THEORETICAL AND STATISTICAL ARGUMENTS OF THE DIFFERENTIATED EFFECT OF THE COMMON AGRICULTURAL POLICY IN THE EU COUNTRIES

Remus Ionut ILIES ¹ Sorin Nicolae BORLEA², ORCID ID: 0000-0002-9987-3682 Isabella LUCUȚ CAPRAȘ ³, ORCID ID: 0000-0002-6192-8078

Abstract: Agriculture and rural areas have special economic specificities, which determine their study not as an economic sector, but rather as geographical entities. Productivity cannot be homogeneously distributed territorially because the quality of the land varies considerably. Consequently, agriculture and rural areas cannot be left only to competitive markets but must be supported and financed. In the EU, there has been a common policy of support for several decades, based on two financing pillars. The objectives of this policy were initially based mostly on supporting Agricultural productivity, but more recently goals related to the environment and the complex development of rural areas have been added. Although the funding was very high, there is still the question of the efficiency and equity of this common policy. Our analysis explains the differentiated effects on the EU countries through theoretical arguments and statistical data on the EU countries.

Keywords: Common Agricultural Policy, agricultural productivity, EU countries, rural development

JEL Classification: O13, Q18

Introduction

The most consistent common European policy, both from the point of view of maintaining the objectives and from the perspective of ensuring regular financing, was the Common Agricultural Policy (CAP). The first objectives, strategies and intervention tools regarding agriculture and rural development were stipulated in the Treaty of Rome, from the second half of the 1950s. Among these, the most important ones referred to the increase of agricultural productivity and the efficiency of agricultural businesses, levels of decent development for citizens in villages and rural communities, ensuring satisfactory incomes for agricultural workers in the Community countries, supporting European producers in relation to competition at the level international, interventions on the prices and markets of agricultural products (Loux, 2020). In the course of time there have been numerous changes in organizational structures, recalibrations of objectives and changes in the intervention instruments that supported the policies. The main objectives remained unchanged for several decades, but a major change occurred with the generically named MacSharry reform of the early 1990s' (Papadopoulos, 2015, De Benedictis et al., 2019), when the most important changes in organizational structures. Gradually, the subsidy mechanisms supported less and less agricultural products and more and more agricultural producers and the development of communities and the rural economy (Scown et al., 2020). Although we can say that this common policy has grown enormously over time as well as targeted objectives,

¹ University of Oradea, Faculty of Economics, Oradea, Romania, ilies_remus@yahoo.com

² University of Oradea, Faculty of Economics, Oradea, Romania, snborlea@yahoo.com

³ Babeș-Bolyai University, Faculty of Economics and Business Administration, Cluj Napoca, Romania,

isabella.lucutcapras@econ.ubbcluj.ro (corresponding author)

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financing and implementation structures and has gradually accumulated new components regarding complex rural development, social and environmental issues, it has not been possible to avoid or solve persistent problems between which we recall the predominantly agricultural economic structure of many rural communities, the development inequalities between member states and the gap between urban and rural environments (Papadopoulos, 2015, Matthews, 2017). Even today these major problems persist and are identifiable through statistical data. There are some rural areas that can be considered as peripheries of the European Union. From a geographical point of view, there are visible gaps on the north-west / south-east axis. This shows obvious differences in competitiveness, both in terms of agricultural productivity and the economic efficiency of rural businesses, as well as the standard of living of the inhabitants of these regions. Another axis is more historical, with gaps between the states that are older members of the European community and those that joined more recently. The question can therefore be asked whether the common agricultural policy, through its intervention mechanisms, succeeds in diminishing the discrepancies reported in order to move towards a geographical cohesion of the states and regions, or, on the contrary, there is ineffectiveness at the level of these policies that make the gaps persistent or self maintenance. There is some empirical research that shows that periods of economic growth at the global European level manage to reduce the gaps and increase the speed of convergence of the rural environment; instead, in periods of recession, the common policy does not prove to be an effective tool for solving economic and social inequalities (Papadopoulos, 2015, Giannakis & Bruggerman, 2020). It is possible that these results are due to the fact that although the common agricultural policy counts among its objectives social aspects, nevertheless the elements of market and competitiveness are the predominant ones and consequently they leave their mark more significantly on the trend of rural development of economically disadvantaged communities. In this study we try to explain why the CAP cannot act in a balanced way in the different geographical territories (countries or regions), remaining a questionable policy. For this purpose, we will use two types of analysis: (1) a theoretical analysis that shows that the objectives declared from the beginning, especially oriented towards productivity, risk not being able to adequately support the more disadvantaged areas; (2) a statistical analysis of the diversity of the EU states regarding agriculture and rural development, which supports the idea of the difficulty of homogeneous results of the common support policy.

Literature review

Highlights of the evolution of the EU's Common Agricultural Policy

Until the change of perspective at the beginning of the 1960s, the prices of agricultural products were rather supported, but then the focus came towards mechanisms that would succeed in directly supporting the producer (Erjavek & Erjavec, 2021). Initially, the subsidy mechanisms were focused on a certain previously set harvest standard or a certain number of animals in the case of animal husbandry, through integrated payment systems that even received a generic name of "coupled payments" (Papadopoulos, 2015). Another turning point was started at the beginning of the 2000s, when an increasingly accentuated orientation towards the market was felt, even if it was done through interventionist methods of support. As a result of the integration of a larger number of countries into the EU in 2004, in the following two years a hybrid support system was defined in which funding rights were calibrated on agricultural production values from the recent past for the oldest member states of the union and on different schemes (regional, payments on agricultural areas, etc.) for the states that have just joined. A dual system can be considered to exist through decoupled environmental conditions and payments, and these working in tandem facilitate the production and delivery of food goods of major public interest as a result of the sustainable use of agriculture (Daugbjerg & Swinbank, 2016). An additional advantage given by the operation of the two payment systems together is that it has managed to stabilize the incomes of agricultural producers at decent levels, even if they are on average lower than those in the industrial or service sectors (Severini et al., 2016). Starting with the first years of this century, the focus of the CAP on rural development has increased, with related objectives becoming more important than those strictly related to agricultural production. A wider palette of policies and intervention tools was thus created, targeting production and productivity issues in agriculture, but also aspects of sustainable development and ecology and various aspects of the economic and social environment in villages.

The new policy guidelines from the beginning of the 2000s made the regulations regarding the development of non-urban communities to be carried out through a single European fund, a unitary system of management and control and a single typology of financeable programs. There are three major objectives as a result of the new orientation of increasing productive efficiency in agriculture, fish farming and forestry; increasing the quality of the environment and landscape in rural areas; increasing incomes, quality of life and diversity of income sources in non-urban areas (Papadopoulos, 2015, European Commission, 2013). To have the best possible political and public support, at the level of the European Union, through the General Directorate for Agriculture and Rural Development (European Commission, 2009, Czyżewski et al., 2021), studies and arguments were carried out to justify the need for a unitary agricultural policy on community territory.

CAP inertia and constraints on it

Some of the objectives and directions of the CAP had to be developed precisely to correct past orientations, for example environmental topics arose to correct the previous excessive orientation towards increasing productivity. There are also critics of this involvement, who state that they are in contradiction with other European measures, or even the CAP (Hodge, 2013, Papadopoulos, 2015, Petit, 2019). Another element subject to specialist discussions is that the global effects of the common policy cannot be evaluated only through the prism of the costs caused by the development and implementation of the policies. In this sense, there is an often used phrase, "path dependency", which comes from the fact that there is a rather large rigidity over time in the way in which the costs and benefits of the budgets related to the common policy are distributed among the member states, despite the numerous changes in orientation of objectives (Ackrill, 2008, Papadopoulos, 2015, Henke at al., 2018).

It can be seen that the way in which agricultural producers and markets managed to organize led to a constancy of political objectives, namely the constant and consistent support given to the markets of agricultural products. The instruments through which support policies were implemented (types of payments, co-financing, etc.) also proved an incredible constancy. It has been agreed by specialists that common policy has certain dependencies formed over time, which downstream managed to create patterns of interactions between different stakeholders (Buckwell, 2019). However, if path dependence is to be assessed, then it can be done more globally, but it is difficult to go into all the details inherent to all the changes that have taken place in the policies related to each objective of the Common Agricultural Policy. For example, some measures initiated by the MacSharry reform at the beginning of the 1990s' led to many reactions from the different actors involved by the new interventions, and as a result, there are visible elements of counteraction in the Fischler reform of the CAP, which occurred 11 years later (Latruffe & Desjeux, 2016, Sorrentino & Henke, 2016, Petit, 2019).

Even the economic literature agrees that at least two major changes in the orientation of the CAP objectives are identifiable over time. The first of these is the emergence of environmental and sustainability issues, which have also affected certain interests of agricultural producers or food consumers (Lefebvre et al., 2014, Pe'Er et al., 2019, Heyl et al., 2021). The second major change was represented by the emergence of rural development as a pillar, which eroded the common policy orientation as support for agriculture as an economic sector towards the advantage of more complex territorial approaches and regulations, including social role (Lowe, 2006, Mantino, 2011, Mantino & Vanni, 2019). The European Commission overly optimistically presented the latest change as a successful path to territorial policy approaches (Cairol et al., 2009, Dax et al., 2011,

Guth et al., 2020), this before the effects proved policy effectiveness. Despite all the previous and subsequent challenges, the two reforming transformations found their place in the Common Agricultural Policy, changing it fundamentally. Thus, the two pillars of the common policy appeared. The first of these predominantly falls within the liberalist paradigm, with the strengthening of competitive markets. The second one fits into the paradigms of rural and multifunctional development (Papadopoulos, 2015, Medina & Potter, 2017), because it includes instruments oriented territorially rather than economically sectoral.

Implications of CAP on agriculture and rural areas

There are opinions in the literature that state that the common policy aimed first and foremost to make European agriculture more efficient at any price or risk, and an unwanted effect was the ruin or even the disappearance of small farmers, most often unproductive in relation to large corporations (Crowly, 2006, Pe'er et al., 2020, Guth et al., 2020). Moreover, it is stated by some specialists (Pe'er et al., 2020) that the recent reorientation reforms of the common policy are attempts to correct past errors of the same policy. These policy differentiations and hesitations have led to some mistrust of the Common Agricultural Policy, which does not seem to enjoy much political legitimacy (Josling & Moyer, 2019). There are even views that the common policy is becoming useless, as it has diverted from its original purpose of agricultural policy itself to one that is specifically aimed at supporting farmers. Interestingly, the common policy is increasingly liberal and is seen as such, but the most massive financial instrument of intervention is the support given to support the incomes of farmers and their households. There are net beneficiaries as overall results, but also losers in this competition, and this distinction is correlated with the level of initial (at accession) and present economic development (Kiryluk-Dryjska & Baer-Nawrocka, 2019). Differentiation of effects is felt both among Member States and among agricultural products, but the latter are more difficult to quantify. In the newly joined states, there is a maintenance of the labor force in the rural area (Mattas et al., 2011, Garrone et al., 2019) more significantly than in the old EU members. These very different consequences of the European interventions on the labor force in agriculture can be the direct consequence of the different economic incentives given by the two pillars of the CAP. In particular, direct payments have been the object of criticism, which considers that they have been ineffective in the long term in terms of retaining the labor force in villages (Bojnec & Fertő, 2022). Agricultural policy probably acted unintentionally on labor by inducing structural changes in the size of agricultural holdings. The competitive advantage of large farms boosted unskilled labor, in the form of wages, rather than agricultural entrepreneurship (Cristea et al., 2021). If we look at the level of the regions (NUTS2), we can see the uneven consequences of the common policy, which is not found in the principles of unitary development of European areas. As at the country level, there is a prevalence of financing precisely towards more developed regions, with superior intrinsic potential (positioning, resources) for economic development (Kiryluk-Dryjska et al., 2020). Beyond the reported problems, there is also the inefficiency of community bodies in demonstrating the achievements of the CAP in relation to the objectives originally proposed. As a small conclusion, although there have been beneficial effects of the common policy on productivity, income, social issues, the environment, etc., there are still persistent problems that will require solving in the future.

Research question and objectives

The main research question for this study is: Does the common agricultural policy succeed in reducing the observed discrepancies with the intent to make progress toward the geographical cohesion of EU areas?

The following objectives were established in order to solve this question:

- Presenting agricultural features of EU member states;
- Analyzing various characteristics of farms in EU nations;

- Examining farm managers' different attributes.

Methodology

The primary goal of this research is to explain why the CAP cannot act in a balanced manner in the various geographical regions.

For this goal, we conducted a statistical analysis of the EU states' disparities in agriculture and rural development. All data have been collected from Eurostat and concern the following topics: the average surface area of a farm, the share of small farms, the distribution and number of farms and cultivated agricultural area, and farm managers in the EU by age group, gender, and farm size.

The agricultural and rural heterogeneity of the EU countries

Agriculture and rural areas in the EU are very heterogeneous, the size and agricultural structure of the EU states varies considerably. The most important factors are those related to land quality, climate, water resources, social and political structures preserved from history, different economic activities carried out in various regions.

It is interesting to analyze the ranking in relation to the average surface of an agricultural holding (figure 1). The differences here are much greater than we might have expected, from an average of 90.3 hectares in the UK to an average of 0.9 hectares in Malta, over 100 times more. Among the first countries we generally find old members of the European Union, with more consistent traditions regarding productive, industrialized agriculture, based on innovative processes and technologies. However, the top position of the Czech Republic is surprising, coming from among the ex-communist countries where a great fragmentation of agricultural land was achieved after the establishment of democratic regimes and the restitution of agricultural areas to the population. It seems, however, that the Czech Republic very quickly achieved a concentration of land, thus making important steps towards higher agricultural productivity. A common characteristic of the top countries is the predominance of cereal cultivation in the traditional way, which naturally encourages the formation of large farms. At the bottom of the ranking, we do not find a single category of ex-communist countries, as we might have expected. Of course, they are consistently present (Romania, Croatia, Slovenia, Hungary, Poland, Lithuania). There is, however, another group of countries with at least one common feature. It is about states from the Mediterranean basin. In these, the cultivation of vegetables (often in greenhouses and solariums) and fruit trees predominates. These types of crops lend themselves less to very large holdings than where cereals or technical plants predominate.



Figure 1. The average surface area of a farm in EU countries (ha/farm, average values between 2007 and 2020)



By the year 2020 for which the most recent data is available (Eurostat, 2023) the number of farms in the European Union has decreased considerably, reaching 9.1 million, as well as the agricultural area which has decreased to 157 million hectares. This value indicates a coverage with agricultural land of approximately 38% of the total area of the community states (Eurostat, 2023). This also indicates that the average size of a farm has increased to about 19.1 hectares. However, the territorial distribution of these farms is very heterogeneous, both between countries and between regions of the same country. In addition, there is a relatively small number of large farms (those with more than 50 hectares are considered in this category), about 6% of the total, but which use almost two-thirds of the available agricultural land. On the other hand, small farms, with areas under 5 ha, although they represent about 70% of their number, use about 7% of the agricultural land of the European Union (Papadopoulos, 2015, Eurostat, 2023). These data indicate large concentrations of land, but the differences are also enormous from one state to another. The largest shares of small farms in the total can be found exclusively in former communist countries or in those in the Mediterranean area (figure 2).



Figure 2. EU countries with the highest share of small farms (<5ha) in total *Source:* own construction based on Eurostat data (2023)

In addition to these distinct situations in the respective countries, a global situation can also be highlighted for the whole of the European Union. Figure 3 shows the percentage of the number of farms and UAA (Utilized Agricultural Area). One can easily see the inverse correlation between the two indicators. Although large farms have a small share of the total (3%), they use more than half (52%) of the total available agricultural area. On the contrary, small farms, under 5 hectares, although they are still very numerous (63% of the total), use only 5% of the total agricultural areas in the entire European Union.



Figure 3. Distribution of farms and agricultural area used throughout the EU in 2020 *Source:* own construction based on Eurostat data (2023)

The ratio between small versus large farms is most evident in Romania, where their total number is the largest in EU Europe. More than 90% of holdings are small, under 500 ares, but large farms, although they are less than 1% of the total, cultivate almost 55% of the available national agricultural area. As we have already noted, the number of small farms is highest in two former communist countries (Romania and Poland) and two Mediterranean countries (Italy and Spain). Therefore, not only political, social and economic factors contribute to this distribution, but also natural ones, which force certain types of cultures. For example, in the Mediterranean area the cultivation of vegetables, some fruit trees (olive) and vines predominate. They have a high economic productivity on a given surface, so they do not require very large areas to ensure the necessary income for the families that manage and work them, as would be the case for example for cereal crops. As we have seen before, there are also some countries where land cultivation is done to a very large extent in large farms (Slovakia, Czech Republic, Great Britain, France, Denmark). In the first two mentioned states the percentage is even impressive, exceeding 90% of the cultivated agricultural area.

The different typology of the farms also has implications on their incomes, 36.3% of them have a production value below two thousand euros annually. Of the total agricultural income in European Community, their cumulative income amounts to only one percent. Almost all of them fall into the first category, subsistence and semi-subsistence, they directly consumed at least 50% of what they produced. The immediately higher income category are those between 2 and 8 thousand euros, which together with the previous ones are in the proportion of approximately 64% of the Agricultural holdings of the European Union. At the upper end, about 300 thousand farms (a little over 3 percent of the total) each achieved agricultural production of over a quarter of a million euros in 2020 (Eurostat, 2023). Although they represent such a small share in number, these top

farms accumulate almost 57% of the total income from agricultural activities in the whole of European Community. They are additionally characterized by more consistent legal forms of organization (almost half of them) in the form of associations, cooperatives or holding companies. Even agricultural production shows a form of concentration, on nations, over 60% of EU agricultural production is sourced from the four most important producers: Italy (approx. 18%), France (approx. 17%), Germany (approx. 13%) and Spain (approx. 12%). Romania, although it has the largest number of farms in the European Union, almost 32% of the total, because many of them are small and with low productivity, this country has an agricultural output of just over 3% of the EU total.

In the findings so far, we have referred to a momentary situation, from the recent past, i.e., the year 2020, the last for which there are detailed data from Eurostat. It is interesting, however, to take a look at some developments. With great consistency over time, the continuous decrease in the total number of agricultural holdings is noted. The data may be a bit perturbed by the fluctuating way in which a farm was defined at various points in time, but that cannot change the overall result. The global situation shows a decrease in the number of agricultural holdings by 37% in the last 15 years (figure 4).



Figure 4. Variation in the number of farms and cultivated agricultural area in 2020 compared to 2005 across the EU *Source:* own construction based on Eurostat data (2023)

This decrease represents the disappearance of more than 5 million farms during this time frame. Of these, almost 90% were small in size, under 5 hectares. The declines were not evenly distributed across the continent. The most serious negative variation was registered by Romania in the number of farms (nearly one and a half million, representing a third of their number in 2005). However, Romania started very high with this number, if we look at the percentage, bigger drops

occurred in Bulgaria, with -75% and Hungary, with -68%. Other substantial decreases (between - 35% and -50%) occurred in Greece, Italy and Poland. Practically, the general phenomenon is not one of loss of farms, because many have merged, turning into larger farms. During the mentioned period, small and very small farms decreased numerically by more than 4.5 million. The only increase is felt for very large companies, over 100 hectares, they grow by approximately 28%. Practically, large farms have increased in almost all countries of the European Union, with only three exceptions: Austria, Denmark and Greece (Eurostat, 2023).

There are special characteristics of managers of agricultural holdings, mainly they are men and older than those in other economic activities. In many circumstances the farm manager is confused with the farmer. Agricultural decisions about plants and animals are made by the same person who also makes decisions about the market, financing and management. Another common overlap is between the manager and the owner of the land and other assets. Almost 69% of the people considered to be managers among the more than 9 million farms in the European Union were men in 2020. An aging of managers can also be identified, both in the case of women and men, almost 58% of them were with ages 55 or older. Under 12% of the managers, on all farms in the EU, are under 40 years old. These situations are also different from one country to another, very low percentages of young managers are found in Mediterranean countries, Portugal, Spain and Greece, with values between 6% and 8%. Rather, their higher frequencies are found in countries in the center of Europe, in Poland and Austria, between 21% and 24%. There is a very pronounced aging of farmer-managers in southern and eastern countries, in Romania, Spain, Portugal and Cyprus, with those over 65 having proportions of 40%-50%. These situations indicate very divergent economic, political and social interest in the national territories in supporting the renewal of generations of owners, farmers and agricultural managers. As a global phenomenon, on the whole of the European Union we note (figure 5) the high weights for older age groups. The predominance of men in all age groups is also observed. The difference between men and women is a phenomenon encountered at managerial level and in other economic sectors. However, the large share of managers over 65 years old (a third of the total for both sexes) is very surprising, when according to the legislation of all European Union countries they should be at retirement age. These discrepancies of age groups and sexes manifest themselves with different intensities in the Community countries. The country where women seem to be the most disadvantaged is the Netherlands, where less than 6% of farm managers are female. Other countries with very low values are Germany, Ireland, Malta and Denmark, where the weights are between 10% and 11%. A much more pronounced egalitarianism can be observed in Lithuania and Latvia, where the percentage of women is around 45%.



Figure 5. Farm managers in the EU by age group and gender in 2020 *Source:* own construction based on Eurostat data (2023)

Even if they predominate numerically, older managers generally do not run large farms. Figure 6 shows that their proportion decreases as the economic size of the agricultural holding increases. They are largely involved in subsistence activities or farms with low and very low incomes. Practically, of all the managers over 65, more than three-quarters managed farms in the first two categories, subsistence or very small. Instead, there is a tendency to implant young people under 40 rather in medium and large companies. Practically, about a third of the young managers led medium and large companies, and this proportion is higher than that of other age segments. Among the oldest farmer-managers, this proportion is below 10%. A plausible explanation can be the more complete schooling of young people, with higher knowledge, both economic and agricultural. Higher education (bachelor's degree and above) in agricultural sciences was completed by more than 21% of young people, but less than 4% of older people. These studies give access to knowledge that allows greater productivity, including through the use of innovative production technologies.



Figure 6. EU farm managers by age group and farm size in 2020 *Source:* own construction based on Eurostat data (2023)

So, it seems that age is not always a factor in itself, it can be correlated with professional training. Across the European Union and across all farms of all types and sizes, almost threequarters of managers have no agricultural training whatsoever, relying only on hands-on experience. About 10% of farmers have a complete agricultural training, including higher specialized studies. About 15%-20% of farmers have various types of agricultural schooling, of different levels, but incomplete. And here the situation is very different in the national territories, the most inadequate being Greece and Romania, where less than 1% of farmers have higher agricultural training and almost 95% do not have any type of professional schooling, relying only on what they have accumulated through practice. However, there are also countries that have a good professional training of agricultural managers, in first place being the Netherlands, with almost 63%, followed by France, Luxembourg and the Czech Republic with proportions between 35% and 55% (Eurostat, 2023).

Conclusions

I noted the importance of the European Union's Common Agricultural Policy, which is the longest-lived and best financed of all common European policies. Some objectives, such as increasing agricultural productivity, have remained almost unchanged over several decades. However, the CAP was constantly changing, with new reform objectives emerging. Although the orientation towards agriculture itself remained the majority, environmental components and complex development of rural communities were added. Despite the common policy, there are still gaps in the development of rural areas in EU Europe, both on the north-west / south-east axis, as well as between EU countries and the newcomers. These gaps are reduced in periods of economic growth but accentuated in periods of recession.

Looking at the historical evolution of the CAP, I noticed some incipient elements that occurred in the early 1960s, when it went from supporting the prices of agricultural products to financial support given directly to producers. Another important moment captured by our analysis was at the beginning of the 2000s when an increasingly accentuated orientation towards the market was felt, even if it was done through interventionist methods of support. Subsequently, a hybrid support system was defined in which funding rights were calibrated on agricultural production values from the recent past for the oldest member states of the union and on different schemes (regional, payments on agricultural areas, etc.) for the states that have just joined A system of payments called decoupled has appeared whose first objective is to support a minimum income for the agricultural farmer, after which he must direct his attention and capabilities to succeed in being competitive in competitive markets.

The analysis carried out in this study is more precise than a purely theoretical analysis. We did not only refer to development principles, but examined statistical data and specified reforming ideas, policy objectives and some effects of interventions. The review of the Common Agricultural Policy highlighted the European diversity regarding agriculture and rural development. On the contrary, precisely this diversity forces us to have a more correct and complete picture of financing on rural development to examine the problem even more precisely, for a country of the European Union, which would clearly highlight effects, elements of efficiency or other problems of European financing for the rural area.

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