

## ANALYSIS OF AGRICULTURAL ENTREPRENEURIAL INCOME AND ITS ROLE IN AGRICULTURE FINANCING. CASE STUDY ROMANIA

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### Abstract

*European Union has been and is still interested in the level of income obtained by farmers in the context in which through its specific instruments it intervenes in support of this sector. Among the objectives set by the CAP were: increasing productivity in agriculture, but also ensuring a fair standard of living for the population working in agriculture. This can be achieved by increasing the incomes of agricultural workers. Given the fact that almost one third of the EU budget is allocated either directly or indirectly to support farmers' incomes in order to ensure a fair standard of living, to understand the important role that the income obtained from agricultural activities has in the modeling of decisions. The purpose of this paper is to analyze the way in which the incomes obtained from the agricultural entrepreneurship have evolved since the accession of Romania to the European Union. Revenue fluctuations will also be analyzed in comparison with the average of the revenues recorded at EU level. The main sources of data were those currently available at EU level, namely: the economic accounts for agriculture (CEA), which is the main source of monitoring of the incomes from agriculture recorded at the macroeconomic level, as well as the data provided by RICA (Agricultural accounting information network) which is a tool for evaluating the CAP.*

**Key words:** entrepreneurial, income, agriculture, Romania

### INTRODUCTION

Although agriculture is a sector where productivity is lower than in other sectors of the economy, and in this area, significant progress has been made that has contributed to increasing the incomes of agricultural entrepreneurs [2]. Thus, the way of determining the income from agricultural entrepreneurship began to concern the specialists in this field, considering that new elements appear that need to be quantified so that their correct value can be established.

Starting from the fact that entrepreneurship can be defined as a process that consists of identifying and pursuing a business opportunity, in order to capitalize on it, we find that an entrepreneur must be innovative, leader, able to take risks, independently. At the same time he is creative, optimistic, results oriented, flexible materialist in conclusion he is a key element of the market economy.

In agriculture, entrepreneurship may be different from other sectors of activity due to “the particularities of the agricultural sector, namely: the history of the agricultural sector, the farm environment, the type of farm, etc”. [1]. Therefore, although agricultural entrepreneurship has many of the characteristics of general entrepreneurship, it also has many features.

### MATERIALS AND METHODS

The working method involved studying the specialized literature on how to determine the agricultural entrepreneurial income, as well as collecting statistical data on the evolution of the indicator in the period 2008-2017, as well as analysing and interpreting it. The agricultural entrepreneurial income is “an indicator that is used to assess the activities carried out by the entrepreneurs in this sector, rewarding the work done by the farmer, as well as the unpaid work performed by the members of his family. Thus, the agricultural

entrepreneurial income measures the income derived from the agricultural activities carried out used for the remuneration of the production factors and which is obtained by deducting the salaries, the rent and the interests from the total income” [7]. If there are family farms, they are well put into operation, farmer and family work may not be quantified so that they can be separated from other care income that can be closed. However, this income is not the total income of the farmer or the income available at the farm level, because income can also be obtained from non-agricultural activities. In other words, entrepreneurial agricultural income is represented by those income generated from the development of agricultural activities and those from other activities that cannot be separated from agricultural activities [8].

The agricultural entrepreneurial income is determined as follows as presented in Fig.1.

VALUE OF AGRICULTURAL PRODUCTION	
-	variable input costs (fertilisers, pesticides, feed, etc.)
-	depreciation
-	total taxes (on products and production)
+	total subsidies (on products and production)
=	<b>FACTOR INCOME</b> (net value added at factor costs)
-	wages
-	rents
-	interest paid
=	<b>ENTREPRENEURIAL INCOME</b>

Fig. 1. Entrepreneurial income  
 Source: own processing [7].

In this paper, there were analyzed the following aspects: the entrepreneurial income per annual work unit in Romania and in the EU, the income per family worker in agriculture compared to the salary paid at the national economy level, the family farm income by sectors, agricultural entrepreneurial income, by size classes of agricultural farms, the value of the total subsidies, the value of decoupled payments, by activity sectors, net value added per farm. Most of the indicators were studied in the period 2008-2016.

## RESULTS AND DISCUSSIONS

One of the challenges facing agriculture in the U.E. supported by the post 2020 CAP objectives is the pressure on agricultural incomes. According to the Proposal for a regulation, COM (2018) 392 final, art. 6, the specific objective 1 to be achieved is "to support viable farm incomes and resilience throughout the Union, in order to improve food security" [6].

In this paper we propose to analyze the evolution of agricultural entrepreneurial incomes in the period 2008-2016 (2016 being the last year with data processed and published by RICA), as well as of the subsidies granted during this period.

Table 1. Evolution of entrepreneurial income Euro/annual work unit

Year	Romania	EU-27	EU/ Romania
2008	2,250.0	9,314.7	4.14
2009	1,598.1	7,889.0	4.94
2010	1,645.2	10,989.4	6.68
2011	4,322.9	12,580.6	2.91
2012	3,074.3	12,297.0	4.00
2013	3,619.2	12,937.9	3.57
2014	4,068.3	13,174.7	3.24
2015	3,983.7	12,425.6	3.12
2016	3,761.3	12,681.3	3.37
2017	3,786.0	15,433.0	4.07

Source: own processing [5].

From the analysis of the entrepreneurial income, it is found that both at the level of Romania and at the level of the U.E. there were oscillations between 2008-2017. At the level of Romania, the highest entrepreneurial revenues were obtained in 2011, when their value was 81% higher than in 2014 and 92% higher than in 2008. In 2009, the lowest value of this was recorded, the decrease being 29% compared to 2008. Comparing with the values of these revenues registered at the level of the European Union, we find that the highest incomes were registered at the level of 2017, with an increase of 42% compared to 2014 and with an increase of 66% compared to 2008. In 2010, the highest ratio of average income in Romania and the U.E. was recorded. At E.U. level, the agricultural

entrepreneurial income is about 7 times higher than the one obtained in our country.

Also at the level of 2017 the average of the revenues at the level of the U.E. it was 4 times larger than in the case of Romania.

Table 2. Evolution of the income per family worker in agriculture compared to the salary paid at the national economy level (%)

Year	Romania	UE-27	Romania/UE
2008	37,2	33,2	1.1
2009	28,5	27,5	1.04
2010	28,2	37,7	0.75
2011	82,9	42,9	1.93
2012	54,7	41,0	1.33
2013	64,4	42,9	1.50
2014	67,4	43,2	1.56
2015	65,3	39,8	1.64
2016	56,7	40,7	1.39
2017	*	*	*

Source: own processing [9].

Analyzing the share of income per family worker compared to the average salary registered at the national economy level, we find that in Romania the weights are, in general, exceeding the average U.E. This is determined by the low value of the average wage, but also by the value of the low incomes recorded at the level of agricultural activities. Since 2009 there has been an increase in family income per worker. The highest value of the income from this period was recorded in 2010, when the income obtained by the family worker was of almost 83% of the average wage in the economy. Also in 2013, 2014 and 2015, the share of these revenues deposited 60% of the value of the average wage per economy.

Table 3. Evolution of the family farm income by sectors in 2016 (Euro)

Sector	Romania	UE-27	UE/Romania
Field crops	7,083.90	14,540	2.05
Horticulture	1,703.52	34,555	20.29
Wine	8,249.39	33,695	
Other permanent crops	4,928.45	21,095	4.74
Milk	4,988.44	14,725	2.95
Other grazing livestock	5,383.90	13,429	4.94
Granivores	6,650.12	45,708	6.87
Mixed	2,660.14	6,546	2.46

Source: own processing [10].

As the latest RICA report, the one from 2018 presents the data reported for the financial year 2016, we analyzed the situation of the agricultural income of this year, in relation to the activity sector. Thus it is found that the highest incomes are obtained from viticulture (8,249 Euro), followed by the incomes from the large culture (7,084 Euro) and from the exploitation of granivores (6,650 Euro). The lowest incomes are recorded at the level of horticultural farms (Euro 1,704), followed by mixed farms (Euro 2,660). As far as the average U.E. is concerned. The highest incomes are registered at the farms specialized in growing granivores (45,708 Euro), followed by the horticultural farms (34,555 Euro) and those specialized in growing vines (33,695 Euro). The lowest incomes are obtained from the mixed activities (6,546 Euro) and from the big culture (14,540 Euro). If we make a ratio between the agricultural incomes registered as average of the EU and Romania, we find that the biggest discrepancy exists between the incomes obtained from the horticultural activities that in the EU they are 20 times larger than in Romania. As far as granivorous animals are concerned, the income resulting from their reproduction is 7 times higher in the European Union compared to Romania. The smallest differences are registered in the big culture, for which the revenues at EU level are 2 or more than in Romania and in the mixed farms where the difference is 2.46 or more.

Table 4. Evolution of agricultural entrepreneurial income, by size classes of agricultural farms in the period 2008-2016 (SE430)

Year	2,000-8,000 Euro	8,000-25,000 Euro	25,000-50,000 Euro	50,000-100,000 Euro	100,000-500,000 Euro	≥500,000 Euro
2008	1,836	4,684	11,312	16,500	43,374	160,567
2009	1,730	4,487	10,461	38,102	50,552	288,060
2010	2,272	5,880	15,643	29,913	97,588	831,157
2011	2,543	7,228	18,456	34,191	123,890	358,633
2012	2,307	5,885	14,662	27,154	70,391	416,512
2013	2,655	6,716	15,621	28,670	77,404	347,013
2014	2,469	7,097	18,136	36,633	114,860	578,303
2015	1,547	4,722	12,893	28,917	97,424	851,236
2016	2,106	7,123	18,752	40,144	112,260	810,602

Source: own processing [10].

The size class is the one that influences in turn the entrepreneurial income obtained. Thus we find that the incomes registered by the

agricultural holdings with the economic dimension of more than 500,000 euros represented between 66% (2011) and 85% (2015) of the total income obtained from the agricultural activities. Also the incomes obtained by the farms in the size class 100,000-500,000 euros had weights between 10% (2010 and 2015) and 23% (2011), and those with the size class between 50,000 - 100,000 euros had incomes of 3% (2015) and 10% (2009). Farms in the category 25,000-50,000 euros did not exceed the 5% threshold, while farms with a size between 2,000-8,000 euros, and those with a size of 8,000-25,000 euros had incomes between 1% and 2% respectively (Fig. 2).

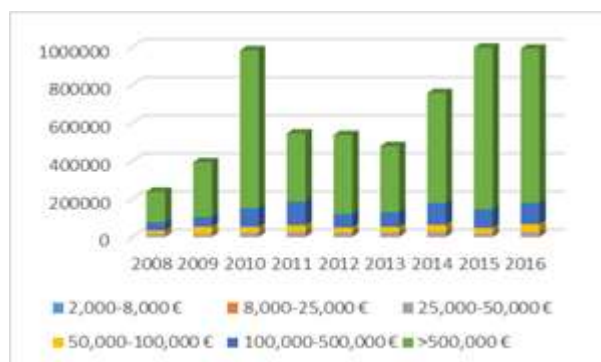


Fig. 2. Structure of agricultural entrepreneurial income, by size categories of agricultural farms  
Source: own processing [10].

As I said earlier, there is a direct relation between the size of the incomes registered in agriculture and the way of granting the subsidies. Thus we find that in the case of agricultural holdings with a size between 2,000-8,000 euros, the subsidy granted is about 900 euros, and in the case of agricultural holdings with a size class  $\geq$  500,000 euros the value of the grants exceeds 280 thousand euros (table 5).

Table 5. The value of the total subsidies, excluding those for investments, in 2016 (Euro)

Size class	Value
2,000-8,000 Euro	900
8,000-25,000 Euro	3,198
25,000-50,000 Euro	11,367
50,000-100,000 Euro	22,245
100,000-500,000 Euro	65,782
$\geq$ 500,000 Euro	279,168

Source: own processing [10].

Following the situation of decoupled payments, that is, the single payment on the surface and the scheme of the single payment on the surface, including other additional aid [4] [3], we find that the highest value is registered at the level of 2016 for the farms specialized in high culture (4,295 euros), followed by farms specialized in raising other herbivorous animals (1,048 euros) and vineyards (1,042 euros). The smallest values of these decoupled payments are registered in horticultural farms (123 euros).

Compared to the situation at the level of the average EU, we find that the biggest difference exists in the case of specialized farms in other permanent crops than in the U.E. they receive payments decoupled 18.5 times more than Romania, and in farms specialized in growing granivores with payments decoupled almost 5 times higher.

Table 6. The value of decoupled payments, by activity sectors, in 2016 (SE630) (Euro)

Sector	Value
Field crops	4,295
Horticulture	123
Wine	1,042
Other permanent crops	594
Milk	756
Other grazing livestock	1,048
Granivores	612
Mixed	615

Source: own processing [10].

On the other hand, in Romania the decoupled payments granted to horticultural and wine farms are almost 2 times higher than in the average U.E.

Table 7. The weight of decoupled payments in Romania and the U.E.

Sector	Romania	UE-27	UE/Romania
Field crops	54.7	73.9	1.35
Horticulture	5.6	2.5	0.45
Wine	12.0	5.9	0.49
Other permanent crops	10.7	19.8	18.5
Milk	14.8	42.4	2.86
Other grazing livestock	19.0	53.4	2.79
Granivores	2.9	13.5	4.65
Mixed	22.4	71.2	3.22

Source: own processing [10].

Following Net value added per farm, Net income per family farm and Net value added per farm/AWU we find that the highest values are recorded in the case of granivores, wine and field crops farms, and the lowest values are recorded in the case horticultural and mixed farms (Fig. 3).

Average values were registered in the farms specialized in the large culture, other permanence crops, other grazing livestock and milk.

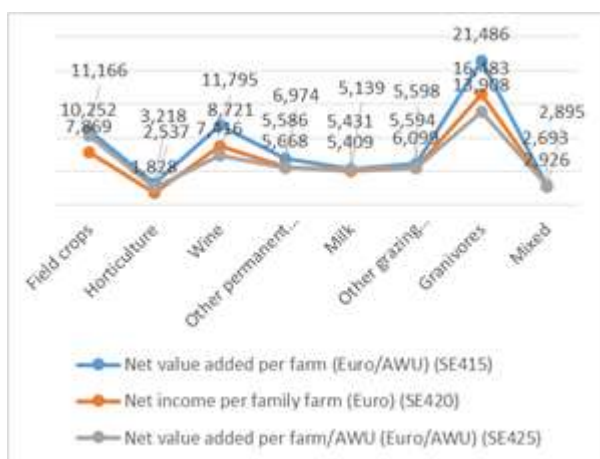


Fig. 3. Net value added per farm, by category of activity, in 2016

Source: own processing [10].

## CONCLUSIONS

Even though at EU level, the economic accounts for agriculture (CEA), as well as the agricultural accounting information provided by RICA, are used as instruments for measuring the incomes of farmers, these statistical data cannot provide fully relevant information on the incomes obtained by farmers, nor for the overall economic value of the agricultural sector. Limitations are given by the fact that the collected data refer only to commercial agricultural holdings, and the information regarding the incomes can not always be correctly determined, so that they cannot be and cannot be fully interpreted and used.

The analysis made for Romania shows that there are disparities between the entrepreneurial income obtained in our country and the other states of the EU. There are also gaps between the growth rate of incomes and the size of farms. In small farms

the growth rate is almost 4 times lower than in the case of large farms.

Due to the fact that subsidies, at the level of Romania, are much less sustained areas such as horticulture or permanent crops, the entrepreneurial incomes in these sectors are low.

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