

MARKET FAILURE AND THE PROVISION OF PUBLIC GOODS IN AGRICULTURE

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Abstract. This article presents theoretical concepts and mechanisms of market failure and the response of the active state policy in the area of provision of public goods, on the example of instruments of the Common Agricultural Policy (CAP). Financing of CAP from the EU funds should be supported by expectations of the European society and the awareness of the importance of such activities. Therefore, the author made references to Eurobarometer surveys, on the basis of which she was able to show the opinion of EU citizens about the examined CAP instruments. In the article, the author argues that the provision of public goods in agriculture is only possible through the support of activities of farmers by public institutions, which can effectively support them in this regard, using available financial instruments. For many years, the financial support within the framework of the CAP has resulted in the provision of goods, both environmental and economic, as well as socio-cultural.

Key words: state failure, public goods, protectionism in agriculture, the CAP, the EU

INTRODUCTION

In recent years, the role of the European Union policy in delivering public goods has become increasingly important, and at the same time, as an issue, has been analysed from the point of view of the budgetary capacity of the EU. In justifying the need for the provision of public goods, you should refer to the economic theory. Already in the classical economics, A. Smith pointed out that the state should provide citizens with certain public goods even when implementing the concept of the night-watchman state. Such goods provided to citizens by the state are primarily safety, respect for social justice and maintenance of certain public institution and certain public works, which are not funded

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by private companies [Smith 1954]. Therefore, in each country, undergoing a particular socio-economic development, economists raise the question about the level of state regulation and intervention. The justification of activities conducted must reflect not only the scope of social needs and expectations but also the amount of funds generated from the budget for public purposes. Issues related to the functioning of, and the decision-making process in, the country are analysed in detail also in the theory of public choice, classified as new institutional economics [Wilkin 2005]. In the theory of public choice, an issue which is of particular interest to representatives of the Chicago School is the economic theory of regulation, in which two main concepts may be distinguished, namely public interest and private interest [Nagaj 2012]. The concept of public interest is based on the assumption that the market is characterised by unreliability, and therefore, government intervention is undertaken. It is assumed that the market is inefficient and the state, through its actions, is to reduce such inefficiency and its impact on the economy. In addition, the concept of public interest justifies government supervision over production of widely recognised national public goods [Kemerschen et al. 1991, Marciniak 2005]. The second concept argues that the state does not act in the public interest but in the interests of certain business groups, corporations exerting their influence over the government, and thus, affecting public decisions [Gunning 2001].

The theoretical purpose of these considerations is to present the foundations of the concept of market failure, justifying state intervention. In cognitive terms, the aim is to relate such theoretical foundations to practical examples of delivery of public goods in agriculture, within the framework of the CAP of the European Union. Especially in the EU budget for the years 2014–2020, the ability of farmers to receive financial support was combined with their compliance with specific standards and regulations, leading, among others, to certain positive external effects of conducted activities. A review of available literature allowed the author to assume that the existence of public goods in agriculture and the inability of market entities to fully deliver such goods to the public, has resulted in the need to implement an active state policy in this area. The article was prepared on the basis of a number of source materials, monographs and scientific articles in the field of economics, public goods and the Common Agricultural Policy. The article also presents the results of Eurobarometer surveys which, on the one hand, demonstrate knowledge of EU citizens of the actions taken under the Common Agricultural Policy, and on the other hand, the awareness of the connection between selected CAP instruments with the necessity of providing public goods by farmers. The surveys were conducted in October 2015, based on the direct structured interview method, i.e. a total of approximately 28 thousand interviews, including more than 1 thousand questionnaires distributed in Poland.

MARKET VERSUS STATE FAILURE

The basis of economic theories arguing the legitimacy of state intervention is the belief of the market failure or defects, causing imperfections in the operation of the market. At the beginning of our considerations, it should be stated that neither the state nor the market operate perfectly. The main causes of state failure are: limited access to information, limited state control over the operation of private markets and bureaucracy, as well

as limitations of a political nature [Okimoto 1990, Stiglitz 2004]. Limited information available to the government about, e.g. effects of public programmes, may result in the difficulty to predict the financial impact of implemented solutions. Limited control over the activities of private markets demonstrates that in allowing private enterprises to implement public tasks, the state is not always convinced of the correctness of their execution – for instance, the irregularities in the implementation buying process carried out by private companies in Poland before its accession to the EU. On the other hand, limited control over bureaucracy reflects problems in the implementation of laws by various government agencies. In the implementation of specific by-laws, these agencies could devote too much time to their preparation. Moreover, their decisions could differ from original assumptions, especially when the decision-making path is excessively long, i.e. initially established in EU legislation and subsequently transposed into the regulations of individual Member States. Political restrictions, i.e. possible activities in favour of certain interest groups, are also crucial in this regard.

Realising failure of the state (and the EU – in the case of the CAP), you must also remember about market failure. The market mechanism is effective when certain assumptions are met. According to the theorem of welfare economics, economy is effective, as defined by Pareto, only when certain conditions have been met. Efficiency, as understood by Pareto, is the type of resource allocation where nobody's situation can be improved without worsening at the same time the situation of someone else. Such resource allocation, as defined by Pareto, is called efficient, or in the sense of Pareto's theory – optimal. The state has its limitations, thus it should only intervene where market failure is greatest and where intervention can bring visible improvements. However, you can enumerate several reasons for market inefficiency, as understood by Pareto. They are referred to as types of market failure, and in these situations, it is believed that state intervention is justified [Stiglitz 2004, Podlasiak 2009]. You may quote numerous reasons for market failure, i.e. lack of perfect competition, failure resulting from the existence of public goods and externalities, incompleteness of markets, incompleteness of information in the economy, or instability of the economy and lack of an automatic mechanism to restore balance [Wojtyna 1990, Samuelson and Nordhaus 1996, Milewski 2004, Stiglitz 2004, Skawińska et al. 2008, Fijor 2012].

Market failures result from the occurrence of the so-called imperfect competition, which is a consequence of the monopolistic position of companies. Monopolistic practices lead to a reduction in social welfare, higher prices of products and production which is lower than in conditions of free competition. The state can reduce the effects of market failures by preventing monopolistic practices or strengthening the system of information flow [Wojtyna 1990, Milewski 2002, Stiglitz 2004]. Pigou [1920] states that in the case of monopolistic practices, the state may apply financial penalties, abolish import duties on competitive products, or cause the state to be involved in the provision of similar services. However, according to Pigou [1920], you need to remember that such policy should be neither too restrictive nor too lenient. Another cause of market failure is the existence of public goods. These are specific goods which are not supplied by the market or supplied in insufficient amounts. The use (or consumption) of goods by one person does not mean that others are not able to use them at the same time (non-rivalry in consumption) [Accella 2002, Stiglitz 2004, Altvater 2007, Podlasiak 2009, Samuelson and Nordhaus 2012].

Besides, there is no practical possibility to exclude a person from consumption of a public good, or such action would entail excessive costs [Wojtyna 1990, Stiglitz 2004, Podlasiak 2009, Olson 2012]. Public goods are available to everyone, including those who have not paid for it, i.e. people who knowingly make use of such goods and avoid any costs arising therefrom. In the absence of state interference, involving manufacture and supply of such goods, a situation could occur, where – despite strong demand for a given good – it would not be manufactured [Wojtyna 1990, Stiglitz 2004].

Pure public goods and public services are not the only goods and services in respect of which the market fails to deliver the proper amount. There are also other goods which are not provided by the market, even though the cost of offering them is lower than the selling price. This situation is referred to as an incomplete market, as opposed to a complete market which is able to deliver all goods and services provided that the cost of their manufacture is lower than the selling price. Quite frequently, markets fail in the area of insurance in agriculture, by failing to offer specific types of insurance due to problems related to risk assessment. Especially in the case of repeated natural disasters and major losses in production, including agricultural, you may wish to ask the question whether or not the state should participate in this system.

Another important issue is the existence of the so-called externalities. Externalities occur where decisions taken by an entity, in terms of production or consumption, directly affect (not through market prices) the production or consumption of other economic entities [Podlasiak 2009]. Externalities apply to phenomena, behaviours and business processes, which, due to their specificity, go beyond the operation of the market. Examples of externalities are: environmental pollution, noise and traffic congestion. Externalities can be both negative (in the form of costs to be incurred by others) and positive. Since companies do not bear the full cost of negative effects of externalities caused by them, the scale of their operations may be large. On the other hand, if an individual does not accept all the benefits associated with the activity which is accompanied by positive externalities, the scale of their operations is too small [Stiglitz 2004]. With regard to the so-called negative externalities caused by economic operators, the state applies such instruments as taxes or quantitative restrictions, and in relation to the positive effects – subsidies. The state can induce economic operators to cover the costs linked to the reduction of the negative side effects of their operations [Milewski 2002, Skawińska et al. 2008, Samuelson and Nordhaus 2012]. Goods which are an outcome of agricultural activity are a specific example of externalities. In agriculture, the currently applicable CAP makes it possible to support farmers, thereby encouraging them to conduct activities which are beneficial to the environment and improving food security. Accordingly, a question should be asked whether these measures would be implemented to the same extent if it were not for the financial support of manufacturers. Undoubtedly, the financial support does not only raise awareness of the beneficiaries but it is also an element encouraging action in this regard. The receipt of funds linked to the system of direct payments or the Rural Development Programme is a means of help for both large and small farms.

The existence of both socially beneficial and unfavourable goods is another reason for market failure. Not all goods consumed by the individual are beneficial to him/her from a social point of view. In a particular situation, the individual may decide to consume products which are harmful to him/her, and this is why the state may apply a ban on vo-

luntary cultivation and sale of plants harmful to consumers (hemp seed) [Wojtyna 1990, Milewski 2002, Skawińska et al. 2008]. With access to and opportunities for the transfer of information, the state is able to create incentives or disincentives for consumption of such goods [Milewski 2002, Stiglitz 2004].

As a cause of market failure, Wojtyna [1990] also indicates the requirement for a more equitable distribution of national income. Unrestricted market forces can promote optimal allocation of production factors, however, it can also lead to a polarisation of society's income. Therefore, the distribution of national income depends not only on the market operation but also, for example, on the legal framework defining the rules of inheritance of wealth. The existence of people deprived of, and at the same time, requiring care, calls for involvement of the state [Wojtyna 1990]. Furthermore, the unstable economy and the lack of an automatic mechanism for restoring equilibrium is a problem leading to negative consequences. The operation of the market mechanism leads to the creation of insufficient demand in relation to supply, which also results in the under-utilisation of production capacity. Interference between supply and demand may continue over relatively long periods of time, leading to unemployment and under-utilisation of production capacity [Stiglitz 2004]. An active state policy is aimed at stabilisation activities, which can also be applied to the Common Agricultural Policy within the EU. This policy, from the very beginning of its operation, has been aimed at ensuring an adequate level of supply of agricultural products, whereas the subsequent introduction of intervention with regard to basic agricultural products was also aimed at enabling producers to sell their products at a fixed price.

There is also a need for the functioning of a legal system which defines ownership and the principles of concluding commercial agreements (contracts) between economic entities. The legal framework is necessary due to the fact that the majority of transactions are not based on the direct delivery of products or services but on their provision in the future. In a market economy, the state should create legal standards and institutions to protect proprietary rights, and regulate the system of private entrepreneurship [Milewski 2002]. In addition, many areas of economic life rely on a uniform legal system, not only in the context of a single country but in the context of many countries, e.g. the European Union. A perfect example of this phenomenon is the Common Agricultural Policy, operating in different Member States, on the basis of uniform guidelines and rules.

PUBLIC GOODS IN AGRICULTURE, PROVIDED WITHIN THE FRAMEWORK OF THE EU CAP

Since the mid-1980s, environmental protection, as defined by the Common Agricultural Policy, has gained special significance. The adoption of the Single European Act confirmed the need to support the process of harmonisation of the agricultural sector in the EU and the need to take measures to protect the environment [Jurcewicz 2010]. The purpose of preserving, protecting and improving the environment is to contribute to the protection of human health, while ensuring the rational use of natural resources. Community action should be taken only when activities related to the environment, in accordance with the principle of subsidiarity, could be better implemented at the Community

level rather than at the national level [*Single European Act* 1986]. Subsequent changes to the CAP, including reforms by Mc Sharry and Agenda 2000, promoted the multifunctional development of agriculture, extensive farming practices and exclusion of arable land from cultivation. It was recognised that the constant expansion of agricultural production would contribute to the creation of food surpluses and adverse environmental effects. The reduction in the potential of natural resources and the progressive degradation of environmental values led to increasing concern about the possibility to maintain natural resources for future generations. Therefore, a lot of attention was paid to the concept of sustainable development, which applies to economic, environmental and social aspects [Majewski 2008, Czyżewski and Brelik 2013]. By reference to the European nature of agriculture, the importance of the rural development policy and environmental policy was emphasised, especially in the context of improving the safety and quality of agricultural produce. This direction of changes, continued in the subsequent EU budgetary perspectives, gained particular importance in the current financial perspective – 2014–2020 [Biernat-Jarka 2016]. Currently, particular attention in the functioning of the Common Agricultural Policy is being paid to the possibility of linking funding opportunities for individual instruments, e.g. direct payments or measures under the rural development policy, to the provision of public goods. What public goods are delivered as a result of the implementation of the CAP? In reference to this question, first of all, it must be emphasised that such goods result from activities carried out by private operators (farmers), as a result of financing specific programs.

Cooper et al. [2009], in the report on public goods provided by agriculture, divided such goods by the level of their publicity, into low, medium and high level goods. The low level of publicity is demonstrated by pure market goods, supplied by producers at a certain price, e.g. agricultural products. The second group are club goods, e.g. private parks and the so-called shared (common) resources, such as agricultural landscape. The last group, i.e. pure public goods, include e.g. climate and biodiversity (Table).

Wilkin, in analysing the importance of public goods in agriculture, highlights two types of such goods: substantive (socially desirable) and public goods. The difference between substantive, i.e. socially desirable, goods and public goods is the fact that the

Table. Distribution of goods depending on the level of publicity

Degree of publicness			
low	medium		high
private goods	club goods	impure public good	pure public goods
competitive in terms of consumption	non-competitive in terms of consumption by a small group of users	non-competitive in terms of consumption with a high degree of risk of exhaustion in a situation of excessive number of consumers	non-competitive in terms of consumption, but there is a risk of exhaustion in a situation of excessive number of consumers
excluding non-owners from consumption	restricted group of users; others are excluded from consumption	others may be excluded from consumption only by incurring high costs	inability to exclude others from consumption
e.g. agricultural produce	e.g. private parks	e.g. agricultural landscape	e.g. climate, biodiversity

Source: Cooper et al. [2009].

first type can be supplied by private operators, and as a rule, they are priced, and access to these goods is not common due to their specific price or other conditions limiting their access. Substantial goods financed from private sources may be supported with public funds due to their positive externalities. According to Owsiak [2002], social goods are those which – due to their physical aspects – could take the form of private goods, but thanks to the social policy of public authorities, they are available to every citizen. This is also the case with goods resulting from certain types of agricultural activity. It should be noticed that without additional incentives and appropriate programmes, provision of public goods in agriculture would be limited. Therefore, under the Common Agricultural Policy, direct payments and the possibility to benefit from the rural development policy, has been linked to the application of specific actions, which are favourable from the point of view of the environment. By analysing the categories of public goods provided by agriculture, either directly or in the form of externalities of farming, we can distinguish environmental, economic and socio-cultural goods. Environmental goods delivered as part of the EU agricultural policy include: biodiversity, agricultural landscape, soil conservation and proper water relations. In terms of economic goods, the following examples could be quoted: food security, food safety and energy security, while socio-cultural goods are, e.g. economic and social viability of the country (rural areas), enrichment of national culture and formation of local, regional and cultural identity [Cooper et al. 2009, Wilkin 2010]. In Poland, as part of the system of direct payments, the link between such payments and the compliance of farmers with the rules arising from the implemented policy, is emphasised. First of all, we should mention here payments for planting greenery, based on fulfilment of the requirements for crop diversification, maintenance of permanent agricultural land, and also appropriation of part of the farm area to environmental purposes [System... 2015]. Another important principle underlying direct payment system is compliance by farmers with Good Farming Practices (agriculture), which includes provisions for proper farming. In this way, the EU aims to maintain biological biodiversity by protecting natural habitats, animal and plant species in Natura 2000 areas. Landscaping is done through the protection of natural monuments, ponds with an area of not less than 100 m² and a ban on the destruction of trenches up to 2 m wide. An important aspect in the field of environmental protection is the protection of waters from the consequences of improper use of fertilisers containing nitrogen, as well as protection of groundwater against pollution by dangerous substances. Environmental activities also apply to the maintenance of good condition of the soil, which is possible, e.g. with cultivation on arable land located on slopes with a tilt in excess of 20 degrees, the prohibition of burning farmland, or maintaining a minimum cover for the protection of the soil on the surface of at least 30% of arable land, located in areas threatened by erosion. In addition to direct payments, another important element in the provision of public goods is a system of measures proposed to farmers under the Rural Development Programme [Rural Development Programme... 2014]. In delivering environmental public goods, the following instruments are of key importance: restoration, protection and enrichment of biodiversity in selected areas, improving water management and prevention of soil erosion. Extensive land use in areas with less favourable farming conditions, or the construction of ecological corridors and enclaves, contributes to the preservation of the landscape and promotes biodiversity in rural areas.

Instruments used under the RDP are also designed to provide economic public goods, mainly by maintaining food security. This is possible thanks to the support of modernization and structural transformations of agriculture. Improved competitiveness of agricultural producers may be achieved through better relationships and integration of the agricultural sector with the agri-food chain, as well as promotion of agricultural products. Another important activity is the financial assistance in the implementation of innovative solutions in agricultural enterprises. Innovative solutions could contribute to the improved adaptation of agricultural activities to environmental needs.

Extensive land use in areas with less favoured or the construction of corridors and ecological enclaves contribute to the preservation of the landscape and promotes biodiversity in rural areas. Instruments used in the RDP also have to provide economic public goods, mainly by maintaining food security. This is possible thanks to the support of modernization and structural transformation of agriculture. Improving the competitiveness of the agricultural producers can be achieved through better relationships and integration of the agricultural sector of the agri-food chain as well as the promotion of agricultural products. An important activity is the financial assistance in the implementation of innovative solutions in agriculture. Innovative solutions can contribute to adapting agricultural activities to the needs of the environment. Another noteworthy issue is the manner in which the Common Agricultural Policy is perceived by EU residents. Due to the fact that common policies are financed with public funds, it is important to gain public support in the EU for the instruments applied by CAP. Surveys carried out by Eurobarometer¹ in October 2015 showed that over 90% of respondents felt that agriculture and rural areas are an important challenge for the future of the EU population. According to respondents, farmers are mainly responsible for providing consumers with high quality products (42%), ensuring the welfare of animals (35%) and protecting the environment (30%). Almost 90% of respondents support the idea of combining financial assistance to farmers and their compliance with practices which are beneficial for the climate and the environment, as well as diversification of crops and maintenance of permanent grassland. About 90% of respondents stated that there should be a relationship between the financial assistance available to farmers and their compliance with animal welfare, environmental protection and food safety standards. However, as shown by the Eurobarometer survey, when respondents were asked the question about the main objectives of the EU in relation to agriculture and rural areas, the most popular responses were: ensuring food quality and safety of agricultural products (56%), ensuring reasonable food prices for consumers (51%), and ensuring an adequate standard of living for farmers (49%). In a sense, these surveys indicated a return to the traditional objectives of the CAP, i.e. the need to support farmers' incomes and the need to provide consumers with an adequate level of prices of consumer products. Exactly 62% of respondents (including, interestingly, 75% of respondents in Poland) agreed with the statement that all Europeans benefit from the CAP. Based on the surveys, it can be stated that EU residents are not indifferent to the issues of the Common Agricultural Policy, and that there is high awareness of action

¹ As part of Eurobarometer, in October 2015, 27, 822 direct structured surveys were conducted in 28 EU Member States.

undertaken in this area. The surveys shows that if food security, measures to protect the environment and animal welfare is what we expect, we are well aware of the need to fund programmes from the EU budget.

CONCLUSIONS

Already in the classical economics, A. Smith emphasised the importance of state institutions in the provision of public goods. He believed that there were certain goods, defined as public goods, which should be secured by the state. Despite the passage of centuries, the issue of public goods and the need for their funding from the state (or EU) budget continues to be valid. A specific type of such goods are those delivered by agriculture. In analysing the issue, on the basis of the assumption of state and market failure, the author demonstrated that the financing of public goods in agriculture was necessary. Private agricultural operators are involved in operations based on economic effects and not social expectations. It should be noted here that the manufacture and supply of public goods by private entities frequently entails additional costs which are not compensated by market transactions. Therefore, ensuring additional funding for such goods, separate from the market mechanism, is a desirable or even necessary measure in the long-term perspective. This is exactly the case with the Common Agricultural Policy, where the EU, recognising the importance of environmental or socio-cultural action, supports activities undertaken by private entities by way of direct payments and the Rural Development Plan.

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ZAWODNOŚĆ RYNKU A DOSTARCZANIE DÓBR PUBLICZNYCH W ROLNICTWIE

Streszczenie. W artykule przedstawiono teoretyczne koncepcje i mechanizmy zawodności rynku i odpowiedź aktywnej polityki państwa w obszarze dostarczania dóbr publicznych na przykładzie instrumentów wspólnej polityki rolnej (WPR) Unii Europejskiej. Finansowanie WPR ze środków unijnych powinno być poparte oczekiwaniami społeczeństwa europejskiego i świadomością o ważności tych działań. Autorka odniosła się więc do badań Eurobarometru, na podstawie których pokazała opinię obywateli UE na temat badanych instrumentów WPR. W artykule postawiono tezę, iż dostarczanie dóbr publicznych w rolnictwie możliwe jest jedynie poprzez wsparcie działań rolników ze strony instytucji publicznych, które poprzez instrumenty finansowe mogą skutecznie wspierać ich w tym zakresie. Prowadzone w ramach WPR wsparcie finansowe, już od wielu lat, przynosi efekty w postaci dostarczania dóbr o charakterze środowiskowym, ekonomicznym i społeczno-kulturowym.

Słowa kluczowe: zawodność państwa, dobra publiczne, protekcjonizm w rolnictwie, WPR, UE

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