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Mechanisms and impulses influencing development of agriculture and rural areas (4)

Barbara Wieliczko
Agnieszka Kurdyś-Kujawska

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THE POLISH AND THE EU AGRICULTURES 2020+
CHALLENGES, CHANCES, THREATS, PROPOSALS

Warsaw 2018

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The paper was prepared under the research subject **Financial and fiscal factors in the improvement of efficiency, sustainability and competitiveness of the Polish agriculture**, in the task: *Fiscal mechanisms and stimuli having their influence on the rural development, returnable financing and quasi-marketable instruments for internalization of external effects in agriculture, the provision of public goods*.

The paper aims at assessment of the proposal for the shape of the CAP for 2021-2027 presented by the European Commission and analysis of regionalization of subsidies for the Polish agriculture.

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Introduction

This monograph is the fourth publication in the series[1] presenting the results of research carried out as part of the task titled "Fiscal mechanisms and stimuli having their influence on the rural development, returnable financing and quasi-marketable instruments for internalization of external effects in agriculture, the provision of public goods", which is one of the three tasks under the research subject "Financial and fiscal factors in the improvement of efficiency, sustainability and competitiveness of the Polish agriculture", part the Multi-Annual Programme entitled "The Polish and the EU agricultures 2020+. Challenges, chances, threats, proposals" implemented in 2015-2019 by the Institute of Agricultural and Food Economics – National Research Institute.

In the fourth year of the research task's implementation research studies focused on three specific objectives, which were:

1) Fiscal and environmental federalism[2].
2) Regionalization of subsidizing agriculture.
3) Analysis of the proposed changes to the CAP after 2020.

The results of the research carried out as part of the task were presented in numerous articles and papers. This publication focuses on a broader presentation of the results of research on the regionalization of agricultural support and changes in the functioning of the CAP after 2020 proposed by the European Commission (EC).

The EU agriculture faces numerous development challenges. Similarly, as agriculture across the world, it must face a triple challenge, which includes:

- Providing healthy and nutrient-rich food at an affordable price and in the right amount;
- Ensuring the subsistence of farmers and employees in the food chain and the development of rural areas;
- Protection of natural resources, including water and soil, while reducing greenhouse gas emissions and avoiding negative impacts on the value and biodiversity of ecosystems (OECD, 2019, p. 3).

[1] B. Wieliczko, A. Kurdyś-Kujawska, J. Herda-Kopańska (2015), Mechanisms and impulses influencing development of agriculture and rural areas (1), Monographs of Multi-Annual Programme 2015-2019 No. 3.1, IAFE-NRI, Warsaw; B. Wieliczko, A. Kurdyś-Kujawska, J. Herda-Kopańska (2016), Mechanisms and impulses influencing development of agriculture and rural areas (2), Monographs of Multi-Annual Programme 2015-2019 No. 34.1, IAFE-NRI, Warsaw and B. Wieliczko, A. Kurdyś-Kujawska, J. Herda-Kopańska (2017), Mechanisms and impulses influencing development of agriculture and rural areas (3), Monographs of Multi-Annual Programme 2015-2019 No. 58.1, IAFE-NRI, Warsaw.

[2] The concepts of both fiscal federalism and environmental federalism are not presented in this publication in detail. They were tackled in journal articles prepared within the research task: Wieliczko, 2019 and Wieliczko, 2018a.

The first chapter of the monograph was devoted to the assessment of the European Commission's proposals regarding the shape of the CAP after 2020. The whole proposal of the EC including three drafts of regulations was discussed in detail and the chances and risks associated with these proposals were pointed out, as well as gaps in the draft regulations that need clarification. This part of the publication refers to the planned budget of the CAP, its objectives, the design and implementation system as well as the instruments to serve the development of rural areas and agriculture.

The results of the analysis of the EC proposals show that the shape of the CAP in the period between 2021 and 2027 will be similar to the current one, when it comes to policy instruments. A key novelty will be the change of the CAP implementation model, which aims to give the Member States a greater impact on the implementation of the CAP, which coincides with the idea of fiscal and environmental federalism. However, it is also associated with certain threats, especially regarding environmental protection and the fear of entering into a downward spiral when it comes to environmental standards and requirements for agricultural producers.

The second chapter of the monograph concerns the possibility of regionalization of agricultural support. This chapter identifies the theoretical aspects of the problem of regionalization, which are related to this issue, namely fiscal and environmental federalism. Next, it presents the results of the study on the regional diversification of agricultural subsidies in Poland. The assessment of the level of diversification of subsidies for agriculture was considered at the level of voivodeships (separate administrative regions). The study was based on accounting data obtained in 2007-2016 by agricultural holdings conducting agricultural accounting for the purposes of the Polish FADN.

The results of the study show that between 2007 and 2016 there operated a process of diminishing the diversification of support for agriculture per farm at the regional level. However, when comparing changes in the level of support for farms from the regions with the highest and the lowest absorption of agricultural subsidies, these disproportions increased in the analysed period. This means that agricultural subsidies in their current form do not contribute to the equalization of development opportunities for farms and may even further deepen them.

1. Assessment of the proposed shape of the CAP 2021-2027

1.1. Context of the CAP reform 2021-2027

There have been a number of studies and analyses about the conditions and factors determining the shape of the CAP 2020+ reform proposal. In this regard, this subsection presents only a short summary of this problem, indicating the sources, where this topic was discussed in more detail.

The reform context was presented, among others by the European Commission itself in its announcement presenting changes in the CAP. The EC's communication entitled "The future of food and farming" was published in November 2017 (COM(2017)713). This document presents the issues of agricultural production and agri-food industry in the EU, against the identified key challenges, it also points out the objectives on which the implementation of the CAP after 2020 is to be concentrated and presents the most important instruments that are to serve achieving the named policy objectives[3].

The European Commission has also prepared documents presenting the context of the CAP reform in relation to environmental, social and economic issues. The document entitled "Modernising and simplifying the CAP. Background Document. Economic challenges facing EU agriculture" presents the economic issues. This material contains conclusions from the analysis of the challenges facing the EU agriculture and possible measures to support agriculture under the CAP 2020+.

The key economic challenges for agriculture and rural areas in the European Union include:

- Pressure on agricultural income;
- Low productivity and competitiveness;
- Imbalance in food chains.

Attention was also paid to the strengths of European agriculture. It seems, however, that these strengths are at least debatable, especially when viewed from a long-term perspective and taking into account the trends of changes in the economy and the environment. It is too optimistic to say that the EU farmers operate in good environmental and agro-climatic conditions. Such a statement is not defendable, even in the face of the problem of drought increasing from year to year in a growing number of the EU regions.

[3] An analysis of this document is presented in the previous monograph prepared within the research task, that is "Fiscal mechanisms and stimuli having their influence on the rural development, returnable financing and quasi-marketable instruments for internalization of external effects in agriculture, the provision of public goods", that is in the publication B. Wieliczko, A. Kurdyś-Kujawska, J. Herda-Kopańska (2017), Mechanisms …, p. 79 and further.

Another dubious point on the list is the EU's positive trade balance in food and the perception that further development of world trade is an opportunity for the European agri-food sector, given its low productivity and competitiveness. In addition, it is difficult not to expect that the EU competitors will refrain from increasing the quality of their production and expecting a rise of their chances on the market, demanding more and more high-quality products, which are currently an important factor in the EU's ability to export food.

It should be noted, however, that among the threats listed by the EC there is the increase in competition from other countries, the possibility of reducing consumer confidence in the EU products and the risks associated with the direction of global trade development.

Based on the SWOT analysis, the CAP instrumentation was also reviewed to determine the potential of this policy to support agriculture. It was found that direct payments still play a key role in the context of agricultural incomes. The issue of building a safety net, especially in relation to the price risk problem, was also raised. Attention was paid to the issues of common market organization enabling farmers to associate in order to gain a better negotiating position in relations with trade networks and processing companies.

In the case of risk management, the current direction was maintained, indicating that such activities should be the responsibility of farmers, but the CAP in the second pillar offers the possibility of supporting farmers in active risk management. It was also emphasized that payments for farms located in areas with natural constraints constitute an element of risk management support.

As emphasized, uncertainty connected with the market is fundamental. Price volatility, pressure to maintain low prices and rising production costs lead to an increase in the investment gap on farms. It should also be emphasized that the EC document drew attention to the important, though very often neglected issue in economic analyses concerning agriculture and agricultural policy, that is problems in the behaviour of various entities. In the case of European agriculture, the individualism of farmers and the lack of trust and social capital are unfavourable factors for joint action, as well as the lack of leaders who could pull in other farmers and residents of rural areas to implement joint and innovative actions.

At the same time, the document dealing with environmental issues (European Commission, 2017b) clearly recognizes the problems resulting from climate change and the management of natural resources, which is not sustainable, and the still increasing loss of biodiversity. In addition, it was pointed out that agriculture generates greenhouse gases, especially methane. It is estimated that 10% of the EU greenhouse gas emissions come from agriculture (European Commission, 2017b, p. 5).

The agricultural sector plays an even greater role in the EU in the field of water management. The share of agriculture in water consumption in the EU reaches as much as 51% (European Commission, 2017b, p. 6). Agriculture is also a source of pollution of ground and surface water in connection with the use of nitrogen and phosphorus fertilizers. At the same time, the agricultural sector is most affected by the problems of increasing water scarcity and recurring droughts.

Also, in relation to soils there are numerous problems that are not only environmental in nature, but they directly translate into the productivity and competitiveness of agriculture. These include mainly various types of erosion as well as a decrease in the level of organic substances in the soil. All these elements and environmental problems interact with each other and have a significant impact on the level of biodiversity as well as the farm production results.

Regarding the involvement of the present CAP in solving and reducing environmental problems, the principles of cross-compliance were indicated as the most important element of the CAP's response to these problems in the agricultural sector. The importance of the other legal solutions regarding the environment, such as the Water Directive[4] and the Directive on the use of pesticides[5] was also underlined. Attention was also paid to the greening of direct payments and agri-environmental-climate measures.

In the case of social issues, the European Commission identified the following as key challenges:

- Low growth, under-employment, poor generational renewal;
- Sub-optimal infrastructures and services;
- Territorial imbalance, social inclusion and poverty.

Factors determining the reform of the CAP under preparation include not only the situation in the agricultural sector and in the economy of rural areas but also a number of other drivers. They can be divided in many ways. One of them is distinguishing the following categories:

- Challenges facing agriculture;
- Challenges facing rural areas;
- External conditions;
- The EU internal processes shaping the CAP and the multiannual financial framework.

In the case of agriculture, the growing competition from other countries does not only lead to difficulties in competing on global markets, but also causes greater price volatility, and thus the instability of income earned by farmers.

[4] Directive 2000/60/EC.
[5] Directive 2009/128/EC.

Therefore, the CAP reform must deal with the issue of risk management, because the current mechanisms do not ensure effective mechanism for coping with recurring crises. The security network offered by the CAP must be both strengthened and flexibilized. Experience from recent years indicates the need to set up a special fund with financial resources ready for use as soon as the first signs of the impending crisis appear. The amount of funds earmarked for this purpose must also be large enough to allow it to have a real impact on the situation of farmers. Therefore, it must be a multi-annual fund that allows for accumulation of resources unused in one year and their transfer to the budget for the following year.

The need to create such a fund is also related to the growing global uncertainty regarding not only international trade issues, but also the threat of armed conflicts on a scale much larger than in recent decades, as well as the growing number of extreme weather events.

In rural areas, numerous socio-economic problems appear on a larger scale than in the cities. Particularly important is the issue of an aging population that results from the outflow of younger generations. In addition, there is a problem of social inclusion and territorial inequalities in development, with the outermost regions being the poorest areas in the EU.

External challenges are also diverse. Key issues relate to the EU trade relations and commitments, especially those connected to the environment, such as the commitments made at the Paris climate conference in 2017.

One of the main drivers of the upcoming reform of the CAP, under internal conditions, is the issue of the EU's multiannual financial framework for 2021-2027. Due to Brexit, the amount of funds for the implementation of EU policies will decrease, which will result in an even more tense fight between Member States for the allocation of support.

However, this is not the only factor related to internal restrictions. An equally important issue is the introduction of new priorities to the EU policy. This raises questions about the distribution of funds between current and new priorities.

In addition, internal issues include EU energy and climate policy. Of particular importance to the agricultural sector is the issue of further reduction of greenhouse gas emissions and the integration of sectors not covered by the European Emission System into emission reduction measures, such as the EC proposal on land use, land use change and forestry (COM(2016)479)[6].

[6] It should be noted that simply incorporating agriculture into the existing Emissions Trading System is not practically feasible (Wieliczko, 2016). At the same time, it is worth noting that there is a lack of data on the actual impact of the existing ETS system on the implementation of low-carbon technologies, which is widely discussed in the article by Teixidó, Verde, Nicolli (2019).

In contrast, the problem of factors determining the shape of the CAP 2021--2027 was looked at in a study commissioned by the European Parliament (Mottershead et al., 2018, p. 28 and the following). It indicates the following determinants:

1. The public are increasingly demanding that the CAP respond to wider societal needs.
2. The CAP simplification.
3. Modernising and future-proofing the CAP.
4. Justifying the CAP by its results by showing the European added value of the CAP spending.

In summary, it can be concluded that the CAP was and still is one of the key EU policies. Despite the decreasing number of farms and the decline in the share of agriculture in the GDP of the EU and its Member States, the policy towards the agricultural sector remains an important part of the EU's activity. However, the importance of agriculture and the role of the CAP are often questioned. Criticism of the CAP gains strength and visibility during any debate on the multiannual financial framework, as promoters of other policy issues and interests seek to increase the allocation of the EU funds to their goals, discrediting the need for a large CAP budget. The key argument used by such lobbying groups is that the EU direct payments are received to a large extent by a group whose income level is significantly higher than in the case of the average EU citizen. The authors of the CAP reform of 2014 tried to fight this opinion, showing that direct payments are a way to compensate farmers for the production of public goods for which they do not receive market remuneration. However, the CAP and its European added value are still being questioned by many stakeholders, which is why there is a need to strengthen the CAP as a policy supporting general EU objectives, such as caring for the environment and efforts to reduce the adverse impact of human activities on the climate.

The multitude of challenges facing the CAP is not limited to the budget and climate change. The key problems also concern economic and social issues. First, there is the problem of maintaining agriculture as a viable economic activity in the EU. It is necessary to support the sector in its struggle to remain competitive on world markets, which, with worse natural endownment than in other parts of the world, must be based on innovative use of limited and constantly depleting natural resources and coping with problems such as finding employees and successors currently managing farms.

1.2. Issue of the size of the CAP budget for 2021-2027

In May 2018 the European Commission (EC), in the then presented proposal regarding the multiannual financial framework for 2021-2027, proposed a method of funds distribution for the implementation of the EU activities. The

EC in its Communication on this budget stated that it "combines new instruments with modernised programmes to deliver efficiently on the Union's priorities and to rise to new challenges" (COM(2018)321, p. 1-2). This proposal provides for a division of the EU funds into seven budget titles. The most funds are planned for title II, that focuses on cohesion and values. It is within this title where the cohesion policy is located, with the largest amount of funds allocated thereto.

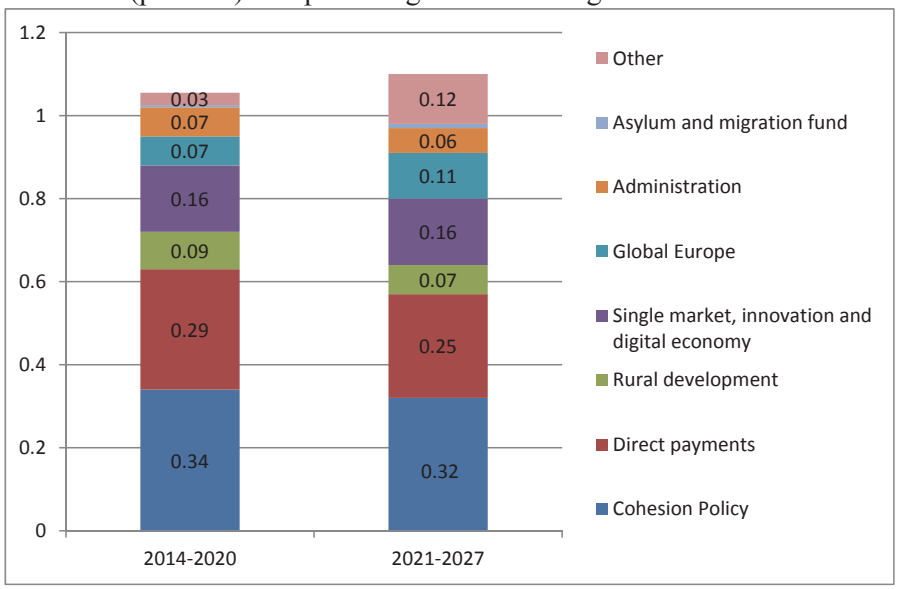
The EC proposal provides for a slight increase in the EU expenditure measured as a percentage of the EU's gross income (Figure 1). An increase in expenditure for the following areas of the EU activity is planned:

- Research, innovation, digital technologies;
- Yough;
- LIFE climate and environment;
- Migration and borders;
- Security;
- External actions.

With regard to the CAP, the European Commission in its Communication on the budget for 2021-2027 stated that "The Commission is proposing a reformed, modernised Common Agricultural Policy. This will allow a fully integrated Single Market for agricultural goods in the EU to be maintained. It will also ensure access to safe, high quality, affordable, nutritious and diverse food. The reformed policy will place greater emphasis on the environment and climate. It will support the transition towards a fully sustainable agricultural sector and the development of vibrant rural areas" (COM (2018) 321, p. 12).

The European Commission's proposal envisages allocating EUR 365 billion to the CAP in the period between 2021 and 2027, which accounts to 28.5% of the funds foreseen for the multiannual financial framework during this period (Table 1). A total of 78% of the funds are planned for the European Agricultural Guarantee Fund (EAGF). Although the total amount planned for the implementation of the multiannual financial framework is as much as 20% higher than at present (when compared to the budget for the period between 2014 and 2020 excluding the United Kingdom), the allocation to the CAP is lower by 3% (in current prices). The EC decided that the decrease in the CAP budget would affect the second pillar of this policy, i.e. the instruments implemented under the European Agricultural Fund for Rural Development (EAFRD).

Figure 1. Structure of the EU spending in 2014-2020 and 2021-2027 (planned) as a percentage of the EU's gross national income



Source: Begg (2018), Fig. 1.

Table 1. Proposed allocation for the CAP 2021-2027 (in current prices, EUR million)

Specification	A. EU-28 2014/2020	B. EU-27 2014/2020	C. EU-27 2021/2027	B/C change in %
1. EAGF	302,797	280,351	286,195	2%
2. EAFRD	100,273	95,078	78,811	-17%
3. CAP total	403,070	375,429	365,005	-3%
4. MFF total	1,115,919	1,063,101	1,279,408	20%
5. % CAP (3/4)	36.1%	35.3%	28.5%	--

Source: Own elaboration based on the EC data.

Taking into account the data expressed in constant prices, the CAP budget will decrease even more in comparison with the current CAP allocation, bypassing Great Britain. In total, it is to be 15%, with the EAFRD dropping by as much as 28%. In the case of the EAGF, however, it is only 11%. At the same time, in this form of comparison of the anticipated allocation of funds, the total EU budget will increase by 5%, which means that the increase will be made, among others at the expense of the CAP.

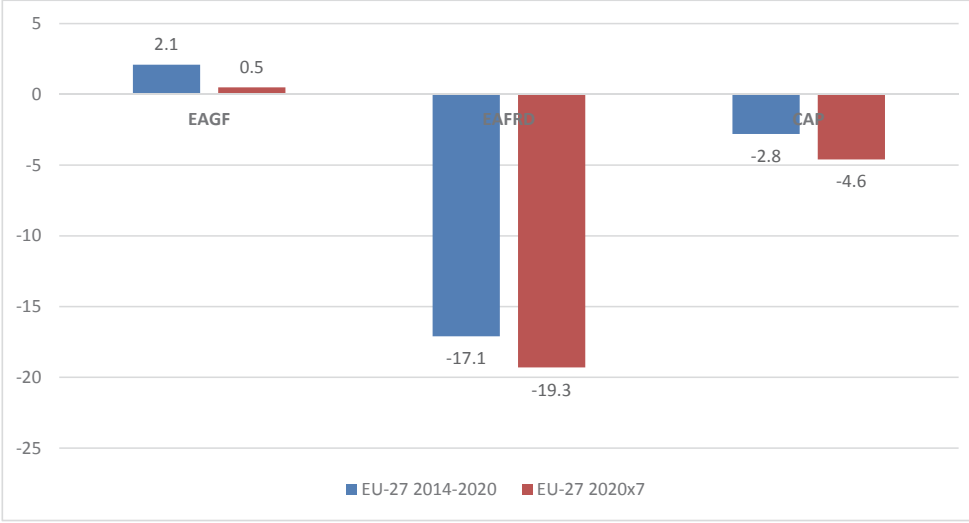
Table 2. Proposed allocation for the CAP 2021-2027
(in constant prices 2018, EUR million)

Specification	A. EU-28 2014/2020	B. EU-27 2014/2020	C. EU-27 2021/2027	B/C change in %
1. EAGF	309,064	286,143	254,247	-11%
2. EAFRD	102,004	96,712	70,037	-28%
3. CAP total	411,068	382,855	324,284	-15%
4. MFF total	1,136,105	1,082,320	1,134,583	5%
5. % CAP (3/4)	36.1%	35.3%	28.5%	--

Source: Own elaborartion based on the EC data.

Another way of comparing the current budget and planned expenditures in the next period, is to refer to the budget of the CAP and its two pillars from the perspective of the budget for the current programming period with an exclusion of the UK and assumed expenditures for the last year of this perspective (Figure 2). Taking into account the year 2020, the assumed decrease in the CAP expenditure is greater than when referring to the EU-27 budget for the entire current programming period. In such a comparison, the decrease in spending on the CAP in current prices will amount to 4.6%.

Figure 2. Planned budget of the CAP 2021-2027 in relation to the EU-27 2014-2020 budget and the EU-27 2020 x 7 (current prices, %)



Source: Own elaboration based on the EC data.

When analysing the EC proposals, it should be noted that the fact that agricultural policy in other countries goes in the opposite direction. In December 2018, the American Congress adopted regulations regarding the new Farm Bill. The US agricultural policy implemented on the basis of the Farm Bill 2019-2023 provides for a significant increase in support within all groups of instruments.

When accepting the EC proposal regarding the amount of allocation of funds for the CAP in the next financial perspective, farmers' incomes will fall. The average drop for the EU-27 is over 8% of income for 2021-2027, and with reference only to 2027, it is over 11% lower income. This decrease will be different in individual Member States (Table 3).

Table 3. Expected decline in farmers' incomes associated with the decrease in the CAP budget (in %)

Member State	Change in average income	
	2021-2027	2027
Austria	-4.71	-6.46
Belgium	-5.45	-7.48
Bulgaria	-4.71	-6.46
Croatia	-1.86	-2.55
Cyprus	-2.32	-3.06
Czech Republic	-13.27	-18.19
Denmark	-26.91	-36.89
Estonia	-5.83	-7.99
Finland	-6.69	-9.18
France	-6.32	-8.67
Germany	-7.07	-9.69
Greece	-5.21	-7.14
Hungary	-6.07	-8.33
Ireland	-7.44	-10.2
Italy	-3.59	-4.93
Latvia	-5.33	-7.31
Lithuania	-7.32	-10.03
Luxembourg	-10.29	-14.11
Malta	-0.74	-1.02
Netherlands	-3.35	-4.59
Poland	-3.47	-4.76
Portugal	-4.96	-6.8
Romania	-2.73	-3.74
Slovakia	-60.76	-83.3
Slovenia	-3.59	-4.93
Spain	-3.10	-4.25
Sweden	-10.91	-14.96
EU27	-8.31	-11.39

Source: https://www.farm-europe.eu/travaux/policy-briefing-eu-budget-the-cap-2021-2027-understanding-the-commissions-proposals/.

The highest drop in revenues is forecasted for Slovakia, where it will exceed 60% in relation to the entire next financial perspective and over 80% in the case of the year 2027. Such a dramatic decline results from the fact that in Slovakia the average farms are very large and in connection with capping, the payments obtained by them will plummet. The lowest decrease is to affect farmers in Croatia. It is the youngest member of the EU and has not yet received pay-

ments at the level corresponding to the EU average. In addition, the average farm in this country is smaller than the EU average. The assessed fall in incomes in the case of Poland is under 3%.

As regards the distribution of direct payment funds, it will be close to the current one, despite the continuation of the process of reducing the differences in rates (Table 4). For example, the share of Poland in the amount of allocation for direct payments is expected to increase in 2021-2027 from 7.9% to 8.2%, and Italy, at the same time, to decrease from 9.5% to 9.3%.

Table 4. Distribution of funds for direct payments proposed by the EC in 2021-2027+

Member State	2021		2027+	
	Amount	Share	Amount	Share
Austria	664,819,537	1.8	664,819,537	1.7
Belgium	485,603,954	1.3	485,603,954	1.3
Bulgaria	776,281,570	2.1	818,616,819	2.1
Croatia	344,340,000	0.9	367,711,409	1.0
Cyprus	46,750,094	0.1	46,750,094	0.1
Czech Republic	838,844,295	2.2	838,844,295	2.2
Denmark	846,124,520	2.3	846,124,520	2.2
Estonia	167,721,513	0.4	192,452,828	0.5
Finland	505,999,667	1.3	514,921,104	1.3
France	7,147,786,964	19.0	7,147,786,964	18.7
Germany	4,823,107,939	12.8	4,823,107,939	12.6
Greece	2,036,560,894	5.4	2,036,560,894	5.3
Hungary	1,219,769,672	3.2	1,219,769,672	3.2
Ireland	1,163,938,279	3.1	1,163,938,279	3.1
Italy	3,560,185,516	9.5	3,560,185,516	9.3
Latvia	299,633,591	0.8	342,938,763	0.9
Lithuania	510,820,241	1.4	580,380,223	1.5
Luxembourg	32,131,019	0.1	32,131,019	0.1
Malta	4,507,492	0.0	4,507,492	0.0
Netherlands	703,870,373	1.9	703,870,373	1.8
Poland	2,972,977,807	7.9	3,125,960,174	8.2
Portugal	584,824,383	1.6	627,917,332	1.6
Romania	1,856,172,601	4.9	1,991,367,607	5.2
Slovakia	383,806,378	1.0	407,649,243	1.1
Slovenia	129,052,673	0.3	129,052,673	0.3
Spain	4,768,736,743	12.7	4,804,547,379	12.6
Sweden	672,760,909	1.8	673,880,175	1.8
Total EU-27	37,547,128,624	100.0	38,151,396,277	100.0

Source: Own study based on Annex IV to the draft Regulation COM(2018)392.

Also in the case of funds for rural development (Table 5), we are to have a similar structure of the allocation of funds. Poland is to remain the main beneficiary of this support next to Italy and France. In total, 1/3 of the second pillar of the CAP's budgetary allocation in the upcoming programming period is planned to be distributed among these three Member States.

Table 5. Distribution of funds for rural development in 2021-2027 proposed by the EC

Member State	Amount	Share
Austria	3,363,269,217	4.3
Belgium	470,246,322	0.6
Bulgaria	1,971,979,772	2.5
Croacia	1,969,390,521	2.5
Cyprus	111,910,988	0.1
Czech Republic	1,811,412,421	2.3
Denmark	530,688,361	0.7
Estonia	615,131,209	0.8
Finland	2,044,148,589	2.6
France	8,464,814,393	10.8
Germany	6,929,474,972	8.8
Greece	3,567,141,242	4.5
Hungary	2,913,417,304	3.7
Ireland	1,852,696,657	2.4
Italy	8,892,172,597	11.3
Latvia	821,150,883	1.0
Lithuania	1,366,277,619	1.7
Luxembourg	86,036,692	0.1
Malta	85,451,254	0.1
Netherlands	512,058,365	0.7
Poland	9,225,233,710	11.7
Portugal	3,452,504,006	4.4
Romania	6,758,523,373	8.6
Slovakia	1,593,779,047	2.0
Slovenia	715,741,516	0.9
Spain	7,008,420,160	8.9
Sweden	1,480,856,132	1.9
Total EU–27	78,613,927,322	100.0

Source: Own study based on Annex IX to the draft Regulation COM(2018)392.

1.3. Objectives of the CAP in 2021-2027

On June 1, 2018, the EC published its draft regulations regarding the functioning of the CAP in the programming period of 2021-2027. The EC proposal package includes three draft regulations:

- Regulation of the European Parliament and of the Council establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the Euro-

pean Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No. 1305/2013 of the European Parliament and of the Council and Regulation (EU) No. 1307/2013 of the European Parliament and of the Council) (CAP Strategic Plan Regulation also referred to as a central regulation) – COM(2018)392;

- Regulation of the European Parliament and of the Council on the financing, management and monitoring of the common agricultural policy and repealing Regulation (EU) No. 1306/2013 (CAP Horizontal Regulation) – COM(2018)393;
- Regulation of the European Parliament and of the Council amending Regulations (EU) No. 1308/2013 establishing a common organisation of the markets in agricultural products, (EU) No. 1151/2012 on quality schemes for agricultural products and foodstuffs, (EU) No. 251/2014 on the definition, description, presentation, labelling and the protection of geographical indications of aromatised wine products, (EU) No. 228/2013 laying down specific measures for agriculture in the outermost regions of the Union and (EU) No. 229/2013 laying down specific measures for agriculture in favour of the smaller Aegean islands (Amending Regulation) – COM(2018)394.

Policy design projected for this programming period does not include specific modifications in the scope of the instrumentation or the scope of support. On the other hand, the specific objectives and the system of implementing the CAP are changing. The specific objectives of the new CAP are to include:

- Supporting viable farm income and resilience across the EU territory to enhance food security;
- Enhancing market orientation and increasing competitiveness including greater focus on research, technology and digitalisation;
- Improving farmers' position in the value chain;
- Contributing to climate change mitigation and adaptation, as well as sustainable energy;
- Fostering sustainable development and efficient management of natural resources such as water, soil and air;
- Contributing to the protection of biodiversity, enhancing ecosystem services and preserving habitats and landscapes;
- Attracting young farmers and facilitating business development in rural areas;
- Promoting employment, growth, social inclusion and local development in rural areas, including bio-economy and sustainable forestry;

- Improving the response of the EU agriculture to societal demands on food and health, including safe, nutritious and sustainable food, as well as animal welfare (COM(2018)392, p. 11).

These objectives correspond to the real challenges facing agriculture and rural areas in the European Union. However, they are not fully reflected in the proposed CAP instruments.

An important problem raised by many researchers (including Erjevec et al., 2018; Maréchal et al., 2018) is the lack of quantification of agricultural policy objectives. On the one hand, it is emphasized that there is a need to increase the empowerment of the EU Member States and give them larger freedom in shaping the implementation of the CAP instruments, but on the other, there are concerns about the actual implementation of the EU priorities. An additional problem is the question about the level at which these goals should be defined. The fundamental question from the point of view of the effectiveness of the CAP is whether maintaining the current set of performance indicators can be considered sufficient given the need to increase the CAP performance.

There is a fear, relating to studies on environmental federalism, that Member States will not set ambitious goals. On the one hand, this may be due to the lobbying of the agricultural sector, and on the other, the fear of failure to meet the objectives set and the related difficulties with the settlement of funds. It seems that it would be reasonable to set some standards and requirements as obligatory ones for all the EU farmers. At the same time, the fact that the only instrument to "enforce" ambitious goals will be the stage when the European Commission is negotiating strategic plans, the strictly limited time of these negotiations can make this instrument ineffective. It is clearly visible that the dilemmas related to the strategic plans for the CAP are part of the problems of fiscal and environmental fiscal theory. The selection of the not far-reaching targets by the Member States will not have a positive impact on the effectiveness and efficiency of the CAP, and this may, in the longer term, boost the negative opinion on the CAP and the lack of a strong bargaining position for the agricultural sector in negotiating the next multiannual financial framework.

Generally, it can be stated that, despite emphasizing that the new CAP is to be an evidence-based policy, in practice, draft regulations do not show any actual reference to the quantitative determination of the shape of the policy. Basing the preparation of strategic plans on the SWOT analysis is not a sufficient way to reliably determine the priorities of support. What is more, however, it should be pointed out that there is a lack of statistical data enabling factual reliance on specific evidence. Bearing in mind the experience with programming and evaluation of the RDP 2014-2020, one should also express concerns about

the institutional potential of individual Member States in the preparation of strategic plans for their countries. Certainly, the preparation of such plans will generate significant administrative costs[7] and does not mean simplifying the CAP at the level of the Member States' administration.

It should be stated that the Commission's proposal lacks guidelines (perhaps they will be passed on to Member States in a different form) on how to balance the economic, environmental and social objectives of the CAP they plan to implement. The EC did not indicate also the hierarchy of goals. The only guidance in this regard is Article 92 "Increased ambition with regard to environmental- and climate--related objectives" of the draft central regulation (COM(2018)392), which states that "Member States shall aim to make, through their CAP Strategic Plans (...) a greater overall contribution to the achievement of the specific environmental- and climate-related objectives". They must also indicate how they intend to achieve this greater contribution.

In addition, although the EC proposal foresees giving the Member States a greater influence on the CAP, it is difficult to predict what it will look like in practice. As Wieliczko (2018b) points out, "increasing the role of Member States in shaping the implementation of the CAP is a good solution from the point of view of the need to adjust the instruments to the specific needs of rural areas and agriculture in a given area. However, there is a concern that restrictions on the availability of statistical data and small resources allocated by individual countries to monitor the implementation of the CAP may cause difficulties in demonstrating that the objectives of the CAP are actually implemented. In addition, contrary to the EC's declarations, strategic plans mean a significant increase in administrative burdens for the Member States' administrations. This will be particularly severe in the first period of implementation of the new rules of the CAP's functioning, when the public administration will only become familiar with the new rules of shaping the CAP at the level of states and regions. The most important concern from the point of view of the Member States may be the principle that in the case of unsatisfactory progress in achieving the objectives of the strategic plan of the CAP, the EC may suspend payments. Setting annual targets may increase the credibility of the CAP as a policy with concrete effects, but it should be remembered that any shifts in the adoption of strategic plans, including those not caused by Member States, resulting from delays on the part of the EC, and those resulting

[7] The increase in administrative costs related to the proposed reform of the CAP was also highlighted in the report on administrative costs of the CAP prepared at the request of the EC (Ecorys, 2019). It should also be noted that the costs of implementing the CAP, in particular of the measures related to the development of rural areas, are systematically growing, as indicated, for example, by the Fährmann, Grajewski and Reiter studies (2014).

from unforeseen external factors, may prevent the achievement of annual targets. It seems that such a short settlement period is not appropriate for the complex environmental objectives to be implemented by the CAP. Several years' goals should be introduced, and the annual implementation, at least in the period between 2021 and 2027, should be treated as a starting point for developing the shape of the CAP for the next programming period".

Also the European Court of Auditors (ECA) commented on the EC's proposal in a similar way. The ECA in its review of the Commission's legislative proposals for the forthcoming Multiannual Financial Framework (MFF) emphasized that "We welcome the Commission's intention to shift to a performance--based model for the CAP. However, the absence of clear, specific and quantified EU objectives creates uncertainty about how the Commission would assess Member States' CAP strategic plans. We also regret the fact that the proposed performance framework provides only weak incentives: targets could be missed by a considerable margin with little impact on EU funding, and successful performance could trigger at best a marginal "performance bonus". We have our doubts as regards the Commission's view that the proposal will reinforce the CAP's links with environmental and climate objectives. And we also question how the Commission intends to assess or measure the environmental impact of the proposed changes" (ECA, 2019, p. 14).

In conclusion, it is difficult not to agree with the Erjeveca et al. (2018, p. 11), who stated that during the programming period between 2021 and 2027, strategic planning of the CAP would not bring about a fundamental improvement of the effects of the CAP, as no significant modification of the policy instruments was foreseen. Perceptible effects of changes in the implementation system may occur at the earliest in the next programming period, when the changes of the CAP implementation system will strengthen, and a larger amount of evidence will allow the implementation of new, more effective and effective instruments better matching the needs of farmers in a given region.

1.4. Model of implementing the CAP

The Commission proposed the so-called new implementation model. Petre Daea, the Minister of Agriculture and Rural Development of Romania, stated that "The new delivery model is the centrepiece of the CAP reform and its most innovative feature. Thanks to this paradigm shift, Member States will get a greater say in designing their national policies, but will also have greater responsibility" (Agriculture and Fisheries Council, 2019).

In fact, this new implementation model means that planning is extended to the entirety of the CAP instruments, which until now was limited only to the ru-

ral development policy, i.e. the second pillar of the CAP. However, this new model does not imply changes to the CAP instrument management system but is limited only to the extension of planning also to the first pillar. Member States will be required to prepare their national strategic plans. Their preparation is to be based on the SWOT analysis of the situation in the rural areas and in agriculture as well as on the assessment of their developmental needs. The proposal for the EC regulation concerning these documents (COM(2018)392) enumerates the elements that must be included in these plans. The structure of the plan is similar to the current shape of rural development programmes. A novelty is the description of elements ensuring the modernization of the CAP and the description of elements related to the simplification and reduction of administrative burdens for final beneficiaries. As for the modernization of the CAP, it is to be based on the Agricultural Knowledge and Innovation System (AKIS), therefore, the strategic plan in this part must present in detail the issues concerning consultancy services and services in the field of innovation support.

Attention was also paid to procedural issues. In this respect, what was emphasized was the need to include entities dealing with environmental issues in the creation of plans and the participation of various stakeholder groups in the process of preparing the strategic plan.

It should also be noted that each Member State is obliged to prepare only one strategic plan. Until now, in many countries, rural development programmes have been prepared at the regional level. The EC proposal assumes that elements of the strategic plan may be prepared at the regional level, but coherence and compliance with the elements of the CAP strategic plan at the national level must be ensured.

As Matthews (2019) points out, this new implementation model is the most important element of the CAP reform. The EC proposing a new model of CAP implementation assumes a departure from concentration on spending to focus on the results. However, despite the declared simplification, there is no information in the legislative proposal that the amount of tolerable risk of errors will be increased or adapted to individual CAP instruments. Therefore, there is no question of actually simplifying the delivery of agricultural policy. At this point, it is worth quoting the findings from over a decade regarding the costs of control:

- "An increase in control costs above the present level (13%) would not be cost-effective, because a marginal increase of the number of on-the-spot controls by 1% of the beneficiaries would yield savings of irregular expenditure amounting to only around 10% of the costs of these additional controls.

- Reducing the level of error from the current 4% to the Court's materiality level of 2%[8], would increase the cost of control from around 13% to almost 30% of total public expenditure on the measures, and would not be cost--effective.
- Agro-environmental measures contribute significantly to the overall error rate for rural development.
- As it would not be cost-effective to increase controls, the tolerable risk level for rural development measures is clearly above 2% and may lie above 5%" (COM(2008)866, p. 12).

In addition, it should be recalled that studies on 2005 data showed that the costs of controlling agri-environmental measures amount to 13% of funds spent on this instrument, which means that controlling this measure is 3 times more expensive than the average for the CAP (COM(2008)866, p. 13). It should be noted that this is not a record. According to the calculations of the German Baden--Württemberg Rechnungshof, the costs related to the control in one of the cases examined were 21 times higher than the error which this control revealed (Baden--Württemberg Rechnungshof, 2015).

In the case of the new CAP delivery model, there will also be costs related to the EC's control of the Member States' reorientation of controls towards the implementation results. The costs of this action will also be borne by the Member States, which have to monitor more closely the effects of support, while still being obliged to strictly adhere to the permissible level of irregularities in the spending of funds.

Articles 96, 97 and 103 of the draft Regulation COM(2018)392 indicate how specific objectives relating to the environment are to be included in the strategic plans. As stated in Article 96, the assessment of the needs related to these objectives must take into account national environmental and climate plans based on the EU legal regulations, which are listed in Annex XI of the draft Regulation COM(2018)392. They include the following issues:

- Protection of wild birds;
- Protection of natural habitats and wild fauna and flora;
- Water policy;
- Protection of waters against pollution caused by nitrates from agricultural sources;
- Air quality and cleaner air for Europe;
- Reduction of domestic emissions of certain types of atmospheric pollution;

[8] This is the result of a calculation based on the hypothesis that the error rate decreases in a linear manner when the rate of controls increases and excluding any extra dissuasive effect of more controls.

- Inclusion of emissions and removal of greenhouse gases from land use activities, land use change and forestry to the framework of the climate and energy policy by 2030;
- Promoting the use of energy from renewable sources;
- Energy efficiency;
- Energy union.

For many years, the debate over the shape of the CAP has been largely limited to a small group of issues. They cover the following topics:

1. Equality of the rates of direct payments – a problem raised by many countries from the so-called new Member States, which indicate that it is unfair to differentiate the rates of direct payments.
2. Distribution of support – this is both about the question of what entities to consider as real farmers and the scale of support that should be available to the largest farms.
3. Impact of the CAP on the environment – the problem arises mainly in the context of low efficiency and effectiveness of environmental measures already existing under the CAP and the need to increase the environmental involvement of this policy. Critics of this approach indicate that high environmental standards reduce the competitive ability of European agriculture in comparison with world agriculture and are introduced without additional financial support, which increases the costs of running agricultural activity.
4. The problem of CAP orientation – a sectoral or territorial policy dilemma related to the way rural areas should be supported.

These problems are still important elements of the debate on the CAP and they also appear in the discussion on the current reform of this policy. Many Member States are still raising the problem of leveling the rates of direct payments. In anticipation of these demands, the EC announced continuation of activities in this direction initiated as part of the last CAP reform. However, these actions are also criticized. Already in the debate on the recent reform, Bureau and Mahe (2008) pointed out that the leveling of direct payment rates should be gradual and occur only when the convergence of the level of economic development is observed. But as Bourget (2019) shows, the equalization of rates has already occurred. He gives an example of farms specializing in cereal crops in France, Poland and Hungary, where the payment rate in 2015 was around EUR 250 per 1 ha of UAA.

Over the past two decades, neither the legitimacy of the functioning of agricultural policy at the EU level nor the existing division of competences between Member States and the EC have been raised on a wider scale. The EC proposal of 2018 drew attention to this issue. This is due to the increase in the role of the Member States in shaping the CAP implementation declared by the European Commission. Bourget (2019) indicates the need to clearly define which activities should remain at the EU level, and which should be passed on to Member States due to the fact that they can deal with them more effectively and ef-

feciently. It also raises concerns about the availability in some new Member States sufficient administrative and institutional capacity to prepare and implement national strategic plans.

An important dilemma associated with the EC's proposal is the issue of the actual scope of powers that Member States are to have. This means an increase in uncertainty about the functioning of the CAP. At the same time, there are voices (e.g. Bourget, 2019) that increasing the role of the state actually means the actual dismantling of the CAP or the first phase of renationalisation of agricultural policy (Carpon, 2018)[9]. With a significant reduction of the budget, in the situation of increasing support for agriculture, for example in Russia or China, this threatens to undermine the competitive position of European agriculture.

The question that can be asked in the context of the planned increase in the rights of the Member States in the field of CAP design and implementation is whether the basis of this proposal is not the lack of a common vision of the Member States regarding the future of the CAP. As indicated by Bureau and Mahé (2008), already in 2008 it was evident that the EU Member States did not have a common vision for the development of the CAP. It may also be a response to the growing reluctance of some Member States to support agricultural policy and to transfer funds to less developed countries.

Experience in preparing national strategic plans that has been gained so far indicates that this is a very complicated and time-consuming undertaking. This is mainly due to the following issues:

- The principles and procedures for developing plans that currently are being created by the EC.
- The complexity and scope of the specific objectives of the new CAP, to which Member States must refer.
- The need to prove the solutions proposed by a given country, which means that it is necessary to collect relevant data and research results justifying the assumed approach to the implementation of the CAP instruments.

1.5. Proposed shape of the CAP measures in 2021-2027

The European Commission presented its proposals for the CAP instruments for 2021-2027 in a central regulation (COM(2018)392). The proposed instruments do not differ significantly from those implemented so far.

An important element of the EC proposal is the principle of conditionality. According to it, Member States are to impose penalties on farmers who do not meet the basic requirements set out in the EU law or the good agricultural and environmental conditions established in the strategic plan of the CAP. Penalties may be imposed on farmers who receive payments for environmental, cli-

[9] A wider debate of experts on this subject is available at: https://iegpolicy.agribusi nessintelligence.informa.com/PL217316/Stakeholder-reactions-to-the-new-CAP-proposals-for-202127.

matic and other commitments in the field of management, payments for natural constraints or other site-specific restrictions or payments due to unfavourable site-specific conditions arising from certain mandatory requirements.

Due to the fact that the system of knowledge and innovations in the field of agriculture is to be the basis for the modernization of the CAP, particular attention has been paid to the agricultural advisory system. The project indicated a minimum range of advisory services to be available to farmers:

- All requirements included in the CAP's strategic plan for farmers and other beneficiaries;
- Requirements resulting from regulations implementing the following directives: on water (2000/60/EC), on the use of pesticides (2009/128/EC), on the conservation of natural habitats and of wild fauna and flora (92/43/EEC), on conservation of wild birds (2009/147/EC), on air quality (2008/50/EC), on emission reduction (2016/2284);
- Requirements regarding the use of plant protection products contained in Article 55 of Regulation No. 1107/2009 and Regulation No. 2016/2031;
- Conditions relating to animal diseases resulting from Regulation No. 2016/429;
- Agricultural practices preventing the development of resistance to antimicrobial agents;
- Risk management;
- Innovation support;
- Development of digital technologies in agriculture and in rural areas.

As far now, direct payments will remain the most important element of support for agriculture under the CAP. Generally, payment titles will not change in relation to the current set:

1. Basic income support.
2. Complementary redistributive income support.
3. Complementary income support for young farmers.
4. Systems for climate and the environment (current greening of payments).
5. Income support related to production volume.
6. Specific payment for cotton.

However, it should be emphasized that the redistributive payment ceases to be a voluntary payment and becomes an obligatory element of the direct payment system for all Member States. The presented set of payment types does not mention the voluntary simplified system for small farms, which is provided for in Regulation 1307/2013. However, the EC proposal also includes the possibility of using such a system in the period between 2021 and 2027 (Article 25 – Round sum payment for small farmers). However, unlike at present, it was proposed that support for young farmers would be voluntary.

The Commission's proposal also includes a mandatory limitation on the amount of payments received. In the current payment system, the reduction covers amounts over EUR 150,000. In 2021-2027, payments above the amount of EUR 60,000 are to be reduced. The gradual reduction is to apply to funds above this amount. The Member States were given little room for maneuver in terms of reductions, as for the first three reduction thresholds it is indicated in the EC's proposal that the payments should be reduced by "at least" a given percentage, and the amount exceeding EUR 100,000 should be taken entirely. As a result, a given farmer will only be able to obtain EUR 73,750 of diect payments if the reduction of support in a given country is not greater than the minimum limits set out in the draft central regulation.

However, it should be noted that the scale of reduction will be significantly lower, as the applicable reduction is to be lowered by remuneration related to agricultural activity (including taxes and social security contributions related to employment) and the equivalent cost of permanent unpaid work related to agricultural activity and performed by persons working on a given farm.

In its proposal, the EC determined the manner of managing funds that were not allocated for direct payments as a result of the introduction of a maximum support limit. The released funds can be used for supplementary redistributive income support, and if sufficient funds are available, also for other payments unrelated to the volume of production. It is also possible to allocate part or all of the amount obtained to activities from the second pillar of the CAP. It is worth noting that such a transfer of funds between the pillars is not subject to the limits established for transfers of funds between the pillars.

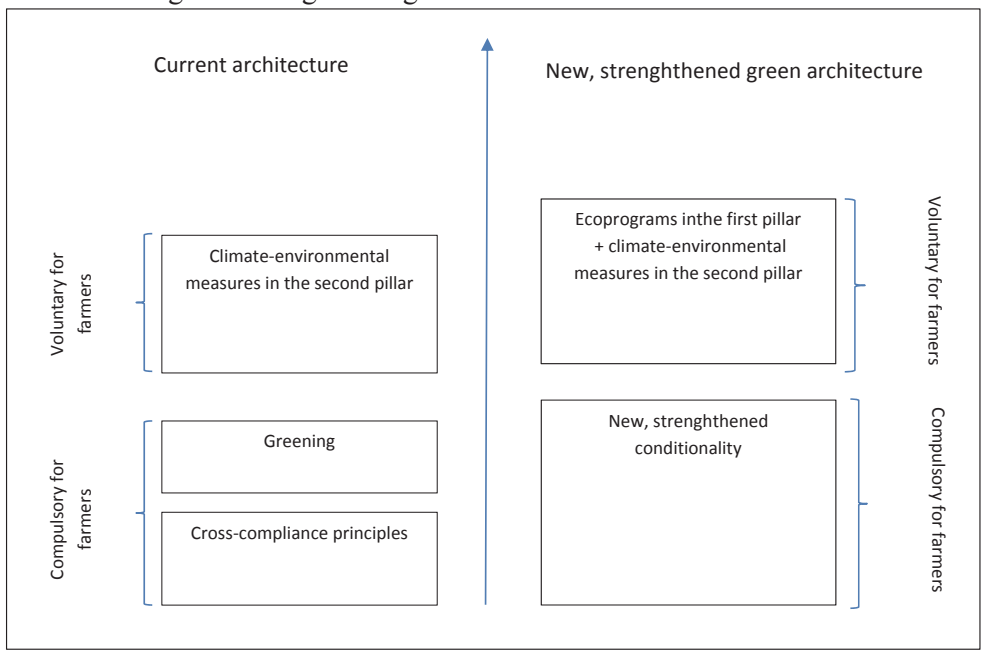
As regards the entitlements to receive payments unrelated to production, the term "genuine farmers" was used in the EC draft. In the regulation on the functioning of the direct payments system in 2015-2020 (Regulation No. 1307/2013), the term "active farmer" was used, which was often criticized as imprecise.

Another requirement for receiving direct payments is the size of agricultural land exceeding the minimum area threshold. The European Commission's proposal foresees the determination by the Member States of the area threshold. Until now, Member States had the option of specifying an area threshold of 1 ha or a threshold of 100 euros, although they could restrain from applying such thresholds to the outermost regions.

Various payment systems have existed until now. The EC proposal provides for keeping them all. It is possible to grant payment entitlements or introduce a single area payment. In addition, Member States can differentiate regionally payment rates based on different socio-economic or agronomic conditions.

The European Commission pays special attention to environmental issues in the proposed reform of the CAP. These issues form a system known as green architecture. The revised green architecture provides for strengthening the conditionality requirements and extending voluntary requirements exceeding the required minimum (Figure 3). The new conditionality system is a combination of the requirements of cross-compliance with the requirements currently operating as part of the greening of direct payments. On the other hand, the voluntary system will be close to the current one, however, the requirements implemented voluntarily are to be clearly more far-reaching than the mandatory minimum.

Figure 3. Diagram of green architecture of the future CAP



Source: Ministerstwo Rolnictwa i Rozwoju Wsi (2019).

As for the new elements of conditionality, they include the new GAEC standards:

- GAEC 2: adequate protection of wetlands and peat bogs;
- GAEC 5: use of a tool for the sustainable management of nutrients, the so-called FaST (Farm Sustainability Tool for Nutrients);
- GAEC 8: rotation.

The FaST application is a very interesting proposal. It is supposed to contain data from various sources, including public databases (e.g. IACS and LPIS) as well as data possessed by the farmer and results of analyses of soil samples, nutrient balance and crop history. The application is to be created by Member States and made available to farmers free of charge. The application is to enable generation of management plans for soil nutrients. Despite the usefulness of this tool, the EC does not provide control over whether farmers use this application. This means no actual strengthening of the CAP's commitment to improve soil quality.

For coupled payments, the types of production that may be eligible for support are to remain unchanged. The list has been extended only to other non--food crops, excluding trees, used for the production of products that can substitute for fossil materials. In the case of sectoral interventions, there are also no major changes in the scope and form of payments.

With respect to support for rural development, the following types of interventions have been identified in the EC proposal:

a) Environmental, climate and other commitments in the field of management;
b) Natural constraints or other area-specific restrictions;
c) Unfavourable site-specific conditions resulting from specific mandatory requirements;
d) Investments;
e) Start-up of young farmers and establishment of rural enterprises;
f) Risk management tools;
g) Cooperation;
h) Exchange of knowledge and information.

As already mentioned, when discussing green architecture, the climate and environmental commitments made on a voluntary basis must significantly exceed the mandatory minimum. The period of their implementation is to be 5 to 7 years, although in justified cases it is possible for Member States to implement certain obligations for a longer period, which is in line with the provisions of Regulation No. 1305/2013 currently in force.

In the case of payments regarding natural limitations in conducting agricultural activity or other restrictions specific to a given area, the existing solutions have been maintained[10]. Both the scope of restrictions and support options remained unchanged.

[10] Payments related to farm support to which other area-specific restrictions apply under Regulation 1305/2013 are payments for Natura 2000 sites and payments related to the Water Framework Directive.

However, the investment regulations have changed. Clearly, in one Article, investment categories are listed which will not be considered as eligible costs. They include:

- Purchase of agricultural production rights;
- Purchase of payment entitlements;
- Purchase of land, with the exception of the purchase of land to protect the environment or the purchase of land by young farmers using financial instruments;
- Purchase of animals, annual plants and planting these plants for purposes other than restoring agricultural or forestry potential as a result of natural disasters and catastrophes;
- Interest on debt, with the exception of subsidies granted in the form of subsidies for interest payments or subsidies for guarantee fees;
- Investments in irrigation, incompatible with the aspiration to achieve good status of water bodies;
- Investments in large infrastructure projects that are not part of the local development strategy;
- Investments in afforestation that are not consistent with climate and environmental objectives consistent with the principles of sustainable forest management.

However, some exceptions are provided for this list. It is about financing investments using financial instruments, which includes: purchase of agricultural production rights; purchase of payment entitlements; purchase of animals, annual plants and planting of these plants for purposes other than restoring agricultural or forestry potential as a result of natural disasters and disasters and investments in large infrastructure projects that are not part of the local development strategy.

The hitherto binding regulations used a mixed approach to determine the types of investments possible to be co-financed. Investments that could be co-financed were enumerated, and for specific types of investments, possible exceptions were also mentioned which could not be supported.

As for the level of support, unlike according to the regulation currently in force, the maximum level of support was not diversified depending on the type of region or beneficiary or the nature of the investment. Only the provision has been introduced that support may have a maximum level of 75% of eligible costs[11]. At the same time, the European Commission's proposal provides for the

[11] The limit refers to the total public support – both the EU and national public funds.

possibility of increasing the maximum level of support for certain investment categories, including:

1. Afforestation and non-productive investments related to specific environmental and climate objectives.
2. Investments in basic services in rural areas.
3. Investments in the restoration of agricultural or forestry potential as a result of natural disasters or disasters and investments in appropriate preventive actions in forests and in the rural environment.

It is worth noting that the EC proposal foresees a further increase in the role of financial instruments as part of support for rural development. The EC proposal allows for the provision of investment support in a lump-sum form up to a maximum of EUR 100,000, which may be combined with support in the form of a financial instrument. This applies to investments supporting young farmers in starting up their agricultural activity, establishing rural enterprises related to agriculture and forestry, or diversifying the income of farm households, and setting up enterprises conducting non-agricultural activities in rural areas as part of local development strategies.

In addition, as regards financial instruments, it should be emphasized that the rules of their operation under the CAP will become more consistent with the rules for implementing these instruments under the other EU funds. This is due to the proposal to use the provisions of the Regulation on common rules.

In the case of supporting risk management a change in the scope of tools that may be obtained under the second pillar of the CAP is to be extended. Pursuant to Regulation No. 1305/2013, there were three possible forms of support for risk management tools, namely:

- "Financial contributions to premiums for crop, animal and plant insurance against economic losses to farmers caused by adverse climatic events, animal or plant diseases, pest infestation, or an environmental incident;
- Financial contributions to mutual funds to pay financial compensations to farmers, for economic losses caused by adverse climatic events or by the outbreak of an animal or plant disease or pest infestation or an environmental incident;
- An income stabilisation tool, in the form of financial contributions to mutual funds, providing compensation to farmers for a severe drop in their income" (Article 36).

However, the EC proposal listed only two forms of support, a financial contribution to insurance premiums and mutual insurance funds, which limits support to insurance instruments. In addition, now the Member States them-

selves can decide on the scope of support and rules for the creation of mutual insurance funds.

Regarding the EAFRD contribution, at present, the maximum level of the rate is to be uniform for all measures implemented and included in the strategic plan (currently in the RDP). The maximum acceptable level of the EAFRD contribution provided for in the EC proposal is lower than currently in force under Regulation No. 1305/2013 and is to be:

a) "70% of eligible public expenditure in the outermost regions and on the smaller Aegean islands within the meaning of Regulation (EU) No. 229/2013;
b) 70% of eligible public expenditure in less developed regions;
c) 65% of eligible expenditure for payments under Article 66;
d) 43% of eligible public expenditure in other regions" (Article 85, COM(2018)392)[12].

The EC proposal provides for the possibility of transferring funds between the CAP pillars. For both pillars of the CAP, it is possible to shift up to 15% of the funds. The document also specifies the minimum and the maximum level of financial allocation for the selected support instruments or directions of interventions. As before, at least 5% of the total EAFRD allocation should be allocated to the LEADER. At the same time, at least 30% of the EAFRD funds should be allocated for the delivery of specific climate and environmental objectives, namely:

- Contributing to the mitigation and adaptation of climate change, as well as the use of sustainable energy;
- Supporting sustainable development and efficient management of natural resources, such as water, soil and air;
- Contributing to the protection of biodiversity, enhancing ecosystem services and protecting habitats and landscapes.

In the draft central regulation, the EC also included the minimum amounts reserved for the objective "Attract young farmers and facilitate business development". It is worth noting that in this case, unlike in the other cases, there was no indication of the percentage of funds allocated for a given Member State as the minimum level of expenditure for this purpose, but the minimum amount has just been set. Moreover, this amount represents a different percentage of total anticipated support. On average, it is 1.5% of the total EAFRD and EAGF funds (Table 6). The share of the minimum amount to be earmarked for attracting

[12] Derogations from this level of maximum rate are also envisaged. However, their list is shorter than at present and applies only to the LEADER (maximum rate of 80%) and funds obtained from capping and transfer of funds between the pillars.

young farmers in the allocation of CAP funds varies from 0.5% for Malta to 1.8% for Belgium and the Netherlands. In the case of Poland, it is slightly lower than the EU average and amounts to 1.4%.

Table 6. Amount allocated for the implementation of the objective "Attract young farmers and facilitate business development"

Member State	Minimal amount allocated for the objective "Attract young…"	Total allocated amount	Share in the total amount
	in EUR		in %
Austria	93,074,737	8,017,005,976	1.2
Belgium	67,984,553	3,869,474,000	1.8
Bulgaria	111,714,893	7,575,291,758	1.5
Croatia	51,012,168	4,519,998,975	1.1
Cyprus	6,545,014	439,161,646	1.5
Czech Republic	117,438,202	7,683,322,486	1.5
Denmark	118,457,430	6,453,560,001	1.8
Estonia	25,459,518	1,888,107,060	1.3
Finland	71,553,668	5,621,832,008	1.3
France	1,000,690,173	58,499,323,141	1.7
Greece	259,844,046	17,823,067,500	1.5
Germany	675,235,113	40,691,230,545	1.7
Hungary	170,767,751	11,451,805,008	1.5
Ireland	162,951,362	10,000,264,610	1.6
Italy	498,425,970	33,813,471,209	1.5
Latvia	45,413,117	3,091,806,708	1.5
Lithuania	77,079,633	5,220,259,235	1.5
Luxembourg	4,498,340	310,953,825	1.4
Malta	631,050	117,003,698	0.5
Netherlands	98,541,849	5,439,150,976	1.8
Poland	428,455,482	30,648,007,825	1.4
Portugal	85,298,456	7,718,646,481	1.1
Romania	270,679,764	20,292,511,606	1.3
Slovakia	55,640,322	4,375,795,153	1.3
Slovenia	18,067,371	1,619,110,227	1.1
Spain	662,288,890	40,532,819,904	1.6
Sweden	94,276,068	6,194,659,557	1.5
EU	5,272,024,940	343,907,641,118	1.5

Source: Own elaboration based on COM(2018)392, Annex X.

In general, however, after comparing the provisions of Regulation No. 1305/2013 and the EC proposals regarding risk management in the CAP 2021-2027, it can be concluded that the EC proposal is less complex as regards the provisions in the Regulation, but this is not tantamount to simplifying the functioning of this forms of support. This is due to the fact that the EC proposal leaves many elements to the decisions of Member States, which in their strategic

plans and other regulations will have to strictly define the framework for the functioning of this instrument. Therefore, in fact, we are dealing with simplification of regulations at the EU level and leaving to the Member States the need for detailed specification of the framework for implementing support, which may take very different forms depending on the bureaucratic tradition and the legal system in a given Member State.

Summing up the comparative analysis of the EC proposals regarding the CAP 2021-2027 and the current regulations governing the functioning of the CAP shows that the form of defining the CAP delivery framework in the period between 2021 and 2027 proposed by the EC is indeed significantly simplified compared to Regulations No. 1305-1307/2013. However, this is not tantamount to a real simplification of the CAP. It only means a far-reaching shift of the need to specify and clarify the rules for the implementation of the CAP instruments towards the level of the Member States.

1.6. Selected other proposals for the reform of the CAP

There is a large number of partial and comprehensive proposals for the reform of the CAP. It is impossible to present and refer to all of them, which is why this section focuses only on a few examples.

An intriguing, comprehensive proposal for a long-term reform of the CAP was presented by an expert group focused on the International Panel of Experts on Sustainable Food Systems. This forum postulates the creation of a comprehensive food policy based on sustainable food systems. Within this concept, five goals have been identified that define the shape of the proposed policy. They include:

1. Providing access to land, water and healthy soils.
2. Systems that restore climatic resistance and healthy agricultural ecosystems.
3. Promoting a sufficient, healthy and balanced diet for everyone.
4. Building fairer, shorter and cleaner food chains.
5. Making trade contribute to sustainable development.

In addition, the study proposes transforming the CAP into a policy covering all food systems. The proposed approach to the transformation of the EU agricultural policy based on this concept in the short and long term is shown in Table 7. The transformation of the CAP into the policy of food systems requires changes in the method of policy making and paradigms (Table 8). It seems that while the measures at the administrative level, especially those concerning the short period, can be implemented without much ado, it is virtually impossible to implement the change in the entire architecture and philosophy of the CAP's creation and operation, and its successors, which is both with too high inertia and the

strength of the agricultural lobby, as well as the short-sightedness of politicians at various levels with regard to the ways of supporting the agricultural sector. The majority of those responsible for the creation of agricultural policy practically do not see the demand side, i.e. the requirements and needs of consumers.

Table 7. Measures necessary to create policies conducive to the creation of sustainable food systems in the EU

SHORT-TERM POLICY PROPOSALS	MEDIUM- TO LONG-TERM POLICY PROPOSALS
Create position of the European Commission Vice President for Sustainable Food Systems	Devise a Sustainable Food Scoreboard/ Action Plan to track progress in the delivery of a Common Food Policy
Designate a Head of Food in every Commission DG to ensure inter-sectoral cooperation	
Develop a Sustainable Food Taskforce under the European Political Strategy Centre (EPSC)	
Create a Formal Intergroup on Food in the European Parliament	
Support creation of an EU Food Policy Council	Introduce participatory process for assessing technological innovations
Introduce mechanism for systematic coordination, practice sharing & learning at the EU level on local/ territorial food initiatives (incl. urban & regional food policies)	

Source: International Panel of Experts on Sustainable Food Systems (2019), p. 37.

The first of these objectives applies to both pillars of the CAP, but also to regulations related to the environment, including the Water Framework Directive (Directive 2000/60/EC) and the Nitrates Directive (Council Directive of 12 December 1991). It is also associated with Voluntary Responsible Governance of Tenure (VGGT) prepared by the FAO, EU Cohesion Policy and the national policy of Member States in the field of land management.

The authors of this concept point out that the current shape of the CAP does not serve sustainable agriculture and lists many gaps and shortcomings of the current CAP. At the same time, they present numerous proposals to improve this state of affairs (Table 9).

Table 8. Transformation towards a sustainable food system

Specification	BUSINESS AS USUAL SECTORAL APPROACH (CAP)	INTEGRATED FOOD POLICY APPROACH (COMMON FOOD POLICY)
Who shapes policies?	Dominant role of DG Agri, ComAgri, Agriculture Council & agribusiness stakeholders; tensions between farmers (as incumbents) / environment, health, anti--poverty, consumer groups & among these groups (as consulted stakeholders)	Agriculture, health, environment, anti--poverty, development actors, etc. on equal footing as co-designers of food policy
Bridging policy areas	Agriculture, health, environment, anti--poverty, development actors, etc. on equal footing as co-designers of food policy	Food system-wide objectives with full range of tools & resources; hard intersectoral conditionalities (e.g. CAP payments conditional on national progress on healthy diets)
Bridging governance levels	Standardized EU-wide policy tools & limited funding for local initiatives (simplification & compatibility)	Deliberate multi-level governance with learning mechanisms & increased support for local experimentation (managing complexity & building complementarity)
Food security & food prices	Focus on delivering cheap calories via mass production/trade (LOW-COST FOOD SYSTEM)	Focus on reducing hidden costs (e.g. climate/health externalities), sharing costs equitably along the chain & making it pay to produce sustainable, healthy food (TRUE-COST FOOD SYSTEM)
Innovation paradigm	Focus on technological product innovation with universal applications (e.g. precision agriculture, climate-smart agriculture)	Focus on social, technological, organizational, process-based and system--wide innovations (e.g. agroecology)
Resilience paradigm	Reliance on risk management tools & ongoing income support	Building long-term resilience via agroecology, diversification & value--based chains

Source: International Panel of Experts on Sustainable Food Systems (2019), p. 33.

The second of the objectives concerns systems rebuilding climate resistance and healthy agricultural ecosystems. This objective is related to both pillars of the CAP, as well as to cohesion policy, research and innovation, competition policy, agricultural consultancy, foreign trade, as well as environmental and climate regulations. In this respect, the current CAP shows many gaps and shortcomings (Table 10). The authors of this proposal argue that it is necessary to change the paradigm of the CAP, agricultural science and advisory and focus on agroecology. Agroecology is defined as the use of knowledge in the field of ecology to shape the food system[13]. According to the authors of the discussed

[13] The possibilities of agroecology in relation to European agriculture are widely presented in Poux and Albert (2018). It presents the results of the *Ten Years For Agroecology* research

CAP reform, at least 50% of the CAP funds should be allocated to rural development, and the majority of this pool should be used for pro-environmental activities. At the same time, they postulate maintaining direct payments with the increasing level of conditionality, i.e. environmental requirements imposed on farmers as a condition for obtaining support.

The third goal is related to diet and refers to the promotion of a healthy and balanced diet (Table 11). The necessity to take into account this issue results from the scale of the problem of obesity and related civilization diseases, such as type 2 diabetes or hypertension. The current model of cheaper food is conducive to bad eating habits. A diet based on unhealthy, highly processed products is much cheaper than a diet based on low-processed products and rich in fruits and vegetables. In addition, the spatial availability of unhealthy products is also much higher, because this type of food, due to the fact that it is not perishable as easily as fresh products is available at more points of sale. Naturally, the problem of a healthy or unhealthy diet is also related to the habits and customs of consumers. Therefore, the implementation of this objective requires taking action in various areas.

The fourth objective concerns the improvement of food supply chains (Table 12). They are to become shorter, cleaner and more fair. The problem of the length of food supply chains has been the subject of discussion for many years and the importance of this issue is also emphasized in the EC's documents on the CAP. In the field of relations between farmers and other participants in food supply chains, various actions are taken, as exemplified by the draft directive, which prohibits the use of a number of commercial practices unfavourable to farmers (COM(2018)173). However, as far as food supply chains are concerned, the issues of their ecological purity have not yet been addressed, although the EC is taking measures to limit the use of plastic packaging as part of the strategy of transforming the EU economy into a circular economy.

The fifth objective is related to international trade, which is particularly important for the EU agri-food sector (Table 13). In this respect, it is postulated to increase the balance of trade and to take environmental issues into account in its trade policy.

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project (TYFA). "The TYFA scenario is based on the widespread implementation of agroecology and provides:
- gradual withdrawal of vegetable protein imports and transition to a healthier diet to 2050;
- decrease in agricultural production by 35% as compared to 2010 (in Kcal);
- providing healthy food for Europeans while maintaining export capacity;
- reducing the global food footprint in Europe;
- reduction of greenhouse gas emissions in the agricultural sector by a maximum of 40%;
- recovery of biodiversity and the protection of natural resources" (Poux and Albert, 2018, p. 1).

Table 9. The EU policy instruments to ensure access to land, water and healthy soils

GAPS & DRAWBACKS IN CURRENT POLICIES	SHORT-TERM POLICY PROPOSALS	MEDIUM- TO LONG-TERM POLICY PROPOSALS
Conflicting land imperatives within the CAP. Young farmer premiums are available under the CAP, yet current area-based payments benefit large commodity producers, driving up land prices, encouraging land concentration & making it harder for new entrants to access land.	Reform the CAP P1 direct payments mechanism by: i) shifting from area-based logic to composite criteria (labour intensity, farm size, regional specificities, etc.) with mandatory redistribution to small-scale farms; ii) capping payments to individual farms; iii) providing positive definition of active farmer at the EU level; iv) introducing minimum % (instead of ceiling) for payments to young farmers	Develop agencies for land development & rural settlement in all Member States as a condition for unlocking CAP funds, incl. right of first refusal for agroecological producers (based on the EU-wide indicators – see Objective 2) & priority for young farmers
	Implement the Voluntary Guidelines on the Responsible Governance of Tenure (VGGT)	
	Set up an EU Land Observatory	
Fragmented environmental governance & low prioritization of soil. The implementation of the EU environmental policies (Water Framework Directive, Nitrates Directive) is undermined by policy frameworks promoting large-scale commodity production	Reform the CAP P1 conditionality to include specific clauses of Water Framework, Nitrates & Sustainable Use of Pesticides Directives and include trees as Landscape Features	Adopt the EU Soil & Land Directive to reconcile sustainable land development with healthy soils, & coordinate with the Water Framework Directive; integrate new soil management requirements into the CAP conditionalities
	Phase-out all biofuel incentives in Renewable Energy Directive	

(incl. the CAP, pesticide approval process & biofuel incentives under the Renewable Energy Directive), unsustainable land development strategies, & enforcement gaps (e.g. monitoring of pesticide residues in soil is not required at the EU level). This reflects deeper environmental governance issues, notably the failure to follow through on the polluter-pays principle, & the discord between soil and land governance.	Establish a European Water Data Centre supporting monitoring in the Member States	
	Task European Soil Data Centre with monitoring pesticide residues	
	Make access to the EU Structural Funds conditional on sustainable land use under integrated territorial food system planning (see Objective 4)	Designate areas as permanent farmland for food production under an EU framework
	Promote agroecological soil management via independent Farm Advisory Services (FAS) (see Objective 2)	

Source: International Panel of Experts on Sustainable Food Systems (2019), p. 43.

Table 10. The EU policy instruments to restore climate resilience and healthy agroculture systems

GAPS & DRAWBACKS IN CURRENT POLICIES	SHORT-TERM POLICY PROPOSALS	MEDIUM- TO LONG-TERM POLICY PROPOSALS
Insufficient climate ambition. The prevailing 'income support' logic in the CAP means that highly-polluting forms of agriculture continue to be subsidized (incl. intensive livestock farming – see below), while CAP environmental schemes & conditionalities are widely seen as ineffective. The latest CAP reform proposals risk exacerbating these problems & launching a race to the bottom by granting Member States the freedom to design their CAP interventions, while failing to establish a clear EU-wide sustainability indicators.	Dedicate at least 50% of the EU CAP funding to Rural Development (P2) & introduce 'agroecology premium' under P2. Eligibility based on: i) the EU-level roster of practices ('output indicators') incl. crop rotation, diversification, zero synthetic inputs, integrated pest management (IPM), on-farm feed production (i.e. beyond P1 conditionality); ii) working with agroecological extension services; and/or iii) simple proxies (community-supported agriculture (CSAs), participatory guarantee schemes (PGS), Organic 3.0)	Reserve all the CAP payments for public goods provision under single pillar (merging of cross-compliance & updated agroecological indicators)
Failure to address livestock impacts & reintegrate production systems. Intensive livestock production has severe environmental impacts (GHGs, air & water pollution, AMR, deforestation via feed imports), requiring urgent steps to reduce livestock density & reduce dependencies on imported protein feed. There have been insufficient attempts to spark these shifts by diversifying production systems, i.e. reintegrating crops/livestock & food/feed production on a territorial scale, despite the many co-benefits (incl. rural revitalization & job creation).	Reserve the CAP coupled payments for nitrogen-fixing leguminous crops, permanent grasslands/pastures, fruit & vegetable production, & trees (agro-forestry)	Phase-out all coupled payments
	Increase P1 conditionality following REFIT of environmental regulations (see Objective 1)	Phase-out routine use of chemical inputs (see also Objectives 1 & 3)
	Make the CAP funding conditional on setting national antibiotic use reduction targets & enhanced enforcement of the Veterinary Medicines & Medicated Feed Regulations	Introduce livestock density limits (animals/hectare) in line with the Organic Regulation

Reliance on techno-fixes. High-tech innovations ('precision agriculture') are being promoted under the EU research, agriculture & extension policies. These 'techno-fixes' bring efficiencies, but also reinforce production models (large-scale, intensive monocultures & feedlots) which ultimately rely on management practices that are environmentally unsustainable (e.g. chemical inputs rather than system redesign/IPM) & socially unsustainable (i.e. expensive inputs/ equipment that reduce employment & increase farmer reliance on agribusiness firms).	Prioritize farmer-led, action-research on agroecology under FP9	Deliberately assess innovations in line with precautionary principle & multiple aspects of sustainability
	Integrate digital innovations (precision agriculture) into agroecological systems based on open source & horizontal exchange; encourage shared ownership of equipment/ data via cooperatives	
	Further develop & update agroecological output indicators & performance indicators under European Environment Agency (EEA) & Joint Research Centre (JRC), & in liaison with FAO	Support open-source data systems & include users in design of agricultural equipment
Reliance on industry for knowledge, inputs & advice. With state support declining, agriculture research & innovation pathways have increasingly been shaped by private actors who also sell tech packages to farmers, and focused on improving the quality of farm inputs (e.g. seeds, chemical inputs, pharmaceuticals, & machinery). The divestment & privatization of farm advisory services (FAS) has also left major gaps in regard to sustainable land and soil management, leading to poor implementation of the EU environmental regulations.	Require Member States to develop independent FAS based on separation of sales & advisory activities, minimum quality standards, territorial coverage & capacity to support transition to agroecology as a condition for unlocking the CAP payments	Build integrated EU-wide agricultural knowledge & innovation systems (AKIS) focused on participatory agroecological research
	Certify FAS at the EU level	Align seed marketing rules & EIP-AGRI support with marketing of traditional livestock breeds & locally adapted seed varieties
	Under the Merger Regulation, block agribusiness mergers leading to over-consolidation of farm data	
	Increase the EIP-AGRI outreach to more farmers & further emphasize agroecology & farmer-to-farmer exchange	

Source: International Panel of Experts on Sustainable Food Systems (2019), p. 53.

Table 11. The EU policy instruments to promote a sufficient, healthy and balanced diet for everyone

GAPS & DRAWBACKS IN CURRENT POLICIES	SHORT-TERM POLICY PROPOSALS	MEDIUM- TO LONG-TERM POLICY PROPOSALS
Failure to build healthy 'food environments'. Diets are influenced by physical proximity to food retail outlets & the broader 'food environment'. However, policymakers have proven reluctant to take the requisite actions to reshape public spaces, built environments, lifestyles & consumer habits to promote healthy diets. Private companies have been allowed to shape retail environments, nudge consumers towards unhealthy foods & market junk food to children. The incentives for healthy foods are not strong enough.	Develop post-2020 the EU Childhood Obesity Action Plan with progress monitoring & annual updating of plans (including alignment with National Healthy Diet Plans – see below)	Establish the EU directive on marketing of HFSS & highly-processed foods, incl. TV advertising bans; prohibition of HFSS product advertising on public transport; ban on HFSS products in public vending machines & supermarket checkouts; no-HFSS perimeters around schools; & digital marketing restrictions
	Develop & implement the National Healthy Diet Plans ('Food Environment' Plans), incl. fiscal policies, social policies, public procurement, zoning & licensing, & nutrition education as condition for unlocking the CAP funding	
	Establish a common mandatory front-of-pack nutrition labelling scheme at the EU level	
	Establish nutrient profiles under the EU Claims Regulation to prevent misleading health claims	
	Adopt the EU ban on trans-fats	
Cheap food as *de facto* social policy. Poverty & social exclusion undermine access to healthy diets via long working hours, poor physical access to healthy food, loss of cooking skills, etc. Providing cheap food through	Exempt fruit & vegetables from VAT	Deliver social policies that address inequality, and work towards a food system where access to healthy & sustainable diets is a human right
	Regularly assess levels of food inse-	Establish single monitoring, advisory &

mass production of staple commodities or via food banks has become the default solution but fails to tackle the root causes of poor diets. Robust anti-poverty strategies & social safety nets are required, but are being undermined by national and the EU austerity policies.	curity in the EU; Develop indicators of the EU food poverty drawing on annual assessments conducted by Member States	oversight body to support design, implementation, & evaluation of the National Healthy Diet Plans & to tackle food insecurity
Failure to connect supply- and demand-side policies. The supply, pricing & availability of different foods is influenced by agri-trade policies & underlying food system dynamics. Supply gluts & food industry practices help to make highly-processed/ HFSS foods cheap and abundant, while fruit & vegetable production is not sufficiently incentivized. The EU & Member State policies on diets/ obesity have been piecemeal & tend to ignore agriculture. Procurement policies have been insufficiently used to drive production shifts, while supply-side policies (e.g. CAP promotion schemes) continue to promote unhealthy foods.	Ensure public procurement supports sustainable farming and healthy diets by i) requiring externalities to be included in cost calculations; & ii) including food sustainability & nutrition guidelines in Green Public Procurement	Align price/availability of foods with healthy diets by reforming production policies: removing coupled livestock payments, supporting diversified agroecological systems & leguminous crops, and capturing social & environmental externalities of food production (see Objectives 2 & 4)
	Reform the EU School Fruit Scheme to i) expand budget; ii) make it mandatory to apply quality criteria; and iii) remove exemptions for added sugar, salt and fat	
	Develop the EU & national dietary guidelines for healthy and sustainable diets	
	Reserve the CAP promotion funding for healthy items	

* Regulation (EC) No. 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods.

Source: International Panel of Experts on Sustainable Food Systems (2019), p. 69.

Table 12. The EU policy instruments to build fairer, shorter and cleaner food supply chains

GAPS & DRAWBACKS IN CURRENT POLICIES	SHORT-TERM POLICY PROPOSALS	MEDIUM- TO LONG-TERM POLICY PROPOSALS
Persistent power imbalances in supply chains. Corporate concentration exacerbates vulnerability to unfair trading practices, especially for small & medium--scale farmers. Recent steps to regulate unfair trade practices (UTPs) at the EU level are positive, but will require revisions on an ongoing basis to reflect rapidly evolving markets & to ensure that all actors in the supply chain are protected from supply chain dysfunctions.	Include mandatory environmental & social criteria within the EU merger regulations	Ensure 4-year review of impacts of UTP regulations & consider respective protections of different actors & root causes of supply chain imbalances
	Revise Article 102 of the TFEU to include vertical abuses of power	
Failure to fully harness short supply chains & territorial food systems. Short supply chains and other local initiatives hold major potential to address current food system failures, but have yet to be translated into coherent development strategies that span across a variety of sectors (e.g. rural development, energy, infrastructure, waste, employment, resource management). Low prioritization of territorial-scale initiatives is evidenced by: the lack of infrastructure/ support for small-scale farmers to aggregate supply, add value to their production & access public procurement contracts; poor implementation of food safety & hygiene exemptions for small-scale farmers & certain short supply chain schemes; & insufficient incentives to democratize decision-making.	Establish the EU-level framework to support alternative food system initiatives	Include sustainable food provision under Regulation (EU) No. 1303/2013 on European structural investment (ESI) funds
	Reform the EU quality schemes (PDO/PGI) to include robust environmental, animal welfare & tighter traditional process requirements	
	Increase the minimum share of the CAP P2 funding channelled through the LEADER approach (currently 5%)	
	Ensure Structural Funds can be mobilized in support of the creation of local Food Policy Councils	
	Increase funding to re-establish local processing & value-adding activities via the CAP P2 & Structural Funds (e.g. food hubs, mobile slaughterhouses)	

	Increase support under the CAP P2 & Structural Funds for alternative business models (e.g. cooperatives, CSAs, online platforms)	
	Make Green Public Procurement (GPP) mandatory with timebound national targets & design tender processes to facilitate access by small-scale farmers & cooperatives with logistical support under the CAP (for more on sustainable procurement see Objective 3)	Make all public procurement 'green' (i.e. 100% target)
Low ambition on food & packaging waste. Increases in food & packaging waste are linked to long supply chains, the mass retail model & changing lifestyles. Current strategies to address waste (e.g. Circular Economy Package, food banks) fail to address the root causes of over-production & over-consumption. Rather than aim to reduce or rethink food & packaging at the source, existing strategies perpetuate the underlying food system model by focusing primarily on redistribution. Based on voluntary commitments, strategies are plagued by patchy uptake & implementation by Member States.	Target reduced production of waste via supply chain redesign (incl. short supply chains) under review of Circular Economy Package	Review the Plastics Directive to explore a sequenced phasing-out of plastic food packaging
	Develop comprehensive regulation to reduce EDC exposure in the food system, including revision of Food Contact Materials regulations	
	Amend the EU Plastics Directive to encourage adoption of plastic packaging taxes on food companies & promote local zero-packaging markets	

Source: International Panel of Experts on Sustainable Food Systems (2019), p. 81.

Table 13. The EU policy instruments aimed at using foreign trade to promote sustainable development

GAPS & DRAWBACKS IN CURRENT POLICIES	SHORT-TERM POLICY PROPOSALS	MEDIUM- TO LONG-TERM POLICY PROPOSALS
Export-orientation & commodity over-specialization reinforced via the FTAs. Despite commitments to 'Policy Coherence for Development' and climate mitigation under the Paris Agreement, the EU agri-trade policies (notably Free Trade Agreements – FTAs) are based on ever-increasing exports in high-emitting sectors like meat & dairy. Taking advantage of power imbalances, the EU has pushed through trade agreements that lock developing countries into low-cost & socially/ environmentally harmful export commodity production, import dependency for staple foods, & reliance on volatile global markets. The 'sustainable development' clauses in the FTAs lack teeth & are rarely activated.	Reform the FTA sustainability impact assessments to include: i) mandatory ex ante sustainability & HR assessment with clear def. of sustainability (incl. health & nutrition, reliance on indicators linked to the right to food, gender); ii) participatory methods; iii) mechanisms for regular follow-up & corrective action; & iv) concrete advice for trade negotiators	Promote & adopt UN legally binding instrument on business and human rights & UN Framework Convention on the Right to Food
	Strengthen sustainable development clauses in the FTAs through: i) more prescriptive language; ii) non-regression clauses; iii) binding & enforceable provisions to halt deforestation, land grabs & HR violations; & iv) reiteration of IUU fishing requirements	Replace the FTAs & EPAs with 'sustainable trade agreements' where trade liberalization is contingent on regulatory cooperation & right to regulate, diversification & rebuilding of food production capacity
	Phase-out use of investor-state dispute settlement (ISDS) provisions in future trade agreements & review impacts of ISDS & other investor protections in existing trade agreements	
	Build accessible complaints mechanism with procedural guarantees allowing individuals & civil society organisations (CSOs) in the EU	Introduce CO_2 tax (border adjustment) & exclude high-GHG goods from liberalization

	& third countries to flag non-compliance with the FTA sustainability clauses	
Ongoing dumping due to competitiveness gaps & practices of multinationals. While the EU's most aggressive agri--export policies have been curbed, the 'dumping' of the EU surpluses continues to undercut developing world producers in a range of sectors and regions (e.g. dairy in West/ Southern Africa). This reflects underlying competitiveness gaps between developing world producers & highly-subsidized farming systems in the global North, as well as the practices of multinational agri-food industries with huge price-setting power. Meanwhile, the EU farmers suffer the impacts of social/ environmental dumping from goods produced in the lowcost locations.	Phase-out all trade-distorting CAP payments (export subsidies, promotion support), shift away from area-based CAP payments & promote local/integrated feed production (see Objective 2)	Support territorial/ regional supply chains in the EU (see Objective 4) & third countries via 'Aid for Trade'
	Adopt definition of dumping that includes explicit social, economic, environmental, health & animal welfare criteria	
	Aggregate info & complaints on dumping across sectors/ regions & through intermediary countries	

Failure to regulate & redirect unsustainable investment flows. The EU aid & external investment flows have failed to prioritize local actors & agroecological transition pathways. Furthermore, the EU policies are failing to regulate & redirect private investment flows away from intensive agriculture, land grabs & deforestation. Self-regulation is insufficient: industry pledges on deforestation largely neglect beef and soy, while companies have repeatedly failed to disclose information about their supply chains.	Create 1-stop-shop portal to track positions adopted by the EU/national delegations at the CODEX Alimentarius (FAO-WHO) Commission and at the Committee on World Food Security (CFS)	Explore a sustainable development clause and/or a Climate Change Waiver within the WTO Agreements
	Build capacity of the WTO's Trade & Environment Committee	
	Introduce mandatory due diligence obligations for all operators in forest-risk commodity supply chains	Extend due diligence to all agri-food commodities & fish imports
	Introduce sustainability criteria (incl. biodiversity & climate indicators) for the EU aid & investment flows, including the EIP	Create 'Just Transition Fund' to pool & align development aid, climate financing, & anti-dumping levies

Source: International Panel of Experts on Sustainable Food Systems (2019), p. 95.

It should be emphasized that this proposal draws attention to the role of soil. According to JRC (2019), the value of ecosystem services generated by soils in the European Union is EUR 1.2-10 trillion. In recent years, the problem of the condition of soils and their biodiversity is increasingly being undertaken by researchers representing various areas of science. The meaning of the soil is well reflected in the quotation of the conference on the role of soils in Estonia during the presidency of this country in the EU: "Humanity depends on two things: the last top half meter of soil and how often it rains". The conclusions of the conference indicated, e.g., the need to update and supplement soil data in the EU[14], especially because, as the European Academies' Science Advisory Council points out, there are many gaps in knowledge about soils and their functioning (Table 14).

Another proposal for reform was presented by Fresco and Poppe (2016). It should be noted, however, that the direction of the CAP reform proposed by these researchers is very similar to the already discussed concept of the International Panel of Experts on Sustainable Food Systems. This proposal also focuses on the issues of the food system and the environment. Fresco and Poppe proposed five pillars of the CAP, or rather a common agricultural and food policy. They include the following elements:

- Pillar A – income support;
- Pillar B – ecosystem services, the provision of which is based on contracts;
- Pillar C – rural development: innovation in the service of competitiveness;
- Pillar D – food policy for consumers;
- Pillar E – monitoring and research.

The authors of this concept drew attention to the same challenges and problems faced by the EU agriculture and the entire agri-food sector, as in the previously discussed proposal, namely: food and nutrition security, climate change, environment, healthy and safe food and social inequalities.

It is worth noting that the authors emphasize the problem of the lack of understanding among the public opinion of agricultural issues and the European Union's policy towards this sector, which increases the opposition to supporting agriculture. Therefore, it is necessary to involve all stakeholders, i.e. also consumers, in the process of reforming agriculture and the entire food supply chain.

[14] As shown by Frelih-Larsen et al. (2016), the majority of activities in the field of soil protection and their biodiversity are activities undertaken at the level of the Member States, while in the EU policy and its legislation the issue of soils and their functions is present only to a limited extent.

Table14. Some major knowledge gaps related to soils

Theme	Knowledge gaps
Agriculture	How to combine food production with soil protection and multi-functional land use? How modern agricultural practices and increased yield may influence (micro) nutritional food quality. (soil) sustainability of conventional, organic, regenerative, ecological-intensive and other forms of agriculture? How to make agriculture 'climate smart' (Paustian et al., 2016): contributing to mitigation while adapting to climate change. Long-term trends in European agriculture (e.g. the Broadbalk experiment[15]); and consequences for soil properties and land use function in conversion towards ecologically intensive agriculture (Mäder et al., 2002; Schrama et al., 2018).
Biodiversity	How are European soil biodiversity and soil functions related to local climate, soil type, physico-chemical soil conditions, as well as current and historical land use?
Human health	How may soil attributes relate to a 'one health' concept embracing healthy plants, healthy food (and feed), healthy animals and healthy people? How to map risks of certain soil-borne diseases, how to map consequences of climate change, land-use change, and invasive species for human health, and how to mitigate these effects? Mobility of antibiotic resistance genes. Microplastic effects in soil on ecosystem services, plants and human health.
Climate change	How to motivate land owners, such as farmers, to carry out climate-smart agriculture, horticulture and forestry? How to guide towards novel communities and novel ecosystems that may develop as a consequence of climate warming-induced range shifts, including internal controls of species abundance and how to optimise multi-functionality?

[15] The Broadbalk experiment has been conducted since 1843 and deals with the role of individual nutrients in plant development. You can read more about this experiment and its results, for example, in the article by Mossa et al. (2004).

	How to assess the quality of SOM for producing multiple ecosystem services? How to integrate biomass production into arable production to achieve effective contributions to climate change mitigation?
Urbanisation	What is the role of soil in urban areas and the need for an international reference framework on nature--based solutions to enhance climate mitigation and water conservation in cities.
Education	The need for educational programs that create awareness of the role of soil in the life of individuals, communities and European society as a whole.
Circular economy	Soils play a key role in a more circular and sustainable society, but there is still a major knowledge gap about how to recycle waste materials after human consumption to soils without reducing sustainability and soil multi-functionality.

Source: European Academies' Science Advisory Council (2018), tab. 7.1.

Similar propositions are also presented in relation to the proposal to shape Britain's own agricultural policy after leaving the European Union. As stated in Petetin, Gravey and Moore (2019, p. 33), "agricultural, commercial and food policies should support each other and initiate long-term strategic and radical thinking and vision. They need to do more than just ensure efficient Brexit. They must present an ambitious program for the future that will benefit society, farmers and rural areas". The authors of this report call for a holistic and long-term approach in which it is recognized that agriculture is not just an agricultural policy issue.

An even more radical proposal, although not taking into account the issues related to food policy, has been presented by the Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection (WBAE) of the Federal Ministry of Food and Agriculture (BMEL), (2018). Particularly noteworthy is the proposal of this Board relating to the financing of the CAP, which assumes a reduction in the scope of financing only from the budget of the European Union. The Board proposes to finance only the instruments related to the organization of markets and the protection of peatlands and Natura 2000 sites from the EU budget. The remaining support should be co-financed by the Member States. The Board's proposal also assumes that the remaining support will relate to the provision of public services.

The proposal presented by the EC regarding the CAP reform is not a sufficiently comprehensive reform of the EU agricultural policy from the point of view of environmental challenges. Despite the constant announcements that this will happen, the CAP remains poorly linked to the long-term EU development strategy. What is more, it is not taken into account where the importance of agriculture is particularly large, in other words regarding environmental and climate issues.

Moreover, it should be noted that as much as 31% of agricultural land necessary to provide food for the EU residents is outside the EU (European Commission, 2013b), which is mainly associated with animal feed. As pointed out by Allen et al. (2018, p. I), key changes must concern both animal production and food consumption. It is important to formulate and conclude a new social contract between farmers and the rest of society, which would take into account the full remuneration of farmers for the provision of public goods. It is no less important to change the shape of relationships in food chains. Such changes should lead to the transformation of the price structure of food products. Healthier and less burdensome products should be cheaper than those that have negative effects on public health and climate.

It should be noted that the need for sustainable food policy is also recognized by the EU Committee of the Regions (CoR), which in its opinion of 2017 emphasized that it "calls for a comprehensive, sustainable EU food policy which

is democratically shaped, designed with a common and long-term vision, based on the latest scientific insights and in line with a multilevel governance approach that addresses food production and nutrition in a more comprehensive manner, promoting more sustainable production and consumption patterns, establishing a link across different policy areas, including, among others, food production, agriculture, environment, health, consumer policy, employment and rural development, and creating jobs and growth in Europe's Regions and Cities; calls on the European Parliament and the Commission to launch together with the CoR a joint pilot project to facilitate the development of a sustainable EU food policy" (European Committee of the Regions, 2017, p. 1). The proposals of the Committee of the Regions contained in this opinion are consistent with the directions of changes in the CAP proposed by the International Panel of Experts on Sustainable Food Systems.

However, it is not to be expected that the agricultural sector will accept an increase in environmental requirements without resistance. Many agricultural organizations and Member States are protesting against increasing the burden of environmental requirements, which is accompanied by a decrease in the CAP budget. It should be noted that the costs related to compliance with environmental standards are already a significant burden for farmers. Karl and Noleppa (2017) estimated that in Germany these costs are on average 315 euro per 1 ha of UAA. At the same time, as shown by studies such as de Witte and Latacz-Lohmann (2014) or the European Court of Auditors (2017), the current level of greening payments is significantly higher than the average additional costs incurred in relation to the imposed requirements. Therefore, we are dealing with an ineffective way of achieving environmental objectives by the CAP. According to many researchers, the greening of payments actually only serves to justify public support for farmers' income (e.g. Alons, 2017; Daugbjerg and Swinbank, 2016; Erjavec and Erjavec, 2015; Scientific Advisory Board ..., 2018).

In conclusion, the proposals discussed in this sub-chapter focus on the long-term challenges facing agriculture in the context of climate change and resource reduction. The EC proposal on the CAP reform aptly diagnoses problems related to the resilience of agriculture but does not offer effective instruments supporting the sector[16].

[16] The problem of resistence of the agricultural sector is presented in more detail, *inter alia*, in OECD (2018).

2. Regionalization of subsidizing agriculture in Poland

2.1. Introduction

Subsidies are an important tool of the Common Agricultural Policy, serving the implementation of objectives in the field of socio-economic and environmental challenges facing the agriculture and rural areas of the European Union (Matthews, Salvatici, Scoppola, 2017). Subsidies affect farms through many channels, which are in various ways related to farmers' production, financial and investment decisions (Kulawik, Płonka, 2013), accelerating development and beneficial structural transformations in rural areas. Agriculture subsidies, however, are not uniform in nature. There is a large variation in the level of subsidies between the Member States and their regions. In the political system there is a growing awareness that the Common Agricultural Policy realizing an increasing number of objectives, from rural development to environmental issues through various uncoordinated instruments, leads to unequal, undirected, unconditional and ineffective subsidization of the EU farmers (Niemi, Kola, 2005). There is, therefore, a need for a more regionally targeted response accompanied by different types of governance structures (Mantino, 2011). It is necessary to better balance the distribution of support offered by the Common Agricultural Policy among products, regions and farmers (Shucksmith, Thomson, Roberts, 2005). Common Agricultural Policy, if it is to be more effective in the context of solving regional problems of agriculture, should be flexible, create support instruments that will be adapted to regional needs in order to eliminate or mitigate developmental constraints for agriculture in a given region (group of regions) as effectively as possible (Czudec, Kata, Miś, 2017). As Niemi and Kola (2005) point out, the logic of rewarding the multifunctional role of agriculture, a key concept of the European Union, requires better consideration of factors such as the type of rural areas, environment, landscape, rural communities and employment in rural areas. Experience has shown that just directing money to rural areas is not enough to solve their problems and help them grow. Mobilization of local resources is indispensable (OECD, 2006).

To meet the challenges facing agriculture in European countries, regions must be at the center of the Common Agricultural Policy. According to Lambertza, President of the European Committee of the Regions (2018), putting the regions at the center of this policy, gives the opportunity to achieve the objectives of the European Union in terms of jobs, competitiveness, territorial cohesion, environmental protection and the fight against climate change.

2.2. Regionalization of the Common Agricultural Policy – what is it and what is it for?

Regions differ from one another in socio-economic and environmental resources, which together constitute their endownment and development potential. Each region is unique, so the effect of agricultural policy implemented in one area will not be the same as the result in another area, both in terms of direction and magnitude of impact. The solution to this problem may be a more local (territorial) approach to the allocation of agricultural subsidies. The regionalization of the Common Agricultural Policy may be the answer to these problems. What is and what is the regionalization of the Common Agricultural Policy for?

The regionalization of the Common Agricultural Policy results from the paradigm referring to the development of the regions in the European Union. That is choosing a priority sector that creates the best opportunities for the development of the region and focusing activities within it. It will increase the efficiency of spending public funds (Bański, 2015).

It can, therefore, be assumed that the regionalization of the Common Agricultural Policy is a concept of how to organize and operate financial support for farmers and rural areas. This is a specific practice of shaping programmes and allocating financial resources based on the identification and taking into account specific needs for a given region and their local conditions, as well as the expressed expectations of farmers and residents of rural areas.

The changes that have taken place in recent years as part of the implementation of the objectives of the Common Agricultural Policy point to the growing importance of the regional approach in the EU agricultural policy. The EU policies are increasingly recognizing that rural regions are becoming more diverse. This is a clear break with the past, when rural regions were perceived by policymakers as homogeneous spaces, each of which was considered to be facing the same obstacles and development opportunities (RURAGRI, 2012). Svetikas (2014), among the reasons for the growing importance of supporting development at the regional level, mentions as the most important increased globalization, which has stimulated the significance of local conditions and material and immaterial resources on which regional competitiveness is based (Capello and Nijkamp, 2009; Rodriguez-Pose and Crescenzi, 2008). Moreover, the growing importance of the regional approach to development are the increasing social and economic disparities increasing the pressure on governments (at the national and the EU level) to implement their policies with all forms of public intervention to reduce regional disparities with two interrelated goals such as: economic growth and better social distribution (Svetikas, 2014).

The Common Agricultural Policy for 2014-2020 was equipped with better-targeted instruments of the first pillar complemented with regionally adjusted second-pillar measures (European Commission, 2013a). Particular importance is given to regional programmes that are part of the second pillar of this policy. They play an important role in creating profitability of farms and the trajectory of rural development (Gorzelak, 2017; de Krom, 2017). These programmes are very diverse. This is due to the fact that Member States have relatively large freedom in terms of matching the set of regional activities carried out and the expenditure allocated to them to the development needs of particular regions (Wieliczko, Kurdyś-Kujawska and Hereda-Kopańska, 2017).

The European Union countries are gradually overcoming productivism and exclusive sectoral support for agriculture in favour of the need to diversify territorial policy in the development of rural areas (Junković, 2012). The Common Agricultural Policy departs from support for agriculture as such or in addition to regional development financing in the sense of subsidizing rural areas. The regionalization phenomenon has hitherto had a financial nature – involving the modulation of financial resources, their shift from direct support to rural development. Taking into account the current objectives facing the Common Agricultural Policy, regionalization would lead to an increase in the vitality of rural areas and greater social legitimacy for subsidizing agriculture (Kokoszka, 2013).

The regionalization of agricultural subsidies is a significant policy challenge, in particular with regard to the need to develop and implement programmes that are well-suited and responsive to the needs and conditions of the local community. According to the new legislative proposals of the European Commission regarding the Common Agricultural Policy in the period between 2021 and 2027, this policy is to be modernized and simplified. Member States will have greater flexibility and greater responsibility in deciding how and where to invest the resources allocated under the CAP. This is to contribute to developing programmes that are better suited to the needs, in order to respond most effectively to the problems of farmers and the rural community (European Commission, 2018c).

Considering the future shape of the Common Agricultural Policy, which is more focused on the regional targeting of resources that can bring real added value to local development as well as agricultural and rural economy, it seems interesting to analyse the level of diversification of subsidies for agriculture, especially for the regions that become the main actors of this policy. The results of the research can be used to assess the method of predicting direct aid and to support the analysis of the impact of agricultural policy, highlighting differences or inefficiencies between regions (D'Amico et al., 2013).

2.3. Methodical assumptions

The aim of the study is to examine the regional diversification of agricultural subsidies in Poland. The assessment of the level of diversification of subsidies for agriculture was analysed at the level of voivodeships (separate administrative regions). The study was based on accounting data obtained in 2007-2016 by agricultural holdings conducting agricultural accounting for the needs of the Polish FADN. The sample size in the analysed period was variable, which was caused by the resignation of some entities from participation in the FADN system. The research covered: payments for crop production (SE_610), subsidies for animal production (SE_615), subsidies for intermediate consumption (SE_625), rural development subsidies (SE_624), investment subsidies (SE_406) and decoupled payments (SE_630). In order to obtain numerical descriptions of the characteristics of the analysed population, the methods of analysis and comparisons were used in various quantitative terms. In the study, the structure indices were used to determine the proportion of the individual components of the structure in the whole in relation to each unit. The analysis of the structure of farms used measures of classic variability (average, standard deviation, variance coefficient based on the average) and dynamics indicators (single-base and chain). The assessment of the intensity of changes in the phenomenon was made by using the average rate of change of the phenomenon estimated according to the formula $(\bar{\imath} - 1) \cdot 100\%$, where $\bar{\imath} = \sqrt[n-1]{\frac{y_n}{y_1}}$, $y_1, y_{2,\dots}, y_n$ are realizations of the observed variable at time *t*.

Table 15 presents the general characteristics of the research sample of agricultural holdings participating in the FADN system.

Table 15. General characteristics of the research sample of agricultural holdings participating in the Polish FADN system

Specification	Years									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Sample size	12,038	12,298	12,258	11,004	10,890	10,909	12,117	12,123	12,105	12,104
farms benefitting from subsidies for crop production	11,397	413	718	190	1,232	1,200	1,233	1,852	4,389	5,697
farms benefitting from subsidies for animal production					759	750	826	797	4,676	6,128
farms benefitting from subsidies for intermediate consumption	3,627	5,516	5,909	5,944	6,540	6,890	8,038	8,189	8,300	8,649
farms benefitting from subsidies for rural development	6,437	7,884	7,911	7,142	6,682	6,418	7,662	7,376	5,560	7,590
farms benefitting from investment subsidies	2,527	2,817	2,619	2,775	2,889	2,741	2,907	2,934	2,278	2,321
farms benefitting from decoupled payments	11,899	12,164	12,141	10,902	10,794	10,820	12,037	12,038	12,030	11,952

Source: Own elaboration based on FADN data.

The number of farms benefitting from agricultural subsidies is varied in the analysed period. Owners of farms made the most use of decoupled payments, subsidies for intermediate consumption and subsidies for rural development. In the analysed period, an average of 11,678 farms received decoupled payments, 7,066 farms benefitted from payments for the development of agricultural holdings and an average of 6,760 farms benefitted from subsidies for intermediate consumption. The largest diversification in the number of farms benefitting from agricultural subsidies was recorded in the group of farms benefitting from subsidies for crop production (variance coefficient of 123%) and farms benefitting from subsidies for animal production (variance coefficient of 104%). In turn, the smallest variation in the number of farms benefitting from direct payments was recorded in the group of farms receiving decoupled payments (variance coefficient of 5.00%) and in the group of farms benefitting from investment subsidies (variance coefficient of 8.66%) and subsidies for rural development (variance coefficient of 10.90%). The share of farms receiving decoupled payments was over 99% during the period considered. But the share of farms benefitting from subsidies for the development of rural areas and subsidies to intermediate consumption was at 59.99% and 57.43%, respectively. Agricultural holdings benefitting from investment subsidies represented on average 22.83% of all surveyed farms, and farms receiving subsidies for crop production and livestock production accounted for 23.67% and 19.42%, respectively. A comparison of the structure of the use of agricultural subsidies in the analysed years was made possible by the indicator of the similarity of the structure. Its value – amounting to 0.97% – shows that the structure of using agricultural subsidies is very similar. Significant changes in the number of farms benefitting from agricultural subsidies were recorded in the case of subsidies for crop and animal production and subsidies for intermediate consumption (Table 16).

Table 16. Dynamics of changes in the number of farms benefitting from agricultural subsidies in Poland in 2007-2016

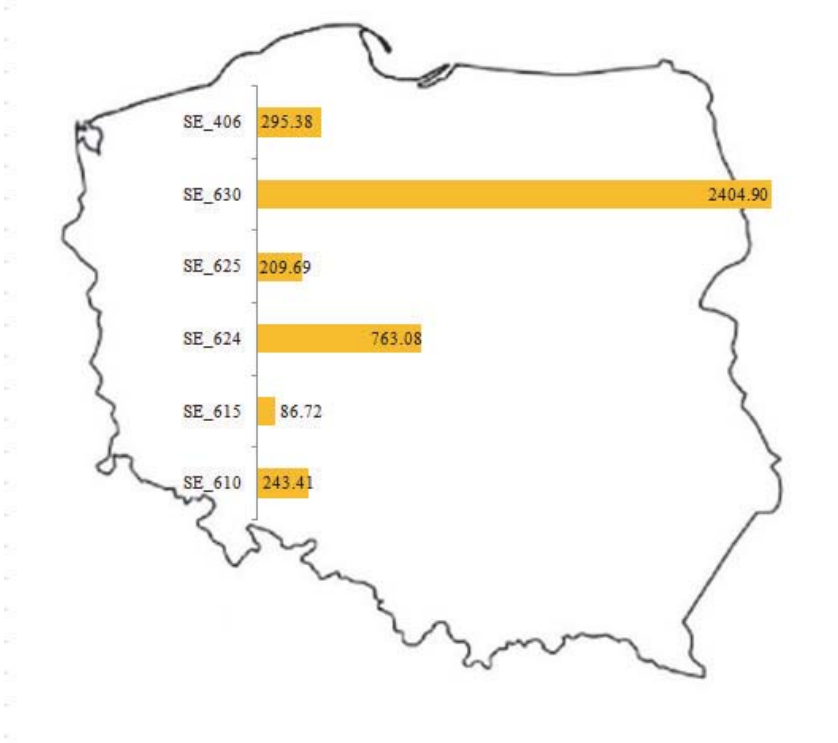
Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Subsidies for plant production										
$i_{t/0}$	100	3.62	6.30	1.67	10.81	10.53	10.82	16.25	38.51	49.99
$i_{t/t-1}$	-	3.62	173.85	26.46	648.42	97.40	102.75	150.20	236.99	129.80
i_g	-7.42									
Subsidies for animal production										
$i_{t/0}$	-	-	-	-	100.00	98.81	108.83	105.01	616.07	807.38
$i_{t/t-1}$	-	-	-	-	-	98.81	110.13	96.49	586.70	131.05
i_g	51.85									
Subsidies for intermediate consumption										
$i_{t/0}$	100	152.08	162.92	163.88	180.31	189.96	221.62	225.78	228.84	238.46
$i_{t/t-1}$	-	152.08	107.12	100.59	110.03	105.35	116.66	101.88	101.36	104.20
i_g	10.14									
Subsidies for rural development										
$i_{t/0}$	100	122.48	122.90	110.95	103.81	99.70	119.03	114.59	86.38	117.91
$i_{t/t-1}$	-	122.48	100.34	90.28	93.56	96.05	119.38	96.27	75.38	136.51
i_g	1.85									
Subsidies for investment										
$i_{t/0}$	100	111.48	103.64	109.81	114.33	108.47	115.04	116.11	90.15	91.85
$i_{t/t-1}$	-	111.48	92.97	105.96	104.11	94.88	106.06	100.93	77.64	101.89
i_g	-0.94									
Decoupled subsidies										
$i_{t/0}$	100	102.23	102.03	91.62	90.71	90.93	101.16	101.17	101.10	100.45
$i_{t/t-1}$	-	102.23	99.81	89.79	99.01	100.24	111.25	100.01	99.93	99.35
i_g	0.05									

Source: Own elaboration based on FADN data.

In 2016, compared to 2007, the number of farms benefitting from subsidies for crop production and subsidies to investments decreased, while the number of farms receiving the other subsidies increased. On average, in the analysed period, the number of farms receiving subsidies for crop production decreased by 7.42%, and farms benefitting from investment subsidies by 0.94%. The number of farms receiving subsidies for animal production in 2016 compared to 2011 increased eightfold. In the analysed years, their number grew dynamically in comparison to the previous year, with the exception of 2012 and 2014. The average rate of change was 51.85%. The number of farms receiving decoupled payments and subsidies for the development of rural areas has changed slightly. On average, the number of these farms increased by 0.05% and 1.85%.

The total value of subsidies paid to agricultural holdings in the analysed period amounted to over PLN 4 billion, of which more than PLN 2.4 billion (60.07%) were decoupled payments(Figure 4). Over PLN 763 million farms received in the form of subsidies for the development of rural areas (19.06%). Investment subsidies accounted for 7.38% of the total subsidies received, while subsidies to intermediate consumption were 5.24%. Support for livestock production amounted to PLN 86.72 million (2.17%) and it was significantly lower than subsidies for crop production, which amounted to PLN 243.41 million (6.08%).

Figure 4. Subsidies paid to agricultural holdings in Poland in 2007-2016 (in PLN million)



Source: Own elaboration based on FADN data.

In 2016, compared to 2007, the total value of subsidies received by farmers from the analysed farms increased by 15.42%. The increase in the value of subsidies was recorded in all types of subsidies, with the exception of subsidies for crop production (Table 17). At the same time, it should be noted that since 2015 this decline is slightly smaller. On average, in the analysed period, the value of subsidies for crop production decreased by 17.55%. In 2011-2016, the value

of subsidies for animal production increased significantly. The subsidies for animal production increased each year by an average of 134.8%. The above trends are a consequence of changes in the EU agricultural policy and an increase in the number of farms applying for these subsidies. The value of subsidies for rural development increased slightly. These subsidies in 2016 were 31% higher than in 2007. The average rate of change was 3.07%.

Table 17. Dynamics of changes in the value of subsidies paid to agricultural holdings in Poland in 2007-2016

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Subsidies for plant production										
$i_{t/0}$	100	3.06	8.21	1.29	1.57	2.78	3.05	3.94	6.52	17.61
$i_{t/t-1}$	-	3.06	268.39	15.73	121.87	176.89	109.59	129.12	165.69	270.02
i_g	-17.55									
Subsidies for animal production										
$i_{t/0}$	-	-	-	-	100	140.54	171.89	172.96	2287.78	4263.23
$i_{t/t-1}$	-	-	-	-	-	140.54	122.31	100.62	1322.75	186.35
i_g	134.8									
Subsidies for intermediate production										
$i_{t/0}$	100	217.76	199.43	207.34	247.29	284.70	321.59	357.19	351.00	360.48
$i_{t/t-1}$	-	217.76	91.58	103.97	119.26	115.13	112.96	111.07	98.27	102.70
i_g	15.31									
Subsidies for rural development										
$i_{t/0}$	100	151.40	162.00	150.94	164.16	145.61	184.60	168.39	132.22	131.31
$i_{t/t-1}$	-	151.40	107.00	93.17	108.76	88.70	126.78	91.22	78.52	99.31
i_g	3.07									
Subsidies for investment										
$i_{t/0}$	100	133.08	127.83	160.10	193.95	206.33	237.87	257.26	220.70	218.26
$i_{t/t-1}$	-	133.08	96.06	125.24	121.15	106.38	115.29	108.15	85.79	98.89
i_g	9.06									
Decoupled subsidies										
$i_{t/0}$	100	122.70	190.73	192.06	242.15	255.22	315.19	352.20	172.92	172.71
$i_{t/t-1}$	-	122.70	155.45	100.69	126.08	105.40	123.50	111.74	49.10	99.88
i_g	6.26									

Source: Own elaboration based on FADN data.

The value of subsidies for crop production per 1 agricultural farm in the analysed period decreased from PLN 14,427.60 to PLN 5,083.72 (35.24%). During this time, the value of subsidies for animal production per one agricultural holding increased more than four times (Table 18).

Table 18. Dynamics of changes in the value of subsidies per agricultural holding in Poland in 2007-2016

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Subsidies for plant production										
$i_{t/0}$	100	84.38	130.27	77.42	14.55	26.42	28.18	24.23	16.94	35.24
$i_{t/t-1}$		84.38	154.38	59.43	18.79	181.61	106.65	85.97	69.92	208.02
i_g	-10.94									
Subsidies for animal production										
$i_{t/0}$					100	142.22	157.95	164.71	371.35	528.03
$i_{t/t-1}$						142.22	111.05	104.28	225.46	142.19
i_g	39.49									
Subsidies for intermediate consumption										
$i_{t/0}$	100	143.18	122.41	126.52	137.14	149.87	145.11	158.20	153.38	151.17
$i_{t/t-1}$		143.18	85.49	103.36	108.39	109.28	96.83	109.02	96.95	98.56
i_g	4.70									
Subsidies for rural development										
$i_{t/0}$	100	123.61	131.82	136.04	158.14	146.04	155.09	146.96	153.07	111.37
$i_{t/t-1}$		123.61	106.64	103.21	116.25	92.35	106.19	94.76	104.16	72.75
i_g	1.20									
Subsidies for investment										
$i_{t/0}$	100	119.38	123.34	145.79	169.65	190.22	206.78	221.58	244.83	237.63
$i_{t/t-1}$		119.38	103.32	118.20	116.37	112.12	108.71	107.16	110.49	97.06
i_g	10.09									
Decoupled subsidies										
$i_{t/0}$	100	120.02	186.93	209.62	266.94	280.67	311.57	348.13	171.03	171.95
$i_{t/t-1}$		120.02	155.75	112.14	127.34	105.14	111.01	111.73	49.13	100.53
i_g	6.21									

Source: Own elaboration based on FADN data.

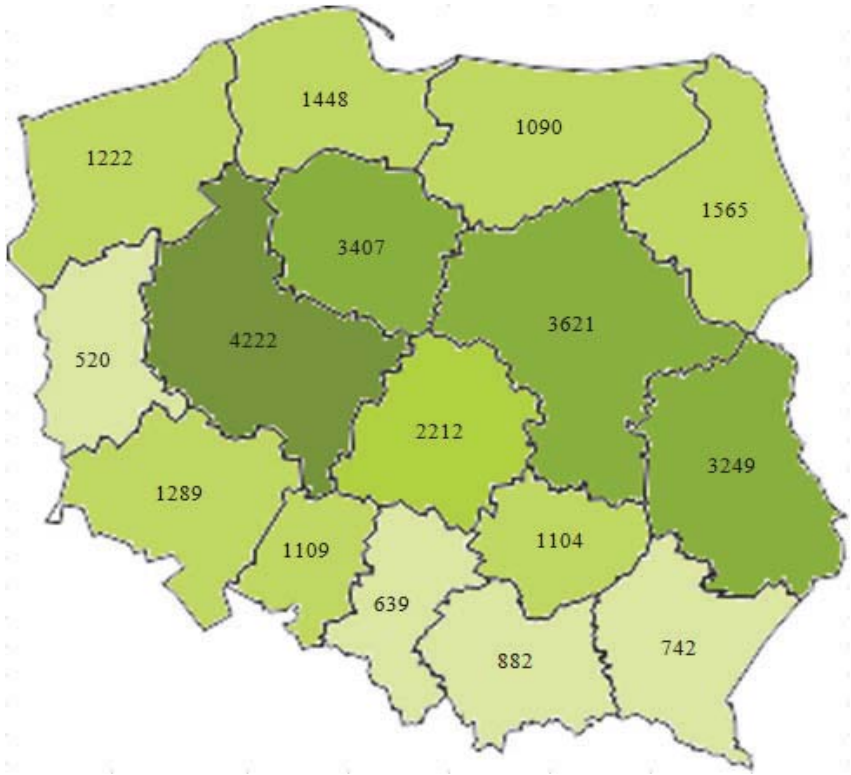
The value of subsidies to intermediate consumption increased year on year by an average of 15.31%. Calculated per one farm, these changes fluctuated at the level of 4.70%. The value of subsidies for rural development grew slightly. The average rate of change was 1.20%. In the analysed period subsidies to intermediate consumption per one farm increased from PLN 2,184.30 to PLN 3,302.03, and subsidies to rural development from PLN 7,952.65 to PLN 8,856.47. Payments to intermediate consumption per one agricultural holding in the analysed period have not changed significantly. Their value oscillated around PLN 3,000. In turn, the highest values of subsidies for rural development per one farm were recorded in 2009-2015. They constituted on average PLN 11,000. The largest drop in subsidies for rural development compared to the previous year was recorded in 2016. From 2007 to 2014, decoupled subsidies per one farm were systematically growing. In 2007, one farm received PLN

9,552.07 decoupled payments, while in 2014 this value was PLN 33,253.86. In 2015-2016, the decoupled payment per one agricultural holding fluctuated at PLN 16,000. The largest decrease in decoupled payments as compared to the previous year was recorded in 2015. In 2016, in comparison to 2007, the investment subsidies per one agricultural farm increased more than twice (from PLN 6,300.01 to PLN 14,970.58). The annual average value of these subsidies increased by 10.09%.

2.4. Regional diversification of subsidizing agriculture in Poland

In 2007-2016, a total of 28,321 farms benefitted from subsidies for crop production. The largest number of farms that received subsidies for crop production was recorded in the Wielkopolskie Voivodeship (4,222). They constituted 14.91% of all farms benefitting from subsidies for crop production. A high percentage of farms with subsidies for crop production was also characteristic for Mazowieckie (12.79%), Kujawsko-Pomorskie (12.03%), Lubelskie (11.47%) and Łódzkie (7.81%) voivodeships (Figure 5). In total, over 16,000 farms in these voivodeships benefitted from additional payments for crop production, which constituted about 60% of all farms with subsidies for crop production. These are regions with high agricultural culture, high intensity of production organization and relatively high intensity of management (Wielkopolskie and Kujawsko-Pomorskie voivodeships), as well as regions with high fruit-growing productivity (Mazowieckie and Łódzkie voivodeships). Farmers from voivodeships located in mountain areas, i.e. Śląskie, Małopolskie and Podkarpackie, as well as Lubuskie, benefitted from the lowest amount of subsidies for crop production. The share of farms benefitting from subsidies for crop production from these regions did not exceed 10% of all farms with subsidies for crop production.

Figure 5. Number of farms benefitting from subsidies for crop production in Poland in 2007-2016



Source: Own elaboration based on FADN data.

In all analysed regions, the number of farms receiving subsidies for crop production decreased in 2017-2016. The highest average rate of change in the number of farms with subsidies for crop production was recorded in the following provinces: Małopolskie (12.04%) and Podlaskie (16.35%) (Table 19). The smallest average annual changes in the number of farms with subsidies for crop production were recorded in the Kujawsko-Pomorskie (2.59%) and Świętokrzyskie (2.18%) voivodeships. Small changes in the number of farms with subsidies for crop production were also typical of Lubelskie (4.43%) and Zachodniopomorskie (4.27%) voivodeships. In 2016, compared to 2007, there was an increase in regional differences in the number of farms benefitting from subsidies for crop production in Poland. The variance coefficient changed from 69.98% to 72.81% and the ratio of the 4 most numerous to 4 least numerous voivodeships changed from 4.92 to 5.92, which indicates that there was a process of deepening disparities at the regional level – the distance between voivoideships with the highest and lowest number of subsidy beneficiaries increased.

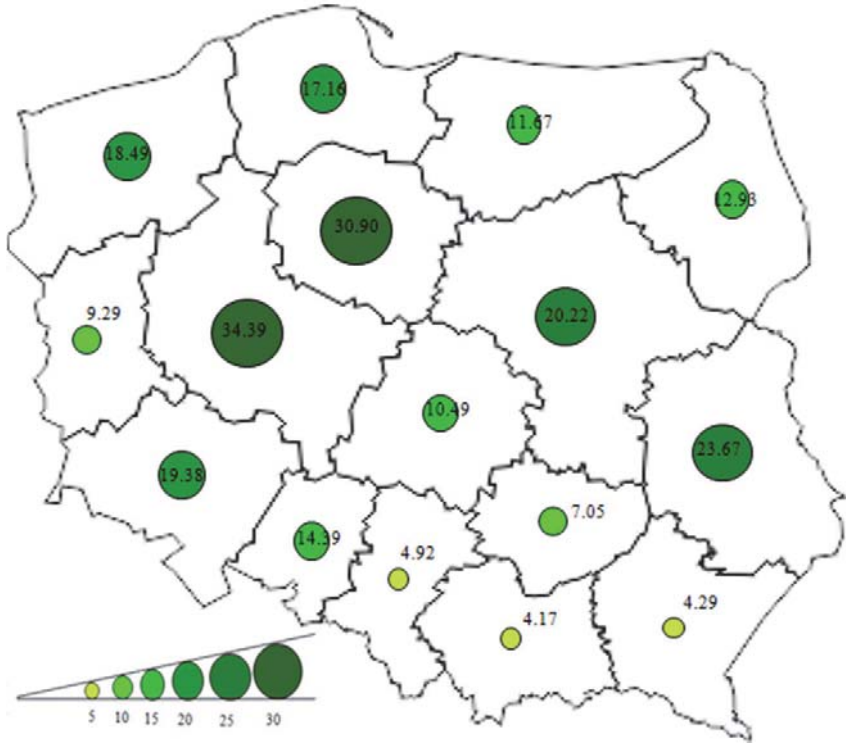
Table 19. Changes in the number of farms benefitting from subsidies for crop production in Poland in 2007-2016 – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	129	174	135.08	11	567	45.68	-8.34
Kujawsko-Pomorskie	341	401	117.78	38	1151	78.97	-2.59
Lubelskie	325	324	99.64	15	1051	66.51	-4.43
Lubuskie	52	68	130.88	2	207	53.62	-6.69
Łódzkie	221	280	126.66	3	936	41.03	-9.43
Małopolskie	88	125	142.23	0	422	31.52	-12.04
Mazowieckie	362	497	137.14	13	1643	40.66	-9.52
Opolskie	111	141	127.15	4	437	49.66	-7.48
Podkarpackie	74	84	113.86	1	273	54.21	-6.58
Podlaskie	157	278	177.81	15	932	20.06	-16.35
Pomorskie	145	190	131.12	3	568	58.80	-5.73
Śląskie	64	80	124.62	1	250	50.00	-7.41
Świętokrzyskie	110	104	94.26	2	294	81.97	-2.18
Warmińsko-Mazurskie	109	150	137.65	1	460	51.96	-7.02
Wielkopolskie	422	543	128.51	56	1827	43.08	-8.93
Zachodniopomorskie	122	123	100.46	24	379	67.55	-4.27

Source: Own elaboration based on FADN data.

The average value of subsidies for crop production in the analysed voivodeships oscillated at the level of PLN 4.17 million to PLN 34.39 million. The subsidies for crop production in the regions were characterized by extremely high variability (204.83%). The highest total amount of subsidies for crop production was recorded in the following regions: Wielkopolskie, Kujawsko-Pomorskie, Lubelskie and Mazowieckie. The share of subsidies for crop production paid to farmers from these regions accounted for 44.85% of the total amount of subsidies for crop production. In two voivodeships: Wielkopolskie and Kujawsko-Pomorskie, the total amount of subsidies paid for crop production was higher than average for all voivodeships. In three regions: Małopolskie, Podkarpackie and Śląskie, the value of subsidies for crop production was the lowest in the whole country – it did not exceed PLN 5 million. In Lubuskie and Łódzkie regions, which were characterized by the highest number of farms benefitting from subsidies for crop production, the subsidy amount was relatively low – it oscillated around PLN 10 million (Figure 6).

Figure 6. Subsidies for crop production on farms in Poland in 2007-2016 (in PLN million)



Source: Own elaboration based on FADN data.

In the analysed years, in the majority of regions there was an extremely large variation in subsidies for crop production. In 2016, compared to 2007, there was an increase in regional differences in the amount of subsidies paid for crop production in Poland. A change in the variance coefficient from 59.38% to 100.68% indicates that there has been a process of deepening the diversification of the level of support for crop production at the regional level. The largest reduction in subsidies for crop production between 2007 and 2016 was recorded in the majority of voivodeships (Dolnośląskie, Lubuskie, Łódzkie, Małopolskie, Mazowieckie, Opolskie, Podlaskie, Śląskie, Warmińsko-Mazurskie, Wielkopolskie and Zachodniopomorskie). This reduction oscillated around 80-90%. The average rate of change was over 20%. In the following regions: Kujawsko-Pomorskie, Lubelskie and Świętokrzyskie, the payments for plant production were slightly less volatile than for the other voivodeships. The average annual rate of change in subsidies for crop production was also lower, fluctuating at 10-12% (Table 20).

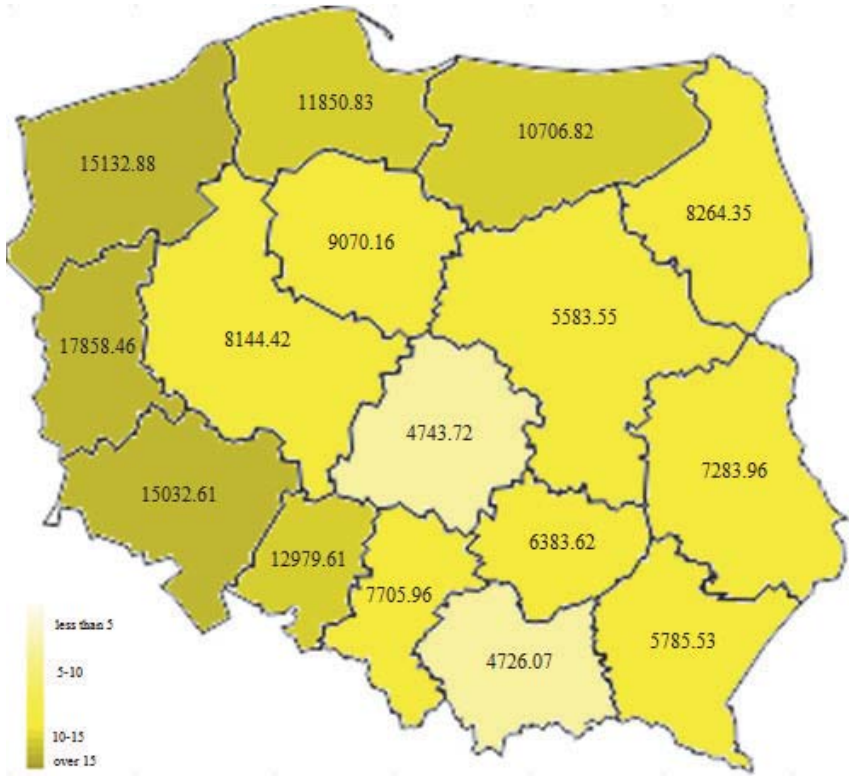
Table 20. Changes in the amount of subsidies for crop production on farms in Poland in 2007-2016 (in PLN million) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	1.94	4.59	236.88	0.08	14.91	11.33	-21.49
Kujawsko-Pomorskie	3.09	5.61	181.69	0.30	17.99	38.75	-10.00
Lubelskie	2.37	2.96	125.08	0.09	10.16	38.18	-10.15
Lubuskie	0.93	2.23	239.97	0.01	7.24	9.13	-23.36
Łódzkie	1.05	2.56	244.14	0.01	8.31	10.04	-22.54
Małopolskie	0.42	0.82	195.84	0.00	2.72	7.98	-24.49
Mazowieckie	2.02	4.37	216.23	0.10	14.31	15.12	-18.93
Opolskie	1.44	3.20	222.49	0.05	10.41	14.38	-19.39
Podkarpackie	0.43	0.81	189.39	0.01	2.71	18.11	-17.29
Podlaskie	1.29	2.81	216.96	0.07	9.23	4.04	-29.99
Pomorskie	1.72	3.76	218.83	0.03	12.21	19.15	-16.78
Śląskie	0.49	1.20	244.67	0.01	3.91	8.00	-24.47
Świętokrzyskie	0.70	0.80	113.16	0.03	2.76	30.18	-12.46
Warmińsko-Mazurskie	1.17	2.84	242.92	0.01	9.20	8.76	-23.71
Wielkopolskie	3.44	7.73	224.81	0.42	25.20	16.53	-18.13
Zachodniopomorskie	1.85	3.99	215.94	0.19	13.14	13.15	-20.18

Source: Own elaboration based on FADN data.

Calculated per one agricultural holding, the average amount of subsidies for crop production in the analysed farms was PLN 9,453.29. The highest average amount of subsidies per one agricultural farm was recorded in the Zachodniopomorskie (PLN 15,132,88), Lubuskie (PLN 17,858.46) and Dolnośląskie (PLN 15,032.61). These are regions in which payments for crop production per one farm were almost twice as high as the average for all regions. By far the highest level of subsidies for crop production per one agricultural holding was recorded in the Lubuskie voivodeship (207.78% of the average). The average was also exceeded by agricultural holdings from three voivodeships (Opolskie, Pomorskie and Warmińsko-Mazurskie). This is due to the fact that the regions of northern and western Poland are characterized by high specialization of production resulting from a high concentration of technologically similar crops and a relatively more favourable agrarian structure. These are the regions where the cultivation of sugar beet, cereals and oilseeds is the highest in the country (Krasowicz and Kopiński, 2006). The lowest level of subsidies for crop production per one agricultural holding was recorded in Małopolskie and Świętokrzyskie voivodeships. Their value per one agricultural holding did not exceed PLN 5,000. In most regions, the amount of subsidies for crop production per one agricultural holding was in the range of PLN 5-10 thousand (Figure 7).

Figure 7. Subsidies for crop production per one agricultural holding in Poland in 2007-2016 (in PLN thousand)



Source: Own elaboration based on FADN data.

The subsidies for crop production per one agricultural holding in the analysed years were characterized by high diversification (variance coefficient = 42.94%). In 2007, the value of the variance coefficient in subsidies for crop production per one agricultural holding amounted to 54.66%, while in 2016 it decreased to 45.13%. This means reducing the variation in subsidies for crop production per one agricultural holding at the regional level. The highest indicator of the variation in subsidies for crop production was recorded in agricultural holdings from the following regions: Lubuskie (119.88%), Małopolskie (123.97%), Mazowieckie (114.34%), Pomorskie (114.60%), Śląskie (105, 46%) and Świętokrzyskie (132.55%) (Table 21). The amount of additional payments per one agricultural holding in 2016, as compared to 2007, decreased by half (from PLN 16,830.91 to PLN 4,583.10). In the analysed years, the highest decrease in subsidies for crop production per one agricultural holding was recorded in the following regions: Lubuskie, Śląskie and Warmińsko-Mazurskie.

These subsidies decreased by over 80%. The average rate of change was around 18%. Lower decreases in subsidies for crop production were recorded in Kujawsko-Pomorskie and Lubelskie regions. On average, from year to year subsidies for crop production per one agricultural holding in these voivodeships decreased by 5-7%.

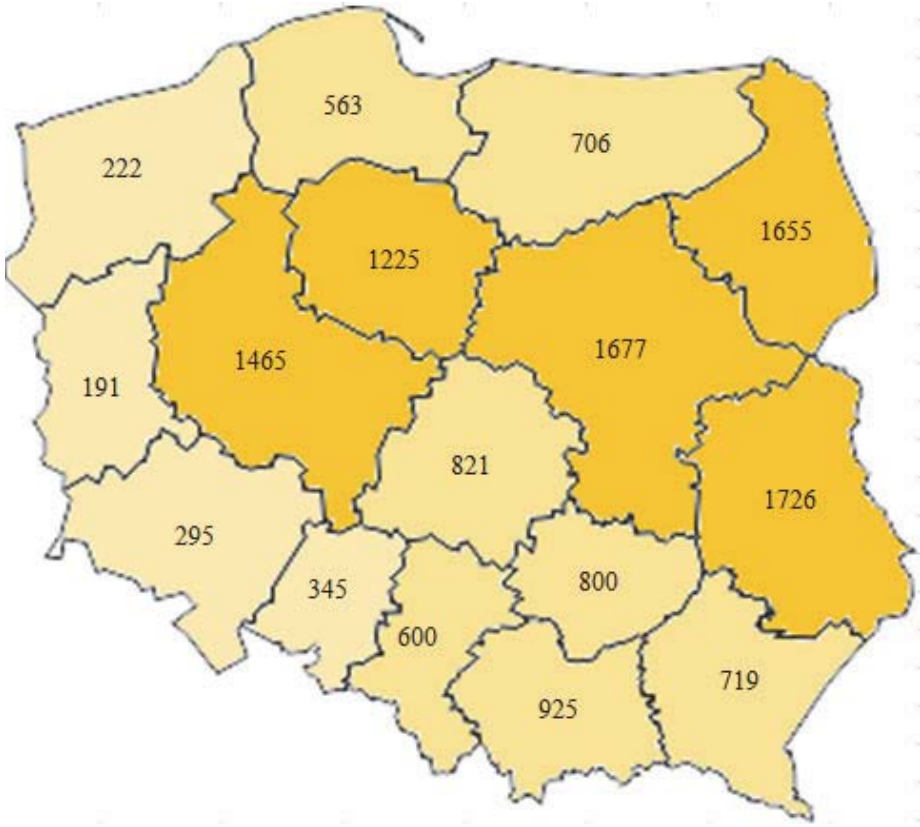
In 2011-2016, a total of 13,935 farms benefitted from subsidies for animal production. The subsidies for animal production from 2011 to 2014 were implemented only in six voivodeships: Dolnośląskie, Lubelskie, Małopolskie, Podkarpackie, Śląskie and Świętokrzyskie. From 2015, farmers from all regions received subsidies for animal production. The largest number of farms that got subsidies for animal production was recorded in five voivodeships: Wielkopolskie, Kujawsko-Pomorskie, Mazowieckie, Lubelskie and Podlaskie. These farms accounted for 55.60% of all farms benefitting from subsidies for animal production. These were the regions in which payments to livestock production were paid from 2015, with the exception of the Lubelskie Voivodeship. These are voivodeships with relatively high stocking density, especially in the case of pigs (Wielkopolskie and Kujawsko-Pomorskie voivodeships) and intensive animal production as well as the highest share of animal production in commodity production, mainly milk production, in comparison to other voivodeships (Podlaskie). In addition, these voivodeships are characterized by the lowest share of crop production in commodity agricultural production (Krasowicz and Kopiński, 2006). Farmers from Zachodniopomorskie, Lubuskie, Dolnośląskie and Opolskie voivodeships received the lowest amount of subsidies for animal production. The share of farms using subsidies for animal production in these regions totaled 7.56% of all farms with subsidies for animal production (Figure 8). This is mainly due to the fact that specialization in plant production is clearly visible in western and northern Poland, with a significant reduction in livestock production.

Table 21. Changes in the amount of subsidies for crop production per one agricultural holding in Poland in 2007-2016 (in PLN thousand) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	9,357.45	8,922.55	95.35	3,158.18	26,305.01	24.80	-14.35
Kujawsko-Pomorskie	7,432.59	5,528.28	74.38	2,155.66	17,026.37	49.07	-7.61
Lubelskie	8,026.47	5,727.70	71.36	1,047.49	19,763.42	57.40	-5.98
Lubuskie	16,432.02	19,698.64	119.88	2,491.75	58,968.43	17.02	-17.86
Łódzkie	3,430.87	3,221.11	93.89	497.34	9,549.86	24.48	-14.48
Małopolskie	6,484.63	8,039.29	123.97	0.00	25,619.14	25.32	-14.15
Mazowieckie	5,978.23	6,835.24	114.34	1,051.92	23,201.21	37.19	-10.41
Opolskie	9,288.39	9,189.27	98.93	2,060.40	25,370.00	28.96	-12.86
Podkarpackie	6,425.42	5,351.37	83.28	1,327.48	15,277.17	33.40	-11.47
Podlaskie	8,746.92	6,795.68	77.69	1,721.69	22,089.22	20.14	-16.31
Pomorskie	11,075.63	12,692.47	114.60	1,057.37	43,150.35	32.56	-11.72
Śląskie	6,320.24	6,665.20	105.46	1,586.37	18,296.75	16.00	-18.43
Świętokrzyskie	20,438.65	27,092.19	132.55	575.09	72,135.38	36.82	-10.51
Warmińsko-Mazurskie	7,819.52	6,127.95	78.37	2,424.39	19,997.26	16.85	-17.95
Wielkopolskie	5,606.33	4,220.20	75.28	1,575.27	13,793.28	38.36	-10.10
Zachodniopomorskie	10,668.64	9,490.77	88.96	4,077.23	34,675.59	19.47	-16.63

Source: Own elaboration based on FADN data.

Figure 8. Number of farms benefitting from subsidies for animal production in Poland in 2011-2016



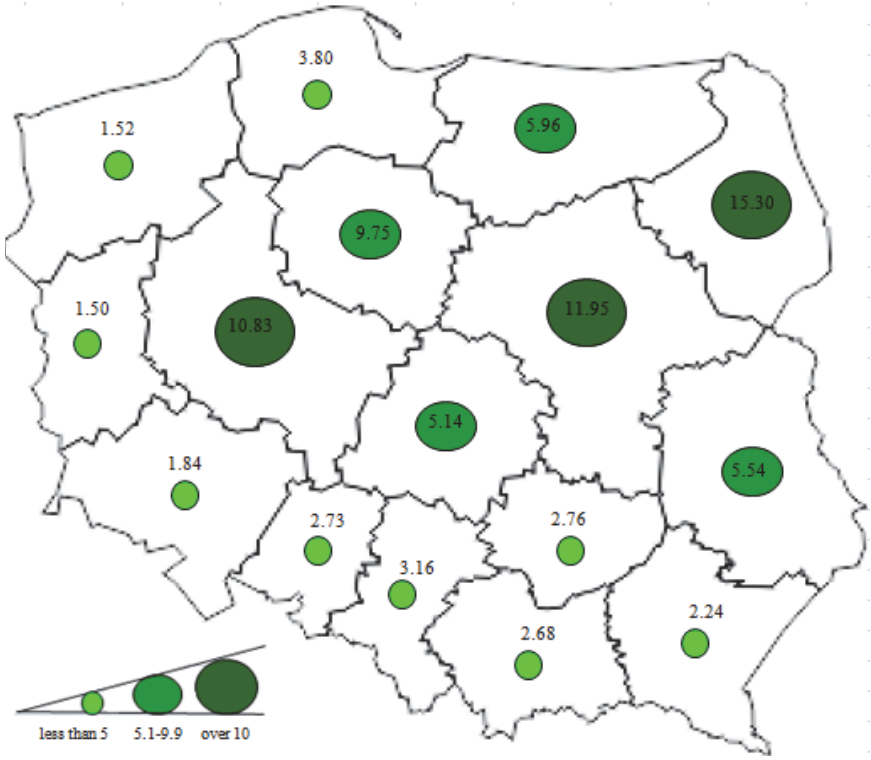
Source: Own elaboration based on FADN data.

In voivodeships where animal production subsidies were implemented since 2011, the largest diversification of the number of farms was characteristic of entities from Dolnośląskie (variance coefficient = 148.92%). On the other hand, the low variance coefficient in the number of farms with subsidies for animal production was recorded in three voivodeships: Podkarpackie (7.71%), Lubelskie (11.20%) and Małopolskie (11.2%). The largest increase in the number of farms with subsidies for animal production was recorded in the Dolnośląskie Voivodeship. From 2007 to 2016, the number of farms with subsidies for animal production in this region increased from 3 to 157. Since 2015, there has been a significant increase in the number of farms with subsidies for animal production. In 2007-2014, the number of farms with subsidies for animal production amounted to 3,128 while in 2015-2016 it more than tripled (10,803). In 2015, compared to 2016, the number of farms with subsidies for animal pro-

duction increased in all voivodeships with the exception of Opolskie voivodeship, where the number of such farms decreased by 5.08%. The highest dynamics of the growth in the number of farms with subsidies for animal production was noted for the voivodeships with the largest number of farms with subsidies for animal production, i.e. Wielkopolskie (173.13%), Kujawsko-Pomorskie (156.81%) and Lubelskie (140.09%).

Voivodeships in which the highest values of subsidies for animal production were recorded were mainly located in central and eastern Poland (voivodeship: Wielkopolskie, Kujawsko-Pomorskie, Łódzkie, Mazowieckie, Podlaskie, Lubelskie and Warmińsko-Mazurskie) (Figure 9). In all of these regions, the value of subsidies for livestock production was above the national average. Agricultural holdings from these regions were characterized by more than two-fold increase in subsidies for animal production between 2015 and 2016. In other regions, the value of subsidies for animal production did not exceed PLN 4 million. In these regions, an increase in subsidies for animal production was also recorded. Agricultural farms with subsidies for animal production from the Wielkopolskie, Mazowieckie and Podlaskie voivodeships received in total over PLN 38 million in 2015-2016, which accounted for 43.92% of the total amount of subsidies for animal production.

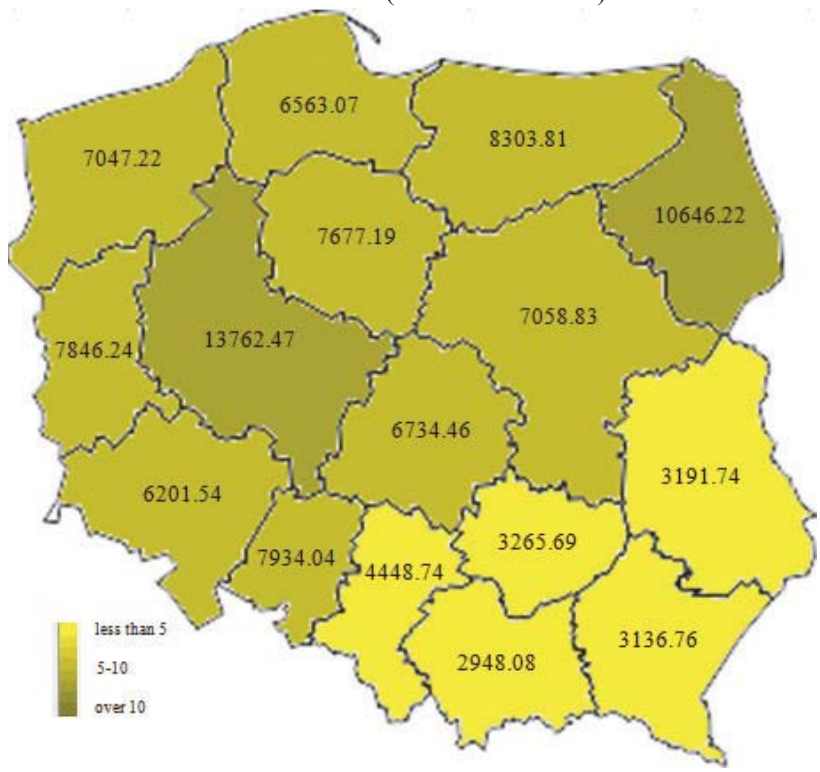
Figure 9. Support for animal production on farms in Poland in 2011-2016 (in PLN million)



Source: Own elaboration based on FADN data.

Calculated per one agricultural farm, the average amount of subsidies for animal production on the analysed farms was PLN 6,223.04. The highest amount of subsidies per one agricultural farm was recorded in Wielkopolskie voivodeship (PLN 13,762.47) and Podlaskie voivodeship (PLN 10,646,22). In the majority of the analysed regions, the average amount of subsidies for animal production per one agricultural holding exceeded the average for all analysed voivodeships. The lowest level of subsidies for animal production per one agricultural holding was recorded in the regions of southern and eastern Poland, in the Małopolskie, Świętokrzyskie, Śląskie, Podkarpackie and Lubelskie voivodeships. Their value per one agricultural holding did not exceed PLN 4,500 (Figure 10).

Figure 10. Support for animal production per one agricultural holding in Poland in 2011-2016 (in PLN thousand)



Source: Own elaboration based on FADN data.

In 2011-2016, the lowest rate of variation in subsidies for animal production per one agricultural holding was found on farms located in Dolnośląskie voivodeship (22.41%). Slightly higher diversification rates were recorded in Lubelskie (69.74%) and Śląskie (53.38%). In Dolnośląskie, Lubelskie, Małopolskie, Podkarpackie, Śląskie and Świętokrzyskie voivodeships, systematically from year to year, the subsidies for animal production per one farm were increased. In 2015, as compared to 2016, the subsidies for animal production per one agricultural farm increased in all analysed regions (to the largest extent in Śląskie, Podkarpackie and Lubelskie voivodeships). During this period, the average value of subsidies for animal production increased from PLN 5,504.08 to PLN 79,449.04. In 2016, there was an increase in regional differences in Poland compared to 2015 – a change in the variation coefficient from 19.71% to 20.86%.

In 2007-2016, a total of 70,662 agricultural holdings benefitted from subsidies for rural development. The largest number of farms that received subsidies for rural development was recorded in two voivodeships: Mazowieckie

(11,219) and Wielkopolskie (10,707) (Figure 11). They accounted for 31.03% of all farms benefitting from subsidies for rural development. A high percentage of farms with subsidies for rural development was also characteristic of the following voivodeships: kujawko-Pomorskie (9.82%), Podlaskie (11.30%) and Łódzkie (7.71%). In total, in the five voivodeships, over 42 thousand farms benefitted from subsidies for rural development, which constituted about 60% of all farms with subsidies for rural development. To the lowest extent, subsidies for rural development were received by farmers from voivodeships located in mountain areas such as Śląskie (1,017), Świętokrzyskie (1,999) and Podkarpackie (1,524). The share of farms, from these regions, benefitting from subsidies for rural development ranged from 1.5% to 2.8% of all farms with subsidies for rural development. In the remaining voivodeships, this share amounted to an average of 3%, with the exception of Lubelskie (6.99%), Pomorskie (4.95%) and Warmińsko-Mazurskie (5.36%).

In the majority of voivodeships analysed, the number of farms receiving subsidies for rural development increased. The following are the exceptions: Lubelskie, Małopolskie, Opolskie and Podkarpackie voivodeships. The highest average rate of change in the number of farms with subsidies for rural development was recorded in the following provinces: Kujawsko-Pomorskie (7.04%) and Warmińsko-Mazurskie (6.66%) (Table 22). The lowest average annual changes in the number of farms with subsidies for the development of rural areas were recorded in the Zachodniopomorskie (0.32%), Mazowieckie (0.60%) and Łódzkie (0.98%) voivodeships. Small average changes in the number of farms with subsidies for rural development were also characteristic of the Dolnośląskie (1.36 %), Pomorskie (1.97%) and Wielkopolskie (1.47%) voivodeships. In 2016, compared to 2007, there was an increase in regional differences in the number of farms benefitting from subsidies for rural development in Poland. The change in the variance coefficient from 75.89% to 76.60% and the ratio of the 5 largest averages to the 5 smallest rose from 4.90 to 17.44, indicating that there has been a process of deepening disparities at the regional level. The distance between voivodeships to the greatest extent benefitting from subsidies for the development of rural areas and voivodeships where the use of subsidies for rural development was the smallest has significantly increased.

Figure 11. Number of farms benefitting from subsidies for rural development in Poland in 2007-2016

Source: Own elaboration based on FADN data.

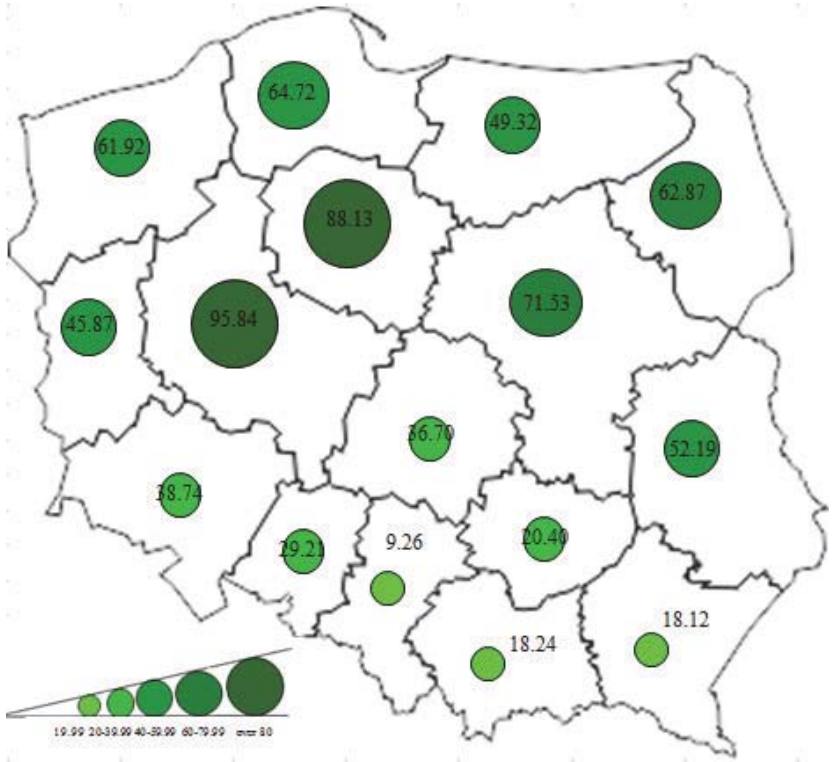
Table 22. Changes in the number of farms benefitting from subsidies for rural development in Poland in 2007-2016 – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	129	174	135.08	11	567	112.93	1.36
Kujawsko-Pomorskie	341	401	117.78	38	1151	184.45	7.04
Lubelskie	325	324	99.64	15	1051	84.27	-1.88
Lubuskie	52	68	130.88	2	207	141.76	3.95
Łódzkie	221	280	126.66	3	936	109.20	0.98
Małopolskie	88	125	142.23	0	422	69.89	-3.90
Mazowieckie	362	497	137.14	13	1643	105.53	0.60
Opolskie	111	141	127.15	4	437	60.50	-5.43
Podkarpackie	74	84	113.86	1	273	86.39	-1.61
Podlaskie	157	278	177.81	15	932	148.27	4.47
Pomorskie	145	190	131.12	3	568	119.23	1.97
Śląskie	64	80	124.62	1	250	135.44	3.43
Świętokrzyskie	110	104	94.26	2	294	152.32	4.79
Warmińsko-Mazurskie	109	150	137.65	1	460	178.68	6.66
Wielkopolskie	422	543	128.51	56	1827	114.00	1.47
Zachodniopomorskie	122	123	100.46	24	379	102.89	0.32

Source: Own elaboration based on FADN data.

The subsidies for rural development in the analysed years were characterized by very low variability (15.90%). The highest subsidies for rural development were recorded in the following regions: Wielkopolskie and Kujawsko-Pomorskie. The share of subsidies for rural development paid to farmers from these regions accounted for 24.11% of the total amount of subsidies for rural development. In these voivodeships, the total amount of subsidies paid to rural development was higher than average for all voivodeships. In the regions of southern Poland (Śląskie, Małopolskie and Podkarpackie), the value of subsidies for rural development was the lowest in the whole country – it did not exceed PLN 20 million. In Śląskie, the subsidy amount was relatively low – it oscillated around PLN 10 million (Figure 12).

Figure 12. Subsidies for rural development in Poland in 2007-2016
(in PLN million)



Source: Own elaboration based on FADN data.

Farms where the subsidies for the development of rural areas in the analysed years increased almost twice were located in the Kujawsko-Pomorskie, Świętokrzyskie and Warmińsko-Mazurskie. In Kujawsko-Pomorskie, the average

annual increase in subsidies for the development of rural areas accounted for 12.17%. Decreases in subsidies for rural development were recorded in Zachodniopomorskie, Lubuskie and Opolskie voivodeships. In Zachodniopomorskie, subsidies for rural development decreased on average by 2.88% year on year. In Lubelskie and Opolskie, the reduction in subsidies for rural development oscillated at 1% per year. The regional diversification of subsidies for rural development in 2016 compared to 2007 did not change significantly (Table 23).

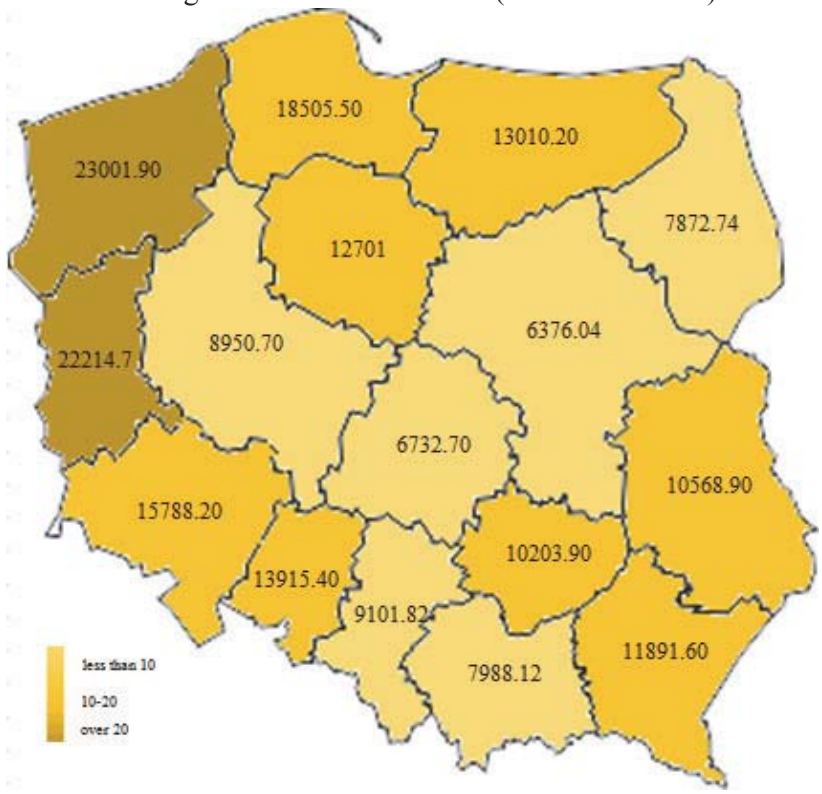
Table 23. Changes in the amount of subsidies for rural development in Poland in 2007-2016 (in PLN million) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	3.87	0.54	13.92	3.17	4.63	101.98	0.22
Kujawsko-Pomorskie	8.81	3.21	36.41	3.03	14.70	281.17	12.17
Lubelskie	5.22	0.95	18.18	3.53	6.88	150.28	4.63
Lubuskie	4.59	1.00	21.77	3.11	5.84	91.54	-0.98
Łódzkie	3.67	0.44	12.01	3.02	4.41	115.69	1.63
Małopolskie	1.82	0.27	14.64	1.25	2.11	106.18	0.67
Mazowieckie	7.15	0.85	11.84	5.87	8.46	116.80	1.74
Opolskie	2.92	1.05	35.82	1.52	4.26	92.17	-0.90
Podkarpackie	1.81	0.29	16.26	1.35	2.23	144.36	4.16
Podlaskie	6.29	1.04	16.46	3.95	7.33	171.07	6.15
Pomorskie	6.47	1.45	22.41	4.16	8.02	106.58	0.71
Śląskie	0.93	0.21	22.61	0.47	1.20	169.93	6.07
Świętokrzyskie	2.04	0.47	23.22	1.12	2.66	198.42	7.91
Warmińsko-Mazurskie	4.93	1.02	20.64	2.82	6.43	186.65	7.18
Wielkopolskie	9.58	1.48	15.48	6.68	11.19	116.72	1.73
Zachodniopomorskie	6.19	1.38	22.27	3.78	7.82	76.90	-2.88

Source: Own elaboration based on FADN data.

Calculated per one agricultural farm, the average amount of subsidies for rural development in the analysed regions was PLN 12,426.65. The highest amounts of subsidies per one agricultural holding were recorded in the Zachodniopomorskie (PLN 2,3001.86) and Lubuskie (PLN 2,221.71) voivodeships. In these regions subsidies for the development of rural areas per one farm were almost twice as high as the average for all voivodeships. The average was also exceeded by agricultural holdings from five other voivodeships (Kujawsko-Pomorskie, Opolskie, Pomorskie and Warmińsko-Mazurskie). The lowest level of subsidies for the development of rural areas per one agricultural holding was recorded in two regions of central Poland, namely in Mazowieckie and Łódzkie voivodeships. Their value per one agricultural holding was about PLN 6,000 (Figure 13).

Figure 13. Subsidies for the development of rural areas per one agricultural holding in Poland in 2007-2016 (in PLN thousand)



Source: Own elaboration based on FADN data.

Subsidies for rural development per one agricultural holding in the analysed years were characterized by very low diversification (variance coefficient of 14,35%). In 2007, the value of the variance coefficient in subsidies for rural development per one agricultural holding amounted to 52.90%, while in 2016 it decreased to 28.94%. This means that over the last ten years, the regional diversification of subsidies for rural development per one agricultural holding in individual provinces is almost half as much. In 2007-2016, the highest indicator of the variation in subsidies for rural development was found in agricultural holdings from the following regions: Kujawsko-Pomorskie (22.66%), Lubelskie (23.63%), Śląskie (22.68%) and Opolskie (27.34%) (Table 24). The average amount of subsidies per one agricultural holding in 2016 as compared to 2007 increased (from PLN 7,952.65 to PLN 8,856.47). In the analysed years there was a decline in subsidies for the development of rural areas in four voivodeships (Dolnośląskie, Lubuskie, Pomorskie and Zachodniopomorskie). To the greatest extent, this decrease concerned farms from Lubuskie and Zachodnio-

pomorskie. The average rate of change was 4.74% and 3.18%, respectively. In 2007-2016, subsidies for the development of rural areas per one agricultural farm increased the most in the following regions: Lubelskie, Podkarpackie, Kujawsko-Pomorskie, Opolskie and Małopolskie. This may indicate the development of non-agricultural activity in these regions.

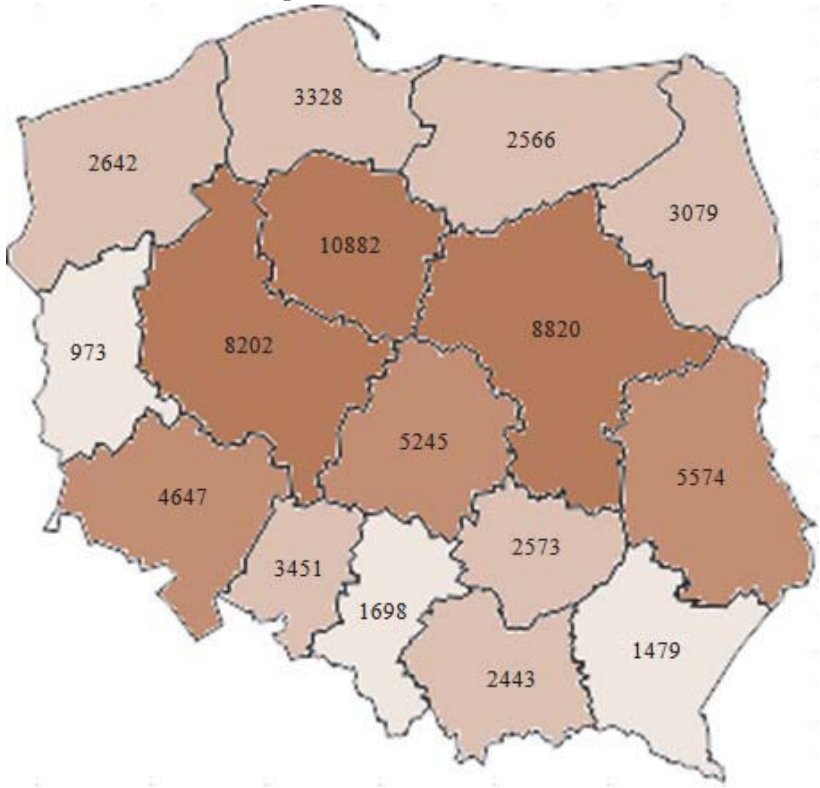
In 2007-2016, a total of 67,602 farms benefitted from subsidies to intermediate consumption. The largest number of farms that received subsidies for intermediate consumption was recorded in the following voivodeships: Wielkopolskie (8,202), Kujawsko-Pomorskie (10,882) and Mazowieckie (8,820) (Figure 14). In total, in voivodeships, over 27 thousand farms have benefitted from subsidies to intermediate consumption, which constituted over 40% of all farms with subsidies for intermediate consumption. These are regions where agriculture is characterized by a high level of production intensity. In Wielkopolskie and Kujawsko-Pomorskie regions, the level of intermediate consumption per 1 ha of UAA is the highest in the country. To the lowest extent, subsidies to intermediate consumption were used by farmers from the Śląskie, Podkarpackie and Lubuskie voivodeships. The share of farms benefitting from subsidies to intermediate consumption from these regions did not exceed a total of 6% of all farms with subsidies for intermediate consumption.

Table 24. Changes in the amount of subsidies for rural development per one agricultural holding in Poland in 2007-2016 (in PLN thousand) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	15,970.62	2,344.98	14.68	12,320.80	18,629.83	90.31	-1.13
Kujawsko-Pomorskie	12,418.94	2,813.98	22.66	7,026.21	16,298.88	152.43	4.80
Lubelskie	10,828.08	2,559.05	23.63	6,162.91	13,564.41	178.35	6.64
Lubuskie	22,278.63	3,928.18	17.63	12,893.43	26,700.52	64.57	-4.74
Łódzkie	6,878.74	1,493.02	21.70	5,342.83	10,337.20	105.94	0.64
Małopolskie	8,185.76	1,490.92	18.21	6,258.06	10,189.08	151.93	4.76
Mazowieckie	6,393.27	766.37	11.99	5,227.35	7,759.91	110.69	1.13
Opolskie	13,848.88	3,786.26	27.34	8,227.12	18,913.54	152.35	4.79
Podkarpackie	12,112.72	2,447.92	20.21	7,989.47	15,240.90	167.11	5.87
Podlaskie	7,952.08	1,175.67	14.78	5,945.31	10,228.32	115.38	1.60
Pomorskie	18,423.55	3,068.30	16.65	13,047.02	22,328.67	89.39	-1.24
Śląskie	9,126.01	2,069.39	22.68	5,957.48	12,034.40	125.46	2.55
Świętokrzyskie	10,175.66	1,443.80	14.19	7,399.72	12,493.39	130.27	2.98
Warmińsko-Mazurskie	12,959.87	1,493.97	11.53	10,366.99	14,816.64	104.46	0.49
Wielkopolskie	8,981.06	1,268.41	14.12	6,774.49	10,558.67	102.39	0.26
Zachodniopomorskie	22,879.58	3,473.43	15.18	15,194.24	28,648.12	74.73	-3.18

Source: Own elaboration based on FADN data.

Figure 14. Number of farms benefitting from subsidies to intermediate consumption in Poland in 2007-2016



Source: Own elaboration based on FADN data.

The number of farms receiving subsidies for intermediate consumption in the analysed years in all voivodeships has increased. The highest average rate of change in the number of holdings with subsidies to intermediate consumption was recorded in the following voivodeships: Warmińsko-Mazurskie (17.25%), Podlaskie (15.79%) and Lubuskie (15.44%) (Table 25). The lowest average annual changes in the number of farms with subsidies to intermediate consumption were recorded in the Małopolskie (5.72%) and Opolskie (6.65%) voivodeships. In 2016, compared to 2007, in the Warmińsko-Mazurskie voivodeship, the number of farms with subsidies to intermediate consumption increased fourfold. In turn, in Lubuskie and Podlaskie voivodeships it rose three times. In 2016, compared to 2007, there was a reduction in regional differences in the number of farms benefitting from subsidies to intermediate consumption (from 69.21% to 67.10%).

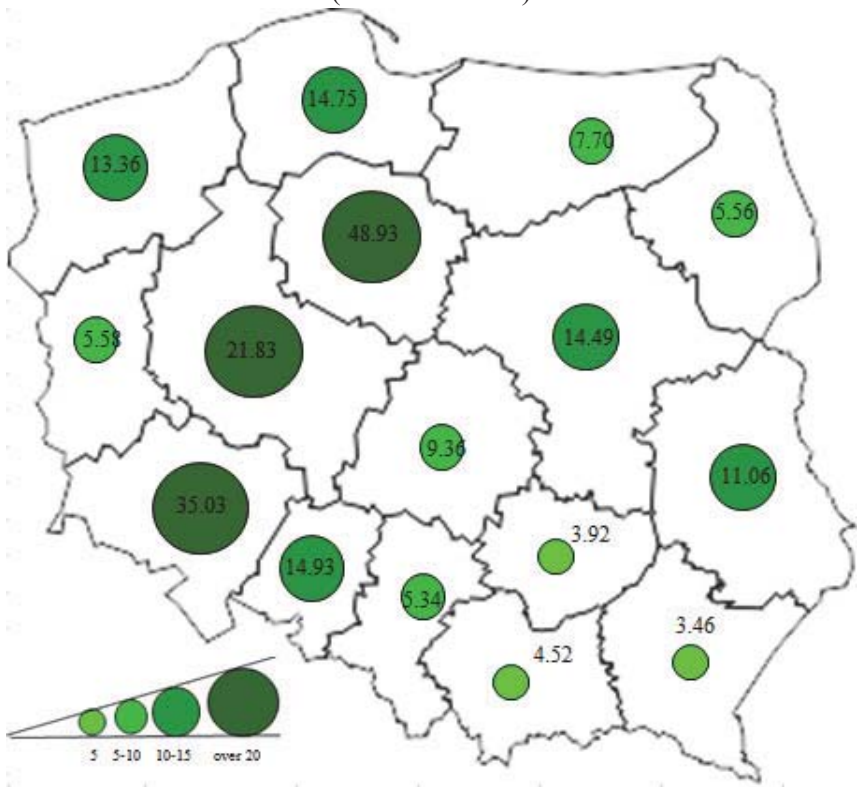
Table 25. Changes in the number of farms benefitting from subsidies to intermediate consumption in Poland in 2007-2016 – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	465	107	23.00	233	577	247.64	10.60
Kujawsko-Pomorskie	1088	256	23.48	575	1373	233.39	9.87
Lubelskie	557	150	26.94	291	750	257.73	11.09
Lubuskie	97	31	32.11	39	142	364.10	15.44
Łódzkie	525	110	20.90	301	667	221.59	9.24
Małopolskie	244	34	14.06	177	292	164.97	5.72
Mazowieckie	882	202	22.90	543	1143	210.50	8.62
Opolskie	345	66	19.04	200	418	178.50	6.65
Podkarpackie	148	30	20.40	92	192	208.70	8.52
Podlaskie	308	123	39.79	139	520	374.10	15.79
Pomorskie	333	66	19.77	182	406	223.08	9.32
Śląskie	170	33	19.73	105	207	187.62	7.24
Świętokrzyskie	257	76	29.46	157	350	209.55	8.57
Warmińsko-Mazurskie	257	82	32.09	85	356	418.82	17.25
Wielkopolskie	820	205	24.99	378	1058	279.89	12.12
Zachodniopomorskie	264	58	21.91	130	321	246.92	10.57

Source: Own elaboration based on FADN data.

In all analysed regions, except for Dolnośląskie and Kujawsko-Pomorskie voivodeships, the share of subsidies to intermediate consumption in the total amount of subsidies paid in 2007-2016 does not exceed 10%. Voivodeships with the lowest share of subsidies to intermediate consumption are located mainly in southern Poland (Małopolskie, Podkarpackie, Śląskie and Świętokrzyskie voivodeships). In all these voivodeships, this share was below 2.5%. In these regions, the amount of subsidies paid in 2007-2016 did not exceed PLN 5 million. In the Dolnośląskie and Kujawsko-Pomorskie voivodeships, the share of subsidies to intermediate consumption accounted for 38.2% of the total amount of subsidies to intermediate consumption. In Kujawsko-Pomorskie voivodeship, the amount of subsidies paid to intermediate consumption was twice as high as the national average (Figure 15).

Figure 15. Subsidies to intermediate consumption in Poland in 2007-2016 (in PLN million)



Source: Own elaboration based on FADN data.

Subsidies to intermediate consumption in all analysed regions increased. The highest increase in subsidies to intermediate consumption between 2007 and 2016 was recorded in two voivodeships: Dolnośląskie and Warmińsko-Mazurskie. The average rate of change was over 20%. In these regions, the largest differentiation of subsidies to intermediate consumption was also noted. In Śląskie, Małopolskie, Wielkopolskie and Zachodniopomorskie regions, subsidies to intermediate consumption were characterized by a slightly lower average annual rate of change (Table 26). In 2016, compared to 2007, there was an increase in regional differences in the amount of subsidies paid to intermediate consumption in Poland. Change in the variance coefficient from 78.14% to 82.81% and the ratio of the average from three voivodeships with the highest subsidies to intermediate consumption to 3 with the lowest subsidies from 3.96 to 3.08 indicates deepening of the process of the diversification of support to intermediate consumption at the regional level. The distance between these regions increases.

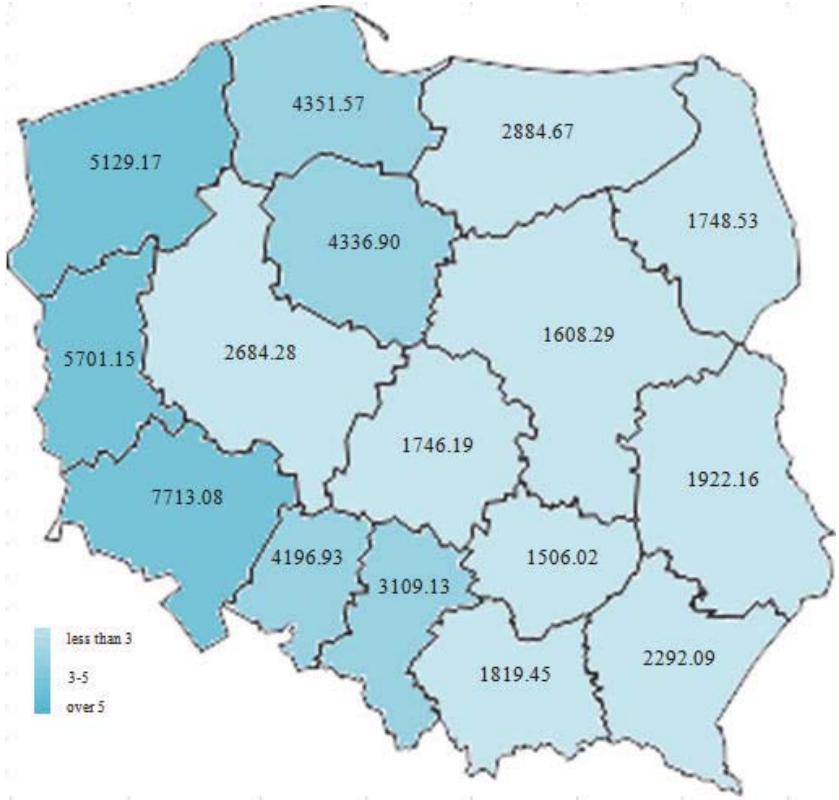
Table 26. Changes in the amount of subsidies to intermediate consumption in agricultural holdings in Poland in 2007-2016 (in PLN million) – regional approach

Voivodeship	Specification						
	Aver-age	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	3.50	3.06	87.40	0.58	11.79	557.57	21.04
Kujawsko-Pomorskie	4.89	1.86	38.08	1.43	7.14	444.93	18.04
Lubelskie	1.11	0.42	38.32	0.39	1.70	437.88	17.83
Lubuskie	0.56	0.18	32.12	0.14	0.81	475.26	18.91
Łódzkie	0.94	0.30	32.42	0.39	1.45	369.90	15.64
Małopolskie	0.45	0.12	27.56	0.25	0.65	264.22	11.40
Mazowieckie	1.45	0.46	31.99	0.62	2.07	332.52	14.28
Opolskie	1.49	0.49	33.00	0.48	1.97	343.15	14.68
Podkarpackie	0.35	0.11	31.96	0.14	0.52	364.35	15.45
Podlaskie	0.56	0.28	49.67	0.23	1.06	469.27	18.74
Pomorskie	1.47	0.43	29.08	0.57	2.09	362.75	15.39
Śląskie	0.53	0.13	24.95	0.26	0.67	240.52	10.24
Świętokrzyskie	0.39	0.14	36.42	0.16	0.57	326.07	14.03
Warmińsko-Mazurskie	0.77	0.30	39.58	0.16	1.16	712.58	24.38
Wielkopolskie	2.18	0.56	25.48	1.17	2.99	255.71	11.00
Zachodniopomorskie	1.34	0.34	25.08	0.95	1.83	192.93	7.57

Source: Own elaboration based on FADN data.

Calculated per one agricultural holding, the average amount of subsidies to intermediate consumption in the analysed farms was PLN 3,296.85. The highest amounts of subsidies per one farm were recorded in the regions of north-western Poland (Zachodniopomorskie – PLN 5,129.17, Lubuskie – PLN 5701.15 and Dolnośląskie – PLN 7,713.08). In Dolnośląskie voivodeship, subsidies to intermediate consumption per one farm were more than twice as high as the average for all voivodeships. The average was also exceeded by agricultural holdings from five regions: Kujawsko-Pomorskie (131.54% of the national average), Lubuskie (172.93%), Opolskie (127.30%), Pomorskie (131.99%) and Zachodniopomorskie (155.58%). The lowest level of subsidies to intermediate consumption per one farm was recorded in Świętokrzyskie (PLN 1,506.02) In most regions, subsidies to intermediate consumption per one farm were below the average for all voivodeships (Figure 16).

Figure 16. Subsidies to intermediate consumption per one agricultural holding in Poland in 2007-2016 (in PLN thousand)



Source: Own elaboration based on FADN data.

Subsidies to intermediate consumption per one agricultural holding in the analysed years in the majority of voivodeships were characterized by low diversity. The highest indicator of diversification of subsidies to intermediate consumption was found in agricultural holdings from Dolnośląskie voivodeship (103.72%). In this region, there was an almost two-fold increase in subsidies for intermediate consumption per one agricultural holding. In 2007-2016, subsidies on these farms increased from PLN 2,468.57 to PLN 5,558.03. The average rate of change was 9.44%. The lowest rates of differentiation of subsidies to intermediate consumption per one agricultural holding were recorded on farms located in the Śląskie (8.98%). The amount of subsidies to intermediate consumption in this region in 2016 compared to 2007 increased from PLN 2,512.80 to PLN 3,221.36. On average, from year to year, these subsidies increased by 2.80% (Table 27). Subsidies to intermediate consumption per one agricultural farm increased in all regions except for Wielkopolskie and Zachodniopomorskie re-

gions. In Zachodniopomorskie subsidies for intermediate consumption per one agricultural holding in 2016 as compared to 2007 decreased by almost 20%. Yearly, these subsidies decreased by 2.70%. In Wielkopolskie voivodeship, this decline fluctuated at 1% from year to year. Between 2007 and 2016, there was a reduction in the differences between the amount of subsidies to intermediate consumption per one agricultural holding (from 63.51% to 41.76%).

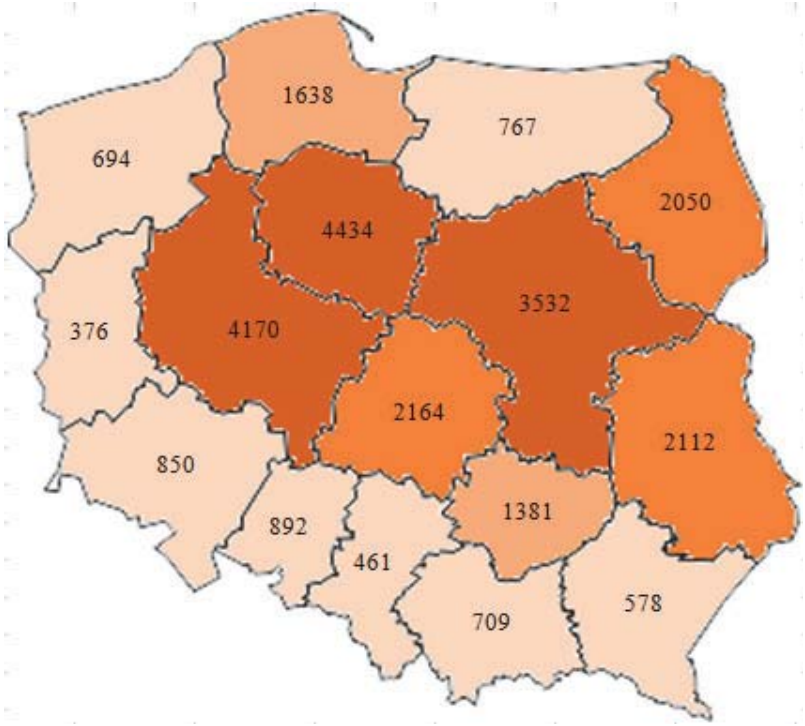
Table 27. Changes in the amount of subsidies to intermediate consumption per one agricultural holding in Poland in 2007-2016 (in PLN thousand) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	7,713.08	7,999.92	103.72	2,468.57	30,226.04	225.15	9.44
Kujawsko-Pomorskie	4,336.90	913.44	21.06	2,490.30	5,344.78	190.64	7.43
Lubelskie	1,922.16	302.09	15.72	1,332.92	2,264.61	169.90	6.07
Lubuskie	5,701.15	1,020.85	17.91	3,560.26	7,002.64	130.53	3.00
Łódzkie	1,746.19	259.40	14.86	1,301.50	2,172.55	166.93	5.86
Małopolskie	1,819.45	270.51	14.87	1,387.51	2,222.25	160.16	5.37
Mazowieckie	1,608.29	201.73	12.54	1,147.98	1,813.45	157.97	5.21
Opolskie	4,196.93	833.60	19.86	2,404.24	5,201.21	192.24	7.53
Podkarpackie	2,292.09	395.08	17.24	1,562.12	2,864.36	174.58	6.39
Podlaskie	1,748.53	188.70	10.79	1,514.62	2,034.73	125.44	2.55
Pomorskie	4,351.57	624.25	14.35	3,158.23	5,310.13	162.61	5.55
Śląskie	3,109.13	279.24	8.98	2,512.80	3,466.64	128.20	2.80
Świętokrzyskie	1,506.02	304.97	20.25	1,031.31	2,197.99	155.60	5.04
Warmińsko-Mazurskie	2,884.67	447.29	15.51	1,915.15	3,258.40	170.14	6.08
Wielkopolskie	2,684.28	328.71	12.25	2,364.53	3,374.08	91.36	-1.00
Zachodniopomorskie	5,129.17	946.81	18.46	4,215.27	7,282.38	78.13	-2.70

Source: Own elaboration based on FADN data.

In 2007-2016, a total of 26,808 farms benefitted from subsidies to investments. The largest number of farms that received subsidies to intermediate consumption was recorded mainly in central and eastern Poland (in Wielkopolskie, Kujawsko-Pomorskie, Mazowieckie, Łódzkie, Lubelskie and Podlaskie voivodeships). They constituted 68.87% of all farms benefitting from investment subsidies. In most provinces, the number of farms with investment subsidies fluctuated below the national average. Farmers from the regions of southern and western Poland received the lowest amount of subsidies for investments (Figure 17).

Figure 17. Number of farms benefitting from subsidies for investments in Poland in 2007-2016



Source: Own elaboration based on FADN data.

In the majority of voivodeships analysed, the number of farms receiving subsidies for investments increased. The highest average rate of change in the number of farms with investment subsidies was recorded in voivodeships with the lowest number of farms receiving this type of support. These are: Dolnośląskie (6.63%), Lubuskie (6.92%), Małopolskie (10.30%), Opolskie (8.23%) and Śląskie (9.65%) (Table 28). In Małopolskie, Opolskie and Śląskie voivodeships the number of farms with subsidies to investments increased two times. In the regions where the largest number of farms with subsidies for investments in 2007-2016 were located, the number of farms decreased. In Kujawsko-Pomorskie voivodeship, on average, the number of farms benefitting from subsidies for investments decreased by 2.90%, in Mazowieckie voivodeship by 4.10% and in Wielkopolskie by 3.89%. The number of farms located in these regions between 2007 and 2016 decreased by one third. In all regions, the analysed group of farms was characterized by the average variance coefficient in the number of farms with subsidies for investments. In 2016, compared to 2007,

there was an increase in regional differences in the number of farms benefitting from investment subsidies in Poland. The change in the variance coefficient from 92.50% to 68.05%, and the ratio of the eight most numerous to the eight least numerous voivodeships in the number of beneficiaries of this subsidy from 5.61 to 2.98 indicate that there was a process of diversification at the regional level – the gap between the most and the least numerous subsidy beneficiaries in a given region.

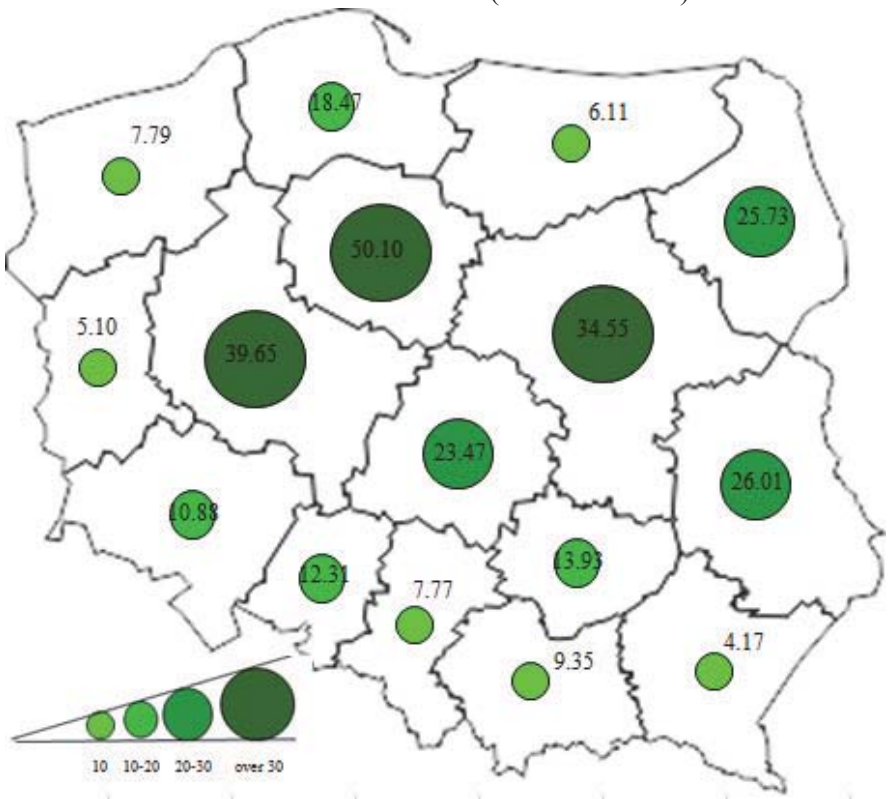
Table 28. Changes in the number of farms benefitting from subsidies for investments in Poland in 2007-2016 – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	85	27	31.82	54	128	178.18	6.63
Kujawsko-Pomorskie	443	48	10.74	359	510	76.74	-2.90
Lubelskie	211	43	20.29	154	272	162.34	5.53
Lubuskie	38	10	25.88	23	49	182.61	6.92
Łódzkie	216	13	5.93	200	236	104.50	0.49
Małopolskie	71	19	27.47	36	96	241.67	10.30
Mazowieckie	353	50	14.07	262	412	68.59	-4.10
Opolskie	89	23	25.59	52	109	203.85	8.23
Podkarpackie	58	14	23.72	43	80	143.64	4.11
Podlaskie	205	38	18.52	139	261	68.14	-4.17
Pomorskie	164	24	14.68	118	183	73.21	-3.40
Śląskie	46	17	37.26	24	73	229.17	9.65
Świętokrzyskie	138	17	12.48	101	156	68.24	-4.16
Warmińsko-Mazurskie	77	19	25.14	38	98	44.71	-8.56
Wielkopolskie	417	86	20.63	238	498	69.95	-3.89
Zachodniopomorskie	69	9	13.10	52	80	150.00	4.61

Source: Own elaboration based on FADN data.

The investment subsidies in the majority of the analysed regions were characterized by high volatility. The highest subsidies for investments were recorded on farms located in central and eastern Poland (Wielkopolskie, Kujawsko-Pomorskie, Mazowieckie, Łódzkie, Lubelskie and Podlaskie voivodeships). The share of subsidies for investments paid to farmers from these regions accounted for 67.54% of the total amount of investment subsidies. In these voivodeships, the amount of subsidies paid to the investment was higher than the national average. In Lubuskie and Podkarpackie voivodeships, the value of investment subsidies was the lowest in the whole country (Figure 18).

Figure 18. Additional payments for investments in agricultural holdings in Poland in 2007-2016 (in PLN million)



Source: Own elaboration based on FADN data.

The average amount of subsidies for investments in agricultural holdings in Poland ranged from PLN 0.4 million to PLN 5 million. In the majority of voivodeships a large diversification of subsidies for investments in 2007-2016 was noted. The highest variance coefficient in subsidies for investments was found in agricultural holdings from the following regions: Podkarpackie, Śląskie, Dolnośląskie, Lubuskie and Lubelskie. The reduction of investment subsidies between 2007 and 2016 was recorded in the Świętokrzyskie. This reduction oscillated around 3%. The average rate of change was 0.32%. In Śląskie voivodeship, investment subsidies in 2016 as compared to 2007 increased sixfold. On average, this value increased by 22.39% year on year and it was the highest in the whole country. Large changes in investment subsidies were also characteristic for farms from Lubelskie, Lubuskie, Opolskie, Podkarpackie and Zachodniopomorskie regions (Table 29). In 2016, compared to 2007, there was a decline in regional differences in the amount of subsidies for investments. A change in the

variance coefficient from 95.79% to 71.52% indicates that there was a process of diversification in the level of investment support in agricultural holdings at the regional level.

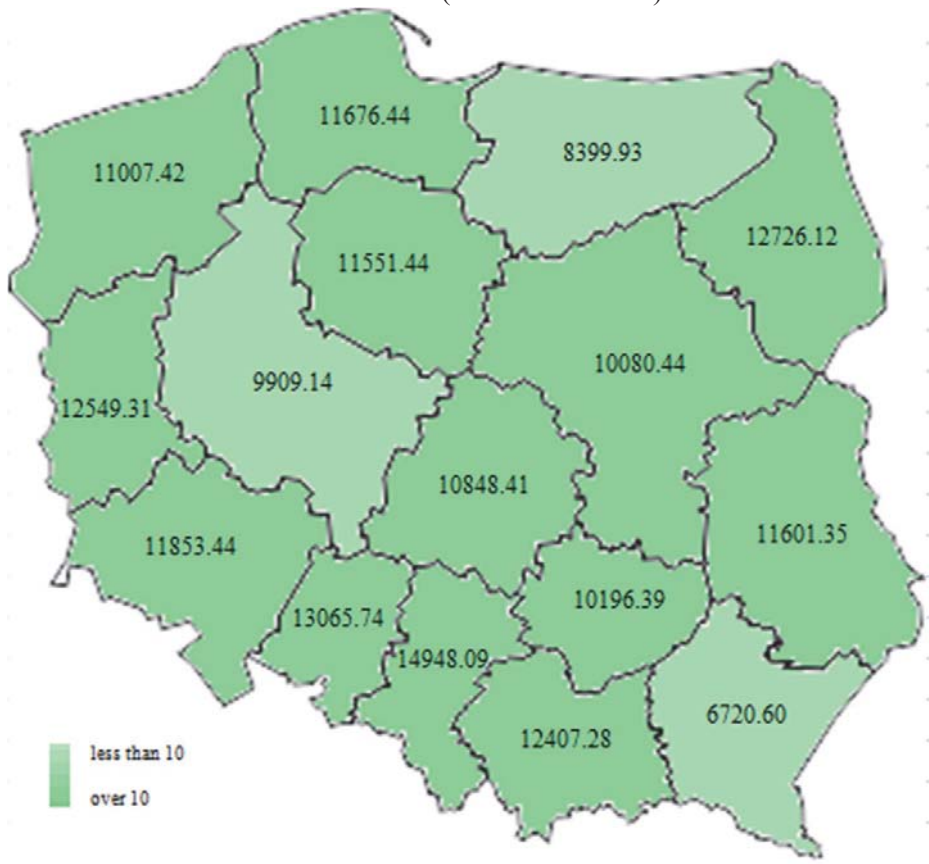
Table 29. Changes in the amount of subsidies for investments in agricultural holdings in Poland in 2007-2016 (in PLN million) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	1.09	0.61	56.35	0.39	2.00	333.61	14.32
Kujawsko-Pomorskie	5.01	1.03	20.48	3.17	6.33	180.79	6.80
Lubelskie	2.60	1.35	51.98	0.85	4.23	489.16	19.29
Lubuskie	0.51	0.27	52.56	0.15	0.88	405.85	16.84
Łódzkie	2.35	0.81	34.41	1.03	3.42	332.01	14.26
Małopolskie	0.94	0.43	45.90	0.19	1.52	659.21	23.31
Mazowieckie	3.46	0.81	23.35	2.58	5.04	139.16	3.74
Opolskie	1.23	0.56	45.22	0.42	1.78	391.75	16.38
Podkarpackie	0.42	0.26	63.14	0.18	0.88	428.01	17.53
Podlaskie	2.57	0.85	33.01	1.25	3.58	163.57	5.62
Pomorskie	1.85	0.43	23.11	1.15	2.41	180.33	6.77
Śląskie	0.78	0.51	65.71	0.17	1.58	616.31	22.39
Świętokrzyskie	1.39	0.18	13.15	1.17	1.72	97.17	-0.32
Warmińsko-Mazurskie	0.61	0.13	21.84	0.42	0.85	108.01	0.86
Wielkopolskie	3.96	0.88	22.10	2.38	5.12	170.86	6.13
Zachodniopomorskie	0.78	0.28	35.86	0.30	1.19	399.98	16.65

Source: Own elaboration based on FADN data.

Calculated per one farm, the average amount of subsidies for investments in the analysed regions was PLN 112,221.35. The highest amounts of subsidies per one farm were recorded in Śląskie voivodeship (PLN 14,948.09) and Opolskie (PLN 13,067.74). The lowest level of subsidies for investments per one agricultural farm was recorded in three voivodeships: Podkarpackie, Warmińsko-Mazurskie and Wielkopolskie. Their value per one agricultural holding did not exceed PLN 10,000 (Figure 19). Between 2007 and 2016, there was a reduction in the differences between the amount of subsidies to investments per one agricultural holding (from 19.34% to 14.72%).

Figure 19. Payments for investments per one agricultural holding in Poland in 2007-2016 (in PLN thousand)



Source: Own elaboration based on FADN data.

The subsidies for investments per one agricultural holding in the analysed regions were mostly characterized by low diversity. The highest rates of investment subsidy differentiation were recorded on farms located in the Lubelskie (36.31%), Łódzkie (34.65%) and Podkarpackie (39.22%) regions. In these regions, an almost threefold increase in investment subsidies was recorded per one farm. The average rate of change was 13.04%, 13.71% and 12.90%, respectively. The lowest rates of differentiation of subsidies for investments per one farm were recorded in Świętokrzyskie voivodeship (15.08%). The amount of subsidies for investments in this region in the analysed years increased from PLN 8,156.66 to PLN 11,613.73. On average, these subsidies increased by 4% year on year (Table 30). The investment subsidies per one farm increased in all regions.

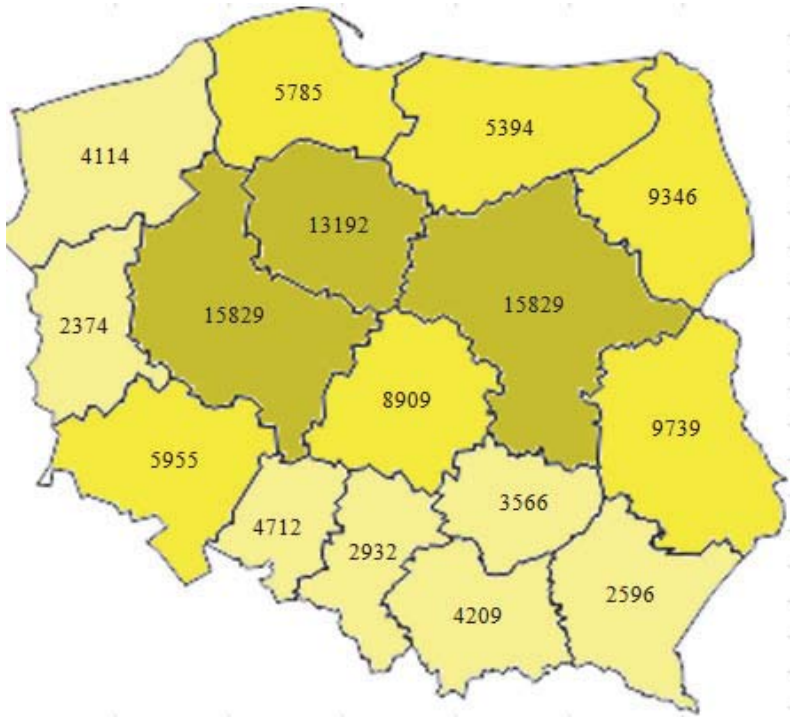
Table 30. Changes in the amount of subsidies for investments per one agricultural holding in Poland in 2007-2016 (in PLN thousand) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	11,853.44	3,555.85	30.00	7,173.00	16,126.47	187.23	7.22
Kujawsko-Pomorskie	11,551.44	3,223.06	27.90	6,694.26	15,998.76	235.58	9.99
Lubelskie	11,601.35	4,212.08	36.31	5,548.73	16,719.46	301.32	13.04
Lubuskie	12,549.31	4,430.50	35.30	6,145.96	17,859.29	222.25	9.28
Łódzkie	10,848.41	3,758.74	34.65	5,154.71	16,377.18	317.71	13.71
Małopolskie	12,407.28	3,452.98	27.83	5,171.28	15,850.90	272.78	11.80
Mazowieckie	10,080.44	3,171.98	31.47	6,491.22	15,475.65	202.90	8.18
Opolskie	13,065.74	3,361.10	25.72	8,114.88	16,482.37	192.18	7.53
Podkarpackie	6,720.60	2,636.00	39.22	3,668.84	11,006.65	297.98	12.90
Podlaskie	12,726.12	3,936.64	30.93	6,131.54	16,672.16	240.05	10.22
Pomorskie	11,676.44	3,786.31	32.43	6,838.49	16,843.71	246.31	10.53
Śląskie	14,948.09	5,798.83	38.79	7,241.21	21,840.74	268.93	11.62
Świętokrzyskie	10,196.39	1,537.47	15.08	8,156.66	11,971.55	142.38	4.00
Warmińsko-Mazurskie	8,399.93	2,376.10	28.29	4,957.47	12,124.98	241.60	10.30
Wielkopolskie	9,909.14	2,937.68	29.65	5,731.94	14,116.01	244.26	10.43
Zachodniopomorskie	11,007.42	3,360.84	30.53	5,714.29	15,535.86	266.65	11.51

Source: Own elaboration based on FADN data.

In 2007-2016, a total of 116,777 farms received decoupled payments. The largest number of farms that received decoupled payments was recorded in three voivodeships: Kujawsko-Pomorskie (13,192), Mazowieckie (15,829) and Wielkopolskie (18,125) (Figure 20). They constituted 40.37% of all farms receiving decoupleded payments. A high percentage of farms with decoupled payments was also found in the following regions: Podlaskie (8%), Łódzkie (7.63%) and Lubelskie (8.34%). In total, in these six regions, decoupled payments received over 75 thousand farms, which accounted for around 64% of all farms with decoupled payments. A small percentage of farms received decoupled payments in voivodeships located in mountain areas (Śląskie (2.51%), Podkarpackie (2.22%) and Lubuskie (2.03%)).

Figure 20. Number of farms benefitting from decoupled payments in Poland in 2007-2016



Source: Own elaboration based on FADN data.

The variance coefficient in the number of farms receiving decoupled payments in all voivodeships oscillated at a very low level, with the exception of Świętokrzyskie voivodeship. In most regions, the number of farms with decoupled payments increased. The highest average rate of change in the number of

farms with decoupled payments was recorded in the following regions: Świętokrzyskie (2.41%), Warmińsko-Mazurskie (2.37%) and Kujawsko-Pomorskie (2.03%) (Table 31). The smallest average annual changes in the number of farms with decoupled payments were recorded in Podlaskie (0.92%), Zachodniopomorskie (0.81%) and Opolskie (0.76%). In 2016, compared to 2007, in Lubelskie, Łódzkie, Małopolskie, Mazowieckie, Podkarpackie, Pomorskie and Wielkopolskie voivodeships the number of farms with decoupled payments decreased by 10%, on average.

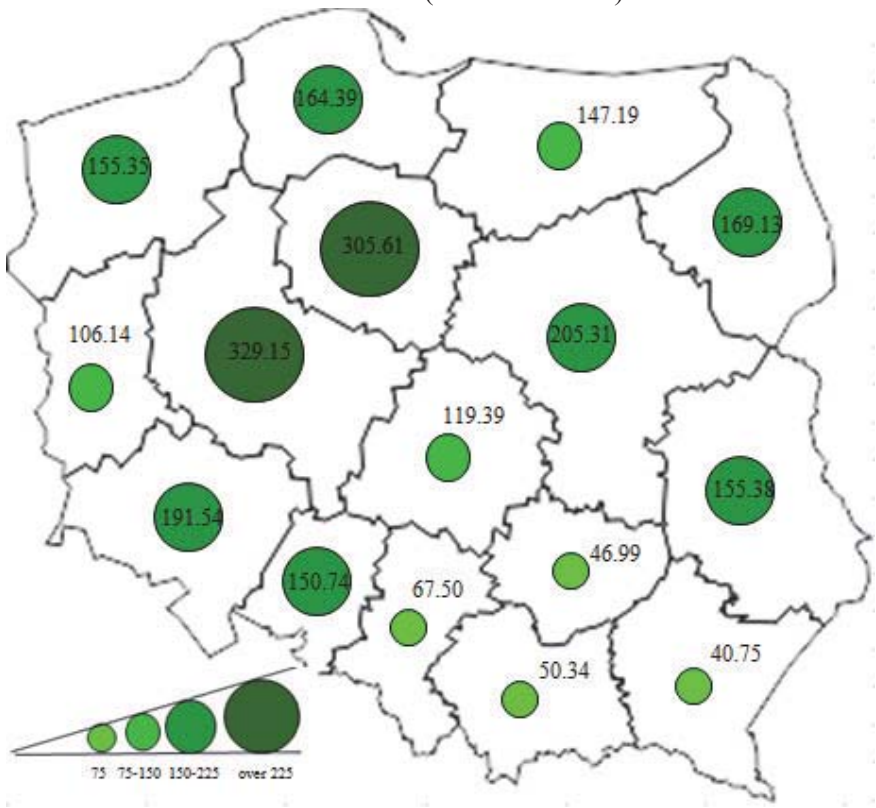
Table 31. Changes in the number of farms with decoupled payments in Poland in 2007-2016 – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	596	39	6.50	540	640	110.92	1.16
Kujawsko-Pomorskie	1319	109	8.26	1190	1435	119.83	2.03
Lubelskie	974	94	9.66	835	1096	92.70	-0.84
Lubuskie	237	13	5.33	215	249	115.81	1.64
Łódzkie	891	53	5.90	822	981	90.32	-1.13
Małopolskie	421	36	8.50	373	486	83.41	-2.00
Mazowieckie	1583	97	6.14	1500	1805	85.48	-1.73
Opolskie	471	28	5.84	437	498	107.03	0.76
Podkarpackie	260	19	7.40	225	284	93.24	-0.77
Podlaskie	935	83	8.89	826	1021	108.64	0.92
Pomorskie	579	20	3.53	552	629	99.14	-0.10
Śląskie	293	20	6.80	265	314	114.23	1.49
Świętokrzyskie	357	47	13.13	299	411	123.93	2.41
Warmińsko-Mazurskie	539	41	7.60	469	581	123.45	2.37
Wielkopolskie	1813	87	4.77	1730	1957	94.13	-0.67
Zachodniopomorskie	411	17	4.12	385	441	107.53	0.81

Source: Own elaboration based on FADN data.

The highest amount of decoupled payments paid in 2007-2016 were recorded in Wielkopolskie and Kujawsko-Pomorskie voivodeships. The share of decoupled payments paid to farmers from these regions represented 26.39% of the total amount of decoupled payments. In the majority of regions, the total amount of decoupled payments was higher than average for all voivodeships. In four regions: Małopolskie, Podkarpackie, Śląskie and Świętokrzyskie, the value of decoupled payments was the lowest in the whole country – it did not exceed PLN 75 million. In Podkarpackie and Świętokrzyskie voivodeships, the share of decoupled payments fluctuated at less than 2% of the total amount of decoupled payments (Figure 21).

Figure 21. Decoupled payments on farms in Poland
in 2007-2016 (in PLN million)



Source: Own elaboration based on FADN data.

In 2007-2016, the average amount of decoupled payments on farms from the analysed regions ranged from PLN 0.4 million to PLN 32.92 million. In the majority of voivodeships a large variation of decoupled payments was noted. The highest variance coefficient in decoupled payments was recorded in agricultural holdings from the following regions: Kujawsko-Pomorskie, Lubelskie, Lubuskie, Podlaskie, Śląskie and Świętokrzyskie. In all analysed voivodeships, between 2007 and 2016, an increase in decoupled payments was noted. In the Kujawsko-Pomorskie, Lubelskie, Opolskie, Śląskie and Świętokrzyskie voivodeships, decoupled payments in 2016 in relation to 2007 doubled. The average rate of change oscillated around 10%. The highest average rate of change in decoupled payments was recorded in the Zachodniopomorskie (4.40%), Wielkopolskie (3.99%), Pomorskie (4.75%) and Mazowieckie (4.87%) voivodeships (Table 32). In 2016, compared to 2007, there was a decline in regional dif-

ferences in Poland in the amount of decoupled payments. A change in the variance coefficient from 58.55% to 56.72% indicates that there was a process of decreasing the variation of decoupled payments at farms at the regional level.

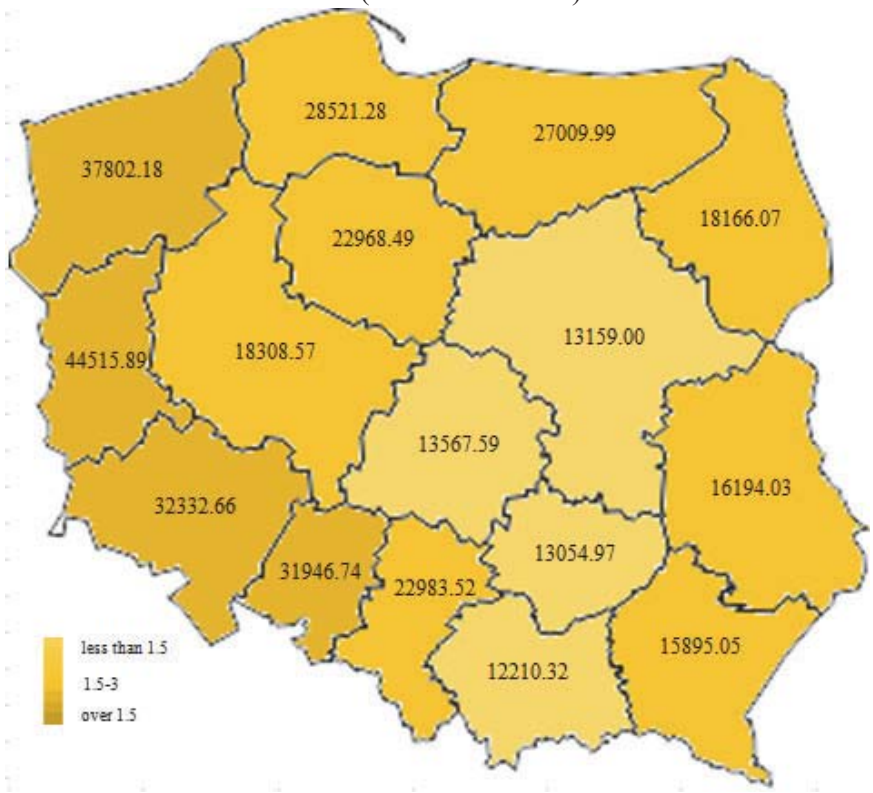
Table 32. Changes in the amount of decoupled payments on farms in Poland in 2007-2016 (in PLN million) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	19.15	6.91	36.09	9.68	31.57	163.80	5.64
Kujawsko-Pomorskie	30.56	12.70	41.57	12.41	53.59	225.10	9.43
Lubelskie	15.54	6.62	42.61	6.56	27.89	220.34	9.17
Lubuskie	10.61	4.26	40.12	4.82	17.48	155.37	5.02
Łódzkie	11.94	4.42	37.06	6.13	19.63	156.97	5.14
Małopolskie	5.03	1.95	38.83	2.29	8.66	178.86	6.67
Mazowieckie	20.53	7.33	35.70	11.03	33.36	153.40	4.87
Opolskie	15.07	6.02	39.92	5.87	24.93	197.41	7.85
Podkarpackie	4.07	1.52	37.39	2.04	6.90	177.10	6.56
Podlaskie	16.91	6.93	40.95	7.61	29.51	186.95	7.20
Pomorskie	16.44	5.90	35.89	8.33	26.45	151.80	4.75
Śląskie	6.75	2.75	40.67	2.67	11.42	207.33	8.44
Świętokrzyskie	4.70	1.98	42.14	2.19	8.50	192.06	7.52
Warmińsko-Mazurskie	14.72	6.02	40.88	6.48	24.74	175.35	6.44
Wielkopolskie	32.92	11.16	33.91	17.37	51.17	142.20	3.99
Zachodniopomorskie	15.54	5.15	33.16	8.18	24.52	147.34	4.40

Source: Own elaboration based on FADN data.

The highest amount of decoupled payments per one farm was recorded in the western Polish regions (Zachodniopomorskie, Lubuskie, Dolnośląskie and Opolskie) (Table 19). These are regions characterized by the smallest fragmentation of the agrarian structure in the country. By far the highest level of decoupled payments per one agricultural holding was recorded in Lubuskie voivodeship (193.23% of the average) and Zachodniopomorskie voivodeship (164.10%). The average was also exceeded by agricultural holdings in four regions: Dolnośląskie (140.35%), Opolskie (138.67%), Pomorskie (123.80%) and Warmińsko-Mazurskie (117.24%). The lowest level of decoupled payments per one agricultural holding was recorded in four voivodeships: Małopolskie and Świętokrzyskie as well as Łódzkie and Mazowieckie. Their value per one agricultural holding did not exceed PLN 15,000. In most regions, the amount of decoupled payments per one farm ranged from PLN 15,000 to PLN 30,000 (Figure 22).

Figure 22. Decoupled payments per one agricultural holding in Poland in 2007-2016 (in PLN thousand)



Source: Own elaboration based on FADN data.

Decoupled payments per one agricultural holding increased in all regions. In 2016, in relation to 2007, in Lubelskie and Małopolskie voivodeships, decoupled payments per one farm increased twice. The average rate of change was 10.10% and 8.85%, respectively. Decoupled payments per one agricultural holding in the analysed regions were characterized by average diversity. The exceptions were farms from Lubelskie and Małopolskie voivodeships. In 2007, the value of the variance coefficient of decoupled payments per one agricultural holding amounted to 49.40%, while in 2016 it decreased to 36.95%. This means that in the last ten years regional disparities of decoupled payments per one farm in particular voivodeships decreased (Table 33).

Table 33. Changes in the amount of decoupled payments per one agricultural holding in Poland in 2007-2016 (in PLN thousand) – regional approach

Voivodeship	Specification						
	Average	Standard deviation	Variance coefficient (%)	Min	Max	Dynamics 2007/2016 (%)	Average rate of change (%)
Dolnośląskie	32,332.66	11,768.11	36.40	16,777.47	51,076.42	147.67	4.43
Kujawsko-Pomorskie	22,968.49	8,742.33	38.06	10,428.75	37,341.61	187.85	7.26
Lubelskie	16,194.03	6,875.33	42.46	5,989.77	27,451.17	237.69	10.10
Lubuskie	44,515.89	17,224.70	38.69	22,395.40	70,191.62	134.16	3.32
Łódzkie	13,567.59	5,279.69	38.91	6,251.99	22,055.20	173.80	6.33
Małopolskie	12,210.32	5,088.00	41.67	4,940.84	20,862.83	214.45	8.85
Mazowieckie	13,159.00	5,037.83	38.28	6,109.76	21,506.86	179.45	6.71
Opolskie	31,946.74	12,407.90	38.84	13,303.00	50,068.78	184.45	7.04
Podkarpackie	15,895.05	6,107.88	38.43	7,243.45	25,745.59	189.95	7.39
Podlaskie	18,116.07	6,995.96	38.62	8,117.77	29,246.73	172.09	6.22
Pomorskie	28,521.28	10,486.67	36.77	14,305.01	45,753.65	153.11	4.85
Śląskie	22,983.52	8,979.15	39.07	9,753.42	36,376.57	181.49	6.85
Świętokrzyskie	13,054.97	4,637.19	35.52	6,715.92	20,687.65	154.98	4.99
Warmińsko-Mazurskie	27,009.99	10,195.58	37.75	13,815.14	42,661.41	142.04	3.98
Wielkopolskie	18,308.57	6,536.34	35.70	9,264.18	28,537.26	151.06	4.69
Zachodniopomorskie	37,802.18	12,635.79	33.43	21,252.19	59,374.62	137.02	3.56

Source: Own elaboration based on FADN data.

2.5. Summary of the research results

The analysis conducted using the Polish FADN data indicates that subsidizing agriculture in Poland is regionally diversified. The diversity is influenced, *inter alia*, by the natural, organizational and economic conditions characteristic of individual regions.

Farmers from central and eastern Poland (voivodeship: Wielkopolskie, Kujawsko-Pomorskie, Mazowieckie, Łódzkie and Lubelskie) benefitted the most from subsidies coupled with plant production. Farmers from the regions of southern Poland (voivodeship: Śląskie, Małopolskie and Podkarpackie) received the lowest amount of subsidies for plant production. The highest average amounts of subsidies for plant production were recorded in the regions of northern and western Poland (voivodeship: Zachodniopomorskie, Pomorskie, Lubuskie, Dolnośląskie, Opolskie).

Farmers from the regions of central and eastern Poland (voivodeship: Wielkopolskie, Kujawsko-Pomorskie, Mazowieckie, Łódzkie, Świętokrzyskie, Podlaskie and Lubelskie) received the most of subsidies for animal production. These are the regions where the amount of support was also the highest. In turn, the regions of northern and western Poland were characterized by the lowest number of farms with subsidies for livestock production, with the average amount of subsidies per agricultural holding at a level similar to the regions with the largest number of farms with subsidies for animal production. The smallest average amounts of subsidies for animal production were recorded in Śląskie, Małopolskie, Świętokrzyskie and Podkarpackie voivodeships.

The highest number of farms benefitting from subsidies for the development of rural areas was characteristic for the central Poland regions (voivodeships: Wielkopolskie, Kujawsko-Pomorskie, Mazowieckie and Łódzkie) and eastern regions of Poland (Podlaskie voivodeship). Farmers located in the southern parts of Poland (voivodeships: Świętokrzyskie, Śląskie, Małopolskie and Podkarpackie) benefitted the least from subsidies for rural development. The average amount of subsidies for rural development per one agricultural holding was the highest in the voivodeships of northern and western Poland (voivodeships: Pomorskie, Zachodniopomorskie, Dolnośląskie and Opolskie).

Farmers with farms located in Wielkopolskie, Kujawsko-Pomorskie and Mazowieckie voivodeships to the largest extent benefitted from subsidies for intermediate consumption. The lowest number of farms with subsidies for intermediate consumption was characteristic of the following regions: Lubuskie, Śląskie and Podkarpackie. These voivodeships, recorded the lowest level of support in the whole country. On the other hand, the highest average amounts of subsidies for intermediate consumption per one agricultural holding were received by entities from the northern and western regions of Poland (voivodeships: Pomorskie, Zachodniopomorskie, Dolnośląskie, Lubuskie and Opolskie).

Farmers from farms located in central and eastern Poland (voivodeships: Wielkopolskie, Kujawsko-Pomorskie, Mazowieckie, Łódzkie, Podlaskie and Lubelskie) used mainly subsidies to investments. Farmers from the Lubuskie, Śląskie and Podkarpackie voivodeships made the least use of this form of support. In the majority of voivodeships, the average amount of subsidies for investments per one agricultural holding was over PLN 10,000, the exception were Wielkopolskie and Warmińsko-Mazurskie voivodeships. In these regions, the average amount of investment subsidies per one agricultural holding was the lowest in the whole Poland.

As many as 99% of studied farms benefitted from decoupled payments in the analysed period. Most farms with decoupled payments were located in the following regions: Wielkopolskie, Kujawsko-Pomorskie and Mazowieckie. In these regions, the amount of support was also the highest. The lowest support and at the same time the lowest number of farms with decoupled payments was characteristic of farms from southern Poland (Śląskie, Małopolskie and Podkarpackie regions). The highest average decoupled payments per one agricultural holding were recorded in the voivodeships of western Poland (voivodeships: Zachodniopomorskie, Lubuskie, Dolnośląskie, and Opolskie), while the lowest in Małopolskie and Świętokrzyskie voivodeships.

The most significance changes in subsidizing agriculture in Poland at the regional level were recorded in Kujawsko-Pomorskie, Warmińsko-Mazurskie, Lubelskie, Śląskie and Małopolskie voivodeships. Less important changes were typical of farms from the western and central regions of Poland (voivodeship: Pomorskie, Wielkopolskie, Zachodniopomorskie and Mazowieckie).

Between 2007 and 2016 there was a process of diminishing the diversification of agricultural support per one farm at the regional level. However, when comparing changes in the level of support for farms from the regions with the highest and lowest absorption of agricultural subsidies, these disproportions increased in the analysed period. This means that agricultural subsidies in their current form do not contribute to the equalization of development opportunities for farms and may even further deepen them.

The existing regional diversification of subsidizing agriculture in Poland means that it is necessary to adjust the support of agriculture and rural areas to the local needs to a greater extent than hitherto. In agricultural policy of the European Union one should strive to reduce regional differences through the selection of appropriate instruments taking into account the specificity of a given region, so as to reduce as much as possible the disparities in the development of agricultural holdings between individual regions.

Summary of the monograph

This monograph deals with two research topics. The first of them was the analysis of the European Commission's proposal regarding the reform of the Common Agricultural Policy and its shape for 2021-2027. The second problem presented in this publication was the question of regionalization of support for Polish agriculture.

The analysis of the first research problem allows to state that the assumptions of the European Commission relating to changes in the functioning of the CAP have met with different assessment of individual stakeholder groups. The issues of the scale of support and the new model of CAP implementation are the key discussed aspects. The expected reduction in the CAP budget in the face of the growing challenges facing the agricultural sector seems to be the wrong solution. The proposed structure of the CAP budget limit for 2021-2027 should be assessed even more negatively. The largest cuts are to concern EAFRD, i.e. support for rural development, which is crucial for the modernization of the sector and increasing its commitment to reducing climate change. On the other hand, income support in the form of direct payments is to be maintained at a level close to the current one, although the introduction of an upper limit of support at the level of EUR 60 thousand will significantly affect the structure of support.

Despite the EC's announcements, the proposals for changes are not an effective response to the challenges facing European agriculture and they will not increase the resilience of this sector. On the margins of these considerations it is worth noting that the lack of ambition in remodeling agricultural policy to match the long-term challenges faced by this sector and the entire economy is not just an EU problem. Also in the United Kingdom attempting to outline the shape of national agricultural policy for the period after leaving the European Union, the instrumentarium is very similar to the proposals discussed in the EU[17].

The EC proposals were analysed by the Committee on Agriculture and Rural Development of the European Parliament (European Parliament, 2019). However, due to the end of the term of office, the results of this work may not be used by the new members of the European Parliament as a basis for further work on the reform. The issue of the size of the CAP budget is still an open question, as the final agreement on the multiannual financial framework for 2021-2027 has not yet been reached. It is also worth adding that prolonging work on the reform will mean a delay in the adoption and start of the implementation of strategic plans.

[17] An outline of the proposals for agricultural policy of the United Kingdom is described, inter alia, in Downing, Coe (2018).

Analysis of the regional diversification of support for the Polish agriculture based on the FADN data shows that the scale of support for Polish agriculture is regionally diversified. Naturally, the needs and characteristics of agriculture and rural areas in particular regions of our country are also diversified. Therefore, it is necessary to thoroughly analyse the needs of individual voivodeships during the preparation of the strategic plan for implementing the CAP instruments in Poland in 2021-2027, especially when distributing funds between voivodeships.

In this context, it is vital to underline the importance of changing the model of the functioning of the CAP and basing this policy not on the spending of funds, but on its results. This is a significant change in the approach to agricultural policy. However, the problem is the availability of data. Already at the stage of creating SWOT analyses that are the basis for the development of strategic plans, Member States struggle with the limitations in data availability hindering programming of support.

At the same time, Member States must plan the implementation system of individual CAP instruments in a way that ensures the availability of data enabling a reliable final evaluation of the results of the support distributed. This is a huge challenge for public statistics and institutions implementing support. It also involves costs that must be incurred to create a performance monitoring system.

It is also worth mentioning that a proper proposal is to take into account national measures in the functioning of the CAP. The European Commission plans that Member States will have to provide information on national actions and instruments to implement the specific objectives of the CAP. It is an expression of the recognition of connections and interdependencies, as well as the role played by the policy of Member States in the functioning of agriculture. This is not only about national instruments of state aid for agriculture, but also tax solutions or legal regulations. A good example here is supporting the entry of new farmers into the sector. In many cases, it is the legal issues in the field of inheritance or trade in land that constitute an important barrier to the entry of new people into the agricultural sector.

In summary, although the EC's proposal does not offer a revolution in supporting European rural areas and agriculture, it is a step towards increasing its accountability, which is increasingly important to the public and policy makers themselves. Undoubtedly, the agricultural policy of the European Union should go in the direction of food policy. In addition, it needs a fuller and more effective link with the EU's environmental policy.

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