

Bădan, Daniela Nicoleta; Turek-Rahoveanu, Petruța Antoneta; Necula, Diana Maria

Conference Paper

Study regarding the analysis of the agricultural subsidies from Romania compared to the E.U. between 2007-2017

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STUDY REGARDING THE ANALYSIS OF THE AGRICULTURAL SUBSIDIES FROM ROMANIA COMPARED TO THE E.U. BETWEEN 2007-2017

BĂDAN DANIELA NICOLETA ¹
TUREK-RAHOVEANU PETRUȚA ANTONETA ²
NECULA (ILIE) DIANA MARIA ³

Abstract: *Every year the European Union grants a financial support to the agricultural sector of over 47 billion Euro, thus contributing to the completion of specific goals of the Common Agricultural Policy. The distribution of that EU funding towards the farmers from the member states is done according to the economical dimension of the exploitations, not according to the production level. In this study we intended to analyze the subsidies given to Romania after the admission to the EU compared to other member states. For a detailed analysis of the subsidies, quantitative as well as qualitative, we have taken account of the agricultural exploitations classification according to the economical dimension.*

Key words: *subsidies, economical dimension, PAC policies*

JEL Categories: *Q14, Q18*

INTRODUCTION

E.U.'s Common Agricultural Policy is a dynamic policy which, through consecutive reforms has been adapted to the new challenges that the European agriculture is facing.

Since its foundation CAP has been through different stages, in its attempt to adapt.

In the beginning, the farmers have received subsidies according to production, thus reaching the goal of agricultural self-sufficiency, but major oversupply problems were created. The following reforms have reduced the production aid, by introducing concepts such as conditionality, through which the payments have been submitted to some agricultural good practices as well as through legal and management requirements. Ultimately, the reforms have created a multipurpose model in which the priorities are the environment and quality, aiding the farmers and the development of the rural areas.

CAP has two interconnected components through which they contribute to the completion of their goals, namely: revenue aid for farmers (direct payments) and rural development.

Currently, and mostly due to CAP, the European agriculture guarantees the security to over 500 million Europeans, insures a steady work for 22 million people (44 mil. if we take account of the whole agro-food chain) and Europe is the first agro-food exporter in the world.

MATERIAL SI METHODS

The analysis in this study is based on statistical data given by RICA regarding the total subsidies in the European Union and Romania, by exploitations, by economical dimension classification, between 2007-2017.

Calculation formulas used to calculate the index numbers are the following⁴:

¹ Scientific Researcher, Institute of Research for Agricultural Economics and Rural Development, Bucharest, badan.daniela@iceadr.ro

² Scientific Researcher 3rd degree, Institute of Research for Agricultural Economics and Rural Development, Bucharest, turek.petruta@iceadr.ro

³ Scientific Researcher 2nd degree, Institute of Research for Agricultural Economics and Rural Development, necula.diana@iceadr.ro

⁴ Ceapoiu, N., 1968, Applied statistical methods in agricultural experiments and statistical Ed.Agro-Silva, Bucharest

Annual growth rate

$$r_{2007-2017} = \sqrt[10]{\pi \left(\frac{p_1}{p_0} \right)} - 1;$$

Where:

$r_{2007-2017}$ = annual growth rate;

$\pi p_1/p_0$ = indexes with chain base

Standard deviation

$$\sigma = \sqrt{\frac{\sum (\bar{x} - x_i)^2}{n-1}};$$

Where:

σ = standard abbreviation

\bar{x} = mean of a number of years

n = the number of analyzed years

Variation modulus

$$C = \frac{\sigma}{\bar{X}} \times 100,$$

Where:

C-variation modulus- stated as percent and who can be low (0-10%), medium (10,1-20%) or high (higher than 20,1%).

RESULTS AND DISCUSSIONS

After analyzing the total of subsidies (without the ones for investments) given in the European Union between 2007-2017, it turns out that it has been registered a maximum of 11976 Euro in 2017 and a minimum of 9558 Euro in 2007, with a medium rate of 115,47%. The annual growth rate of total subsidies at European Union level has been of 2,28% and the variation modulus of 11,60%, which shows us that the period's average is significant and the data are homogenous.

In Bulgaria is registered an annual growth rate of 26,68%, having a variation modulus of 55,50%. In Croatia, the annual growth rate has been of 13,12%, in Spain of 6,17%, in Estonia 5,90% and in Cyprus 5,47%.

In Romania's case, we can see that between 2007-2017, it registers a minimum value of subsidies in 2015 of 1213 Euro and a maximum in 2016 of 2297 Euro, with an annual growth rate of 0,63% and the variation modulus of 19,46% shows us that the period's average is significant and the values are homogenous.

Within the analyzed period there are countries where the annual rate has had negative values like in Greece's case, with a rate of -0,22%, Belgium's with -1,0% and Malta's -11,12%. (according to Table nr.1)

Table nr. 1. Subsidies Total – without the ones for investemnts in E.U. between 2007-2017

Country	Min	Max	Medium rate	Average	Annual rate	Standard deviation	Variation modulus	Signif.
	Euro	Euro	%	Euro	%	Euro	%	
Belgium	20887	25900	104,12	24050,82	-1,00	1569,78	6,53	*
Bulgaria	1727	18376	465,41	8037,55	26,68	4461,13	55,50	***
Cyprus	3126	6331	153,54	4799,55	5,47	834,66	17,39	***
Czech Republic	61397	91141	130,15	79910,00	4,03	8415,87	10,53	**
Denmark	34488	38193	100,31	36554,73	0,43	3330,68	9,11	*
Germany	31844	36528	110,31	35128,36	1,38	1633,75	4,65	*

Greece	6117	7113	102,84	6665,36	-0,22	292,05	4,38	*
Spain	7081	12885	144,27	10215,64	6,17	1618,01	15,84	**
Estonia	16293	28906	142,26	23177,73	5,90	3696,19	15,95	**
France	28297	31621	99,79	30007,91	-0,46	1188,95	3,96	*
Croatia	4313	7061	127,16	5484,60	13,12	2937,66	53,56	***
Hungary	12644	17617	121,15	15705,27	2,70	1774,62	11,30	**
Ireland	17605	21176	95,61	19341,18	-1,26	1114,03	5,76	*
Italy	5265	8848	134,83	7098,82	5,22	1407,91	19,83	**
Lithuania	7108	11512	127,12	9035,91	4,12	1284,50	14,22	**
Luxembourg	39476	58300	118,63	47012,55	2,93	5938,60	12,63	**
Latvia	12513	16797	115,35	14434,18	2,47	1235,45	8,56	*
Malta	2524	9453	47,36	4137,27	-11,12	2495,45	60,32	***
Netherlands	16254	22524	108,66	18556,18	-0,49	1979,21	10,67	*
Austria	16251	20469	99,81	18402,55	0,87	1212,09	6,59	*
Poland	4028	5962	135,84	5471,64	3,89	558,78	10,21	*
Portugal	5691	9250	125,19	7124,36	3,55	1049,59	14,73	*
Romania	1213	2297	83,67	1772,91	0,63	344,95	19,46	*
Finland	45936	51559	108,05	49633,82	0,87	1759,64	3,55	*
Sweden	33448	41004	110,75	38159,45	1,61	2838,01	7,44	*
Slovakia	128575	169185	109,31	152684,00	0,90	10899,34	7,14	*
Slovenia	5873	8081	116,97	7080,18	2,44	715,19	10,10	**
UK	37455	45924	89,83	41252,82	-1,52	2330,53	5,65	*
Total Country	9558	11976	115,47	11036,64	2,28	679,72	6,16	*

Source: Calculations based on RICA's data base

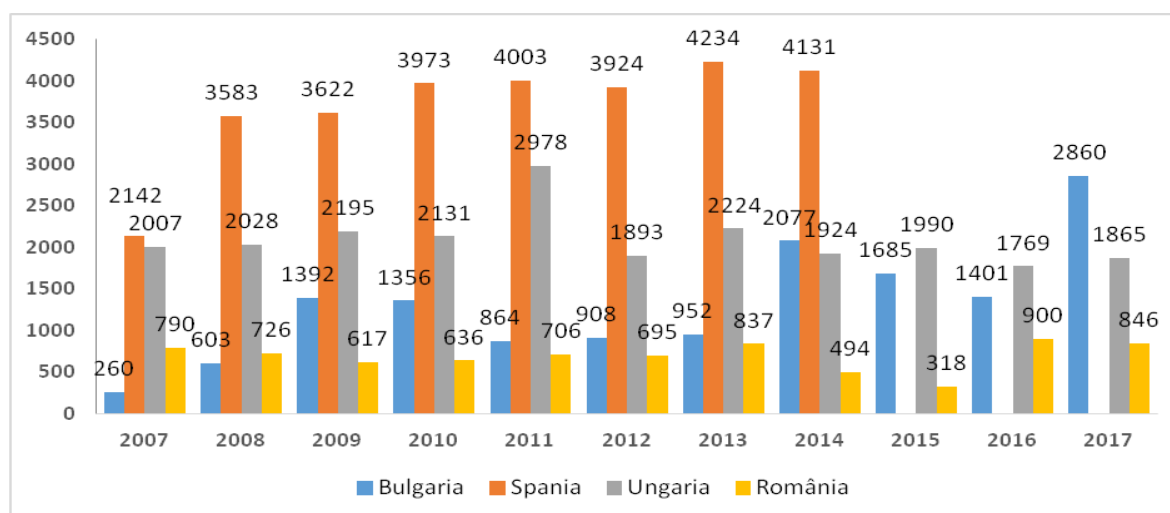
In order to fathom this analysis, six countries from the European Union have been taken under consideration: Romania, Bulgaria, Hungary, Spain, France and Germany.

By analyzing through comparison the total subsidies value (without the ones for investments) received by these countries between 2007-2017, ranked by sizes of economical dimension, we have detected that:

- in countries like France and Germany there are no **exploitations with economical dimensions between 2000–8000 Euro**, and in Spain's case, we can see that subsidies are given until 2014, and that after this year, there haven't been registered any semi-subsistence exploitations (Diagram nr.1);

- in Bulgaria we have detected an increase of those subsidies for the semi-subsistence farms, so that in 2007 they would receive 260 Euro and in 2017 the value reaches 2860 Euro, while in Hungary it dropped from 2978 Euro in 2011 to 1865 Euro in 2017.

Diagram nr.1. The evolution of subsidies total (without the ones for investments) in the E.U. by exploitations with an economical dimension between 2000-8000 Euro, between 2007-2017

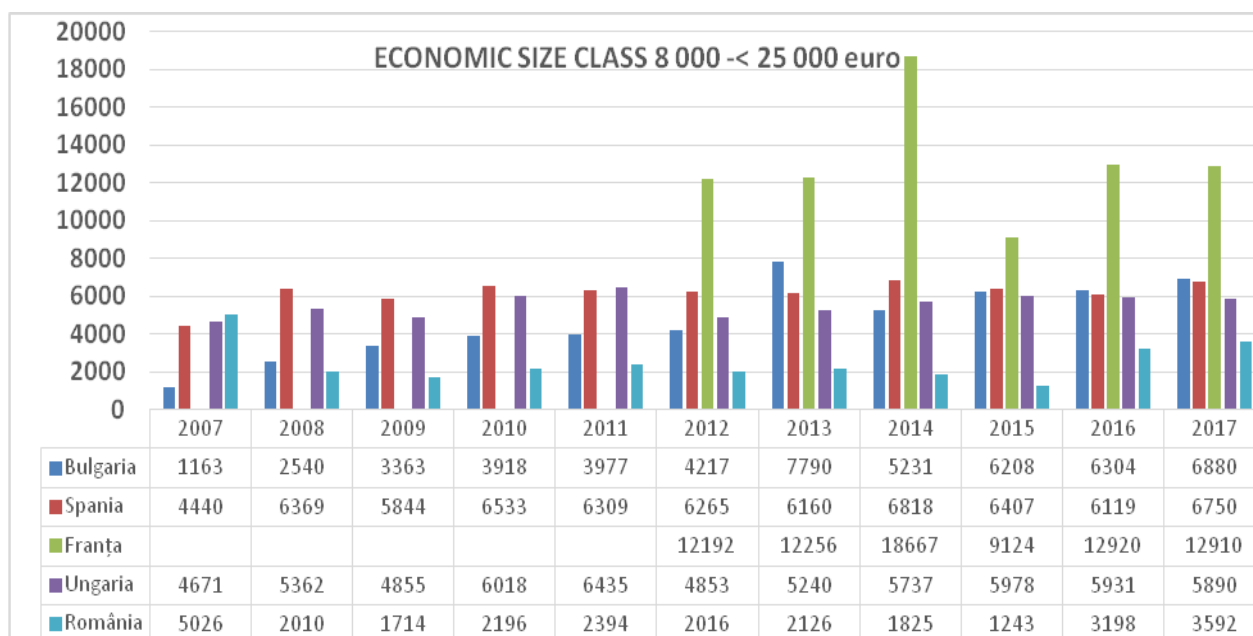


Source: RICA data base

In Romania, the subsidies total has dropped up until 2012 reaching 695 Euro from 790 Euro in 2007, but towards the end of the analyzed period, it grows up to 846 Euro.

Among the analyzed countries, our country receives the smallest amount for the semi-subsistence exploitations, in 2017, being by 54,6% smaller compared to the ones given in Hungary and by 70% smaller than the ones in Bulgaria.

Diagram nr.2. The evolution of subsidies total (without the ones for investments) in the E.U. by exploitations with an economical dimension between 8000 – 25000 Euro, between 2007- 2017



Source: RICA data base

Between 2007-2017 regarding the farms with **an economical dimension between 8000 – 25000 Euro**, among the analyzed countries, Bulgaria stands out by having the largest granted amount, with a maximum in 2013 of 7790 Euro, only to drop in 2017 to 6880 Euro.

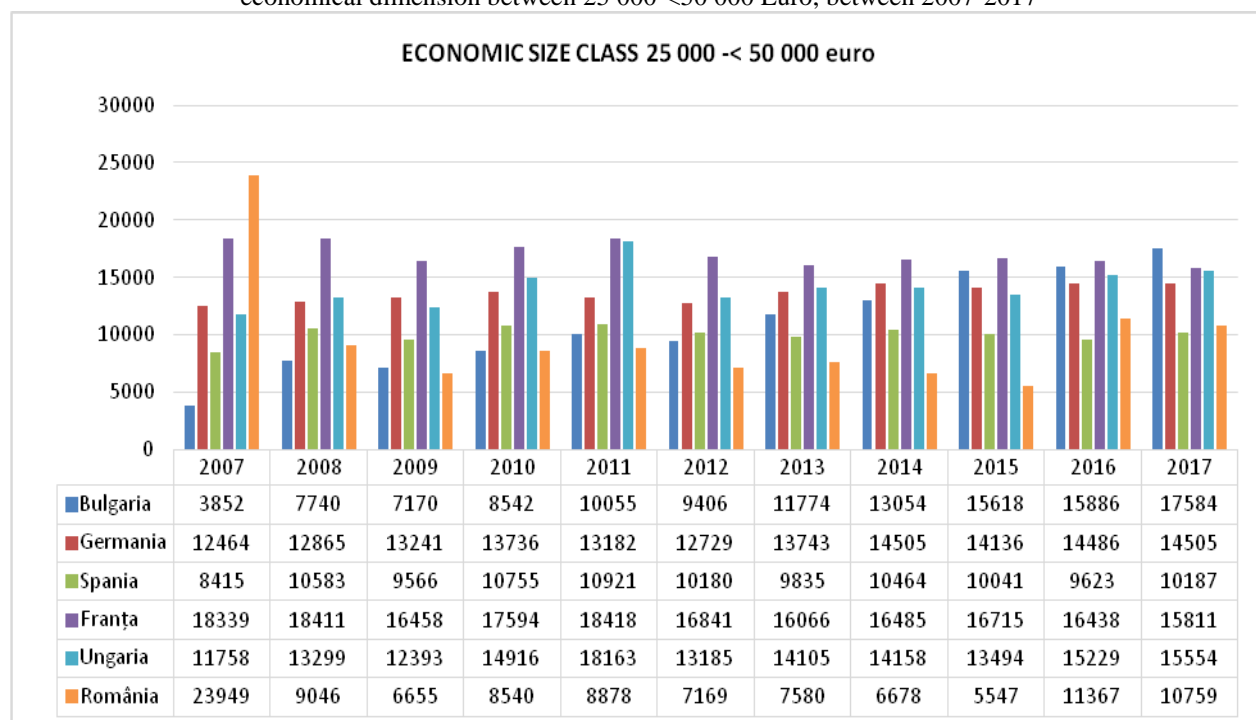
France, during 2012-2017 receives the largest amount so that it reaches in 2014 a maximum of 18667 Euro, but dropping up until 2017 to 12910 Euro.

Following the evolution of the subsidies total for the economical dimension between 8000-25000 Euro, we can see that Romania has received the smallest amount among the analyzed countries within this period, in 2017 the amount being smaller by 39% compared to the one given in Hungary and by approximately 47% compared to Spain and Bulgaria. Since 2013 in Romania the subsidies value has had a decreasing tendency up until 2015, followed by an increase in the next years of up to 3592 Euro in 2017 (Diagram nr.2).

- Within the analyzed period 2007-2017, regarding the farms with **an economical dimension between 25000-50 000 Euro**, Romania stands out with a subsidies value that is higher compared to the other states in 2007 of 23949 Euro, and in 2017 it drops to 10759 Euro (Diagram nr. 3).

The total subsidies value from Bulgaria has had an ascending trend throughout the analyzed period, growing from one year to another, reaching in 2017 a value of 17584 Euro.

Diagram nr. 3. The evolution of subsidies total (without the ones for investments) in the E.U. by exploitations with an economical dimension between 25 000-<50 000 Euro, between 2007-2017



Source: RICA data base

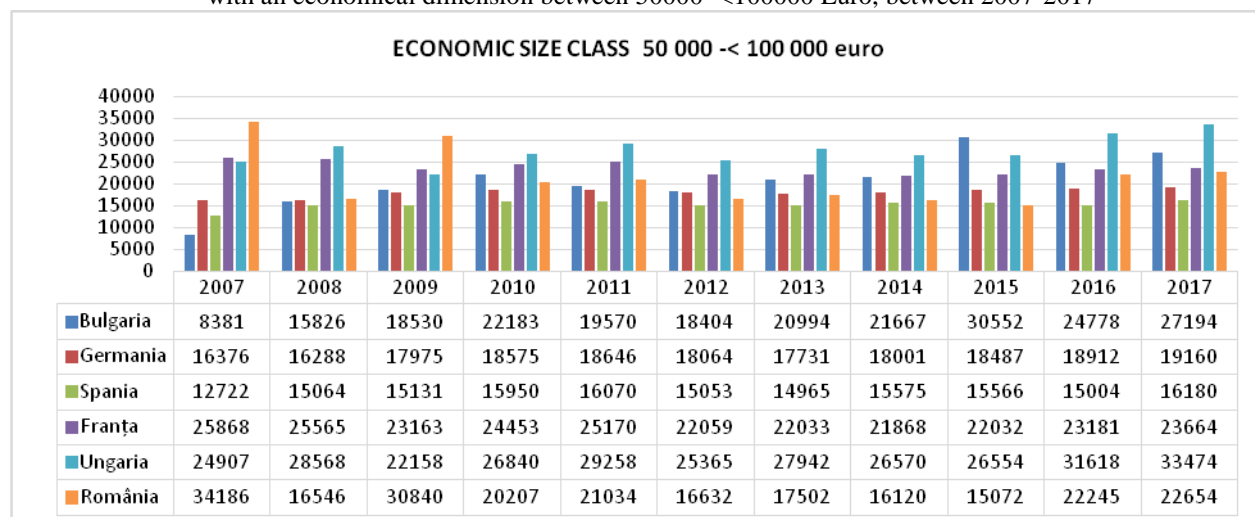
In România the total subsidies value received by farms with **an economical dimension between 25000-<50000 Euro** have a decreasing tendency up until 2015 reaching 5547 Euro, but increase in 2016 by 104% compared to last year. In 2017 the subsidies total value (without the ones for investments) has been of 10759 Euro, representing a drop of 44,9% compared to 2007.

The value of the subsidies given to Hungary reaches a maximum point in 2011 of 18163 Euro and in 2013 it has a decreasing trend with a value of 15554 Euro.

Out of all the analyzed countries, France ranks first with the highest values throughout the analyzed period.

- In 2017 the amount given to the farms with **economical dimension between 50000 - <100000 Euro** in Romania is of 22654 Euro, by 40% higher than the one received by Spain and by 18% compared to Germany, but, by 32% lower than Hungary and by 16,7% lower than Bulgaria (Diagram nr.4).

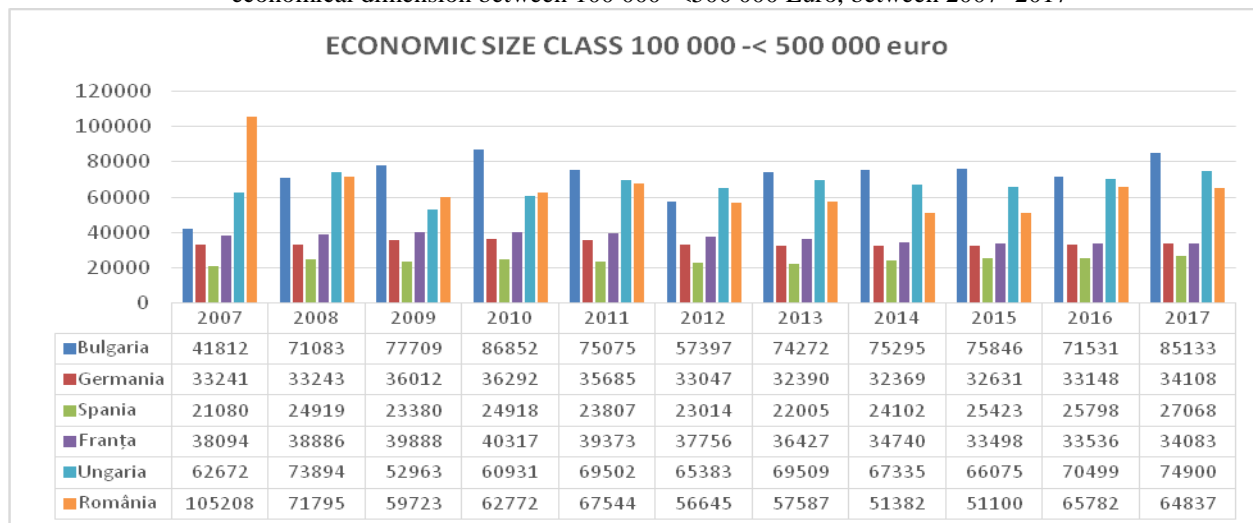
Diagram nr.4. The evolution of subsidies total (without the ones for investments) in the E.U. by exploitations with an economical dimension between 50000- <100000 Euro, between 2007-2017



Source: RICA data base

In the analyzed period 2007-2017 the highest value of subsidies total (without the ones for investments), for the exploitations with an economical dimension between 50 000-< 100 000 Euro, has been given to Romania, followed by France in 2007, Bulgaria in 2015 and Germany, Spain and Ungary in 2017.

Diagram nr.5. The evolution of subsidies total (without the ones for investments) in the E.U. by exploitations with an economical dimension between 100 000- <500 000 Euro, between 2007- 2017



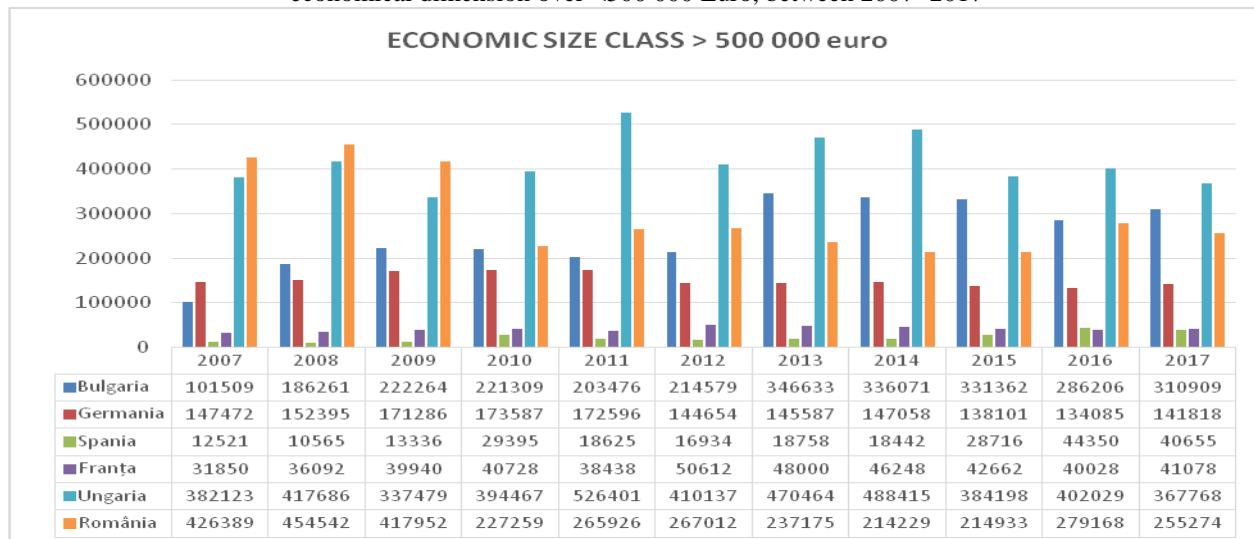
Source: RICA data base

Among the analyzed countries, regarding the exploitations with **an economical dimension between 100000 -< 500000 Euro**, Romania receives the highest value out of subsidies total, throughout the analyzed period 2007-2017 (Diagram nr.5). The value of the subsidies received by Bulgaria reaches a maximum point in 2010 with 86852 Euro, compared to 2013 with a value of 74,272 Euro. In Hungary and in Romania the subsidies value has been lower than Bulgaria's by 6,4 % respectively 22,5% in 2013, by 12,9% respectively 32,6% in 2015 and in 2017 these differences are of 12% and 23,8%.

In Germany the subsidies value is almost constant throughout the analyzed period, around the value of 32-33 thousand Euro, in 2017 being by 60% lower than Bulgaria's.

- Among the six analyzed countries from the E.U., Hungary ranks first for exploitations with **an economical dimension over 500000 Euro**, the value of the subventions being in 2011 of 526401 Euro, up until 2017 when it drops but it maintains at a higher level compared to others, with a value of 367768 Euro.

Diagram nr.6. The evolution of subsidies total (without the ones for investments) in the E.U. by exploitations with an economical dimension over <500 000 Euro, between 2007- 2017



Source : RICA data base

Bulgaria ranked second, reaching a value of 310909 Euro in 2017, with 35724 Euro lower than in 2013 (Diagram nr.6).

Romania ranks third among the analyzed countries having a representative value in 2016 of 279168 Euro, but it's reduced in the following year to 23894 Euro (by 8,5%). Germany, France and Spain follow the same oscillating trend throughout the analyzed period.

CONCLUSIONS

- CAP assistance is necessary in order to promote and maintain a secure, sufficient and qualitative agro-food system, like the one that we have today and, at the same time, to guarantee an appropriate income for producers, to promote rural development and adaptation to new statuses (the impact on the environment, the climate changes, etc).

- The new reform is necessary in order to make CAP a more distributive, efficient and durable policy by prioritizing the vocational training of the farmers in order to achieve expertise and to support their effort by increasing competitiveness and by diversifying the agricultural activities within the farms that they manage, thus generating more jobs.

- The subsidies percentage out of total income varies from one year to another, depending on the final results of the exploitation and on the level of the subsidies given, playing an important part in the restructuring of the agricultural organizations and in achieving a certain level of economical performance.

- According to the data analyzed within the study, it has been noticed the fact that Romania, compared to the European countries, had the highest value of subsidies total when it comes to exploitations with an economical dimension of over < 500000 Euro in 2017.

- At the E.U. level the average of subsidies total that have been given between 2007-2017 has been of 11036,6 Euro, the registered annual rate being of 2,3%, with a standard deviation from the standard average of 1280,5 Euro.

- The countries that have registered high annual rate within the analyzed period have been Bulgaria (26,68%), Croatia (13,2%), Spain (6,17%) and Estonia (5,9%).

- In order to improve the future support plans, the analysis in detail and methodical of the agricultural producer's needs is considered necessary in an approach with criteria such as: differentiation of support by crop zonation, area potential, so that the producers that get lower productions due to the fact that the crop area is inferior, can get a more substantial financial support; differential encouragement confronted with the existing surface.

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