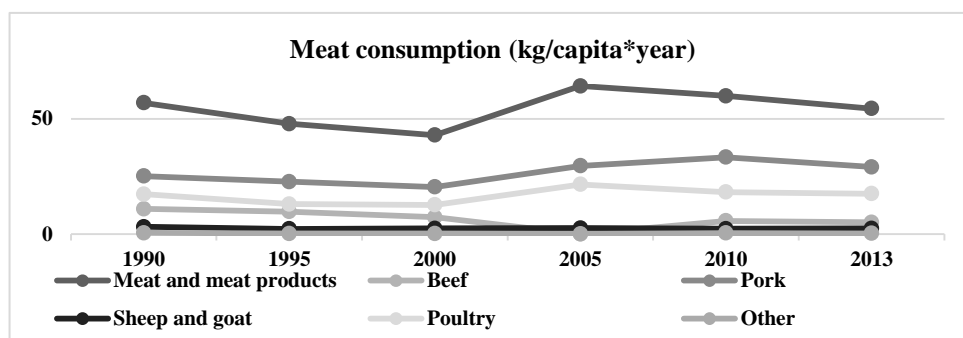
partners being mainly livestock or meat in the form of carcass. Because in Romania there are not farms specialized in intensive growth of young cattle and sheep, Romania exports livestock to Spain or Italy, where they are brought to optimum weight and slaughtered.



**Figure 1. Extern trade of Romanian meat sector**

Source: NIS, Tempo Online, 2015

Imports of livestock are represented especially by piglets (coming from the Netherlands), which is more than half the value of livestock imports (CRPCIS, 2012). The decrease in the number of breeding animals compels the local farmers to apply this solution to populate the intensive growth pig farms. Imports consist mainly of meat for consumption, cut or packaged, i.e. carcass or finished products (NIS, 2015). According to official statistics provided by NIS (2015), meat consumption in Romania is below the European average. Thus, the average annual consumption of meat (fresh meat and meat products) per capita is about 55 kg / year, with a moderate downward trend in recent years. Pork (including pork products) is the first in Romanians' preferences, the average annual consumption being of about 30 kg per capita, followed by poultry, with about 18 kg per capita. Romanians are not traditional consumers of beef, whereas sheep and goat meat is consumed mainly occasionally or in certain communities (figure no. 2).



**Figure no. 2. Meat consumption in Romania**

Source NIS, Tempo Online, 2015

### Characteristics of Romanian meat processing sector

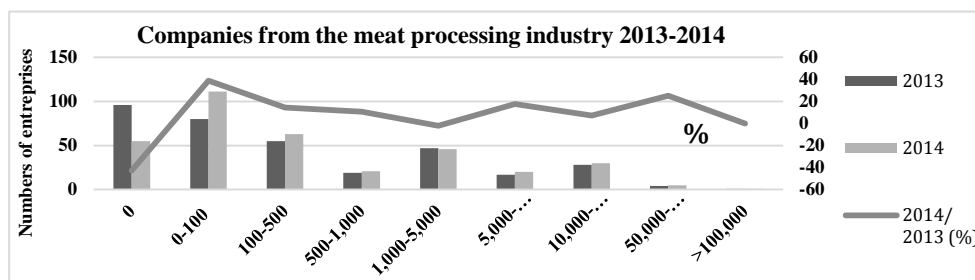
The evolution of the number of companies in the meat sector and the main economic indicators which characterize this sector for the period 2008-2013 are presented in the next section (table no. 3). After decreases in 2009 (11% reduction in the number of companies, dismissal of 14% of the number of employees and sales volume decrease by 1%), the companies in this sector have managed to balance the business in terms of trade and labor productivity. The last three years are characterized by a positive development of the sector, with an increasing number of economic agents and sales volume.

**Table no 3. Evolution of meat sector (2008-2013)**

	2013	2012	2011	2010	2009	2008
Number of active companies	347	339	334	333	317	355
Total Turnover (mill RON)	5.460	5.100	4.781	4.483	4.363	4.414
Turnover variation (%)	+7	+7	+7	+3	-1	-
Net income (%)	1,71%	2,56 %	1,03 %	0,14 %	0,16 %	0,67 %
Total number of employees	20,208	19,352	20,208	19,329	17,421	20,205
Average turnover per company (Million RON)	15,7	15,0	14,3	13,5	13,8	12,4

Source: Firme Info data, 2015 and Muscalu - Coface Report, 2014

Evaluation of local meat processing industry, conducted by Muscalu - Coface Report (2014), led to the following observations: about 53% of companies present a high degree of indebtedness; the local meat processing industry is characterized by a moderate degree of aggressiveness; 25% of companies ceased their activity during the year 2013, while only 5.5% of new companies were established (5 companies out of activity/newly established company); 9 of the 85 companies that interrupted their activity recorded in 2013 a turnover of over 1 million Euros; although the sector registered an overall increase in turnover of 7%, almost 42 % of the companies recorded a decrease in turnover during 2013 as compared to 2012; 39 % of companies have recorded a deterioration of the net result, while the sector managed to improve the performance and started to be profitable.



**Figure no. 3. Meat processing companies 2013 - 2014.**

Source: Firme Info data, 2015

The year 2014 brought an increase in the number of economic agents in the meat processing field and an overall increase in turnover (figure no. 3).

### The concentration of companies in the meat processing industry

According to data provided by the Trade Register Office for 2014, the meat processing industry is characterized by: an increase in the total number of active companies by

approximately 1.4%; a massive reduction of 42% in the number of economic agents declared as being active, but which did not perform any business in 2013; a slight decrease in the number of economic agents with a turnover of 500,000 - 1,000,000 Euros (47 to 46); a 50% increase in the number of economic agents that run their activities in the segment with turnover of less than 500,000 Euros, which compensated the decrease in the number of companies that have not developed any business in 2013; Caroli, the largest domestic producer of meat products remains the market leader with a share of almost 14% of national sales. Financial reports for the year 2013 of the companies in this sector are presented in (table no 4). Concentration in an industry reflects the extent to which a market/industry activity is dominated by large companies. The lower the number of companies from the industry or the more unequal distribution of market segments from the respective companies, the more concentrated is the market.

**Table no 4. Financial information for meat sector companies (2013)**

Turnover (thousands euro)	Companies	Share (%)	Total revenues (000 euro)	Market share (%)	Average turnover (000 euro)
0	96	27.7%	0.00	0.00	0.00
0-100	80	23.1%	2,168.40	0.18	2710.50
100-500	55	15.9%	13,678.5	1.11	24869.93
500-1,000	19	5.5%	13,225.22	1.07	69606.42
1,000-5,000	47	13.5%	115,848.07	9.38	246485.26
5,000-10,000	17	4.9%	117,583.04	9.52	691664.94
10,000-50,000	28	8.1%	552,914.03	44.75	1974692.96
50,000-100,000	4	1.2%	253,918.42	20.55	6347960.50
>100,000	1	0.3%	166,138.24	13.45	16613824.00
Total	347	100.00	1235473.88	100.00	356044.35

Source: Muscalu - Coface Report, 2014; Ministry of Public Finance, 2015

Quantification of the level of concentration is achieved with various indicators that can quantify general or specific aspects for the degree and dynamic of market concentration (Lămătic and Lămătic, 2005). Common methods for assessing the concentration in industry are the concentration curve, the concentration degree (CR) and Herfindahl - Hirschman Index (HHI).

The concentration degree (CR) is calculated using formula (1):

$$CR = \sum_{i=1}^n (MS_i * 100) \quad (1)$$

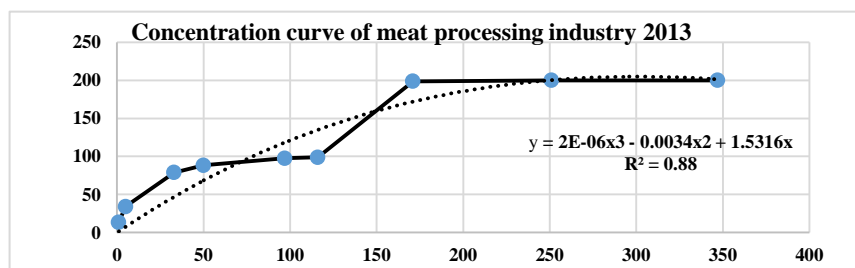
HHI calculation is done with the formula (2):

$$HHI = \sum_{i=1}^n (MS_i * 100) \quad (2)$$

Where - MS<sub>i</sub> - market share held by the company.

The high values of the two indices show a tendency to monopolize the market. A competitive market is characterized by low levels of CR and HHI indicators. CR and HH criteria were used by Hall and Tiedemann (1967) to assess the degree of concentration and the market power. The graphic version of the model that characterizes the degree of

concentration has a moderate curvature, demonstrating a low degree of concentration of the economic agents in the analyzed sector (figure no 4). The determined value of HHI for 2013 year is 385.24. According to analysis Muscalu - Coface (2014) during 2011-2012 HHI had values close to the level of 2013, showing a relative stability of the sector.



**Figure no. 4 Concentration curve of the companies in meat processing industry (2013)**

The analysis based on CR, HH and the concentration curve indicators shows the low degree of concentration of Romanian meat processing industry.

### Conclusions

Analysis of the local meat processing industry was carried out for 2008-2014. A full assessment must take into account the trends in the global market, the Community context and Romania's contribution to international transactions on meat market. Romania is still dependent on imports of meat, although progress has been made in recent years, especially in the production of poultry and sheep meat. Average consumption of meat per year and per capita in Romania is below the European average, being close to the average world consumption.

The Romanian consumer prefers especially pork, followed by poultry. Beef consumption is reduced as compared to the European average. The financial – economic crisis did not affect the number of domestic companies in the meat sector. Progress has been made in Romanian meat sector last years, as evidenced by the increasing number of businesses, the turnover and profitability of companies. Sector development has had a positive influence on the commercial balance of meat, as there has been recorded an increase in the value of exports and a relative decrease in imports. Romanian meat processing sector is characterized by low values of CR and HH indicators that show a low degree of monopolizing it.

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