

# The Size of Farms in the European Union - a Challenge to their Management

David-Nicolae CRECANĂ<sup>1</sup>

## **Abstract**

*Performance management at farm level requires identifying all aspects likely to alter favorably their financial results and avoiding risk factors that lead to natural and anthropogenic financial loss.*

*Farm size is a factor directly determines the possibilities of growth and development of these entities, choosing an optimum size is a prime goal of management.*

*In the European Union differences in economic development of Member States are found to influence both in size and in economic size of farms in each Member State.*

*In Romania the issue size of farms is vital for overall development of agriculture, due to excessive fragmentation of agricultural land since 1989.*

*Also, organic farming introduces new paradigms of development of agricultural exploitations in the developed countries of the European Union becoming certainty agriculture sustainable development principles.*

**Keywords:** *size farm, sustainable development, fragmentation of agricultural land, economic size, financial performance, organic products.*

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

## **Introduction**

The size of farms and their economic size are prime subjects in research conducted worldwide to increase economic and financial performance of these entities.

The impact of sustainable development on the structure of agricultural holdings will be increasingly higher, as agricultural products obtained in organic farming enjoys recognition from the founding countries of the European Union.

Globally there are major differences of opinion and interpretations of the optimal size of agricultural holdings are visible differences between the United States and the European Union.

Romanian agri-food sector and rural quality of life presents significant delays to the European Union, competitiveness gaps are due to land fragmentation, lack of agricultural equipment (Istudor et al., 2015).

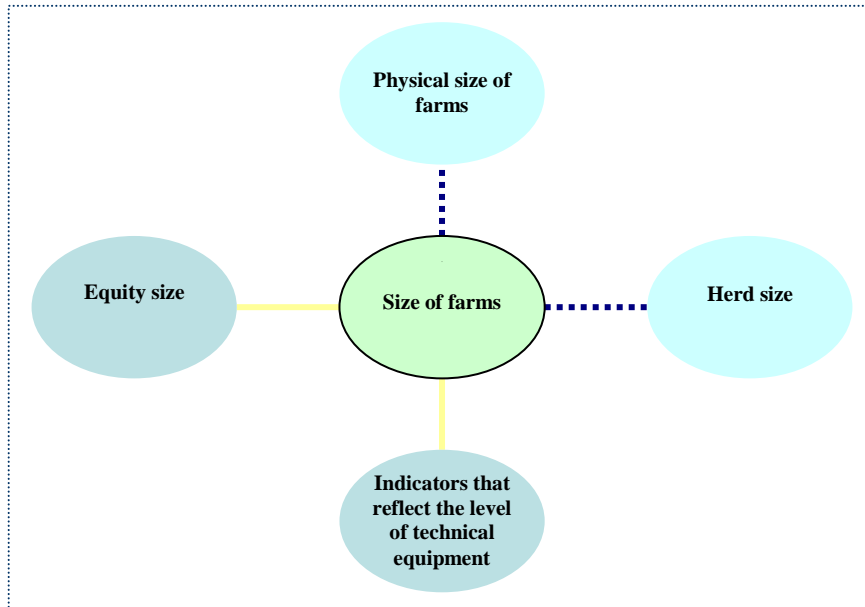
---

<sup>1</sup> David-Nicolae CRECANĂ, The Bucharest University of Economic Studies, e-mail: crecanadavid@gmail.com

## 1. Size and economic size of farms

Farm size is that surface (or herd) ensuring the optimum conditions for the use of all human and material resources, according to the structure of production and technologies used. (Nastase, 1999).

Expression size of farms (figure 1) can be made by physical size work surface (ha) by herd size in animal husbandry. A different way of expressing the size of the farm is by indicators that reflect the degree of endowment, the size of equity or human potential.



**Figure 1. Expression size of a farm**

Source: Own achievement

The size of the farm is a concept with a more ample, expressing the production potential of the farm, expressed the resources allocated to achieve a certain volume and value of production, in terms of maximizing profit (Manole et al., 2005).

It is obvious that one can not make a direct correlation between the physical size of agricultural holdings and their economic size, actually meet diametrically opposed situations (size and small economic size or small size and large economic size).

There are various opinions on the research on agricultural land fragmentation with increasing small and medium farms, some showing benefits of fragmentation, others only disadvantages.

Land fragmentation affects dairy farming through its influence on foodstuff production.

As its impact on extensive farms (which use a large land area per cow) is expected to be larger than on intensive farms, land fragmentation could also constitute an obstacle to adopting an extensive production technology. (Orea et al., 2015).

From a certain standpoint farms small may be considered unsustainable from a financial perspective, the classical economists advocating the concentration of agricultural production on farms large and very large, but everything changes due to the impact of organic farming and extensive implementation of sustainable development principles.

In rural areas, which are dominated by agriculture, sustainable development has gained prominence because for a long time agricultural policies were in conflict with the natural environment, the actions that assisted in obtaining maximum yield per hectare (Istudor, 2016).

Therefore it is necessary to rethink the structure of agricultural exploitations depending on the particular area of production, access to markets, and the attractiveness of Romanian organic products.

In reality, both small farms and large ones have their own importance, therefore it requires structural analysis of agricultural exploitations and their adaptation to specific regional conditions.

We should not exaggerate the role of small farms to the detriment of large holdings, but rather found a way collaboration between modeled industry where large projects are attracted to large companies (corporations), which then subcontracts to small business specializing strictly on certain technological flows (Dobre et al., 2013).

In Romania there is a particular situation due to the manner of acquisition of agricultural land by 1989, agricultural land fragmentation is excessive in certain situations, which leaves its mark on the limited possibilities of realization of large farms.

Economic theory recognizes the need for fusion as an important action agrarian policy, which should merge land ownership in households (Popescu et al., 2010).

Another specific issue of agriculture in Romania is related to the possibility of lending to this sector, the small size of exploitations representing a minus for bank lending.

European funds for agriculture exerted a great influence on the Romanian banking system, the share of loans to the agricultural sector in total loans has doubled, yet access to these funds many project beneficiaries have resorted to external sources of financing due to the financial availability low (Istudor et al., 2015).

It becomes obvious need to develop a credit system adapted to the particularities of Romanian farms, especially small and very small.

Large farms and large have bargaining power with the banking system different from the small and very small, hence the need to protect the latter by the state through various tax or government aid grants.

## 2. Size and economic size of agricultural exploitations in the European Union

In the European Union the number of farms, their structure and size are shown in the following table:

**Table 1. The size of agricultural exploitations in the European Union in 2013**

	Number of farm holdings (thousands)			Utilised agricultural area (thousand hectares)		
	All farms	Very small and small farms	Large farms	All farms	Very small and small farms	Large farms
<b>EU-28</b>	<b>10841</b>	<b>9353</b>	<b>337</b>	<b>174614</b>	<b>32276</b>	<b>90966</b>
<b>Belgium</b>	38	17	2	1308	150	320
<b>Bulgaria</b>	254	239	6	4651	350	3891
<b>Czech Republic</b>	26	14	5	3491	107	3065
<b>Denmark</b>	39	17	8	2619	158	1808
<b>Germany</b>	285	128	35	16700	1257	9514
<b>Estonia</b>	19	14	2	958	92	704
<b>Ireland</b>	140	60	5	4959	658	1152
<b>Greece</b>	710	676	1	4857	2049	1689
<b>Spain</b>	965	758	52	23300	3559	12939
<b>France</b>	472	202	98	27739	1164	17170
<b>Croatia</b>	157	147	1	1571	557	629
<b>Italy</b>	1010	880	15	12099	4171	3259
<b>Cyprus</b>	35	34	0	109	58	19
<b>Latvia</b>	82	67	3	1878	406	996
<b>Lithuania</b>	172	150	5	2861	801	1334
<b>Luxembourg</b>	2	1	0	131	4	70
<b>Hungary</b>	491	461	8	4657	708	3001
<b>Malta</b>	9	9	0	11	11	0
<b>Netherlands</b>	67	38	2	1848	255	369
<b>Austria</b>	140	98	3	2727	724	448
<b>Poland</b>	1429	1295	11	14410	6943	3044
<b>Portugal</b>	264	241	6	3642	814	2107
<b>Romania</b>	3630	3591	13	13056	5675	6300
<b>Slovenia</b>	72	69	0	486	334	34
<b>Slovakia</b>	24	19	2	1902	80	1719
<b>Finland</b>	54	20	5	2282	218	705
<b>Sweden</b>	67	37	8	3036	334	1677
<b>United</b>	185	71	41	17327	639	13003
<b>Norway</b>	43	25	1	996	242	94

Source: Eurostat - Agriculture, forestry and fishery statistics, 2016 edition

By processing this data shows that the average size of farms in the European Union (EU-28) is 16,1 hectares per farm in 2013.

Analysis of data from the above table reflects the fact that the European Union there is major differences between Member States on average farm size of 1.2 ha in Malta to 134.3 ha in the Czech Republic.

The ten member states in order of increasing average size of agricultural exploitations are shown in the following table:

**Table 2.** The first ten member states in order of increasing average size of exploitations farm (2013)

<b>Country</b>	<b>The average size (hectares)</b>
<b>Malta</b>	1.2
<b>Cyprus</b>	3.1
<b>Romania</b>	3.6
<b>Slovenia</b>	6.8
<b>Greece</b>	6.8
<b>Hungary</b>	9.5
<b>Croatia</b>	10.0
<b>Poland</b>	10.1
<b>Italy</b>	12.0
<b>Portugal</b>	13.8

Source: Eurostat - Agriculture, forestry and fishery statistics, 2016 edition

Romania has an average size of agricultural exploitations in 2013 of 3.6 hectares, which reinforces the idea of excessive fragmentation of agricultural land.

At the opposite pole are found past 10 member states in order of increasing average size of agricultural exploitations, shown in the following table:

**Table 3.** The last ten member states in order of increasing average size of exploitations farm (2013)

<b>Country</b>	<b>The average size (hectares)</b>
<b>Finland</b>	42.3
<b>Sweden</b>	45.3
<b>Estonia</b>	50.4
<b>Germany</b>	58.6
<b>France</b>	58.8
<b>Luxembourg</b>	65.5
<b>Denmark</b>	67.2
<b>Slovakia</b>	79.3
<b>United Kingdom</b>	93.7
<b>Czech Republic</b>	134.3

Source: Eurostat - Agriculture, forestry and fishery statistics, 2016 edition

In the European Union the number of farms, their economic structure and size are shown in the following table:

**Table 4. Economic size of agricultural exploitations in the European Union in 2013**

	Number of farm holdings (thousands)			Standard output (million EUR)		
	All farms	All farms	All farms	All farms	All farms	All farms
<b>EU-28</b>	<b>10841</b>	<b>9353</b>	<b>337</b>	<b>331105</b>	<b>107887</b>	<b>110792</b>
<b>Belgium</b>	38	17	2	8407	2316	1170
<b>Bulgaria</b>	254	239	6	3336	1027	1968
<b>Czech Republic</b>	26	14	5	4447	631	3480
<b>Denmark</b>	39	17	8	9580	1441	6393
<b>Germany</b>	285	128	35	46252	7301	20440
<b>Estonia</b>	19	14	2	676	111	491
<b>Ireland</b>	140	60	5	5013	652	887
<b>Greece</b>	710	676	1	8103	6217	320
<b>Spain</b>	965	758	52	35979	16129	9049
<b>France</b>	472	202	98	56914	10977	24481
<b>Croatia</b>	157	147	1	2029	1080	427
<b>Italy</b>	1010	880	15	43794	20066	7608
<b>Cyprus</b>	35	34	0	495	337	45
<b>Latvia</b>	82	67	3	990	206	536
<b>Lithuania</b>	172	150	5	1919	576	900
<b>Luxembourg</b>	2	1	0	314	27	162
<b>Hungary</b>	491	461	8	5578	1790	2852
<b>Malta</b>	9	9	0	97	96	0
<b>Netherlands</b>	67	38	2	20498	9216	2066
<b>Austria</b>	140	98	3	5671	1941	389
<b>Poland</b>	1429	1295	11	21797	11394	3565
<b>Portugal</b>	264	241	6	4509	2196	1152
<b>Romania</b>	3630	3591	13	11990	7848	3278
<b>Slovenia</b>	72	69	0	1009	661	70
<b>Slovakia</b>	24	19	2	1812	266	1424
<b>Finland</b>	54	20	5	3398	563	991
<b>Sweden</b>	67	37	8	4679	627	2789
<b>United</b>	185	71	41	21819	2196	13859
<b>Norway</b>	43	25	1	3410	1099	275

Source: Eurostat - Agriculture, forestry and fishery statistics, 2016 edition

Analyzing the data resulting major differences between Member States on the output finance the higher income recorded in the Netherlands, and the lowest in Romania, the conclusion is that the high level of fragmentation of agricultural land in Romania is a brake on their performance.

## Conclusions

To achieve its performance targets, management of agricultural exploitations must realize the importance of choosing an optimum size of it, along with the optimal structure of crops or livestock.

The evolution of organizations, whatever their size or the extent of their activity is linked to a large extent, for their leadership. Even if sometimes this could be perceived as a subject that could be awkward or more debated, researchers and practitioners agree that there is still a large room in terms of understanding and opportunities to develop leadership capabilities within organizations as a critical factor for their success (Năstase et al., 2016).

Although it can not determine a direct correlation between the size of exploitations agricultural and economic size of it, specifying a size determines the amount of revenue further, excluding holdings of ecological, which can get the land area small extra income dictated by the value of products organic farming in the market.

Improving our relationship with the natural environment it is recognized as a necessity for many decades. This led to the development of a complex institutional framework in order to correct economic interactions in pursuit of a harmonious relationship between profit and the ability to offer both the natural resources that fuel production processes and healthy conditions for humans and ecosystems (Rădulescu et al., 2016).

In the end, what matters is the financial result achieved by each holding part, a result that would allow management objectives and long-term economic viability.

The size restriction appears as an initial decision to set up or develop a farm, restriction which will dictate the type of holding selected, but also future revenues.

The vulnerability of farms to environmental conditions, the uncertainty of achieving revenues in some years it necessary to expand the size of farms, integrating agricultural production with food, but the decision rests solely with their management.

In the European Union, due to economic disparities between Member States find a variety of farms in terms of their physical size, but also notable differences of financial output (their economic size).

Eventually the agricultural tradition of each Member State, the different ways of acquiring land, maturity agricultural markets outlets put their mark on the structure of agricultural holdings and their financial returns.

In Romania there is the lowest level of the output at farm level financial environment, an excessive fragmentation of agricultural land and an average size of just 3.6 hectares.

It requires urgent clarification of the strategic development priorities of Romanian agriculture and the stimulation of land concentration, the creation of large and very large agricultural entities.

In measuring the financial performance of farms must use various indicators, size of revenues is not sufficient for a proper reflection of the economic reality.

Indicators such as value added per hectare or per animal, the gross result from or livestock are meant to reflect the exact synthetic farm efficiency for each physical unit expressing their size.

### References

1. Dobre I., Boboc D. (2013). "Investments Decision Making in the Green Economy", *Calitatea-acces la succes, Societatea Română pentru asigurarea calității*, București.
2. Eurostat (2016). "Agriculture, forestry and fishery statistics".
3. Istudor N. (2016). "Sustainable business opportunities in rural areas", *Calitatea-acces la succes, Societatea Română pentru asigurarea calității*, București.
4. Istudor N., Petrescu I.E., Petrache D.C., Caraman C. (2015). "The role of european funds for the sustainable development of romanian rural area in the period 2014-2020", *Annals of the University of Oradea: Economic Science*, Oradea.
5. 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.
6. Manole V., Istudor N., Boboc D., Ion R.A. (2005). "Filieri agroalimentare", *Editura Academia de Studii Economice*, București.
7. Năstase M., Dobrea R.C., Vălimăreanu I. (2016). "Promoting the Entrepreneurial Competencies for School Leadership Development", *Review of International Comparative Management*, Volume 17, Issue 1, pp. 4 - 11.
8. Năstase M. (1999). "Dimensiunea optimă a exploatațiilor agricole", *Ed. Chrater*, București.
9. 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, Pages 189–198.
10. Popescu G., Manole V. (2010). "High valorification of land resources in Romanian agriculture through the land parcels` fusion", *Ekonomika poljoprivrede*, Belgrad.
11. Rădulescu C.V., Ildiko I., Marian N. (2016). "Premises of the Green Business Strategies", *Review of International Comparative Management*, Volume 17, Issue 2, pp. 108 – 113.