

THE INFLUENCE OF COMMON AGRICULTURAL POLICY ON THE ECONOMIC DEVELOPMENT OF RURAL AREAS IN POLAND

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Abstract

The aim of the article is to assess the impact of the instruments implemented within pillar II of the Common Agricultural Policy (CAP) on the economic development of rural areas in Poland. Approximately 40% of all EU funds received by Poland was directed to rural areas (including agriculture). Such a significant financial input in the period 2002–2015 led to transformations in many aspects of the economy as well as changes in the indicators of the level of economic development. The results showed that the economic effectiveness of individual measures depend on a number of factors, including: the amount of funds, the purposes to which they were used, the type of instruments used, and the number of beneficiaries. Pro-investment funds (the investments in farms, adaptation of farms to EU standards) proved to have the largest positive impact on the economic development. Economically weak regions and regions with strong agricultural sector draw most benefits from CAP funds, whereas lowest impact of CAP funds is observed in highly developed voivodships with diversified structure of the regional economy.

Key words: rural areas, EU funds, Common Agricultural Policy (CAP), economic development, Poland

JEL Code: O13, Q18, R58

Introduction

Over decades, rural areas in Poland lagged behind urbanised areas in the economic development (Biczkowski 2013). The process of integration with the European Union and the inflow of EU funds has caused significant transformations in the rural space in recent years. New investments have been made to improve the infrastructure and aesthetics of rural architecture. Changes are also taking place in the agricultural sector, which is still the most important socio-professional sphere for rural population. On the one hand, intensification of agricultural production is observed in the areas with favourable natural conditions. Farms are

getting economically stronger so that they are able to compete with farms in other EU countries. On the other hand, there is a gradual extensification of agricultural activity in areas of high environmental value (high share of forests and lakes, diversified landscape), which are more suitable for the development of tourism and forestry. Higher presence of non-agricultural activities can be found there (diversification of income sources, multifunctionality) (North, Smallbone 2006). It is therefore important to make an appropriate use of the endogenous potential of rural areas, which, combined with the possibility of using the funds of the second pillar of the CAP, gives the opportunities for positive transformations of rural areas (Dwyer et al., 2007).

Many authors have researched the effects of European funds on the development of rural areas. Some results indicate that the inflow of EU funds cause gradual convergence of European regions (Crescenzi et al. 2014) and counteract the excessive concentration of economic development in urban centres (Daniel and Kilkenny 2009). Others claim that CAP is inefficient in safeguarding rural job places (Petrick and Zier 2010). Contradictory results of the studies on regional economic impact of EU funds can be explained by the variety spatial levels of analysis, territorial contexts, and different (static or dynamic) approaches to the measurement of economic performance of regions (Hansen and Hermmann 2012).

The purpose of this article is to present the impact of the funds of the second pillar of the Common Agricultural Policy (CAP) implemented in 2002-2015¹ on the transformations of rural areas of Poland. The analysis covers 43 activities in all programs addressed directly to rural areas, which have been implemented so far². Spatial analysis was performed for 16 voivodeships (regions, NUTS 2 units) of Poland.

1 Data and methods

The impact of CAP funds was assessed in two steps. First, due to the large number of funding programmes, they were divided into the following modules:

- *module 1*: investments and technical equipment of farms (including: investments in farms, adaptation of farms to EU standards);

¹ According to the “n+2” principle, funds assigned during a given financial perspective are implemented and accounted for up to two years after its completion. In Poland, funds from the 2007-2013 perspective were implemented and accounted for by the end of 2015. In addition, the pre-accession SAPARD program formally planned for the years 2000-2004 was actually implemented in the years 2002-2006.

² The analysis includes programs of the second pillar of the CAP: pre-accession SAPARD 2000-2004 (4 activities), Sectoral Operational Program “Restructuring and Modernization of the Food Sector and Rural Development” 2004-2006 (SOP Agriculture, 9 activities), Rural Development Program 2004-2006 (RDP 2004-2006, 8 activities), and Rural Development Program 2007-2013 (RDP 2007-2013, 22 activities).

- *module 2*: improvement of demographic structure (structural pensions, „young farmer”);
- *module 3*: improvements of land quality and land use (agri-environmental program, afforestation, land consolidation, restoration of productive potential);
- *module 4*: improvement of the economic situation of farms (support for semi-subsistence farms, diversification of agricultural activity);
- *module 5*: improvement of the quality of life in rural areas (renovation of villages, development and improvement of infrastructure in rural areas);
- *module 6*: agricultural processing and entrepreneurship (improvement of processing and marketing of agricultural products, creation and development of microenterprises);
- *module 7*: training, consulting services, information and promotional activities.

The second step of the assessment was the comparison of the amount of CAP funds with the changes of basic macroeconomic indicators³: the share of employed in the agricultural sector, GDP (by regions), gross value added in the agricultural sector (total and per person employed), agricultural production per hectare of agricultural land, average monthly salary in the agricultural sector, population living in rural areas and the revenues of self-government units. A correlation analysis was carried out between the amounts of support within each of the modules and indicators of socio-economic development. Also, a comparative assessment was made to find differences in the dynamics of changes in individual socio-economic indicators during the period of the implementation of CAP.

2. Structure and spatial allocation of CAP funds

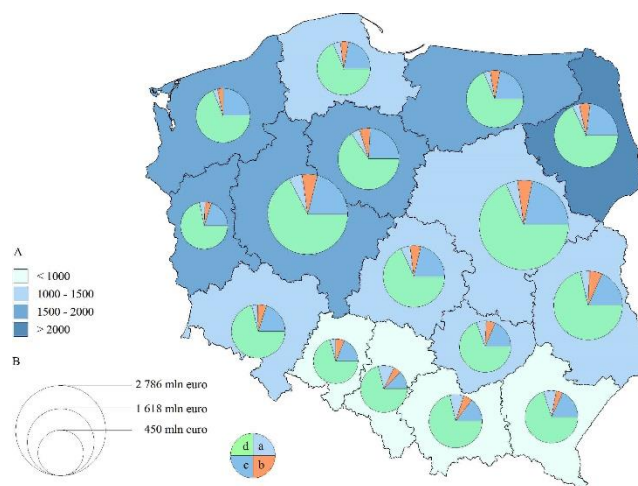
The total sum of the funds within the second pillar of the CAP in Poland amounted to approximately EUR 19 billion. The volume of funds has been gradually increasing since Poland was included in the European Union (EU) funding programmes. The first program used by the beneficiaries in rural areas was SAPARD. It was a pre-accession program, hence it had the smallest impact on the transformations of rural areas. The funds amounted to approximately EUR 1 billion, i.e. 5% of the total pool of all funds targeted to rural areas. The most important programme in terms of the value of allocated funds (EUR 13 billion, so 69% of total) was the in the Rural Development Programme (RDP) 2007-2013 (Fig. 1). It was the first program in which Poland participated through the entire 7-year financial perspective.

Each of the activities planned within programs was directed to a specific group of beneficiaries and to the appropriate area (module) of support. The most funds were targeted to

³ Indicators were calculated for all rural and urban-rural (excluding urban) communes of each of the 16 regions.

farmers (69% of the total). They were used mainly for pro-investment purposes, i.e. the purchase of machinery and equipment for agricultural production as well as the construction or modernization of livestock buildings (in total approx. 90%). The structure of these funds, which narrow down the types of supported investments, contribute to the sustainable development of agriculture only in a limited extent (Rowiński 2007; Biczowski 2009). The correlation analysis showed that the more economically strong the farm, the more funds were allocated for investments. Farmers who see their farms as non-market oriented are more likely to choose survival strategies. However, those who consider their farm as producing on the market, are more likely to turn it into a modern market-oriented farm (Rosner 1999).

Fig. 1: The amount of CAP funds per capita (A) and the structure of funds according to programmes (B)



a) SAPARD; b) SOP Agriculture; c) RDP 2004-2006; d) RDP 2007-2013

Source: own elaboration based on the data of the Agency for Restructuring and Modernisation of Agriculture.

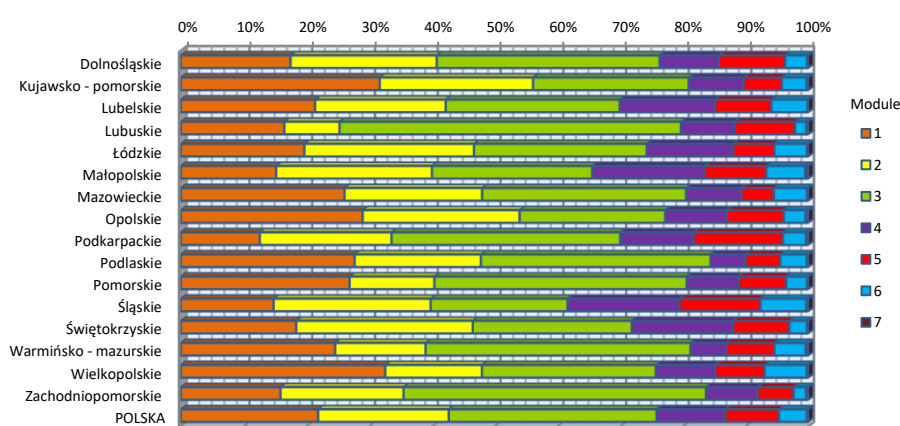
The second group that benefited from CAP funds were entrepreneurs (about 18% of total funds). This support had a twofold character. The funds offered an alternative for people leaving agriculture by starting their own business (multifunctionality of rural areas and the diversification of sources of income). Also, this group of beneficiaries included large food processing companies. They used the funds to increase their competitiveness and adapt to the EU market. Investments were made to purchase equipment necessary to run business, purchase new or modernize existing production technologies, improve sanitary conditions, improve production quality and implement new food production and distribution procedures.

The funds acquired by local governments (about 10% of the total) were directed mainly to the renovation of villages and the development of technical and tourist infrastructure. This was aimed to improve the quality of life in rural areas, increase tourist

attractiveness, bring investors, meet social and cultural needs and preserve the cultural heritage. Other groups of beneficiaries (e.g. cultural institutions, religious associations, non-governmental sector) constituted a marginal share in the beneficiaries of CAP funds.

Among seven modules the highest amount of CAP funds (33%) was devoted to the pro-environmental measures (module 3, see Fig. 2). They were aimed at improving the land use structure and subsidising farms in areas with unfavourable natural conditions for agricultural production.

Fig. 2: Structure of CAP funds in modules



Source: own elaboration based on the data of the Agency for Restructuring and Modernisation of Agriculture.

The second group in terms of the amount of funds (21.9% of the total) were the activities aimed at the modernization and improvement of technical equipment of farms (module 1). These are strictly investment activities that have direct impact on the competitiveness of farms. These funds were mostly targeted to farms in the regions of high agricultural productivity. The lowest interest in this funds was presented by beneficiaries from south-eastern Poland (Podkarpackie, Świętokrzyskie, Małopolskie, and Śląskie regions). These are either regions with a strongly developed industry (Śląskie), or with a fragmented agrarian structure, a significant share of small farms (less than 5 ha), and poor natural conditions for agricultural production. Such features are not suitable for the investments in the modernization of farms and strengthening their market competitiveness.

The third group (20.8% of the total funds) were funds oriented on the improvement of the demographic structure of farming population (module 2), among other means through early retirement and takeover of farms by their successors. Nevertheless, the impact of these instruments is wider. Structural pensions are also aimed at improving the agrarian structure, while the “young farmer” programme provides funds for investments for farm successors.

The actions improving the economic situation of farms (module 4) accounted for 11% of all funds. They were aimed to support economically weaker farms, or those willing to diversify sources of their income or reorient their activity towards non-agricultural activities.

Module 5, including the activities affecting the improvement of the quality of life in rural areas, accounts for 8.6% of total funds. Within this module, most investments were undertaken by local governments and included: modernization of cultural, recreational, sport facilities and public spaces, renovation of historic buildings, and irrigation works.

The group of entrepreneurs and companies (module 6) accounts for 4.4% of the CAP funds. This group of beneficiaries largely participates in the activities implemented under the cohesion policy. Thus, the actual impact of EU funds on rural entrepreneurship extends far beyond the contribution of CAP actions. The last module, i.e. training, promotional and consulting services, accounted for 0.2% of all funds.

3. The impact of CAP funds on the dynamics of changes in macroeconomic indicators

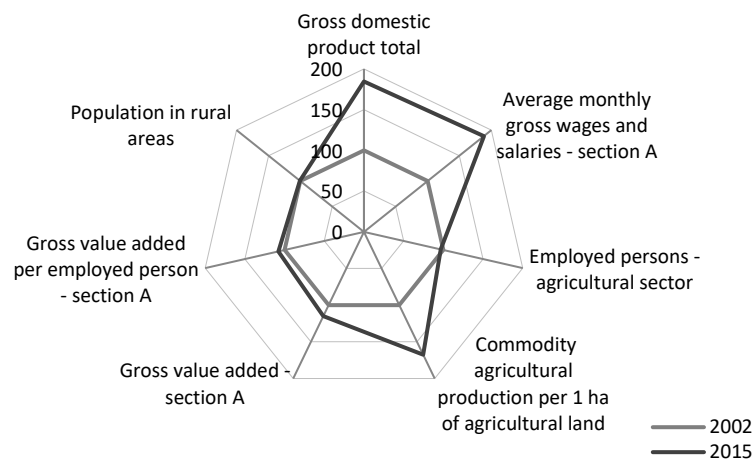
One of the most important goals of the implementation of EU funds is the levelling of the development opportunities across regions. To assess its efficiency, the size of CAP funds was compared to the measures of changes in the main macroeconomic indicators reflecting the level of social and economic development of rural areas. In the period under analysis, among all indicators taken into account, the average monthly salary of people employed in economic section A⁴ increased by the highest factor (+88%, Fig. 3). This change was accompanied by an increase in the efficiency of production and labour productivity: the value of agricultural production per 1 ha increased by 67%, GDP by 85%. Smaller increase was noted in gross value added per person employed in section A (8%) and gross value added in section A (15%). The crisis and slowdown of the global economy in the last decade created a barrier that hindered rapid changes in the number of people working in agriculture. The urban labour markets were not able to absorb surplus labour force from the village, so this indicator decreased by a mere 3.1%. (Jeziarska-Thöle, Janzen 2016).

The dynamics of economic changes is best illustrated by the index of GDP changes, which reached annual values between 4% and over 6% in the first years of the study period. In the years 2008-2011, the growth rate slightly weakened, but remained positive (1-2% annually) – the ability to overcome the depression can be partially attributed to the transfer of

⁴ Section A according to Central Statistical Office includes the following branches of the national economy: agriculture, forestry, hunting, and fishing.

EU funds, which mitigated the negative effects of the crisis (Breňová 2013). Starting from 2012 the economy returned to the path of fast development (3-4%).

Fig. 3: Dynamics of basic macroeconomic indicators in rural areas between 2002 and 2015



Source: own elaboration based on the Central Statistical Office data.

Regional differences in the impact of CAP funds on the socio-economic performance of regions are a result of the structure and size of transfers on the one hand, and of the overall economic strength of each region on the other. The impact of CAP funds in individual regions was estimated by the ratio of the given region's benefits in total CAP funds spent in Poland to the share of this region in the national GDP (Tab. 1, column "B/A ratio", see Zawalińska 2008). We can distinguish a group of economically weak regions that have gained disproportionately more from the CAP than their share in the national GDP (the value of the indicator is over 2), which include Podlaskie, Lubelskie and Warmińsko-Mazurskie. Eight voivodships fall into second group of regions with the ratio values between 1 and 2, so with slighter prevalence of the share in CAP funds over the share in GDP. They include the region with the most productive agriculture (Wielkopolskie), as well as economically weaker regions with poorly developed agricultural sector (Podkarpackie, Świętokrzyskie, Lubuskie). The last group consists of five regions which obtained relatively little CAP funds in relation to their share in the national GDP (B/A below 1). The lowest value of the ration is observed in case of Śląskie voivodeship, the most industrialized region in the country. It can be concluded that the poorer the region, the more benefits it received from the CAP funds in relation to its GDP.

The level of financial support from CAP is positively correlated with own revenues of local governments. However, between 2004 and 2015 a trend of gradual convergence of the

incomes of local governments could be noticed. The share of communes in economically strong regions (Śląskie, Mazowieckie) in total CAP funds is decreasing, while higher share of funds goes to economically weaker regions: Podkarpackie, Świętokrzyskie and Małopolskie.

Tab. 1: Basic parameters for the assessment of the impact of CAP funds in on the development of rural areas in regions of Poland

Region (voivodeship)	Average GDP 2002-2015 [mln EUR]	Total funds acquired from CAP [mln EUR]	Share in national GDP (A)	Share in CAP funds absorption (B)	B/A ratio	CAP funds as % of average 2004-2015	CAP funds per capita [EUR/person]	CAP funds per person employed in agricultural sector [EUR/person]
Dolnośląskie	27 388,59	913,3	8,3	4,8	0,6	3,3	313,1	12 202,5
Kujawsko-pomorskie	14 981,39	1 307,2	4,5	6,9	1,5	8,7	623,0	11 061,9
Lubelskie	12 827,34	1 707,7	3,9	9,0	2,3	13,1	786,3	6 129,6
Lubuskie	7 436,11	577,5	2,3	3,1	1,3	7,7	564,4	20 907,5
Łódzkie	20 186,65	1 329,6	6,1	7,0	1,1	6,6	524,8	6 903,4
Małopolskie	24 967,52	897,3	7,7	4,7	0,6	3,5	268,1	4 875,3
Mazowieckie	71 630,50	2 786,7	21,5	14,7	0,7	3,9	527,2	8 679,2
Opolskie	7 183,83	450,8	2,2	2,4	1,1	6,2	444,6	9 058,0
Podkarpackie	12 652,94	863,9	3,9	4,6	1,2	6,7	405,8	5 432,8
Podlaskie	7 483,65	1 448,6	2,3	7,7	3,4	19,3	1206,2	10 412,8
Pomorskie	18 712,34	913,2	5,7	4,8	0,8	4,8	399,9	14 724,5
Śląskie	42 286,92	570,3	12,8	3,0	0,2	1,3	123,3	8 053,8
Świętokrzyskie	8 257,60	798,1	2,5	4,2	1,7	9,5	624,4	5 560,2
Warmińsko-mazurskie	9 023,13	1 092,1	2,7	5,8	2,1	12,1	751,8	16 130,9
Wielkopolskie	31 249,48	2 308,7	9,5	12,2	1,3	7,3	668,1	10 979,5
Zachodniopomorskie	12 720,44	948,4	3,8	5,0	1,3	7,5	550,5	20 553,5
<i>Poland</i>	<i>328 988,43</i>	<i>18 913,6</i>	<i>100,0</i>	<i>100,0</i>	<i>1,0</i>	<i>5,7</i>	<i>490,8</i>	<i>8 816,0</i>

Source: own elaboration based on the data of the Agency for Restructuring and Modernisation of Agriculture, and Central Statistical Office.

A correlation analysis of the dependence between the amount of CAP funds and the change in macroeconomic indicators shows that these measures had the greatest impact on increasing the gross value added in section A (correlation coefficient for each module between 0.667 and 0.966). Slightly weaker correlations can be seen between the amount of funds and the rates of employment in agricultural sector, and the GDP values (Tab. 2).

Tab. 2: Correlation between the size of CAP funds (by module) and macroeconomic indicators

Indicator	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7
Value of agricultural production per hectare of agricultural land	0,680	-0,389	-0,696	-0,230	-0,467	-0,366	0,088
GDP	0,678	0,581	0,070	0,491	0,439	0,646	0,279
Gross value added in section A	0,966	0,906	0,848	0,827	0,792	0,931	0,677
Gross value added per employed person in section A	0,488	-0,291	0,248	0,416	-0,413	0,027	0,275
Number of persons employed in agricultural section A	0,503	0,882	0,119	0,939	0,804	0,873	0,184
Average monthly salary in section A	0,711	0,149	-0,193	0,523	-0,373	0,514	-0,197

Source: own elaboration.

The strongest correlation with the levels of change of macroeconomic parameters are characteristic for modules 1, 2, 4 and 6. To a large extent, these are pro-investment measures aimed at modernization and strengthening the competitiveness of economic entities operating in the agricultural sector. Thus, they contribute to real improvement in the economic situation of rural areas.

Conclusion

The strategic objectives of the CAP, i.e. the improvement of competitiveness of the agricultural economy and sustainable development of rural areas proved to be implemented in Poland. The impact of CAP measures on the dynamics of transformations of rural areas is noticeable. It is reflected by the improvements in the values of macroeconomic indicators. The economic effectiveness of CAP initiatives depends on a number of factors, including the amount of funds, specific purposes for which they are used, and the number of beneficiaries. CAP funds implemented in 2002-2015 accounted for approximately 1% of GDP of Poland. The actions focused on investments had the most visible positive impact on regional economies. On the second place were the actions for which the largest funds were allocated (scale effect). The actions most efficient in generating economic growth included: investments in farms, adaptation of farms to EU standards (module 1) and development of entrepreneurship and improvement of food processing (module 6). In addition, direct payment actions had a significant impact on the economic situation of rural areas. These included structural pensions (module 2), agri-environmental funds (module 3) and support for semi-subsistence farms (module 4). However, only part of these funds were used for investments.

The role of CAP funds in changing the socio-economic situation of rural areas is relatively more important in regions that are economically weak and have strong position of agriculture in their economic structure (eg Podlaskie, Lubelskie). The second group of voivodships which draws the most benefits from the CAP, are economically more developed regions with strong agricultural sector (Wielkopolskie, Kujawsko-Pomorskie). It can be noticed that the level of absorption of CAP funds is largely dependent on the strength of the agricultural sector. The lowest impact of CAP funds is observed in highly developed voivodships with diversified structure of the regional economy (Śląskie, Mazowieckie).

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