

## QUANTITATIVE STUDY OF THE WORLD MARKET OF MEAT

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### Abstract

*This study presents the evolution of global market of meat in 2007-2011 and has been possible because the authors used an important set of indicators, namely: livestock, achieved production, imports, exports, trade balance, price etc. The data used in this work was provided by the following institutions accredited for collecting and processing statistical data: National Institute of Statistics, EUROSTAT, FAOSTAT, FAPRI and USDA. The analysis global market of meat is primarily a quantitative analysis. In the period which is analysed, the demand, the production, the imports, the exports and the prices have evolved differently, especially meat categories, so all these indicators have influenced global market of meat. In mainly, the meat consumption is influenced by the pattern of food consumption and price level. In the future, expect a increase prices, which is based on increasing production costs. Therefore, first it is necessary to adopt measures to support the farmers.*

**Key words:** consumption, export, import, market, meat, price, production

## INTRODUCTION

Meat is a staple food for the population, as it is a rich source of protein, vitamins and important nutrients [1]. Although there are a number of technologies livestock and meat in recent years have revealed a number of problems in the livestock sector. [3] This is due to several factors, such as increased fuel and fertilizer prices, significant costs resulting from compliance with regulations concerning livestock and meat processing, increased competitive pressure that increased grain prices, which implicitly causes significant changes in selling prices for different categories of meat etc. According to data from FAO, world population will increase by 30% by 2050, which would represent an increase in demand for meat by up to 70-80% [4]. This increase in population density will not occur uniformly, meaning that it will record significant growth in developing countries. This will result in consumer demand for cheaper food, because the purchasing power in these regions of the world is low. While some of the population will opt for cheaper meat, another part will opt for meat quality. In this context, competitiveness - except costs - will be closely linked to the quality of products produced and sold [2].

## MATERIALS AND METHODS

To achieve this research were used statistics provided by recognized institutions and approved the collection and storage of statistical data, such as the Food and Agricultural Policy Research Institute, U.S. Department of Agriculture, FAOSTAT and Eurostat . International Market Analysis meat was based on a series of indicators that were presented in the introduction, such as livestock and poultry meat production, average consumption, prices, etc.. For the present study were mostly used common statistical methods, which have contributed to a more realistic picture of the world meat market.

## RESULTS AND DISCUSSIONS

Livestock and poultry for slaughter is an important indicator meat market, because their numbers directly influences the production of different types of meat. Actual evolution of these Hoteles plan is presented in Table 1. Livestock and poultry recorded a differentiated during the analyzed period. Cattle, sheep and turkeys were rated on a downward trend in 2011 compared with 2007, as follows: for cattle has been a fall of 1.7%

for sheep there was a more pronounced reduction of 9, 2%, and for the flocks of turkeys decrease was only 3.6%.

Table 1. Evolution of livestock and poultry slaughtered worldwide (million head)

Specification	2007	2008	2010	2011	2011/ 2007 (%)
Cattle	298	300	303	293	98,3
Swine	1.260	1.314	1.379	1.382	109,6
Sheep	533	535	514	484	90,8
Goats	392	403	424	410	104,4
Poultry	54.533	57.071	60.195	61.761	113,2
Turkeys	680	692	645	656	96,4

Source: own calculation on the basis of data from FAPRI, EUROSTAT, USDA, FAOSTAT (2007-2011) [7], [8], [9], [10]

Sheep, goats and poultry were positive developments in 2007 compared with 2011, as follows: pig growth was 9.6%, herds of goats increased by 4.4% and flocks recorded the most significant increase of 13.2%. Upward trend was mainly due to increased demand for these types of meat in certain regions of the world. It predicts a large increase in the number of cattle in Asia, Latin America, the Caribbean and some countries in Oceania. For pig growth is expected in Asia and Japan. South America is expected to increase in the number of pigs, mainly due to price increases for beef. In the European Union predicts swine herd reduction will take effect as new environmental regulations [2].

Table 2 presents the evolution of meat production in the period 2007-2011. Using the comparative method (2011 compared with 2007), we can see that the market to the beef and sheep has been characterized by a production items, depending on the species, down 1.2% for beef, i.e. a decrease of 6.8% for sheep. Decrease in beef production must relate to cattle, while reducing production in sheep is due to decreased number of sheep for slaughter and the reorientation of dairy sector. Along with the above mentioned factors can also specify other common factors leading to reduced production of meat, such as increased costs, especially those related to production, rising energy prices, rising prices for feed and particularly the protein components of food[1].

Table 2. Evolution of meat production worldwide (thousand tones)

Specification	2007	2008	2010	2011	2011/ 2007
Total meat	273.908	282.855	296.107	297.221	108,5
Cattle meat	63.247	63.374	64.275	62.543	98,8
Pig meat	99.890	104.163	109.370	110.011	110,1
Sheep meat	8.485	8.408	8.241	7.911	93,2
Goat meat	4.777	4.958	5.217	5.114	107,0
Poultry meat	88.105	92.551	99.050	101.738	115,4
Turkey meat	5.384	5.677	5.385	5.473	101,6

Source: own calculation on the basis of data from FAPRI, EUROSTAT, USDA, FAOSTAT (2007-2011) [7], [8], [9], [10]

According to studies conducted in the last decade by U.S. analysts, meat production significantly increased, ie by 26% in Asia, 28% in Africa, South America and 32% [5]. Beef demand was quite high, especially at EU level, and was supported by production in Latin America (2011) [8]. World market meat as the main producers were noted, especially in 2011, Asia (17 million tons) and South America (15 million tons). Regarding sheepmeat production is expected to increase, explained by experts aimed at increasing efficiency through improved breeds of sheep meat in order creasterii weight on housing [9]. In order to assess the quantitative production of meat carcasses focus on weight (table 3). When carcass weight is reported live weight at slaughter yield can be determined. This is a specific quantitative indicator meat production, which presents a great commercial importance.

Table 3. Yield on carcass weight for the main categories of animals and birds worldwide

Specifications	UM	2007	2009	2010	2011
Cattle meat	Hg/An	2.118	2.113	2.117	2.134
Pig meat	Hg/An	793	791	793	796
Sheep meat	Hg/An	159	162	160	163
Goat meat	Hg/An	122	118	123	125
Poultry meat	0.1Gr/An	16.156	16.120	16.455	16.473
Turkey meat	0.1Gr/An	79.086	80.808	83.468	83.340

Source: own calculation on the basis of data from FAPRI, EUROSTAT, USDA, FAOSTAT (2007-2011) [7], [8], [9], [10]

Special emphasis is placed on correct aprecirea as productive capacity. Farmers aimed at obtaining superior race of animals, which carry significant daily gains with lower consumption while watching consumers purchase meat quality. The main world producers of meat are interested in obtaining high quality productions that by capitalizing

on higher prices to producers bring significant revenues, so necessary for the continuation and development activity, given that there is increased pressure on the international market of meat.

Another representative of the international market of meat is given the size of imports and exports various types of meat. Depending on their size can cause balance and degree of satisfaction of consumer needs. Table 4 contains a brief overview of trade with the world.

Table 4. The evolution of global meat trade (thousand tons)

Specifications	Flux	2007	2008	2009	2010*	2011*
Total meat	Export	36204	38891	39069	-	-
	Import	34519	36546	36109	-	-
Cattle meat	Export	10370	10333	10428	5.052	5.545
	Import	9231	8929	8967	-	-
Pig meat	Export	12032	13408	13229	4.780	5.202
	Import	12084	13522	13156	-	-
Sheep and goat meat	Export	1042	1066	1075	-	-
	Import	965	1002	914	-	-
Poultry meat	Export	12135	13403	13673	7608	8137
	Import	11158	12044	11945	-	-

Source: own calculation on the basis of data from FAPRI, EUROSTAT, USDA, FAOSTAT (2007-2011) [7], [8], [9], [10]

\*Total Net Exports = Total net exports are the sum of all positive net exports and negative net imports [fapri]

- missing data

In terms of global trade in beef and poultry can see a continuous development and growth estimates of global meat exports, about 19% until 2021 compared with 2009-2010. This increase is attributable mainly to North America and South America as two large regions will accumulate about 70% of export growth, thus increasing its market share in world meat trade. U.S. beef exports are expected to increase substantially due to lower import tariffs on relations with South Korea. Beef trade in the next period will register an average annual growth of 1.8% [9]. Pork trade will record a stagnant trend in the near future, but there are certain changes in industry structure. It provides faster growth of exports of North American pork compared to other regions. Regarding Brazil is estimated as a reduction in exports is expected to increase demand and restrictions on imports of sanitary-veterinary nature [4]. China fulfills a dual role as producer and net consumer of pork because it produces and consumes half

of the total pork consumed worldwide. For this country are not provided major changes in terms of consumption and production. In the European Union, in the near future are not expected export growth regarding pork. Regarding the evolution of sheep trade is expected to increase the quantity exported. This increase in exports is based on the increasing demand for imports from different countries[2].

Another important indicator for the analysis of the meat market is the average annual meat consumption per capita. The evolution of this indicator is presented in table 5, from which one can observe an increase in the consumption of pork and poultry, a decrease in bovine meat consumption and consumption in constant limits of goats and sheep.

Table5. Evolution of average annual meat consumption worldwide (Kg per capita consumption)

Specificare	2007	2008	2009	2009/2007
Bovine Meat	9,8	9,6	9,6	97,9
Pigmeat	15,2	15,7	15,8	103,9
Poultry Meat	13,1	13,6	13,6	103,8
Sheep & Goat Meat	1,9	1,9	1,9	100

Source: own calculation on the basis of data from FAPRI, EUROSTAT, USDA, FAOSTAT (2007-2011) [7], [8], [9], [10]

According to data provided by Wordwatch Institute, global meat consumption in 2011 recorded a decrease. This drop in consumption is not significant, but warned specialistorilor industry. Meat consumption dropped in 2011, reaching 42.3 kg/capita compared to 42.5 kg/capita in 2010 [10]. These decreases were based on several factors, of which the most important are: reduced production due to drought in the U.S., China, Russia and Africa, the existence of manifest disease in animals, which have jeopardized the health of consumers, namely rising prices. Meat consumption it was not uniform in all countries. According to statistical data analysis, but in 2011 there were major differences in terms of consumption, so for developing countries meat consumption was an average of 32.3 kg/capita, while countries developed this consumption was 78.9 kg/capita [5]. In terms of meat consumption, in 2011 it was

found that consumer preferences have turned to pork, followed by poultry. It should be recalled that, according to expert studies regarding consumer preferences of the population, there was an upward trend in the consumption of poultry meat over other types of meat.

Table 6 presents the evolution of the international market price for different categories of meat. One can easily see price increases in 2011 compared to 2007, for all the studied meat, as follows: 12.3% for beef and veal, 18.1% for pork, 14.2% for poultry.

Table 6. Evolution of prices in the international market by type of meat (US Dollars per Metric Ton)

Crops	2007	2008	2009	2010	2011	2011/2007 (%)
Wheat	340,02	292	213	239,4	270,44	79,5
Barley	200,11	160,14	142,75	165,62	204,75	102,3
Sorghum	216,27	158,29	170,64	215,83	191,87	88,7
Corn	217,71	172,3	162,98	205,9	183,17	85,1

Source: own calculation on the basis of data from FAPRI, EUROSTAT, USDA, FAOSTAT (2007-2011) [7], [8], [9], [10]

Currently, high prices of meat market is explained by the fact that, globally, there is a tendency to increased demand, especially from less developed countries. Do not forget that the high level of prices is influenced by increasing production costs, which is manifested by a long period of time. In real terms, the price of meat in 2011 was kept to last 15-20 years. Price for sheep remains at a high level because there is a decrease global supply of this type of meat. It predicts an increase in the number of sheep, which would represent a decrease in price for this type of meat.

## CONCLUSIONS

In 2007-2011, global meat market was characterized by the following:

- livestock and poultry recorded a differentiated during the period. Downsizing was due to several factors, such as the occurrence of diseases that have reduced herd of cattle severe drought in certain periods,
- increased feed prices and birds, restrictions on certain region of the world regarding imports and exports;

- it forecasts an upward movement of cattle in Asia, Latin America, the Caribbean and some countries in Oceania;
- done meat production worldwide recorded a substantial annual growth rate over the past ten years;
- traditional meat producers are interested in getting a high quality productions that by trading at higher prices to producers bring significant revenues;
- in terms of world trade in meat has not had a uniform evolution period; beef and poultry can see an upward trend, with an estimated increase in world exports of around 19% by the year 2021 compared to the period 2009-2010, for pork short term there will be a trend stagnant, the sheep is expected to increase the quantity exported, it will increase demand on the world market;
- it predicts an upward trend in the consumption of poultry meat over other types of meat;
- world meat market is an important market for the global economy, but it will be under pressure from producers in developing countries. In terms of competitiveness, it will be determined, on the one hand, the price level and on the other hand the quality of meat and meat products.

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