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PHYSICAL SIZE OF AGRICULTURAL HOLDINGS IN ROMANIA. GAPS BETWEEN ROMANIA AND THE EUROPEAN UNION MEMBER STATES

ABSTRACT

The physical size of agricultural holdings refers to the average utilized agricultural area (UAA) of agricultural holdings. It reveals the average level of UAA concentration and represents an important component of agricultural production development. In the present paper we have in view the following: physical size of agricultural holdings in Romania compared to the EU average; distribution of agricultural holdings by different size classes; the manifested trends and the general character of these trends; the existing gap between Romania's agriculture and the EU average and the average in the EU Member States; the gap trend and the factors that favour or hinder the UAA concentration in our country; the agricultural policy in the investigated field. The paper was mainly based upon the data from Eurostat, the EU Economic Commission, the National Institute for Statistics from Romania and from different published studies and papers.

Key words: physical size of agricultural holdings, concentration, forms and types of holdings.

JEL Classification: Q12.

1. THE PHYSICAL SIZE OF AGRICULTURAL HOLDINGS AND THEIR DISTRIBUTION BY SIZE CLASSES

There are large gaps between Romania's agriculture and the agriculture from most European Union countries, which should be reduced in order to ensure a real convergence and an efficient integration into the EU structures. One of these gaps refers to the physical size of agricultural holdings expressed by the Utilized Agricultural Area (UAA) of the agricultural units.

Before 1989, Romania was one of the countries with the largest physical size of agricultural holdings; after 1989, it became one of the countries with the smallest physical size of these holdings. In 2007, the first year after the accession to the EU, the physical size of the agricultural holdings was of 3.5 ha, our country being on the penultimate place in the EU-27, after Malta. At the opposite pole was the Czech Republic, with 89.3 ha per holding. The placement of the two former socialist countries on completely opposite positions is the result of the different policy applied in the agriculture transition to the market economy. While in Romania we

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had in view the reconstitution of what had been in agriculture before, in the Czech Republic the prefiguration of agriculture's future was had in view. The result in Romania was the atomization of the agricultural holdings and land fragmentation, which is currently higher than 50-60 years ago, in the inter-war period; in the Czech Republic, a concentration of the agricultural areas on holdings took place, which places on a top position among the European Union countries (Figure 1). Romania is practically on the last step in the hierarchy of the EU countries not only as regards the physical size, but also from the point of view of the economic size; in 2007 in Romania, the economic size per holding was 1 ESU, while in Netherlands, which lies at the opposite pole, the economic size was 111 ESU (1 ESU = 1200 Euros).

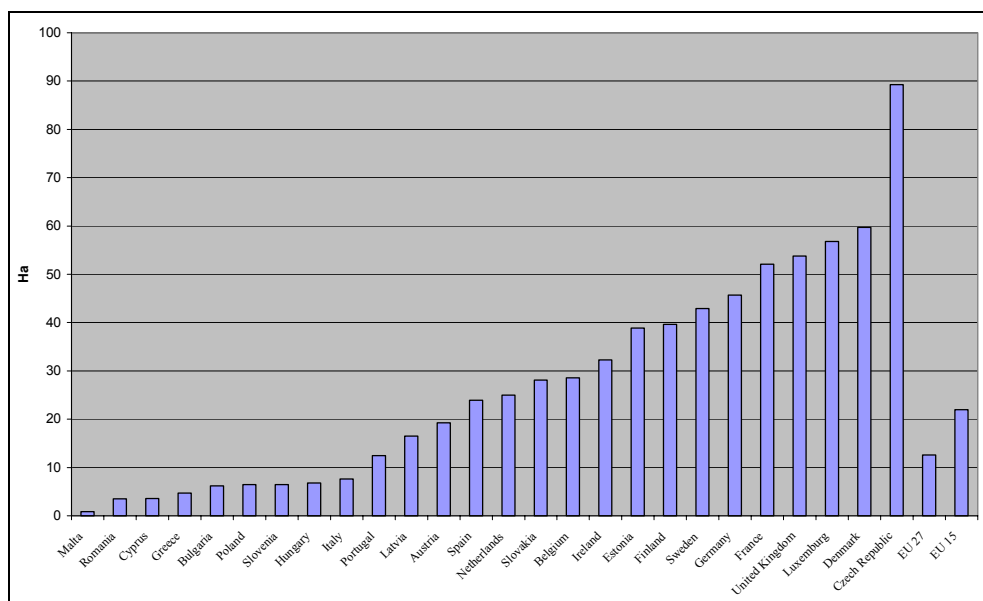


Figure 1. The average physical size of the agricultural holdings in the EU-27 Member States in 2007.

In EU-27, the average area of the agricultural holdings was 12.6 ha in 2007, being 3.5 times higher than in Romania. Such a gap represents a great handicap for Romania. With the above-mentioned size, which adds to the excessive parcelling of the land area, the agricultural holdings in our country are facing great difficulties in practicing a performant and competitive agriculture, in crop rotation organization, in the specialization in the production of certain products with high value added, in the use of technical means and modern technologies, in obtaining large batches of products, in counteracting the negative effects of certain disturbing factors or in market operation, etc.

The very high share of agricultural holdings under 5 ha is characteristic for the distribution of the agricultural holdings by physical size classes; these holdings

represent 90% of total of agricultural holdings, compared to 70% in EU-27; another characteristic is the very low share of holdings of 50 ha and over, i.e. 0.3%, as against 5.1% in EU-27 (Table 1). Romania outstrips only Bulgaria in the first case and Malta in the second case. It is also worth mentioning the relatively low share of farms between 5 and 50 ha, i.e. 9.9%, as compared to 24.5% in EU-27.

Table 1

The distribution of agricultural holdings by different size classes in Romania versus EU-27

	Size class (Ha)	Holdings								
		Thousand			% of total			Average size –ha-		
		2003	2005	2007	2003	2005	2007	2003	2005	2007
EU 27	0–5	10957.6	10349.1	9644.8	72.9	71.5	70.4	1.4	1.4	1.1
	5–10	1526.1	1584.7	{2553.2	10.2	10.9	{18.6	7.0	7.0	{9.6
	10–20	1015.1	1030.4		6.8	7.1		14.0	14.0	
	20–50	835.4	825.9	804.3	5.6	5.7	5.9	31.5	31.5	31.8
	≥ 50	687.1	691.8	698.1	4.5	4.8	5.1	155	153	155
	Total	15021.4	14482.0	13700.4	100.0	100.0	100.0	11.5	11.9	12.3
Romania	0–5	4205.1	3870.7	3530.7	93.8	90.9	89.8	12.8	1.3	1.4
	5–10	218.9	289.6	300.0	4.9	6.8	7.7	6.6	6.7	6.7
	10–20	37.4	65.9	71.1	0.8	1.5	1.8	12.6	12.3	13.0
	20–50	9.5	16.1	16.1	0.2	0.4	0.4	29.6	29.2	29.9
	≥ 50	14.1	13.8	14.4	0.3	0.3	0.3	482	403	382
	Total	4484.9	4256.2	3931.4	100.0	100.0	100.0	3.1	3.3	3.5

	Size class (Ha)	Utilized Agricultural Area					
		Thousand hectares			% of total		
		2003	2005	2007	2003	2005	2007
EU-27	0–5	15053	14856	10990	8.7	8.6	6.5
	5–10	10675	11056	10714	6.2	6.4	6.3
	10–20	14235	14401	13887	8.2	8.4	8.2
	20–50	26307	26035	25590	15.2	15.1	15.2
	≥ 50	106535	105649	107898	61.7	61.4	63.8
	Total	172794	171996	169079	100.0	100.0	100.0
Romania	0–5	4939	5102	4829	35.5	36.7	35.1
	5–10	1441	1926	2018	10.3	13.9	14.7
	10–20	471	850	924	3.4	6.1	6.7
	20–50	281	470	481	2.0	3.4	3.5
	≥ 50	6798	5558	5500	48.8	40.0	40.0
	Total	13931	13907	13753	100.0	100.0	100.0

Source: European Union, Agriculture in the European Union. Statistical and Economic Union.

The distribution of agricultural holdings by physical size classes must be investigated in close connection with the utilized agricultural area distribution: the farms under 5 ha in Romania utilized 35.1% of the agricultural area as opposed to

6.5% in the EU²; the agricultural holdings with 50 and over 50 ha utilized 40.0% of the agricultural area as opposed to 63.8% in the EU³, while the farms with 5–50 ha utilized 24.9% of the agricultural area as opposed to 29.7% in the EU⁴.

2. THE INCREASE OF THE PHYSICAL SIZE OF AGRICULTURAL HOLDINGS—GENERAL TREND

The trend of the physical size of agricultural holdings was increasing both in Romania and in EU – in Romania from 3.1 ha in 2003 to 3.5 ha in 2007, and in EU 27 from 11.5% to 12.3%. The increase by only 0.4 ha in Romania was not enough to result in the diminution of the existent gap compared to the EU average. In case this increase is maintained in the next years, too, it will take 10–12 years to raise the farm physical size by 1 ha, while the gap would increase rather than diminish. In order to narrow the existing gap, it will be necessary to continue the structural reform and to increase the average farm size at a rate higher than the average rate in the EU. We mention that the physical farm size increased much over the EU average in certain countries in 2007 as compared to 2003: the increase was 10.0 ha in the Czech Republic, 6.8 ha in France, 5.0 ha in Denmark, 4.5 ha in Germany and 4.2 ha in Belgium (Table 2).

Table 2

The evolution of the average size of agricultural holdings in the European Union

	Average size of holdings			Average size of holdings			
	2003	2005	2007	2003	2005	2007	
EU 27	11.5	11.9	12.3	Luxembourg	51.2	52.7	56.8
Belgium	25.4	26.9	29.6	Hungary	5.6	6.0	6.8
Bulgaria	4.4	5.1	6.2	Malta	1.0	0.9	0.9
Czech Rep.	79.3	84.2	89.3	Netherlands	23.5	23.9	24.9
Denmark	54.7	52.4	59.7	Austria	18.7	19.1	19.3
Germany	41.2	43.7	45.7	Poland	6.6	6.0	6.5
Estonia	38.9	29.9	32.3	Portugal	10.4	11.4	12.6
Ireland	31.7	31.8	32.3	Romania	3.1	3.3	3.5
Greek	4.8	4.8	4.7	Slovenia	6.3	6.3	6.5

² At this physical size class of holdings, Romania outstrips by far all the other countries in the EU. There are countries where the share of the utilized agricultural area on the farms under 5 ha is very low – Denmark (0.1%), Ireland (0.6), the Czech Republic and Finland (0.8), the United Kingdom (0.9), France (1.0), Germany and Sweden (1.1), Belgium (1.8), Netherlands (2.4).

³ At this size class, the average physical size of the agricultural holdings in Romania is 382 hectares, as compared to 155 hectares in EU-27.

⁴ If we refer only to the agricultural holdings that use 10–50 ha that can be considered the core of the medium-sized holdings, of the medium-sized class, respectively, their share is only 10.2 % in Romania, as compared to 33.4 % in EU-27.

Table 2 (continued)

Spain	21.9	23.0	23.9	Slovakia	27.0	27.4	28.1
France	45.3	48.7	52.1	Finland	29.9	32.1	33.6
Italy	6.7	7.4	7.6	Sweden	46.1	42.1	42.9
Cyprus	3.5	3.4	3.6	United Kingdom	57.4	55.6	53.8
Latvia	11.8	13.2	16.5	EU 15	20.2	21.4	22.0
Lithuania	9.2	11.0	11.5				

Source: European Union, Agriculture in the European Union. Statistical and Economic Union.

In the evolution of the distribution of agricultural holdings by physical size classes in the EU, an increasing trend can be noticed in the share of holdings with 50 ha and over, from 4.5% in 2003 to 5.1% in 2007, as well as of the share of utilized agricultural area on these holdings from 61.7% to 63.8%. In Romania, while the share of the agricultural holdings remained the same, i.e. – 0.3%, the share of the utilized agricultural area decreased from 48.8% to 40.0%, by almost 9%. This reverse evolution compared to the EU average was mainly the result of dismantling certain agricultural holdings/ associations and of the restitution to former owners or their heirs of certain land areas from the commercial companies and from the public administration units on the basis of Law no. 247/2005 on the reform in ownership and justice.⁵ A part of these areas went into holdings of lower size classes, and another part was set aside from the agricultural use and utilized for other purposes – construction of dwellings, offices, warehouses, etc.

As a result of the diminution of areas in the size class of 50 ha and over, the average size of the respective holdings was down from 482 ha in 2003 to 382 ha in 2007. In spite of this, the average farm size in our country at this size class is higher than that in EU-27 (i.e.155 ha). This is a characteristic feature of the former socialist countries that joined the European Union. The average farm size in this size class in these countries is higher than the average in EU-15 and in most of them higher than the EU-27 average. The largest farm size is found in Slovakia (621 ha), the Czech Republic (494 ha), Bulgaria (409 ha) and Romania (382 ha). Among the other countries, the largest size in the size class 50 ha and over is found in Portugal (226 ha), Spain (174ha), Denmark and the United Kingdom (183 ha) and in Germany (146 ha) (Table 3).

⁵ In this way, the same system of solving up the land ownership was continued as in the case of de-collectivization and privatization, which led to the diminution of land areas concentration not only in the private state domain, but also in the public domain, in the agricultural research institutes and stations, on the didactic farms, to the destruction of fruit tree and vine plantations and agro-zootechnical constructions, to pillage phenomena and country wealth diminution. The land areas dedicated to agricultural research diminished from 160,000 ha in 1990 to 35,600 ha at present. The National Agricultural Research & Development Institute from Fundulea had an area of 7500 ha in 1990; at present it administrates only 1700 ha, out of which 400 ha are subject to claims. The 61 ha of the Fruit Tree Research Institute in Baneasa were claimed as compensation by different businessmen, who never owned properties on the institute land. By the diminution of the land areas dedicated to agricultural research, Romania will lose national biological material that is extremely valuable for agriculture.

Table 3

Hierarchy of the EU-27 countries in relation to the farm size in the size class of 50 ha and over and to the share of utilized agricultural area on these farms in 2007

In relation to the farm size (Ha)		In relation to the share of utilized agricultural area (%)	
Slovakia	620.7	Slovakia	92.9
Czech Republic	449.3	Czech Republic	92.7
Bulgaria	407.6 ^x	Luxemburg	85.9
Romania	381.9	United Kingdom	85.5
Estonia	268.5	France	82.7
Hungary	259.0	Denmark	80.3
Portugal	228.9	Spain	79.6 ^x
United Kingdom	186.6	Bulgaria	79.1 ^x
Lithuania	174.4	Germany	74.7
Spain	173.5 ^x	Hungary	74.7
Poland	152.6	Sweden	72.2
Germany	147.5	Portugal	64.7
Latvia	143.1	Belgium	55.1
Denmark	139.7	Finland	52.7
Slovenia	132.5	Latvia	49.1
Italy	125.4	Netherlands	47.6
Sweden	125.8	Lithuania	46.0
France	115.4	Ireland	45.9
Austria	114.9	Austria	40.7
Cyprus	102.5	Romania	40.0
Luxembourg	101.8	Italy	39.4
Greece	90.4	Cyprus	27.9
Belgium	86.0	Poland	24.3
Finland	85.1	Greece	15.3
Ireland	83.7	Slovenia	10.9
Netherlands	81.3	Malta	...
Malta	...	EU-27	63.8
EU-27	155	EU-15	67.2 ^x
EU-15	139.9 ^x		

^x 2005

Source: European Union, Agriculture in the European Union. Statistical and Economic Union.

The share of the utilized agricultural area (UAA) on the holdings in the size class 50 ha and over is quite significant for the present and future of agriculture. This share ranges from 10.9% in Slovenia to 92.9% in Slovakia. In 15 countries of the EU-27, the UAA share in total utilized agricultural area is higher than 50%. It is obvious that the agricultural production from the above-mentioned size class also exceeds 50%. The average share of UAA in EU-27 was 63.8%. Romania is one of the countries with the UAA share under 50%, i.e. 40.0% (down by 9% as compared to 2003). As a trend, the EU average has increased, getting close to 70%. Among the large countries, France came to utilize 82.7% of its UAA on the holdings of 50 ha and over, Germany 74.4%, the United Kingdom 85.5% and Spain 69.6%.

3. DIVERSIFICATION OF FARM TYPES AND FORMS. THE COMMERCIAL FAMILY FARMS – THE PREVAILING FORM

From the presented statistical data, it results that in Romania's agriculture there is a very large number of farms with very small areas (subsistence or semi-subsistence farms) and a very small number of holdings with very large areas; in-between, there is a relatively low number of farms that use a relatively modest land area. Such a structure yields production and efficiency results that put Romania in a less favourable situation. As a result, the change of the present structure is imposed, in the following directions:

- a) Diminution of the number of the small farms and of the share of their utilized area in total UAA;
- b) Increase of the number of medium-sized farms, of the commercially-oriented family farms in the first place, as well as of the share of their utilized area in total UAA;
- c) Increase in the number of large-sized holdings and of the share of their utilized area in total agricultural area⁶.

At present in Romania's agriculture, there are different farm types and forms, each of them having advantages and disadvantages. The debates on the absolute superiority of one type or another have largely a dogmatic character. In practice, one should take into consideration not only the economic criteria, but also the social and ecological criteria, not only the private economic interest, but also the national economic interest, the "abundance" or "scarcity" of the natural production factors, the number of the people to feed, the traditions, etc. The absolutization of one type or another of farms on the basis of a certain criterion is rather counterproductive. The tendency is not to simplify the structure of farms but rather to diversify the types and forms of farms (as well as the ownership). This presupposes, on the basis of the lessons learnt from the experience of other countries and of the

⁶ As regards the farm structure evolution, very many opinions were formulated. According to one of these, the segment of individual household farms, which is relatively large (from 10 to 20 ha) could represent the backbone of the sector of Romanian commercial family farms, similar to the family farm pattern in the European Union; at the same time, the segment of farms with less than 5 ha is prone to remain at the semisubsistence or subsistence level level and to gradually disappear. The category of farms between 5 and 10 ha could evolve in both directions, either towards commercial farms, by expansion, or towards semi-subsistence (Mihail Dumitru, Doina Diminescu, Valentin Lazea, Rural Development and the Reform of Romanian Agriculture, 2004, p.12).

Starting from the extremely unfavourable farm structure, Letitia Zahiu highlights the necessity of certain priority support measures and orientation towards the creation of medium-sized farms, belonging both to physical entities and to associative organization forms (Letiția Zahiu, *Politici și piețe agricole*, Ed. Ceres, 2005, p.102).

The Romanian Center for European Policies proposes, 'Romania's strategic reorientation to the medium-sized farm support (20–100 ha) which could ensure both productivity increase and the rural population's getting out of poverty. The support to very large-sized farms will only lead to a South American model, with a few thousands of very large-sized holdings in the middle of the generalized rural poverty' (Lucian Luca, *Economistul*, October 29, 2009).

real situation in our country, to focus on a certain farm type, at least for a period of time. In order to overcome the situation in which our agriculture is at present, out of the multitude of existing farm types and forms, the focus should be laid on the family farm with commercial orientation. Among the arguments, the following are worth mentioning:

a) In all the developed countries, the United States included, agriculture was not capitalized in the sense of transforming the agricultural units into capitalized units based on salary working. The agriculture of family type has prevailed and it is still prevalent, the size of which has grown in time, together with the technological progress. Such an agriculture was integrated into the capitalist system of the economy through a system of very tight connections, based on the market mechanisms (and, if the case, also on the state intervention also) with those branches ensuring the non-agricultural production factors and with the branches that process, distribute and take the products to the consumers, with the banking system.

b) In the European Union, the statistical data reveal that out of the total annual working units (AWU) only in two countries, i.e., the Czech Republic and Slovakia, the non-family labour prevails (hired, paid labour). In the first country, the family labour share was 26.3% in 2007, while in the latter 46.3%. In the other countries the share of the family labour exceeds 50% and, as a result, most farms are of family type (Table 4 and Figure 2). In Romania the family labour has the greatest share, i.e. 97.7%.

Table 4

Family and non-family labour in agriculture in 2007

	Total number of AWU (full-time workers equivalent) thousand ¹	Labour input in agriculture, thousand AWU		Total number of AWU= 100	
		Family members	Non-family members ¹	Family members %	Non-family members ¹ %
EU 27 ²	11746	10259.8	1486.4	87.3	12.7
Belgium	63	52.1	10.5	82.7	17.3
Bulgaria ²	597	542.9	53.7	90.9	9.1
The Czech Republic	134	36.7	97.2	27.4	72.6
Denmark	54	34.2	19.5	63.3	36.7
Germany	555	418.5	136.6	75.3	24.7
Estonia	31	19.5	11.9	62.9	37.1
Ireland ²	145	137.2	7.5	94.6	5.4
Greece ²	511	492.2	18.3	96.3	3.7
Spain ²	808	649.5	158.2	80.4	19.6
France	719	376.5	342.1	52.4	47.6
Italy	1169	1091.5	78.0	93.3	6.7
Cyprus	24	19.4	4.9	80.8	19.2
Latvia	104	88.5	15.3	85.1	14.9

Table 4 (continued)

Lithuania	176	152.2	24.1	86.5	13.5
Luxembourg	4	3.2	0.5	80.0	20.0
Hungary	390	312.2	77.4	80.1	19.9
Malta	4	3.7	0.5	92.9	7.1
Netherlands	151	100.4	50.6	66.5	33.5
Austria	159	143.5	15.7	90.3	9.7
Poland	2194	2139.6	54.1	97.5	2.5
Portugal	315	277.1	38.3	88.0	12.0
Romania ²	2408	2353.0	54.6	97.7	2.3
Slovenia	91	77.4	2.6	85.1	14.9
Slovakia	87	40.3	47.2	46.3	54.3
Finland	68	59.9	7.8	88.1	11.9
Sweden	63	49.6	13.8	78.7	21.3
The United Kingdom	316	229.2	88.7	72.5	27.5
EU-25 ²	8742	7363.9	1378.0	84.2	15.8
EU-15 ²	5340	4324.1	1016.3	81.0	19.0

¹ Without non-family labour hired on a non-regular basis

² 2005

Source: Agriculture in the European Union. Statistical and Economic Information. Own calculations.

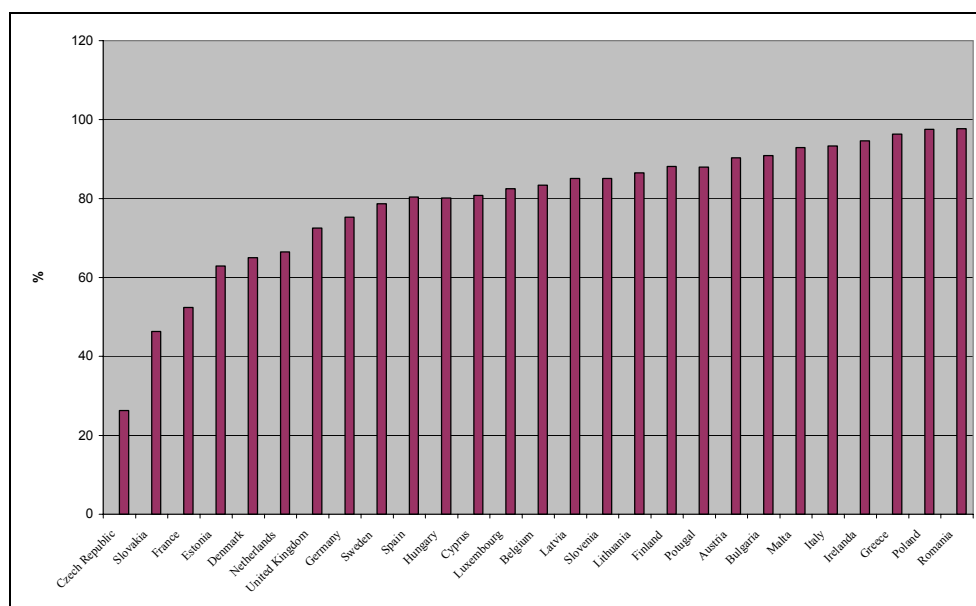


Figure 2. The hierarchy of the EU-27 countries by the family labour input in 2007 (AWU total=100).

In time, the ratio of the family labour input to the non-family (hired) labour input has changed in the favour of hired labour (Table 5).

Table 5

Evolution of the share of family labour in the labour input expressed in AWU¹ [%]

	EU 27	EU 15	France	Germany	Spain	Italy	United Kingdom	Greece	Portugal	Belgium	Netherlands
1997	...	87.3	84.0	73.7	85.6	96.8	65.2	98.8	90.5	88.7	77.7
2000	...	82.0	56.4	71.7	83.2	95.9	69.0	98.3	90.0	87.5	70.5
2003	71,5	82.1	58.3	77.1	81.2	93.6	72.4	96.5	89.5	84.7	67.8
2005	87,3	81.0	55.4	76.1	80.4	91.4	72.9	96.3	88.9	83.4	67.7
2007	52.4	75.4	...	93.4	72.1	96.3	88.8	82.7	66.5

Source: Calculations based on data from Agriculture in the European Union. Statistical and Economic Information.

¹ Without non-family labour hired on a non-regular basis.

The family labour share decreases and the share of hired labour increases with the increase in the physical size of agricultural holdings. This change is slower than the concentration of land areas as with the land area concentration, advanced technical means and technologies are introduced, as well as more efficient management and marketing methods, which, on one hand, contribute to the total labour input diminution, and on the other hand, make it possible to use higher quality family labour on increasingly larger agricultural holdings.

Similar conclusions are reached when investigating the indicator “share of paid labour in agriculture”. The increase of paid labour input represents a general trend: in the period 2001–2006, the share of paid labour grew from 22.3% to 27.9% in EU-27, and from 34.6 to 37.8% in EU-15. By countries, the share and the growth rate rhythm are different.

In Romania, the share of the paid labour input is the lowest, although in the above-mentioned period it grew from 5.5% to 6.4%. In Romania’s “vicinity”, there are countries such as Greece, Poland, Slovenia and Portugal, with relatively low-sized farms.

At the opposite pole, there are four ex-socialist countries, i.e. Slovakia, the Czech Republic, Estonia and Hungary, where the share of paid labour input is relatively high, ranging from 64% to 85%. These countries “have preserved” the large-sized holdings of the previous regime, with paid labour. The decisive factor of the high share of paid labour is represented by the large physical farm size.

A particular group is represented by the developed countries, namely Germany, Denmark, Netherlands, Spain, the United Kingdom, Italy and France, where the paid labour share is close to 50%; some countries have already exceeded this share, while others are getting close to it. In these countries, the decisive role in the share of paid labour input is represented by the high tech level, which acted in the direction of diminishing the share of paid labour, in the first place by the labour demand diminution and in the second place by an increased complexity of work. In one AWU, a person working on a farm with higher technological level can replace several persons employed on farms with a lower technological level. Under these

conditions, it is possible to enlarge the “borders” of family labour use on increasingly large farms. France represents an important example, where paid labour represented only 31.2%, while the family labour represented 55.4%.

c) In all the presented situations referring to the structure of farms, Romania is on one of the last places as regards the number and share of the farms in the middle zone, which is almost totally represented by family farms with commercial character. This is one of the weakest points in the farm structure in Romania. Part of the lower-sized farms can develop into family farms with commercial character faster and with small efforts. As an argument to the priority that should be attached to family farm development, we also mention the fact that a more friendly attitude towards land is manifested on these farms, the transaction costs related to hiring labour and labour surveillance and control are lower and a better quality of works is ensured. Compared to the large-sized holdings, the family farms can more easily bear the shock of the effects of the natural disturbing factors, of the financial, economic and food crisis, on the basis of reducing the rent for land, of the retribution of own work, of the profit on the invested capital and of replacing some expensive mechanical works by family labour and use of draft animals. The family farms combine the concern to obtain incomes from selling their products with solving up the social and environmental problems. The priority orientation towards the family farms is also of national interest as regards the demographical issue, as it contributes to maintaining the young labour in place and does not favour the young people’s migration to other countries for work; it is this migration that most often resulted in people’s settling down in foreign countries.

The opinion that the family farms would be small-sized farms should be amended, starting from the realities in the developed countries where such farms can use relatively large areas, which can reach hundreds of hectares (in the United States, for example). Everything depends on the crop structure, the machinery fleet, the labour potential and the professionalism of family members, as well as on the system of relations with the suppliers and their customers and with the state.

Besides the family farms, there are also large-sized farms owned by natural persons and legal entities. The need to increase the number of these farms and their utilized area first comes from the place they have in Romania’s agriculture, much under the EU average. Secondly, it results from the fact that in many cases such farms obtain results comparable to those in the developed countries as regards the average yields, product quality and the economic efficiency, even under the conditions when they have to face unfair competition due to the great differences in the direct payments per hectare and to certain constraints imposed either by EU or by the suppliers and customers, among which we mention the banks and supermarkets. While from the economic point of view the large-sized holdings obtain better results compared to other forms of farms, not the same thing could be said from the ecologic point of view. In search for profit maximization, these holdings (except for the associations) can act in disagreement with the organic farming requirements,

by cultivating certain crops that exhaust the soil in nutrients, by using chemical substances over the acceptable limits etc. The large-sized farms contribute to the increase of the social discrepancies. Very few people benefit from the incomes obtained on these farms, represented by the managers of the respective units and the shareholders, if appropriate, as well as by their employees. In Romania's conditions, with a huge number of small-sized farms, the orientation towards holdings of thousands of ha is not the best solution, as it leaves a large number of people without the "work object"; as they are released from the farming activity and in case they do not find anything to work, these persons will increase the number of poor people and of those migrating to other countries for work.

As regards the small-sized farms, the statistical data show that they continue to exist in the countries with a developed agriculture as well. Thus, in 2007 in France, for example, they accounted for 25% of the total number of farms and 1.0% of the utilized area, and in Germany 23% and 1.1% respectively. There are opinions according to which these diminutions are too large, which resulted in the emergence of zones with too low agricultural population and in CAP orientation towards the support of these small-sized farms.

In Romania the share of small-sized farms will have to be very much reduced, yet avoiding the complete disappearance of such holdings in certain areas. Their presence is particularly necessary in the hilly areas. The small farms have an important role in the use of the existing resources in these zones and in supplying the local markets, in preserving and enriching the natural environment, in tourism development, in the sale of traditional products. In the conditions of global warming, these zones become more important for the country's economy.

4. WAYS OF ACTION TO INCREASE THE PHYSICAL SIZE OF THE AGRICULTURAL HOLDINGS

The increase in the physical size of the agricultural holdings is an important objective for agricultural production concentration into viable and competitive units and at the same time for bridging up the existing gap with most EU countries. Reaching this objective takes time and multiple actions. The fulfillment of the above-mentioned objective is influenced by the global financial and economic crisis that started in 2008, as well as by the fact that in late 2009 the "transition period" convened upon with the EU for a series of economic and social processes in Romania's agriculture, for granting subsidies from the national budget, was over⁷.

⁷ Starting with January 1, 2010, the subsidies from the national budget granted in the last three years were eliminated, namely the support for the milk quality, for the pig and poultry raisers, Diesel oil subsidy, as well as for the irrigation water. Starting with January 2010, the 30% subsidy provided for the agricultural credits was also eliminated, as well as the aid for specific crops, such as soybean, tobacco, rice, sugar beet.

From the actions meant to contribute to increase in the farm physical size we first mention the continuation of the structural reform. We have in view: the completion of the land restitution process; speeding up the settling down of numerous disputes in court; the clarification of the legal regime of the agricultural land areas; the intensification of the activity of the National Agency of Cadastre and Land Registration, the diminution of the identification costs, land surveying and land ownership right registration in the Land Book; the stimulation of the exchange of parcels for the diminution of the number of parcels and land consolidation. Obtaining good results in this respect would facilitate the land concentration into larger-sized agricultural holdings.

The change of the activity profile of the land owners of retirement age (62 years), ceasing their activity in agriculture in the conditions of a life annuity worth 100 Euros in the case of land sale and 50 Euros in the case of leasing out proved to be a measure that contributed to the concentration of agricultural areas. The life annuity scheme was launched at the end of the year 2005 and became operational in 2006. About 95000 persons participated to this scheme, with a total area of about 360000 ha. The ratio of the sold area to the leased out area was about 1 to 5⁸.

In early 2010 MARD ceased to receive new life annuity applications it has in view to negotiate with the European Commission the adjustment of the system in conformity with the European norms or the adoption of another form of stimulating land consolidation, including the application of the other measure specified in the National Rural Development Program, namely the early retirement of farmers aged at least 55 years, which is allowed in the European Union, yet not envisaging the pensioners.

A possible way of increasing the physical size of the agricultural holdings is the financial support for the young farmers who wish to settle down in the rural area, who have the necessary training in agriculture and establish or take over an agricultural holding for the first time. The National Rural Development Program (NRDP) 2007–2013 makes available to young farmers non-refundable EU funds with a total value of 337221484 for starting up agricultural holdings under the Measure 112 – “Setting up young farmers”. The funds can be asked for at the Payments Agency for Rural Development and Fisheries (PARDF) until the end of 2013. The non-refundable funds received for setting up young farmers range from 10,000 to 25000 euro per farm with a size from 6 to 40 ESU, the value of one unit being 1,200 euros at present. In order to benefit from financial support, the applicant have to own a farm of the above-mentioned size mentioned, registered in the Agricultural Register, as well as a project – type of business designed in conformity

⁸ MARD will pay the rights to those who are registered in the life annuity system by the end of 2009. Normally, the rent payment should continue because the sale of land or land lease was not for 2–3 years, and the sum estimated to be paid for the year 2010 is modest (83 million RON for 360000 ha means 230 RON/ha/year).

with the requirements. The achievement of such a provision from the NRDP would have positive results not only with regard to the improvement of farmers structure – by age, training, orientation to modernization, performant management and marketing.

For the physical size increase of farms, a special importance is held by the development of the land market with its main components: selling- purchase of agricultural land, land leasing, concession, etc. Each land owner has full freedom to choose the alienation form (full or partial) of the land property.

By the land sale-purchase process, the complete transfer of agricultural land ownership takes place. In the first years from the application of the Law on the legal circulation of land, this segment of the land market had a slow development: in the period 1998–2005 the agricultural area sold-purchased in the outer village zone (extravilan zone) (with legal forms) totalled 513,283 ha, i.e. less than 4% of the utilized agricultural area. In the next years, until the emergence of the global financial and economic crisis, the land market experienced a faster development; this was due to the elimination of the preemption right of neighbours and of state from the legislation, and the limitation to 200 ha of the area which could be acquired by a natural person, the elimination of the set-aside fee, the increased efficiency of investments in land as a result of the increasing tendency of land prices with the accession to the EU, the agricultural tax introduction. The financial and economic crisis has hindered the normal development of the land market. It reduced both the demand and the price of land. The recovery of this market together with overcoming the crisis presuppose granting credits under favourable conditions to those interested in buying land, with the possibility to guarantee the credit with the acquired land. The establishment in MARD of a special department in charge with land market operation, with the creation of a database on the land areas sold, leased, under concession, of the level of land price, rent, royalty, and other forms at national and zonal level, the exchange of land areas having in view their concentration, the information for the interested people, including the changes in the land legislation.

Land lease experienced greater development compared to the sale-purchase of lands. The leased in areas in 2007 totalled 2.3 million ha as opposed to 1.9 million in 2005, representing 16.8% of the utilized agricultural area in 2007 as opposed to 14.0% in 2005 (Table 6). Land lease is practiced on a smaller scale on the individual agricultural households and on a larger scale on the legal entity farms; in 2007, the share of leased in land accounted for 6.7% on individual households and 35.9% on the legal entity units. The land lease practice on a larger scale is possible under the conditions of the application of an agricultural policy favourable to national production development, the application of the support to setting up young farmers, of the access to credits under favourable conditions, promotion of modern technologies.

Table 6

Utilized agricultural area (UAA) by land tenure modality in 2005 and 2007

	MU	Total	Of which		Total	Of which	
			On individual households	On legal entity units		On individual households	On legal entity units
		2005			2007		
UAA	Ha	13906701	9102018	4804683	13753046	8966309	4786738
Into ownership	Ha	10366966	7853331	2513636	10071438	7668549	2402890
On concession basis	Ha	330997	56220	274777	301289	81114	220176
Leased in	Ha	1945317	529608	1415710	2311167	592770	1718397
Share cropping	Ha	427032	364497	62535	282356	242802	39553
Utilized on free of charge basis	Ha	194165	160661	53504	239332	219674	19658
Other modalities	Ha	642222	137701	504521	547465	161401	386064
UAA	%	100.0	100.0	100.0	100.0	100.0	100.0
Into ownership	%	74.5	86.3	52.3	73.2	85.5	50.2
On concession basis	%	2.4	0.6	5.7	2.2	0.9	4.6
Leased in	%	14.0	5.8	29.5	16.8	6.7	35.9
Share cropping	%	3.1	4.0	1.3	2.1	2.7	0.8
Utilized on free of charge basis	%	1.4	1.8	0.7	1.7	2.4	0.4
Other modalities	%	4.6	1.5	10.5	4.0	1.8	8.1

Source: Farm Structure Survey, NIS 2006 and 2008

Land concession has a relatively small and decreasing share as a result of the diminution of land areas in the private domain of the state. A similar situation is noticed in the case of land under share cropping. While land concession is practiced on the legal entities, share cropping is found on the individual households, mostly small-sized.

Land lease and concession have the greatest share in the commercial companies with majority private capital and mainly on the holdings with over 100 ha. The average area of these holdings is 541 ha in the case of land lease and 868 ha in the case of concession. The holdings of this size that are mainly profit-oriented have certain advantages as regards the economic efficiency, but also some disadvantages of social and ecologic nature, great discrepancies in incomes between the hundreds or thousands of small owners, lessors and lessees, the under estimation of certain ecologic aspects.

In Romania, land lease represents an important way of concentrating the land areas into viable farms, of increasing the physical size of these farms. Taking into account the presence of several millions of small land owners who hardly would give up using the land in ownership, land lease cannot and should not either be used on the scale it is used in Belgium or in France.

Some different Romanian companies with foreign capital or foreign natural persons are also interested in buying or leasing in land in Romania (although the foreign natural persons can acquire the right to buy land in Romania after 7 years from Romania's accession to the EU). The interest of the foreign capital is determined by the land quality in Romania and by the low land prices, the cheap labour, the relatively large domestic market still insufficiently supplied and other advantages. All these represent landmarks for the making successful business in Romania. As a result, large land areas were purchased or leased out by such entities, the counties Timis, Caras-Severin and Arad being on the top positions⁹. Foreign companies from Italy, Austria, Spain, Greece, Israel and other countries are interested in buying land areas of 100–150 ha and larger, but such a demand is difficult to satisfy because of land fragmentation into small plots and of the bureaucratic procedures to consolidate small plots into larger areas. The difficult land consolidation is amplified by the fact that many land owners do not have the cadastre or their ownership right registered in the Land Book, and doing this takes time, special efforts and money. The excessive land fragmentation and the difficulty to consolidate the land constrain the process of buying land by foreign entities.

The purchase of land by foreign investors and the organization of agricultural holdings presents a series of advantages, namely: bringing in capital and capital goods that our agriculture is missing; the promotion of certain management and organization methods as well as of some technologies that are less known and used by the Romanian producers; the development of their behaviour compatible with the market economy requirement. However, certain disadvantages can also appear in the cases in which: land is bought with speculation purposes; the new land owners would not make any investments for increasing the technical and technological level in agriculture; they would practice an agriculture focusing on profit maximization with the price of land degradation and labour force exploitation; the purchase of large land areas in the conditions of a surplus agrarian population could generate social tensions as a result of unemployment increase and of income diminution.

While highlighting the need to attract foreign capital in agriculture, including the land sale under the conditions established by the Romanian Constitution, we consider it debatable the opinion according to which the current situation of the Romanian agriculture is "... could obviously change only as a result of a consistent wave of land acquisitions by the foreign investors". And this because: a) it omits or

⁹ The area purchased by the Romanian firms with foreign capital and and by the foreign physical entities who also have Romanian citizenship was estimated at maximum 300,000 ha (Adrian Rădulescu, counsellor in MARD – Jurnalul Național of 24.03.2008).

puts on a secondary plan the role of the internal factors of which the development of agriculture depends; b) the consistent wave of land acquisitions by the foreign investors means at the same time the alienation of the ownership that the Romanian producers have upon land, which is for them the most important production mean and way of earning their living, while for the overall society – the most precious natural resource and one of the constitutive elements of the state; it is not all a coincidence that the sale of lands to foreigners was forbidden before the present Constitution; c) under the present conditions, land would be sold at extremely low prices, which would aggravate the landowners' situation; d) land acquisition without any limit could generate social conflicts similar to those which happened several times in our country's history; e) the sale of other natural resources and the dominant position that the foreign capital reached in key-sectors of the economy are an experience which should not be replicated in the case of land and of the country's territory.

In the last 20 years, the foreign capital reached very important positions in the national economy and in the exploitation of natural crude oil and gas resources exploitation, in the distribution of petrol, gas and electricity, in the ferrous and non-ferrous metalurgy, in the industry of construction materials, in the banking system and insurances, in fixed and mobile telephony, in the car industry and last but not least in the commercial system by the increase in the number of supermarkets. It is rightly considered that “the main axis of the economy came to be under foreign control” (Ilie Serbanescu). The experience of the 20 years of the post-socialist period shows that the agricultural land acquisition by the foreign capital should not reach the level of other acquisitions in other domains, such as the above-mentioned ones, because the food production is too important to be left in the hands of the foreign capital, whose main objective is not to ensure food security for Romania's population, but rather profit maximization, and because the agricultural land is part of the national territory that cannot be alienated, representing one of the distinct features of the state. A state in which consistent parts of its territory are sold to foreign capital loses its sovereignty.

The association of the agricultural producers into cooperative companies for crop and livestock production¹⁰ is the concentration modality for the agricultural production that provides the greatest advantages, as the associated members preserve their land ownership, receive the rent convened upon for ceding the land use, participate at the organization and management of the activity in conformity with the democratic principles provided for in establishment and operation rules, benefit from the obtained results and from the state support provided to the cooperatives. A favourable factor is represented by the organization, on the basis of

¹⁰ By “cooperative companies” we have in view the two forms of farms presented separately both in the statistics and in other papers: agricultural companies/associations and cooperative units. Although they appeared in different periods and on basis of some different laws, both forms of agricultural holdings are cooperative forms. Their separate presentation can create the impression that in Romania's agriculture, the cooperation is reduced to the holdings named “cooperative units”. The term cooperative companies is used to avoid this confusion.

the Cooperation Law, of a system of cooperatives for input supply, selling, processing of products, crediting as well as the creation of bodies at county and national level, which together can significantly improve the activity in agriculture and the living standard of the participants to this activity.

At present, the cooperative companies have a modest place in our agriculture. The old forms emerged on the basis of Law 36/1991 experienced a decreasing trend, and those started on the basis of Law 5666/2004 are in small number.

In the period 2002–2007, the number of the companies/associations in agriculture (Table 7) was down by 786 units (by 34%) and the utilized agricultural area decreased by 359667 ha (by 37%).¹¹ The continuation of the trend reflected by the statistical data is contrary to the expectations and importance of farmers' association for the diminution of the land fragmentation effect and the creation of conditions for the development of viable, modern farms, able to face competition under the free market conditions, in the absence of customs barriers.

Table 7

Number and area of cooperative companies in the years 2005 and 2007

	Number of agricultural holdings			Utilized agricultural area ha			Area /holdings ha		
	2002	2005	2007	2002	2005	2007	2002	2005	2007
Agricultural companies/associations	2261	1630	1475	975564	742065	615897	431	455	418
Cooperative units	87	108	71	2365	3246	15088	27	30	213

Source: The General Agricultural Census, 2004; Farm Structure Survey, NIS, 2006, 2008.

The causes of the diminution of the number of companies/ associations in agriculture and of the utilized agricultural area and livestock herds, of the agricultural production consequently, are found in the agricultural policy applied to these farms, in the lack of capital, in the drawbacks of the regulations on the agricultural produce market, of the system of prices, taxes and fees, as well as in the drawbacks in the management of these units.

The cooperative units (the second component of the cooperative companies), established on the basis of the Law on agricultural cooperation of December 4, 2004, had a very slow evolution, as compared to the expectations and to the need for changes in agriculture. In the year 2007, there were 71 cooperative units, and the agricultural area utilized by them totalled 15,088 ha, about 213 ha per farm¹².

¹¹ In agriculture, these farms represent much under 1% of total and 4.6% of the utilized agricultural area. The main profile is crop production. Only 199 companies/associations raise animals (114 units raise bovines, 76 pigs, 57 sheep, 9 goats and 45 raise poultry); the livestock number totals only 11625 bovines, 30848 pigs, 14902 sheep, 708 goats, 52983 poultry, in all cases their share in the total number of livestock being non-significant.

¹² The cooperative units existing before the enforcement of the Law on the agricultural cooperation of December 4, 2004 were established on the basis of Law 109/1996. They were in the administration of the central or local public administration units that also carried out farming activities/NIS, Farm Structure Survey 2005, tome. I, p. 212).

Most cooperative units are found in the counties Alba, Ilfov, Braşov, Covasna, Olt and Arad. Out of 71 cooperative units, 60 are involved only in land operation and 11 have a mixed profile, i.e. both land operation and livestock production.

The development of the cooperative companies results in the improvement of farmers' activities, stimulating the farmers to get associated, helping them to get informed on the legislation issues and on production organization for the market, on the possibility to access non-refundable funds from the European Union, to design programs and the necessary documentation for applying to credits, to overcome the difficulties in the relations with the suppliers and their customers.

An important role in the promotion of the associative, cooperative spirit, is played by the increase in the number of producers' groups and their support to adjust their production to the market requirements, to add value to the obtained products, so as to supply the market with quality products and to facilitate the obtaining of non-refundable funds from the European Fund for Rural Development (EFRD).

The measure for the producers' groups (for which few projects were submitted) has in view to encourage farmers association in order to get organized and increase their negotiation power in the agrifood chain, as it is known that at the end of the chain, the supermarkets and the retail networks are very powerful in comparison with the farmers at the beginning of the chain. By the establishment of producers' groups, by their getting united in the creation of their own post-harvest structure, corresponding to their specific activity of sorting, packaging, storage of products along the food chain, the above-mentioned ratio of forces is changed and better prices and incomes are obtained.

By the above-mentioned ways of action, we have in view the diminution of the total number of agricultural farms and the shift of the load center from the subsistence and semi-subsistence to the commercial, family farms, of physical and economic size which could enable the performant agriculture practice.

CONCLUSIONS

Romania' agriculture has a peripheral position in the European Union as regards the physical size of farms. With 3.5 ha per farm versus 12.6 ha in the EU-27, it is on the penultimate place in the EU. Out of the total of agricultural farms, in Romania 90% have under 5 ha, as against 70% in the EU and they utilize 35.1% of the agricultural area as against 6.5% in the EU; 9.9% of farms have 5–50 ha, as opposed to 29.6% in the EU and utilize 40.0% of the agricultural area as opposed to 63.8 in the EU.

The low average area and the farm structure and the structure of the utilized agricultural area by size classes is less favourable for Romania as compared to the EU. As a result, certain changes are absolutely necessary, as follows: diminution of the number of small-sized farms and of the share of their utilized agricultural area in total UAA; increase of the number of medium-sized farms, mainly commercial

family farms and of the share of their utilized agricultural area; increase of the number of large-sized farms and of their share in UAA. By such changes, the main nucleus of the organization forms in agriculture will shift towards the medium-sized farms, mainly commercial family farms, while avoiding both the disappearance of small-sized farms and the depopulation of certain areas; at the same time, the establishment of excessively large farms oriented towards profit maximization could be avoided. The main advantages of the commercial family farms are the following: maintaining the Romanian farmer not as hired labour force but rather as owner of the land, manager and beneficiary of his results; avoiding the further population stratification into poor and rich; combination between the economic, social and ecologic efficiency, as essential component of the sustainable development of agriculture; diminution of the young people's migration to foreign countries.

The physical size of the agricultural holdings in Romania follows the general increasing trend. However, by comparison to the EU average, this increase is slower, which means that the gap did not narrow, but got larger. In order to narrow the gap, definite measures are imposed at several levels. Among these, the following are worth mentioning: the continuation of the structural reform, the completion of the land restitution process for the entitled persons; speeding up the settling down in court of the disputes on land ownership rights; stimulating the activity of the Agency for Cadastre and Land Registration, in the conditions of lower costs and bureaucracy diminution; stimulating the exchange of lands areas, having in view the diminution of the number of parcels and land consolidation; support to the retired people who accept to sell or lease out their outer village agricultural land areas and to the young people who settle down in the rural areas and establish an agricultural holding for the first time; a special focus should be laid on the development of the cooperative companies/associations, including the establishment of farmers' groups; the promotion of a favourable policy for the land market development; the organization of farmers' information on the land supply and demand, land prices, land lease and royalties etc; avoiding the speculation; the diversification of types and forms of farms.

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