
Shaping Competitiveness Through Policy: The Case of the Organic Food Market

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Abstract:

Purpose: The paper presents the results of the study into competitiveness of the organic food market in the EU by looking closely into the policy which impacts the development of the organic food market in one of its Member States – Poland.

Design/Methodology/Approach: The research presented is divided into two parts. First, it serves as a diagnosis of the EU agriculture and the organic food market competitiveness. It then looks closely into the case of the Polish organic food market and tackles the following question: to what extent has the policy contributed to its development and competitiveness? The research employs data from various sources which provide information on agriculture, the organic food market, and the Common Agricultural Policy.

Findings: The situation on the organic food market in EU Member States varies greatly. Poland is an example of one of its newest states in which the organic food market has been expanding but does not seem to be closing the gap between the European leaders and itself with regard to competitiveness. Productivity is one of the issues that calls for rethinking of the current approach to interventions on the analyzed market.

Practical Implications: Data suggests that despite various efforts the Polish organic market cannot seem to overcome obstacles to its further development. Policy makers should focus their attention on how to boost productivity on this market. Another practical implication which was not anticipated until the phase of data gathering is that data quality and availability leaves much to be desired.

Originality/Value: The paper adds to the discussion on the development of the organic food market in the EU and, more precisely in Poland. It broadens knowledge on the relationship between financial support within the CAP and organic food market competitiveness.

Keywords: Competitiveness, policy, Common Agricultural Policy, organic food market.

JEL Codes: D04, L66, Q13.

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1. Introduction

A reform is underway for the organic sector in the European Union. Its aim is to guarantee fair competition for farmers, fight against fraud, and maintain consumer trust (Regulation (EU) No 2018/848). It is a result of several years of extended works on amending the organic legislation which started not long after previous regulation came into force. The objectives behind improved regulation are focused on strengthening consumers' and producers' confidence with the market and its products. The former is to be achieved through stronger rules on production and improved control system and the latter by uniform production rules and high standards which would then translate into fair competition. Another objective of the regulation is to lessen the obstacles which impede further development of the organic sector.

The new regulation comes just in time when systemic issues of the organic food market need to be addressed. However, some would say, that it should have been introduced sooner. Notwithstanding, it is highly probable that in the EU – if not for the current and previous regulations – this market would not flourish as much as it has. The relationship between policy and the market growth is irrefutable.

Organic food market development in the EU has contributed to the standard of living within its Member States. It plays a major role from a societal point of view as it is responsible for delivering goods which contribute to environment protection as well as animal welfare but also organic products are a response to a specific consumer demand. In other words, organic production impacts competitiveness in the social dimension and policies which support this type of activity do so as well. The scope of this impact remains a matter of discussion.

However, competitiveness is a multi-faceted, relative, and subjective concept. Beyond its social scope it also relates to competition occurring on the market. If, as previously stated, policy which impacts the organic food market has an effect on competitiveness in its social dimension, a question arises if and to what extent has the policy contributed to shaping the non-social dimension of competitiveness of the organic food market in the EU? This paper is an attempt at answering this question by adding to the literature on this topic while it analyzes the case of the organic food market in Poland.

2. Literature Review

2.1 The Notion of Competitiveness and Policies on its Service

Interventions are mostly called for in times of economic distress, when unfavorable circumstances need to be addressed and combated. It was Keynes who formulated arguments in favor of interventions that are to assist non-self-adjusting markets in the state of disequilibrium (Keynes, 2018). Policies soon followed his General

Theory as governments engaged in a vast array of interventions (e.g. the New Deal programs were brought to life in the US). Then it was the II World War that tore down societies and economies but also “shifted the tectonic plates of the political order in ways that made for economic experimentation” (Hall, 1989).

The approach to the issue of how much intervention should be called for varies in time. As the times of economic distress are replaced by economic booms, the intensity of the debate on the level of permissible intervention is fueled by the circumstances in which policies are established. However, certain policies seem to be somewhat more immune than others to the fluctuating level of criticism of interventions. In general, these policies maintain their position in the overall policy system. To some extent, agricultural policy can be attributed with the above characteristics which stems from the fact that its goals are related to guaranteeing a certain supply level, price stability or product quality. As countries compete on a global scale in agriculture and food processing, boosting their competitiveness has become an important issue on the policy agenda and they have received a considerate amount of support from advocates of economic interventions but also some support from their opponents.

Competitiveness as a concept has appeared relatively recently and studies on it have emerged as a result of a mismatch between economic theory and market reality which revealed itself in the second half of the 20th century or, more precisely, during the decades of the 1970s and 1980s. It was during this time that much attention was paid to competition occurring between the US and Japan (Krugman, 2008) and the former losing its competitive edge. This led to extended research into the issue of the US competitiveness which was carried out, inter alia, by the Presidential Committee for the Competitiveness of Industry established by Ronald Reagan (*Global Competition – The New Reality*, 1985). The Committee analyzed international position of the US industry and proposed one of the first definitions of competitiveness. The recommendations which were published were to aid various industries to improve their competitiveness and, as a result, the competitiveness of the US economy. It was also during this time that various other countries were experimenting with policies directly affecting their international trade and the goal behind them was to support chosen domestic industries. All in all, the initial spark which initiated competitiveness studies was lit because of a heated debate on contemporary real processes.

Due to internationalization, globalization, and the accompanying changes in the political, economic, socio-cultural, and demographic landscape, competition and competitiveness have gained importance in the economic discourse. Today, more than ever, economies with varying degrees of development, openness, and trade liberalization take part in global competition and so do the entities that form their ecosystems. Their competitiveness is determined by many factors (direct or indirect) and it has become the center of attention of policymakers around the world. Their efforts are directed towards maintaining or boosting the current and future levels of

competitiveness. They are aiming at tailoring their policies in a way which would bring best results. However, interventions lead to a number of daunting questions: to what extent can competitiveness be engineered?; how far can governments proceed with interventions to steer the economy?; what measures can and should they implement? These are only few questions raised when discussing the role of policies affecting the economy with the aim of putting it on the right development track.

As previously stated, competitiveness of agriculture has become an important topic in many countries. When it emerged in the academic discourse as well as among policy makers, it soon became clear that it would become the focal point of policymaking. Ever since, it has been pursued in numerous policy agendas and the European Union is an example of such approach. Competitiveness has been the focus point of the Common Agricultural Policy (CAP) whose development coincided in time with the emergence and development of environmental issues. As a result, competitiveness of agriculture – both in its conventional as well as organic form – has been widely targeted through various policy instruments with varying degrees of success.

2.2 World Problematique and the Common Agricultural Policy as the EU's Organic Legislation

The discussion on environmental issues intensified after 1972 when the Club of Rome published *The Limits to Growth – A Report for the Club of Rome's Project on the Predicament of Mankind*. The report distinguished a set of crucial problems facing humanity denominated the *world problematique* which included: “poverty in the midst of plenty; degradation of the environment; loss of faith in institutions; uncontrolled urban spread; insecurity of employment; alienation of youth; rejection of traditional values; and inflation and other monetary and economic disruptions” (Meadows, Meadows, Randers and Behrens, 1972). The core conclusion of the report was that the economic growth will not continue indefinitely or, more precisely, “if the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next one hundred years” (Meadows, Meadows, Randers and Behrens, 1972). Moreover, the report concluded that negative trends can be altered by establishing “a condition of ecological and economic stability that is sustainable far into the future” (Meadows, Meadows, Randers and Behrens, 1972).

Not long after the report was published, the European Community, through a decision taken by the Heads of State and Government in 1973, recognized environment protection as one of the Community's objectives (Sbragia, 2000). It was soon followed by the first Environmental Action Plan which shaped environmental objectives of the European Community. The two above-mentioned policy initiatives constitute the emergence of the environmental policy in the European Community. During the early years of environmental policy development

a notion unfolded in which protection of the natural environment depends on agricultural policies (Lynggaard, 2006). According to Lynggaard, (2006), the effects of agriculture on environment were one of two key problems of the initial stage of environmental policy development in Europe. Moreover, during the years 1973–1977 organic farming started to be perceived as a solution to pivotal issues facing agriculture.

Despite the above-mentioned policy decisions, the Common Agricultural Policy did not focus on environmental aspects until 1985 when the Council Regulation (EEC) No 797/85 was introduced. Only then environmental concerns became substantial in the CAP discourse. The regulation introduced the possibility to support environmentally friendly farming (“in order to contribute towards the introduction or continued use of agricultural production practices compatible with the requirements of conserving the natural habitat and ensuring an adequate income for farmers, Member States are authorized to introduce special national schemes in environmentally sensitive areas”) and protect environmentally sensitive areas (“whereas it should, in addition, be made possible for Member States to take special measures in environmentally sensitive areas with the object of introducing or maintaining agricultural practices which are compatible with the requirements of protecting the countryside”). Therefore, the institutionalization of environmental ideas within the CAP framework did not take place until in the first half of the 1980s (Lynggaard, 2006).

Despite earlier attempts, it was not until the Single European Act of 1987 that environmental policy became obligatory for the Member States. Then, at the beginning of the 1990s, two regulations were introduced which substantially impacted organic farming and organic food in the European Union (Lampkin, Foster, Padel and Midmore, 1999). These were: Council Regulation (EEC) No 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs and Council Regulation (EEC) No 2078/92 of 30 June 1992 on agricultural production methods compatible with the requirements of the protection of the environment and the maintenance of the countryside. The former defined what constitutes organic agriculture whereas the latter provided financial support for organic farming.

These regulations mark the europeanization of organic agriculture due to the fact that all EU Member States had to “transpose all EU regulation to national law” (Michelsen, 2009). They coincided in time with the reform of the Common Agricultural Policy which took place in 1992. It was focused, among other areas, on reducing negative environmental impacts originating from modernization of agriculture (Dabbert, Häring and Zanoli, 2004). That reform was responsible for extensive promotion of environmental objectives and, according to Offermann (2003), it influenced relative competitiveness of organic farming by reduction in price support, compensatory payments and obligatory set-aside as well as the introduction of the agri-environmental programs. Moreover, the reform formally

recognized organic farming from a political point of view and should be perceived as a landmark within the process of organic farming development in Europe (Dabbert, Häring and Zanolì, 2004). Ever since, policy support to organic farming in the form of area payments has been included in the CAP agri-environmental measures and it has played a substantial role in the development of organic farming (Stolze, Sanders, Kasperczyk, Madsen and Meredith, 2016).

The period 2000–2006 was marked with the accession of ten new Member States but before that unfolded, the CAP reform under Agenda 2000 build-up to the previous reform from 1992 (Ward, 1999). Agenda 2000 was responsible for introducing two CAP pillars as well as Rural Development Programs at national and regional level (Mantino, 2010). Through the two pillars the EU divided its funds between direct support for farmers and market measures as well as rural development. In 2003, Council Regulation (EC) No 1782/2003 reformed the direct payments system by introducing decoupling and the Single Payment scheme. The EU environmental policy during this time was described as “broad in scope, extensive in detail, and often stringent in effect” but also “multi-level, horizontally complex, evolving, and incomplete” (Weale, Pridham, Cini, Konstadakopulos, Porter and Flynn, 2002).

Another reform of the CAP took place in 2013 and targeted the period of 2014–2020. The Common Agricultural Policy 2014–2020 puts even more focus on delivering environmental and climate friendly agriculture. It has made organic farming more visible in the agricultural policy agenda and brought priority areas such as: viable food production, sustainable management of natural resources, and balanced territorial development across the European Union (European Commission, 2013).

The newest approach to the legal framework of organic production policy was set out in Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007 (2018) which marks the end of the 2014–2020 funding framework. After the text of the new EU legislation was published in 2018, extensive works began to prepare secondary legislation whose role is to explain in detail the legislative framework set out in the core regulation. The key changes in the new approach set out in the upcoming EU regulation concern: allowing group certification regardless of producers’ location, linking the organic control system to general legislation on official controls for food and feed, laying out specific control requirements for organic production, allowing for physical inspection to be carried out every 24 months instead of every year (under specific conditions), allowing exemption from certification for certain retailers, farmers, and operators. Moreover, the new framework will establish two systems to import organic products to the EU – either through trade agreements or through certifiers.

Works on the new regulation have been conducted in parallel with discussions about the future of the Common Agricultural Policy which, supposedly, will be more

results and performance oriented (instead of the up to now prevalent approach focused on compliance and rules). The vision for the future CAP is summarized in nine objectives, with strong – either direct or indirect – linkages to organic production, which consist of: ensuring a fair income to farmers, increasing competitiveness, rebalancing the power in the food chain, climate change action, environmental care, preserving landscapes and biodiversity, supporting generational renewal, vibrant rural areas, and protecting food and health quality.

The Common Agricultural Policy has been shaping the EU's agriculture since the 1960s and ensuring the highest standards of food security, safety, and quality. Throughout the decades since its inception it has been evolving to meet the changing circumstances and to address arising issues. At the same time, it has been adjusted to the growing number of the Member States. The Common Agricultural Policy has influenced agriculture in the European Union (Offermann, 2003) and supported the development of the organic market in the European Union through interventions in organic farming whose growth can be attributed to government support and studies suggest that different approach to support among the Member States resulted in a discrepancy in the stage of development of the organic sector (Håring and Offermann, 2005).

The Common Agricultural Policy is moving towards a new ground as it is trying to put more attention to “win-win policies” in which production goals come hand-in-hand with sustainable management of national resources rather than continuing with “trade-off policies” in which production comes in opposition to environmental impact (Directorate-General, 2017).

The longstanding history of organic legislation in the European Union allows for exploration of to what extent the established policies have contributed to the development of the organic food market, or – more precisely – to its competitiveness. The EU and its Member States have worked extensively on developing tools for strengthening the competitive advantage of agricultural producers (e.g. through establishing quality systems – Wojcieszak and Goryńska-Goldmann, 2018).

The remainder of the paper will be dedicated to tackling this issue by first looking at competitiveness of the EU organic food market and then by focusing on the case of the organic food market in Poland.

3. Research Methodology

Recent years have brought growing interest in organic food as consumers have become more aware of the issues related to food safety, nutrition, and food security. Due to this fact demand for organic food has increased and organic farming as well as organic processing have substantially grew in volume. At the same time, governments introduced policies targeting the organic food market which include

support measures to organic farmers. However, these policies “do not remain beyond dispute” (Häring, Dabbert, Offermann and Nieberg, 2001). Their impact should be carefully analyzed while looking for arguments which would justify the executed interventions.

These policies impact the organic food market in various dimensions. Undoubtedly, their nature and scope influence its competitiveness. However, whether it's a positive or negative impact remains a matter of discussion. This paper should be considered as a contribution to the research on the mechanisms influencing competitiveness of the organic food market with special emphasis put on the policy framework shaping it. Therefore, the main theme of the paper is built around the topic of organic food market competitiveness and the role policy plays in achieving it.

Many indicators can be taken into consideration when assessing competitiveness. Their set depends on data availability as well as the level of analysis – whether it relates to firms, industries/sectors or economies. Differences in the conceptual dimension of available indicators restrict their use depending on their relevance, usefulness, reliability and validity (European Commission, 2018). Depending on the level at which competitiveness is considered, different accompanying effects can be distinguished. In microeconomic terms, competitiveness translates into the ability to generate profit and the company's market share. The effect of competitiveness in the mesoeconomic dimension is the ability to optimize endogenous resources necessary for competing on the market. Whereas, in macroeconomic terms, competitiveness is associated with the standard of living (Łaźniewska, Chmielewski and Nowak, 2012).

When conducting studies at industry/sector level competitiveness can be analyzed either by looking into competitive strengths and weaknesses of a country's industry on international markets and comparing it to the same industry in other countries (intra-sector competitiveness) or by comparing a sector's competitiveness to other sectors within a country (inter-sector competitiveness). The remainder of this paper will be focused on the former perspective and analyze, first, competitiveness of agriculture and the organic food market in the EU (to provide context for the country case which will follow) and, then, competitiveness of the organic food market in Poland with reference to financial support originating from the EU policies.

The geographical scope of the analysis is centered around the European Union and Poland in particular. Throughout the paper the world market is also mentioned which serves as a background for the carried out analyses, and, therefore, the paper applies both a descriptive and a comparative approach.

The analysis conducted in the paper is based on publicly available data from various sources. However, data availability with regard to organic farming is limited, especially when it comes to assessing export competitiveness based on trade data. It was not always possible to work around this impediment by providing data proxies. The authors accessed the most recent data at the time of conducting the study which,

unfortunately, sometimes meant that data from different years had to be employed. This is the reason behind a practical implication formulated at the completion of this paper (which was not anticipated until the phase of data gathering) which is that, despite the importance of quality control measures on the organic food market, data quality and data availability leaves much to be desired. Moreover, the data on organic farming cannot always be recognized as representative.

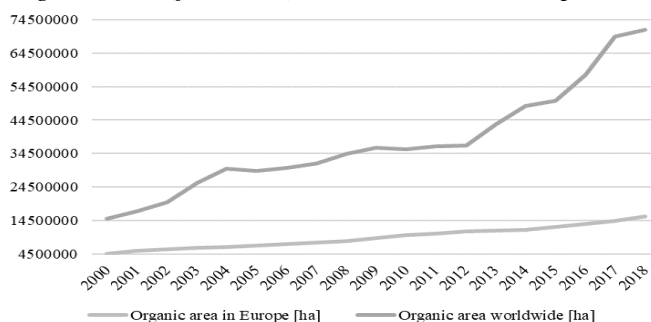
4. Results and Discussion

4.1 Trade Competitiveness of Agriculture and the Organic Sector in the EU

Agriculture in the EU competes against many global players. In 2016 total agricultural area in the EU stood at 161.4 million hectares (39.3% of its total land area), whereas in 2017 total agricultural area in China was 529 million hectares (56.1% of its total land area) and 406 million hectares in the US (72% of its total land area) (Eurostat database). As for the trade competitiveness of the agri-food sector, the EU in 2018 was the largest global exporter of agri-food products followed by the US, Brazil, China, and Canada. Its exports accounted for 138 billion EUR, 40% of which was exported to the US, China, Switzerland, Japan, and Russia. At the same time, the EU was the second largest importer of agri-food products with imports valued at 116 billion EUR.

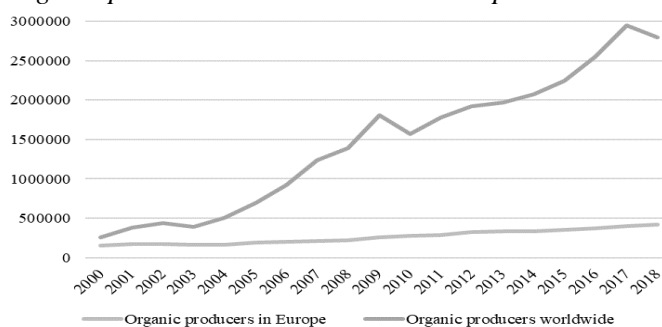
The US led the ranking of top world importers, while China, Japan, and Canada followed the EU. Phil Hogan (the EU Commissioner for Agriculture and Rural Development) said that these results mean that “the success of agricultural trade is clearly linked to the CAP, supporting competitiveness and innovation, and to the excellent reputation of our products as being safe, sustainably produced, nutritious and of high quality” (European Commission, 2019a). The net surplus of the EU in agri-food trade as a measure of export competitiveness proves that the EU holds a strong competitive position in international markets. It has been expanding since 2010 when the EU went from being a net importer to net exporter.

Europe is also a global competitor with regard to its organic sector. In 2018, 22% of global organic agricultural land was located here (Figure 1; 15.6 million hectares; Oceania held the crown with 36 million hectares which translated into 50% of all organic agricultural land). Among ten countries with the largest area of organic agricultural land the following four were Member States of the EU: Spain (2.25 million hectares), France (2.04 million hectares), Italy (1.96 million hectares), and Germany (1.52 million hectares). Australia had the largest area of organic agricultural land (35.69 million hectares), while China reported 3.14 million hectares and the US 2.02 million hectares (FIBL & IFOAM – Organics International, 2020). The organic area (farmland) outside of Europe is growing exponentially while Europe experiences a steady growth. This situation should be considered a potential threat to Europe’s competitive position on the market.

Figure 1. Organic area (farmland) in 2000–2018 in Europe and worldwide

Source: Own elaboration based on Research Institute of Organic Agriculture (FiBL) database.

The competitive position of organic farming in Europe is also being undermined by the rate of growth of the number of organic producers outside of the continent (Figure 2).

Figure 2. Organic producers in 2000–2018 in Europe and worldwide

Source: Own elaboration based on Research Institute of Organic Agriculture (FiBL) database.

With regard to the organic sector, the availability of international trade data is, unfortunately, limited. This situation impedes detailed analyses of competitive position at country level. While the United States have been collecting and publishing data on a relatively detailed level, the European Union only since 2018 has been collecting import data. In 2019, the EU imported 3.24 million tons of organic agri-food products (the Netherlands imported 32% of it, followed by Germany (13%), the UK (12%), and Belgium (11%)). In 2019 the EU imported mostly from: China (13.4%), Ukraine (10.4%), Dominican Republic (10%), Ecuador (9.4%), and Peru (6.6%) (European Commission, 2020), whereas in 2018 from: China (12.7%; mainly oilcakes), Ecuador (8.5%; mainly tropical fruit, nuts and spices), Dominican Republic (8.4%; mainly tropical fruit, nuts and spices), Ukraine (8.2%; mostly cereals), and Turkey (8.1%; mostly cereals) (European Commission, 2019b).

According to the FiBL database, in 2018, United States were the biggest organic exporter (2.981,3 million EUR) followed by Italy (2.266 million EUR), and the Netherlands (928 million EUR; data from 2015). However, assessing trade competitiveness based on this database does not fully depict the actual situation on the organic market as several countries do not provide the necessary data.

Undoubtedly, the development of the organic market in the EU can be attributed to financial support without which it would not be possible to achieve the levels of growth which have been observed throughout the last three decades. The growth and the competitive position of the EU have been clearly shaped by the Common Agricultural Policy which provides conventional as well as organic farms with financial support. Currently, organic farming has been supported under the Rural Development Program 2014–2020 which includes measure 11 “Organic Farming” whose aim is to encourage farmers and breeders to implement organic farming methods. Under Regulation (EC) No 1305/2013, the Member States are obliged to use not less than 30% of the total contribution from the European Agricultural Fund for Rural Development for measures in the field of environment and climate (including organic production).

Given the nature of the organic food market as well as international pressure, many countries have developed various organic standards. In 2019 as many as 68 countries had organic legislation already in place, 18 countries had not fully implemented their regulations, whereas 17 countries were in the process of drafting them (FiBL & IFOAM – Organics International, 2020). As for the EU, its Member States operate under compulsory regulation. Early on, Europe decided to introduce organic legislation which spearheaded the market’s expansion and the advancement of its competitiveness. Today, the EU, both in the case of agriculture as well as the organic food market, is a competitive global player.

4.2 Financial Support Mechanisms in Poland as a Determinant of Competitiveness of Organic Farming

The Common Agricultural Policy serves as an umbrella for national organic farming policies and their evolution (Moschitz and Stolze, 2009). As the Member States joined the European Union at different times, the development of their organic food market varies. Poland was among the Member States who joined the European Union in 2004 and, at that time, had to adapt to the EU agricultural policy agenda (Łuczka-Bakuła, 2013). It consequently led to restructuring of the institutional environment in the agri-food industry (Wierzejski, Lizińska and Jakubowska, 2020).

Joining the EU definitely had an impact on competitiveness of Polish farms – both conventional and organic. Its direction and scope remain a matter of discussion. According to Nowak (2017) the average total factor productivity in agriculture increased by 5% between 2005 and 2014 and regionally the increase ranged between 1.8% and 8%. Technological change contributed positively to this fact in all 16

regions while an increase in technical effectiveness was observed in 11 regions. A more pessimistic view on the productivity of the Polish agricultural sector post-EU accession was presented by Smędzik-Ambroży, Rutkowska and Kirbaş (2019). By conducting a comparative analysis of the EU Member States the authors concluded that productivity in agriculture in Poland (based on productivity of land, labor and capital) was second lowest when analyzing the time period between 2004 and 2017.

As for the organic farming in Poland, after 2004 its development accelerated which coincided in time with the introduction of financial support from the EU. The following years brought growing numbers of the area under organic farming and organic operators in Poland as the agri-environmental programs clearly influenced attractiveness of organic farming and led to increasing competitiveness. However, organic farmland and the number of organic producers were constantly growing until about 2013 but since then they have been declining. At the same time, the number of organic processors in Poland has been rising (with the exception of 2011).

Undoubtedly, the organic food market in Poland is on the rise but during the last few years it has started to experience some structural problems. It is currently affected by a systemic imbalance between supply and demand. Trade is only a partial solution to this issue as some consumers associate organic food with local food and have a negative attitude towards long-distance transport of organic products (Hermansen, Knudsen and Schader, 2013). In Poland, price levels remain high and the market share of organic food is still very low compared to conventional food. Łuczka (2020) estimates that this share does not surpass 1%.

Indisputably, the cause and effect relationship between policy and competitiveness exists in the case of the organic market in Poland. Above all, market regulation has led to establishing necessary definitions and standards. These regulations are a pillar of the market development responsible for shaping consumer trust which then translates to consumers purchasing organic products. Certification of organic farmers is another fundamental issue derived from established policies and managed and supervised by appropriate institutions.

Apart from the above-mentioned dimensions in which policy influences competitiveness of the organic food market, it also provides financial support framework which should impact not only profitability but also productivity of organic production and is meant to play a key role in the market development. As previously indicated, the European Union supports organic food market development through the framework of the Common Agricultural Policy and every Member State designs and executes its policies with regard to the organic market.

When analyzing the period after the EU accession, Poland has gone through three programming periods and three Rural Development Programs (2004-2006, 2007-2013, 2014-2020). Organic farming has been supported throughout all of them (Tables 1-3).

Table 1. Financial support to organic farms in the Rural Development Program 2004–2006 [thousand PLN]

Year	All activity	Type of activity (with certificate and in conversion)			
		Agricultural crops	Permanent grassland	Vegetable crops	Fruit crops including berry crops
2004	32032.9	18443.1	8494.2	521.9	4573.8
2005	75342.7	43016.5	17747.6	788.0	13790.6
2006	105365.9	50400.5	21481.6	865.6	32618.2
2007	179653.4	63799.4	30267.1	1175.1	84411.7
2008	170562.9	51150.7	27187.7	1008.3	91216.2
2009	143638.6	38280.4	19883.9	519.1	84955.3
2010	100356.6	21687.0	12483.9	312.6	65873.0
2011	83.9	21.9	35.2	0.2	26.5
Total	807036.9	286799.5	137581.2	5190.9	377465.3

Source: Own elaboration based on IJHARS 2005, IJHARS 2007, IJHARS 2009, IJHARS 2011, IJHARS 2013.

Table 2. Financial support to organic farms in the Rural Development Program 2007–2013 [thousand PLN]

Year	All activity	Type of activity (with certificate and in conversion)					
		Agricultural crops	Permanent grassland	Vegetable crops	Fruit and berry crops	Other fruit and berry crops	Herbal crops
2008	45302.2	29793.3	9183.5	1232.6	4227.4	831.9	33.4
2009	114032.4	73430.6	21606.3	2536.5	15114.6	1236.1	108.3
2010	229707.2	146720.2	33723.4	5030.6	43467.7	568.4	196.9
2011	323348.3	208209.9	36348.4	8705.0	68230.0	1547.7	307.2
2012	5794.4	5276.6	327.8	104.7	85.4	0.0	0.0
2013	407285.5	291061.1	30081.4	23031.1	60979.4	1630.5	502.0
2014	347501.2	251258.2	19503.0	25524.5	49525.5	1265.1	425.0
2015	265486.5	191824.1	8874.5	25308.4	38197.8	815.4	466.3
2016	174995.2	129107.9	5652.6	20145.0	18834.1	546.2	709.5
2017	86676.1	72798.9	2378.4	8452.0	2031.6	81.7	933.5
2018	22612.0	19907.1	263.2	736.0	1525.0	69.1	111.5
Total	2022741.1	1419387.9	167942.3	120806.3	302218.6	8592.3	3793.7

Source: Own elaboration based on IJHARS 2009, IJHARS 2011, IJHARS 2013, IJHARS 2015, IJHARS 2017, IJHARS 2019.

Table 3. Financial support to organic farms in the Rural Development Program 2014–2020 [thousand PLN]*

Year	All activity	Type of activity (with certificate and in conversion)							
		Agricultural crops	Permanent grassland	Vegetable crops	Fruit crops			Herbal crops	Forage crops on arable land
					Basic fruit crops	Berry crops	Extensive fruit crops		
2015	76553.7	33462.2	4526.3	14997.3	3869.0	2394.5	514.8	1019.0	15770.7
2016	132179.7	53063.2	6749.2	32150.8	7007.9	3489.9	945.6	5835.8	22937.3
2017	203212.1	89590.9	9481.8	26697.5	4401.8	12522.9	1990.5	24957.3	33569.3
2018	260863.6	120247.1	12837.4	23725.7	5538.8	14268.0	2207.5	35337.0	46702.1

Note: * - data for 2019 and onward will be published in the future

Source: Own elaboration based on IJHARS 2017, IJHARS 2019.

The support received by organic farmers in the three funding periods varies. This fact has an impact on the level of uncertainty that potential as well as current organic farmers face which can have a negative effect on competitiveness of Polish organic farmers both on the domestic as well as on the international market. According to Łuczka (2020), the development of organic farming in Poland depends mostly on institutional rather than production barriers among which legal regulations, especially their volatility, play the key role.

Assessment of competitiveness of organic farming can be carried out by analyzing organic farming in various countries or regions but also by comparing organic and conventional farming. Krupa, Witkiewicz and Jacyk (2016), by comparing data on organic and conventional farming in Poland, concluded that the ratio of production revenue to costs in conventional farms was higher than in their organic counterparts. They also found that income as well as profitability of organic farms are mainly determined by subsidies.

Financial support is an important factor for Polish organic farmers which influences their will to continue this type of activity. A study by Łuczka (2020) revealed that majority of organic farmers (71%) would prefer to cease their operations if they would stop receiving financial support rather than continue with this line of activity.

Orłowska (2020) argues that in 2013–2017 competitiveness of Polish organic farms depended on the size of their area. Specifically, the largest farms (over 50 hectares) were competitive (competitiveness index (CI) at 2.1), whereas those between 30 and 50 hectares were able to withstand competition (CI=1.0). The remaining types of farm sizes (5–10 hectares, 10–20 hectares and 20–30 hectares) were characterized by a lack of competitive ability (CI=0.5;0.7;0.8 respectively). At the same time the share of subsidies in their income was the highest in farms between 20 and 30 hectares (107.7%) and between 30 and 50 hectares (102.9%). Orłowska (2019) also looked into the issue of competitiveness of organic farms in Poland but with

reference to their economic size. Farms with size below 25 thousand EUR lacked competitive ability whereas the ones with size above 25 thousand EUR were capable of competition.

The next portion of the paper (Tables 4–7) employs statistical data based on standard results of organic farms developed in the form of time series derived from the Farm Accountancy Data Network which collects data from farms in a uniform system in the European Union. The data was accessed from a series of publications on technical-economic parameters according to agricultural farm groups participating in the Polish FADN.

Table 4. Dynamics of labor productivity of organic farms in Poland based on economic size classes for agricultural holdings [2010=100]

Year	Size			
	Very small	Small	Medium-small	Medium-large
2011	124%	115%	140%	120%
2012	126%	122%	149%	175%
2013	105%	108%	118%	84%
2014	129%	101%	109%	85%
2015	115%	105%	118%	90%
2016	107%	104%	117%	93%
2017	99%	118%	133%	129%
2018	101%	123%	125%	136%

Source: Own elaboration based on Goraj, Bocian, Osuch and Smolik 2013, 2014, 2015, 2016, Bocian, Osuch and Smolik 2017, 2018, 2019, 2020.

Table 5. Dynamics of land productivity of organic farms in Poland based on economic size classes for agricultural holdings [2010=100]

Year	Size			
	Very small	Small	Medium-small	Medium-large
2011	121%	110%	145%	81%
2012	115%	110%	163%	111%
2013	99%	101%	167%	115%
2014	108%	87%	182%	153%
2015	103%	93%	185%	167%
2016	86%	85%	205%	171%
2017	79%	99%	197%	256%
2018	88%	103%	219%	267%

Source: Own elaboration based on Goraj, Bocian, Osuch and Smolik 2013, 2014, 2015, 2016, Bocian, Osuch and Smolik 2017, 2018, 2019, 2020.

Table 6. Dynamics of labor productivity of organic farms in Poland based on utilized agricultural area for agricultural holdings [2010=100]

Year	Size				
	Small	Medium-small	Medium-large	Large	Very large
2011	138%	106%	94%	100%	103%
2012	130%	119%	97%	98%	150%
2013	137%	112%	110%	94%	131%
2014	135%	107%	104%	91%	98%
2015	180%	120%	101%	86%	117%
2016	151%	117%	94%	83%	76%
2017	188%	124%	106%	125%	75%
2018	157%	118%	115%	119%	89%

Source: Own elaboration based on Goraj, Bocian, Osuch and Smolik 2013, 2014, 2015, 2016, Bocian, Osuch and Smolik 2017, 2018, 2019, 2020.

Table 7. Dynamics of land productivity of organic farms in Poland based on utilized agricultural area for agricultural holdings [2010=100]

Year	Size				
	Small	Medium-small	Medium-large	Large	Very large
2011	152%	102%	102%	106%	111%
2012	129%	112%	106%	114%	138%
2013	136%	103%	134%	90%	133%
2014	124%	103%	108%	98%	139%
2015	173%	108%	116%	76%	193%
2016	131%	110%	96%	78%	104%
2017	165%	112%	107%	113%	110%
2018	145%	109%	135%	113%	130%

Source: Own elaboration based on Goraj, Bocian, Osuch and Smolik 2013, 2014, 2015, 2016, Bocian, Osuch and Smolik 2017, 2018, 2019, 2020.

Measuring productivity serves as a key indicator of competitiveness. Land productivity as well as labor productivity of organic farms in Poland fluctuated when analyzing the period between 2010 and 2018. The occurring changes were different when taking different types of farms into consideration – both when looking at their economic size and when looking at the size of their utilized agricultural land. The gathered data proves to some extent that productivity rose when comparing 2018 and 2010. This would mean that competitiveness of organic farms increased. However, when analyzing individual years, land productivity as well as labor productivity did not increase every year. This fact could explain why the number of organic farms as well as organic agricultural land in Poland is decreasing.

One should not omit the fact that the development and competitiveness of organic farming varies across regions (Pawlewicz and Bórawski, 2013) and the analysis should be deepened by diagnosing and assessing competitiveness of the organic food

market at regional level. This relates to the fact that competitiveness is also shaped by clusters. Poland is characterized by uneven distribution of organic activity measured by location quotient based on data on organic farmland, the number of organic producers and the number of organic processors (Kuberska and Grzybowska-Brzezińska, 2020). This means that regional clusters that have developed in Poland should be perceived as potential areas where positive externalities can arise (Kuberska and Doyle, 2019). In the future, clusters on the organic food market could facilitate further market development through the agglomeration of competition but also cooperation between cluster participants.

5. Conclusions and Recommendations

Competitiveness is a multidimensional concept affected by numerous determinants. Indisputably, it is shaped, either directly or indirectly, by various policies. Their impact on competitiveness can be positive or negative and, ultimately, depends on the constellation of circumstances. The role of governments in shaping the context for competition can be therefore significant. Research suggests that subsidies can play a significant role in shaping productivity (e.g. De Long and Summers, 1991; Rajan and Zingales, 1998) but their impact can be either positive or negative (Ciaian and Swinnen, 2009; Rizov, Pokrivcak and Ciaian, 2013). This would mean that they also impact competitiveness.

When analyzing competitiveness of the organic food market one has to keep in mind that it has its own characteristics which depend not only on consumer behavior and the level of economic development but also on the natural conditions and pursued agricultural policies (Domagalska and Buczkowska, 2015). The Common Agricultural Policy has influenced conventional and organic agriculture in the EU as it has shifted towards a policy which puts more focus on the environment and climate. By actively supporting farmers, it is focused on boosting the competitiveness of the EU agriculture. Some evidence suggests that it has positively influenced competitiveness of organic farming in Poland.

The future of the Polish organic food market will depend on many factors. It will be highly influenced by domestic as well as foreign demand which is expected to keep rising in the future. It will also result from the upcoming changes in the EU policy which will keep targeting organic farmers. Providing them with financial support will remain a key pillar of organic market development. The mechanisms behind it have been undergoing constant development in the European Union and will definitely continue to do so. However, from the point of view of competitiveness it is of utmost importance that organic farmers operate in a stable environment which would contribute to their productivity and competitive position.

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