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# RESEARCH ON THE VALIDATE OF WHEAT PRODUCTION IN THE CONTEXT OF MEASURES ENTREPRISED FOR THE EXTENSION OF MARKET MECHANISMS

COFAS ELENA<sup>1</sup>

**Abstract:** *Wheat occupies an important place in the food security strategy as it is characterized by its long-lasting consistency and by its suitability for a wide range of bakery products. The role of wheat in the food security strategy is also determined by low maintenance costs compared to other foods, with no need for refrigerated chains or costly installations. Being the main raw material in bakery products, wheat is the most important crop in grain production. The bearers of wheat supply are, on the one hand, agricultural producers, irrespective of their organization and, on the other hand, the wheat traders, the latter having recovered as carriers of the offer, because they are generic, a primary market for the marketing of wheat (when it goes from producers to traders or directly to processors) and subsequently at least a second stage of marketing between different traders or between traders and processors. The Common Agricultural Policy is mainly integrationist, to a greater extent than the internal market, where the harmonized standards have replaced them by only about 10% national ones. With regard to the CAP, national agricultural policies have been replaced, for the vast majority of agricultural production, by common rules for the functioning of markets and the marketing of products. For the implementation of common market regulation measures, the following instruments are used: prices, market intervention, financial aid, production quotas, common customs protection.*

**Keywords:** *wheat, market, mechanisms, production, analyze*

**JEL Classification:** *O12, P50, Q18, Q57*

## INTRODUCTION

The structure of crops in Romania and, respectively, of crop production is dominated by cereal production. Of these cereal crops, wheat - which is a traditional culture for the Romanian farmer, regardless of the size of the household or farms - holds a significant percentage of 39.2% of the total cultivated area (in 2016) and 65% of the area cultivated with cereals (in 2016). Although wheat production has a sale-purchase advantage far beyond that of maize production (and because of the use of maize as feed), wheat market trading is well below the level recorded in other European countries.

The extent to which the Romanian agriculture evolves from the traditional economy to the market economy can be appreciated by the way in which the production of the crop is capitalized, respectively by the dynamics of the quantities of wheat that is consumed by buying from the producer. In fact, market capitalization of cereals is a requirement of economic modernization. The bearers of wheat supply are, on the one hand, agricultural producers, irrespective of their organization and, on the other hand, wheat traders, the latter being also found to be carriers of the offer. It can be said that there is a primary market for the marketing of wheat when the distribution process is made from producers to traders or directly to processors), respectively a secondary market, trading between different traders or between traders and processors.

## MATERIAL AND METHODS

As a research method, the quantitative analysis of the European / Romanian statistical data was used in the elaboration of the paper, as well as the information on the agricultural policy measures in Romania, for the wheat culture. Also, for the study of the circulation of agricultural products obtained from wheat - both common wheat and durum wheat - the supply balances were used, which, although a relevant statistical tool, is not very used in the macroeconomic analysis. These balances are carried out by the National Institute of Statistics and are a synthesis of statistical

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indicators, coming from different statistical domains, being drawn up on the basis of a harmonized methodology at EU level. These indicators give the possibility to evaluate the structure of resources (production and import) as well as their destination in a self-consumption or sale-purchase system. The reference period is the calendar year ([www.insse.ro](http://www.insse.ro)).

Within the supply balances the following correlations are established:

*resources = uses*

*resources = usable production + imports + initial stock*

*uses = internal use + exports + final stock*

*internal use = human consumption + industrial use + feed + seed + losses*

Supply balances are classified as follows:

➤ after the transformation stage: balances of primary products (products in the original state, which have not undergone any change) and transformed balances (products obtained by processing a primary product);

➤ after the marketing stage: the farm balance or the producer (made for products that are used in high proportion directly in agriculture), the market balance and the total balance sheet (refers to all stages of marketing and is made up of the balance sheet of the producer and market balance);

➤ after aggregation: simple balance sheet (balance sheet of a single primary product: ex-balance sheet of durum wheat pasta) and aggregate balance sheet (the balance of a primary product plus the products derived from it, transformed into primary product by means of transformation coefficients: eg the wheat balance comprises both grains and derived products transformed into grains).

The information has been supplemented by documents specific to Community / national legislation, agreements, directives, regulations, decisions on the common organization of markets - which stipulate the rules for the organization of markets and trade in EU agricultural products - and articles and studies published in journals specialty, etc. As regards the CAP, for the vast majority of agricultural production, national agricultural policies have been replaced by common rules for the functioning of markets and the marketing of products, the implementation of which uses instruments such as: prices, market intervention, financial aid, production, common customs protection, etc.

## RESULTS AND DISCUSSIONS

Wheat is one of the oldest crop plants and the most important food plant. With high ecological plasticity, wheat grows on all continents and occupies the largest areas of the world of all crop plants. Wheat grains are the raw material for the production of flour and derived products - pasta, especially durum wheat, biscuits, grain, confectionery - and, to a lesser extent, for the extraction of starch, glucose, dextrin, alcohol, etc. The bran resulting from the grinding of wheat grains is a particularly valuable concentrated fodder, especially for dairy cows, young and breeding animals, rich in proteins (exceeding corn), fats, carbohydrates, mineral substances (phosphorus salts), B vitamins, etc., and wheat straw is used in the pulp and paper industry, as feed for animals, as litter, for fire, for different weaves, etc.

Qualitative qualities of wheat depend on the chemical composition of the grain, which varies between wide limits, depending on the variety and the vegetation conditions, the main components being between the following average values: water 13-14%; carbohydrate 63-69%; protein substances 12-16%; about 2% fatty substances; cellulose 1.8-2.2%; mineral substances 1.6-1.8%. The most important wheat species are *Triticum aestivum* (common wheat), hexaploid species and *Triticum durum* (tetraploid). It is estimated that of the total wheat production, about 65% is used in human nutrition, 21% as animal feed, 8% as seed material and 6% for different industrial products.

The European Union is the main actor on the wheat market, the world's largest wheat producer and producer, with higher yields than the world average. However, wheat production is

constant in many EU Member States, and the lack of improvement in this area may endanger the consumption of wheat in the future. One of the main challenges facing agriculture over the last 20 years is the increase in wheat production due to the dramatic increase in wheat demand as a result of world population growth and the way the diet of the population changes. At the level of 2016, Romania ranks 5th on the cultivated surface, after France, Germany, Poland and Spain, the same place and the production produced after France, Germany, the United Kingdom and Poland.

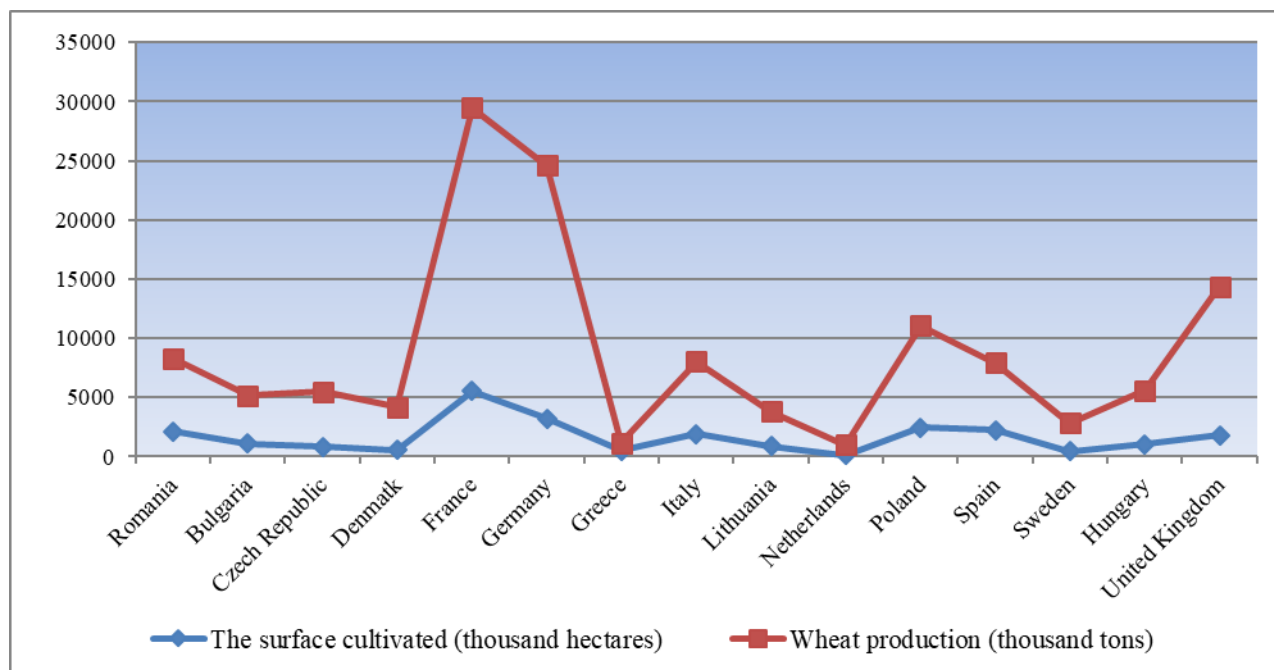


Fig.1. Grown areas and wheat production in 2016 (source: EUROSTAT)

The productivity of wheat crops is influenced by a number of factors, which are important both in terms of inputs and crop biology, environmental conditions and agricultural market characteristics and agricultural policies. Such a classification can induce the determinants of productivity at farm level: farmers and farm features, management and innovation practices, climate change, political reforms, market fluctuations, farmers' risks, macroeconomic technology factors etc.

The wheat supply presents some important features, among which:

➤ Seasonality, which is due to the fact that the volume of the offer is at the beginning of the agricultural year, the relatively constant consumption naturally decreasing the supply during the year, the minimum being reached at the end of the year. As a result, the price of wheat follows a growing natural trend during the agricultural year.

➤ Dependence on climatic conditions. In economically developed countries, the degree of dependence on climatic conditions has been reduced, especially through the introduction of irrigation systems. However, due to extreme weather phenomena, a low level of production shows that this dependence still has a major influence on the yields of the producers.

#### **a. The evolution of resources and uses of wheat and wheat products**

In 2016 both wheat and wheat commodities with its components, usable production, imports and initial stock as well as exports and end stocks reached the maximum level of the analyzed period, as outlined below:

- the wheat resources and wheat products in 2016 were 54.0% higher than wheat and wheat resources in 2012 (minimum level).

- the level of imports and exports in 2016 increased by 3.4 times and 3.0 times respectively compared to 2012 when the lowest level was reached. Both the share of imports and exports in

resources, respectively the uses of 2016, was 16.6% and 50.1% respectively. These were 9.2 and 19.5 percentage points higher than in the previous year

- the internal use of wheat and wheat products in 2016 decreased by 27.2% over the previous year (maximum level of the analyzed period) and increased by 12.9% compared to the minimum level

achieved in 2013. Human consumption has the largest share of domestic use, with a 58.0% share in 2016.

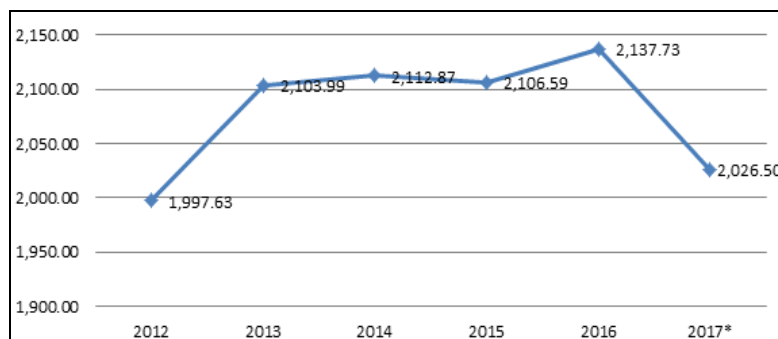


Fig.2. Evolution of wheat fields (thousand ha) in Romania  
(source: 2012-2016 - INS, 2017 - EUROSTAT)

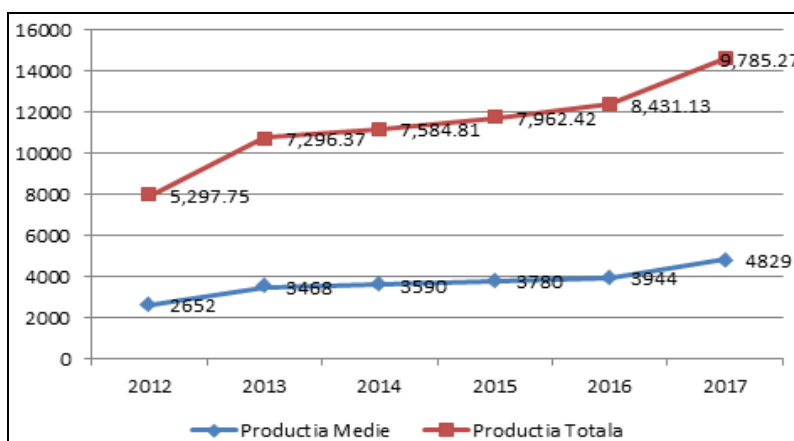


Figure 3. Evolution of average and total wheat production (thousand tons) in Romania  
(source: 2012-2016 - INS, 2017 - EUROSTAT)

Table. 1. Situation of intra- and extra-Community trade in wheat (2012-2017)

	Quantity imported (to)	Import value (thousand euros)	Quantity exported (to)	Export value (thousand euros)
2012	531.827,00	118.663,40	2.314.888,20	544.095,90
2013	679.827,70	122.897,10	4.773.293,80	977.679,50
2014	670.919,40	116.079,90	4.965.442,70	959.356,80
2015	652.266,90	115.549,30	3.555.280,70	692.534,90
2016	2.155.962,60	330.860,50	6.993.999,20	1.141.908,40
2017*	476.861,60	79.082,50	1.839.168,90	325.688,70

Source: www.madr.ro,\* January - April

### b. Supply balances for common wheat and durum wheat

From the mere observation of the data in Table 2, it is clear that the quantitative value of exports exceeds that of imports over the entire study period, the maximum value was recorded in 2016, ie the minimum value in 2012. The supply balances for the main agro-food products are an important tool for studying the agri-food product market. They represent a synthesis of statistical indicators, coming from different statistical domains, and they do not have their own legislation.

The supply balances are based on a harmonized methodology at EU level and are transmitted to Eurostat according to a timetable set by Eurostat.

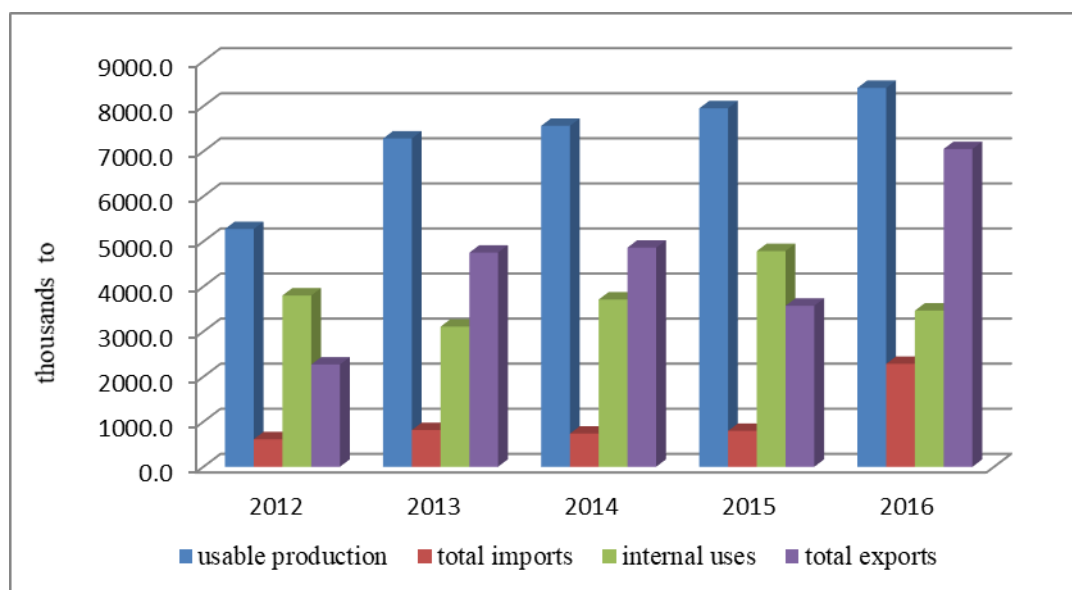


Fig.4. Supply balance - common wheat (source: [www.insse.ro](http://www.insse.ro))

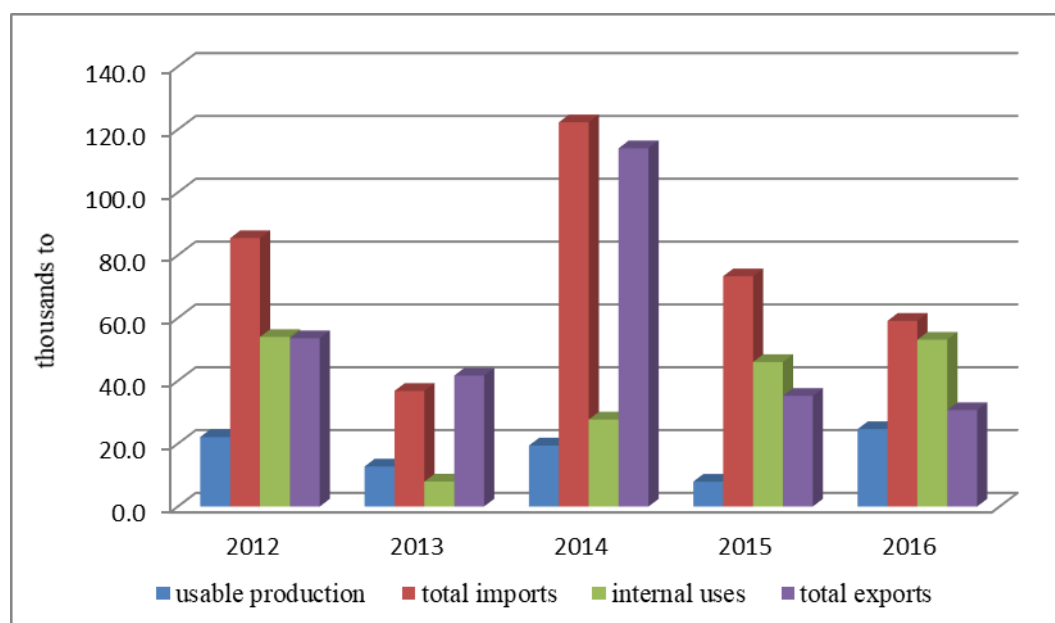


Fig.5. Supply balance - tough wheat (source: [www.insse.ro](http://www.insse.ro))

### c. Grain market and market mechanisms - wheat culture

The Romanian grain market comprises a wide range of products, similar to those found on the European grain market, but with some peculiarities, of which we can specify the following:

- in comparison with other marketing subsystems, the cereals market is distinguished, first of all, by the dynamic supply and demand ratio, being a means of balancing the market because it has as its object products which are an appreciable economic sphere for the population as a whole;
- the cereals market is an indicator of the market's pulse, which can anticipate changes and directions for action for businesses in its sphere of influence but also on the commercial environment in general;

- the buyer's behavior is little influenced by emotional or impulsive factors, as buyers are scattered and consumption is relatively constant, regardless of the size of the revenue or the price, if consumption has been set at a rational level;

- Cereal marketing chains are long, with an increasing number of specialized intermediaries for whom promotional activity has a low share, and international trade is dominated by large specialized commercial enterprises.

A phenomenon that has negatively influenced the cereals market, especially those of breadmaking, has been and is still represented in recent years by the increase in stocks to agricultural producers. Clearly, this phenomenon is also a consequence of market prices. Another sensitive issue facing the cereals market in Romania is that of the territorial distribution of cereal crops. The dispersion of the supply generates problems of collection, transportation, distribution etc., given that the demand is spread evenly throughout the country.

Romanian farmers are also dependent on firms that have the monopoly of the main raw materials and materials necessary for the production process and which they sell at very high prices, with a pay-as-you-go payment. Producers are also dependent on storage facilities for agricultural products, where they are often deceived when receiving, conditioning and laboratory analyzes of harvested products. Manufacturers are also dependent on insurance companies that make fabulous profits, but they invent all sorts of reasons for not paying them damages. When manufacturers have to sell their products they appear on the market all kinds of merchants who, acting on behalf of non-existent firms, uncontrolled by anyone and not bound by any law, offer manufacturers low sales prices compared to the cost price per ton of product. Of the proceeds earned, most of the producers do not even recover their production costs, ie the profit does not even exist.

The cereal price has been liberalized, but it remains under the direct influence of processors who are better organized and have the interest that this price is to their advantage and as a result be reduced. Farmers are numerous and with a very low economic power, making them vulnerable on the market. Poor organization of wheat and cereal producers in the associative plane and the few non-governmental bodies that represent them determines that their interests are insufficiently represented and defended and that the legislative proposals in their interest are very rare and inconsistent. The cereal price increased each year, but each time the increase was below the annual inflation rate, which made the wheat producers' economic power have a decreasing trend.

With all these problems, it can be said that 2007 - the year Romania joined the European Union - marked a new age in the agricultural and rural development economy of our country. Against this background, the agricultural economy has had to adapt quickly to be able to integrate into the EU's internal market and to adopt the Common Agricultural Policy in its entirety. On the other hand, in a context of market opening and globalization, the principles of the common commercial policy applicable to trade in agricultural products have been established. The specific objectives of the CAP are:

- increasing agricultural productivity by promoting technical progress and ensuring optimal use of production factors, especially labor;
- ensuring a fair standard of living for the agricultural population;
- market stabilization;
- guaranteeing security of supply and ensuring reasonable prices for consumers.

The European model of agriculture is based on a competitive market-oriented sector, while fulfilling other public functions, such as protecting the environment, as well as integrating agriculture with the environment and forestry. In order to include agricultural products in the free movement of goods while maintaining State intervention in the agricultural sector, it was necessary to eliminate the national intervention mechanisms incompatible with the common market and, in order to be transposed at Community level, it was necessary to draw up the CAP. It moves its focus from direct subsidies to agriculture (Pillar I of the CAP) towards the integrated development of the rural economy and the protection of the environment (Pillar II of the CAP).

EU accession had a positive and stimulating effect on the production and recovery of wheat: in Figure 6 it can be seen that after the accession, the wheat price had a positive tendency to

grow, with slight inflections due to the production obtained in the respective years. It is remarkable that after 2007, the wheat sales price never fell below the prices recorded between 1998 and 2006. The same trend is also noted in Figure 7 for wheat exports, which have seen spectacular increases after Romania's accession to EU.

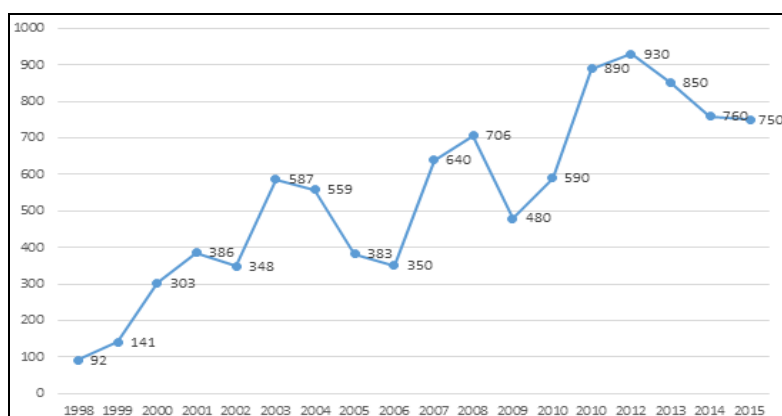


Fig.6. The evolution of the wheat price (1998 - 2015) (source: [www.insse.ro](http://www.insse.ro))

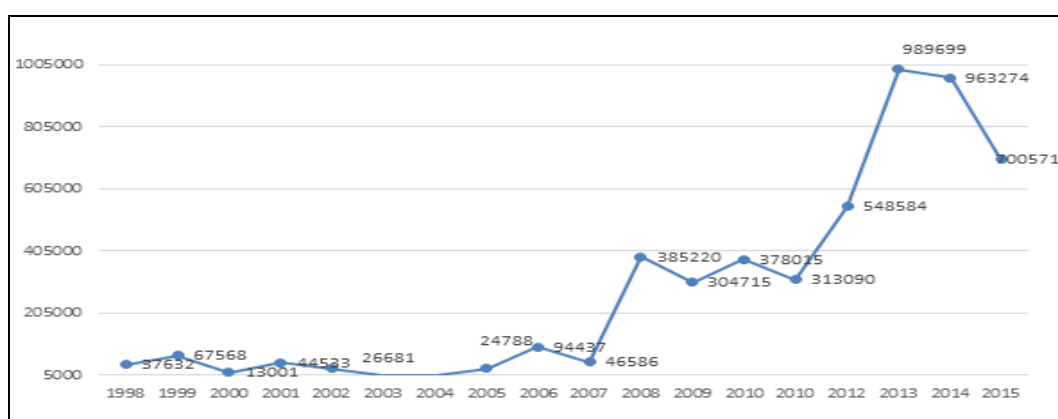


Fig.7. Evolution of wheat exports (1998 - 2015) (source: [www.insse.ro](http://www.insse.ro))

Food demand is not elastic, ie it reacts to a small extent to price variations. In addition, given the length of production cycles and the fact that production factors are clear, the world supply of agricultural products is very rigid. Against this background, an abundant offer leads to lower prices, while, on the contrary, a reduced offer causes a strong price increase. All of these elements contribute to the permanent instability of the markets. In such a situation, public authorities have always had a clear tendency to regulate agricultural markets and to support producers' incomes, a trend the CAP has taken over. Supporting public goods, known as non-commercial functions of agricultural activity (ie unpaid), has therefore become a key element of more recent agricultural and rural policies, including the Common Agricultural Policy. CAP funding is currently provided by the EAGF and the EAFRD.

Table 2. CAP expenditure broken down by Member State

	Direct aid / markets and other measures for 2016 / rural development 2016 (EUR million)				Percentage of farms benefiting from direct aids from the EAGF (2016)		
	a. EU-28 direct aid (Pillar I - EAGF)	b. Total pillar I - EAGF EU-28 [including (a.)]	c. Total EAFRD EU-27 (Pillar II)	(b + c)% of total EU	With help ≤ 5 000 EUR	With help ≤ 20 000 EUR	With help ≥ 50 000 EUR
<b>RO</b>	1 521,3	1 568,4	1 140,9	4,8	95.78	98.77	0.47
<b>UE-28</b>	40 984,1	44 221,1	12 305,7	100,0	76.80	92.73	1.81

Sources: European Commission - EAGF and EAFRD financial reports, 2016



Romania's accession to the European Union and integration into a common market has given manufacturers and consumers greater flexibility in accessing those outlets / outlets (beyond the native market) that could provide them with more convenient prices and higher sales volumes.

## CONCLUSIONS

Although accession to the EU has induced constancy and predictability in the farmers' culture decision, the Romanian rural economy - mostly dominated by agriculture - is still poorly integrated into the market economy. In the current context, some key issues can be identified:

### *1. Low market integration and inefficiency of agrifood chains*

The existence of long distribution chains places captive farmers between their suppliers and customers and strives for their prosperity. The solution would be the development of short supply chains, namely the creation and development of producer groups, actions that will help holdings to better integrate into national and European markets. It is important for producers to plan their supply and better adapt to market demand (quantity, quality, rhythm and short delivery times, compliance with traceability principles etc.).

### *2. Poor promotion of Romanian agro-food products*

The problem of poor promotion of Romanian agro-food products is due to a number of reasons, such as: the variable quality of products over longer periods of time, the difficulty of honoring large and constant volumes, the poor presence of domestic distributors on the international market, poor branding or non-existence of products.

### *3. Insufficient storage capacity*

The solution would be to support the construction and upgrading of warehouses, in order to strengthen value chains and create added value by taking measures to improve storage capacity. The existence of storage facilities will allow additional gains for farmers who will no longer have to sell their produce immediately after harvesting, when prices are usually declining. Also, the concentration of production will facilitate the process of negotiating prices with traders / large chain stores.

The extent to which the Romanian agriculture evolves from the traditional economy to the market economy can be appreciated by the way the production of these crops is exploited, respectively by the dynamics of the quantities of wheat that are consumed by buying from the producer. Although the state measures to expand market mechanisms have begun to produce positive effects, in the absence of a rapid dynamics of agricultural property concentration, progress in harvesting grain production through sale-purchase will not be significant.

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