

Kulyk, Piotr; Michalowska, Mariola; Paluszkiewicz, Paulina

Working Paper

The conditions of demand and supply in the market of organic agriculture in Poland compared to selected European countries

Institute of Economic Research Working Papers, No. 54/2017

Provided in Cooperation with:

Institute of Economic Research (IER), Toruń (Poland)

Suggested Citation: Kulyk, Piotr; Michalowska, Mariola; Paluszkiewicz, Paulina (2017) : The conditions of demand and supply in the market of organic agriculture in Poland compared to selected European countries, Institute of Economic Research Working Papers, No. 54/2017, Institute of Economic Research (IER), Toruń

This Version is available at:

<https://hdl.handle.net/10419/219877>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/3.0/>



Institute of Economic Research Working Papers

No. 54/2017

**The conditions of demand and supply in the market
of organic agriculture in Poland compared to selected
European countries**

**Piotr Kulyk, Mariola Michałowska, Paulina
Paluszkiewicz**

Article prepared and submitted for:

**9th International Conference on Applied Economics
Contemporary Issues in Economy, Institute of Economic Research,
Polish Economic Society Branch in Toruń, Faculty of Economic
Sciences and Management, Nicolaus Copernicus University, Toruń,
Poland, 22-23 June 2017**

Toruń, Poland 2017

© Copyright: Creative Commons Attribution 3.0 License

dr hab. inż. Piotr Kulyk, prof. UZ

e-mail: p.kulyk@wez.uz.zgora.pl

Uniwersytet Zielonogórski

Wydział Ekonomii i Zarządzania

Katedra Ekonomii Międzynarodowej

dr inż. Mariola Michałowska

e-mail: m.michalowska@wez.uz.zgora.pl

Uniwersytet Zielonogórski

Wydział Ekonomii i Zarządzania

Katedra Ekonomii Międzynarodowej

Paulina Paluszkiewicz

The conditions of demand and supply in the market of organic agriculture in Poland compared to selected European countries

JEL Classification: *organic farming, demand factors, supply factors*

Keywords: *Q56*

Abstract

Research background: Organic farming is a practical response to the ecological consequences of non-organic management of natural resources. Interest in the organic food market is growing both among producers and consumers. What has influenced this is, on the one hand, the demand for organic products, and on the other, the support for organic farming from the national budget and the budget of the European Union.

Purpose of the article: In the article we have shown an attempt to identify the key factors influencing the development of the organic food market as well as the state of organic farming in Poland compared to individual European Union countries. Particular attention has been paid to the mechanisms of support for organic farming that enables farmers to keep a farming system based on ecological production methods not disturbing natural environmental balance and allowing to undertake activities that are particularly beneficial for environmental protection ensuring the continuance and development of present and future generations. Seeking justification for the promotion of organic agricultural producers a reference has been made to the market failure, with particular emphasis on the problems of socio-economic development.

Methodology/methods: The conditions for the development of the organic food market are shown in the context of the analysis of the literature on the problems of organic farming, the available empirical research, as well as the results of own survey

conducted among respondents in Lubuskie Voivodeship and data from the Central Statistical Office, Eurostat and IJHARS.

Findings: Polish organic food market is growing rapidly. However its significance in Poland is not great in the total agricultural production. The level and structure of consumption of organic food market is determined by the income of consumers, as well as their increasing environmental awareness. An important element influencing the development of organic farming is a system of support for organic farming.

Introduction

Neoclassical economics treats nature as an inexhaustible source of resources needed to achieve economic benefits, ignoring the process of degradation and loss of the ability to deliver public goods. In such a convention socio - economic development contributes to the abnormal relationship between the environment, economy and society. The more so because there are many reasons that make „the invisible hand of the market” an inadequate tool for solving many important issues relating to sustainable development (Florczak, 2011, p. 50). In view of the progressive environmental pollution, loss of biodiversity, exhaustion of resources, an interest in the issues of sustainable development is growing, a concept seeking to provide appropriate relationship between these areas from the point of view of the extended quality of life. This approach means primarily building an economic system ensuring continuous improvement of socio-economic development and at the same time ensuring all inhabitants of the globe a better life without degradation of at least one of the subsystems in which life takes place. The concept of permanent sustainable development assumes the maintenance of a constant economic and social progress, allowing to raise the level of development harmonized with the state of the environment and social determinants considered in spatial and international terms.

The concept trying to reconcile in a comprehensive manner the conflicts indicated earlier is the idea of sustainable development, in this report relating mainly to the problems associated with intensive agriculture and unsustainable consumption of goods and services.

In the article we have shown an attempt to identify the key factors influencing the development of the organic food market as well as the state of organic farming in Poland compared to individual European Union countries.

Research methodology

Considerations are based on studies of literature, data from the Central Statistical Office, Eurostat and IJHARS, the available empirical studies and own results of the survey among respondents in Lubuskie voivodeship.

The survey research using a questionnaire included a group of 500 respondents of different ages in the Lubuskie province. The research sample was selected at random using the method of layer selection. The survey was conducted from May to September 2016.

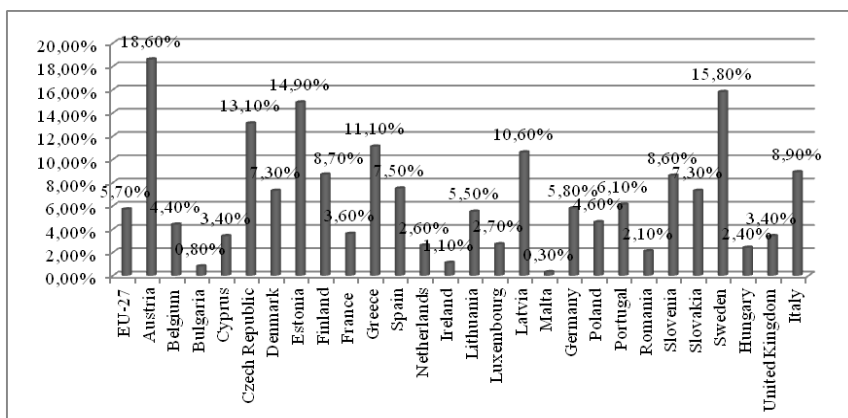
The status of organic agriculture in Poland and other EU countries

Organic farming is one of the fastest growing branches of agriculture at present in the world, in particular in the European Union (*Rolnictwo ekologiczne w Polsce...*). According to Organic Monitor, in 2014 the turnover on the market for organic food and beverages amounted to 80 billion dollars (*The World of Organic Agriculture...*, p. 26).

The development of organic agriculture in Poland, in addition to financial support from the European Union budget, is significantly influenced by the dynamic growth of the organic food market in the world, dictated by the interest of the consumer, especially the wealthier part of society, in organic food market and by the increasing environmental awareness. Polish integration with the European Union has become an important impetus for the development of the Polish market of organic farming. Undoubtedly, it has created new opportunities that were not available prior to the accession. After the Polish integration with the European Union, Polish producers gained free access to the Community market, and were also given the chance to take advantage of the subsidies that were supposed to support organic farming. We can ask ourselves what significance will organic production have compared to conventional one?

In 2014, the agricultural area, on which organic production was carried out, accounted for 4.5% of all arable land in Poland (Dane GUS..., p. 21). Compared to other EU countries the result is average. In 2012, among the EU countries with the largest share of land dedicated to organic production were: Austria, Sweden, Estonia, the Czech Republic (Fig. 1).

Figure 1. The share of land dedicated to organic production in the EU in 2012 [in % of total agricultural land]



Source: Eurostat

As shown in the Report on the status of organic farming in Poland in 2013-2014 (*Raport o stanie rolnictwa...*, p. 19) the number of organic producers in Poland amounted to 27093 in 2013 and 25427 in 2014. The vast majority of organic producers in Poland are farmers. In the period 2013-2014 they accounted for approx. 98% of all manufacturers (table 1).

Table 1. The number of organic producers, organic farmers and the number of processing plants in Poland in the years 2004-2014

Year	Number of organic producers	Number of organic farmers	Number of processing plants
2004	3760	3705	55
2005	7182	7183	99
2006	9194	9189	170
2007	12121	11870	206
2008	15206	14896	236
2009	17423	17091	277
2010	20956	20582	293
2011	23817	23449	270
2012	26376	25944	312
2013	27093	26598	407
2014	25427	24829	484
Dynamics 2014/2004 [in %]	676,25	670,15	880,00

Source: *Raport o stanie rolnictwa ...* (2015), p. 19

According to the data given in the table in the years 2004-2005 there was a dynamic increase in the number of agricultural producers. In 2005, compared to 2004, the number of households increased by 91%, ie there was almost a twofold increase in the number of organic farms. Undoubtedly one of the main reasons for the increase in their number was the introduction of subsidies for organic farming for farms with certified organic production, and

farms undergoing the process of conversion to organic production. In the years 2004-2014 the number of organic farmers in Poland increased more than 6-fold from 3705 in 2004 to 24829 in 2014 (Table 1). In 2014 there was an increase in the number of organic processing plants (Table 1). Gradually, however, this dynamics has slowed down, and even been corrected. Thus, financial support did not generate growth impulses any more. A consolidation associated with an increase in the size of business also took place.

The conditions of demand and supply in the market of organic agriculture

Polish integration with the European Union has created new conditions for the development of organic farming. Support for organic farming from the national budget and within the budget of the European Union has meant that more and more farmers engaged in organic food production. Thus the supply of agricultural products on the market is growing. It is expected, however, that the interest in the organic food market will decrease, due to a lower subsidies provided in the Rural Development Programme for the years 2014-2020. It will bring about the decrease in the number of organic farms in Poland, contrary to global trends and European (Szymona, 2013, pp. 3-9).

It is worth to mention the growing interest on the part of the consumer on the organic food market. The increasing consumption of organic food is due to the increase in consumer awareness of healthy eating and food contaminants, as well as greater availability of products on the market.

Moreover, in the context of a reduced availability of the organic food market and limited income marketing efforts become of particular importance. Undoubtedly, the use of marketing on the organic food market is becoming an important part of producers' and farmers' efforts, and through the proper selection of marketing instruments can be a source of growth and achievement of a sustainable competitive advantage.

Demand for products is determined by many factors, from biological (hunger) to conscious individual choices. The question arises: What are the determinants of demand for organic food in Poland? Each food product can be analyzed by one of three basic characteristics that affect the quality of food, i.e.: (Czapski, 2004, p. 31) healthy food, sensory appeal, usability. These features make up the so-called internal quality characteristics that determine the choice of food product. In addition to these internal characteristics there are also external quality characteristics that determine the choice of food product. M. Wiśniewska (2005, pp. 23-24) pointed to such features as: organoleptic qualities, functionality, durability, reliability, innovation, environmental friendliness and environmental performance, the brand as a guarantee of quality.

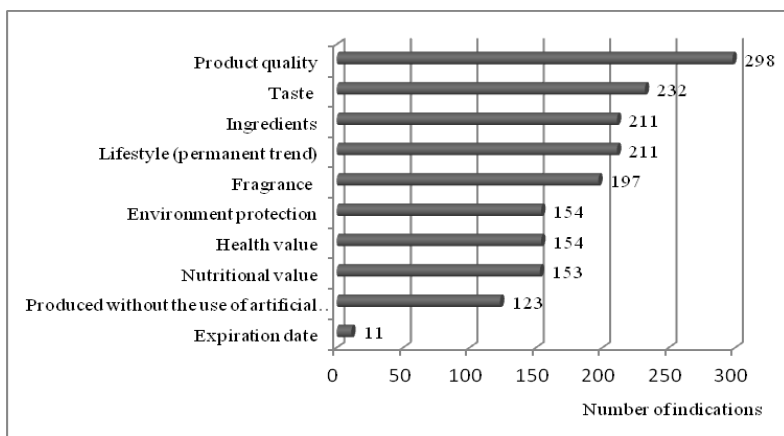
At this point It is worth noting that studies on the consumption of organic food by various authors in most cases indicate that consumers perceive organic food as healthier than the products produced by conventional methods. The Report of The Department of Agriculture, Food and the Marine on. Organic Consumer Research shows that the vast majority of respondents (87%) believe that organic products are healthier, tastier (80%), and decide to buy them due to natural production methods (*Organic Consumer Research...*, 2014, p. 14). Similar conclusions were reached by D. Bourn and J. Prescott, who in their research found that consumers prefer organic food because of its properties. Respondents indicated among the desirable features, ie .: health, food safety, environmental protection, nutritional value, taste, freshness, appearance and color and other sensory qualities (Bourn & Prescott, 2002, pp. 1-34).

The research by L. Zhou, T. Chen (2007, pp. 175-176) shows that consumers are not well informed about organic food, almost half of them have never even heard of „organic food”. Consumers who have not heard of organic food can not clearly define what is organic food. As the authors of the study observed, they confuse organic food with green food. Consumers believe that organic food products compared with conventional food are healthier, better quality and tastier. However, as emphasized by consumers, they are too expensive, and the appearance is less attractive compared to non-organic food (Zhou & Chen, 2007, p. 179).

The analysis of the results of research carried out in relation to consumer attitudes¹ shows that one of the most important reasons for refraining from purchasing organic foods among 198 people is too high the price of these products (the percentage of indications - more than 53%). Almost every third respondent faces barriers associated with the availability of organic food due to a lack of an organic food store near their home (35.9%), whereas difficulties in purchasing have more than 7% of the respondents. While almost every fiftieth person (2%) does not prefer a growing organic farms. Other reasons indicated by respondents are: limited range of organic food to choose from (the percentage of indications - 0.5%) and not recognizing the benefits of purchasing organic food (percentage of indications - 1%). However, among the 302 people who purchase organic food the main factors determining the decision to buy are e.g.: the quality (number of responses - 298), taste (number of responses - 232), ingredients and lifestyle respectively 211 indications (Fig. 2).

¹ The structure of the study group was as follows: among the 500 people participating in the survey 198 respondents, ie approx. 40% have not shopped for organic food, including 119 women (over 60%) and 79 men (40%).

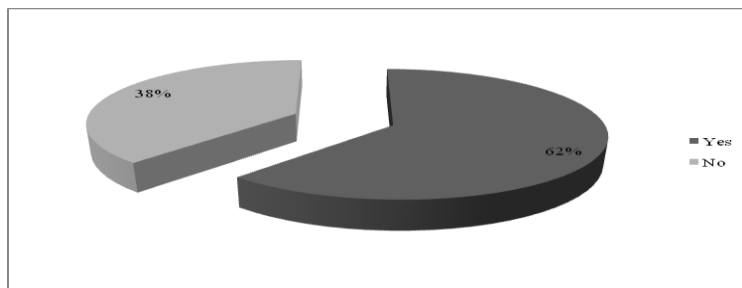
Figure 2. Factors influencing the purchase of organic products



Source: own study based on the research

Analyzing the tendency of the respondents to bear higher costs associated with the purchase of organic food it can be noticed that over 62% of respondents are not willing to spend more on an organic product. Other respondents are not able to bear the higher costs of the purchase of a product with proven health, environmental, etc. benefits (Fig. 3).

Figure 3. The tendency of the respondents to pay a higher price for the purchase of organic product



Source: own study based on the research

Among the factors affecting the supply of organic food Szymańska includes the profitability of organic food production (price of factors of

production) and analysis of consumer behavior in the field of nutrition (Szymańska, 2011, p. 126). The main factors determining the price of environmentally friendly products include among others: (Jedlińska & Zaremba-Warnke, 2009, pp. 141-142) production costs and research and development programs targeted proenvironmentally, the costs of distribution, redistribution and promotion, the level of environmental awareness of consumers, price elasticity of demand for the organic product, the relationship between the size of supply and demand for these products.

Conclusions

As a result of progressive degradation of the environment and excessive shift towards economization of the living conditions of increasing importance becomes the concept of sustainable development, in which a search in the given conditions is undertaken to find a balance between economic, social and environmental aspects. The environment in which we live needs to increasingly move away from excessive, unsustainable production and consumption to the rational management of natural resources and sustainable consumption. Organic farming is of particular importance in the quest to maintain the sustainable development. There are many reasons that have caused interest in the organic food market, both for producers and consumers. On the one hand, it has been influenced by the demand for organic products, and on the other, by the support for organic farming from the national budget and within the budget of the European Union. Undoubtedly, the support is necessary because it allows farmers to keep the farming system based on ecological production methods not undermining the natural equilibrium and undertake activities that are particularly beneficial for environmental and climate protection. Without the support it would be hard to achieve these goals.

Analyzing test results collected by different authors it can be concluded that consumers perceive organic food as healthier, tastier compared with products manufactured by conventional methods. They decide to buy them due to natural production methods. However, as research indicates consumers perceive them as too expensive, and the appearance of such products is for them less attractive in comparison with non-organic food. You can also tell that the biggest problem for consumers is to define the term "organic food". They do not distinguish it from green foods. Beneficial consequences can be brought by environmental education. It can be noticed that the state of knowledge and awareness is insufficient in perception of organic food, and hence, the perception of the consequences of non-organic management of natural resources. Perhaps there is a lack of general knowledge, its

arrangement, signalling of problems. Knowledge and awareness could influence the choice making with concern for the natural environment and the fate of present and future generations.

From the empirical material it shows that the main factors determining the acquisition of organic products are: quality, taste, ingredients and lifestyle. The results of the study indicate a willingness by most of the respondents to pay higher prices for organic products, which corresponds in accordance with the results of other authors. Among those not purchasing organic food price is a major barrier to the purchase.

It should be assumed that consumer behavior that boils down to buying food, in which there is no place for organic products will change and will be characterized by a greater concern for the environment and the health and life of present and future generations. However, it should be borne in mind that this requires taking steps in the field of knowledge and environmental awareness.

References

- Bourn, D. & Prescott, J. (2000). *A comparison of the nutritional value, sensory qualities and food safety of organically and conventionally produced foods*. Critical Reviews in Food Science and Nutrition. 42(1).
- Czapski J. (2004). *Jakość żywności i jej uwarunkowania* [in:] J. Gawęcki, T. Mossor-Pietraszewska (Eds.), *Kompendium wiedzy o żywności, żywieniu i zdrowiu*, Wydawnictwo Naukowe PWN, Warszawa.
- Dane GUS, *Rolnictwo w 2014*, [as cited in:] *Raport o stanie rolnictwa ekologicznego w Polsce w latach 2013-2014*. (2015). Inspekcja Jakości Handlowej Artykułów Rolno-Spożywczych, Warszawa, <http://www.ijhar-s.gov.pl/pliki/A-pliki-z-glownego-katalogu/ethernet/2015/wrzesien/Raport%20o%20stanie%20rolnictwa%20ekologicznego%20w%20Polsce%20w%20latach%202013-2014.pdf>, [data access: 15.01.2017].
- Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=org_cropar&lang=en http://ec.europa.eu/eurostat/statistics-explained/index.php/Organic_farming_statistics#Total_organic_area, [data dostępu: 04.01.2017].
- Florczak W. (2011). *W kierunku endogenicznego i zrównoważonego rozwoju-perspektywa makroekonomiczna*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
- Jedlińska M. & Zaremba-Warnke S. (2009). *Kształtowanie cen produktów*, [in:] S. Zaremba-Warnke (Ed.), *Marketing ekologiczny*, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław.
- Raport o stanie rolnictwa ekologicznego w Polsce w latach 2013-2014*. (2015). Inspekcja Jakości Handlowej Artykułów Rolno-Spożywczych, Warszawa, <http://www.ijhar-s.gov.pl/pliki/A-pliki-z-glownego-katalogu/ethernet/2015/wrzesien/Raport%20o%20stanie%20rolnictwa%20ekologicznego%20w%20Polsce%20w%20latach%202013-2014.pdf>, [data access: 05.01.2017].

- Rolnictwo ekologiczne w Polsce, Ministerstwo Rolnictwa i Rozwoju Wsi*, <http://www.minrol.gov.pl/Jakosc-zywnosci/Rolnictwo-ekologiczne/Rolnictwo-ekologiczne-w-Polsce>, [data access: 12.01.2017].
- Szymańska K. (2011). *Czynniki kształtujące podaż na żywność ekologiczną*, Postępy Techniki Przetwórstwa Spożywczego nr 2, 2011.
- Szymona J. (2013). *Szanse i zagrożenia polskiego rolnictwa ekologicznego w perspektywie lat 2014-2020* [in:] *Opinie i ekspertyzy OE-210*, Kancelaria Senatu.
- The World of Organic Agriculture. Statistic & Emerging Trends 2016*, FiBL and IFOAM, s. 26, <https://shop.fibl.org/fileadmin/documents/shop/1698-organic-world-2016.pdf>, [data access: 05.01.2017].
- Turco G. 2002. *Organic Food-An Opportunity, at Who's Expense?* Industry Note. Food and Agribusiness Research, Rabobank International, Sydney. www.rabobank.com/attachments/in-043-2002, [data access: 05.01.2017].
- Wiśniewska M. (2005). *Od gospodarstwa do stołu. Organizacja i zarządzanie jakością oraz bezpieczeństwem produktu żywnościowego*, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk.
- Zhou L. & Chen T. (2007). *Consumer Perception of Organic Food in Urumqi*. Contributed Paper prepared for presentation at the 105th EAAE Seminar International Marketing and International Trade of Quality Food Products. Bologna, Italy, March 8-10.