

SOCIAL AND ECONOMIC ASPECTS REGARDING THE DEVELOPMENT OF AGRICULTURE IN ROMANIA

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Abstract

Agriculture plays a major role in the economic context of emerging countries. Important factors influencing the agricultural sector include sustainable development, climate change, food security, population and expenditure in the field. Within the paper, social and economic indicators were analyzed regarding the evolution of the agricultural sector in Romania during 2013-2017. Thus, the following indicators were analyzed: agricultural surface, agricultural workers, rural and urban population, value added per worker in agriculture, GDP/capita, and government expenditure. It is found that during this period the GDP/capita in Romania had an ascending evolution and government expenditure in agriculture had a downward trend during the analyzed period.

Key words: agriculture, expenditure, GDP, employment

INTRODUCTION

Romania has considerable potential for development. The country has a total area of 238,000 km², being the 8th member state of the European Union regarding the surface and a population of approximately 20 million inhabitants.

Agriculture is among the oldest human and economic activities that address the basic needs of food, and its productivity has controlled the social development for centuries [17].

Agriculture is a vital activity with major consequences on the food security of the population and on the regional and local ecosystems, becoming an important geostrategic tool for the economic development of any country [9]. Also, agriculture is an important economic sector that provides food for the population, raw materials for the processing industry and agri-food products for export [8]. The macroeconomic context in which agriculture and rural communities developed in Romania was the result of short-term political and strategic measures [4, 5].

Some authors [16] affirmed that Romanian agriculture can be viewed both at the

macroeconomic level because the revenues from this activity contribute to the GDP, but also at the microeconomic level, agriculture being a positive factor for the rural development.

Rural development at the national level plays an important role. This is done mainly through agriculture and hence the need for adaptation to European Union policies, but also for integration into the European rural economy. The arable area of Romania makes the country one with a clear agricultural profile, and with importance at European level and also a competitive one among other countries, as it owns almost 1/3 of the total agricultural land in the EU [3].

The study carried out by [2], revealed the need for further agricultural structural concentration, so that modern agrotechnics can be used. Romania has a huge agricultural fund that is not exploited or inefficiently exploited. The economic context in Romania can face difficulties, as the agricultural sector faces some problems such as competition, high production costs, climate change, etc. Considering this, the objective of the paper was to analyze the situation in Romania of the agricultural sector, evaluating some indicators relevant for this sector.

MATERIALS AND METHODS

In order to attain the purpose of the study concerning the situation in Romania of agricultural sector during the period 2013-2017, statistical data available from the National Institute of Statistics, FAOSTAT, The World Bank were used. The analysis of the Romanian agriculture is important to ascertain the current state of the situation of this branch in the national economy. For the analysis, the method of comparison, relative change (%), was used and the indices with a fixed basis were used to highlight the difference between the level recorded in 2017 compared to 2013. The indicators analyzed were the evolution of GDP, the share of agriculture in GDP, the rural and urban population, the agricultural surface, the workers in the agricultural field, the exports of imports, the trade balance and the expenditures of agriculture.

RESULTS AND DISCUSSIONS

This article has pursued to evaluate the economic context in Romania regarding the activity carried out in the agricultural sector. For this, there were examined some indicators that emphasize the case of the agricultural sector. Within the study, it was investigated the position of agriculture in the national economy regarding the investments in agriculture, GDP and other indicators. The agricultural sector includes crops, livestock production, forestry, hunting and fishing. The significance of the Romanian agricultural sector within the national economy can be evaluated as share the of added value in agriculture in GDP. The evolution of the national GDP and the share of agriculture in GDP can be observed in Table 1. During the period analyzed, it can be highlighted that although the value of GDP in Romania decreased by 9.8%, the share of agriculture increased by 24.83%. GDP per capita during the period 2013-2017, it has increased by 12.81%.

Table 1. The value of the GDP in Romania and the share of agriculture in GDP

Year	GDP (billions of U.S. dollars)	GDP per capita	GDP share of agriculture (%)
2017	190.95	10,813.72	5.38
2016	199.63	9,532.17	4.72
2015	177.89	8,978.39	4.19
2014	188.49	10,020.28	4.06
2013	211.7	9,585.27	4.31
Relative change in the last five years (%)	-9.80	12.81	24.83

Source: The World bank.com [18].

As stated by other authors the larger size of farms, new technologies, better training and managerial skills of farmers, high quality extension services to improve labor productivity contribute to GDP growth [15]. Table 2 shows the number of inhabitants in rural areas compared to those in urban areas. In both cases, their number decreased, due to the migration of the population to other European countries to work, but also due to aging.

Table 2. Urban and rural population in Romania (million persons)

Year	Urban	Rural
2013	10.82	9.24
2014	10.76	9.20
2015	10.71	9.16
2016	10.66	9.11
2017	10.61	9.06
Relative change (%)	-1.94	-1.94

Source: FAO [7].

During the studied period, almost 54% of the population lives in the urban area and 46% lives in the rural area (Fig. 1).

This high share of rural residents shows the need for their development and support. Also, the inhabitants of the rural area mainly deal with agricultural activities, but the transport, marketing, etc. infrastructure is deficient.

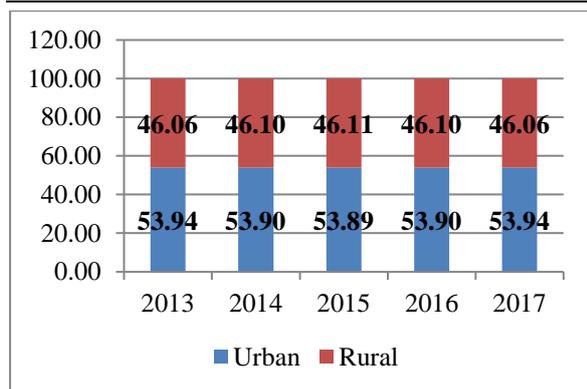


Fig. 1. Share of population from urban and rural area
 Source: own calculation based on data available on FAO [7].

There is a need to revitalize agriculture, which includes food production and the development of rural communities because mainly the agricultural activities in Romania are carried out in the rural area [9].

The existing land structure in Romania is in accordance with the quantitative and qualitative requirements of the development of plants and animals, in order to respond to food consumption and to ensure the availability for export [12].

The agricultural area used is about 13 million hectares, divided into arable land, pastures and grasslands, vineyards and nurseries and orchards. This emphasizes the predominantly agricultural character of the country and its potential. The agricultural area of Romania decreased by 3.79% during 2013-2017 (Table 3).

Table 3. Agricultural land area in Romania (1,000 ha)

Year	Agricultural land area
2013	13,905
2014	13,830
2015	13,858
2016	13,521
2017	13,378
Relative change (%)	-3.79%

Source: FAO [7].

Romania is one of the European countries that enjoys good land, water and human resources. Its used agricultural area (13.3 million ha), places Romania in the European Union on the first places in terms of agricultural land per capita (about 0.7 hectares). However, the influence of these advantages was diminished regarding the development and restructuring of agriculture and in rural areas [5].

In figure 2 it is illustrated the proportion of the agricultural area in Romania. From the total area of Romania of 23.84 million ha, the agricultural area has gradually decreased, reaching in 2017 to 56.12%.

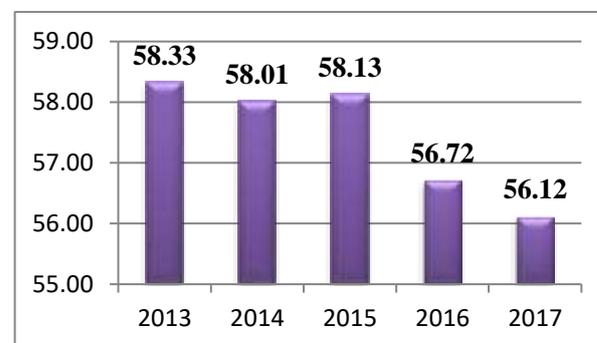


Fig. 2. The share of the agricultural surface from the total area of Romania

Source: own calculation based on data available on FAO [7].

Romania needs agricultural innovations to support the resource base, the communities, the cooperation and the solidarity of the farmers. Cooperation between research and farmers is vital, especially for improving their knowledge of natural resources for sustainable production methods and for improving their production [6].

The social function of agriculture is that it is the main supplier of labor force for this sector, [9].

The improvement of the agricultural sector relies upon the employees in this field. Table 4 presents the change in the number of total workers and the ones in the agricultural sector in Romania. With regard to the national workforce in the period 2013-2017 we can see that the total population employed registered a slight decreasing tendency of 1.92%, whereas in the case of people involved in agricultural activities, the decline was considerable of 26.82%. Therefore, it is necessary to encourage and qualify the labor force in order to have economically efficient productions and to be competitive on international markets. Regarding the share of the population involved in agricultural activities it can be observed that in 2013 it was 27.9%, and decreased until 2017, reaching 20.82%. This is because the people involved in agricultural activities are not stimulated.

Table 4. Total employed population and employed in agriculture (thousands persons)

Year	Total employed population	Population employed in agriculture	Share of population employed in agriculture from total
2013	8,530.6	2,380.1	27.90
2014	8,431.7	2,304.1	27.33
2015	8,340.6	2,003.1	24.02
2016	8,317.6	1,726.8	20.76
2017	8,366.8	1,741.7	20.82
Relative change (%)	-1.92	-26.82	

Source: own calculation based on data provided by NIS [14].

As other authors have predicted [11], the number of employed people is decreasing and it is directly proportional to the reduced number of resident population in Romania.

The main ways to enhance the number of people working in agriculture would be to offer further specialized courses in order to be prepared in this field, financial incentives for opening new businesses in the agricultural field and providing facilities to those in rural areas.

The value of the total agricultural production in Romania varied during the analyzed period. The lowest value was recorded in 2015 of 68.74 million lei, but in 2017 it increased by 10 million lei. Also, for the year 2017 it can be observed that although the number of people employed in agriculture has decreased, the value of agricultural production increased, which indicates that the economy in this sector is more efficient (Fig. 3.).

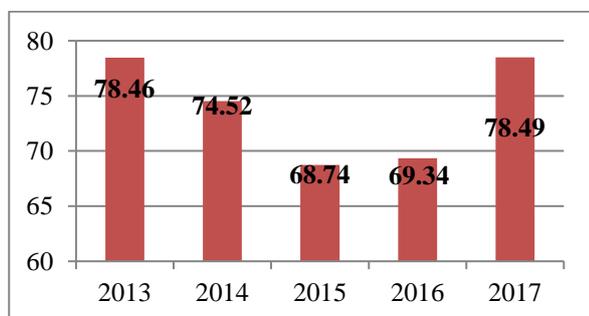


Fig. 3. Value of agricultural production (millions)

Source: NIS [14].

Agricultural productivity can be improved by adopting new technologies and innovation. Also, young farmers, but also workers, should

be encouraged. Promoting education among those involved in agricultural activities ensures food security, reduces poverty and social exclusion and revitalizes rural areas [9].

International trade is an important branch of any economy. In Romania, trade in agricultural products generally involves raw materials and less processed products. Table 5 presents the value of the Romanian exports divided by categories of animals and vegetable products. Regarding live animals and animal products during the analyzed period, a decrease is observed until 2016, and in 2017 there was an increase, the relative change being 7.74%. For vegetal products the highest value was recorded in 2014 of \$ 4.06 million, and in 2017 the growth was only 0.16% compared to 2013. The total value of exports in 2017 was 5.05 million of dollars, increasing by 1.67% compared to 2013 (Table 5).

Table 5. The value of exports of agricultural products (thousands of dollars)

Year	Animals and animal products	Vegetable products
2013	990,244	3,982,947
2014	993,517	4,067,711
2015	865,438	3,417,042
2016	903,167	3,804,635
2017	1,066,932	3,989,517
Relative change (%)	7.74	0.16

Source: NIS [14].

Smart and modern agriculture could contribute to a wide variety of economic, social and environmental objectives. Innovative technologies, products and practices can help to make the most efficient and sustainable use of natural resources and, therefore, to improve the agricultural process [6].

As shown in Table 6, the import of agricultural products is an increasing one for both live animals and animal products as well as for vegetable products. The value of live animals imports increased during the analyzed period, relative change being 29.32%. Also, in the case of vegetable products, there were significant increases, the relative change in the period 2013-2017 being 39.04%.

The total value of imports in 2017 was \$ 4.6 million. On the Romanian market there are

demands for agricultural products for which the Romanian farmers and producers do not face or do not have the market. In order to balance supply and demand, there are many imported products on the domestic market, which affect Romanian producers.

Table 6. The value of exports of agricultural products (thousands of dollars)

Year	Animals and animal products	Vegetable products
2013	1,481,220	1,931,531
2014	1,628,070	2,014,475
2015	1,390,561	2,255,354
2016	1,594,186	2,578,619
2017	1,915,536	2,685,546
Relative change (%)	29.32	39.04

Source: NIS [14].

The total volume of trade in agri-food and agricultural products is an indicator that helps establish the role of agriculture in the national economy.

The total trade balance regarding the trade with agricultural products, in the period 2013-2017 is a favorable one (Fig. 4), since the value of the imports is lower than the value of the exports, although the trend is a decreasing one.

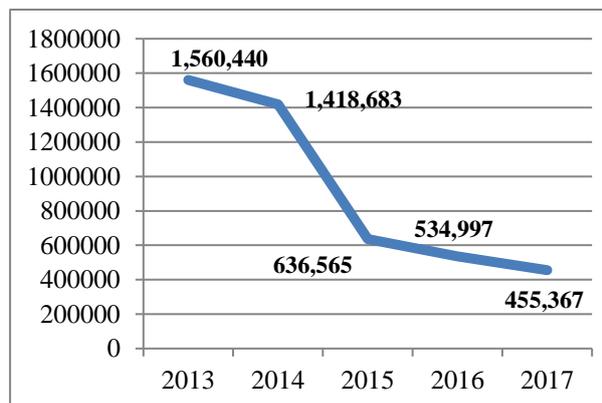


Fig. 4. Trade balance with agricultural products in Romania in the period 2013-2017 (thousands of dollars) Source: own calculation based on data available at NIS [14].

The difference between exports and imports gradually decreased, registering a 29% decrease in 2017 compared to 2013. Although during the analyzed period there were slight increases in exports, the value of imports increased more in the case of live animals and

products, animals, but also for vegetable products.

The Romanian agriculture and the rural area continue to have a substantial growth potential, however underused; agricultural restructuring and revitalization of the rural economy are important levers of economic development in Romania [5].

Regarding government expenditure on agriculture in Romania, they are presented in Fig. 5. The values recorded between 2013 and 2017 were between \$ 16.1 million and \$ 9.5 million, the lowest amount being allocated in 2016. Although the trend was a downward trend, in 2017 there was an increase compared to previous years. However, the relative change during the period analyzed was -10.65%.

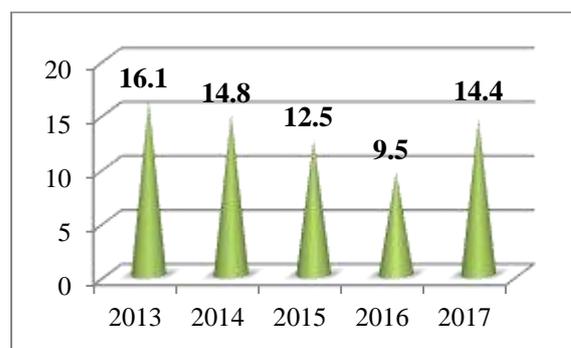


Fig. 5. Government expenditure on agriculture in Romania

Source: FAO [7].

Reducing these costs can cause problems not only for farmers and agricultural producers, but have long-term implications as well as for the entire national economy. In the agricultural field, it is necessary to take measures and propose new solutions for stimulating agriculture.

Investments in the agricultural sector have significant effects on the economy of a country, because it contributes to the improvement of the entire sector, starting from the increase of the incomes of producers and farmers, access to food, products available on the national market, lower prices for food. Some studies have analyzed the importance of public investments in agricultural research and development, irrigation and expansion in increasing production, and have stated that the

contributions of different types of agricultural investments varies greatly [13].

Some authors believe that stimulating investments in agriculture and non-agricultural activities contributes to the development of the economy [1].

Also, as other authors have stated, the Romanian agricultural potential is not sufficiently exploited, which means that it is necessary to increase the competitiveness of agricultural products in international markets [10].

CONCLUSIONS

The development of the Romanian agricultural sector must be done in accordance with the requirements of sustainable development and the alignment with the policies of the European Union. Although, agriculture is a sector of primary importance in Romania, both through its contribution to the national economy and to its social role, the analysis revealed that this sector records oscillations. The agricultural sector has further development potential. Also, the country could benefit from the advantages offered by the European Union in order to become competitive in other markets as agricultural potential exists and should be used more efficiently.

In conclusion, between 2013-2017 the analyzed indicators recorded oscillating values. Regarding the GDP of Romania, it is decreasing by almost 10%, but the share of agriculture in GDP has increased by 24%, meaning that the agricultural sector has potential and leads to the improvement of the economy. Although both the agricultural area and the number of people engaged in agriculture decreased by 3,79% respectively 26.82%, the value of agricultural production registered an upward trend. This means that productivity in the agricultural sector has increased. The trade balance is surplus, but the trend is declining, and this should lead to taking measures to stimulate domestic producers and exports. The decrease in exports may be due to the reduction of government expenditure on agriculture during the period analyzed.

The development of the Romanian agriculture is necessary because it is a large branch for the Romanian economy. Among the measures that should be taken are the improvement of the employment, the stimulation of the efficiency in the agricultural field, but also the development of the infrastructure, the improvement of the system of irrigation, research and innovation. Also, the measures to be adopted should not only focus on agricultural production, technology, but also consider the whole rural area, by providing support, consultancy and assistance regarding the development of agricultural activities.

The need for restructuring in agriculture derives from the fact that this branch remains an important activity in the rural area and has a significant contribution to the national economy. This is why there is a need for increased investments in agriculture to support generations of farmers, small producers and to provide more development opportunities.

ACKNOWLEDGEMENTS

This work was cofinanced from the European Social Fund through Operational Programme Human Capital 2014-2020, project number POCU/380/6/13/125015 "Development of entrepreneurial skills for doctoral students and postdoctoral researchers in the field of economic sciences".

REFERENCES

- [1] Aceleanu, M. I., Molănescu, G. M., Crăciun, L., Voicu, C., 2015, The status of Romanian agriculture and some measures to take, *Theoretical and Applied Economics* 22(2):123-138.
- [2] Anghelache, C., 2018, Structural analysis of Romanian agriculture (Analiza structurală a agriculturii românești), *Romanian Statistical Review - Supplement no. 2*.
- [3] Anonymous, 2017, Agriculture in Romania, Flanders Investment and Trade Market Survey, https://www.flandersinvestmentandtrade.com/export/sites/trade/files/market_studies/2017_Agriculture_Romania.pdf, Accessed on 20.02.2020.
- [4] Barbu, C. M., 2011, The Romanian agriculture – between myth and reality, *Annales Universitatis Apulensis Series Oeconomica*, Vol.13(2).
- [5] Barbu, C. M., 2015, The Romanian "Agricultural Power" in the European Context, *Academic Journal of Economic Studies*, Vol. 1(3):27–37.

- [6]Dovleac, L., Bălășescu, M., 2016, Perspectives for Romania on adopting agricultural innovations, Bulletin of the Transilvania University of Braşov Series V: Economic Sciences, Vol.9 (1).
- [7]FAO, 2020, <http://www.fao.org>, Accessed on 20.02.2020.
- [8]Grigoras, M. A., 2016, Trends in Romania's Agricultural Production, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 16(1):183-191.
- [9]Ionescu, C. A., Paschia, L., Coman, M. D., 2018, Romanian Agriculture and Sustainable Development. In C. Ignătescu (ed.), 11th LUMEN International Scientific Conference Communicative Action & Transdisciplinarity in the Ethical Society | CATES 2018 | 23-24 November 2018 | Targoviste, Romania (156-169). Iasi, Romania: LUMEN Proceedings.
- [10]Lădaru, G. R., 2014, The Analysis of Romanian Agricultural Trade Competitiveness in the Period 2004-2013, Revista de Management Comparat Internațional, Vol.15(5): 595-600.
- [11]Marcu, N., Meghisan, G. M., Ciobanu, M. C., 2015, Research on Romanian labour market dynamics, Revista de chimie, Vol. 66(9):1540-1544.
- [12]Mănescu, C., Mateoc, T., Mateoc-Sîrb, N., 2014, Studies concerning the development level of agriculture in Romania, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol.14(1):197-200.
- [13]Mogues, T., Yu, B., Fan, S., McBride, L., 2012, The Impacts of Public Investment in and for Agriculture: Synthesis of the Existing Evidence, ESA Working paper 12-07, October, Food and Agriculture Organization of the United Nations <http://www.fao.org/economic/esa>, Accessed on 20.02.2020
- [14]National Institute of Statistics, 2020, <http://www.insse.ro>, Accessed on 20.02.2020.
- [15]Popescu, A., 2015, Analysis of the dynamics of Gross Domestic Product and of its main factors of influence in Romania's agriculture, Proceedings of 25th IBIMA Conference Innovation Vision 2020: from Regional Development Sustainability to Global Economic Growth, Amsterdam, The Netherlands, May 7-8, 2015, pp.1379-1393.
- [16]Rabontu, C. I., Babucea, A. G., 2013, Economic aspects of the Romanian agriculture evolution, Annals of the „Constantin Brâncuși” University of Târgu Jiu, Economy Series, Issue 6, pp.95-100.
- [17]Rădulescu, C. V., Ioan, I., 2015, Sustainable development of Romanian agriculture within the context of European Union's requirements, The USV Annals of Economics and Public Administration, Vol.15. 1(21):57-62.
- [18]World Bank, 2020, <https://data.worldbank.org>, Accessed on 20.02.2020.

