Direct Payments Distribution Between Farmers in Selected New EU Member States

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Abstract

The study aims to identify the degree of direct payments concentration in selected Central and Eastern European Member States (compared to the entire EU) and outline the perspectives and recommendations for the next programming period. The spatial scope of the study includes Poland, the Czech Republic, Hungary and Bulgaria. The time scope covers the period 2009–2019. The survey indicates that the payments distribution in Bulgaria, the Czech Republic, Hungary, and to a lesser extent also in Poland, is highly unbalanced. The analysed countries used the redistribution instruments, optional for the Member States, which were introduced by the 2013 CAP reform, to a moderate extent, in order to ensure a more even funds distribution between the beneficiaries. It cannot be ruled out that instruments ensuring a more even funds distribution would be politically easier to introduce at the EU level than at the national level. Nevertheless, also in the next financial perspective, in line with the subsidiarity principle, this issue is left to the Member States.

Keywords

Introduction

The allocation of direct payments under the First Pillar of the European Union (EU) Common Agricultural Policy (CAP) is widely discussed not only in the scientific literature but also among policymakers, farmers and other stakeholders. Therefore, research in this area has a large application potential, and focuses in particular on (i) determining the impact of financial support on agricultural income and recognising its effects on the farm income distribution (Severini and Tantari, 2013; Sinabell et al., 2013; Severini and Tantari, 2015; Deppermann et al., 2016; Piet and Desjeux, 2021), (ii) determining the impact of financial support on the economic performance of farms and the entire sector – production profitability and competitiveness (Ciliberti and Frascarelli, 2015), technical efficiency (Minviel and Latruffe, 2017), productivity (Kazukauskas et al., 2014; Staniszewski and Borychowski, 2020), including capital productivity (Czyżewski and Smędzik-Ambroży, 2017), and (iii) determining the importance of financial support in promoting sustainable agricultural practices (Sadłowski et al., 2021) or in increasing the level of socio-economic sustainability of farms (Volkov et al., 2019b).

Fair criteria for the funds distribution between EU Member States and a fair support system to farmers in individual countries are still in statu nascendi. In the Treaty on the Functioning of the EU (Official Journal of the European Union, 2016), the CAP's objectives include "to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture". Thus, when formulating the most general (of the highest

order) objectives of the CAP, the need to increase agricultural income was emphasised, and – since it is to ensure an adequate standard of living of the rural population – proportionally more aid should be directed to farmers with low income. Espinosa et al. (2020) see the proper targeting of direct payments as one of the main challenges faced by policymakers shaping the CAP.

Direct payments reduce the gap between agricultural incomes and those obtained in other sectors of the economy. At the same time, they usually have an equalising effect on incomes within the agricultural sector (Severini and Tantari, 2013; Severini and Tantari, 2015), wherein studies also indicate that not every CAP reform so far has been conducive to reducing the polarisation of farmers' incomes (Sinabell et al., 2013). When comparing the results of research done in this area, it should be taken into account not only their temporal and spatial scope, but also the material scope, i.e. which components of the direct support system were included in the analysis.

In the case of Central and Eastern European countries, an important aspect of studies is the impact of CAP on the processes of agricultural transformation and the pace of convergence of agricultural sectors in this group of countries with the agricultural sectors of the EU-15 (Bojnec and Fertő, 2015; Csaki and Jambor, 2016; Feher et al., 2017; Volkov et al., 2019a). A number of studies (Beluhova-Uzunova et al., 2017; Beluhova-Uzunova et al., 2020; Grochowska et al., 2021) analysed the distribution of financial aid through the direct payment scheme. The results of these studies give rise to the assessment of the allocation of support in terms of fairness as well as effectiveness and efficiency in achieving the assumed goals. In this context, a significant value can be added by the development of tools accelerating the economic convergence of EU Member States agricultural sectors and levelling the inter- and intra-sectorial discrepancy of income.

In general, the accession to the EU had a positive impact on the agricultural sectors of the Central and Eastern European countries, with the path of transformation and the progress of this process varying from country to country. These trends can be explained with the differentiation of (i) the degree of resource availability for agriculture, (ii) farm structures, (iii) institutional frameworks, and (iv) national policies (Csaki and Jambor, 2009). Despite the ongoing processes of sectorial and structural transformations, initiated or strengthened by the instruments of the CAP, the domestic agricultural models still differ significantly.

In the opinion of Volkov et al. (2019a), one of the main drawbacks of the direct payment system is that too much of the funds are allocated to already developed agricultural sectors in the old EU Member States, which is not conducive to achieving the convergence objectives of agricultural sectors and sustainable rural development across the EU. According to Sadłowski (2017b), in discussions on the reform of the method of funds distribution for the direct payments between the EU Member States (i.e. rules for setting of the so-called national ceilings), one should in particular consider the use of a multi-criteria method that would integrate a number of variables describing the agricultural sectors of the individual countries.

The values dispersion of the measures of the uneven direct payments distribution between the beneficiaries and the differentiation of the degree of the Lorenz curve concave to the center of the unit square are largely the result of differences in the agrarian structure of individual countries and in the shape of the direct support system. The heterogeneity of direct support systems is a consequence of the fact that the EU legal framework provides the EU Member States with a relatively large scope of decision-making in the selection of instruments and their financing structure, as well as the conditions for granting individual types of payments (Sadłowski, 2020).

The aim of the study is to identify the degree of concentration of financial support under the direct payments scheme in selected Central and Eastern European Member States (compared to the entire EU) and to outline the perspectives and recommendations for the next programming period. The importance of this issue is related to the high impact of direct payments on farm income.

The structure of the study is the following: First, after the introductory section, the research methods are described and the spatial and temporal scope of the research and data sources are indicated. The next part presents the results of empirical research, confronting them with the results of similar studies. As part of the discussion of the results, a comparative analysis of systemic solutions applied in individual countries, which largely affect the concentration of funds allocated in the form of direct payments, was performed. The last part of the paper contains the final conclusions and comments on the possibility

of influencing of the aid concentration, considering the legal conditions of the next programming period and the reality of political decision-making.

Materials and methods

The most frequently used measure of the uneven distribution of the total fund of the value of a feature between general population units is the Gini coefficient (Alvaredo, 2011). On the other hand, the Lorenz curve is a set of points on the plane, the ordinate of which is the cumulative share of total income / assets, and the abscissa is the cumulative share of units obtaining income / having assets, and is used to graphically present the income / wealth distribution possessed (Ogwang and Rao, 2000). In the graphic interpretation, the Gini coefficient is the double area of the figure drawn by the line of even distribution (i.e. the diagonal of the unit square) and the Lorenz curve (Podgórski, 2010).

The results presented in this study concern the uneven aid distribution under the direct support scheme between farmers. Therefore, the equivalent of income is the amount of granted direct payments, and the counterpart of units receiving income are the beneficiaries of the direct support scheme for farmers.

The value of the Gini coefficient was estimated using the following formula (Podgórski, 2010; Starzyńska, 2012):

$$G = 1 - \sum_{i=1}^{k}(S_{z_{i-1}} + S_{z_i}) \times w_i$$
(1)

where: G – Gini coefficient; k – number of classes in the distributive series; $i = 1, 2, \ldots, k$ – class number of a distributive series; $S_{z_{i-1}}$ – cumulative share of the feature value for the class with number (i-1); S_{z_i} – cumulative share of the feature value for the class with number i; w_i – index of the abundance structure for the class with the number i.

On the other hand, the coordinates of the points forming the Lorenz curve are (F_{w_i}; S_{z_i}), where F_{w_i} (abscissa) is the cumulative index of the abundance structure for the class with the number i, and S_{z_i} (ordinate) is the cumulative share of the feature value for the class number i.

In case of this study, the Lorenz curve is a set of points, each of which carries information on what part of the beneficiaries population gets a given part of the funds pool paid in the form of direct payments or what part of the funds pool paid in the form of direct payments is absorbed by a given part of the beneficiaries population. Equality depicted by the line of equality (see Figure 2) would mean granting each farmer (regardless of the farm size, production specialization, area and structure of crops, number of farm animals owned, production volume, etc.) the same amount of aid, i.e. in fact granting a lump sum support.

In this paper, a comparative analysis shows the degree of support concentration and changes in the uneven of aid distribution in selected Member States as compared to the entire EU in the period 2009–2019.

The spatial scope of the study covers four countries of Central and Eastern Europe, namely Poland, the Czech Republic, Hungary and Bulgaria. In terms of population, these countries are ranked 1st, 3rd, 4th and 5th respectively among the 13 new EU Member States accessed the EU on or after May 1, 2004. Basic data on agriculture of the analysed countries in 2016 are summarised in Table 1.

Results and discussion

Figure 1 shows the changes of the degree of direct payment concentration in the selected countries in 2009–2019 compared to the entire EU. The results indicate that for the three countries (Bulgaria, the Czech Republic and Hungary)

Country	Farm number	Utilised agricultural area (ha)	Average farm area (ha)	Value added of agriculture, forestry, and fishing (% of GDP)
Bulgaria	202 720	4 468 500	22	4.05
Czech Republic	26 530	3 455 410	130	2.09
Hungary	430 000	4 670 560	11	3.89
Poland	1 410 700	14 405 650	10	2.54

Source: own study based on Eurostat (2022) and World Bank (2022) data

Table 1. Basic data on agriculture of the analysed countries (2016).
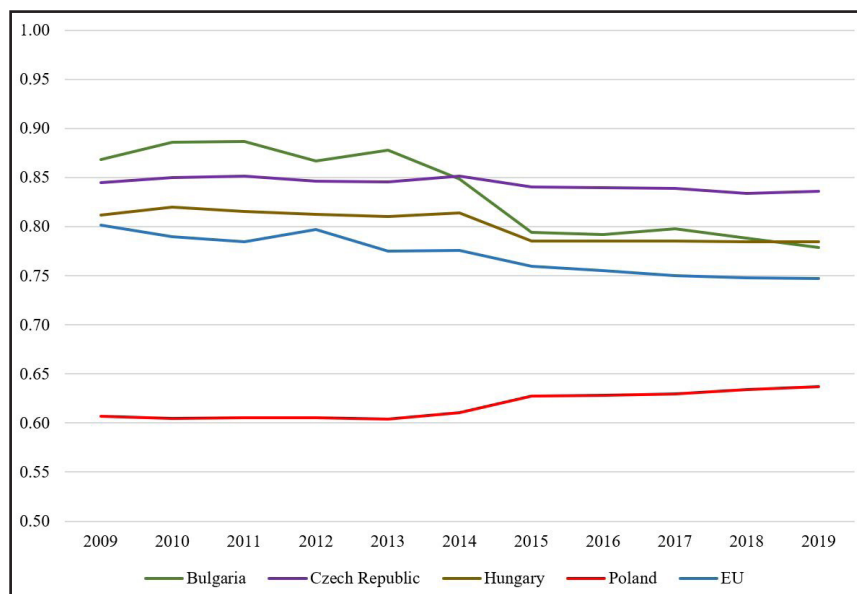
Figure 1: The value of the Gini coefficient as a measure of the degree of direct payments concentration in the countries analysed compared to the EU in the period 2009–2019.

analysed the value of the Gini coefficient was higher than the value of this coefficient calculated for the EU. Only in Poland, the concentration of aid was lower than in the EU, and the difference – although it is decreasing due to the convergent course of the charts – is still large.

The most marked decrease in the support concentration is observed in Bulgaria, with the decrease occurring from the highest (reaching 0.887) levels out of the compared countries. The high value of the index is due to the highly polarized structure of Bulgarian agriculture. In the period 2010–2020, the number of agricultural holdings in Bulgaria decreased by more than 64%, and the average size of the farms increased from 10 to 33 ha (Ministry of Agriculture, Food and Forestry, 2021). In Bulgaria, many small farms do not meet the minimum requirements for receiving payments and are therefore not included in the calculation. Although there is a tendency towards a more equal aid distribution, it should be highlighted that the decreasing payment concentration ratio is largely a consequence of the disappearance of small farms.

The greatest stability is demonstrated by the Gini coefficient calculated for the Czech Republic (0.834–0.852). Although there has been a slight downward trend since the middle of the analysed period, the index is still high, which is a consequence of the high land concentration in the conditions of a strong dependence

of the support amount on the farm area. This country is distinguished by the largest average farm size in the EU, but at the same time the growing number of farms and decreasing average farm area – this is a opposite trend compared to EU where the number of farms is declining and the average farm size is increasing (Janovska et al., 2017). As a result of this process the degree of payment concentration in the Czech Republic has decreased over last time.

In Hungary, in the period investigated, the degree of support concentration was the closest to the EU level. Land use regulations, degressivity and capping contributed to decreasing farm sizes by splitting large production units into smaller ones. From 2014 to 2016, the number of farms with over 1200 ha (affected by capping) decreased by 41%. On the other hand, the number of holding sizes 600–1200 ha and 300–600 ha increased by 36% and 15%, respectively (Szerletics, 2018). Since 2015 the value of the Gini coefficient has remained almost constant at around 0.785, which is now very close to the value of this indicator calculated for Bulgaria.

Poland is the only country with a growing uneven of aid distribution in recent years, with different trends in the individual programming periods (relative stability versus moderate growth). On the other hand, Poland is the only country covered by the research with the Gini index below the EU level.

Based on the Lorenz curves presented in Figure 2, it can be concluded that the payments distribution in the analysed countries gradually became similar. The trend towards a more even support distribution observed in Bulgaria has led to a similar picture to Hungary, and the Czech Republic is now leading in terms of unequal of aid distribution. It must be noted that in Hungary the land transaction act accompanied by the introduction of degressivity and capping contributed strong to this result. Each year Poland was distinguished by the most even support distribution. Nevertheless, the Lorenz curve drawn for this country is moving further away from the equality line (it is more and more concave to the center of the unit square), which means that the payments allocation is becoming less and less egalitarian.

In Bulgaria, 10% of the funds were absorbed by approx. 85% of the smallest beneficiaries in 2009, less than 80% – in 2014, around 65% – in 2019. By contrast, 10% of the largest farms concentrated more than 85% of the funds in 2009. In 2014, they received approx. 80% of the funds, and in 2019 – approx. 70%.

About 80% of the smallest farms receive only 10% of the national ceiling in the Czech Republic. On the other hand, 10% of the largest beneficiaries absorb as much as 80% of the support.

In Hungary, 10% of funds distributed under direct payments is sufficient to meet about 70% of the smallest beneficiaries. On the other hand, 10% of the largest farms absorbed approx. 75% of funds in 2009 and 2014, and approx. 70% in 2019.

In Poland, in 2009 and 2014, about 45% of the smallest beneficiaries absorbed 10% of the total granted payments, and in 2019 1/10 of the total support was granted to 50% of the smallest farms. On the other hand, less than 10% of the largest farms receive 50% of the direct payments.

In 2019, in Bulgaria and Hungary, the aid distribution was very similar to the support distribution in the EU in case of 70% of the smallest beneficiaries (almost overlapping Lorenz curves on section $x \in [0;0,7]$). On the other hand, in these two countries the largest beneficiaries receive a much larger part of the funds compared to the EU, which determines a higher Gini coefficient in these countries as in EU.

According to some authors (Csaki and Jambor, 2009; Severini and Tantari, 2013; Beluhova-Uzunova et al., 2020), a more even funds distribution between beneficiaries should be ensured. This should stimulate sustainable agricultural development (Kryszak, 2016) and promote social balance thanks to broader acceptance of the applied solutions. Since the reform of the CAP, which was implemented with effect from 2015, a more egalitarian payment distribution can be achieved by applying a redistributive payment (the redistributive impact of this instrument is so greater, the greater part of the national ceiling is allocated to its financing) and a mechanism of payments reduction in an appropriately restrictive – from the point of view of large farms – form. Nevertheless, the practice of implementation direct support
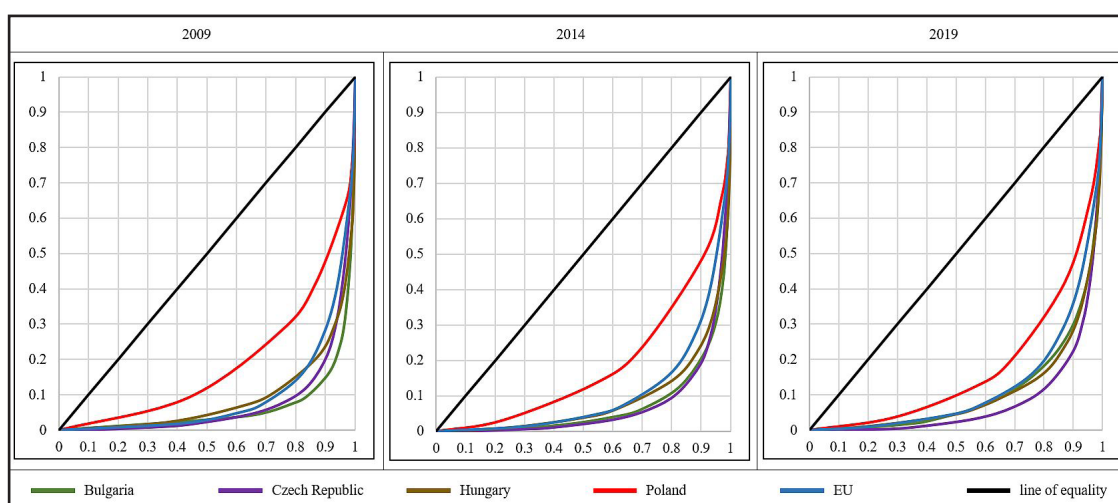
Source: own study based on European Commission (2011, 2016, 2021) data

Figure 2. Lorenz curves illustrating the uneven direct payments distribution between beneficiaries in the countries analysed compared to the EU in 2009, 2014 and 2019.

schemes shows that the EU Member States use only to a small extent the possibilities of reducing the degree of payment concentration. Moreover, the degree of use by a given country of the redistributive potential of instruments reducing disproportions in the support amount granted per beneficiary is not related to its place in terms of uneven funds distribution between farmers (Sadłowski, 2017a). Taking into account, on the one hand, the national decisions on the direct support system (European Commission, 2019a), including on the shape of the payment reduction mechanism (Table 2), and on the other hand – the possibilities provided by EU regulations (European Parliament and Council of the European Union, 2013), it can be concluded that:

1. Among the investigated countries, only Poland and Bulgaria introduced the redistributive payment, allocating for its financing appropriately approx. 8.5% and approx. 7% of the national ceiling, respectively, while the EU regulations allow for the financing level of this payment to equal 30% of the national ceiling. Although in Bulgaria a smaller part of the national ceiling has been set aside for financing the redistributive payment than in Poland, and the width of the hectare range covered by this payment is greater in Bulgaria (0; 30) than in Poland (3; 30), the redistributive payment rate (in EUR/ha) in Bulgaria was much higher. In Bulgaria, the redistributive payment resulted in a strong relative increase in the average level of support per hectare of agricultural land in small farms, which is a consequence of the fact that they constitute a relatively small group in this country, and thus the relatively small funds pool distributed under the redistributive payment allowed on the relatively strong increase of the average level of support per hectare in this group of farms (Sadłowski, 2022).

2. Mechanism of reduction of single area payment exceeding EUR 150,000 in the most restrictive form was introduced by Poland (reduction coefficient of 100%, i.e. capping, at EUR 150,000). A reduction coefficient higher than the minimum required by EU regulations, which is 5% for amounts exceeding EUR 150,000, was also applied by Hungary, but only for amounts exceeding 176,000 EUR (reduction by 100%) and Bulgaria, but from an even higher threshold, namely from EUR 300,000 (reduction by 100%). The Czech Republic applied a reduction coefficient at the lowest possible level (5%) to the entire surplus of the single area payment above the threshold of 150,000 EUR (no gradation of the reduction coefficient). Additionally, Bulgaria strongly limited the restrictiveness of the payment reduction mechanism, allowing beneficiaries to deduct the costs of hired labour from the reduction base.

Thus, among the countries included in the study, the redistributive potential of the two instruments mentioned above was used to the greatest extent by Poland, i.e. the country with the lowest support concentration. This contributed to a reduction in the dynamics of the increase in the concentration coefficient observed since 2013. Considering the possibilities offered by EU regulations, the degree of use by Poland of the redistributive payment and the payment reduction mechanism as instruments reducing the uneven aid distribution can be described at most as moderate. However, the caution in introducing restrictive redistribution mechanisms may result from Member States' concerns about the effectiveness of the provisions to prevent granting unreduced payments to farms that have made an "artificial" division so as not to exceed the threshold area of the holding.

The direct payments distribution in Bulgaria, the Czech Republic, Hungary, and to a lesser

Country	Degressivity	Capping
Bulgaria	YES, cut of 5% above 150,000 EUR	Cap at 300,000 EUR
Czech Republic	YES, cut of 5% above 150,000 EUR	NO
Hungary	YES, cut of 5% above 150,000 EUR	Cap at 176,000 EUR
Poland	NO	Cap at 150,000 EUR

Source: own study based on Anania and Pupo D'Andrea (2015)

Table 2: Mechanism of reduction of single area payment in the analysed countries.

extent also in Poland, is highly unbalanced, which is manifested by the dominance of large farms in the support allocation. In the case of Bulgaria, the Czech Republic and Hungary, a very large imbalance in the funds allocation can be recognised, greater than in the EU, respectively, with a clear, very weak and moderate trend in the last decade towards a slightly more egalitarian funds allocation. On the other hand, in the case of Poland, the imbalance is moderate – much lower compared to the EU, but yet in Poland the trend has been opposite for several years, i.e. the process of payments concentration is progressing.

The countries covered by the study used to a moderate or slightly extent the redistribution instruments, optional for the Member States, which were introduced by the 2013 CAP reform, in order to ensure a more even funds distribution between the beneficiaries. This may indicate that the degree of concentration of support granted under the direct payments scheme is generally at a politically acceptable level. However, perhaps it is a sign of a strong lobby of large farms. It cannot be ruled out that instruments ensuring a more even funds distribution would be politically easier to introduce at the EU level than at the national level. Nevertheless, also in the next financial perspective, this issue is left to the Member States in line with the subsidiarity principle.

The goal of ensuring a fair support distribution is derived from ideological, worldview, moral, etc. beliefs. Economic analysis may support the decision-making process consisting of selection of appropriate means of achieving the set goal, as long as it is concretized. The goal operationalization could consist in indicating the desired support distribution (the value of the Gini coefficient, the shape of the Lorenz curve). However, in practice, the goal remains not concretized, it is only indicative, and at the same time variable, and making decisions aimed at ensuring an equitable support distribution is more about using the monitoring-adjustment method to move within the area of acceptable results.

Conclusion

Based on the research, the following conclusions can be drawn:

1. Despite the opportunities after the 2013 CAP reform implementation, the study shows the unbalanced funds distribution under the First Pillar of the CAP and the serious dominance of large holdings in funds allocation.

2. The CEE countries do not use the potential of the available instruments to support the small and medium-scale farmers and instruments to reduce direct payments to large farms.

3. Pursuing a more even aid distribution should not overshadow the efficiency benefits of production scale and specialization. On the other hand, the excessive concentration of agricultural production causes strong pressure on the natural environment. It means that dilemmas related to the funds allocating between beneficiaries require a compromise in achieving social, economic and environmental goals (often divergent in the short- and medium-term perspective).

4. The new CAP, 2023-2027, is orientated towards greening, digitisation and young farmers. There are no serious changes in direct support targeting which could reduce the uneven funds distribution and prevent further polarization.

5. The convergence of support level between farmers and between Member States is lagging behind. Subsidiary principle and related to that Member States decision-making will determine the opportunities for more balanced and fairer financial support distribution.

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