

*Maria Magdalena Grzelak**, *Justyna Wiktorowicz***

SUPPORTING INDIVIDUAL FARMS WITH EU FUNDS – THE CASE OF CENTRAL AND EASTERN EUROPE

Abstract. The main objective of the paper is an attempt to investigate how CAP financial support influences individual farmers' revenue situation in Central and Eastern European countries (the analysis of Bulgarian and Romanian situation was not included due to lack of sufficient data). Another purpose of the publication is to explain the rules of financing EU agriculture and rural areas, and presentation of the support scale offered to Central and Eastern European countries in the current budget planning period, i.a. from 2007 to 2013.

Information used for the purpose of the article come from IAFE (Institute of Agricultural and Food Economics), FAPA, FADN (Farm Accountancy Data Network) statistics. Empirical analysis was carried out by panel models and basic descriptive statistics, correlation and dynamics measures.

Key words: agriculture, European Union, Common Agricultural Policy

1. INTRODUCTION

In 2004, ten countries of Central and Eastern Europe joined European Union; Poland was one of them. Three years later Bulgaria and Romania joined EU. Integration of Central and Eastern Europe countries with EU as well as applying Common Agriculture Policy was the next stage of changes occurring in agriculture and rural areas, which began with transformation of socioeconomic systems and adjustments to European requirements and global market. Economic transformations of Central and Eastern Europe countries, including Poland, were rather dynamic and had a wide scope of measures.

The first years of EU membership were simultaneous with the period of good situation of world economy, which accelerated economic growth in new Member States. One of many factors that affected economic growth dynamics was financial support coming from EU.

Growing problems over Common Agriculture Policy, the rising number of its opponents as well as trade negotiations on behalf of WTO let us assume that

* Ph.D., University of Lodz.

** Ph.D., University of Lodz.

the years of 2007–2013 are the last, being the first for countries of Central and Easter Europe, long-term period of EU financial support to the development of agriculture and rural areas. Therefore, it is the last chance to modernize food economy in Central and Easter European countries using EU funds.

It is widely believed there has been a substantial growth of farmers' income since EU accession. However, establishing facts in the in the area presents a hard task, mainly because of lack of essential data. The main objective of the paper is an attempt to investigate how CAP financial support influences individual farmers' revenue situation in Central and Easter European countries (the analysis of Bulgarian and Romanian situation was not included due to lack of sufficient data). Another purpose of the publication is to explain the rules of financing EU agriculture and rural areas, and presentation of the support scale offered to Central and Easter European countries in the current budget planning period, i.a. from 2007 to 2013.

Information used for the purpose of the article come from IAFE (Institute of Agricultural and Food Economics), FAPA, FADN (Farm Accountancy Data Network) statistics. Empirical analysis was carried out by means of basic descriptive statistics, correlation and dynamics measures, and panel models.

2. FINANCING THE DEVELOPMENT OF AGRICULTURE AND RURAL AREAS IN THE EU

European Union actions and financing rules are planned prospectively. Previous planning period concerned the years from 2000 to 2006. Programmes of the ten Member States which joined EU on 1 May 2004, referred only to a three-year period between 2004 and 2006. Before EU expansion, a pre-accession programme SAPARD was implemented in eight countries of Central and Easter European (EU members since 1 May 2004) and Bulgaria and Romania (EU members since 1 January 2007). Cyprus and Malta were excluded from SAPARD regulations.

The current period of rural development programming in 27 EU countries refers to the years from 2007 to 2013. The programmes are a continuation of 2000–2006 programmes. However, many 2007–2013 solutions make them different from 2000–2006 plans (Rowiński 2008, p. 15–18).

Although the first change is a formal one, it simplifies financing and programming systems. Between 2000 and 2006, in each Member State two programmes were being put into practice; their basic objective was supporting rural development. They were: Rural Development Programme and Sectoral Operational Programme "Restructuring and Modernisation of Food Sector and Rural Development". Both programmes were aimed at a common objective; each was

co-financed with the same fund – European Agricultural Guarantee Fund. Since 2007, Common Agriculture Policy has been financed by two separate European agricultural funds (*Wpływ...*, 2009, p. 1):

- European Agricultural and Guidance and Guarantee Fund (EAGGF)
- European Agricultural Fund for Rural Development (EAFRD).

Both funds are part of EU budget and were included in the “Natural Resources Management and Protection” chapter (until the end of 2006, CAP expenses were a separate entry in the budget- expenses on agriculture).

EAGGF is spent on:

- export subventions,
- intervention expenses,
- direct payments,
- information and promotion measures,
- animal health expenses,
- promotion of agricultural products,
- expenses on conservation of genetic resources,
- expenses related to agriculture accountancy system,
- agricultural research, including research on agriculture structures,
- expenses on fisheries.

Rural development programmes, on the other hand, are financed by EAFRD. EAFRD replaced the second part of a Guarantee Section as well as Guidance Section, taking over their tasks and funds. The Community governing body imposed a uniform, objective-oriented structure of agriculture and rural development programmes to all member states. The programmes were divided into four parts called „axis”. Three of them are „basic axis”, the fourth – *Leader* – „additional”. Axis 1 was called „Improving the competitiveness of the agriculture and forestry sector”, Axis 2 – „Improvement of the environment and the countryside”, Axis 3 – „Quality of life in rural areas and diversification of rural economy” (Wieliczko 2008, p.40). Each axis consists of a number of programmes called “measures”. One of the results of those measures should be improvement of farmers’ income situation.

The second important difference between previous and current rules is the scope of freedom, that Member States which work on national rural development programmes have. Obviously, in both cases, the main limitation is the amount of EU budget resources meant for member states’ own distribution (Member States might establish public support at any level since the only limitation that is set is the ceiling of EU funds share in general amount of public funds). Another constraint is establishing activities that might be co-financed by EU budget. (EC)/1698/2005 Council Regulation provides a full range of scope that might be introduced in national programmes. Each Member State can choose tasks, which they consider worth co-financing. During 2000–2006 pro-

programming, the list was provided in Council Regulation (EC)/1750/1999 (Rowiński 2008, p.17–18). When you compare both lists, the 2007–2013 one is visibly longer. Therefore, during 2007–2013 programming period, Member States have an opportunity to apply projects which earlier could not have been financed by EU funds. They are: advisory services; actions raising the economic value of forests; work over new products, processes and technologies; support to agricultural investment aimed at introduction of new norms in such areas as: environment protection, public health, animal and plant health, animal welfare and occupational safety; supporting farmers participating in quality introduction programmes; payments to farmers from areas under Natura 2000 programme and non-productive investment in agriculture.

The next difference is related to the fact that recently Member States have been obliged to use 45% of EU funds of 2007–2013 Rural Development Programme in accordance with Council recommendations; there was no such obligation in the past.

3. EAFRD SUPPORT TO COUNTRIES OF CENTRAL AND EASTERN EUROPE FOR THE YEARS 2007 TO 2013

During the current programming period of 2007–2013, EU Member States will get the amount of EUR 88,294.2 million (current prices)¹.

According to data in Table 1, Poland is the Member State which is going to get the biggest amount of EAFRD funds – over EUR 13.2 milliard in current prices, which is around EUR 2 milliard per year. The amount planned for Poland makes 15% of the total fund. On further positions there are: Italy, EUR 8.3 mld (9.4% of the total fund), Germany EUR 8.1 mld (9.2%), Romania EUR 8 mld (9.1%).

Old Member States (EU-15) will receive EUR 51,2 mld of EU funds (58% of total amount), new countries of Central and Eastern Europe (EU-12) – EUR 37.1 mld (42%). Table 1. does not include all EAFRD funds that both groups will benefit from between 2007 and 2013 because in 2005 modulation rules were introduced (it is stated that since the year of 2005, the amount of direct payments for EU-15 countries is to be reduced, and after that, part of the reduction – at least 80% – is to be returned to the Member State). According to the Commission Decision², modulation returns for the years 2006–2013 will go up to EUR 8.4 mld and the amount will raise EAFRD support included in Table 1, meant for old UE countries.

¹ Commission Decision 2006/636/EC of 12 September 2006, fixing the annual breakdown by Member State of the amount for Community support to rural development for the period from 1 January 2007 to 31 December 2013

² Commission Decision No 2006/588/EC of 29 August 2006.

Table 1. EAFRD support for 2007–2013 (in mln EUR),
in current process, commitments

Country	Support (in mln EUR)	% of EAFRD contribution
Bulgaria	2609.1	3.0
Czech Republic	2815.5	3.2
Cyprus	162.5	0.2
Estonia	714.7	0.8
Lithuania	1743.4	2.0
Latvia	1041.1	1.2
Malta	76.6	0.1
Poland	13230.0	15.0
Romania	8022.5	9.1
Slovakia	1969.4	2.2
Slovenia	900.3	1.0
Hungary	3805.8	4.3
EU-12	37090.9	42.0
EU-15	51203.3	58.0
Total	88294.2	100.0

Source: J. Rowiński, *Rural Development Programme for 2007–2013*, IAFE-NRI, Warsaw 2008.

In the years from 2007 to 2009, Bulgaria and Romania will get additional support from the Guarantee Section of EAGGF; Bulgaria around EUR 0.8 mld, Romania- EUR 2.5 mld. Therefore, Bulgaria will be granted EUR 3.4 mld from agriculture and rural areas development support, whereas Romania – EUR 10.5 mld.

When you consider modulation and additional support from Guarantee Section, funds meant for co-financing of agriculture and rural areas with UE budget in the years 2007 to 2013 will go up to EUR 100.0 mld. Old EU countries will receive EUR 59.6 mld and new Member States – EUR 40.4 mld. It turns out that after the correction, proportions between support meant for each group of countries haven't changed fundamentally. Poland remains in the first place, with Romania moving to the second position, followed by Germany and Italy.

One should notice that amounts presented in Table 1 do not reflect the real scale of EU support granted to separate countries in the years 2007–2013, which may even lead to misconclusions. An important parametre used to measure intensity of the support is the level of support per unit of utilised agricultural area (hereinafter UAA) and per worker. Table 2 contains parametres estimated according to the method. The rates were calculated on the basis of Table 1 data. Therefore, the correction resulting from modulation and granting higher support to Romania and Bulgaria hasn't been included.

Table 2. EAFRD support measures granted to EU countries, for the years 2007–2013

Country	Support amount (EUR)	
	Per hectare of UAA	Per worker
Bulgaria	489	8 179
Czech Republic	775	1 353
Cyprus	1 042	9 560
Estonia	898	21 656
Lithuania	700	7 419
Latvia	699	7 712
Malta	6 967	25 544
Poland	917	5 491
Romania	560	2 653
Slovakia	921	18 068
Slovenia	1 852	9 786
Hungary	875	18 565
EU-12	747	5 463
EU-15	404	8 249
Total	500	6 794

Source: J. Rowiński, *Rural Development Programme for 2007–2013*, IAFE-NRI, Warsaw 2008.

Poland belongs to countries that, from 2007 to 2013, will be granted much higher support per UAA than the average (EUR 917 per hectare, at average EU support of EUR 500 per hectare). Unfortunately, support for Poland per worker in agriculture is much below Union average – Poland EUR 5,491, EU average – EUR 6,794. Financial support in old EU countries is EUR 8294 per worker in agriculture.

One may come to interesting conclusions when comparing Polish rates with the rates of seven other countries of Central and Eastern Europe which also joined EU in 2004. Cyprus and Malta are excluded from the comparison because they belong to a different climatic zone. It turns out that amounts of support per unit of UAA are not that high, except for Slovenia (1852 EUR per hectare), where support per unit of UAA is twice higher than for Poland. Other countries receive from EUR 699 per hectare (Latvia) to EUR 921 per hectare (Slovakia).

In case of Bulgaria and Romania, despite extremely hard situation in the countries, support per one unit of UAA is much lower than for countries which joined EU three years earlier.

The analysis of support per worker shows high degree of differentiation. Low levels are eminent for countries with a large number of people working in agriculture, like in Poland (EUR 5491) and Romania (EUR 3653). The percentage of people working in agriculture in both countries makes for 42% of the total of EU agriculture workers.

It should be mentioned that data in Table 2 must be interpreted with care, since they are average values which may blur severe regional disproportions.

4. PUBLIC FUNDING VERSUS PROFITABILITY OF INDIVIDUAL FARMS IN THE CONTEXT OF FADN AGRICULTURAL ACCOUNTANCY

Profitability of individual farms in new Member States of Central and Easter Europe

The analysis was made for new EU Member States from Central and Eastern Europe. Due to lack of sufficient data, the cases of Bulgaria and Romania were not included in the analysis. According to FADN statistics, the highest gross farm income (*GFI*) is achieved by farms in Slovakia (in 2007 an average farm's *GFI* was around EUR 300,000) and in Czech Republic (in 2007, around EUR 141,000 on average). Poland (with *GFI* around EUR 15,000 per farm) and Slovenia (with *GFI* around EUR 12,000 in 2007) are at the opposite end. For comparison, average gross farm income (SE420) for EU-27 in 2007 was EUR 34,680; the only countries where the situation was worse or comparable to ours, were Romania (around EUR 6,000), Bulgaria (EUR 10,000) and Portugal (around EUR 15,000). If you compare gross farm income (*GFI*) and the height of total subsidies excluding on investment – (*DDO*) (Table 3), there is an evident relation between those economic categories (correlation coefficient is 0.973).

It should be noticed that when compared with other countries of our region, in case of Polish farmers, the percentage of on operational payments in *GFI* is the lowest- about 25% (the rate is only comparable to Bulgarian one – around 21%), while for other analyzed countries, it goes up to 40% on average, and in Slovakia and Slovenia even higher – about 50% (data for 2007). When you analyse payment structure in 2007 (Graph 1), it can be seen that decoupled payments have the main source of support to farmers in Slovenia (ca. 45%) and Hungary (ca. 41%), in Czech Republic, Latvia and Poland they reach about 35%, in Slovakia and Estonia – ca. 30%, and in Latvia– only 17%. Subsidies to animal production are especially significant for farmers from Latvia and Slovakia, whereas in case of crop production – Hungary, Lithuania, Slovakia, Lithuania and Estonia (in case of Poland, Czech Republic and Slovenia the share is minor). On the whole, rural development payments (SE620– other subsidies) and decoupled payments play the most important role in the structure of subsidies (excluding subsidies on investment) granted to farmers from new Member States of our region. In other EU countries, situation in the area is more diversified. When analysing data for EU-15, it might be seen that decoupled payments are most significant in subsidies for farmers in Denmark (86%), Germany (81%), Great Britain³ (79%) and Italy (78%), while in Finland the share is about 25%, and 40% in Austria (in these countries, rural development payments are much more important (almost half of the payments, while in Denmark or Spain – hardly 10%) (own calculations based on FADN data).

³ For Great Britain, the data refer to 2006

Table 3. Basic characteristics of individual farms income situation, in chosen new member states in the years 2004–2007

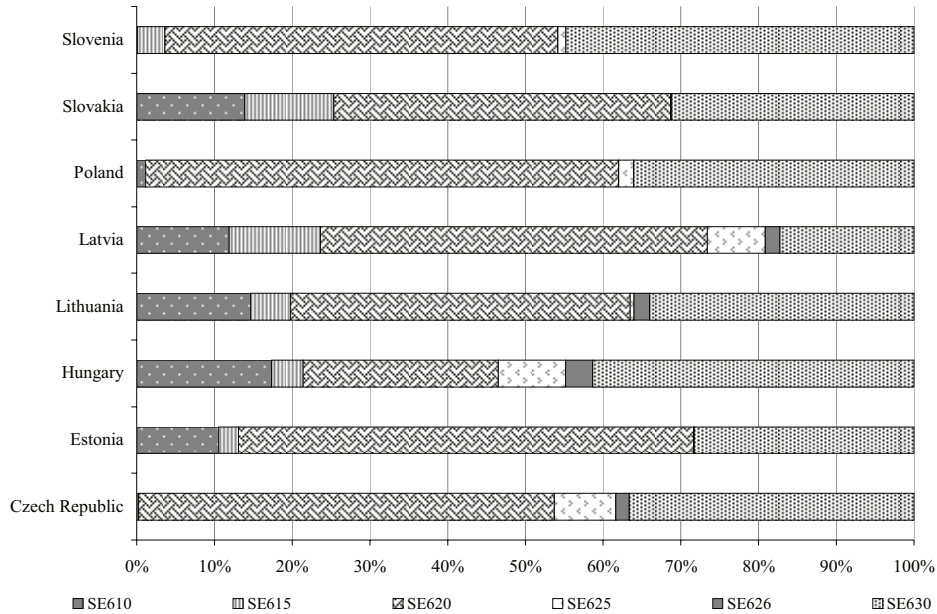
Country	Year	Average (per farm) annual variable value (in EUR)														
		<i>GFI</i>	<i>B</i>	<i>DDO</i>	<i>DR</i>	<i>DZ</i>	<i>DP</i>	<i>DRS</i>	<i>LFA</i>	<i>DRSP</i>	<i>DZP</i>	<i>DEF</i>	<i>JPO</i>	<i>DI</i>		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
Czech Republic	2004	112559	33609	37509	8764	2757	8667	2382	4637	80	2183	1446	13692	761		
	2005	109494	44089	47501	11410	4871	9925	3568	5824	110	2644	1522	17131	1355		
	2006	118169	58040	61555	12739	6346	14927	7456	6571	192	5585	1112	20846	1395		
	2007	141560	61144	64606	149	20	34566	7401	6052	525	5101	1102	23668	2279		
Estonia	2004	30937	12137	12191	1957	1804	5366	3809	1136	139	0	0	3063	4805		
	2005	32542	13428	13514	1351	1812	6556	3654	1240	1078	104	2	3689	2132		
	2006	31895	16446	16610	2706	2137	6889	3963	1256	833	213	5	4660	901		
	2007	46235	19282	19384	2042	491	11355	5068	1345	577	1	13	5481	1478		
Hungary	2004	26155	9025	9657	3121	981	207	8	24	13	1040	939	3370	643		
	2005	25501	9709	10593	2953	851	1479	1251	41	24	950	649	3712	755		
	2006	26268	10907	11365	2056	1241	1661	1317	16	34	1054	536	4817	331		
	2007	32676	12486	13220	2295	535	3316	1843	40	63	1150	464	5460	684		
Lithuania	2004	15409	5601	5873	1564	665	1939	1	1349	545	29	11	1665	1185		
	2005	16086	6224	6535	1548	827	1985	25	1113	776	34	124	2017	1694		
	2006	15060	7666	7934	1702	884	2805	22	1041	1041	55	94	2393	4097		
	2007	24875	8249	8535	1252	439	3728	42	1148	1208	44	173	2900	1677		
Latvia	2004	15192	7373	7711	2200	1437	2825	625	1537	663	43	109	1097	1586		
	2005	16680	7870	8219	1791	1200	2817	861	1602	320	913	114	1383	2187		
	2006	20495	11895	12212	2039	1787	5807	1688	1627	835	760	184	1633	1718		
	2007	23012	11274	11581	1376	1360	5767	1440	1677	801	862	218	1997	2123		

Table 3 (cont.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Poland	2004	10069	1839	1975	1093	2	134	4	23	7	44	0	703	0
	2005	10736	1967	2208	49	0	1230	30	308	83	16	0	913	16
	2006	12728	3428	3661	55	0	2351	200	451	566	48	0	1207	44
	2007	15290	3588	3817	44	0	2323	228	354	434	74	0	1376	144
Slovakia	2004	135930	43147	52210	5660	1960	20250	0	19479	0	2098	4	22237	500
	2005	169499	82029	91248	21685	2194	37338	8732	27243	56	340	0	29691	0
	2006	131777	90375	97572	17157	2253	44274	16754	25380	0	367	0	33520	7777
	2007	290460	131557	140503	19548	16068	60914	21538	34688	18	208	0	43766	8489
Slovenia	2004	10316	4833	5416	687	1563	3098	1535	1234	0	67	0	0	2315
	2005	12823	5032	5737	748	1652	3238	1928	1195	37	99	0	0	769
	2006	9595	3957	4540	753	2024	1650	329	1205	66	113	0	0	205
	2007	12271	5692	6449	5	229	3262	1874	1232	0	67	0	0	735

GFI – Gross Farm Income (SE410), *B* – Balance current subsidies & taxes (SE600), *DDO* – Total subsidies – excluding on investments (SE605), *DR* – Total subsidies on crops (SE610), *DZ* – Total subsidies on livestock (SE615), *DP* – Other subsidies (SE620), *DRS* – Environmental subsidies (SE621), *LFA* – LFA subsidies (SE622), *DRSP* – Other rural development payments (SE623), *DZP* – Subsidies on intermediate consumption (SE625), *DEF* – Subsidies on external factors (SE626), *JPO* – Decoupled payments (SE630), *DI* – Subsidies on investments (SE406)

Source: *FADN Public Database*, <http://ec.europa.eu/agriculture/rica/database>



* Symbols as in Table 2

Graph 1. Structure of the total farm subsidies in the chosen new Member States in 2007 (FADN data)

Source: own calculations on the basis on FADN Public Database, <http://ec.europa.eu/agriculture/rca/database>

5. MODEL SPECIFICATION

Using the data above, there was an attempt to estimate regression function made; it would let describe the relation between the height of subsidies and the income of individual farms in new EU Member States of Central and Easter Europe. Obviously, income is not only determined by the subsidies level but also by other factors, especially production results of farms. Income is a positive function of the output (compare e.g. Wiktorowicz [2006]), as well as – which results from the above data – a positive function of the gained subsidies. On the basis of the observations, the following function of income was proposed:

$$GFI = f(O, DDO, DI), \quad (1)$$

where:

GFI – average (per farm) family farm income (in PLN),

DDO – average (per farm) annual value of subsidies on operational (in PLN),
DI – average (per farm) annual amount of subsidies on investment (in PLN),
O – average (per farm) annual production value (in PLN).

As it has already been pointed, decoupled payments (*JPO*) and rural development payments (*DP*) are most significant among subsidies on operational measures. Alternatively, the following income function was suggested:

$$GFI = f(O, JPO, DP). \quad (2)$$

Unfortunately, analysis with the use of classical methods (especially the classical method of least squares) is impossible because of very short time series of only four years. That made us try to describe the relations with the use of cross-section data (the data comprise four years, however, each of the variables has been registered for eight countries, which gives a sample of 32 observations). The least squares method should not be applied when using that kind of data due to the risk of heteroscedasticity. The problem is minimized in panel models and that is why the method has been applied for farm income modelling.

Panel data models might be presented in the form of a model with fixed (FEM – *Fixed Effects Model*) or random effects (REM – *Random Effects Model*), where decomposition may account for one factor (one-factor models) or two factors simultaneously (two-factor models). FEM and REM may be written as follows⁴:

$$y_{it} = m_i + bx_{it} + e_{it} \quad (3)$$

where m_i – general absolute term, b – structural parametre representing the influence of an explanatory coefficient X , x_{it} – realization of explanatory variable for i -a given item in t -a given time period, e_{it} – the remainder meeting the classical assumptions: $E(e_{it}) = 0$ i $Var(e_{it}) = S_e^2$.⁵

For estimation of parameter models, Limdep 7.0 software was used.

⁴To simplify, one explanatory variable models will be used, however, the models might be multi variable .

⁵Detailed explanation of the models is provided e.g. in [Green 2008], [Suchecky 2000].

6. EMPIRICAL RESULTS

Estimation of the model described with formula (1) was made with the use of FEM – one-factor models (accounting only for decomposition by country) and two-factor models (including decomposition by time period as well).

As you can see in Table 4, all factors included in model (1) came out as significant determinants of agricultural income in Member States. Along with production value increasing by EUR 1, a single farm income goes up by EUR 0.55 on average, and the growth of total subsidies (excluding those on investment) amount by EUR 1 entails income growth by EUR 0.8 on average. Contrary to expectations, the sign of the variable *DI* (subsidies on investments) is negative, the variable influence being statistically significant. It means that the farm income is going down with the rise of investment payments. However, it might be explained with strong tendencies of individual farms to make investment (especially those „working their way up”). Farmers’ investment activity, which is usually being cofinanced with credits, entails the growth of external factors costs (external factors) which consequently decrease the income value.

Table 4. Results of parameters estimation of one- and two-factor models describing the income of individual farms (*GFI*) – model 1

<i>X</i>	coefficient	<i>t</i>	<i>p</i>	coefficient	<i>t</i>	<i>p</i>
	one-factor model (1a)			two-factor model (1b)		
<i>O</i>	0.773	28.113	0.0000	0.797	28.529	0.0000
<i>DDO</i>	0.541	7.982	0.0000	0.562	8.099	0.0000
<i>DI</i>	-1.021	-2.756	0.0100	-1.050	-3.191	0.0035
<i>constant</i>	–	–	–	-49097.5	-21.597	0.0000
<i>R</i> ²	0.9990			0.9994		
<i>Importance of group and time factors</i>	LRT= 103.718; p=0.0000; F= 73.691, p=0,0000			LRT= 120.328, p=0.0000; F= 68.661, p=0.0000		

X – explanatory variables, *t* – t-Student’s statistics value, *R*² – determination ratio, *LRT* – LRT statistics (*Likelihood Ratio Test*), *F* – Fisher-Snedecor’s test statistics, *p* – test likelihood ($p \in [0,1]$).

Source: own calculations on the basis on *FADN Public Database*, <http://ec.europa.eu/agriculture/rca/database>

Estimated models present good forecasting characteristics; their use is also proved – in contrast to models with explanatory variables only, both models – a model with decomposition by the *country* factor (1a), as well as the two-factor model including decomposition by *year* (1b), are much more adequate (it has been confirmed by test likelihoods *p* for LRT and *F statistics* – approaching 0);

where comparison of models (1a) and (1b) point to the two-factor model being slightly better (test likelihood for LRT and F tests – in relation to comparison of the two models – is lower than 0.05). The analysis of constants for separate countries (and years) points to diversity of countries in terms of agricultural income. The highest deviation from the average level has been registered for Slovakia and Czech Republic.

Table 5. Results of parameters estimation of one- and two-factor models describing the individual farms' income (*GFI*) – model 2

<i>X</i>	coefficient	<i>t</i>	<i>p</i>	coefficient	<i>t</i>	<i>p</i>
	one-factor model (2a)			two-factor model (2b)		
<i>O</i>	0.813	20.853	0.0000	0.848	20.448	0.0000
<i>JPO</i>	1.369	4.435	0.0001	1.395	4.150	0.0003
<i>constant</i>	–	–	–	–53803.3	–16.291	0.0000
<i>R</i> ²	0.9978			0.9985		
<i>Importance f group and time factors</i>	LRT= 88.033; p=0.0000; F= 46.071, p=0,0000			LRT= 99.887; p=0.0000; F= 37.447, p=0.0000		

Symbols as in the Table 3.

Source: own calculations on the basis on FADN Public Database, <http://ec.europa.eu/agriculture/rca/database>

In model (2), the influence of rural development subsidies (SE620) is not significant ($p > 0.05$). Table 5 contains results of model (2) estimation, where the variable has been omitted. Output (*O*) and decoupled payments (*JPO*) have a statistically significant influence on the gross farm income level and it is a positive influence (it has been proved both in model (2a) and (2b)). Output growth by EUR 1 leads to an average GFI rise by around EUR 0.8 euro, and increasing yearly decoupled payments by EURO 1 euro is resulting into average GFI rise by EURO 1.4. the estimated models show good forecasting value (determination coefficient value approaches 1).

7. CONCLUSIONS

The year of 2007 brought the beginning of the next EU period of programming rural and agriculture development in European Union. However, for the years 2007–2013 multiple changes in the functioning of EU help instruments have been introduced, which entailed the necessity to tune national regulations and help management systems. First of all, it was necessary to get European Commission acceptance for the planned programme of allocating EU support

granted to countries from EAFRD. Currently, countries of Central and Eastern Europe benefit from the period of growing support amounts, but in 2014 they will enter a difficult period, when a decrease in EU support to agriculture and rural areas is planned. Therefore, the degree and efficiency of application of EU support granted in the current programming periods are very important issues and they depend not only on the farmers and entrepreneurs, but mostly on the efficiency of institutions supervising the programmes.

One should also account for ongoing disputes over Common Agriculture Policy which arouse many Member State's anxieties of concerning the future solutions. The current discussion over CAP reform leads to the conclusion that in the next budget periods, the mandatory share of environment protection projects will be higher.

The period of contributing from EU support has been too short to evaluate permanence of its effects. The analysis presents only an attempt to make a preliminary evaluation of relations between individual farmers' income in new Member States of our region, and the support they gained from EU funds, including subsidies on operational activity. Both the review of statistics and estimation of panel data models point to a substantial (and statistically significant) positive influence on the income measured with the gross farm income variable. Together with production income, payments – especially on operational activity – improved the income situation of individual farms. The regularities have been confirmed in the analysis done for new Member States of Central and Eastern Europe.

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Maria Magdalena Grzelak, Justyna Wiktorowicz

**WSPARCIE POMOCOWE GOSPODARSTW INDYWIDUALNYCH
ZE ŚRODKÓW UNIJNYCH – PRZYKŁAD KRAJÓW EUROPY ŚRODKOWEJ
I WSCHODNIEJ**

W pracy podjęto próbę oceny wpływu wsparcia finansowego w ramach WPR na sytuację dochodową rolników indywidualnych w krajach Europy Środkowej i Wschodniej, co stanowi cel główny tej publikacji (z uwagi na brak wyczerpujących danych pominięto w analizie Bułgarię i Rumunię). Kolejnym celem artykułu jest przybliżenie zasad finansowania rolnictwa i obszarów wiejskich w UE oraz przedstawienie skali wsparcia przyznanego krajom Europy Środkowej i Wschodniej w bieżącym okresie planowania budżetowego, tj. w latach 2007–2013.

W pracy wykorzystano informacje takich instytucji, jak IERiGŻ, FAPA, a także statystyki FADN. Analiza empiryczna przeprowadzona została z wykorzystaniem modeli panelowych, a także podstawowych mierników struktury, korelacji i dynamiki.

Słowa kluczowe: rolnictwo, Unia Europejska, Wspólna Polityka Rolna.