

## **IMPACT OF THE ECONOMIC SIZE OF FARMS ON THE RANGE OF SUPPORT FROM THE EUROPEAN UNION COMMON AGRICULTURAL POLICY MEASURES**

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**Abstract.** The purpose of this paper is an attempt to present the impact of the economic size of farms on the range of support measures of the European Union Common Agricultural Policy. Detailed analyzes were conducted on the example of direct payments and payments for areas with unfavourable farming conditions (LFA). Their amount was considered in relation to farm income. The analysis covered the year 2011. In relation to the total amount of the analyzed farms, CAP support the EU in 2011 was 43.7% of farm income. The basic elements of support from the EU CAP payments were direct payments and payments for less favoured areas. They created respectively 74.3% and 9.9% of the total support. The increasing impact of these measures on income is observed year by year.

**Key words:** level of support, the EU CAP measures, direct payments to agricultural land, LFA payments

### **INTRODUCTION**

Polish accession to the European Union was accompanied both by significant economic and social changes regarding the conditions of production and agri-food trade, as well as new functioning patterns for institutions related to agriculture and rural areas. Changes concerned mainly the forms of support for agriculture due to setting the financial measures of Common Agricultural Policy (CAP) in Poland [Wieliczko 2012].

As a result of Polish accession to the European Union, the factors influencing the farmers' income have changed. Previous traditional factors such as physical sizes of production, outlays, agricultural prices' relations, became accompanied and supplemented by direct payments, payments for participants of agri-environmental programs as well as restructuring and modernizing programs [Kowalski 2011]. The role of these transfers in

creating the incomes of farmers has exceedingly increased. It can be proved by the role of state intervention in supporting the particular branches of economy [Milewski 2005].

State intervention is especially significant in these parts of economy which are very exposed to the weaknesses of market mechanism. It distorts the information flow and leads to the incorrect allocation of resources from the macroeconomic point of view. Between these unreliabilities we can enumerate i.e.: transaction costs, external effects, partial market for public goods and lack of properly defined ownership rights. These lead to the rigid prices, labour costs, demand and supply within the food economy. The role of economic institutions is to correct these unreliabilities. Such activity is complimentary to the market mechanism [Czyżewski 2013].

Realizing programs of support for agriculture and rural development, Agency for Restructuring and Modernizing of Agriculture (ARMA), since the beginning of its functioning (1994) until 2011 has transferred to the beneficiaries the total amount of more than 154 billion PLN. Of this amount, 76 billion PLN was devoted to the measures of direct support. Only in 2011 ARMA paid 25.7 billion PLN and it means that the increase at the level of 25.3% was noted in comparison to the previous year [Informacja z realizacji zadań... 2012 and 2013].

## **MATERIAL AND METHODS**

The objective of the presented paper is to present the influence of farms' economic size on the range of support with EU Common Agricultural Policy. The research material was based on the farms which kept the agricultural accountancy to cover the needs of Institute of Agricultural and Food Economics (IAFE). An analysis was concentrated on the year 2011. At the moment of preparing this work these data were the latest.

The basic economic category defined for the need of research process, was the level of farm income. The calculations were obtained using the method used within the European Farm Accountancy Data Network (FADN). It functions on the basis of Community Typology of Agricultural Holdings (CTAH). It is an unified system of farms classification within EU according to their economic size and agricultural type [Goraj and Mańko 2009]. The principles of farm classification were defined in details and first time formally implemented on the basis of Commission Decision no 78/463/EEC of April 7, 1978.

Until 2009 the CTAH method was based on the concept of Standard Gross Margin (SGM). For the classification of farms, European Size Unit (ESU) was used to express their economic size. ESU was an equivalent of Standard Gross Margin at the level of 1,200 EUR. Next year was crucial for the typology of farms because of the conditions that appeared within agriculture. One of these changes in the typology was the implementation of term of Standard Output (SO) instead of Standard Gross Margin [Współczynniki Standardowej... 2012]. The law regulation that implemented current CTAH was Commission Regulation no 1242/2008 of 8 December 2008 [Commission Regulation... 2008].

The unfavourable situation of farmers on the agricultural markets of European Union resulted in the verification of CTAH. The collected FADN data from the period 1989–2006 has shown the significant increase in the production costs per agricultural production unit value. The crucial cause of such problem was the pace of prices increase which was faster

for agricultural means of production than for agricultural products. This increase was also influenced by the modification of direct payments system, which has begun in 1993. Ceasing the direct subsidizing of prices and production (coupled) and transformation into the subsidizing without the reference to production (decoupled) caused the situation where the values of SGM indexes in several countries for particular products were negative. Because of that the SGM parameters were replaced by the SO parameters whose value cannot be placed beyond zero no matter what the condition is.

Economic size of farms is calculated basing on the sum of standard output gained from all the agricultural activities carried in particular farm and is expressed directly in euro. In order to count their values in the national currencies of EU Member States remaining outside the monetary and currency union, the official euro exchange rate published by the Eurostat for the reference year is used. Concerning the SO "2007", 1 EUR was equivalent to 3.90916 PLN. The area of observation of Polish FADN includes the farms of the minimum economic size of 4,000 EUR. They produce ca. 90% of Standard Production of Poland. The farms which are economically weaker are not included into the area of Polish FADN observation [Goraj and Osuch 2011].

The amount of farm support using EU sources has been analysed within this paper according to the farm size. The detailed analysis was devoted to the direct payments and payments for less favoured areas. Their area was analysed in relation to the farm income. The particular amounts were analysed in relation per 1 farm. The range of diversity was presented using percentage values.

## **RESULTS**

The average farm area in 2011 was 19.3 ha of agricultural land. The analysed farms were diversified by the economic size. Within the research sample of Polish FADN of 11,082 farms small farms of economic size between 8 and 25 thousands EUR were dominating [Wyniki Standardowe... 2012]. Their share was at the level of 38.1%. Similarly numerous group was representing the medium small farms at the economic size between 25 and 50 EUR (27.7%). The medium big farms (50–100 thousand EUR) and very small (up to 8 thousand EUR) share was at the level of 15.9% and 10%. Relatively lowest share was gained by the big and very big farms (above 100 thousand EUR). These were both individual and with the legal status. Their share was at the level of 8.3% of general research population of Polish FADN. In relation to the investigated farms, there was a visible interdependence. Parallel to the increase of economic size of farm, the area of the agricultural land was increasing. The farms of economic size beyond 8 thousand EUR used on average 8.7 ha of agricultural land. In the group of farms at the economic size between 50 and 100 thousand EUR their area was on average 54.4 ha. The area of agricultural land is a traditional measure of farms' size, generally accepted within the literature [Zegar 2004]. It remains the basic criteria of its economic strength. The area of agricultural land determines creation of basic production and economic relations which is reflected by the income received by farm.

The division of groups carried out basing on the economic size let show the scope of diversification of income situation within analysed farms (Fig. 1).

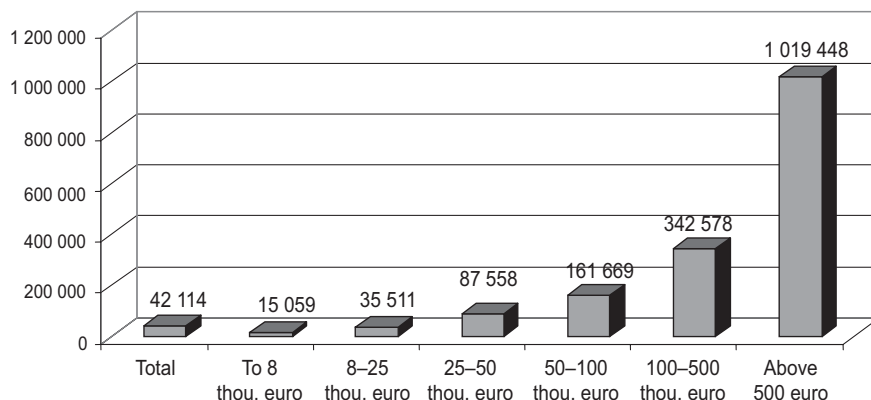


Fig. 1. The level of agricultural income by economic size in 2011 (PLN)

Source: Own calculation based on IAFE data.

The level of income from the farming activity in farms keeping the farm accountancy for the needs of IAFE in 2011 was on average at the level of 42,114 PLN which was 2,182 PLN per 1 hectare of agricultural land. In smallest farms within FADN (beyond 8 thousand EUR) that amount was at the level of 15,059 PLN, while in the bigger farms (50–100 thousand EUR) it was at the level of 161,669 PLN. As it was expected, the highest level of income has been characterising the biggest farms (above 500 thousand EUR).

The amount of direct payments within farms keeping the farm accountancy for the IAFE in 2011 was on average at the level of 13,683 PLN which was 708 PLN per 1 hectare of agricultural land. The share of such payments in total amount of CAP measures transferred to these farms was at the level of 74.3%. For comparison, in 2010 this share was at the level of 69.6%. The factor differing the amount of direct payments for analysed farms was the economic size of these farms (see Table 1).

Table 1. The size of the EU CAP support measures by the economic size of farms in 2011

Specification	The economic size of farms						
	Total	to 8 ESU	8-25 ESU	25-50 ESU	50-100 ESU	100-500 ESU	above 500 ESU
	In PLN per 1 farm						
Direct payments to agricultural land	13 683	6 151	11 319	22 764	38 669	97 948	697 594
LFA payments	1 828	1 044	1 805	2 860	3 991	5 489	11 158
Agri-environmental payments	1 721	922	1 720	2 910	5 615	11 705	32 229
Other subsidies to rural development	1 176	789	1 484	1 413	1 509	715	143
Total amount paid out in the framework of the EU CAP	18 408	8 906	16 328	29 947	49 784	115 857	741 124

Source: Own calculation based on IAFE data.

The amount from the direct payments transferred to farms below 8 thousand EUR was on average 6,151 PLN. Parallel to the increase of economic size of farms the amount of direct payments was also increasing. Within the group of farms of 50–100 thousand EUR economic size, the amount of direct payments was at the level of 38,669 PLN, while within the group of biggest farms (above 500 thousand EUR) – it was 697,594 PLN. This difference was resulted by the economic diversity of the agricultural land area.

Among the measures of Common Agricultural Policy, the support for agricultural activity on the less favoured area (LFA payments) has also a significant influence on the situation of farms. Its aim is to support the farms keeping their production on areas where agricultural activity finds problems because of the unfavourable natural conditions. LFA payments' role is to avoid both depopulation and losing agricultural character of rural areas [Hunek 2005].

LFA areas cover 53% of Polish agricultural land [Kutkowska 2006]. The system of LFA payments has been tied to the system of direct payments. In 2011 in Poland farmers made 728.2 thousand of applications for LFA payments concerning the total area of 7.12 mln ha. In 2012 the number of applications was 730.3 thousands [Informacja z realizacji... 2013].

The amount of LFA payments within farms keeping the accountancy for IAFE in 2011 was on average at the level of 1,827 PLN. Similar to the previous results, the economic size was the differing factor to this amount.

In smallest farms (up to 8 thousands EUR) the average LFA payment was at the level of 932 PLN. Parallel to the increase of economic size, the amount of LFA payment was also increasing. In farms of the economic size between 50 and 100 thousands EUR, the LFA payments were on average at the level of 5,615 PLN.

Besides the direct payment and LFA payment, the analysed farms were also granted with the agri-environmental payments and rural development payments. The amounts from these sources in 2011 were respectively at the level of 1,721 and 1,176 PLN. The highest amounts of agri-environmental payments were gained by the farms of the economic size above the 500 thousand EUR: 32,229 PLN. Concerning the rural development payments, the highest amount of money was addressed to the small farms of the economic size at the level of 8–25 thousand EUR. The average payment was at the level of 1,484 PLN per 1 farm. The significant share of the investments payment was also noted [Wysokiński, Dziwulski and Jarzębowski 2013]. The average payment in 2011 was at the level of 949 PLN.

The money transferred via the CAP mechanisms are not neutral to the level of incomes from the agricultural production [Lorencowicz and Cupiał 2013]. In relation to the analysed farms, the total amount of CAP support created 43.7% of agricultural profit. In 2010, this relation was at the level of 40.4% [Wyniki standardowe... 2011]. These results prove the thesis that current and long-term influence of the European funds to the economic and social situation of Polish agriculture, agricultural markets and rural areas is leading and crucial for the further development of agricultural sector in Poland [Czyżewski and Hennisz-Matuszczak 2008].

Among the different forms of support, the most important influence on the income situation of farmers was noted by the direct payments and LFA payments (see Fig. 2)

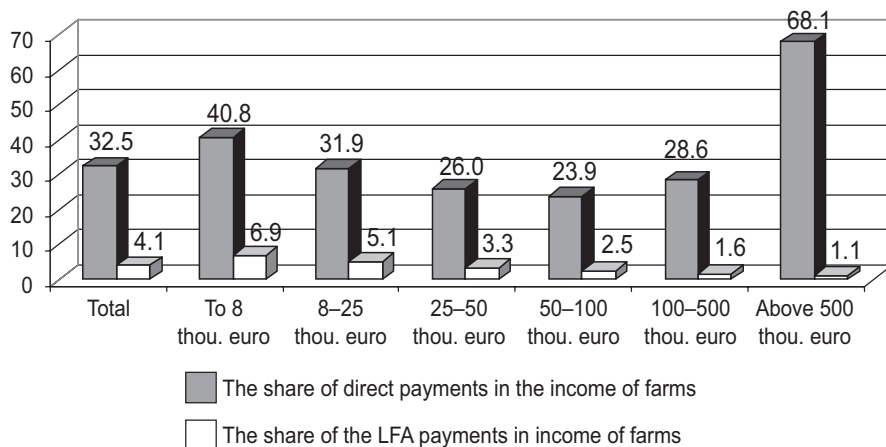


Fig. 2. The share of direct payments and payments in the LFA farm income from farming by economic size in 2011 (%)

Source: Own calculation based on data IAFE.

The widest influence of direct payments on the agricultural incomes was noted for farms above the 500 thousand EUR economic size. These payments were covering 68.1% of agricultural incomes. These farms were mostly cereal production oriented. In smallest farms (up to 8 thousands EUR economic size) the direct payments covered 40.8% of incomes. In farms between 8 and 25 thousand EUR this share was at the level of 31.9% and in farms between 50 and 100 thousand EUR economic size it was at the level of 23.9%.

The most significant share of LFA payments was noted for the smallest farms (up to 8 thousand EUR). The weakest influence of LFA payments on economic results was noted for the biggest farms (above 500 thousand EUR).

## CONCLUSIONS

Summarizing the hitherto considerations, it can be stated that parallel to the accession to the European Union Polish agriculture has gained the significant support from the Common Agricultural Policy measures. It directly influences the farm incomes. In the analysed farms the average amount of support in 2011 was at the level of 18,408 PLN which was 43.7% of agricultural income. What is more, the influence of these resources on the income is increasing year by year. In 2010 this relation for FADN farms was at the level of 40.4%.

The basic elements of EU CAP support were direct payments and LFA payments which created respectively 74.3% and 9.9% of total received support. The factor differing the amount of money transferred within the EU CAP measures was the area of agricultural land. Relating to the analysed farms, parallel to the increase of agricultural area, the amount of support (both direct payments and LFA payments) was also increasing.

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## **WPLYW WIELKOŚCI EKONOMICZNEJ GOSPODARSTWA NA ZAKRES WSPARCIA ŚRODKAMI WSPÓLNEJ POLITYKI ROLNEJ UNII EUROPEJSKIEJ**

**Streszczenie.** Celem niniejszego opracowania jest próba ukazania wpływu wielkości ekonomicznej gospodarstwa na zakres wsparcia środkami Wspólnej Polityki Rolnej UE. Szczegółowej analizie poddano płatności bezpośrednie i płatności dla obszarów o niekorzystnych warunkach gospodarowania (ONW). Ich wielkość rozpatrywano w relacji do dochodu z gospodarstwa rolniczego. Analizą objęto 2011 rok. W odniesieniu do analizowanych gospodarstw ogólna kwota wsparcia w ramach WPR UE w 2011 roku stanowiła 43,7% dochodu z gospodarstwa rolniczego. Podstawowymi elementami wsparcia ze środków WPR UE były płatności realizowane w ramach dopłat bezpośrednich i płatności dla obszarów o niekorzystnych warunkach gospodarowania. Stanowiły one odpowiednio 74,3% i 9,9% ogólnego wsparcia. Z roku na rok obserwuje się zwiększanie oddziaływania tych środków na dochody.

**Słowa kluczowe:** poziom wsparcia, środki WPR EU, płatności bezpośrednie do gruntów rolnych, płatności z tytułu ONW

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