Choosing the Size of Agricultural Holdings at the European Union Level - a Decision of their Strategic Management

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Abstract

The choice of an optimal size of agricultural exploitation becomes vital in the context of a globalized market for agricultural products.

It is obvious that the profitability criterion can not be discounted in asserting the financial sustainability of the agricultural exploitation, but it must be resized according to the criteria of sustainable development, assimilated differently to each country.

This research starts from the need to maintain a balance in the simultaneous solving of the natural production sustainability of the agricultural exploitation and its financial sustainability.

The aim of this research is to create the theoretical and methodological premises necessary for a scientific approach to the problems raised by the choice of a certain optimal size of the agricultural holding without affecting the natural equilibrium.

The research will reflect the complex correlations that are established between the size and the economic size of an agricultural holding.

Keywords: *fragmentation of agricultural land, holding dimension, economic size, sustainable development, financial sustainability, organic farming.*

JEL classification: O11, O12, Q01, Q51, Q53, Q57, M21.

1. Introduction

The problem of choosing an optimal size of agricultural holdings has been from the beginning of the development of agricultural science.

The most important restriction to optimize the size of an agricultural exploitation is at present assuring its financial sustainability.

The globalization of agricultural products markets requires a rethinking of agricultural production in order to increase the share of high added value products and to maintain or maximize market shares held.

Against this background, the issue of optimal sizing of agricultural holdings is becoming complex due to the large-scale implementation of ecological farming at European Union level.

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This paper summarizes the mutations made in the member states of the European Union regarding the increase of the agricultural areas for organic (organic) farming.

Organic farming is gaining ground especially at the level of the developed European Union countries, due to the changing consumer preferences of the citizens of these countries, in favor of ecological products, perceived as the highest quality possible to achieve in the context of the requirements imposed by sustainable development.

Therefore, a complex approach is needed to the issue of the size of the agricultural holding in accordance with the requirements imposed by the sustainable development of agriculture.

2. The correlations between the size and the economic size of an agricultural holding

Each country, regardless of the degree of economic and social development, faces problems in the balanced economic development of the territory, determined by a series of objective and subjective factors that determine the uneven development of economic areas (Istudor, 2006).

The correlations that are established between the size and the economic size of an agricultural holding are of a complex nature and there is no direct correlation between size and economic size.

Achieving large yields per hectare has led to a conflict with the natural environment in some rural areas, but sustainable development opens up the possibility of smart land use (Istudor, 2016).

There is a clear need to achieve complex balances both in terms of the natural environment as a support of agricultural production and in terms of medium- and long-term economic and financial sustainability.

Alternative ecologically based farming systems must reflect current wider food systems and the actors engaged in them with ecologists playing a key role in advocating change; from international global agreements which force political change, through changes in focus for agri-businesses, to decision-making by individual land owners (Norton, 2016).

In defining an optimal size of the agricultural holding the emphasis should be on the achievement of its financial objectives.

Cases of large or small or medium sized farms or small size and large economic size are sufficient to deal with choosing an optimal size in line with the criterion of financial sustainability and the criterion of sustainable development.

The research carried out clearly reflects the poor role of the fragmentation of agricultural land in Romania, resulting in a large number of small farms but also with a poor financial potential.

Land consolidation processes could be considered as a necessary complement to other environmental policies in order to encourage intensive dairy farmers to adopt a less polluting technology (Orea et al., 2015).

In this sense, it appears as a prime strategy, the merger of land ownership by the voluntary association of their owners (Popescu et al., 2010).

At national level, Romania must find ways to encourage and support the free association of agricultural landholders.

Of particular importance in the researched issue is the development of organic (organic) agriculture due to the emphasis placed on the economically developed countries on the criteria of sustainable development.

Organic farming may represent the same time an opportunity for business development in rural areas, people are becoming more concerned about factors that directly influence health, such as food security and food quality, even for countries that still exists a high level of disparities between rural and urban, as Romania (Babucea et al., 2016).

Another problem related to choosing an optimal size of agricultural exploitation is the one related to the possibilities of financing the agricultural production specific to each European country.

In Romania, the limited financing possibilities of the agricultural producers have led to an increase in the importance of European funds for agriculture (Istudor et al. , 2015).

There are multiple restrictions in choosing an optimal size of agricultural exploits, ranging from the need to protect the natural environment to complying with requirements imposed by crop or animal breeding technologies and culminating in the inclusion of financial possibilities.

3. Particularities of the size of agricultural holdings in the European Union

At European Union (EU-28) level, there are major differences between small and very small and large farms, respectively, at Member State level, as shown in table 1.

Table 1: Agricultural holdings, by farm size, by country, 2013 (number of holdings)

	< 2	**10 –< 20**	**20 –< 30**	**30 –< 50**	**50 –< 100**	**≥ 100**
EU-28	4,707,080	888,340	374,500	387,460	388,390	336,110
Belgium	1,600	6,840	4,930	6,810	6,530	2,190
Bulgaria	183,640	6,780	3,210	3,410	2,960	6,160
Czech Republic	2,700	4,610	2,360	2,370	2,460	4,630
Denmark	310	6,870	3,950	4,360	5,380	7,880
Germany	12,010	59,020	28,920	42,530	50,220	35,160
Estonia	1,770	3,340	1,400	1,180	1,150	1,790
Ireland	2,380	34,200	24,570	30,290	20,350	4,770
Greece	358,970	45,560	15,080	11,120	5,430	1,450

	< 2	10 –< 20	20 –< 30	30 –< 50	50 –< 100	≥ 100
Spain	253,410	110,800	51,550	53,550	49,960	51,820
France	51,590	44,770	31,610	47,440	93,330	97,600
Croatia	60,700	12,610	3,880	3,030	2,610	1,350
Italy	277,910	114,850	44,690	39,870	30,180	15,100
Cyprus	26,310	900	310	290	210	110
Latvia	17,630	15,790	5,320	4,140	2,700	2,890
Lithuania	24,250	20,070	6,520	5,560	5,100	4,680
Luxembourg	180	170	120	210	600	450
Hungary	334,760	20,160	8,350	7,490	6,590	7,640
Malta	7,600	40	10	0	:	:
Netherlands	6,930	10,060	6,890	10,980	9,280	2,390
Austria	14,580	30,290	16,680	14,660	8,730	2,570
Poland	326,140	208,990	62,040	40,440	20,570	10,950
Portugal	121,860	18,360	6,750	6,150	4,660	6,040
Romania	2,589,920	49,650	10,260	8,470	7,260	13,080
Slovenia	18,360	8,190	2,050	1,070	420	110
Slovakia	5,910	2,220	770	730	790	2,310
Finland	880	11,050	8,230	10,670	10,560	4,470
Sweden	700	13,600	6,590	7,330	8,110	7,970
United Kingdom	4,080	28,550	17,460	23,310	32,250	40,550

Source: Eurostat - http://ec.europa.eu/eurostat/web/agriculture/data/main-tables

In terms of large-scale agricultural exploitations (between 50-100 ha and over 100 ha), France ranks first, while Cyprus last, while the number of very small farms (less than 2 ha) is maximum in Romania, followed by Greece.

The particular case of the number of very small farms registered in Romania in the year 2013 is due to the mode of ownership formation on agricultural land after 1989, the excellent fragmentation of agricultural land being obvious.

At Romania level, a national strategy for voluntary association of agricultural producers in large and very large farms is required for their economic viability. As far as the economic size of agricultural holdings is concerned at the level of the European Union, the situation is equally heterogeneous (with large differences between member countries), as reflected in table 2.

Table 2. Share of total number of farm holdings, by economic size of farm, 2013 (% of total)

	Very small (EUR < 2 000)	Small (EUR 2 000 – < EUR 8 000)	Medium - sized (EUR 8 000 – < EUR 25 000)	Large (EUR 25 000 – < EUR 100 000)	Very large (≥ EUR 100 000)
EU-28	40.2	28.9	14.4	10.2	6.3
Romania	68.7	26.3	4.1	0.7	0.2
Greece	31.9	35.3	21.2	10.7	0.8
Croatia	25.2	44.3	21.2	8.0	1.3
Hungary	67.6	19.2	8.0	3.8	1.4
Lithuania	41.9	39.4	12.0	5.1	1.5
Slovenia	16.9	47.9	23.9	9.8	1.5
Poland	28.2	38.1	20.7	11.2	1.8
Malta	59.7	21.6	10.8	6.1	1.8
Latvia	53.6	29.3	10.5	4.8	1.8
Bulgaria	55.1	31.0	8.2	3.7	2.0
Cyprus	53.9	28.4	10.0	5.3	2.3
Portugal	40.4	36.1	13.1	7.0	3.3
Estonia	47.6	24.3	13.9	9.1	5.2
Spain	24.5	30.4	21.7	15.9	7.4
Italy	11.7	35.2	25.5	19.5	8.1
Slovakia	28.0	43.3	13.2	7.2	8.4
Ireland	10.7	26.8	32.6	20.9	9.1
Austria	10.9	23.3	25.1	30.8	10.0
Sweden	8.3	32.4	25.5	19.3	14.4
Finland	0.0	23.7	31.0	27.9	17.4
Czech Republic	6.2	27.2	28.7	20.2	17.7
United Kingdom	9.1	18.3	21.7	24.9	26.0
Denmark	4.7	8.9	25.3	27.9	33.2
France	6.6	12.5	14.2	29.2	37.5
Germany	0.5	10.1	22.1	29.5	37.8
Luxembourg	1.0	9.6	13.0	25.5	51.0
Belgium	0.9	6.0	14.7	25.2	53.2
Netherlands	0.3	9.8	16.6	18.6	54.8

Source: Eurostat - http://ec.europa.eu/eurostat/web/agriculture/data/main-tables

We find that the major share of farms with a very small economic size (<2000 EUR) is in Romania (68.7%), followed by Hungary with 67.6%, at the opposite end is Finland with no holding in this category of economic size.

For farms with a very large economic size (over € 100,000) the Netherlands ranks first with 54.8%, followed by Belgium with 53.2%, the lowest share being recorded in Romania (0.2%).

By correlating the information about the economic size with the ones related to the size of the agricultural holdings we find in Romania an unfavorable situation dictated by the degree of fragmentation of agricultural land, which is finally reflected in farms with a very small economic size.

The financial sustainability of very small Romanian agricultural exploitations is precarious, so the need for voluntary association of individual producers.

4. The case of organic farms

No generation from anywhere in the world, can not hope to grow by the same political, economic, social and psychological patterns as the previous generations. In a world of a constant motion and change, nothing is more stable than the change: it is an objective process that can not be ignored (Năstase et al., 2016).

Transition towards ecological intensification in agriculture is a knowledge intensive process that should not be perceived as the promotion of old traditional practices. (Caron et al., 2014).

The average size of agricultural holdings in the European Union in 2013 was 16.1 ha, while the average size of organic (organic) farms was 36.7 ha.

The trend at European level is to increase the share of organic farms in all agricultural holdings.

Opportunities for ecologically efficient intensification are also identified through better integration of crop and livestock enterprises on mixed crop–livestock farms (Hochman et al., 2013).

A particular feature is that organic farming management is usually young, open to innovation.

The growing demand for organic agricultural products at the level of the European Union as well as globally will result in a medium to long-term growth of agricultural land that is suitable for organic farming.

In fact, organic farming products have a very high added value globally, which allows for long-term economic viability of these types of agricultural holdings.

Romania has a huge chance in this field due to the high potential of agricultural land that is suitable for organic farming.

Advocating exclusively in favor of organic production against the classic (industrial) production does not really solve the real problems of satisfying the demand for agricultural products globally.

Maintaining in the ecological and financial equilibrium area a country's agriculture becomes a problem of the right placement of interests and possibilities in a given context.

Changing demand in favor of organic agricultural products, especially in economically developed countries, requires a new approach to the correlation between size and profitability

5. Conclusions

The sources of documentation that have led to this research have made it possible to identify complex conditionality that has led to such heterogeneous realities in the member states of the European Union, both in terms of the size of agricultural exploits and in the effects on the level of financial output (economic size) .

It is obvious that a certain degree of economic development of each European country has a bearing on the size and economic size of agricultural holdings, but this is not the determining factor.

Geographical, historical, consumer culture, tradition traditions intertwine with the financial possibilities of supporting the agriculture of each European country and ultimately determine the existence of a certain predominant size depending on the agricultural production achieved.

The case of Romania requires a special approach due to the way the ownership of agricultural land was transferred after 1989, the obvious differences of the Romanian agriculture to the economically developed countries of agriculture.

The limited funding opportunities, the presence of an aging human capital and other inherited problems from the pre-1989 regime generated an almost paradoxical situation, as Romania has the potential to develop huge agriculture, especially organic farming.

We can conclude that Romania's entry into the European Union as a member country has resuscitated a large part of Romanian agriculture and the long-term and long-term development expectations of the Romanian economy are related to the capitalization of this existing natural potential.

Given the globalization of agricultural products markets, it is becoming increasingly important alongside agricultural production and sales activity, which can make the most of agricultural products on the global market.

Achieving financial sustainability of each farm, regardless of its size, is the only way to stay in the market in the medium and long term.

To maximize value for money in agricultural products, efficient logistics and adequate management of rapid changes in the global economy are needed.

The economic size of agricultural holdings therefore appears as a result of intelligent efforts to optimize their size.

References

Babucea A.G., Bălăcescu A. (2016). "Analysis of the concentration in growth potential of organic agriculture at the level of EU member states", *The Research Institute for Agriculture Economy and Rural Development. International Symposium. Agrarian Economy and Rural Development: Realities and Perspectives for Romania. Proceedings,* București.

Caron P., Bienabe E., Hainzelin E. (2014). "Making transitions towards ecological intensification of agriculture a reality: the gaps in and the role of scientific knowledge", *Current opinion in environmental sustainability,* Volume 8, pp. 44-52.

Hochman Z., Carberry P.S., Robertson M.J., Gaydon D.S., Bell L.W., McIntosh P.C. (2013). ,"Prospects for ecological intensifications of Australian agriculture", *European Journal of Agronomy,* Volume 44, pp. 109-123.

Istudor N. (2006). "Dezvoltarea regională și rurală a României în condițiile integrării în Uniunea Europeană", *Editura Academiei de Studii Economice*, București.

Istudor N. (2016). "Sustainable business opportunities in rural areas", *Calitatea-acces la succes, Societatea Română pentru asigurarea calității,* București.

Istudor N., Petrescu I.E. (2015). "Influence of accesing european founds for rural development over the credits for agricultural sector in Romania", *Calitatea, Romanian Society for Quality Assurance*, București.

Norton L.R. (2016). "Is it time for a socio-ecological revolution in agriculture?", *Agriculture, Ecosystems & Environment*, Volume 235, pp. 13-16.

Năstase M., Giuclea M., Bold O. (2012). "The Impact of Change Management in Organizations – a Survey of Methods and Techniques for a Successful Change", *Review of International Comparative Management*, Volume 13, Issue 1, pp. 5-16

Orea L., Pérez J.A., Roibás D. (2015). "Evaluating the double effect of land fragmentation on technology choice and dairy farm productivity: A latent class model approach", *Land Use Policy*, Volume 45, pp. 18-198.

Popescu G., Manole V. (2010). "High valorification of land resources in Romanian agriculture through the land parcels` fusion", *Ekonomika poljoprivrede*, Belgrad.

http://ec.europa.eu/eurostat/web/agriculture/data/main-tables