

INCREASING COMPETITVNESS OF THE AGRO-FOOD SECTOR THROUGH INTER-REGIONAL DISPARITIES ELIMINATION

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Abstract

The research aims to analyze the evolution of the performance agro-food sector by development regions in the EU integration process. In the first part of the paper are presented the economic characteristics of Romanian agricultural sector and the most important issues and vulnerabilities in the process of increasing the competitiveness of agriculture. For setting goals, we considered relevant, on the one hand, an analysis of the evolution of macroeconomic indicators values of agriculture in Romania and their importance for the post-accession period the national economy and on the other hand, making a comparative analysis for the period post-accession by development regions of the Romanian agricultural production to major crops. To highlight the impact of Romania's accession to European Union were analyzed the evolution in crop production per hectare in the post-accession period. We analyzed the total grain production of wheat and corn by regions because these crops occupy most of the surfaces for farming in Romania. Further, have been analyzed the share of cultivated surfaces with cereals into the total arable land in the period 2007 – 2013. Evolution of production yield per hectare for analyzed crops, can indicate the level of the disparities between regions of Romania. In the paper have been identified major vulnerabilities that lead to inconsistency agricultural production Romanian 2007-2013 with proposals of some measures in order to reduce inter-regional disparities in Romanian agriculture.

Key- words

economic evolution, agricultural production, yield, development regions.

Introduction

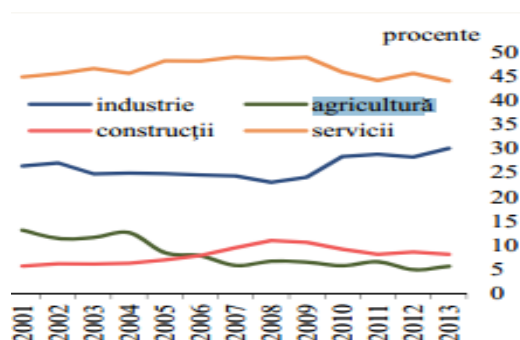
Large areas of agriculture and natural conditions favorable places Romania on the first positions among EU member states in terms of agricultural potential. However, the development of Romanian agricultural sector recorded some gaps in national and inter-regional level. We observed a high degree of competitiveness in the large farms, those using about 28% of the utilized agricultural area. The specificity of the Romanian agricultural sector composition is given by the large number of small farms, which are characteristic of low efficiency, productivity or efficiency of production below potential. The General Agricultural Census from 2010 shows that in Romania there were 3,859,043 agricultural holdings, of which 3,828,345 were unincorporated. The average area of these farms is around 3.45 hectares and 31,000 farms had an average area of about 190 ha. Around 110,000 people were employed in agricultural activities using a total area of 7,000,000 ha. In Romania, during 2003- 2010 the number of farms decreased by 14% and in the EU the number of farms decreased by 20% (Ministry of Agriculture and Rural Development).

In 2012, in Romania 1,048,000 holdings were subvention, of which 978,000 were smaller areas of 10 acres each (Ministry of Agriculture and Rural Development). This situation that

persists today and appeared immediately in post-revolutionary period, with the application of the law on restitution. In the course of integration of Romanian agriculture into common agricultural market, competitive, excessive fragmentation of agricultural land in Romania is representative of a "brake" and also a vulnerability. Another problem arises in Romanian agriculture is the land abandonment. In 2010, the abandonment of agricultural land represents about three million hectares. The main cause is the aging population in rural areas without possibilities and without more labor force.

1. Importance of the Romanian agro-food sector for the national economy in the period 2007 – 2013

Although Romania records an increase in the total value of agricultural production in recent years, it is a fluctuating, with significant differences from one year to another. In 2008 the total value of agricultural production was 66.9 billion RON, and in 2009 there was a substantial decrease to 59.9 billion RON. In 2010, the value was close to that of 2008, was 64.4 billion RON. The year 2013 brought the highest value of total agricultural production in the history of Romania, with a value at around 83 billion RON (The National Institute of Statistics). By finding variability values obtained, it can be concluded that it depends largely on weather conditions from year to year. Agricultural activity in Romania is one of the main sectors of the economy with direct influence on the evolution of Romania made economic level from one year to another. This aspect is influenced by the variation of each year. Production value substantially influences the macroeconomic outcomes in Romania.



Source: Annual Report of Romanian National Bank, 2013

Fig.1 The share of the economic sectors In GDP

From figure.1 it is noted that in the analyzed period the agriculture branch has represented in average about 6-7% of the GDP of Romania. Through an overview of the prospects of agriculture in the European Union and beyond, this activity has made major changes in recent decades. If we look at the pre-accession period of Romania into European Union, it is found that between 2001 and 2006, agriculture accounts for between 10% and 15% of GDP (Annual Report of Romanian National Bank, 2013). In conclusion, the declining share of agriculture in GDP in 2007-2013 to the period 2001-2006 is not necessarily a bad thing. This change occurred primarily as a result of economic developments in GDP of other sectors (especially industry and services).

Analyzing Romania's external balance of agro-food products we find that in 2009 there was a deficit of 1.3 billion euros. Our country exports agricultural products amounting to 2.1 billion euros and importing 3.4 billion euros.

In 2010 the external deficit on agro-food products in Romania was over 700 million Euro, decreasing from 2009. Analyzing the contributions of the main agricultural sectors in Romania in 2010, they had the following configuration: crop production in value of 43.4 billion RON, representing 67.5%, 20.4 billion RON animal production, representing 31.6%, and services in agriculture which amounted to 557.2 million RON, representing 0.9%. From the analysis we can see that the total agricultural output produced each year in Romania has a high degree of variability.

2. Increasing Romanian performance of agricultural production at the main crops in the period 2007–2013

Agricultural production in Romania at the main crops is analyzed in terms of yields, the quantity of products produced per hectare from Romania's accession to the European Union until 2013. The research aimed at the analyze of agricultural production at the main crops by development regions, in terms of Romanian agricultural sector belonging to the Common Agricultural Policy. We analyzed the total production of cereals, wheat and corn, production of these crops occupy most of the agricultural areas in Romania and may represent a standard for imaging the analysis efficiency of the agricultural sector in Romania.

Table 1 Cereal yields in the period 2007–2013

Total/ Regions	Years						
	2007	2008	2009	2010	2011	2012	2013
	UM: Kg/ Ha						
TOTAL	1523	3229	2815	3316	3989	2357	3856
Region NORTH-WEST	2480	3528	2705	3499	3831	2659	3831
Region CENTER	2623	3299	3003	3380	3896	2461	3640
Region NORTH-EAST	1481	3380	2998	3379	3824	2048	3983
Region SOUTH - EAST	1121	3034	2279	3173	4100	1997	3544
Region SOUTH -MUNTENIA	1131	3308	2855	3277	4225	2614	4285
Region BUCHAREST - ILFOV	924	3066	2520	3291	3889	2530	4151
Region SOUTH-WEST OLTENIA	834	2913	3144	3140	3583	1879	3391
Region WEST	2602	3426	3072	3660	4181	3170	4150

Source: National Institute of Statistics, 2014

From table no. 1 we can notice that the results of production per hectare of cereals from 2007 until 2013 recorded a substantial growth in Romania, reaching values twice as high during this period. However, this positive development of grain production had not have an

uniform increase in all developing regions of Romania. There is a spectacular development in Bucharest Ilfov Region from 924 kg per hectare obtained in 2007 to 4151 kg per hectare obtained in 2013 (the second best result on production per hectare). However, the analysis of the evolution of their agricultural production in Bucharest-Ilfov region is less relevant, since total output is decreasing. The main reasons that caused these changes during the analyzed period were massive transfers of farmland toward investment property for residential, industrial and office buildings. The region South-Muntenia has the highest growth in grain production during 2007- 2013, from 1131 kg per hectare to 4285 kg per hectare. A very positive development in terms of yields had North-west regions, the North East and West.

Table 2 Grain yield in the period 2007–2013

Total/Regions	Years						
	2007	2008	2009	2010	2011	2012	2013
	UM: Kg/ Ha						
TOTAL	1541	3403	2421	2688	3663	2652	3468
Region NORTH-WEST	2381	3445	2228	2920	3620	2968	3811
Region CENTER	2520	3283	2789	2753	3656	2647	3312
Region NORTH-EAST	1741	3205	2615	2696	3366	2317	3173
Region SOUTH-EAST	1424	3572	2142	2725	3732	2353	3224
Region SOUTH-MUNTENIA	1253	3535	2330	2621	3822	2669	3772
Region BUCHAREST – ILFOV	997	3366	2218	3008	3791	2846	4174
Region SOUTH-WEST OLTENIA	789	3054	2607	2478	3219	2396	2831
Region WEST	2734	3437	2806	2993	4032	3878	4342

Source: National Institute of Statistics, 2014

From table 2 it is observed that the largest amount of wheat production per hectare was obtained in 2013 recorded in the Western Region by 4342 kg per hectare. And the most spectacular growth, excluding Bucharest-Ilfov Region (low relevance, total production decreased) was South Muntenia Region from 1253 kg per hectare in 2007 to 3772 kg per hectare. South West Region had a positive development in terms of increased production per hectare for wheat, but to a lesser extent compared to other regions, from 789 kg per hectare in 2007 to 2831 kg per hectare in year 2013.

Table 3 Corn yield in the period 2007 – 2013

Total/Regions	Years						
	2007	2008	2009	2010	2011	2012	2013
	UM: Kg/ Ha						
TOTAL	1526	3215	3409	4309	4525	2180	4491
Region NORTH-WEST	2785	4037	3429	4275	4425	2730	4269
Region CENTER	2946	3845	3826	4428	4668	2542	4299
Region NORTH-EAST	1411	3676	3399	3881	4239	1976	4541
Region SOUTH-EAST	863	2409	2451	4337	4759	1677	4261
Region SOUTH-MUNTENIA	943	3026	3824	4583	4963	2552	5201
Region BUCHAREST – ILFOV	698	2966	2959	3980	4470	1719	4716
Region SOUTH - WEST OLTENIA	888	2843	3801	4303	4061	1458	4257
Region WEST	2641	3589	3498	4557	4480	2890	4201

Source: National Institute of Statistics, 2014

From table 3 shows that the total production surplus of maize production per hectare is substantial comparing 2007 to 2013, from 1526 kg per hectare to 4491 kg per hectare representing the largest increase per hectare among all analyzed crops. The biggest trend, and the highest yield achieved in South Muntenia Region from 698 kg per hectare in 2007 to 5201 kg per hectare in 2013 also, Bucharest-Ilfov Region (low relevance, decreasing total production) and the North East, South East were important developments in terms of yields from 1411 kg per hectare in 2007 to 4541 kg per ha in 2013, respectively, 863 kg in ha in 2007 to 4261 kg per hectare in 2013.

Table 4. Evolution of irrigated surfaces by regions in the period 2007 - 2013

Regions	Years						
	2007	2008	2009	2010	2011	2012	2013
	UM: Kg/ Ha						
Region CENTER	993	961	1296	235	328	783	329
Region NORTH-EAST	4251	3119	8721	1993	2146	3883	4933
Region SOUTH-EAST	185264	137545	182079	64473	76133	131816	139231

Regions	Years						
	2007	2008	2009	2010	2011	2012	2013
	UM: Kg/ Ha						
Region SOUTH-MUNTENIA	88378	47884	70375	12526	18748	25643	26341
Region BUCHAREST – ILFOV	779	167	70	:	:	:	:
Region SOUTH - WEST OLTENIA	38857	65301	30548	3608	5326	3230	9843
Region VEST	1721	2689	3661	487	614	:	254

Source: National Institute of Statistics, 2014

Evolutions since Romania's accession to the European Union until 2013 shows a decrease in irrigated areas for Center Region from 993 ha in 2007 to 329 ha irrigated in 2013 same "trend" had South-east Region from 185,264 hectares in 2007 to 139,231 ha in 2013, South-Muntenia from 88,378 ha in 2007 to 26,341 ha in 2013, South West at 38 857 ha in 2007 to 9,843 ha in 2013 from Western Region 1721 ha in 2007 to 254 ha in 2013 only developing region that has seen an increase in irrigated areas during the post EU accession to the North-East, from 4251 ha in 2007 to 4933 ha in 2013 for the North West Region have given according to the National Institute of Statistics.

The analysis performed on the growth performance of agricultural production in Romania at major crops in 2007-2013, there was a substantial increase in yields by region, excluding Region Bucharest-Ilfov for low relevance. However, the surplus production per hectare obtained is characterized by an inconstant trend in the period.

In the research entitled "Increasing competitiveness of Romanian agriculture by eliminating inter-regional disparities," I considered as important the analyse if the evolution of the share of cultivated areas with cereals into the total arable areas in the period 2007 – 2013. Since this research may indicate the extent to which increases in grain yield obtained are reflected in the evolution of the use of arable land for grain production.

Table 5. Evolution of the share of cultivated areas with cereals into the total arable areas in the periof 2007 – 2013

Regions	Years						
	2007	2008	2009	2010	2011	2012	2013
	%						
Region NORTH-WEST	53.01	45.31	42.17	44.88	43.16	42.67	45.43
Region CENTER	41.06	41.04	42.90	38.64	41.39	39.72	40.38
Region NORTH-EAST	53.06	50.17	49.50	47.74	48.88	54.36	49.20
Region SOUTH-EAST	53.54	59.90	61.39	60.43	61.02	63.23	65.76
Region SOUTH-MUNTENIA	58.58	61.93	64.35	60.13	62.50	68.51	64.47
Region BUCHAREST - ILFOV	48.04	30.08	30.28	35.37	29.75	32.53	38.29
Region SOUTH-WEST OLTENIA	63.98	64.83	65.84	59.76	63.59	63.15	65.50
Region WEST	50.62	53.41	53.97	51.01	58.19	57.64	59.26
TOTAL	52.74	50.83	51.30	49.75	51.06	52.73	53.54

Source: Data processing, NIS, TEMPO ONLINE

Table 5 shows that the share of areas cultivated with grain in the total arable land in Romania during 2007-2013 has a positive development from 52.7% in 2007 to 53.5% in 2013. However, if we analyze each region of development, it appears that the four regions the share has increased and in the other four has decreased. The Northwest Region has decreased its share from 53% in 2007 to 45.4% in 2013. As the Center Region, from 41% in 2007 to 40.4% in 2013 in the North East Region 53% in 2007 to 49.2% in 2013. Bucharest-Ilfov region recorded the largest decline in the grain growing areas of the eight development regions of Romania, from 48% in 2007 to 38.3% in 2013. It may be noted that the decrease in grain weight acreage within Bucharest-Ilfov development region corresponds to the boom real estate market crossed by Romania (2008 and 2009). After the prolific real estate market has followed a period of declining real estate market in recent years. Observed an increase in the share of grain acreage during 2011 - 2013, from 29.8% to 38.3%. The Southeast Region recorded the largest increase in the share of area cultivated with cereals, from 53.5% in 2007 to 65.8% in the year 2013. The share increases were also recorded in the South-Muntenia, South West and West. If we analyze the evolution of the total weight of grain acreage of arable suprfeței totalul 2007-2013 is noted that during 2007-2010 at a total weight loss of 52.7% in 2007 to 49.8 in 2010. Overall share of cereal acreage records a "trend" in 2011 increased slightly from 51% to 53.5% in 2013.

Conclusions

From the analysis of the importance of Romanian agricultural sector to the national economy in 2007-2013 concludes that the declining share of agriculture in GDP in 2007-2013 compared the period 2001-2006 is not necessarily a bad thing. This change occurred primarily as a result of economic developments in GDP of other sectors (especially industry and services). Research of the progress made in the main crops regarding production per hectare in cereals, maize and wheat, highlights the substantial increases in agricultural sector in Romania has achieved in terms of production per hectare in 2007-2013. The level of growth is an important indicator, is essential in forming a clearer picture of the degree of efficiency and progress achieved, as well as the competitiveness of Romanian agriculture to the European Union. These increases can be found in all development regions of Romania, with values varying from one region to another development, but almost all the increase is characterized by developments sinusoidal. The total surplus of maize production per hectare is substantial comparing 2007 to 2013, from 1526 kg per hectare to 4491 kg per hectare, representing the largest increase per hectare for all analyzed crops. The biggest trend, and the highest yield is achieved in South Muntenia Region from 698 kg per hectare in 2007 to 5201 kg per hectare in 2013 analyzing evolution of production per hectare by regions points Bucharest - Ilfov as it has a relatively low relevance for the agricultural sector as adjacent areas of Bucharest and Ilfov county area are streamlined in permanent land exchanges. Most of the agricultural areas present interest for covered property or residential investment. Bucharest-Ilfov Region recorded the largest decline in the grain growing areas of the eight development regions of Romania, from 48% in 2007 to 38.3% in 2013. It can be seen that the decrease in grain acreage share across Bucharest-Ilfov development region corresponds to the boom real estate market crossed by Romania (2008 and 2009). After the prolific real estate market has followed a period of declining real estate market in recent years. Observed an increase in the share of grain acreage during 2011 - 2013, from 29.8% to 38.3%. Variability, or inconsistency of production per hectare characterizing the entire area under cereals in Romania is caused by a number of factors, among which the most important is the dependence on weather conditions year. Dependence evolution of Romanian agricultural productivity may decrease the level of annual rainfall and rehabilitation developing irrigation infrastructure. The only region that recorded an increase of irrigated surfaces during the post EU accession is North-East, from 4251 ha in 2007 to 4,933 ha in 2013. Overall decline in irrigated areas during the post accession to the EU in five development regions of seven that have agricultural activities, excluding Bucharest Ilfov region, shows a systemic problem is an important vulnerability in

alignment farms in Romania to the competitiveness of the European Union. To increase the competitiveness of Romanian agriculture is needed, among other things, the upgrading of equipment performance or endowment techniques and technologies. Compared to other EU countries in the year 2009 are notable differences: Germany 681 200 tractors, Lithuania 118 041 tractors, Luxembourg 6527 tractors, Poland 1577290 tractors, Spain 1320599 tractors, Romania 176,841 tractors (Eurostat, 2013). Efficiency results in vegetable farming, production and income from it, depends on the use of fertilizers and pesticides. Average consumption of fertilizer per hectare of EU countries is 200-250 kg, much lower than the quantity used in Romania, only 70 kg per hectare (Eurostat, 2013). Another vulnerability is the phenomenon of land abandonment. In 2010, about three million hectares were left fallow (Cadrul Național Strategic pentru Dezvoltarea Durabilă a Sectorului Agroalimentar). The main cause is the aging population in rural areas without possibilities without more labor force. In conclusion, the Romanian agricultural potential is significant. Large areas and favorable agricultural conditions led to increased competitiveness in the large farms, those using about 28% of the utilized agricultural area (Agricultura României în procesul de integrare europeană). Other problems that hinder the development of the Romanian agricultural sector is the inefficiency of regarding land market, credit, consulting services, specialized marketing, poor absorption of EU funds, competitive market atomized, disasters, climate change, rising energy prices leading to increased irrigation cost price.

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