# Cereals Market in Romania under the Impact of the Common Agricultural Policy

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#### ABSTRACT

The aim of this paper is to analyses the cereals market after Romania accession to European Union. Thus, I considered necessary and appropriate to achieve the dynamic analysis of production, prices, trade, consumption, and self-sufficiency that provides an overview on the evolution of the cereals market in Romania, in the European context, starting from resources representing the demand, to the uses that represent the supply. I also point out the main mechanisms and support instruments for the cereals market under the Common Agriculture Policy, in the period 2007-2013 and towards 2014-2020.

**KEYWORDS**: Cereals, Production, Consumption, Self-sufficiency, Single Common Market Organisation.

#### JEL CLASSIFICATION: Q11, Q18

## INTRODUCTION

Cereals sector is the first sector that in 1967 made the subject to the unique common market organization in the European Union. This system is one of the mechanisms for achieving the objectives and implementing the principles of the Common Agricultural Policy.

Common market organization represents valid provisions at Community level that manage the production and trade of agricultural products in all Member States of the European Union. Since the introduction of the Common Agricultural Policy (CAP), they gradually replaced the national market organizations. Common market organization seeks to achieve the CAP goals and to stabilize the market, giving farmers a stable income.

In the EU, cereal crops sector is classified as arable crops that cover: cereals (common wheat and durum, barley, rye, oats, sorghum, millet), products resulted from the primary processing of cereals (flour, pearl barley, wheat semolina, malt, starch, glucose, cereal based products, bran, wheat gluten) and oilseeds.

Common Market Organization of crops in arable land aims: to stabilize the market for cereals, oilseed products, and other crops such as: textile plants, sugar beet, legumes, medicinal herbs, tobacco, etc.; to ensure a fair income to farmers; to ensure reasonable prices to the domestic consumers (but also for those in the European market) for cereal based products, oilseeds, vegetables or medicinal products, etc.

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Under Commission Regulation, on 29 September 2003 was proposed a common organization for cereals market. Regulation is part of the 2003 CAP reform. In the EU, cereals market is mainly supported by the mechanism of intervention, high import custom tariffs and export subsidization. Since 2008 arable crops including cereals have been integrated into the Single Common Market Organisation and EU policy is limited into two main areas: market intervention measures and trade measures.

Market interventions are able to ensure market stability and reasonable incomes for farmers and consist in a *price support mechanism* along with the introduction of *direct support schemes (direct payments)*. The price support mechanism involves measures such as *public intervention* in the markets for agricultural products and the *payment of aid for the private storage* of cereals. Through the direct support schemes farmers from old Member States receiving *Single Payment Scheme (SPS)* and farmers from the most new Member States receiving *Single Area Payment Scheme (SAPS)* (Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria). (Jitea, I.M, 2010)

Relating to trade measures with third countries can be mentioned the following instruments for imports: *licences for products, Common Customs Tariff, tariff quotas,* and for exports: *export licences for products and exports refunds*. In trade with third countries are forbidden to apply any quantitative restrictions or introduction of any charge having equivalent effect to a customs duty (Council Regulation No 1234/2007; Moroianu N.& Belingher, D., 2011).

Since 2007 it have been established particular CAP mechanisms and instruments for direct support of Romanian farmers, as well as the implementation and eligibility criteria. In order to increase the quantity and quality of agricultural production it have been established schemes of direct payments from EU funds, complementary direct payments from national budget, and other aids.

Romania has initially decided to implement the Single area payment scheme (SAPS) for the first years, after this period they may switch to the Single Farm Payment (used in the former EU member states). These direct payments per hectare consist in providing a uniform amount per eligible hectare of agricultural land, up to a national ceiling laid down in the Accession Agreements, payable once a year. Direct payments can be received independent of production - decoupling principle and under the circumstance that farmers maintain the agricultural land in proper agricultural and environmental conditions - crosscompliance principle (Pruteanu, Furdui, & Serbu, 2012).

Also, under the market intervention, price support mechanism could apply in case an overproduction of cereals was recorded, generating a significant decrease in the market price of cereals. Cereals subject to intervention are: common wheat, durum wheat, maize, barley, sorghum.

## 1. METHODOLOGICAL ASPECTS

Research methods I considered necessary and appropriate for this study were analysis, comparison, statistical processing, along with specific research instruments, such as dynamic analysis, statistical and economic analysis.

Therefore, I carried out an analysis of production, prices, trade, cereals consumption, and of self-sufficiency, that provides an overview on the evolution of the cereals market in Romania, in a European context, starting from resources representing the demand, to the uses that represent the product supply.

Also, we point out that the analysis of indicators mentioned above was performed in a comparative approach with the EU-27 average and with EU developed countries indicators.

Then I continued the approach with the analysis of the main mechanisms and support tools for the cereals market in terms of CAP, and of those at national level, in the period 2007-2013 and of those from a 2014-2020 perspective.

# 2. ANALISYS OF THE MAIN ECONOMIC INDICATORS OF CEREALS MARKET

Romania is a major cereals producing country, the annual production in years with normal harvests ranging between 18 and 20 million tonnes, respectively 6% of the EU-27. Romania's cereals production is focused on the cultivation of wheat, maize and barley, and on smaller areas, rye, sorghum and oat are cultivated. (Csaki & Jambor, 2010)

In years with normal harvest, Romania owns about 5% out of the total EU-27 production of wheat, and of the maize one owns over 20%. These shares in EU cereal production are due to pedoclimatic factors related advantages (large cultivated areas, favorable climate). But, in the absence of a developed livestock sector and because of production surpluses at EU level and the level of world market prices, the benefits do not ensure increased competitiveness of products.

## 2.1. Area, yield and production of cereals in Romania compare to EU-27 average

România	Area (1000 ha)				Yield (kg/ha)			
Komama	2007	2008	2010	2011	2007	2008	2010	2011
Wheat	1943	2109	2024	1976	1580	3400	2820	3630
Rye	14	13	14	11	1610	2420	2470	2620
Barley	377	394	505	437	1440	3070	2530	3350
Oats	213	200	198	185	1200	1910	1670	1990
Maize	2538	2424	2283	2605	1550	3240	4010	4480
Total cereals	5123	5183	5084	5278	1540	3240	3280	3970
Source: European Commission, 2012 a								

Table 1. Area and yield of the main cereals in Romania

Cereals cultivated area varies from year to year, with a share ranging from 59% and 70% of the cultivated arable area in Romania. Cereals production has evolved unevenly in the last years because of the climatic conditions, the quality of the germinating material and because of crop technologies compliance.

In the hierarchy of EU countries, Romania was ranked second in 2011, by the area cultivated with maize, holding almost 30% of the total EU area of 8.9 million hectares, and also by production, was ranked second, after France, with an average of approximately 13.7% of EU maize production over the five years (Petrescu, 2012).

This was due to a lower yield recorded in Romania throughout the reviewed period. Otherwise, the maize yield realized by Romania is much lower than that of the other Member States. (Csaki & Jambor, 2010)

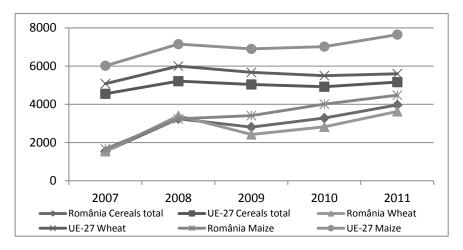
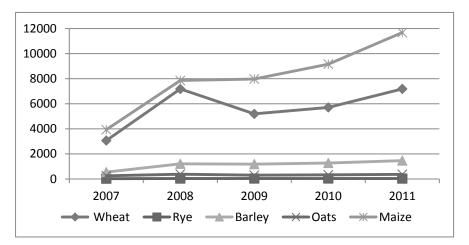


Figure 1. Yield of the main cereals in Romania and EU-27

The distribution of production has changed in favor of maize. Thus, if in 1990, out of total production of cereals, wheat accounted for 43%, and maize for 39%, in 2011 the wheat share dropped to 34%, while that of maize increased up to 56%.



**Figure 2. Production of the main cereals in Romania (1000 tonnes)** Source: European Commission 2012 a

Romania cultivates mainly maize (49.8% of the area cultivated with cereals) and wheat (36.8% of the area cultivated with cereals). In 2011, cereals production increased by 25.6% over the previous year (20.937 million tonnes compared to 16.671 million tonnes in 2010), due to increased yields per hectare, as follows: wheat (37.1%), barley (23.5%), oat (21.0%), and maize (3.6%). (NIS, 2012)

Romania	Area (1000 ha)				Yield (kg/ha)			
	2007	2008	2010	2011	2007	2008	2010	2011
Wheat	22003	23424	23190	23169	5080	6000	5500	5600
Rye	2709	2861	2695	2366	2960	3360	2980	3030
Barley	13736	14480	12346	11990	4220	4520	4300	4320
Oats	4623	4535	4202	3988	2900	2840	2720	2910
Maize	8067	8855	8113	8936	6020	7150	7020	7650
Total cereals	56985	60222	56376	55906	4550	5210	4920	5160

Table 2.	Area and	yield o	of the main	cereals in	EU-27
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Source: European Commission, 2012 a

In 2011, with regard to wheat, the yield obtained by Romania is almost the lowest in the EU, less than half of the EU-27 average (3600 kg / ha compared to 9870 kg / ha). Romania was ranked third among Member States in terms of cultivated area and fourth in terms of total output obtained at common wheat, but ranked nineteenth in terms of yield.

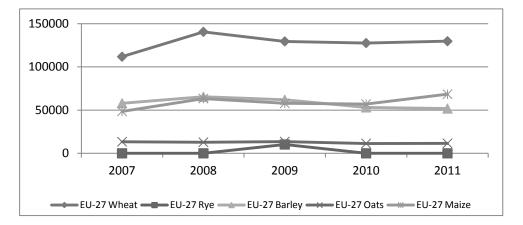


Figure 3. Production of the main cereals in EU-27 (1000 tonnes) Source: European Commission, 2012 a

## 2.2. Cereals trade

During 1990-2012, foreign trade with cereals recorded four distinct periods, namely:

- 1. between 1990-1994 the trade balance was deficient in quantitative terms, the maximum of imports being recorded in 1993 (2.6 million tonnes);
- 2. during 1995-1999 the cereals trade balance was positive, the maximum exported quantity being registered in 1996 and 1999;
- 3. over the period 2000-2004, cereals trade balance becomes deficient again, except in 2002.
- 4. during 2005-2012, cereals trade balance becomes positive again, except in 2007.

Trade balance evolution depended mainly on obtained yields (whose level was determined primarily by climatic conditions). Since 2004, cereals exports had an increasing trend. Romania exported in 2012 about 4.6 million tonnes of wheat and maize, with over 18 percent more than in 2011, although drought has halved last year outputs of these cereals, according to data from the Ministry of Agriculture and Rural Development (MARD, 2013 and FAO, 2013).

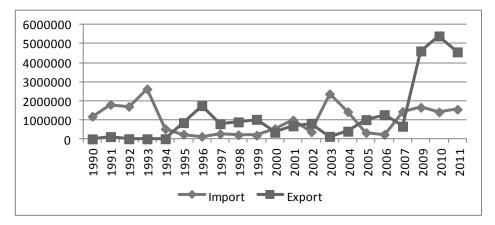


Figure 4. Import and export of cereals in Romania (tonnes) Source: FAOSTAT, 2013

In 2007-2011 period, cereals value trade held between 0.51% and 2.39% of total Romanian exports and between 0.52% and 0.64% of total imports. Trade balance registered a fluctuating trend, the lowest value was in 2007 (-116.6 million euro) and the highest value in 2011 (741 million Euro). The main trade partners of Romania on maize exports were Hungary, Egypt, Spain, Syria and Turkey, and for wheat were Spain, Italy, Egypt, Syria and the Netherlands. The main trade partners of Romania for maize imports were Hungary, Bulgaria, France, Serbia, Italy, and for wheat were Bulgaria, Hungary, Serbia, Paraguay, and Italy (CRPCIS, 2012).

Out of the amount of cereals sold on foreign markets (EU and third countries market), wheat represented 2.314 million tonnes and maize 2.272 million tonnes. Out of maize exports were obtained 596.5 million euro, and out of the wheat - 544 million. Total revenues from wheat and maize exceeded 1.14 billion Euro in the period January to December 2012, representing nearly a third of the last year's total revenue from exports

of agricultural products, which amounted 3.9 billion euro. Revenues from exports of wheat and maize increased by 28%, from 888.47 million Euro in 2011, to 1.14 billion in 2012, due to favorable export prices on the world market (FAO 2013).

On the other hand, Romania imported in 2012 an amount of 1.23 million tonnes of cereals, of which wheat represents 531 872 tonnes worth EUR 118.66 million and 698 581 tonnes maize worth 191.33 million euro.

## 2.3. Food consumption and self-sufficiency for cereals

Regarding human consumption, it had mostly a constantly evolution, the average of the last five years being of 121,24 kg/capita, these being the cereal with the most consumption of kg/capita. Food consumption of wheat in Romania exceeds by far consumption in developed EU countries. Food consumption of the population in Romania was influenced by a number of factors, out of which the most important are domestic agricultural production, household income, quality and cost of products and the consumption habit (Ion, 2012).

We mention that the predominance of cereals, vegetables and potatoes, along with relatively small amounts of animal origin products, especially meat and milk, food consumption of population highlights a misbalanced model specific to developing countries that have experienced a strong economic decline, reflected in the living standard of the population.

This food model is inconsistent with the food model in the developed Western European, but mostly presents the negative influences on human health. The trend in past decades worldwide has been to reduce the consumption of cereals and cereal products and to increase the consumption of animal proteins.

Regarding self-sufficiency in wheat, it recorded the highest value in Romania in 2010, with 148% and the lowest in 2007, with 76%. This is due to the fact that in 2010, domestic production had a high level, reaching 7.181 million tonnes, 1.994 million tonnes over domestic uses. In 2007, self-sufficiency was deficient because of lower yield of wheat production (1580 kg / ha) caused by prolonged drought.

Romania		2007	2008	2009	2010	2011
Wheat	Human consumption (kg/ head/year)	130.0	130.3	96.2	125.4	124.3
() Heat	Self-sufficiency %	118	90	76	148	110
Maize	Human consumption (kg/ head/year)	22.6	24.4	22.6	23.0	23.5
	Self-sufficiency %	100	96	66	134	112
Total	Human consumption (kg/ head/year)	153.2	155.6	119.1	148.8	148.2
Cereals	Self-sufficiency %	106	91	71	139	114

 Table 3. Human consumption and self-sufficiency

Source: European Commission 2008, European Commission 2009, European Commission 2010, European Commission 2011, European Commission 2012b

Self-sufficiency for maize has a positive development, in 2010 being recorded the highest percentage of 120.63%, compared to 2007, where domestic production could not provide even 45% and to 2009, where domestic production could not provide 70% of domestic uses. Thus, a major increase in self-sufficiency can be noticed in 2010 (ensuring self-sufficiency increased by 68 percentage points) leading to a large volume for export. Self-sufficiency of maize knows an increase as well, between 2007 and 2011, from 100% to 112%, an increase of 12%.

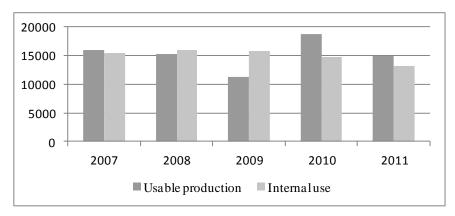


Figure 5. Self-sufficiency in total cereals, Romania

The rest of the cereals also have a favourable trend over the four years, with small gaps, reaching in the last year to have a surplus of over 20%, less than rye, which failed to cover more than 73.33% of domestic use. As seen in figure 5, the total of cereals manages to ensure self-sufficiency in Romania, except for the year 2007 where the gap between domestic production and domestic uses is very high (49.25%).

## 2.4. Evolution of the main cereals producer prices

During 2007-2011, the main cereals prices had a slight increase, from 183 Euro per tonne to 207 Euro / tonne for wheat and 231 Euro/t to 235 Euro/tonne for maize. These prices were comparable to those of wheat in developed EU countries with significant agricultural potential such as Germany, France and Poland, and superior to the prices of maize.

					EURO/tonne
		Wheat	Barley	Oats	Maize
	2007	183.0	201.0	228.0	231.0
Romania	2008	179.5	217.5	277.4	263.8
	2010	140.1	137.7	189.9	168.6
	2011	207.6	214.7	266.6	235.9
Bulgaria	2007	152.5	123.3	100.0	143.2
	2008	159.8	145.7	138.8	161.3
	2010	125.0	100.5	120.5	141.6
	2011	167.1	160.2	164.6	173.6

#### Table 4. Prices of the main cereals

Source: European Commission, 2012 a

The average price of production for wheat in Romania for the four years was of 157.55 Euro/tonne and in Bulgaria of 151.1 Euro/tonne.

Although Bulgaria and Romania joined the European Union together in January 2007, it appears that Bulgaria manages to get to a much lower price for cereals, compared to Romania. If in 2007, in Romania, the price of maize production was 231.0 Euro/tonne; our Bulgarian neighbours were able to achieve a 61.31% lower price than us. However in 2011, Romania reduces this difference, managing to have a production price with 35.89% higher than Bulgaria. Of this difference between the production prices were responsible the major annual droughts in Romania, through great damages caused to agriculture.

#### 3. Cereal market support after accession to the EU

#### 3.1. Market support until 2013

By the end of 2013 the Ministry of Agriculture and Rural Development will continue to provide forms of assistance to producers of cereals, provided by the Common Agricultural Policy, of which:

• *Single Area Payment Scheme* - The source of funding for payments made under the single area payment scheme shall be provided from the European Agricultural Guarantee Fund, and for the year 2007, in Romania, the amounts awarded were 25% of the payments granted in the 15 EU states (approx. 50 EUR / ha). These amounts increased progressively, so that they will fully meet the EU 15 level in 2016. For 2008 (GD no. 1560/25.11.2008) the amount of direct payments per area was 60.75 euro/ha, for 2009 (GD no. 1211/07.10.2009) was 71.12 euro/hectare, for 2010 (GD no. 1017/10.06.2010) was 80.36 euro/ha, for 2011 (GD no. 1008/12.10.2011) was 100.65 euro/ha and in 2012 (GD no. 977/10.10.2012) was 119.66 euro/ha.

• Complementary national direct payments - The source of funding complementary national direct payments in the vegetable sector is ensured by the Ministry of Agriculture budget, within approved budgetary provisions, and by European Agricultural Fund for Rural Development (EAFRD). Complementary national payments are granted for crops of national importance and for some deficient crops that have favourable production conditions, as follows: arable land crops, flax for fiber, hemp for fiber, tobacco, hops and sugar beets. For 2010 was 50.54 euro/ha for all crops, except flax and hemp for fiber, 92.38 euro/ha, tobacco 2650.64 euro/ha, sugar beet 204.8 €/ha and hops 120 euro/ha. For 2011 the amount CNDP was 60 euro/ha for all crops, except flax and hemp for fiber, 101.7 euro/ha, tobacco 1200 euro/ha, sugar beet 297 euro/ha and hops 120 euro/ha.

• Subsidizing of excise duty on diesel used in agriculture: state aid through which farmers are reimbursed with the difference in taxation, based on cultivated areas, crops and invoices, the scheme applying to vegetable and livestock sectors, and land improvements. The amount allocated for the period October 1, 2011 – September 30, 2012 was of 380,995 thousands Lei.

• Support for agricultural production insurance: State aid through which is subsidized 50% or 70% of the insurance, depending on the insured risks, and the damages will be paid by insurance companies in accordance with the Government Decision no. 756/2010. The amount allocated for the period Jan 1, 2012 - December 31, 2012 was 42,549 thousand Lei.

• Specific support for improving the quality of agricultural products in the organic farming sector, granted to holdings from crops and livestock sectors in the period of conversion to organic farming. The amount allocated annually for crops was of 2.373 million euro.

• The *financial support* granted to *preliminary recognized producer groups* for setting up and investments; the support is correlated with the value of marketed production.

• *Price support mechanism* could apply in case an overproduction of cereals was recorded, generating a significant decrease in the market price of cereals. According to Commission Regulation (EC) no. 687/2008, any farmer that obtains at least 80 tonnes of common wheat, barley, maize and sorghum, 10 tonnes of durum wheat or 20 tonnes of rice harvested throughout the European Union has the right to sell that quantity to the intervention organism - the Agency for Payments and Intervention in Agriculture, for the intervention price of 101.31 euro/tonne. Cereals must meet certain minimum quality conditions, and the purchase price may be subject to changes, depending on the values of the quality indexes.

#### 3.2. Market support towards 2014-2020

The future CAP, towards 2020, aims to achieve the following objectives: sustainable food production, sustainable management of natural resources and climate politics, and balanced territorial development. In this regard, the European Commission proposed a set of legislative regulations for 2014-2020, which sets out the main guidelines of the Common Agricultural Policy (CAP) and their funding.

According to the new guidelines, CAP should maintain its two-pillar structure and its focus will be on delivering results on the EU key priorities. Direct payments should promote a sustainable production by assigning 30% of their budgetary package to mandatory measures for climate and environment. Payment levels should progressively converge and the payments to large farmers to be the subject of progressive capping (European Commission, 2011b).

On this basis, the main legislative proposals for CAP for the 2014-2020 period, in terms of supporting the agricultural market and, implicitly, of cereals market, are set in the following Regulations:

• Proposal of the European Parliament and the Council for a Regulation that lays down certain rules for direct payments to farmers through support schemes, under the common agricultural policy ('the direct payments regulation');

• Proposal of the European Parliament and the Council for a Regulation regarding the financing, management and monitoring of the common agricultural policy ("horizontal regulation");

• Proposal of the Council for a Regulation that determines the measures on fixing certain aids and refunds, related to the common organization of the markets in agricultural products.

The legislative package of the CAP for the 2014-2020 period, has as core element the proposal made by the European Commission on the *Regulation establishing rules for direct payments granted to farmers through support schemes under the common* 

agricultural policy, presented in Brussels on 12 October 2011 (European Commission, 2011b).

In order to achieve the objectives of the new CAP reform, after 2014, the proposed regulation will enable Romania to implement the following support schemes:

• A *basic payment scheme* for farmers with mandatory implementation (basic income support payment) for which Member States may allocate between 50 and 65% of the national financial envelope, according to its specificities and its decisions of financial envelopes allocation for the rest of support schemes of the new payment system.

• A payment for farmers that apply agricultural practices beneficial for the climate and environment, mandatory implemented by Member States. For this payment the Member States must allocate 30% of the national financial envelope.

• An optional payment to farmers in areas facing natural specific constraints, to which Member States may allocate up to 5% of annual national limit.

• *Payment for young farmers*, less than 40 years, *mandatory* implemented by Member States - to operate this payment scheme, Member States will allocate 2% of the national financial envelope.

• *Payment for small farmers* – mandatory implemented by the Member State. For the farmers the scheme is optional. Regulation stipulates a simplified scheme for small farmers that can receive such a rate payment between 500-1000 euro.

• A voluntary coupled support scheme for certain types of agricultural activities or specific agricultural systems that are experiencing difficulties and are particularly important for economic and/or social reasons; the support is given to the extent that it is necessary to maintain current production levels (5% of the threshold, which may be overcome in certain circumstances).

• A framework which enables Bulgaria and Romania to *complement the direct payments* with complementary national direct payments during 2014 and 2015.

## CONCLUSIONS

Crop structure in Romania is dominated by cereal production. Agricultural areas occupied by these crops account for over 60% of the area cultivated annually. Of these, wheat and maize hold significant percentages, namely 50% of the total area cultivated, over 80% of the area cultivated with cereals and over 90% of total cereal production.

In terms of cultivated areas, at EU-27 level, Romania was, in 2011, 4th in wheat (after France, Germany, and Poland), 2nd in maize (after France) and 7th in barley (after Spain, Germany, France, Poland, United Kingdom, and Denmark).

In terms of production, at EU-27 level, Romania was ranked 6th in wheat (after France, Germany, United Kingdom, Poland, and Italy), 2nd in maize (after France) and 8th in barley (Germany, France, Spain, United Kingdom, Poland, Denmark, Finland, Czech Republic). However, in terms of yields, Romania has almost the lowest values, being ranked 21st in wheat (before Spain, Lithuania, Cyprus, Estonia and Portugal) and 26th in maize (before United Kingdom).

Starting with 2007, CAP mechanisms and specific instruments of direct support for farmers in Romania were established, in order to increase the quantity and quality of agricultural production, but also to ensure satisfactory income to farmers. In 2011, real income per agricultural worker in the EU-27 increased by 6.7%, according to Eurostat.

This increase resulted due to increased real agricultural income by 3.9%, accompanied by a decrease in agricultural labour force by 2.7%. The aforementioned increases took place in 2011, while the value of agricultural output in real terms increased by 7.5%, and production costs increased in real terms by 9.7%. In Romania real income per agricultural worker in 2011 increased by 43.7% compared to 2010, the biggest increase recorded by EU 27 (Eurostat, 2011).

Under these conditions, agricultural real income growth in the EU-27 is largely justified by net worth subsidies for European farmers.

Looking forward at the 2020 perspective, the CAP will evolve even further in promoting sustainable agriculture. In this regard will continue: to be a policy that reflects the needs and expectations of European society; to promote sustainable agriculture by providing healthy, quality products, while protecting the environment and animal welfare;

Nevertheless, there are many deficiencies in the cereals market in Romania that should be resolved in the near future, of which we mention: the existence of fierce competition (harsh) on the international market; at the level of small farms, a high self-consumption is registered; a supply-demand imbalance manifested in some agricultural years, which has favoured imports growth (1990-1995, 2000-2004 and 2007); deficiencies in taking over the production from agricultural producers; lack of storage space; the existence of a significant number of middlemen that intentionally maintain a very low price, below the international stock market, to the detriment of farmers; the existence of a price system directly influenced by the Community prices; inadequate level of production quality and the buying price suffers changes, depending on the quality index values.

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