

CONSIDERATIONS ON UTILIZED AGRICULTURAL LAND AND FARM STRUCTURE IN THE EUROPEAN UNION

Agatha POPESCU

University of Agricultural Sciences and Veterinary Medicine Bucharest, 59 Marasti, District 1,
Zip code 011464, Bucharest, Romania, Phone: +40 213182564/232, Fax:+40213182888,
Email:agatha_popescu@yahoo.com

Corresponding author: agatha_popescu@yahoo.com

Abstract

The paper aimed to analyze the EU-27 agricultural land, farms structure and size based on Eurostat data. In the EU, farm structure shows that farms have a small size accounting for 12 ha in average. The highest farm size is in Czech Republic (152 ha) and the smallest one in Romania and Cyprus (3 ha). The size of farms has slowly increased from a year to another while the number of farms declined. About 80 % farms are situated in Romania, Italy, Poland, Spain, Greece, Hungary and France. Three countries France, Italy and Germany produces 50.51 % gross margin of the EU-27 which accounted for Euro 278.33 Billion in 2010. A number of 199,400 farms achieved 46.6 % of the total gross margin, more exactly Euro 129,810 million. These farms utilized 25 % of the Eu-27 agricultural land. The farms with less than Euro 2,000 gross margin represent 45.44 % of the total number of farms and keep 5 % of the utilized agricultural land and produce 3.39 % of the EU-27 gross margin. The farms with a higher dimension produce the highest gross margin proving that farm size has a direct influence on profitability and economic efficiency.

Key words: European Union, farm size, farm structure, utilized agricultural land

INTRODUCTION

The EU agriculture is highly developed but important differences are from a country to another. In the EU the development of agriculture is based on small scale farms, the average farm size being about 12 ha, ranging between 152 ha in Czech Republic and 3 ha in Cyprus and Romania [1].

The small farmers play a key role in meeting the future food demand of the population. Their capability to adapt to market needs, to orient their agricultural systems, to operate in an efficient manner could support their business development and help them to move from subsistence to commercial farming [2]. In this context, this paper aimed to present the actual situation of agricultural holdings in the EU-27 in terms of utilized agricultural land, number of farms, farm structure and size.

MATERIALS AND METHODS

The paper is based on the data collected from the EU data base Eurostat. The following

aspects have been approached: EU surface and its distribution by member states, agricultural land and its distribution by member states, number of farms by farm class, farm size, income per AWU and farm size class. The main characteristics of this aspect were presented in a critical manner. Also, the situation of farm structure in Romania was presented pointing out its position in the EU.

RESULTS AND DISCUSSIONS

The EU-27 surface area accounts for 4,271.6 thousand of square kilometers. The surface of each member state is given in Table 1. The countries with the largest surface are France, Spain, Sweden, Germany, Poland, Finland, Italy, United Kingdom and Romania. The smallest countries are Malta, Luxembourg and Cyprus.

Utilized agricultural land in the EU-27. In 2010, the EU-27 had 170 million utilized agricultural land representing 40 % of the EU territory. A number of 7 countries utilized 75 % of the agricultural land as follows: France

27.1 million ha (15.9 %), Spain 23.8 million ha (14 %), Germany 16.7 million (9.8%), United Kingdom 15.9 million ha (9.4%), Poland 14.4 million ha (8.5%), Romania 13.3 million ha (7.8%) and Italy 12.9 million ha (7.6%).

Table 1. EU-27 area ('000 square kilometers)

Country	Surface area ('000 s.km)	Country	Surface area ('000 s.km)
Malta (MT)	0.3	Portugal(PT)	91.9
Luxembourg (LU)	2.6	Hungary (HU)	93.0
Cyprus (CY)	9.3	Bulgaria (BG)	111.0
Slovenia (SI)	201.	Greece (EL)	130.7
Belgium (BE)	30.3	Romania (RO)	230.0
Netherlands (NL)	33.8	United Kingdom (UK)	243.8
Denmark (DK)	43.1	Italy (IT)	295.1
Estonia (EE)	43.4	Finland (FI)	304.5
Slovakia (SK)	49.0	Poland (PL)	312.7
Croatia (HR)	56.5	Germany (DE)	357.0
Latvia (LV)	62.3	Sweden (SE)	410.3
Lithuania (LT)	62.7	Spain (ES)	506.0
Ireland (IE)	68.4	France (FR)	544.0
Czech Republic (CZ)	77.3	Total surface	4,271.6
Austria (AT)	82.5	-	-

Source: Living in the EU, www.europa.eu/about-eu/facts-figures/living [5].

In the period 2003-2010, the utilized agricultural land decreased in 18 member states and increased in 9 countries. The highest reductions were recorded in Cyprus (-24.3%), Slovenia (-9.4%), Austria (-8%) and the highest growth was recorded in Bulgaria (+24.7%), Latvia (+19.9%) and Estonia (+18%).(Table 2).

Number of farms in the EU-27. In the year 2010, the EU had about 12 million farms by 20 % less than in 2003, a positive aspect in close connection with farm size. Therefore, the reduced number of farms means a larger farm size.

In 7 countries there are 80 % of the RU-27 agricultural farms as follows: Romania 3.9 million farms (32 %), Italy million farms (13.5 %), Poland 1.5 million farms (12.5 %), Spain 1 million farms (8.2 %), Greece 0.7 farms (5.9%), Hungary 0.6 million farms (4.8%) and France 0.5 million (4.3%). The remaining countries have smaller shares as follows: Bulgaria 3 %, Portugal 3 %, Germany 2 %, United Kingdom 2 %, Lithuania 2 %.

The number of farms decreased during the period 2003-2010. The most important reductions were noticed in Estonia 46.6 %, Bulgaria 44.2 %, Latvia 34.4 % and Poland 30.7 % [12].

Table 2. Utilized agricultural area (AAA) by EU-27 member states in 2010 (thousand ha)

Country	Utilized agricultural area(thousand ha)	Country	Utilized agricultural area(thousand ha)
Austria	2,878	Lithuania	2,743
Belgium	1,374	Luxembourg	-
Bulgaria	4,476	Malta	11
Czech Republic	3,484	United Kingdom	16,043
Cyprus	118	Netherlands	1,872
Denmark	2,647	Poland	14,447
Estonia	941	Portugal	3,668
Finland	2,291	Romania	13,753
France	27,837	Slovakia	1,896
Germany	16,704	Slovenia	483
Greece	3,302	Spain	23,753
Ireland	4,991	Sweden	3,066
Italy	12,856	Hungary	4,686
Latvia	1,796	TOTAL EU-27	172,398*

Source: Eurostat, Farm structure statistics, http://epp.eurostat.ec.europa.eu/statistics_explained/images/5/5a/Agricultural_holdings%2C_2000-2010.png, * Figures include also Norway, Switzerland and Croatia. [4].

Farm distribution by EU utilized agricultural land classification among member states. Taking into consideration, the utilized agricultural land, the distribution of farms in the EU-27 was the following one in the year 2010: farms with over 60 ha in Czech Republic, Denmark, Slovakia and United Kingdom; farms with 30-59 ha in Germany, Estonia, Ireland, France,

Luxembourg, Finland and Sweden; farms with 15-29 ha in Belgium, Spain, Latvia, the Netherlands and Austria; farms with 8-14 ha in Bulgaria, Italy, Lithuania, Hungary, Poland and Portugal, and farms with 0-7 ha in Greece, Cyprus, Malta, Romania and Slovenia [11].

Table 3. Number of agricultural holdings by EU-27 member states in 2010 (thousand)

Country	Number of agricultural holdings (thousand)	Country	Number of agricultural holdings (thousand)
Austria	150.2	Lithuania	199.9
Belgium	48.0	Luxembourg	2.3
Bulgaria	370.5	Malta	12.5
Czech Republic	22.9	United Kingdom	226.7
Cyprus	38.9	Netherlands	72.3
Denmark	42.1	Poland	1,506.6
Estonia	19.6	Portugal	305.3
Finland	63.9	Romania	3,931.4
France	516.1	Slovakia	24.5
Germany	499.1	Slovenia	74.7
Greece	674.9	Spain	989.8
Ireland	139.9	Sweden	71.1
Italy	1,620.9	Hungary	576.8
Latvia	83.4	TOTAL EU-27	13,627*

Source: Eurostat, Farm structure statistics, http://epp.eurostat.ec.europa.eu/statistics_explained/images/5/5a/Agricultural_holdings%2C_2000-2010.png
* Figures include also Norway, Switzerland and Croatia. [4].

Farm structure by agricultural profile. In the EU-27, about 25 % farms are dealing with crop production (cereals, industrial plants and vegetables); 20 % farms are dealing with permanent crops, 15 % farms are dealing with animal husbandry and 40 % are other farms.

Table 4. Romania's farm structure in 2012

Farm type	Farm size (ha)	Number of farms (thousands)	%	Agricultural land (thousand ha)	%
Not financed households	< 1	2,740	71.1	5,073	34.5
Subsistence and semisubsistence farms	1-10	1,044	27.1	3,108	21.2
Commercial farms of which:	10-55,000	72	1.8	6,504	44.3
-family farms	10-50	60	1.5	1,494	10.2
-companies	100-55,000	12	0.3	5,010	34.1
Total	-	3,856	100	14,685	100

Source: Otiman I.P., 2012, Agricultural structure in Romania, Review of Sociology no.5-6/2012, p.339-359; Agricultural Census in Romania, 2011 [3].

Farm size. In general the EU agriculture is characterized by small farms. The average farm size at the EU-27 level was 12.7 ha in 2010.

The largest farms can be seen in Czech Republic (152 ha), United Kingdom (79 ha), Denmark (65 ha), Luxembourg (59 ha), Germany (56 ha) and France (53 ha). The smallest farms are in Malta (1 ha), Cyprus (3 ha), Romania (3 ha), Greece (6 ha) and Slovenia (6 ha).

Regarding the small farms, the largest ones with over 100 ha have a share of 50 % in the utilized agricultural land and 49 % of the smallest farms with less than 2 ha work just 2 % of agricultural land.

In Romania, there are 3,856,000 farms of which: 97.7 % farms have less than 10 ha and cultivate 40 % of the utilized surface, 1.9 % farms have 10-100 ha and cultivate 12 % of the agricultural utilized land and 0.4 % farms are larger than 100 ha and cultivate 48 % of the utilized land. Therefore, Romania is on the top position regarding the number of farms/country and also on the last position concerning farm size [10].

Analyzing in more details, 2,740,000 farms with less than 1 ha, representing 71.1 % of their total number (3,856,000 farms), utilize 5,073,000 ha, representing 34.5 % of the total agricultural land of Romania (14,685,000 ha). The 1,044,000 subsistence and semi-subsistence farms (1-10 ha) account for 27.1 % of the total number of farms and work 3,108,000 ha weighting 21.2 % of the total agricultural land.

In Romania there are only 72 commercial farms, whose size vary from 10 ha to 55,000 ha. They represent 1.8 % of the number of farms in the country, work 6,504,000 ha weighting 44.3 % of the total agricultural land. Of these farms, only 12 companies have between 100 and 55,000 ha, representing 0.3 % of the total number of farms and own 5,010,000 ha weighting for 34.1 % of the total agricultural land. The 60 commercial family farms have 10-50 ha and work 1,494,000 ha. They represent 1.5 % in the number of farms and 10.2 % in the agricultural land (Table 4).

Farm structure by economic size in the EU.

The economic size of a farm is measured in ESU whose value is Euro 1,200. The most numeruous farms in the EU have a smaller economic dimension. About 55 of the utilized agricultural land belongs to the farms achieving Euro 2,000.

The EU farm classification based on the economic size is the following one: Very small farms (Less than ESU 4), Small farms (ESU 4-8), Inferior Average Fams (ESU 8-16), Superior Average Farms (ESU 16-40), Large farms (ESU 40-100) and Very large farms (Over ESU 100).

Gross Margin created in the EU-27 agriculture. In 2010, the total gross margin created in the EU-27 agriculture accounted for Euro 278,330 million. A number of 3 countries achieved all together 50.51 % of this figure as follows: France, the 1st position, Euro 50,733.2 million (18.22 %), Italy , the 2nd position, Euro 48,450.3 million (17,4 %) and Germany, the 3rd position with Euro 41,454.1 milion (14.89 %).

Table 5. Gross output created in the EU-27 by size class in 2010

Size class - Euro	Gross output (Euro million)	%
Over 500,000	85,587.9	30.75
250,000-499,999	44,253.7	15.89
100,000-249,999	58,133.1	20.88
50,000-99,999	30,743.4	11.04
25,000-49,999	20,836.9	7.48
15,000-24,999	10,562.8	3.79
8,000-14,999	10,145.3	3.64
4,000-7,999	8,214.5	2.95
2,000-3,999	5,345.7	1.92
Sub 2,000	4,116.9	1.47

Source: Eurostat Statistics Explained, 2012 [7].

The countries with the highest contribution to the EU-27 gross output, in the decreasing order are: France (18.22 %), Italy (17.40 %), Germany (14.89), Spain (12.20 %), the Netherlands (6.8%), Romania (Euro 10,420.1 million (3.74 %).

About 30.75 % of total gross output created in agriculture is produced by farms belonging to the category Euro over 500,000. About 15.85 % of gross output is produced by the farms belonging to the category Euro 250,000-499,999 and 20.88 % gross output is obtained by the 100,000-249,999 size class. Therefore, more than 65 % gross output is created by the highest size class (Table 5).

Gross margin over Euro 500,000 is created by 70,200 farms representing 0.59 % of the EU027 farms. In this category, 3 countries keep 50.55 % farms as follows: Germany 13,300 farms (18.94 %), Italy 11,300 farms (16,09 %) and France 10,900 farms (11.52%). Gross product less Euro 2,000 is created by 5,333,000 farms that is by 45.44 % of the EU-27 total number of farms. A number of 5 countries keep 82.98 % farms as follows: Romania 2,816,300 farms (52.80 %), Poland 485,400 farms (9.10 %), Italy 518,300 farms (9.71%), Hungary 378,600 farms (7.09%) and Spain 228,700 farms (4.28 %) (Table 6).

Table 6. Farm structure in the EU-27 by gross product size class in 2010

Size class - Euro	Number of farms	%
Over 500,000	70,200	10.59
250,000-499,999	129,300	1.10
100,000-249,999	372,700	3.17
50,000-99,999	433,800	3.69
25,000-49,999	588,100	5.01
15,000-24,999	567,300	4.83
8,000-14,999	826,400	7.04
4,000-7,999	1,454,000	12.39
2,000-3,999	1,859,900	15.84
Sub 2,000	5,095,500	43.42
0	238,000	2.02

Source: Eurostat Statistics Explained, 2012[2].

Income/AWU by farm size in the EU-27.

Taking into account farm size, the highest income/annual working unit is achieved by the largest farms whose gross margin is Euro over 120,000. It is 10 times higher than the income produced by the small farms

accounting for only Euro 3,500 per AWU. This aspect is explained by agricultural land size. The large farms have over 168 ha in average, therefore a surface 20 times higher than the small farms and also they have 4 times more workers.

Farm structure by income per AWU classes in the EU-27. In 2010, 3 % farms obtained over Euro 70,000 per AWU, 33 % farms achieved between Euro zero and 5,000 per AWU, 1 % farms recorded less than Euro 10,000 per AWU and 7 % farms registered a negative income.

The farm gross margin is deeply determined by natural conditions, farm profile, production diversity, applied technologies, input price.

CONCLUSIONS

The EU agricultural land is differently distributed among the member states. The farm size is small, in average accounting for about 12 ha, but it varies from a country to another, the highest size being recorded in Czech Republic (152 ha) and the smallest size in Romania and Cyprus (3 ha).

The main trend in the last decade was the decreasing number of farms in the favour of farm size.

However, 80 % farms are situated in 7 countries: Romania, Italy, Poland, Spain, Greece, Hungary and France.

The EU-27 achieved Euro 278.33 Billion gross margin in 2010, of which 50.51 % is obtained in three countries: France, Italy and Germany.

Gross margin of Euro 250,000, totalizing Euro 129,810 million (46.6%) of the total gross margin of the EU-27 is achieved by 199,400 farms, that is 1.7% of their total number and keep 25 % of the utilized agricultural land.

The farms with less than Euro 2,000 gross margin represent 45.44 % of the total number of farms and keep 5 % of the utilized agricultural land and produce 3.39 % of the EU-27 gross margin.

The farms with a higher dimension produce the highest gross margin proving that farm

size has a direct influence on profitability and economic efficiency.

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