

The Romanian "Agricultural Power" in the European Context

Cristian - Marian Barbu

Department of Management-Marketing, Artifex University, Bucharest, Romania,
E-mail: doctrine.economice@gmail.com

Abstract *This article seeks to reveal that although agriculture is a sector of primary importance in Romania, both in its contribution to national economy and in its social role, vital information on the economic size of farms confirms that Romania is the country with the most divided agrarian structure in the EU. With this reality of agrarian structure excessively fragmented and predominantly nature of subsistence for many Romanian farms, it is considered that for a medium-term strategy, the problem needs to be addressed differently in medium and large farms, farms that are professional and in which agriculture is a business and small farms that have a lesser role on the markets, but are important in the rural world for providing food and social security, environmental preservation through the use of traditional production methods etc.*

Key words Degree of fragmentation, farmland, farms, agricultural production value, productivity

JEL Codes: O13, O18, Q15

1. Introduction

Romania enjoys a significant development potential, although insufficiently exploited. With a total area of 238,000 km² and a population of approx. 20 million inhabitants, Romania is the second largest new member state of the European Union, after Poland. It represents 6% of the total area of the European Union and 4% of its population. Romania is one of the European countries that enjoy good resources of land, water and human resources. Moreover, its utilized agricultural area (13.3 million ha), places Romania in the European Union on top places in terms of agricultural land per capita (approx. 0.7 hectares). However, until now, these advantages have only had a limited influence on the generation of significant developments and restructuring in agriculture and rural areas.

Rural areas have a substantial growth potential and a vital social role. As defined in national legislation, rural Romania covers 87.1% of the country, comprising 47.2% of the population, namely 8.98 million inhabitants according to the 2011 census.

OECD methodology for the concept of rurality leads to various figures, but allows comparisons with other Member States. Thus it appears that Romania is in accordance with this definition, 59.8% rural, 39.4% and only 0.8% intermediate

areas (Eurostat, 2012). In terms of distribution in the territory, Romania's population has a more pronounced level of rurality; the share of rural population in Romania is more numerous compared to other EU countries, where rural settlements are less populated and at smaller scale as an alternative to urban concentrations. Many of these rural communities contribute to a small extent to economic growth, but retain the social and traditional way of life. In the 2012 Eurostat data, 45.5% of the population and in rural areas, 43.9% in intermediate regions and 10.6% in urban areas. The rural population is not evenly distributed. There are significant differences in population density across Romania. Most municipalities with less than 50 inhabitants/km² are clustered in the west of the country and the Danube Delta, compared to areas east and south, where villages are predominant. The average population density is 79.88 inhabitants/km² at the national level and 43.31% in rural areas.

Structure of agricultural farms by age of the owner shows that population is ageing in rural areas, a fact revealed by the low share of young people among heads (heads) of farms. The 2010 General Agricultural Census data show that for an aged farmer (55 years and over) we find 0.11 farmers under 35 years. Compared with 2005, in 2010 the share of young heads of farms has increased by about 4 percentage points (from 7.84% to 11.71%), as a consequence of rural development policies implemented in the 2007-2013 programming.

Ageing is accurately reflected in the data of the Agency for Payments and Intervention in Agriculture (APIA) on the beneficiaries of direct payments made according to area and age. Thus, in 2011, the number of farmers (heads of farms) aged 60 years and older represent more than half of the farmers registered with APIA (51.88%) and they were working approximately 2.62 million ha (average surface held-66 ha). The high percentage points to the need for further generational renewal in agriculture.

Unlike most EU countries, agriculture has been and continues to be an area of prime importance in Romania, in contribution to the economy and the share of employment. The performance of the Romanian agriculture sector remains relatively modest, in contrast with its natural potential and the expectations of the people regarding facilitations in the financing system.

Although Romania ranks 7 in the EU after France, Spain, Germany, Great Britain, Poland and Italy in terms of utilized agricultural area, there are important differences in terms of the share of agriculture in GDP between Romania and EU Member States as well and gaps regarding the farm structure and farmers' incomes and living standards, investment opportunity, the prospects for agricultural development. Performance in agriculture involves development on economic principles, social and environmental performance, which means efficient use of available and attracted resources.

2. Methodology of research

In order to conduct this study, we have complied with some guidelines regarding the methodology of scientific research. Thus, the principle of unity between theoretical and empirical aspects, the principle of unity between informative judgment and evaluative judgment (all researchers should involve morally to support general values), as well as the principle of unity between quantitative and qualitative, used in order to render efficient the results of the research. This mixed methodology is typical of social sciences. In order to fulfill our goal, we have used fundamental research methods consisting in reading of the specialized literature in this field and some articles and studies covering this topic. Our methods have been: analysis, synthesis, comparison, deduction and induction. In order to establish and analyse the state and the performance of the Romanian agriculture in the European context, we have used the data provided by the European Commission (Eurostat, for instance) and by national statistics and by various national and international publications that we assessed and interpreted.

3. The average size agricultural farms in Romania

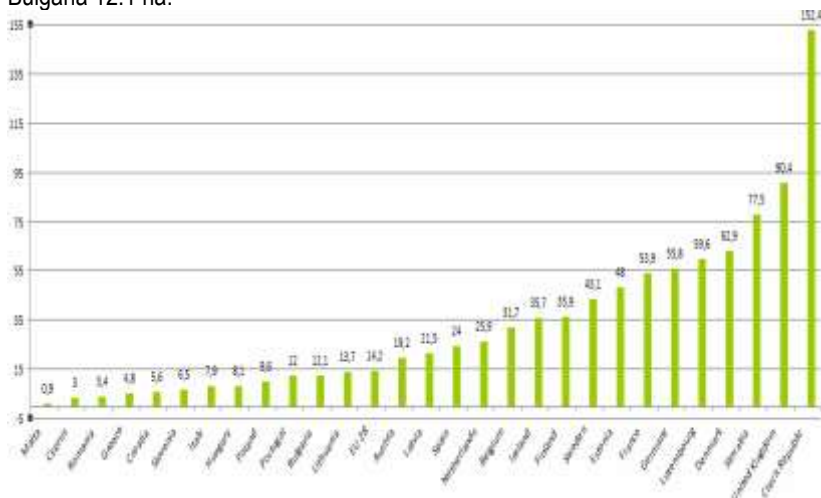
Regarding the degree of fragmentation of agricultural land, Romania is the third country in the European Union after Malta and Cyprus. In our country, in 2013, according to the Ministry of Agriculture and Rural Development, there were 830,200 agricultural farms of 1-5 hectares each, occupying about one-fifth of the total land area of Romania. In the past two years, our country has one of the richest crops in the EU, but the European Commission warns that Romania should not export agricultural commodities, but processed food products, to get more money.

The average size agricultural farms in Romania is only 3.4 hectares, the country is thus on the ante-penultimate place in the European Union in terms of degree of consolidation of land. Only two very small countries of the EU, Malta (0.9 ha) and Cyprus (3 hectares) have agricultural land more parceled than Romania, according to official data of the Ministry of Agriculture.

Average area in the EU (28 countries) is 14.2 hectares of land on a farm. For comparison, the Czech Republic, all former communist countries like Romania, is the first among the degree of consolidation of land, with an average of 152.4 ha of land on the farm. In second place is the UK, with 90.4 ha, and the podium is completed by Slovakia with 77.5 ha, average per farm (Figure 1).

When, in the 90s, the country's former President Ion Iliescu, advocated for transformation of former Agricultural Production Cooperatives (APCs) in joint stock companies to maintain large areas on farms, a whole array of political opponents unconsciously requested the division of the land into pieces and plots. Now a lot of money is paid to stimulate small plots to recompose larger areas of work.

Germany, an EU agricultural power, holds the sixth place in land consolidation, with 55.8 ha per farm, followed by France, with an average of 53.9 ha. Spain ranks 14th, with an average of 24 ha per farm. However, Italy is below the European average in the degree of consolidation of farmland, being ranked the 21st, with an average of 7.9 ha. Among our neighbors, Hungary has an average of 8.1 ha of farms and Bulgaria 12.1 ha.



Source: Eurostat data processing

Figure 1. The average size of farms in EU

The degree of fragmentation of land in Romania is illustrated by the small share of total agricultural land parcels according to the situation presented by the Agency for Payments and Intervention in Agriculture (APIA), which operates under the Ministry of Agriculture and Rural Development on agricultural farms eligible for Singles Area Payment Scheme (SAPS).

In 2013, Romania operated a total of 1,040,300 agricultural farms eligible for Singles Area Payment Scheme (SAPS), with a total area of 9,947,700 hectares. In 2013, there were 830,200 agricultural holdings in Romania (i.e. 79.8% of the total number of farms eligible under SAPS 2013) with areas between 1 and 5 hectares each. These small, but many farms with a total of 1.9 million hectares, which is about 19.3% of the total area cultivated in Romania. To the other end, the few farmers with a lot of land. Only 13,100 farms (i.e. 1.3% of the total number of farms eligible SAPS) had areas larger than 100 hectares each. A total of 5.3 million hectares, i.e. 53.2% of the total land area of Romania. A total of 176,700 farms (i.e. 17% of the total

number of farms eligible SAPS) had between 5 and 30 ha area, totaling 1.6 million hectares, or 16.6% of the total land area of the country. In the category 30-50 ha, only 11,700 farms operate, with a total of 464,500 hectares (or 5% of the total agricultural land of the country), while 8,600 had farms between 50 and 100 hectares each, a total of 613,900 ha (more than 6% of the total agricultural land of the country). For comparison, below the situation of the farm structures in Romania in 2010.

Table 1. Farms in Romania in 2010

Sizes	Number farms		Area - ha -	Weight -% -	Average size of the farm - ha -
	No.	%			
1 - 10 ha	1,087,853	93.7	3,000,720.74	31.25	2.95
10 -100 ha	61,182	5.3	1,580,530.10	16.47	25.80
Over 100 ha	11,994	1	5,018,822.24	52.28	418.40
Total	1,161,029	100.0	9,600,073.08	100.00	8.83

(According to APIA data, 2011–Agency for Payments and Intervention in Agriculture; APIA is subordinated to the Ministry of Agriculture and Rural Development under the Law no 1/2004 with further modifications and completions).

According to APIA (Agency for Payments and Intervention in Agriculture) in 2010, compared to the previous years, the number of farms with 1 to 10 ha decreased by 3%, while the area held by them by 3.5%. Accordingly, the number of farms that hold between 10 and 100 ha increased by 2% and their surface with 5.8%. In 2010, out of the total utilized agricultural area, the area owned represented on average 60%, 27% the rented area, 3% the leased area, and 2.1% the area taken in parts, the rest being exploited in other forms. It is important to note here the rising trend of the share of leased areas from 17% in 2007 to 27% in 2010, out of the utilized agricultural area. We note that the share of leased areas is quite low in Romania compared to other EU countries, where the average weight is in the range 60% - 40% out of the utilized agricultural area. This lease phenomenon occurs significantly in medium and large farms. In farms less than 100 acres, the leased land represents 8% of the land used by these farms, and the percentage rises to 48% out of the utilized agricultural area of farms over 100 ha. In Romania, agriculture has a weight in the gross added value of about 6% (5.8 % of the GDP in 2013), much over the average in the EU of only 1.7%, but the Romanian agriculture is still outdated compared with the most EU countries.

As we can see, all data below show an image of the Romanian agriculture undergoing a too slow restructuring process. The information on the economic size of farms confirms the above statement about excessive fragmentation and

predominantly subsistence nature of most farms in Romania. Data from the Farm Accountancy Data Network (FADN), in conjunction with the 2010 General Agricultural Census data show that 86% of Romanian farms, approximately 3.3 million (from 3.7 million farms) had an annual value of production under 4,000 euros in 2010, and basically, they can be considered subsistence farms.

We should not ignore, however, that in the context of economic and social history of Romania, the main function of small farms (subsistence and semi-subsistence) is to ensure a certain social protection for rural residents who worked in former agricultural production cooperatives and whose pensions are insufficient for a decent life. However, these small farms can increase the professional farmers' welfare, many of which are dependent on agricultural services of the holders of agricultural equipment. Although marginalized by European and national agricultural policies (Ghib and Villemin-Cioloş, 2009), small farms have a role as social damper, which allowed Romania to go without social unrest through the difficult years after the 1989 revolution when premature deindustrialization generated premature unemployment which found an attenuation in subsistence farming. In addition, these farms contribute to food security of Romania, given the high percentage of self-consumption in rural households. Another benefit, in terms of territory, is the presence of these farms mainly in hilly and mountainous areas, which are the main actors in local economy. Under the current prolonged economic crisis, it is to take into account the economic behavior of small farms, which, although smaller, ensure stable production, due to diversification of production.

Thus, if large farms in Romania are specialized, generally in the production of cereals and oil plants, very small farms increased diversification: they grow, especially corn, for animal food human food and also many plants that enter directly into the human food such as beans, potatoes, pumpkins, vegetables, fruits. Also, the majority of small farms raise livestock: 1-2 cows, poultry, a few sheep or goats. Therefore, in the countryside, people's food is ensured mainly in the production of small farms. These products do not transit market, but takes the form of so-called self-consumption and short paths. According to the Household Budget Survey in rural households, about 66% of total consumption expenditure is the value of food consumption from own resources. Therefore, it can be considered that small farms have an important social role in Romania, although they constitute an impediment to the development of a highly productive agriculture; however they are an important factor in ensuring food security in rural areas inhabited by about 45% of the population.

4. The main weaknesses of Romanian agriculture

The performance of Romanian agriculture and food sector remained relatively modest compared with its natural potential and expectations of the people that

agriculture and food industry should quickly adjust their structures under the influence of the common agricultural policy, by facilitating the financing system, including investments necessary for growth, and should also introduce continuity and consistency in the measures taken by decision makers. The main weaknesses of Romanian agriculture are:

- Lack of associative and cooperative forms in subsistence and semi-subsistence farms. Strengthening of the position of farmers in agri-food chain will be positively influenced by: encouraging producers to associate, which will allow increased capacity to provide food processing units of large quantities of products and improved quality of agricultural raw materials; proper and timely payments effected to farmers - suppliers of raw materials; institutionalizing of contract systems and their enforcement; elimination of the intermediaries between producers and processors of agricultural raw materials;
- The availability of technical equipment per farmer is only 350 euros in Romania, which is well below the EU average of 9,100 euros per farmer;
- Most Romanian farmers lack management skills; the training of managers of farms is 2.5% in Romania, compared to the EU average of 29.4%;
- Huge disparities in development between rural and urban areas, especially on large and small infrastructure (transport routes, irrigation and drainage systems, storage capacities, etc.);
- The lack of alternatives to employment in agriculture. Currently, in rural Romanian area, population is at risk of poverty rate of 40.3%, while the EU average is 24.2%. In 2007, the rural population exposure to poverty in Romania was 60%;
- Farmers in Romania have access to bank loans of only 110 euro / ha, well below the EU average of 1,700 euros per hectare;
- Low productivity. In the Romanian food industry, productivity is 9,086 euros per person, while the EU average is 40,875 euros. However, the processing side has developed well, so that more than 1 billion euros in 2007-2013, went to the processing. However, production has not developed enough and we have to import a lot, because we do not have sufficient production in Romania and because prices are not competitive;
- Lack of silos. Even when it makes a good production, Romania cannot build sufficiently and effectively because it lacks the storage capacity for crops. Romania has a storage capacity of about 18 million tons, while production that we have achieved in recent years has exceeded 20 million tons of grains;
- Organic farming is at a low level. In Romania, organic farming is done on 0.4% of total agricultural area, while the EU average is 3.7%;
- In Romania, there is a structural imbalance in terms of food consumption and quality deficiencies in production and marketing of food. However, the agricultural sector, despite its favorable natural conditions to cover at least the internal

consumption needs, does not provide the entire population with access to a rational diet, and food prices are not accessible to vulnerable groups. Food self-consumption is high, especially in rural areas and cities import some basic foods for supply. Food consumption in Romania, compared with developed countries in Europe, is low in meat, milk, eggs, fish and some types of vegetables and fruits, but is surplus grain products. Meeting the needs of the population and achieving a balanced diet depends on the creation of sufficient availability of consumer demand and on the rise purchasing power.

5. Value of agricultural production and productivity

According to data issued Friday, February 20, 2015, by the European Statistical Office Eurostat, Romania had an agricultural production worth of about 15.5 billion euros in 2014, the eighth in the EU. The Romanian agriculture is, however, the most lopsided in the EU, with a dominant vegetable sector, and has low productivity. Out of the former communist countries of the EU, only Poland had a greater agricultural production than Romania, of 22.5 billion. Below Romania there is Bulgaria (3.8 billion), Hungary (7.5 billion), Czech Republic (4.7 billion) etc. (Table 2).

Table 2. Share of selected agricultural products in total agricultural output, 2014*
(in %, based on production value at basic prices**)

Country/EU	Total agricultural output (in € millions)	Crops	Of which:		Animal products	Of which:		Others***
			Cereals	Vegetables, fruits and horticultural plants		Meat	Milk	
Austria	6,626	43	11	13	52	29	19	5
Belgium	8,009	40	5	24	59	40	17	1
Bulgaria	3,819	65	29	9	28	12	13	6
Croatia	2,388	62	25	12	34	20	10	4
Cyprus	699	52	3	39	48	28	16	0
Czech Rep.	4,771	59	25	8	38	17	20	2
Denmark	10,465	32	11	8	63	36	19	5
Estonia	838	43	20	9	52	18	30	5
EU	392,281	52	13	21	43	25	16	5
Finland	3,980	38	15	18	60	23	30	3
France	70,584	56	14	13	38	23	14	6
Germany	51,032	47	13	11	49	24	23	4
Greece	9,699	69	8	39	27	14	11	4
Hungary	7,558	60	32	13	36	24	8	5
Ireland	7,387	25	4	5	70	41	28	6
Italy	48,350	55	9	28	34	21	11	11
Latvia	1,080	50	23	10	47	15	24	3
Lithuania	2,445	60	33	5	38	15	18	2
Luxembourg	413	47	6	3	52	23	28	1
Malta	120	41	0	37	59	37	17	0
Netherlands	26,752	48	1	41	42	20	19	10
Norway	4,871	34	8	12	66	35	27	0

Country/EU	Total agricultural output (in € millions)	Crops	Of which:		Animal products	Of which:		Others***
			Cereals	Vegetables, fruits and horticultural plants		Meat	Milk	
Poland	22,562	47	18	17	51	29	18	2
Portugal	6,492	56	4	35	42	27	12	2
Romania	15,486	73	25	29	26	13	7	1
Slovakia	2,136	55	29	10	39	18	15	6
Slovenia	1,155	50	8	17	48	25	18	2
Spain	41,103	60	8	35	39	29	8	1
Sweden	5,758	46	13	13	48	23	21	6
Switzerland	8,331	41	4	21	52	26	23	7
Un. Kingdom	30,575	38	15	15	58	36	18	4

Source: Eurostat. (2015). *Statistical book on agriculture, forestry and fishery. Facts and figures on agriculture in the European Union – news release*, 33/2015 - February 20, 2015.

* 2014 data refer to the first estimates of agricultural accounts, which became available after the closing date of the publication.

** The basic price is the amount received by the producer from the purchaser for a unit of good or service produced as output. It includes subsidies on products and other taxes on production. It excludes taxes on products, other subsidies on production, suppliers' retail and wholesale margins, and separately invoiced transport and insurance charges. Basic prices are the prices most relevant for decision-making by suppliers.

*** Others include agricultural services and secondary activities.

The productivity of the Romanian agriculture is, however, low, given the large area of agricultural land in Romania, 13,3 million hectares in 2013, according to Eurostat data. Romania had an average production of 1,160 euro per hectare. For comparison, Poland had an average of 1,560 euro per hectare, Hungary - 1,660 euro, Czech Republic - 1,380 euro and Bulgaria with agricultural production per hectare from 850 euro, was below Romania.

The biggest EU agricultural force is France, with a production 70.5 billion in 2014, with an average productivity of 2,530 euro per hectare. The following places are Germany - 51 billion euro (3,050 euro per hectare), Italy – 48.3 billion euro (3,770 euro per hectare), Spain – 41.1 billion euro (1,734 euro per hectare). The Netherlands has the highest productivity - about 14,800 euro per hectare (from the 1.8 million hectares used in agriculture production, the Netherlands made 26.7 billion euro). Moreover, the Netherlands is the second largest exporter of food and agricultural products in the world after the US, with exports of 75.4 billion euros in 2012, according to the Dutch Ministry of Commerce.

In 2014, crops accounted for just a little over half (52%) of the total EU agricultural production, while animal products accounted for 43%. Crops have contributed most to the national agricultural production in Romania (73%), Greece (69%), Bulgaria

(65%) and Croatia (62%), while livestock production was particularly significant in Ireland (70%), Denmark (63%) and Finland (60%).

Distribution of total agricultural production was closely balanced between crops and livestock in Germany (47% for crops compared with 49% for animals), Slovenia (50% and 48%), Sweden (46% and 48%), Latvia (50 % and 47%), Cyprus (52% and 48%), Poland (47% and 51%), Luxembourg (47% and 52%) and the Netherlands (48% and 42%). Out of all EU countries, Romania has the most unbalanced agriculture: 73% is vegetable, 26% livestock and 1% agricultural services and related activities. Conversely, the more unbalanced is Ireland: the agricultural production of 7.3 billion, 70% was based on animal husbandry, 25% and 6% vegetable sector service-related activities. The best performing countries, in terms of production volumes and productivity, also have a balance of plant-animal agricultural production.

6. Conclusions

Romanian agriculture and the rural area continue to have a substantial growth potential, yet underutilized; agricultural restructuring and revitalization of the rural economy are important levers of economic development in Romania. The Romanian rural economy is dominated by agriculture, whose main feature is the important proportion of subsistence and semi-subsistence farms, which produce for their own consumption, they occasionally sell their products. In this context, the rural economy remains poorly integrated into the market economy.

Romania also shows significant discrepancies with the EU-28 in terms of productivity of the agricultural sector: even during favorable agricultural years, productivity is below 50% of the EU-28, an unacceptable situation showing untapped economic potential of agriculture and of the areas in the Romanian countryside. This can be explained both by the internal structure of the Romanian farms (small size, increased fragmentation), misuse or malfunction of inputs (including human capital) and the existing institutional framework and poor infrastructure. In particular, the lack of marketing infrastructure / selling of agricultural products is a critical issue for small farms. However, the vulnerability of the Romanian farms is maintained also by the lack of major infrastructure (roads, irrigation, storage facilities).

Continued restructuring of agriculture, taking into account all these aspects, will have a major impact on the rural economy in general, given that agriculture remains the most important activity in rural areas and an essential source of income for households.

Reducing the number of farms of subsistence agriculture should be one of the main objectives of rural development policy if we want to re-launch the Romanian agriculture more efficiently and to influence the Community market. It takes further

measures to support small and medium-sized farms, especially family farms, to improve competitiveness, diversification and to open them to the market, measures to improve, on the one hand, the agricultural productivity and on the other hand to settle long-term social problems of the Romanian village, due to the high rate of employment in agriculture and low incomes of farmers and rural population.

Both the manufacturing sector and agricultural production are characterized by a low degree of specialization, low labor productivity and reduced use of innovations. In this regard, investment in R & D and innovation should be a priority for Romania in the near future. It requires further supporting of investments in agriculture by facilitating loans to farmers, by contributing to renewal of generations of farmers and the merging of small farms in medium agricultural farms.

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