Karol KOCISZEWSKI • Joanna KRUPOWICZ • Andrzej GRACZYK •
Magdalena SOBOCIŃSKA • Krystyna MAZUREK-ŁOPACIŃSKA

THE SUPPLY-SIDE OF THE ORGANIC FOOD MARKET IN THE LIGHT OF RELATIONS BETWEEN FARMERS AND DISTRIBUTORS

Karol **Kociszewski** (ORCID: 0000-0003-3971-1486) – *Wroclaw University of Economics and Business*
Magdalena **Sobocińska** (ORCID: 0000-0002-5231-2511) – *Wroclaw University of Economics and Business*
Joanna **Krupowicz** (ORCID: 0000-0002-6843-5081) – *Wroclaw University of Economics and Business*
Andrzej **Graczyk** (ORCID: 0000-0003-3758-7338) – *Wroclaw University of Economics and Business*
Krystyna **Mazurek-Łopacińska** (ORCID: 0000-0002-0034-8344) – *Wroclaw University of Economics and Business*

Correspondence address:
Szronowa Street 11, 53-023 Wrocław, Poland
e-mail: karol.kociszewski@ue.wroc.pl

ABSTRACT: Organic farming is one of the main directions of the EU's farm-to-fork strategy in connection with the European Green Deal. In Poland, organic farming developed dynamically from the accession to the European Union until 2013 and then slowed down. This is a good reason to investigate the conditions affecting the supply side of organic food, especially that the distribution system hardly absorbs the production potential of Polish organic farming. There are few studies with in-depth analysis of relationships between farms and distributors. The research objectives adopted in this paper are the assessment of the intensity of the relations between farmers and organic food distributors. The analysis is based on desk research and the results of a survey of 120 owners of certified organic farms and 120 representatives of shops offering organic products. The results of the analysis show that there are many shops that are supplied by farmers (with the high intensity of relations with farmers) and, at the same time, few farmers selling their products to shops (with the low intensity of relations). Along with the low intensity of farmers' relations with food processors, this is one of the main barriers to supply development.

KEYWORDS: organic farming, supply side of an organic food market, intensity of the stakeholder's relations

Introduction

The development of organic farming is an important element of the European Green Deal. According to the farm-to-fork strategy, organic farming is expected to be further promoted to account for 25% of cultivated area in the European Union (EU) by 2030 (European Commission, 2020). However, the food value chain is affected by many complex actors. The announced measures include not only farmer-oriented campaigns but also the stimulation of sustainable practices in food processing, wholesale, retail, hospitality, and catering. The organic market is expected to become increasingly important in the European food market. In Poland, there was a 20% increase in the value of organic food sales in 2020, resulting in a 0.45% share of the total food market (Kociszewski & Graczyk, 2021). This compares to 4% for the entire EU. According to the results of the studies, the organic food market will grow by 9.4% each year and will reach around EUR 600 million by 2026 (Żakowska-Biemans, 2022). Between 2013 and 2020, there was a decrease in the number of farms (by 24%, i.e., to 19.2 thousand) and in the cultivated area (by 27%, i.e., to 509 thousand ha, which accounts for 3.5% of the total agricultural area). The question that arises is why an increase in the sales value of organic food does not translate into an increase in the production potential. To answer this, the analysis focuses on relationships between the production sphere (at the farm level) and the distribution sphere (processors, wholesalers, and retailers) and on the related links in the food supply chain. Based on the findings, the following interrelated research objective was formulated: Assessment of the intensity of the relations between farmers and organic food distributors. The research objective is intended to verify the hypotheses presented in the final section of the literature review. Consequently, a survey concerning the relations between Polish distributors and organic farmers' food was conducted.

The literature review presented in this paper is used to identify research gaps and formulate hypotheses. This is followed by the description of methods and the research results, which were discussed for comparison with the studies included in the literature review. The final section includes conclusions and recommendations for further measures supporting the development of organic farming, thus bringing practical value to the paper.

Literature review

The development of the organic food supply does not only depend on the farmer's production but also on downstream actors. The literature reports on the relations between organic farmers and organic food distributors and vendors, referring to both the factors that promote their development and the barriers to their development. Zahria and Vanany (2021) conducted an extensive literature review on the organic food supply chain. They found that research and publication activities tend to focus on individual links in the supply chain, rarely showing the relations between them. There are many articles on agricultural production (235 items, with the following examples cited by the authors: Baez et al., 2020; Asian et al., 2019), logistics processes (772 items), and sales processes (209 items), and few publications on food processing links (9 items) and the role of the final consumer (one item: Yan & Ke, 2018). The food supply chain consists of many links and operates globally, with many parties involved (Verhoosel et al., 2018). The competitive position of organic farms at the beginning of the food supply chain depends on sales through modern distribution channels, which play an increasingly important role in the organic food market (Łuczka & Kalinowski, 2020).

In Poland, sales of organic food are mainly based on stable demand, which creates prospects for the development of the market (Bryła, 2016; Łuczka, 2019). From the point of view of final buyers, transparency in food production is crucial for the food supply chain (Label Insight, 2016). Consumers expect transparency, especially in terms of quality attributes (Saitone & Sexton, 2017). The management of the organic food supply chain is needed to ensure that all supply chain processes meet organic food requirements. On the one hand, a well-managed organic food supply chain and compliance with organic food requirements in all processes in the supply chain can help to increase end-customer confidence in organic products (Hamzaoui-Essoussi & Zahaf, 2012). On the other hand, due to the complexity of organic food production, the supply chain can involve multiple parties and different aspects and create a long process (Vieira et al., 2013); this is not conducive to convincing buyers that the product they are buying meets the organic criteria. Factors that can positively influence the devel-

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opment of high-quality organic food products were pointed out by many researchers (Hamzaoui-Essoussi & Zahaf, 2008; Kottila, 2009; Żakowska-Biemans, 2011; Garner & Ayala, 2018; Bosona & Gebresenbet, 2018; Scalvedi & Saba, 2018). Such positive factors include improved availability of organic food products, good organisation of the supply chain, enhanced promotion and dissemination of information about the benefits of consuming organic food products, a wider range and variety of finished (processed) products, and better integration and cooperation among the supply chain members.

In most EU countries, direct sales, specialised organic food shops, and supermarkets represent the main distribution channels for organic food producers (processors) (Enjolras & Aubert, 2018; Jarczok-Guzy, 2018). In the supply chain, the terms of cooperation are set by supermarkets and hypermarkets rather than farmers, especially in relation to batch sizes, margins, price levels, and payment terms. The possibility of individual farmers adapting to these conditions is limited because the volumes they supply are very small. This is a decisive factor affecting the contribution of farmers to value-added and price levels, which are shaped more by intermediaries than agricultural producers (Łuczka & Kalinowski, 2020). One of the solutions is to integrate small farmers and disadvantaged actors into agribusiness. Inclusive business is a conceptual framework to improve the harmony between agribusiness expansion and rural areas so that all farmers and agribusiness stakeholders can benefit from the potential of organic farming (German et al., 2020).

There are two extreme approaches in the research reported in the literature in assessing how distribution channels for organic food are shaped. According to the first approach, organic food is distributed through channels that are alternative to conventional food (van der Ploeg, 2009; Renting et al., 2003). It is assumed that due to the shortages of organic food in conventional local and national distribution networks, the development of organic food sales is mainly based on specialised organic food shops. Small farms would benefit from keeping in contact with a final consumer who is able to support local farming, in particular through a short distribution channel (Gajdić et al., 2018). Shortening supply chains leads to increased local sales, creates employment and multiplier effects, and is an important component of the regional tourism product. Farmers and producers involved in short supply chains are not only oriented towards profit maximisation but also their social impact on the environment and lifestyle factors (Kneafsey et al., 2013). There are many factors that foster relations between farmers and downstream actors in organic food distribution processes. Baron and Dimitri (2019) claim that key factors include proximity, support, and engagement.

The second approach assumes that the supply of organic products increasingly incorporates elements typical of the conventional food sector, including supermarkets taking the largest share of the supply chain (Buck et al., 1997; Guthman, 2004; Clark, 2015; Constance et al., 2015). Many researchers are critical of this polarised classification. They point out that some organic farmers simultaneously sell some part of their products directly to consumers and the other part – to intermediaries, retailers, and often supermarkets (Lockie & Halpin, 2005; Ilbery et al., 2010), indicating that the organic food market is hybrid. Similar conclusions were reached by Orsini et al. (2020). They examined the distribution of value-added among organic market players for existing supply chains in eight European countries for three organic products (milk, apples, and pasta) and the distribution of value-added among market players.

The implementation of activities based on integration and marketing cooperation should translate into the development of the organic food market. This will benefit all players, especially consumers, producers, and processors (Grzybowska-Brzezińska & Gorlowa, 2019). However, the weakness of the relations between the organic farmers' subsector and the distribution sector creates various barriers to the development of the organic food market. Although producers and processors declare their willingness to cooperate and organise local and regional distribution channels (Graczyk, 2016), the barriers to the development of the organic food market still include the lack of market organisation, the lack of cooperation at the producer, processor, and trade levels, and the lack of trust in partners (Grzybowska-Brzezińska & Gorlowa, 2019).

Organic products introduced by international retail chains under private labels are significantly cheaper than organic products sold under national producer brands (Górska-Warsewicz et al., 2018). This factor is perceived by retail and processing companies as a significant barrier (Górska-Warsewicz et al., 2021). Similarly, Łuczka and Kalinowski (2020) estimate that the growing market and the presence of large wholesalers, intermediaries, and retailers may pose a threat to organic farmers and

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undermine their income growth in the future. Barriers to cooperation between organic farmers and large organic food retailers include farmers' reluctance to cooperate and the lack of professionalism among logistics and sales organisations. As a result, the possibilities of creating a joint offer are reduced, especially for small organic farms (Górska-Warsewicz et al., 2018; Nuutila & Kurppa, 2017; Kociszewski et al., 2020).

Another weakness of the organic food market in Poland is the structure of the market players at the intermediate links of the supply chain and their relations with buyers. The number of organic food processing enterprises in relation to the number of organic farms is insufficient, and their production structure was unfavourable in terms of demand.

Key conclusions from the research on the development of the organic food market in Poland are included in the governmental Framework Action Plan for Organic Food and Farming in Poland for 2021–2027. It identifies key weaknesses in the development of Polish organic farming (Ministerstwo Rolnictwa i Rozwoju Wsi, 2022), especially those indicated above, including particular underdeveloped distribution channels and the cooperation of actors responsible for the supply of organic food. Similar problems can be seen in the EU Action Plan for the Development of Organic Production (European Commission, 2021), which largely addresses the structure of the food supply chain (consumers, production, processing, and retailers) and points out that the structure of organic farming is dispersed and the producers have access to a limited number of processors and retailers. From 2021, the European Commission (2021) is to analyse how the supply chains are organised in the organic sector and identify ways to improve them in consultation with representatives of producer organisations and other stakeholders. This shows the need to reduce the knowledge gap and propose effective solutions. The Plan also addresses supporting food chain organisation and shaping supply chains (Bock et al., 2022). Sharing of experience and knowledge was found to be an essential factor. This can encourage the creation of local food markets and short supply chains and help maintain the integrity of organic product quality.

Poor relations between producers and the distribution system hamper the functioning of the Polish organic market (Najwyższa Izba Kontroli, 2019). Retail sales are dominated by imported final products which account for about 50–60% of their value. Distributors try to use supplies from Polish farmers, but this is an insufficient impetus to stimulate an increase of production potential (Kociszewski, 2022). The literature and the policy documents specified above clearly indicate the research gap in shaping supply factors in the organic food market, i.e., the lack of studies analysing the intensity of relationships between farmers and other actors in the value chain. Therefore, the factors determining these relations should be investigated in more detail. These factors are crucial for identifying opportunities and barriers to the development of the supply side of the organic food market.

Based on the identified research gaps and the information presented in the literature review regarding the factors affecting the development of the Polish organic food market, two research hypotheses were formulated:

H1. Intensive relations of distributors with farmers are a favourable condition for the development of supply on the Polish organic food market.

H2. Poor relations of farmers with distributors are an unfavourable condition for the development of supply on the Polish organic food market.

Materials and research methods

This paper uses the results of a survey carried out by a specialised external company using the CATI (Computer Assisted Telephone Interview) method according to questionnaires prepared by the authors. The surveys were carried out in October and November 2021 on a random sample of 120 respondents from a group of farmers certified for organic production (N = 120) and 120 distributors of organic food (N = 120). The selected nationwide sample of farmers reflects the area structure of organic farmers and the distribution of farm size by province. All calculations were carried out using the IBM SPSS Statistics 27.0 or 28.0 statistical package.

To verify the research hypotheses, the following methods were used: statistical descriptive methods (analysis of the frequency of responses and descriptive parameters of the distribution), the non-parametric Wilcoxon signed-rank test, and the exploratory factor analysis. H1 and H2 were ver-

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ified based on the analysis of the distribution of responses and the descriptive parameters of the distribution. The responses were analysed for relations and the relation intensity using a 7-point scale (1 – very low intensity; 7 – very high intensity). H1 was verified based on the analysis of the responses of distributors of organic food (shop representatives) concerning their relationships with farmers. The distributors indicated their key direct supplier of organic products and determined the intensity of their relations with various suppliers. H2 was verified based on the analysis of the responses of organic farmers concerning their relationships with distributors. The farmers expressed their opinions on the key direct buyer of their products and the intensity of their relations with buyers.

Results

Almost two-thirds (63.3%) of the distributors indicated that a Polish farmer is their key direct source of supply for the organic products they sell. Less than half of the distributors are supplied by a Polish wholesaler specialising in organic food (40.8% of responses) and by a Polish organic food processor (40.0%). A food market was the least frequently named direct supplier (15.0% of respondents) (Table 1, Figure 1). In assessing the intensity of the relations, i.e., the frequency and volume of purchases, with the supplier as a source of supply, distributors used a 7-point scale (1 – very low intensity; 4 – moderate intensity; 7 – very high intensity).

Table 1. The intensity of relations with a direct supplier of organic products – descriptive parameters and distribution of distributors' responses, N = 120

Supplier, source of supply	The intensity of relations		I buy from the entity	I do not buy from the entity
	Median	Mode	Number of responses	
Polish farmer (directly)	5	7	76	44
Polish wholesaler specializing in organic food	5	7	49	71
Polish organic food processing plant (organic agri-food company)	4	7	48	72
Polish producers group or consortium of farmers	3	1	40	80
"Normal/ordinary" Polish food wholesaler	3	1	36	84
Entity selling via the Internet	3	1	34	86
Market square with food	1	1	18	102

Source: internal analysis in IBM SPSS Statistics 27.0.

Three suppliers had average ratings of the intensity of relations (at least 4) and the highest ratings, most frequently awarded (Table 1). Distributors considered the intensity of their relations directly with a Polish farmer to be fairly high (the average frequency of responses, with a median of 5) and very high (the highest frequency of responses, with a mode of 7; 32 out of 76 responses). The distributors' assessments concerning contacts with a wholesaler specialising in organic food were similar. They considered them to be very intensive (the highest frequency of responses, with the mode of 7; 17 out of 49 responses), with a fairly high intensity of the relations (the average frequency of responses, with the median of 5). With respect to the relations with an organic food processor, they considered them as average (with a median of 4), with a very high intensity (the highest frequency of responses, with the mode of 7; 10 out of 48 responses).

The relations regarding the entities indicated by less than one-third of the distributors (producer group or consortium, wholesaler, and online seller) were considered to have quite low intensity (with a median of 3). The intensity of the relations with the food market was very low (as indicated by both the median and the mode) (Table 2).

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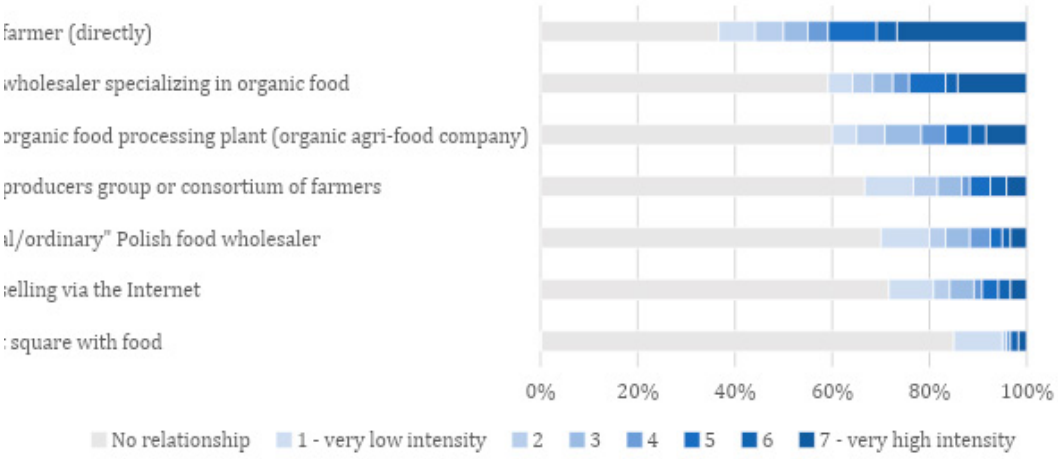

Figure 1. The intensity of relations with a direct supplier of organic products – distribution of frequency of distributors' responses, N = 120

Source: internal analysis in IBM SPSS Statistics 27.0.

Table 2. The intensity of relations with a direct buyer of organic products (place of sale) – descriptive parameters and distribution of frequency of organic farmers' responses, N = 120

Recipient, place	The intensity of relations		I buy from the entity	I do not buy from the entity
	Median	Mode	Number of responses	
Customer buying directly on the farm	7	7	81	39
Organic shop	3	7	34	86
Market square with food	4	7	33	87
Wholesaler specializing in organic food	6	7	25	95
Online shop	3	-	22	98
"Normal/ordinary" food wholesaler	4	-	20	100
Producers group or consortium of farmers	5	5	15	105
Local shop	4	7	15	105
Stall in the neighborhood or other separate place of sale	3	-	14	106
Restaurant or other food provider, e.g. food track	3	3	13	107
Hotels and accommodation	1	1	12	108
Hypermarket	4	1	11	109
Supermarket	4	1	10	110
Public institutions such as schools, hospitals, offices, etc.	1	1	10	110
Discount store	3	1	8	112
Convenience store	1	1	3	117

Source: authors' own calculations in IBM SPSS Statistics 27.0.

A buyer buying directly from the farm is the key direct buyer of Polish farmers' organic products. More than two-thirds of the farmers (67.2%) have buyers who buy directly from the farm. Less than one-third of the farmers have direct buyers in a specialised organic food shop (28.3% of responses) and in stalls at the market (27.5%). One-fifth of the farmers (20.8%) said that the buyers of their products are organic food wholesalers. A convenience shop is least frequently named (only 2.5% of

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respondents) (Table 2, Figure 2). Like distributors, in assessing the intensity of the relations with the buyer (place of sale), farmers used a 7-point scale. The farmers considered the intensity of relations with a buyer directly buying from the farm to be very high (the average frequency of responses, with the median of 7) or very high (the highest frequency of responses, with the mode of 7; 45 out of 81 responses). They considered the contacts with an organic food wholesaler to be of very high intensity (the highest frequency of responses, with the mode of 7; 12 out of 25 responses) and of high intensity (the average frequency of responses, with the median of 6).

Farmers considered the relations with a specialised organic food shop to be very intensive (the highest frequency of responses, with the mode of 7; 9 out of 34 responses) and of fairly low intensity (the average frequency of responses, with the median of 3). With respect to the relations with a stall at the market, they considered them as average (with a median of 4), with a very high intensity (the highest frequency of responses, with the mode is 7; 8 out of 33 responses).

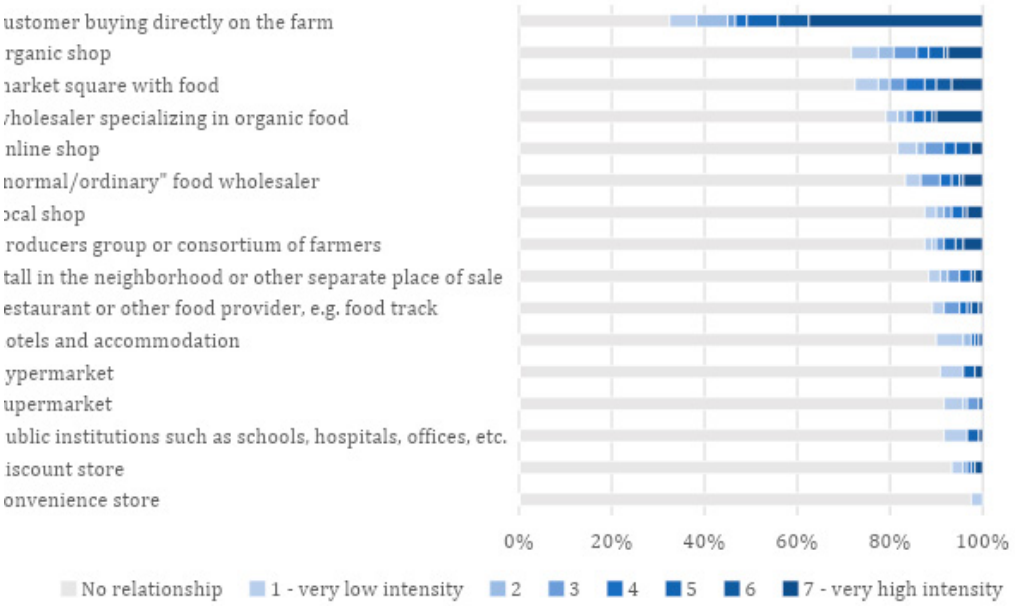

Figure 2. The intensity of relations with a direct buyer of organic products (place of sale) – distribution of frequency of organic farmers' responses, N = 120

Source: internal analysis in IBM SPSS Statistics 27.0.

For other types of buyers (with less than one-fifth of the farmers declaring contacts with them), the farmers considered the intensity of relations to be average or lower (Table 2) as indicated by the median (except for the producer group or farmer consortia with the median indicating a fairly high intensity of relations).

Discussion

H1 states that intensive relations between distributors and farmers are favourable conditions for the development of supply in the Polish organic food market. The results of the research conducted to verify H1 show that most distributors (63.3%) obtain organic products from Polish farmers. Other sources of supply, such as wholesalers specialised in organic food and processors, are used by only about 40% of distributors. The option to obtain goods at the food market is very rarely indicated by distributors. This proves that Polish organic farms are key direct suppliers of organic food shops. Distributors most often rated the intensity of their relations with farmers as very high, and half of them rated it as fairly high (Table 1, Figure 1). This shows that the contacts between these actors are

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very frequent, the relations are permanent, and the volume of supply is high compared to other sources. H1 is shown to be valid. Short supply chains, described in the literature review as those that are conducive to supply-side actors, have favourable conditions for development. They support the maintenance of local farming and local sales (Gajdić et al., 2018) and bring social benefits to the environment (Kneafsey et al., 2013). They can also reduce the effect of small (compared to intermediaries in the supply chain) share of farmers in the added value and price level of the final good (Łuczka & Kalinowski, 2020). The intensity of distributors' contacts with a wholesaler specialising in organic food was also rated high. Wholesalers specialising in organic food are an important source of supply for retailers. Vendors' relations with organic food processors are rated as average, which means that the contacts with this link of the supply chain have not yet developed, which may hinder the use of Polish agricultural produce for the production of final goods. This is also true for vendors' relations with producer groups and online sellers, which are of low intensity.

H2 states that poor relations between farmers and distributors are an unfavourable condition for the development of supply in the Polish organic food market. H2 is shown to be correct. Less than one-third of organic farmers have direct buyers in a specialised organic food shop, with the median showing a fairly low intensity of relations (Table 2, Figure 2). The distribution of farmers' responses regarding their relations with a specialised shop is quite even, which may suggest that farmers need time to consolidate relations and change the conditions under which they cooperate with specialised shops. A buyer buying directly from the farm is the key buyer of Polish farmers' organic products (more than two-thirds of responses). The relations of farmers with a final consumer are very intensive, and the links with the rest of the supply chain are weak, which was also shown in some studies cited in the literature review (Grzybowska-Brzezińska & Gorlowa, 2019). The asymmetry of the vendors' relations with farmers is evident. As was shown in the verification of H1, there are many shops that are supplied by farmers (with high intensity of relations with farmers), and at the same time, few farmers sell their products to shops (with low intensity of relations). Given the fragmentation of Polish farming, farm owners have limited opportunities to reach retailers located in large cities. This is especially true for Żabka-like convenience shops, which are important in the overall Polish grocery chain but purchase products from a very small group of organic farmers (2.5% of responses). Poor relations between farmers and retailers hinder the development of short-value chains. These relations depend on initiatives taken by the vendors themselves. This is one of the barriers to increasing the degree of development of the production potential of Polish organic farming. This is because retail sales are mainly supplied with imported goods (Żakowska-Biemans, 2011; Najwyższa Izba Kontroli, 2019; Wägeli & Hamm, 2016; Götze et al., 2016; Scalvedi & Saba, 2018). This is also due to the low intensity of vendors' relations with organic food processors (as previously demonstrated), hardly supplied with Polish agricultural produce. This is also evident in studies by other authors, including those indicated in the literature review (Vlahović et al., 2019; Koreleska, 2017; Wägeli & Hamm, 2016; Götze et al., 2016; Scalvedi & Saba, 2018; Łuczka, 2016). The weak relationship between these two links in the chain should be considered another barrier to the development of organic food supply. The relations of farmers with wholesalers are slightly better considering market development conditions; their intensity is rated as high. These are the buyers of the products covering only one-fifth of the farmers surveyed, but the commercial contacts of these two groups of actors are frequent and permanent.

The low profitability of organic production is also due to the undercutting of prices by large supermarket and hypermarket chains (Górska-Warsewicz et al., 2018; Górska-Warsewicz et al., 2021; Łuczka & Kalinowski, 2020). The pressure of price competition may be one of the reasons for poor relations between farmers and retailers, which is a barrier to the development of the Polish market, as identified by the verification of H2.

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Conclusions

Organic farms are key direct suppliers for Polish distributors of organic products, and their relations are very intensive. This means that there are favourable conditions for the development of short supply chains, which facilitate environmental and social benefits and an increased share of farmers in added value. However, only one-third of organic farmers have direct buyers in shops with organic products, and there is a fairly low intensity of relations. A final consumer is the key distribution channel for farmers. On the one hand, this implies a shortened supply chain. On the other hand, this means that the links between organic farms and other actors in the supply chain, especially retail shops, are weak. The apparent asymmetry in the relations between vendors and farmers is due to the limited possibilities for farmers to reach retailers in large cities. These retailers are mainly supplied with imported organic food. It is considered here as one of the main barriers to increasing the degree of utilisation of the production potential of Polish organic farming. Another barrier to the development of organic food supply shown in our study is the low intensity of relations between vendors and farmers with organic food processors, which absorb Polish agricultural produce to a small extent.

These problems apply not only to Poland but also to other countries where organic product markets are at an early stage of development, especially the transition countries of Central and Eastern Europe. The research results presented in this paper have a practical value (in terms of the identification of market development conditions) and a theoretical and cognitive value (in terms of market functioning mechanisms and the creation of organic food supply chains).

The future development of the organic food market in Poland will significantly depend on the short supply chains, which could prevent intermediaries from charging high margins, limiting farmers' share of added value. This requires the development of networks and organisational relations as well as the promotion of relations and trust between various market players. In this respect, horizontal integration of producers (e.g., within producer groups) would be beneficial. It would increase their bargaining power in transactions and improve their opportunities to establish relations with retailers. This applies both to institutional forms of information flow and networking and increases the scope and variety of the offer. The financial and administrative support for such activities is available under the system of measures in the second pillar of the UE's common agricultural policy. It requires better policy for Polish governmental organisations and is expected to result in improved market processes.

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The contribution of the authors

The article is a collaboration between the authors without specifying the detailed contribution of each.

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Karol KOCISZEWSKI • Joanna KRUPOWICZ • Andrzej GRACZYK • Magdalena SOBOCIŃSKA • Krystyna MAZUREK-ŁOPACIŃSKA

STRONA PODAŻOWA RYNKU ŻYWNOŚCI EKOLOGICZNEJ W ŚWIETLE RELACJI MIĘDZY ROLNIKAMI A DYSTRYBUTORAMI

STRESZCZENIE: Rolnictwo ekologiczne jest jednym z głównych kierunków unijnej strategii „Od pola do stołu" związanej z Europejskim Zielonym Ładem. W Polsce rolnictwo ekologiczne rozwijało się dynamicznie od wejścia do Unii Europejskiej do 2013 roku. Następnie rozwój ten wyhamował, a więc warto zbadać uwarunkowania wpływające na stronę podażową żywności ekologicznej, tym bardziej, że niewiele jest opracowań z dogłębną analizą relacji między gospodarstwami rolnymi a dystrybutorami. Celem badań przyjętym w artykule jest ocena intensywności relacji pomiędzy rolnikami a dystrybutorami żywności ekologicznej. Analiza opiera się na wynikach badań ankietowych przeprowadzonych wśród 120 właścicieli certyfikowanych gospodarstw ekologicznych oraz 120 przedstawicieli sklepów oferujących produkty ekologiczne. Wyniki analizy pokazują, że istnieje wiele sklepów, które są zaopatrywane przez rolników (o dużej intensywności relacji z rolnikami), a jednocześnie niewielu jest rolników sprzedających swoje produkty do sklepów (przy niskiej intensywności relacji). Wraz z niską intensywnością relacji rolników z przetwórcami żywności jest to jedna z głównych barier rozwoju podaży. System dystrybucji w niewielkim stopniu absorbuje potencjał produkcyjny polskiego rolnictwa ekologicznego.

SŁOWA KLUCZOWE: rolnictwo ekologiczne, strona podażowa rynku żywności ekologicznej, intensywność relacji z interesariuszami