

IMPACT OF ECONOMIC SANCTIONS ON THE FOOD PRODUCTION AND CONSUMPTION IN RUSSIA

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Abstract. At the present stage, the study of the impact of sanctions on the economy of various countries is becoming more and more relevant. A retrospective analysis of Russia's international relations with other countries suggests that the first sanctions date back to 1930. Therefore, for Russia, the conditions created are not something new. Modern sanctions are more personalized and have a sectoral focus. In Russia, the introduction of a food embargo has contradictory results. There are both positive and negative sides. By calculating the growth of the minimum food basket cost index and the physiological needs satisfaction rating for the population of the Russian Federation in food and other indicators, it was determined that the sanctions had a negative impact on the economic availability of food for the population, while the volume of domestic production could not fully compensate for the temporarily created deficit. The position of the agrarian sector in the Russian economy remains unimportant, as evidenced by the indicators of the share of agriculture in GDP and its share in total investments. The extensive development path does not allow attracting sufficient investments for technical and technological modernization of the agro-industrial production. As a result, there was a rise in food prices, replacement of major food importers, food quality reduction. The use of decile groups of the population in terms of income has led to the conclusion that the consumption of agricultural and food products has decreased by the first group with the lowest income level, which is approximately 29.4 million people. There is a lack of protein and carbohydrate intake. The turnover of substandard and falsified food products is growing. In such circumstances, the continuation of the food embargo by Russia requires careful study. Attention should be paid to the mechanisms of food distribution and monetary compensation within the framework of domestic food aid to low-income categories of the Russian population.

Keywords: consumption, production, food, embargo, sanctions.

Introduction. Over the past five years, the popularity of economic sanctions with respect to Russia has increased significantly and has a clearly expressed political nature. The mass media is full of news on this topic. Sanctions are used as a foreign policy tool in order to solve emerging problems in the applicant country. From the standpoint of economic theory, sanctions create non-tariff barriers to trade. The impact of sanctions in the financial sphere and the need for policy adjustment in such conditions was studied in detail by Justine Suzanne Walker (2017) [13]. Empirical evidence from studies by Mohammad Nasre Esfahani et al. (2017) indicates a significant negative impact of sanctions on bilateral trade between Iran and the EU. The expansion of Iran's foreign trade to Asian countries is noted as a positive impact [15]. According to I.A. Kruglova (2015), modern sanctions are sectoral in nature, that is, they are applied selectively: in relation to specific individuals and companies. The sanctions are also used in export-import operations, labor migration and financial flows [4]. In the short term, the greatest effects may be due to restrictions in the financial sector. According to A.A. Shirov et al. (2015), it will be necessary to compensate for the annual reduction of borrowed resources in Russia in the amount of up to \$ 200 billion. At the same time, the annual losses of European countries from reducing interest payments will amount to \$ 10 billion [12]. V. A. Plotnikov, Yu. V. Vertakova (2014) note that sanctions against Russia should be considered not only as a limitation in development, but also as a new opportunity to adjust the economic model of the state [6]. In modern conditions, sanctions restrictions are destructive in nature with a pronounced "boomerang effect" because they affect initiating countries (Vertakova Yu.V. et al., 2015) [3]. The current situation should be investigated, first of all, in retrospect. The concept of "sanctions" officially appeared as early as 1920. According to the UN Charter, sanctions are measures that imply the rupture of economic and diplomatic relations and means of communication. Russia has passed a law that determines that these are special economic measures that are applied in cases of circumstances that require an immediate response to an internationally wrongful act or unfriendly action of a foreign state or its bodies and officials that threaten the interests and security of the Russian Federation. Such measures in accordance with the Russian legislation may be aimed at:

- 1) Suspension of the implementation of all or a part of programs in the field of economic and technical assistance, as well as programs in the field of military-technical cooperation;
 - 2) The prohibition of financial transactions or the establishment of restrictions on their implementation;
 - 3) The prohibition of foreign economic operations or the establishment of restrictions on their implementation;
 - 4) Termination or suspension of international trade agreements and other international agreements of the Russian Federation in the field of foreign economic relations;
 - 5) Change in export and (or) import customs duties;
 - 6) The prohibition or restriction of entry into the ports of the Russian Federation of ships and the use of the airspace of the Russian Federation or its individual regions;
 - 7) The establishment of restrictions on the implementation of tourist activities;
 - 8) Prohibition or refusal to participate in international scientific and scientific-technical programs and projects, scientific and scientific-technical programs and projects of a foreign state [1].
- It is enough to recall some historical facts on this occasion (Table 1).

Table 1. Chronology of sanctions applied by foreign countries to Russia

Date	Sanctions
1930	“Golden blockade”, an embargo on all types of goods, except for grain
1946-1991	Technological blockade, the list of technologies prohibited for export to Russia
1974	Jackson-Vanik amendment, the use of discriminatory customs duties on goods from the Russian Federation
1979	Boycott of the Moscow Olympic Games and restrictions on the export of computer equipment
1983	Restriction of air traffic and the ban on the export of equipment for the oil and gas complex
1998	“Scientific black list” which included Russian scientific companies and institutions
2012 to the present	The freezing of foreign assets and the ban on the entry into the United States and the European Union of some Russian officials ("the case of Magnitsky")
2014 to the present	US and EU: temporary suspension of investment and military cooperation with Russia. Personal sanctions.

Source: compiled by the authors

Economic sanctions in modern history are of different nature, goals and mechanisms. However, they are distinct personified in recent years and are industry-specific. Basically, the targets of the sanctions have become the financial, oil and gas, defense and research and production sectors of the Russian Federation.

A large number of sanctions were enacted relative to Russia in 2014 and are associated with the Ukrainian crisis. During this period, more than 55 acts were adopted by EU countries and about 20 regulatory and restrictive documents of the United States.

The dynamics of foreign trade turnover suggests that there is a certain cyclical nature (Figure 1).

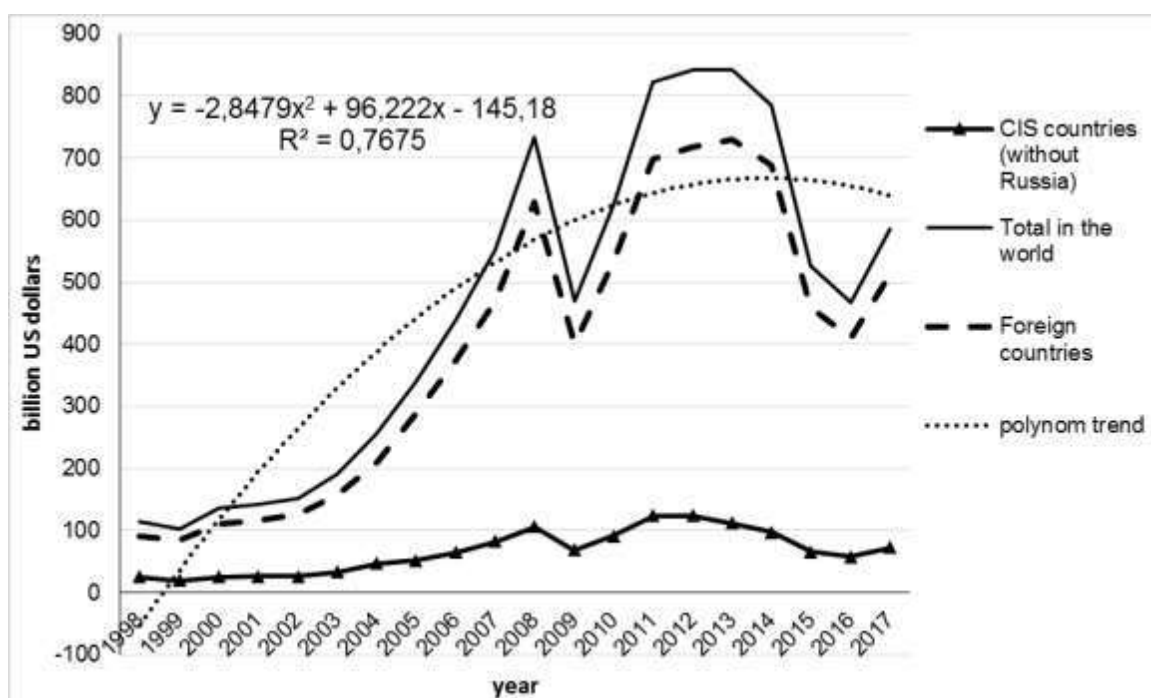


Figure 1. Dynamics of foreign trade turnover between the Russian Federation and other countries

Source: compiled by the authors based on data from the Federal Customs Service of the Russian Federation

The growth of the foreign trade turnover between the Russian Federation and the other countries of the world was observed from 1998 to 2008, when it reached its maximum - 784.5 billion dollars.

The global crisis has led to a disruption in the functioning of the global economy and an outflow of capital from Russian companies and the banking sector.

As a result, foreign trade turnover in 2009 decreased to 469 billion dollars, which is 1.7 times less than in the previous period.

A relatively stable situation was observed in the period from 2011 to 2014.

The Russian crisis of 2014 most clearly manifested in the economic indicators of the following year. It was largely local in nature, since it was due to political events: the entry of the Crimea into Russia and the subsequent sanctions of Western countries.

At the beginning of 2015, the dollar exchange rate amounted to 65.29 rubles, and by the end of the year it increased to 70.72 rubles. This fall in the ruble exchange rate led to an increase in inflation and a decline in real incomes of the population.

In the same period, the size of gold and foreign exchange reserves dropped from 385 to 364 billion US dollars.

Materials and methods. We used a monographic method to study the economic nature of the sanctions. The balance method was used in the study of production and consumption.

For the analysis of affordability, the minimum food basket cost was calculated, the calculation has used uniform for the Russian Federation conditional volumes of food consumption and average consumer prices for them by regions. The set included 33 names of food products.

The minimum food basket cost growth index is calculated by the formula (1):

$$FCI_c = \frac{P_t}{P_0} \quad (1),$$

Where FCI_c - the minimum food basket cost growth index;

P_t - the minimum food basket cost for t-th year;

P_0 - the minimum food basket cost of the base year (in the study, the base year is 2010, where $I_c = 1$);

The grouping method was used to build decile groups of the population. The recorded data on the number of persons in households are ranked as the increase of the average per capita welfare indicators. This number is taken as 100%. 10% of the total number of the surveyed population belongs to the corresponding decile group of the population, distributed as the welfare indicators increase. The first decile group has the lowest incomes, and the tenth has the largest ones.

The physiological needs satisfaction rating for the population in food (nutrients - proteins, fats and carbohydrates; the energy value of the daily diet with breakdown by decile groups) is calculated by the formula (2):

$$k_i = \frac{C_i}{C_n} \quad (2)$$

Where k_i - the physiological needs satisfaction rating for the population of the Russian Federation in food;

C_i - actual consumption of proteins, fats and carbohydrates by the population; energy value of consumed products of the i - th decile group of the population;

C_n - normative consumption of proteins, fats and carbohydrates by the population; normative energy value of consumed products.

The data of the Federal State Statistics Service of the Russian Federation and the Federal Customs Service of the Russian Federation are used.

Results. The functioning of the agri-food sector of Russia in the conditions of sanctions has its own characteristics. In response to foreign countries, there should be singled out a Russian embargo on products of the agricultural sector of the countries that initiated or supported economic sanctions against Russian legal entities and individuals.

Sanction goods include beef, pork, poultry, fish and crayfish, milk and dairy products, vegetables and fruits.

The food embargo is imposed on the United States, the countries of the European Union, Norway, Canada and Australia.

In 2015, they were joined by Liechtenstein, Albania, Iceland and Montenegro, and in 2016, Ukraine.

This situation has led to the need to increase Russian own food production inside the country. However, the actual volume of that increase was not enough to provide food for the population of Russia. Therefore, the temporarily created shortage is covered by changing suppliers-importers (table 2).

Table 2. The main consequences of the food embargo of the Russian Federation

RF food embargo	Solving the problem of shortage
Restrictions on imports of meat and meat products, fish, milk and dairy products, vegetables from the following countries: USA, EU countries, Canada, Australia, Norway, Ukraine, Republic of Albania, Montenegro, Republic of Iceland and Principality of Liechtenstein	Replacing suppliers, rising food prices domestically
	<u>Meat and meat products:</u> Brazil, Republic of Belarus, Paraguay, Argentina and Uruguay
	<u>Fruits and vegetables:</u> Turkey, Egypt, China, Israel and Azerbaijan
	<u>Milk and dairy products:</u> Belorussia

Source: compiled by the authors

Foreign trade of the Russian Federation with agri-food products has a negative balance. In 2017, imports increased by 15% compared to 2016 and amounted to \$ 28.8 billion. The volume of exports of raw materials and food for the same period amounted to only \$ 20.7 billion, or 12.7% of total imports.

In 2017 compared to 2016, there were some changes in imports to Russia (table 3).

The data in the table indicate a decrease in the volume of imports of wheat and meat. At the same time, the volume of deliveries to the Russian Federation of corn, pasta, palm oil and its fractions, milk and cream, fresh and frozen fish, barley.

Table 3. Change in imports to the Russian Federation in 2017 compared to 2016, % (metric ton is used as the base of calculations)

Product	Countries outside the former Soviet Union	CIS
Groats, wholemeal flour and cereal granules	+87.24	-52.44
Corn	+11.66	13 times increase
Pasta, cooked or not cooked	+13.07	+83.28
Palm oil and its fractions, unrefined or refined, but without changing the chemical composition	-0.10	4.8 times increase
Milk and cream, not condensed and without the addition of sugar or other sweeteners	2.1 times increase	+35.55
Milk and cream, condensed or with added sugar or other sweeteners	+14.96	+0.22
Powdered milk	+14.95	-11.40
Meat and edible offal of poultry listed in heading 0105, fresh, chilled or frozen	-8.64	+11.35
Fresh and frozen meat (without poultry meat)	+5.27	-5.26
Wheat and meslin	-49,78	-54.30
Fresh and frozen fish	+18.90	+36.40
Barley	+179.70	-53.77

Source: compiled by the authors based on data from the Federal Customs Service of the Russian Federation

Since 2010, the Food Security Doctrine has been in place in the Russian Federation, according to which the level of self-sufficiency in basic products should be from 80 to 95%. Currently, this standard is not fulfilled only for milk and dairy products - 82.4% (the norm is 90%). Meanwhile, a more detailed study of the key components of this indicator is required for production and consumption.

In recent years, there has been a tendency of growth in the index of crop and livestock production, investment in the industry has increased, and absolute amounts of state support are increasing (Table 4).

Table 4. The significance of the agricultural sector of Russia

Indicator	Year							
	2010	2011	2012	2013	2014	2015	2016	2017

Investments in fixed assets for the development of agriculture, billion rubles	201.85	256.91	252.99	307.09	296.78	304.67	379.80	374.72
Share in total investment, %	3.00	3.00	2.90	3.10	3.00	2.90	3.40	3.10
State budget funds, billion rubles	262.30	268.70	276.50	361.30	314.30	362.40	331.70	343.80
The share of agriculture in GDP, %	0.60	0.70	0.60	0.50	0.40	0.40	0.40	0.40
Producer Support Estimate (PSE), %	22.40	12.59	14.75	13.24	13.21	12.21	16.06	12.30

Source: compiled by the authors based on data from the Federal Statistics Service of the Russian Federation

However, despite the growth in production in physical terms, the position of the industry as a whole in the Russian economy remains unimportant, as evidenced by the indicators of the share of agriculture in GDP (0.04%) and its share in total investments (3.1%). The agricultural sector continues to implement extensive development to a greater extent, the level of technical and technological development remains extremely low [9]. In 2017, the level of relative PSE shows that only 12.3% of the income of agricultural producers is due to state support. For comparison: in 2010 this indicator was 22.4%.

The introduction of an embargo on the import of products from individual countries has led to a rise in the minimum food basket cost. In 2014, as compared with 2010, the cost increased by 1.3 times, and by the end of 2017, by 1.4 times (Figure 2).

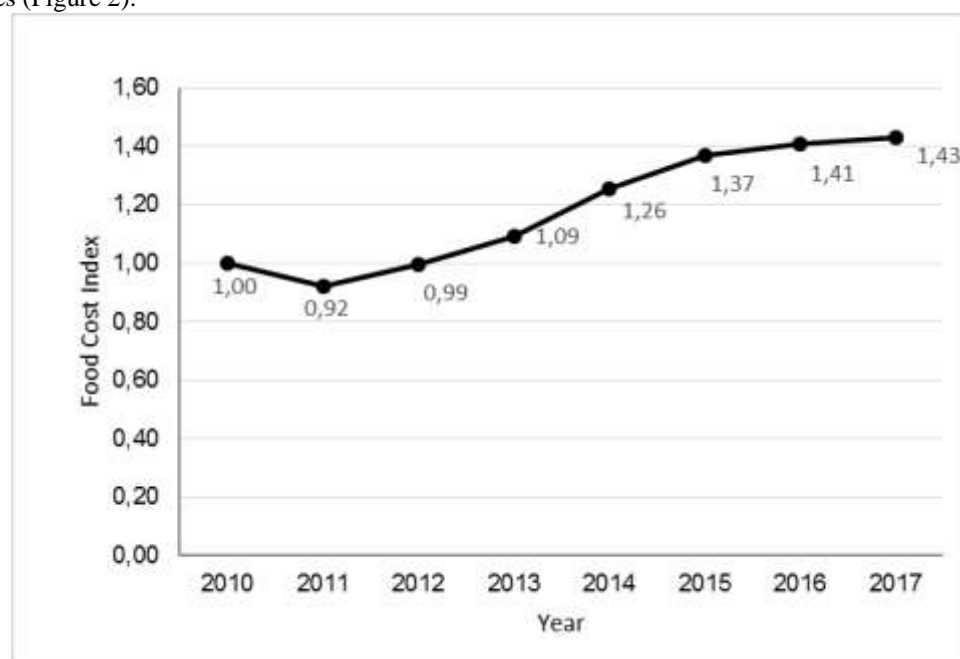


Figure 2. The dynamics of the growth index of the minimum food basket cost

At the same time, there is a decrease in real incomes of the population compared with the previous period: in 2015, the figure was 96.8%, in 2016 - 94.2% and in 2017 - 98.3%.

In addition, in Russia there is a noticeable differentiation in the income of the population. For example, the average per capita income of 10% of the richest people is 15.6 times more than the 10% of the poorest. Therefore, economic sanctions have aggravated the purchasing power of the low-income population. Using the grouping by decile groups, it was determined that the first and second groups are deficient in protein and carbohydrate intake compared to the standards approved in Russia (Figure 3).

Thus, a decrease in food consumption was observed for 20% of the population (29.4 million people).

On the one hand, the food embargo has led to a number of negative phenomena: rising prices, changing consumer preferences, reducing the quality of food.

The turnovers of poor-quality and falsified food products are growing in the Russian market. According to the Rosselkhozadzor (Federal Service for Veterinarian and Vegetation Sanitary Supervision of the Russian Federation), only in 2017, out of 22.5 thousand of the examined batches of animal products, 3.8 thousand batches (16.7%) turned out to be inconsistent with the composition that the manufacturers stated.

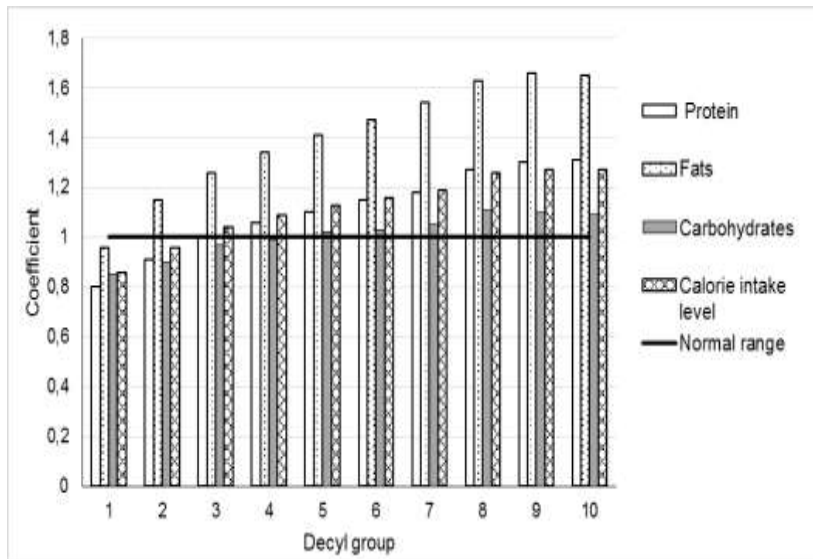
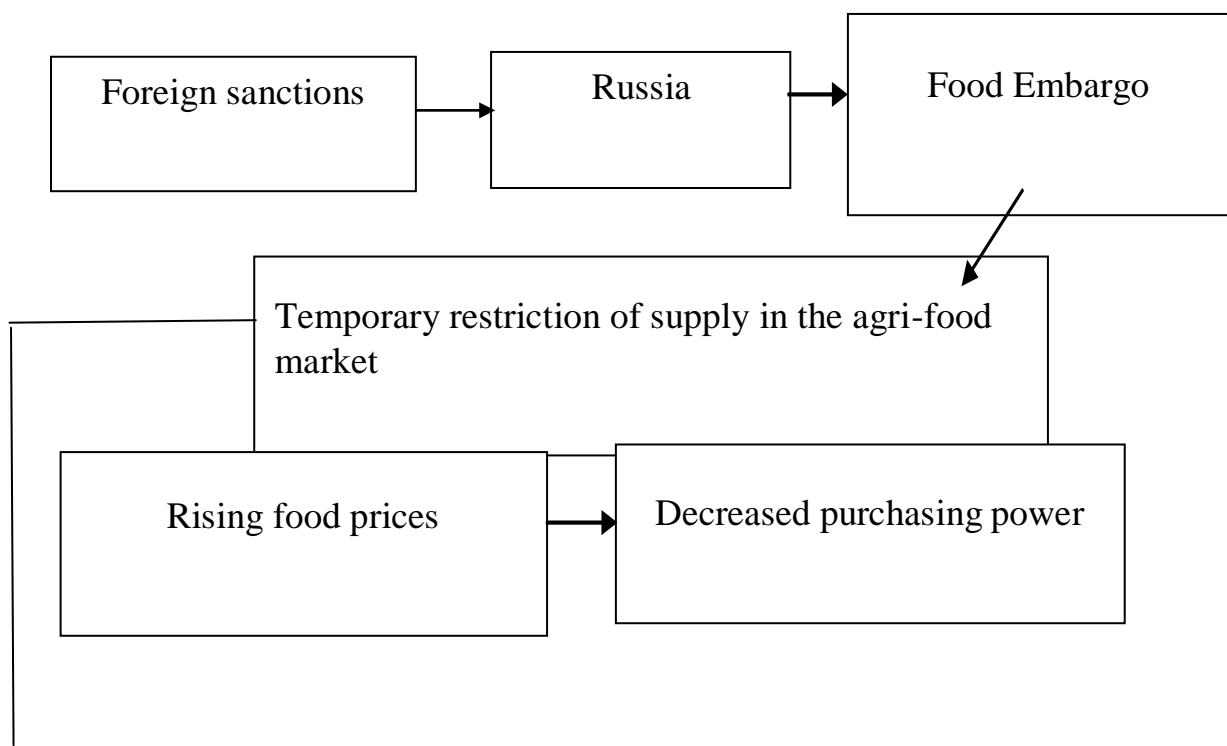


Figure 3. Satisfaction of the physiological needs of the population in the Russian Federation in nutrients and energy value of the daily diet by decile groups in 2016

On the other hand, the state has paid attention to the problems of development of the agrarian sector of the economy. However to a greater extent it is declarative in nature. With the deficit of investments created over the years, it was not possible to solve in the short term its problems of technical and technological lag, shortage of personnel in this industry. **Discussions.** N.I. Shagaida and V.Ya. Uzun (2016) note that the choice of food as the main tool of the sanctions war can hardly be considered successful. This measure had a negative impact on the country's population in the end [11]. Studies of the Analytical Center under the Government of the Russian Federation indicate that the negative impact of inflation was stronger than the effect of the embargo (2016) [7]. With a high level of inflation, imported food products were not readily accessible to the population, what significantly reduced their consumption. In such circumstances, a more thorough study of the use of the food embargo is required. Researches of scientists confirm that in most countries from the sanctions list, the export of food products has not decreased, and losses in the Russian market were compensated by an increase in supplies to other countries. However, some states reduced their exports mainly due to the Russian embargo: Norway (total reduction - 11.3%, including 10.1% due to losses in the Russian market), Finland (24.5 and 20.9%, respectively), Lithuania (20.7 and 20.6%), Latvia (21.5 and 11.5%), Estonia (22.8 and 12.2%), Poland (4.8 and 4.6%) [8]. In addition, according to a number of scientists, these figures do not reflect the real picture: sanctioned agricultural products enter the Russian market through Belarus and Kazakhstan [11]. Growth in imports of agricultural products from the BRICS countries (for example, Brazilian pork) is noted. Thus, independent experts come to the conclusion that the level of economic availability of food for the population is declining. A.I. Altukhov notes a weak willingness of the agrarian sector of the economy to foreign sanctions, in conditions of a high dependence of domestic production on imports of the means of production, and the imperfection of the state agrarian policy [2]. Conceptually, the effects of the food embargo can be reflected in Figure 4.



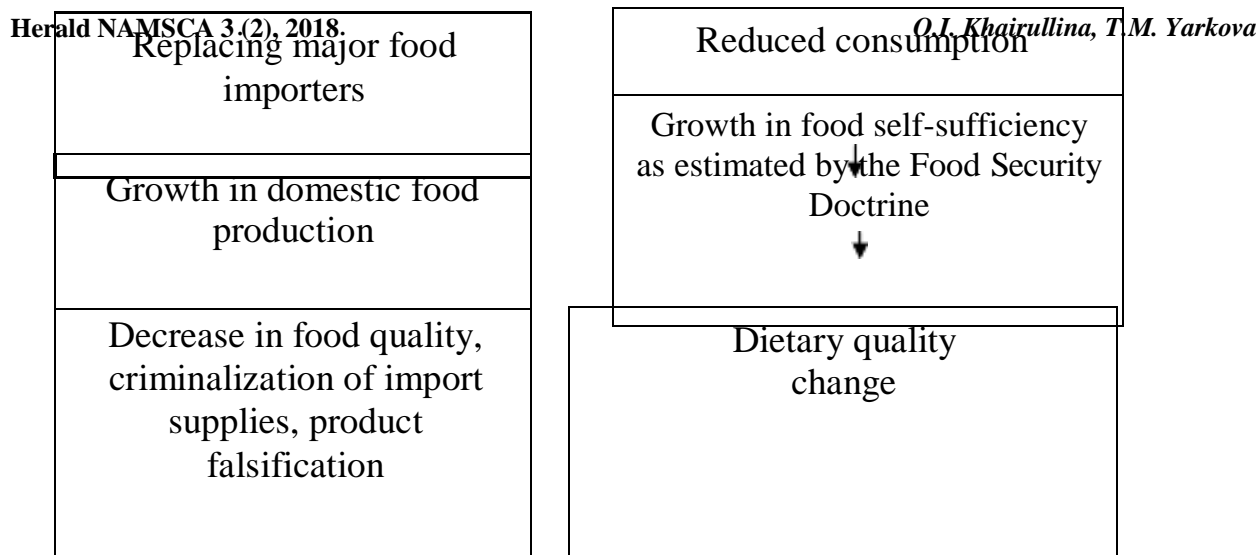


Figure 4. Consequences of the adoption of the food embargo by the Russian Federation
 Source: compiled by the authors using sources [5, 10, 14]

Conclusion. The growth of food self-sufficiency, as one of the indicators of food security, has a positive trend. Very often this is used as evidence of Russia's successful adaptation to the adopted sanctions. However, a detailed study of this indicator is required, as a reduction in food consumption by the population is essentially a negative phenomenon. It is required to develop a system of mechanisms for the provision of domestic food assistance to low-income categories of citizens. An equally important problem in the context of the food embargo is the quality of agricultural products and foodstuffs. In this aspect, Russia needs to improve legislation in the field of food quality control, expand scientific research in the field of food quality management methods, encourage manufacturers not only to increase production volumes, but also to improve quality characteristics.

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