AN IMPACT ANALYSYS OF THE COMMON AGRICULTURE POLICY ON THE ROMANIAN AGRICULTURAL STRUCTURES. A STATISTICAL APPROACH

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Abstract

The paper investigates the evolution of the Romanian farming structures after Romanian's accession to the European Union. It was the moment of the Common Agriculture Policy implementation in Romania. The research methodology uses appropriate techniques applied in social sciences research, as the chain-index indicators or the trend analysis. In the same time a special indicator that measures the gap between the Romanian farming structures and the European ones was also employed. The analysed data came from different official statistical databases. Results reveal that even after three years of Common Agriculture Payments implementation, Romania still presents two types of farming structures. That of the single-holder-farming can be characterised as being land fragmentised, totally different as compared to the European model. In the last years there was revealed a slight trend of farm structures improvements, but the gap between the Romanian structures and the European ones is very important. The legal-entity farming sectors structure is comparable with the European ones, agriculture policies producing an important trend of farm structures restructuration.

Key words: farm structures; agriculture policy; Romania.

Agricultural policies represent the leverage used by governments to intervene in economy such as to provide important public goods (Anania G. et al., 2004). The most important ones are recognised to be (European Parliament, 2011): the climate stability, farmland biodiversity, water quality and availability, soil functionality, air quality, resilience to flooding and fire, rural vitality, farm animal welfare or food security. But these kinds of societal gains are highly conditioned by the agricultural practices and the different farming systems (Cooper T. et al., 2009). Moreover, it is proved that certain farm characteristics are superior in overcoming their market failure (OECD, 2005). Thus, the studies about the farm structures' characteristics are of real interest. They refer to the forms used by farmers in order to obtain certain outputs (Mann S., 2006).

It heavily influences the overall economic performance (Tang J., Lin J., 2010). Moreover, a reasonable production structure can be characterised by an optimal allocation of the limited resources, an appropriate valorisation of the regional competitive advantages and not ultimately by a proper organisation of the agriculture marketing chains (Happe K. et al.,

2008). The production structure mainly refers to farm characteristics (OECD, 2005) being expressed in physical (number of hectares or animal heads) or economic size, production type, market orientation, the age and the education level of the farm head etc.

The studies about the Romanian farming structures are not a new topic. In general, they showed that the Romanian Utilised Agricultural Area become extremely fragmentised due to the Land reform that took place after 1990. They all recognised the existence of two farming poles. One that is characteristic to the individual owners with small semi-subsistence farms, and the other for the big commercial farms. (FAO, 2002 ; Cionga C. et al., 2008 ; Gavrilescu D., Gavrilescu C., 2007;).

This paper investigates the presence of the land consolidation phenomena in Romanian agriculture after the EU accession. It analyses the trends of the agriculture structures, questioning in the same time the impact of the financial transfers on the goal to achieve sustainable farm structures capable to overcome market failure in providing public goods in Romania.

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MATERIAL AND METHODS

The data used for investigation came from different official statistical sources. The information extracted from the agricultural census from 2002 and 2010 was completed with the agriculture structural investigations from 2005 and 2007 (National Institute for Statistics, 2003; 2005; 2007; 2012). It was analysed using the methodology applied in social sciences. Firstly, the data about the farm structure was investigated using the chain-index theory in order to capture any movements in the farm structures on the analysed time horizon (2002-2010) (Allen R., 2008). Then, the gap between the Romanian land structure and the European one was investigated with the difference coefficient expressed as:

$$Eu/Ro = \frac{1}{2}\sum_k \left| y^k - \overline{y^k} \right| \qquad (1)$$

Where: Eu/Ro measures the gap between the Romanian farming structures and the European averages; k represents the farm size class; y^k is the share of k class farms in the total number; $\overline{y^k}$ represent the average European k share.

This index can take the value zero if a region/country has a farm structure identical to the EU27 average and takes the value one (100%) if it is completely different. Such an approach was also applied in geographical economy to measure the specialisation index at regional level (Hallet M., 2000).

RESULTS AND DISCUSSIONS

The evolution of the average farm size shows that there still is a huge gap between the Romanian individual farms (without a juridical status) and the European ones (*tab. 1*). Thus the smallest average individual farms are located in South-Muntenia and North-East and the biggest ones in West and Centre development regions. This kind of analysis did not show any clear evidence for land consolidation in the individual-farming sector. So, even after three years of Common Agriculture Policy payments, the Romanian individual farms are three times smaller than the average European ones. On the other hand, the farms with juridical status have in Romania an average farm size higher than in EU (with the exception of the North-Western region). In the last four years there can be observed a trend of decreasing the average physical size that can be explained by the establishment of new farms as a premise to attract no refundable European funds.

Table 1

The evolution of the average farm size according the juridical status and the region

Hectare/farm									
Single holder	2003	2005	2007	2010	Legal entity	2003	2005	2007	2010
North-West	2.1	2.4	3.0	2.3	North-West	273.4	168.3	270.2	117.4
Centre	2.1	2.8	3.0	2.6	Centre	359.3	210.1	427.1	139.2
North-East	1.7	1.7	2.1	1.6	North-East	208.9	191.3	204.5	150.6
South-East	2.0	2.5	2.6	2.2	South-East	402.0	343.4	328.0	299.8
Bucharest-Ilfov	0.9	1.1	1.1	0.7	Bucharest-Ilfov	356.6	376.5	491.0	181.7
South Muntenia	1.4	1.5	1.7	1.3	South Muntenia	331.5	348.3	342.2	228.4
South West Oltenia	2.0	2.3	2.4	1.9	South West Oltenia	301.7	201.4	245.5	190.7
West	2.8	3.0	3.6	2.9	West	404.5	373.2	409.9	229.8
Total Romania	1.9	2.1	2.5	1.9	Total Romania	319.9	263.0	320.6	190.8
Average EU	8.4	8.7	9.2	10.2	Average EU	158.5	148.6	149.9	152.5

Source: Own calculation using official statistical data.

The chain-index calculated for the period 2002-2007 shows that the individual farm number decreases from one period to another in all the analysed regions (*tab. 2.*). The most important number decrease was identified in the South-Eastern and Central regions. In the same time, the number of farms with a clear juridical status increased between 2007 and 2010. The most important growths were identified in West and North-Western regions. The same trend was identified for the utilised agriculture area, proving a clear sign of farm structure consolidation in Romania after the EU accession. The analysis of the Romanian land structure was based on the land structure gap coefficient (*tab. 3.*). In the single-holder farming sector there are important differences between the Romanian farming structures and the European ones, the gap between them being on average 56%. In the last years there was revealed a slight trend of integration of the Romanian farming structures in the European ones. As compared to the other New Member States analysed in this paper (Poland, Hungary, Bulgaria and Czech Republic), Romanian single holder farming structures presents the most important shortcomings. The second farm structure pillar is represented by the legal entities. The farm structures in this area are more appropriate as compared to the European ones. Furthermore as compared to Check Republic and Bulgaria the Romanian legal entity farming structures are closer to the European average levels. In the last years, there is a clear trend of integration for the legal entities too.

Table 2

index in different development regions

	Single holder							Legal entity					
Description	Farm number			Utilised Agriculture Area			Description	Farm number			Utilised Agriculture Area		
	2005	2007	2010	2005	2007	2010		2005	2007	2010	2005	2007	2010
North-West	0.95	0.90	0.99	1.09	1.11	0.74	North-West	0.80	0.88	2.01	0.49	1.41	0.87
Centre	0.93	0.90	0.98	1.25	0.97	0.84	Centre	0.78	0.99	1.86	0.45	2.02	0.60
North-Est	0.97	0.94	0.98	1.01	1.14	0.75	North-Est	0.77	0.89	1.74	0.71	0.95	1.28
South-Est	0.96	0.94	0.91	1.16	1.01	0.77	South-Est	0.87	1.15	1.38	0.75	1.10	1.26
Bucharest-Ilfov	0.89	0.98	0.53	1.13	0.95	0.35	Bucharest-Ilfov	0.64	0.92	0.81	0.67	1.21	0.30
South Muntenia	0.95	0.90	1.05	1.00	1.05	0.82	South Muntenia	0.84	1.04	1.69	0.88	1.02	1.13
South West Oltenia	0.97	0.95	0.99	1.10	1.00	0.79	South West Oltenia	0.78	0.92	1.50	0.52	1.13	1.16
West	0.89	0.90	0.95	0.95	1.08	0.75	West	0.82	0.91	2.11	0.75	1.00	1.19
Total Romania	0.95	0.92	0.98	1.08	1.05	0.78	Total Romania	0.81	0.97	1.73	0.66	1.18	1.03

Source: Own calculation using official statistic data.

Table 3

The gap between the Romanian farm structure and the European one investigated with the land structure difference coefficient

	Single holder						Legal entity					
Description	(Ha)			(number)			(Ha)			(number)		
	2003	2005	2007	2003	2005	2007	2003	2005	2007	2003	2005	2007
North-West	65.7	57.3	59.0	41.4	38.3	35.6	16.1	16.5	16.7	27.6	26.7	20.6
Centre	60.8	47.0	51.6	40.8	35.2	36.2	15.8	16.3	17.3	18.8	18.6	12.0
North-East	69.5	69.6	66.7	45.1	44.4	43.2	15.7	16.7	16.7	23.9	23.2	17.3
South-East	46.1	43.1	41.7	43.3	40.7	41.5	17.9	18.5	18.5	22.4	25.5	25.7
South-Muntenia	58.9	64.4	62.3	48.5	45.6	45.2	17.6	18.8	18.5	22.1	22.5	22.0
Bucharest-Ilfov	66.0	60.8	65.8	62.1	59.0	62.2	42.1	43.6	42.6	39.7	39.5	38.4
South-West Oltenia	66.7	61.9	65.9	43.1	40.0	41.0	17.2	16.8	16.2	20.6	19.2	18.3
West	49.9	44.8	48.8	34.2	33.9	31.1	17.3	18.9	18.6	14.0	16.3	13.8
Total Romania	60.2	55.8	56.1	43.0	41.0	40.4	16.9	17.8	17.8	17.4	17.0	16.2
Poland	34.8	34.2	34.9	19.9	22.3	21.9	16.9	18.2	18.3	23.9	24.0	25.1
Hungary	9.0	5.5	5.2	48.2	49.5	50.6	15.8	16.9	17.4	15.5	15.8	18.8
Bulgaria	39.7	37.5	34.1	57.5	55.8	55.6	17.3	18.6	18.8	28.8	28.7	26.9
Czech Republic	35.9	33.6	31.1	11.3	7.7	6.2	18.8	20.2	20.3	39.4	39.0	37.8

Source: Own calculation using official statistic data.

CONCLUSIONS

Results showed that even after the implementation of the Common Agriculture Policy in Romania the indigenous farming structures are different as compared to the European ones. The individual holders that are very small and that proved to have the capacity to provide important societal gains are on the long run threatened with extinction. The legal entity farming pillar that is closer to the European sector, showed clear trends to approach to the European model.

These findings showed that the budgetary financial period (2007-2013) of the CAP did not solve the structural farming problems in Romania under the current policies measures. Thus the future budgetary perspective (2013 – 2014) shall better address this issue. This can be achieved, because, in the future agriculture policies perspectives Member States have more freedom to choose their own agriculture policies. This is the best approach for Romania, a country with two types of agriculture structures and different policy needs.

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