PAPER • OPEN ACCESS

# Comparative characteristics of the organic food market in Russia and Germany

To cite this article: N Nesterenko and M Shagalkina 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **274** 012059

IOP Conf. Series: Earth and Environmental Science **274** (2019) 012059 doi:10.1088/1755-1315/274/1/012059

# Comparative characteristics of the organic food market in Russia and Germany

**N Nesterenko[1]*, M Shagalkina[1]**

[1] Saint Petersburg State University, 7-9 Universitetskaya naberezhnaya, St. Petersburg 199034 Russia

E-mail: n.nesterenko@spbu.ru

**Abstract**. A comparative analysis of the organic food market in Russia and Germany presented in this paper makes it possible to identify the advantages and disadvantages of each and to work out directions for the development of domestic organic agriculture. A comparative analysis of the organic food market is carried out according to the following parameters: (a) types of distribution channels; (2) barriers to entry and exit; and (3) the price level in relation to the industrial products.

## 1. Introduction

At In 2015, the Russian Federation was in seventh place in the world in terms of the growth of certified organic lands, losing in this indicator to Australia, the USA, India, Spain, France, and Kenya. The area of land for the year increased by 56% to 385 140 hectares (in absolute terms, the increase was 139,294 hectares) [1]. According to RBC [2], the area of agricultural land under organic farming was 550,500 hectares in 2016. Thus, the annual gain of certified land was 40-50%.

The paper provides a comparative analysis of the organic food market in Russia and Germany in order to identify the distinctive features of its development, as well as to analyze promising areas and development tools. The choice of object for comparison is due to the fact that Germany is one of the most developed countries in the world in the field of organic food [1]. In 2016, the market of organic food in Russia amounted to 5,100 million rubles (70 million euros) [2]. The amount of per capita consumption of organic food in Russia (0.48 euros per year) in reality cannot reflect real consumer spending, since the market has a strong geographical differentiation, concentrating mainly in cities with high incomes of the population. In addition, about 80-85% of the Russian market for organic products is imported.

Experience in the development of organic farming, as well as the organization of the organic food market in Germany, can help both Russian businesses and state authorities, create an effective institutional and business environment for the development of this sector of the agro-industrial complex. A comparative analysis of the organic food market is carried out according to the following parameters: (1) types of distribution channels; (2) barriers to entry and exit; and (3) the price level in relation to the industrial products.

Thus, our research will reveal the German positive experience, which should be used in stimulating the development of organic agriculture in Russia, as well as negative trends that Russia can avoid by studying the problems of a developed market.

## 2. Organic Distribution Channels

In Europe, the following distribution channels for organic products are distinguished: supermarkets, specialty stores, sales to processors, restaurants, direct Internet sales, long-term contracts with individuals, peasant markets.

Supermarkets. Due to the dominance of large food chains, such a sales channel allows for large deliveries of organic food. In this case, organic products are in direct competition with industrial products. Therefore, if the seller does not invest in the promotion of organic products, they lose their consumer appeal because of the higher price. The creation of private labels by the supermarkets in the organic food segment ensures brand awareness and loyalty based on consumer loyalty to the supermarket. Thus, a manufacturer minimizes the cost of product promotion, and a supermarket expands the range by incorporating organic products. The disadvantages of this sales channel: the need to provide a manufacturer with large volumes of supplies and the price pressure from the supermarket. Communication between a producer and a consumer about the beneficial properties of organic products, production features, methods of its preparation with this sales channel are as long as possible compared to other sales channels due to the lack of personal contact between the producer and the consumer.

In Germany, in almost all supermarkets (REWE, Kaufland, DM, REAL, etc.) organic products are presented either on a separate shelf or with the rest of the products in accordance with the product display. Moreover, each of these stores has its own line of organic products sold under a private label.

In Russia, supermarkets are just beginning to develop the sales direction of farming products, highlighting individual shelves and stands for them. However, due to the lack of legislative regulation of organic products in Russia, this group includes certified and non-certified products. The most widely organic products are represented in such supermarkets as “Azbuka Vkusa”, “Stockmann”, “Land” and “Ashan”, “Vkusvill”. The development of this sales channel is hampered by the insufficiently large volumes of production of domestic certified products, the underdevelopment of farmers’ cooperation, which allows aggregating supplies from small producers.

Special stores of organic products. Deliveries of products are carried out both by individual producers directly and through marketing cooperatives that unite small farmers. Due to the narrow specialization of stores, consumers are able to obtain detailed information about organic products. In turn, producers have the opportunity to find out consumer preferences and adjust the volumes and types of products. Small sales in specialized stores provide an opportunity to expand the range compared to supermarkets, where the product is more unified.

In Germany, there are specialized shops such as “Bio Company”, “Alnatura”, “Basic”, which offer a wide range of organic and eco-friendly products, both local and imported. In addition, each store has its own private label. The high level of demand for organic products forms a fairly large number of specialty stores both in Germany and throughout Europe.

In Russia, there are also specialized stores of environmentally friendly products: “Organika”, “EkoGarmoniya”, “Ecofamily, but their number is small. As in the case of supermarkets, in their assortment there are organic and farm products, as well as simply products of a healthy lifestyle. A significant role in the organization of sales of organic farming products is played by the farmers cooperative “LavkaLavka”, which connects producers and consumers through the provision of services of an aggregator and sales organizer. Currently, LavkaLavka owns 7 own stores in Moscow. The cooperative also includes two markets in the Moscow and Tula regions. By own estimation, the cooperative occupies about 10% of the market of products of small eco-farmers.

Selling organic products to processors. Processing an original product allows one to extend the shelf life, expand the range of the final product, reduce losses during transportation from the manufacturer to consumers. It implies the abandonment of using preservatives, stabilizers, taste improvers, dyes, and other chemical additives in the processing of raw materials. Therefore, the possibilities of processors are severely limited compared to the processing of traditional products. The availability of organic processors is a sign of a developed organic food market, since insufficiently produced organic materials are produced in underdeveloped markets.

In Germany, there were 14280 processing enterprisesin 2015, which was 23% more than in 2014. Such a rapid development of processing plants indicates a large volume of production and import of organic raw materials.

In Russia, according to the annual report of FiBL [1], there were 82 certified producers of organic products and 37 certified processors in Russia in 2015.However, it is not enough to form a developed organic food production. Some processors organize their own organic farms in order to expand the product line and include a premium segment in their range. Such brands as “Ugleche Pole”, “Arivera”, and “Biosphere” can serve as very successful examples.

Organic restaurants. The fashion for a healthy lifestyle and healthy eating has shaped the demand for organic restaurants. The trust in this segmentis based on a particular producer. Therefore, often a restaurant and a producer belong to the same group of companies. One of the interesting examples of organic restaurants in Germany is the Bio Hotels chain, which owns hotels in picturesque, ecologically clean parts of Germany, as well as in Austria and Italy. Each hotel has organic restaurants based on local, certified organic products.

In the Russian practice, there are cases when the owner of the restaurant organizes its own production of organic products, thereby providing a restaurant with raw materials of the required quality. In addition, for their part, farmers, independently or through a cooperative, create a catering enterprise as one of the marketing channels for their products (“Lavkalavka” in Moscow is a good example). The Russian cuisine restaurant “CoCoCo” based in St. Petersburg is another successful example, because it closely cooperates with farmers of the North-West region of Russia.

Direct sales via the Internet. Such sales are carried out both through their own online stores and through specialized platforms. Producers and consumers create a social network in which there is an exchange of useful information and opinions about certain organic products. Unlike supermarkets and specialty stores, direct sales can provide more diverse types of products. The disadvantage of online trading in organic food is the inability to check the quality until the product is delivered, but with the help of digital technologies,one can track the process of production and delivery, which reduces the risks to the consumer.

Long-term contracts with individuals. In this case, a group of families, together with one or more farmers, plans to produce and deliver organic products (mainly vegetables, fruits, meat) during the year. An important point is the fair sharing of risk between producers and consumers, which is partially offset by lower prices than in retail. Additional functions of the farmer are to provide opportunities for joint work with the consumer, as well as active leisure in the farm.

Peasant markets. Features of such markets are selling seasonal products by farmers themselves. This ensures the high quality and freshness of products. Local production is supported due to the redistribution of income from sellers and intermediaries to manufacturers. The lack of pressure from the stores makes it possible to sell non-standard products. In addition, the atmosphere of trust that arises in the markets creates two-way communication both to clarify consumer preferences and to inform about consumer properties of products and how to process them. The sale of organic products in local peasant markets leads to a decrease in transportation and packaging costs. Revenues are redistributed directly to local producers, which has a positive effect on the region's economy. The impact on local roads is reduced, which leads to a decrease in their wear, tension and number of accidents, as well as a decrease in the level of carbon dioxide emissions from transport. The so-called integrated territorial agri-food program is becoming increasingly popular in Europe, consisting in maximizing the use of local climatic conditions and socio-cultural traditions, as well as in reducing the distance between consumers and producers and the consumption of more fresh products than processed. Despite higher prices for local farm products, consumers often prefer it, supporting the local economy.

The development of sales channels, expressed in a variety of ways to implement and communicate with consumers, is an important indicator of market development. Unlike European countries, including Germany, the Russian organic food market has the underdeveloped sales channels. Low consumer awareness of the features of organic products, as well as a rather large price difference between traditional and organic products make this niche premium and significantly limit marketing opportunities.

## 3. Market Barriers

The presence of barriers to entry into and exit from the market characterizes the competitive environment and shows how easily the number of market participants can be increased or decreased. In relation to the organic food market, the entry barrier is a mandatory certification, which is held by both producers and processors. In addition, a significant barrier to entry is the cost of certification, loss of income during the conversion period.

Here are the main international documents and regulations governing the production of organic products:

– The Model Law on Ecological Agro-Production, Inter-Parliamentary Assembly of the States Parties to the Commonwealth of Independent States. Annex to the Decree of the IPA of the CIS of April 18, 2014, No. 40-8;
– IFOAM Regulatory Requirements for Organic Production and Processing;
– The Codex Alimentarius Commission (Codex Alimentarius Commission): “Guidelines for the Production, Processing, Labeling, and Sale of Organic Food”;
– The Commission Regulation (EC) No. 889/2008 of September 5, 2008 with provisions on the implementation of Council Regulation (EU) No. 834/2007 on Environmental Production and Labeling of Environmental Products in Relation to Environmental Production, Labeling, and Control of Products;
– The Council Regulation (EU) No. 834/2007 of 28 June 2007 on Ecological Production and Labeling of Ecological Products and on the Termination of the EEC Regulation No. 2092/91;
– The ICEA Standard;
– The Law on the Implementation of the European Community Laws in the Field of Ecological Agriculture (Law on Ecological Agriculture – OELG).

Most manufacturers of organic products in Germany are in organic unions (Bioland, Demeter, etc.). Representatives of organic unions created the Federation of the Organic Food Industry (BÖLW)in 2002, which is an “umbrella” organization for the entire organic sector. The country has a large number of certifying organizations conducting certification according to the EU standards. This suggests that barriers to entry into the organic market are rather low.

In addition to the organizational availability of certification, there is a system of state subsidies to farms producing organic products. Germany, together with the European Commission, developed a system of subsidizing agricultural organizations that decided to switch to the production of organic products. Subsidies are paid to organic producers in order to offset the additional costs and lost profits associated with the transition to organic standards. The subsidy system (updated in 2015) is presented in Table 1.

**Table 1.** The system of state support of organic agriculture in Germany since 2015.

| Name of culture | Primary payments, change in the amount of payments after 2015, euro / ha | Supporting payments, change in the amount of payments after 2015, euro / ha |
|---|---|---|
| Growing vegetables | 590 (+23%) | 360 (+20%) |
| Arable land | 250 (+19%) | 210 (+24%) |

| | | |
|---|---|---|
| Meadows | 250 (+19%) | 210 (+24%) |
| Land under permanent crops and seedlings | 950 (+6%) | 750 (+4%) |

Source: Based on Federal Ministry of Food and Agriculture. URL: https://www.bmel.de/EN/Agriculture/SustainableLandUse/_Texte/OrganicFarmingInGermany.html (date of the application 04/20/2018)

Barriers to entry into the organic agriculture market in Germany are being mitigated by both the state and non-governmental organizations by creating an effective institutional environment, as well as financial support for producers.

In Russia, work is currently underway to prepare a federal law on the production of organic products. In addition, the following national standards have been adopted:

– The National Standard of the Russian Federation GOST R 56104-2014 “Organic Food Products. Terms and Definitions”;
– The National Standard of the Russian Federation GOST R 56508-2015 “Products of Organic Production. Rules of Production, Storage, Transportation”;
– The National Standard of the Russian Federation GOST R 57022-2016 “Products of Organic Production. The Procedure for the Voluntary Certification of Organic Production”;
– The Interstate Standard GOST 33980-2016 “Products of Organic Production. Rules of Production, Processing, Labeling and Implementation.”

The absence of a law on the production of organic products led to the need to create private certificates confirming the quality of organic products. Their advantages in comparison with foreign certificates consist mainly in a lower price:

– The Standard of the Organization NP “Ecological Union” STO LZh 2.03.9900-14-1.0 “Organic Agricultural Products. Requirements for Production and Processing. Application Rules”;
– The Standard of the Organization “Agrosofiya” “On Ecological Agriculture, Ecological Environmental Management and Appropriate Labeling of Ecological Products”.

In a number of regions, the following regional documents and regulations are in force:

– The Law of the Ulyanovsk region dated July 5, 2013 No. 106-ZO “On the Measures of State Support for the Producers of Organic Products in the Ulyanovsk region”;
– The Law of the Krasnodar region of November 1, 2013 N 2826-KZ “On the Production of Organic Agricultural Products in the Krasnodar region”;
– The Law of the Voronezh region of December 30, 2014 No. 226-OZ “On the Production of Organic Agricultural Products in the Voronezh region”;
– The Resolution of the Government of the Belgorod region of August 29, 2011 No. 324-pp “On Approval of the Long-Term Target Program “Implementation of the Biological Agriculture System in the Belgorod Region for 2011-2018”.

A great example of certification on the Ecological Union of St. Petersburg. This organization certifies products according to the “Leaflet of Life” private standard, as well as the standards of the EU, the USA. and Japan. The certification “Leaflet of Life” is presented in two options: organic and eco-product [3]. Another example is the the “LavkaLavka” cooperative. In order to become a part of the cooperative, farmers-suppliers must go through the certification process according to the “LavkaLavka” private standard in order to maintain and improve the quality level and ensure maximum transparency of the production process. Certification must be carried out every year. The requirements of the standard are consistent with the principles of the organization of IFOAM [4].

Problems in the domestic certification system for organic requirements lead to the fact that non-certified products are often sold under the name “organic”. On the other hand, products manufactured according to organic technologies may not have the corresponding state standard, limited to various private standards. All this confuses consumer perceptions and undermines the credibility of organic products.

Barriers to exit from the market of organic products around the world are minor. Moreover, in manyo them, the phenomenon of de-certification occurs when previously certified organic producers decide to refuse certification and go into the segment of traditional agriculture that is not subject to such strict regulation. The result of the de-certification is, on the one hand, a reduction in the level of regulation of production, and on the other hand, a reduction in the manufacturer's costs of meeting organic requirements, as well as lower prices for manufactured products. However, a high level of competition in the developed markets pushes the producer to lower prices for organic products; therefore, the refusal of certification is often accompanied by insignificant losses in revenue.

## 4. The Price Level for Organic Products in Relation to Traditional Analogues

The ratio of the price level for organic and traditional products in the Russian market forms the premium market for organic products. The difference in prices ranges from 100% to 600%. In addition, the high costs of certification lead to the fact that the payback period of such costs becomes quite long. Therefore, exit from the market of organic food is accompanied by significant financial losses.

Comparative analysis of prices for products of traditional and organic agriculture in Russia and Germany was conducted by us within the scope of the research. For the analysis, possible ways of selling organic products in two cities, St. Petersburg and Paderborn, were examined. Prices were analyzed in the period February-March 2018. In St. Petersburg, organic products are sold more often in online stores (supergreen.ru; ecoharmony.ru; ecofamily.ru), small specialized stores, such as "Organika", "EcoHarmonia", "Ecofamily", "Green Farm", "Alekhovshchina", as well as in the stores of the "Azbuka Vkusa", "Stockmann", "Ashan", "Okay" and "Land" stores. Farm products are also in the array of organic products, as they are in the same price segment.

In the German city of Paderborn, organic products are presented in all grocery stores and supermarkets ("Real", "REWE", "Kaufland", "Lidl", "Combine", "DM"), in specialized stores of bio-products ("Bio Company", "Alnatura", "Basic"), as well as in online stores.

For the analysis, the most popular food positions (made with traditional and organic farming technologies) were selected: milk and dairy products, eggs, vegetables and fruits, cereals and chocolate. The collected price data for the selected products allowed us to calculate the average price level for both categories of products. The ratio of average prices for organic and traditional products is presented in Table 2.

Note that in the German market, the price level for organic products is slightly different from the prices for products of traditional agriculture. For products such as yogurt, rye flour, steamed rice prices are almost the same. Prices for organic pears, organic oatmeal, and organic bitter chocolate are even lower than traditional ones. This situation is due to the high level of competition, as well as the effect of government subsidies that affect the reduction of production costs.

The domestic market of organic food is positioned as a premium. In addition to organic products, it includes farm products that have private certificates or do not. Such confusion in the perception of consumers provides great opportunities for greenwashing when products without corresponding certificates are sold under the sign of "organic", "eco", and "bio". A small number of domestic certified organic producers (there were 82 of the min 2015) leads to their dominance in the market. As can be seen in the Table 2, prices for many products are two or more times higher than traditional counterparts. Pricing policy, in our opinion, combines two approaches: cost-based and "cream removal" ones. In this case, sellers are guided not only by the cost of production but also by the effective demand of the population with high incomes. Further development of this sector of the agro-industrial complex will not only expand the range of domestic organic products but also reduce prices both due to growing competition and as a result of cost reduction associated with the spread of organic technologies and risk reduction.

**Table 2.** The difference in the level of prices for organic and traditional products in St. Petersburg (Russia) and Paderborn (Germany).

| Name of product | Price ratio in the Russian market, % | Price ratio in the German market, % |
|---|---|---|
| Egg, 10 items. | 245 | 53 |
| Milk, 3.5/3.8 fat per 1 liter | 50 | 13.7 |
| Yogurt, 1 kg | 39 | 4.6 |
| Butter, 1 kg | 25.7 | 34.5 |
| Tomatoes, 1 kg | 20.2 | 43.2 |
| Cucumbers, 1 kg | 196.8 | 152.5 |
| Onion, 1 kg | 266.7 | 60.2 |
| Carrots, 1 kg | 163.2 | 28.2 |
| Potatoes, 1 kg | 407.2 | 125.4 |
| Sweet pepper, 1 kg | 97 | 102 |
| Apple, 1 kg | 86.4 | 51 |
| Pear, 1 kg | 77.2 | -6.5 |
| Oatmeal, 1 kg | 302.3 | -14.2 |
| Wheat flour, 1 kg | 411.1 | 21.3 |
| Rye flour, 1 kg | 248.3 | 1.5 |
| Pasta, 1 kg | 155.6 | -31.1 |
| Steamed rice, 1 kg | 251.4 | 2.1 |
| Milk chocolate, 1 kg | 306.4 | 92.3 |
| Dark chocolate, 1 kg | 226.8 | -14.2 |

Source: calculated by the author based on the average actual prices of stores and websites of online stores as of February-March 2018.

## 5. Conclusions

A comparative analysis of the organic food market in Russia and Germany makes it possible to identify the advantages and disadvantages of each, and also to work out directions for the development of domestic organic agriculture.

First of all, the positive experience of Germany is connected with the system of stimulating the development of organic agriculture. An accessible institutional environment reduces the legal and organizational risks of farmers. The lack of a clear legal field in Russia does not encourage domestic manufacturers to undergo certification. A small number of certification organizations of foreign standards not only complicate the process of certification itself, but also make it quite expensive. Without state financial support, the massive development of organic agriculture is hardly possible.

The market for organic food in Germany has long ceased to be premium. The price level for many items is slightly different from the analogs of traditional industrial production. This is due to both the growing competition between producers and the state support system, which covers part of the costs and lost profits as a result of the transition to organic requirements.

The situation in the domestic market is completely different. First, the demand for organic and environmentally friendly products is concentrated in large cities, both due to a higher standard of living and due to the unfavorable ecological situation in cities. Second, the level of public awareness about the features of organic products is rather low. This is largely due to the underdevelopment of information support. In addition, the low interest in certified organic products is due to the fact that a significant part of the country's population grows agricultural products independently. Thus, according to the 2016 agricultural census [5], there are 23,496.9 thousand personal subsidiary and individual farms of citizens in Russia, 35% of which are located in urban districts and urban settlements. This suggests that to a significant extent, the population independently provides itself with ecologically clean vegetables and fruits. For example, according to Rosstat, households produced 77.2% of all potatoes in 2017.

Poor development of distribution channels for organic and farm products in Russia leads to high risks for producers. Agricultural producers are interested in organic production. However, one of the barriers to the development of this sector are sales problems. In this regard, the organization of large agricultural holdings of organic farms allows to solve an important problem of supply chain organization. In this case, there is both financial and organizational support from the parent organization. Another way of organizing the supply chain is agricultural cooperation, which allows to unite small producers. The most successful example in Russia is the "LavkaLavka" cooperative, which unites organic farmers and provides services to promote products to stores, restaurants, as well as some additional funding opportunities.

The positive experience of organizational support for organic farmers in Germany is associated with the creation of "umbrella" non-governmental organizations, such as the Federation of Organic Food Industry (BOELW). In Russia, there are public organizations that support organic agriculture (the National Organic Union, the Union of Organic Farming), but their real effectiveness is currently low and is mainly associated with the organization of public events.

Unlike Germany, in Russia there is one significant advantage in the prospects for developing organic agriculture. It is associated with large areas of unused agricultural land. Further development of the agro-industrial complex in Russia is inevitably associated with the recultivation of deposits; therefore, the corresponding costs can be regarded as inevitable and not associated exclusively with the development of organic agriculture. Successful development should be supported by the state, business, and public organizations.

**References**

[1] Willer H and Lernoud J eds 2017 *The World The World of Organic Agriculture. Statistics and Emerging Trends 2017* FiBL Frick and IFOAM – Organics International (Frick, Switzerland: FiBL)(http://www.organic-world.net/yearbook/yearbook-2017.html)

[2] RBC Research Store 2017 *Analysis of the Russian market of organic products: the results of 2016, the forecast to 2019* (https://marketing.rbc.ru/articles/10068/)

[3] Ecological Union of St. Petersburg 2018 (http://ecounion.ru/)

[4] Farm cooperative LavkaLavka 2018 *LavkaLavka certification system. Expertise*(https://lavkalavka.com/page/sistema-ekologicheskoy-sertifikatsii-ses-lavkalavka?page=1)

[5] Rosstat 2018 (www.rosstat.ru)

[6] Bogoviz A V, Bugai Y A and Osipov V S 2018 Import substitution in the agro-industrial complex in the interests of provision of food security: option or necessity? *Advances in Intelligent Systems and Computing* **622** pp 37-43

[7] Bogoviz A V, Ragulina Y V and Sirotkina N V 2018 Systemic contradictions in development of modern Russia's industry in the conditions of establishment of knowledge economy *Advances in Intelligent Systems and Computing* **622** 597-602

[8] Bogoviz A V, Semenova E I and Alekseev A N 2018 New challenges for regional economy at the modern stage *Advances in Intelligent Systems and Computing* **622** pp 574-580