

# Forming Market Instruments of Import Substitution Strategy in Russia As A Result of The Sanctions Policy Related to Events in Ukraine

<sup>1</sup>Anna Mikhailovna Chernysheva, <sup>2</sup>Ekaterina Andreevna Degtereva, <sup>3</sup>Alexandra Alexandrovna Trofimova

<sup>1,2,3</sup>People's Friendship University of Russia (RUDN University), Moscow, Russia

## Abstract

The import substitution forms a policy to protect the national producer by prohibiting the import of products and substituting them with the domestic ones. As a result, the competitiveness of domestic products grows and moves from everyday goods to high-tech production. On October 1, 2014, the Government of the Russian Federation adopted the import substitution strategy “Development of Industry and Enhancing its Competitiveness”, above all, in industry. The import substitution strategy is introduced in various sectors of the national economy, including the fuel and energy complex, consumer, forestry and automotive industry, pharmaceuticals, etc. (Beksultanova, 2016). The formation of the import substitution strategy was caused, firstly, by the depreciation of the ruble in 2013-2014, and, secondly, by the decrease in import due to the sanctions policy against Russia related to the situation in Ukraine. At the same time, today the Russian economy is highly dependent on intermediate and final goods for investment purposes. In the sectoral programs of import substitution, it is planned to considerably reduce such dependence by 2020 (Pavlov, Kaukin, 2017). In this case, the decrease in the dependence on world producers should not become an isolated and closed system. That is why the integration of the domestic producer into the global value chains will be an additional goal. This means that it will also increase competitiveness in the global market. Nevertheless, it is necessary to understand that in the context of investment goods, the Russian economy is highly dependent on global prices for raw energy products, which necessitates the production of final investment goods on the territory of Russia. The publication has been prepared with the support of the “RUDN University Program 5-100” within the project “Improvement of marketing tools to support and expand the import of consumer goods in the real sector of the Russian economy”.

**Keywords:** import substitution, sanction actions, sanctions, import dependence, sanctions measures, substitution process, import substitution strategy, ex-port and import operations, economic security, sanctions regime, foreign trade turnover, sanctions pressure.

## **Formando Instrumentos De Mercado De La Estrategia De Sustitución De Importaciones En Rusia Como Resultado De La Política De Sanciones Relacionadas Con Eventos En Ucrania**

Resumen: La sustitución de importaciones forma una política para proteger al productor nacional al prohibir la importación de productos y sustituirlos por productos nacionales. Como resultado, la competitividad de los productos nacionales crece y pasa de los bienes cotidianos a la producción de alta tecnología.

El 1 de octubre de 2014, el Gobierno de la Federación de Rusia adoptó la estrategia de sustitución de importaciones “Desarrollo de la industria y mejora de su competitividad”, sobre todo en la industria. La estrategia de sustitución de importaciones se introduce en varios sectores de la economía nacional, incluido el complejo de combustible y energía, la industria de consumo, forestal y automotriz, farmacéutica, etc. (Beksultanova, 2016). La formación de la estrategia de sustitución de importaciones fue causada, en primer lugar, por la depreciación del rublo en 2013-2014 y, en segundo lugar, por la disminución de las importaciones debido a la política de sanciones contra Rusia relacionada con la situación en Ucrania. Al mismo tiempo, hoy la economía rusa depende en gran medida de los bienes intermedios y finales para fines de inversión. En los programas sectoriales de sustitución de importaciones, se planea reducir considerablemente dicha dependencia para 2020 (Pavlov, Kaukin, 2017). En este caso, la disminución de la dependencia de los productores mundiales no debería convertirse en un sistema aislado y cerrado. Es por eso que la integración del productor nacional en las cadenas de valor globales será un objetivo adicional. Esto significa que también aumentará la competitividad en el mercado global. Sin embargo, es necesario comprender que, en el contexto de los bienes de inversión, la economía rusa depende en gran medida de los precios globales de los productos de energía cruda, lo que requiere la producción de bienes de inversión finales en el territorio de Rusia.

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Palabras clave: sustitución de importaciones, acciones de sanciones, sanciones, dependencia de importaciones, medidas de sanciones, proceso de sustitución, estrategia de sustitución de importaciones, operaciones de exportación e importación, seguridad económica, régimen de sanciones, rotación de comercio exterior, presión de sanciones.

## 1. Introduction

Since 2014, as a result of the sanctions imposed by various countries under the influence of the events taking place in Ukraine, the import substitution strategy becomes the basis for the development of individual sectors of the Russian economy. At the same time some industries become highly dependent on import. For example, in the machine tool industry this share is 90 %, in the oil and gas sector – 60 %, in heavy engineering – 70 %, in power equipment – 50 %, in civil aircraft – 80 %, and in agricultural machine building – from 50 % to 90 %. The import substitution program adopted in 2014 provides for the development of comprehensive measures to ensure food security. Thus, in 2015 a list of investment projects in the amount of 265 billion rubles that contribute to the development of this concept was formed and approved. Besides, in 2014, a pro-gram was developed to finance projects in certain sectors of the economy, including in agriculture, manufacturing and chemical industry, energy, transport, communications, etc. In 2014, the Industrial Development Fund was established. It finances domestic projects at the preproduction stage. In 2015, twenty sectoral pro-grams in the civilian industry were also formed.

Within the import substitution strategy, the Government of the Russian Federation restricts certain types of goods produced in other countries, especially in such areas as medicine, engineering, consumer goods industry and defense. At the same time, import substitution becomes not only an economic but also political instrument, because under the imposed sanctions and political tension, import substitution becomes the optimal decision of the country’s leader-ship.

The restrictions introduced as a result of the Ukrainian crisis contradict to the basics of the World Trade Organization (WTO) Russia joined in 2012. The applied restrictions ignore equal conditions for the WTO mem-

ber countries, and lead economic instruments to the political level. Thus, using a high market capacity, the Russian Federation can produce and fill it with high quality products, which will allow developing the real sector of the economy.

In general, restrictions were imposed by such countries as the USA, Canada, the EU countries, Australia, New Zealand, Ukraine, etc. The imposed sanctions concerned both private and legal entities, as well as certain areas in general. Thus, a ban was imposed on the supply of military and defense products, equipment for the oil and gas industry, the access of certain financial institutions to the capital markets of countries, restrictions on investments in infrastructure, energy, telecommunications, ban on the export of certain goods, including minerals and hydrocarbons, restrictions on loans and debt financing to certain financial institutions. In particular, Ukraine imposed a ban on the supply of arms and military equipment and cooperation in the military and defense areas. It dissolved agreements on energy supplies in the Crimea, introduced a special regime for transit flights, joined the EU countries sanctions, banned settlement and credit operations in Russian rubles, annulled the agreement on completing the third and fourth blocks of the Khmelnytsky NPP, abolished the effect of trade preferences, introduced a ban on supplying certain types of products, including meat, flour, certain types of confectionery, etc.

The Russian Federation responded by restricting the import of certain types of agricultural products, such as meat and dairy products, vegetables and fruits, etc., as well as certain products of the consumer goods industry, including fabrics, special clothing, etc.

Such mutual sanctions have caused the active implementation of the import substitution strategy that will allow achieving the following positive goals for the country:

- Transition to high quality domestic products, ensuring sustain-able development of the economy,
- Introduction of research and development (R&D) at the level of world standards, ensuring an increase in demand for domestic products,
- Reducing the risk related to the lack of supplying necessary components for production, and
- Introduction of new technologies, new models of markets, etc.

Achieving these goals ensures a sustainable socio-economic situation in the country and develops markets and competitiveness.

Along with all positive aspects of introducing the import substitution strategy, negative consequences are also possible, e.g., intro-duction of coun-

tersanctions, the ruble devaluation, etc.

To efficiently implement the import substitution strategy, it is necessary to solve a number of the current problems in Russia:

- Lack of information for industrial enterprises, including defense enterprises, domestic producers,
- Lack of data on the opportunities of both manufacturing and technological Russian producers,
- Lack of a sufficient amount of working capital for domestic producers, and
- Discriminatory actions of international retail chains,
- Low level of business plans for import substitution,
- Problems on the customs regulation of import of raw materials, components and finished products,
- Deficit of industrial sites that have the required infrastructure,
- High prices for raw materials imported from abroad, and
- Difficulties related to the production of associated products.

Today, many parameters of the federal import substitution strategy do not correspond to regional and macroregional strategies.

It causes certain difficulties related to their implementation. Nevertheless, the import substitution is an important instrument for diversifying branches of the national economy that reduces dependence on import.

The imposed sanctions have become a certain impetus for the formation of a sustainable economic and political situation in the country.

The works of P.A. Kadochnikov and D.N. Zaitsev are devoted to studying the import substitution. Such researchers as T. Men,

A. Monkretian, and I.T. Pososhkov took an active part in developing the notion of import substitution. At the same time, they thought that export was the basis of the country's wealth, and import had to be reduced through the introduction of import substitution in the country. Such researchers as H. Channary, M. Bruno, A. Straug, and N. Carter continued studying the advantages of the strategy on introducing the import substitution.

## **2. Setting the problem**

When implementing the import substitution strategy, the main problem is the growing prices for raw materials and components produced abroad, as well as a high degree of dependence on foreign technologies. For example, the substitution of imported computer equipment and telecommunications equipment was accompanied by prices' growth, due to the increase in the prices of components. It means that the state should consider the issue

on subsidizing this sector. In order to substitute the required equipment in the oil and gas sector, innovative domestic developments are required, because this sector is characterized by a long innovation cycle.

It is necessary to note that the response of the Russian Federation to the sanctions of many countries considerably contributed to developing the import substitution strategy. Thus, in August 2014, food sanctions were introduced against those countries that had imposed their restrictions on Russia. At the same time, the government of the Russian Federation solved at least two tasks:

- Supporting the development of domestic agriculture,
- Increase in the supply of agricultural products from friendly countries, including the BRICS and EEU countries.

However, there are already positive consequences related to the implementation of this strategy. Thus, a new machine-tool plant was put into operation in Ulyanovsk. A new line for the production of agricultural machinery was launched in Krasnodar. The production of optical fiber was started in Mordovia. The United Shipbuilding Corporation in Ulan-Ude began manufacturing components for helicopters and engines for ships that had previously been supplied from Ukraine. Besides, My Office software was developed. It can substitute Microsoft Office software.

All the above examples strengthen the competitiveness of the national economy sectors both on the national and on the world markets.

Over the recent years, the Russian Federation has the surplus of the foreign trade and export and import balances. Table 1 shows these dynamics. According to Table 1, it is possible to define that the growth rate of foreign trade turnover was observed until 2013-2014. Since 2014 the number of foreign trade operations has decreased due to the mutual sanction actions, and afterwards due to the introduction of the import substitution strategy. At the same time, over the recent years, the excess of export over import has been peculiar in relation to such countries as Germany, the Netherlands, Italy, Turkey, and India. However, the import exceeds exports in terms of the foreign trade turnover with the BRICS countries, namely, Brazil, China and South Africa.

This analysis shows the sufficient potential of the Russian economy to introduce the import substitution strategy. At the same time, it is important to neutralize the technological dependence on import. It takes much time to do it. At the same time, in order to determine the areas of the import substitution strategy, it is necessary to take into account the impact of two groups of factors: external and internal.

The external factors are uncontrolled. They are market factors (the market environment, level and development of competition), the state system of regulating export and import operations (the system of export stimulation, the system of the domestic market protection). The internal factors are controlled and include company resources (state of the technics and technology, level of production capacity, qualified personnel system, investment opportunities), company management system (mission, goals and objectives of the company, quality management system).

At the company level, the import substitution can be formed in two equivalent areas:

- Using domestic materials and components that are available on the market in the production,
- Organizing own manufacture of analogues of import elements required to maintain sustainable production.

**Table-1.** Dynamics of Foreign Trade of the Russian Federation in 2000-2016 (\$, million)

Countries	2000	2005	2010	2011	2012	2013	2014	2015	2016
<b>Export to the countries that are the main trade partners</b>									
1. Germany	9,23	19,73	25,66	34,15	34,99	37,02	37,12	25,35	21,25
2. Netherlands	4,34	24,61	53,97	62,69	76,88	70,12	67,96	40,84	29,25
3. China	5,24	13,04	20,32	35,03	35,76	35,62	37,50	28,60	28,02
4. Italy	7,25	19,05	27,47	32,65	32,30	39,31	35,74	22,29	11,93
5. Turkey	3,09	10,84	20,31	25,35	27,41	25,47	24,44	19,29	13,69
6. USA	4,64	6,324	12,32	16,42	12,86	11,13	10,67	9,456	9,354
7. France	1,90	6,111	12,42	14,85	10,53	9,203	7,578	5,712	4,778
8. India	1,08	2,314	6,392	6,080	7,563	6,983	6,341	5,574	5,313
9. Brazil	259	606	1,798	2,125	2,304	1,985	2,366	1,924	1,786
10. RSA	34	25	46	115	279	286	285	271	197
<b>Import from the countries that are the main trade partners</b>									

1.	3,89	13,27	26,69	37,68	38,30	37,91	32,96	20,44	19,45
Germany	8	2	9	3	5	7	3	1	1
2.									
Netherlan ds	740	1,941	4,442	5,925	5,977	5,837	5,248	3,096	3,021
3. China	949	7,265	38,96	48,20	51,62	53,17	50,88	34,95	38,08
			4	2	8	3	4	1	7
4. Italy	1,21	4,416	10,04	13,40	13,43	14,55	12,72		
	2		3	2	2	4	3	8,320	7,839
5. Turkey	349	1,732	4,867	6,360	6,860	7,273	6,651	4,049	2,148
	2,69		11,09	14,58	15,36	16,50	18,49	11,45	10,92
6. USA	4	4,563	7	4	6	2	7	4	3
7. France	1,18	3,673	10,04	13,27	13,80	13,01	10,74		
	7		3	6	4	2	3	5,919	8,489
8. India	557	784	2,143	2,786	3,041	3,094	3,172	2,258	2,397
9. Brazil	388	2,346	4,067	4,389	3,359	3,493	3,969	2,915	2,524
10. RSA	71	147	473	465	686	782	691	566	521

Sources: Compiled by the authors based on the data of the Federal Service of State Statistics. International trade. Foreign trade of the Russian Federation with the countries of the far abroad and the CIS (International trade, 2018; National Accounts, 2018).

The use of both areas requires high quality imported analogs that meet both the producer's and consumer's requirements. At the same time, the efficiency of the developed import substitution strategy is determined by the ratio of the resources savings obtained as a result of implementing this strategy and the costs of investment in the production organization.

The main regional import substitution strategies are implemented in the Astrakhan, Vladimir, Volgograd, Penza, Saratov, Sverdlovsk, Chelyabinsk Regions and the Chuvash Republic. In general, the majority of Russian subjects have developed plans to ensure sustainable development of the economy and social stability, as well as measures and plans established to contribute to the import substitution. The figure shows the data on the subjects of the federation.

The algorithm of each regional program on the import substitution includes goals, objectives, target indicators, budget, the main areas for investments, implementation mechanism, efficiency evaluation and others.

Depending on the regional peculiarities, certain top priority sectors are singled out. For example, the Astrakhan region focuses on agriculture, fishery, building materials, shipbuilding, etc. The Volgograd Region is characterized by its focus on metallurgy, automotive industry, civil aircraft construction, pharmaceuticals, etc. The Chelyabinsk Region is character-



ized by its focus on the machine tool industry, equipment for the oil and gas complex, pipe products, medical equipment, etc.

Within the implementation of regional programs on import substitution, special economic zones, clusters, business incubators are formed. For example, in the Volgograd Region a chemical-pharmaceutical cluster has been founded. In the Vladimir Region there are four industrial parks (Oka, Strunino, Stavrovo, Pratsels). In the Chelyabinsk Region there are machine tool and machine-building clusters. Centers for Import Substitution are also established to support these programs: development corporations that fully support investment projects; the use of rating estimates for the activities of regional government bodies on import substitution issues, etc. (see Figure 1).



**Figure-1. Data on Import Substitution Plans of Subjects of the Russian Federation (Borodkina, Ryzhkova, Ulas, Ushalova, 2015)**

In 2014, the Industrial Development Fund was established. Its goal is to assist in modernizing the industry, organizing and providing import substitution strategies and programs

### 3. Methods

Table 2 shows the data on export to and import from some countries that took sanction measures, and in response to which the Russian Federation

also applied sanctions.

**Table-2.** Dynamics of Foreign Trade of the Russian Federation in 2000-2016 (\$, million)

Country/ year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Changes in 2008- 2018
	Export											
Ukraine	23.5	13.8	23.1	30.5	27.2	23.8	17.1	9.2	6.1	7.9	0.5	-66.34%
USA	13.3	9.1	12.4	16.4	12.96	11.1	10.6	9.4	9.4	11.9	0.8	-16.54%
Canada	0.94	0.49	1.08	0.60	0.34	0.47	0.69	0.54	0.42	0.65	0.2	-30.85%
Australia	0.08	0.05	0.05	0.06	0.106	0.07	0.13	0.10	0.06	0.12	0.05	50.00%
Germany	33.1	18.7	25.1	34.1	35.6	37.02	37.1	25.4	19.6	25.5	0.0	-22.96%
France	12.2	8.7	12.4	14.8	10.5	9.2	7.5	5.7	4.5	5.9	0.5	-50.98%
Poland	20.2	12.5	14.9	21.3	19.9	19.6	15.9	9.6	8.5	11.4	1.2	-43.56%
Finland	15.7	9.1	12.1	13.2	12.0	13.3	11.4	7.0	6.4	8.6	0.9	-45.22%
Netherlands	56.9	36.4	53.9	62.7	76.8	70.1	68.8	40.2	29.8	36.2	3.2	-35.33%
Italy	41.99	25.09	27.4	32.6	32.4	39.3	35.2	22.3	11.6	14.7	0.9	-64.99%
UK	14.9	9.0	11.3	14.0	15.03	16.4	11.5	7.4	6.7	8.7	0.7	-41.54%
Japan	10.3	7.2	12.8	14.6	15.6	19.6	19.9	14.5	9.3	10.5	0.7	1.94%
<b>In total:</b>	<b>243.1</b>	<b>150.2</b>	<b>206.5</b>	<b>254.9</b>	<b>258.4</b>	<b>260.0</b>	<b>235.1</b>	<b>152.3</b>	<b>112.2</b>	<b>142.0</b>	<b>10.1</b>	<b>-41.60%</b>
Country/ year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Changes in 2008- 2018
	Import											
Ukraine	16.2	9.1	14.04	20.1	17.98	15.8	10.7	5.6	3.9	4.9	0.3	-69.32%
USA	13.8	9.2	11.1	14.6	15.3	16.5	18.5	11.5	10.5	12.5	0.7	-9.42%
Canada	1.63	1.20	1.49	1.83	2.47	1.80	1.54	0.84	0.72	0.97	0.0	-40.49%

Australia	1.0	0.5	0.7	1.0	0.8	0.8	0.6	0.5	0.4	0.5	0.0	-49.51
	3	9	7	1	9	1	7	8	7	2	5	%
German	34.	21.	26.	37.	38.	37.	33	20.	19.	23.	1.5	-29.91
y	1	2	7	7	3	9	33	4	4	9	5	%
France	10.	8.4	10.	13.	13.	13.	10.	5.9	8.6	9.2	0.5	-7.79
	01		1	3	8	01	6	2	8	3	8	%
Poland	7.0	4.2	5.8	6.6	7.5	8.3	7.0	4.1	3.9	4.8	0.3	-32.01
	6						8	5	5	3	3	%
Finland	6.6	3.9	4.6	5.6	5.0	5.4	4.5	2.6	2.4	3.6	0.1	-44.70
							7	7	7	5	8	%
Netherla	4.8	3.6	4.4	5.9	5.9	5.8	5.2	3.1	3.0	3.8	0.2	-20.21
nds				8	8		9	3.1	1	3	2	%
Italy	11.	7.9	10.	13.	13.	14.	12.	8.3	7.8	9.9	0.6	-9.64
	0		04	4	4	5	7	2	3	4	3	%
UK	7.6	3.5	4.6	7.2	8.2	8.1	7.8	3.7	3.4	4.0	0.2	-47.24
							1	2	3	1	6	%
Japan	18.	7.2	10.	15.	15.	13.	10.	6.8	6.6	7.5	0.5	-59.52
	6		3	01	7	5	9	1	7	3	2	%
<b>In total:</b>	<b>132</b>	<b>80.</b>	<b>103</b>	<b>142</b>	<b>144</b>	<b>141</b>	<b>123</b>	<b>73.</b>	<b>71.</b>	<b>85.</b>	<b>5.5</b>	<b>-35.17</b>
	<b>.4</b>	<b>0</b>	<b>.9</b>	<b>.3</b>	<b>.5</b>	<b>.4</b>	<b>.3</b>	<b>6</b>	<b>5</b>	<b>9</b>	<b>5.5</b>	<b>%</b>

Note: the calculation of the changes is based on 2017 data, because the reporting 2018 is not over yet

Sources: Compiled by the authors on the basis of the data of the Federal Service of State Statistics. International trade. Foreign trade of the Russian Federation with the countries of the far abroad and the CIS (International trade, 2018; National Accounts, 2018).

According to the above data, it is possible to analyze the average value of export and import before and after the sanctions. To define the general trend, it is necessary to consider the countries with the largest share of trade operations.

Table 3, Figure 2 show the export from the Russian Federation before the sanction measures, and Table 4, Figure 3 show it after them.

The average data on the Russian export and import with the countries of the sanction regime will be calculated by using the average simple arithmetic. Then the reliability and typicality of the average value will be estimated by using the variation indicators:

1. The dispersion is the average of the squares of deviation in the values of data on the Russian export and import with the countries of the sanctions regime from their average value.

$$\sigma^2 = \frac{\sum(x - \bar{x})^2}{n}$$

2. The average square deviation is the square root of the dispersion, and shows how on average individual values for the Russian export and import deviate from their average value.

$$\sigma = \sqrt{\sigma^2}.$$

3. The coefficient of variation characterizes the fluctuations in data on the Russian export and import, and allows comparing the degree of the feature variation. If the coefficient of variation is less than 35 %, the aggregate under study is considered homogeneous, and the average consumption of natural gas is reliable and typical.

$$v = \frac{\sigma}{\bar{x}} \cdot 100 \tag{3}$$

**Table-3.** Indicators of Variation of the Russian Export to the Countries under Sanctions till and including 2014 (\$, billion)

Countries	2008	2009	2010	2011	2012	2013	2014	$\bar{x}$	$\sigma^2$	$\sigma$	$v$
Ukraine	23.5	13.8	23.1	30.5	27.2	23.8	17.1	22.71	27.67	5.26	23.16
Germany	33.1	18.7	25.1	34.1	35.6	37.02	37.1	31.53	41.82	6.47	20.51
France	12.2	8.7	12.4	14.8	10.5	9.2	7.58	10.77	5.42	2.33	21.62
Poland	20.2	12.5	14.9	21.3	19.9	19.6	15.9	17.76	9.39	3.06	17.26
Italy	41.99	25.09	27.4	32.6	32.4	39.3	35.2	33.43	31.22	5.59	16.72

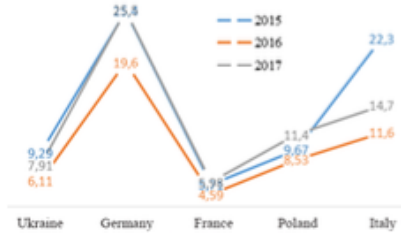
Source: calculated by the authors based on Table 2



**Figure-2.** Variation of the Russian Export to the Countries under Sanctions till and including 2014 (\$, billion)

**Table-4.** Indicators of Variation of the Russian Export to the Countries under Sanctions after 2014 (\$, billion)

Countries	2015	2016	2017	$\bar{x}$	$\sigma^2$	$\sigma$	$\nu$
Ukraine	9.29	6.11	7.91	7.77	1.70	1.30	16.76
Germany	25.4	19.6	25.5	23.50	7.61	2.76	11.74
France	5.71	4.59	5.98	5.43	0.36	0.60	11.09
Poland	9.67	8.53	11.4	9.87	1.39	1.18	11.96
Italy	22.3	11.6	14.7	16.20	20.21	4.50	27.75



**Figure-3.** Variations of the Russian Export to the Countries under Sanctions after 2014 (\$ billion)

Analyzing the data from the tables, it is possible to notice a considerable decrease in the volume of the export between the Russian Federation and the countries that imposed and suffered sanctions. Thus, the export to Ukraine decreased from 23.8 billion rubles in 2013 down to 7.91 billion rubles in 2017. The export to Germany decreased from 37.02 billion rubles down to 25.5 in 2017, to France – from 9.2 down to 5.98, to Poland – from 19.6 down to 11.4, and to Italy – from 39.3 down to 14.7. The consistency of the data is indicated by the value of the variation coefficient that is found in the range below 35 %. This proves an inconsiderable fluctuation of the average value. Nevertheless, it is possible to note certain increase in the export to many countries that pursue the sanctions policy against Russia. Accordingly, it is possible to make a conclusion about a certain tendency of normalizing relations among the countries.

Tables 5 and 6, Figures 4 and 5 show the indicators of the Russian import variation.

**Table-5.** Indicators of Variation of the Russian Import from the Sanctions after 2014 (\$ billion)

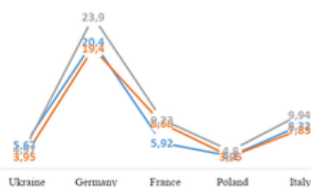
Countries	2008	2009	2010	2011	2012	2013	2014	$\bar{x}$
Ukraine	23.5	13.8	23.1	30.5	27.2	23.8	17.1	22.71
Germany	33.1	18.7	25.1	34.1	35.6	37.02	37.1	31.54
France	12.2	8.7	12.4	14.8	10.5	9.2	7.58	10.77
Poland	20.2	12.5	14.9	21.3	19.9	19.6	15.9	17.76
Italy	41.99	25.09	27.4	32.6	32.4	39.3	35.2	33.43

Source: calculated by the authors based on Table 2

**Figure 4.** Variation of the Russian Import from the Countries and**Table-6.** Indicators of Variation of the Russian Import from the Countries under Sanctions till and including 2014 (\$ billion)

Countries	2015	2016	2017	$\bar{x}$	$\sigma^2$	$\sigma$	$v$
Ukraine	5.67	3.95	4.97	4.86	0.50	0.71	14.52
Germany	20.4	19.4	23.9	21.23	3.72	1.93	9.09
France	5.92	8.68	9.23	7.94	2.10	1.45	18.23
Poland	4.1	3.95	4.8	4.28	0.14	0.37	8.65
Italy	8.32	7.83	9.94	8.70	0.81	0.90	10.37

Source: compiled by the authors based on Table 5

**Figure-5.** Variations of the Russian Import from the Countries under Sanctions till and including 2014 (\$, billion)

The similar situation is about import. Thus, the above tables show a considerable decrease in the volume of import between the Russian Federation and the countries that imposed and suffered sanctions. For example, import from Ukraine decreased from 15.8 billion rubles in 2013 down to 4.97 in 2017. The import from Germany decreased from 37.9 billion rubles down to 23.9 in 2017, from France – from 13.01 down to 9.23, from Poland – from 8.3 down to 4.8, and from Italy – from 14.5 down to 9.94. The consistency of the data is indicated by the value of the variation coefficient that is in the range below 35 %. This proves an inconsiderable fluctuation of the average value. Nevertheless, it is possible to note a certain increase in the import from many countries that pursue the sanctions policy against Russia. Accordingly, it is possible to make a conclusion about a certain tendency of normalizing the relations among countries. Nevertheless, the decline in the import and export operations caused an active import substitution in the Russian Federation. This conclusion is confirmed by the Rosstat data presented in Table 7, Figure 6. The latter indicate a decrease in the share of imported consumer goods in the retail trade resources from 44 % in 2013 to 35 %.

**Table-7.** Share of the Imported Consumer Goods in Retail Trade Resources

Years	Share of the Imported Consumer Goods in Retail Trade Resources	Share of the Imported Consumer Goods in Food Retail Trade Resources
2005	45	36
2006	46	35
2007	47	36
2008	44	33
2009	41	33
2010	44	34
2011	43	33
2012	44	34
2013	44	36
2014	42	34
2015	38	28
2016	38	23
2017	35	23
Average	42.38	32.15
Dispersion	6.53	12.06
Average deviation	2.56	3.47
Variation coefficient	6.04	10.80

Source: Calculated by the authors on the basis of the data of the Foreign Trade Statistics according to the Federal Customs Service of Russia. Adapted database. (International trade, 2018; National Accounts, 2018).

**Figure-6.** Share of the Imported Consumer Goods in Retail Trade Resources

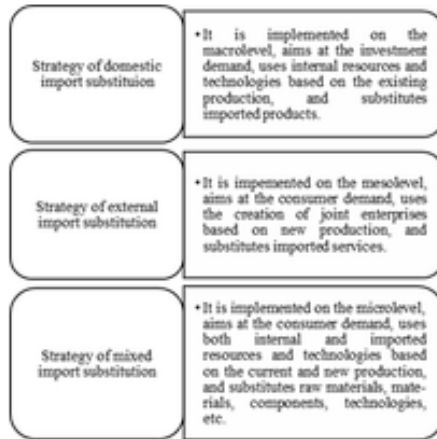
According to the above data, it is possible to analyze the lost tendency in developing the trend of export and import transactions without applying the sanction policy, and the current trend taking into account the existing realities. To determine the general trend, the countries with the largest share of trade operations will be considered.

#### 4. Discussion

In relation to the domestic companies, it is possible to apply the strategy of domestic import substitution (analogues of imported goods are produced in the country), the strategy of external import substitution (analogues of



imported goods are produced by friendly countries, for example, the Republic of Belarus), and the strategy of mixed import substitution (see Fig. 7).



**Figure-7. Characteristics of the Import Substitution Strategies (Ershov, 2015)**

Accordingly, the chosen strategy of import substitution should be based on the following principles:

- Increase in the share of high-tech industries in the overall industry structure,
- Activating the demand for products in the country, including by using the system of public procurement and price regulation,
- A long period of planning and implementing the necessary measures, when attracting long-term investments,
- State support for exporting products sold as a result of this strategy implementation, and
- Maintenance of certain openness of the economy, including the development of cooperation with certain foreign partners, while maintaining a tendency on reducing the dependence on the sanctions policy of foreign countries.

When implementing import substitution, the Russian Federation actively uses the strategy of domestic import substitution. At the same time, the list of import-substituting products was approved as early as in December 2014. It included some types of meat, fish and seafood, milk and dairy products, vegetables, root crops, tubers, fruits, nuts and sausages.

In November 2015, a register of domestic software was formed. It included domestic companies that have a priority in government procurement. At

the same time, it is prohibited to install imported software that has domestic counterparts in municipal and federal budget organizations.

In 2016, the Commission on import substitution was established. It aimed at providing information on the existing domestic counterparts. At the same time, a list of goods that cannot be imported without the permission of the Governmental Commission was formed. The import substitution strategy was actively introduced during 2014 as a consequence on the sanction actions of the countries due to the events taking place in Ukraine. Some of them will be considered in more details:

1. In November 2014, in Ulan-Ude the Helicopters of Russia holding assembled MI-8 helicopters without accessories imported from Ukraine.
2. In December 2014, the Sverdlovsk Region started producing jamon.
3. In January 2015, the Altai Territory started producing mascarpone cheese.
4. In March 2015, in Vladikavkaz and Orenburg, mozzarella and ricotta cheese started being produced. In Vladimir, 18 welding heat-resistant alloy grades (Vladimir Precision Alloy Plant) were founded.
5. In June 2015, the production of pumpkin substituting supplies from Ukraine increased 5-fold. Production of engines for MI-8 and MI-17 helicopters started (the production was previously located in Ukraine).
6. In September 2015, the production of champignons and mushrooms was increased by 22 %. A factory for the production of optical fibers was opened in Mordovia. The machine-tool plant DMG-Mori Seiki (Zavolzhye industrial park) was opened in Ulyanovsk.
7. In October 2015, another line of CLAAS agricultural machinery was opened in Krasnodar. In the Moscow Region import substitution of construction materials was 96-98 %. In Samara, the State Medical University developed a virtual anatomy table and a 3D atlas to train medical workers in the defense industry. In the Ryazan Region the production of cattle and poultry meat increased by 11 % compared to the previous period. At the same time Russia managed to substitute pork production by 92 %.
8. In November 2015, as a part of the import substitution the Kemerovo Region started producing diesel locomotives for mines. National programmers developed a Russian analogue of Microsoft Office. Vladimir opened the production of gas separating membrane modules. In the Kaliningrad Region the production of greenhouse vegetables increased considerably. The Belgorod Region opened a farm for breeding African catfish.

9. In December 2015 in Izhevsk, a radio factory started the production of Elbrus-401 computers. In the Pskov Region the poultry production increased 7.5 times. The Angarsk Plant of Catalysts and Organic Synthesis tested its own steam reforming catalyst on a hydrogen unit as a part of the import substitution by the Rosneft oil company. In Dagestan 20,000 hectares were allocated for fruit gardens. The emission of cards of the national Mir payment system started. In the Murmansk Region the production of electrolyte cobalt started. The TikhvinKhimMash plant started the production of tankers and substituted supplies from Ukraine. In Tomsk the production of hip and knee joints started.

10. In January 2016 Orenburg started producing imported components for drilling rigs (the Drilling Equipment Plant). Volzhsk started the production of high-precision bearings (the EPK company).

11. In February 2016, the production of sunflower oil and rice was completely substituted. The technology for producing polyethylene grades (caps and lids) was developed. The production of hygiene products for adults was opened in the Kaluga Region (Hygiene – Service MED). The production of sprat began in the Astrakhan Region (Kaspryba).

12. In March 2016, the production of IGBT modules for the management of engines in lift equipment, trams and trolleybuses was established.

13. In April 2016 a new engine for tractors (the Tractor Plants company), and a domestic tomograph were developed.

14. In May 2016 in Podolsk the production of equipment for cooling the service gas of the acetic acid production plant (PJSC ZiO-Podolsk) was launched. The production of the human genetically engineered insulin (Medsintez) was started in the Sverdlovsk Region. The plant for producing validation insulin series (Sanofi Aventis Vostok) was opened in the Orlovskiy Region. In Udmurtia the import of titanium tube rolling was substituted, and the production of immunobiological preparations was launched. In Kolomna the production of engines for corvettes of the Sevarnaya Verf plant was launched.

15. In June – August 2016, in Ural the production of cables was substituted. Import of such categories of products as grain, sugar, vegetable oil, buckwheat, potatoes, pork and poultry meat was completely substituted. Electronics for GLONASS satellites (Mikron) was also substituted. The indicator of antibiotics in milk was developed. In Moscow, the production of zirconium ferul for optical fiber was adjusted (Technomash Central Research and Development Technological Institute).

16. In September – October 2016 in the Astrakhan Region a tomato paste

plant was opened. In the Ulyanovsk Region, the production of reflectors for block headlamps was started. In Orsk the production of cookers started. In the Orlovskaya Region the production of sugar beet seeds (LLC Dubovitskoye), leather for car interiors (Russian leather) was set up. The production of tankers for the transportation of chlorine (previously supplied from Ukraine) was established in the Saratov Region. A plant for the production of reagents for drill fluids was opened in the Tomsk Region.

17. In November – December 2016, an apple orchard (50 hectares) was planted in the Belgorod Region. In the Ivanovo Region, the production of geo textiles for road construction was set up. In Moscow the production of tablets for dishwashers (ecological class) was started. In the Leningrad Region the production of nitrite salt (up to 2 thousand tons per month), and in Kurgan the production of medicines (LLC Welfram) were initiated.

18. In January – February 2017, 40 hectares of greenhouse complexes were opened in Dagestan, and the total area reached 180 hectares. In Beloretsk a rotor production line for cable equipment was opened.

19. In March – April 2017 in Novochoerkassk, the production of draft engines for diesel locomotives was started (substitution of supplies from Ukraine). In Omsk the production of synthetic carboxylate latex (Omsk rubber) was set up.

20. In May – June 2017 in Beloretsk, the production of an excavator rope with a protective polymer coating was set. In Izhevsk the production of solid-state wave gyroscopes (Kupol) was established.

21. In July – October 2017, in Tyumen the production of hormonal medicines was established, samples of modular drilling rigs for drilling from underground mining workings were produced, and an industrial simulator of hydraulic fracturing was created.

22. In November – December 2017, the production of 21 brands of colorless optical glass and rotary controlled systems was started.

23. In January – February 2018, the production of gas turbine marine engines was established (substitution of supplies from Ukraine). Forty-one agricultural and food industry companies were established. In the Kaliningrad region the production of sprats increased by 30 million cans. In the Astrakhan and Volgograd Regions the cotton production was started. In Novochoerkassk, the production of traction aggregates for diesel locomotives (substitution of Ukrainian supplies) was started. The production of load-lifting mobile cranes (100 tons) was set up in the Kostroma Region. In the Leningrad Region, a plant for the production of packages for food and agricultural products, as well as pharmaceutical products was opened.

Mass production of SSD drives

(GS Group) was started. The production of a full-cycle vancomycin antibiotic (Biochemist JSC) was launched.

24. In March – June 2018 in Yelets, the production of plant protection (SEZ Lipetsk) was established. In Ulyanovsk the aircraft assembly line (Aviastar-SP) was adjusted. Mass production of ultrasound scanners was started.

In spite of the active support of the import substitution strategy by the state at all levels, domestic companies face the following difficulties:

1. High dependence on innovative foreign technologies that are quite expensive.
2. There is no state support when exporting domestic products abroad.
3. A complex mechanism for obtaining state support when opening and operating domestic production companies.
4. Promoting domestic products for export.
5. Complexity to obtain loans for the development of import-substituting industries.
6. Lack of sufficient experience in the production and promotion of domestic products in the Russian and foreign markets.
7. Low state stimulation of the scientific and innovation areas.
8. Low level of supporting domestic producers' copyright in foreign markets.

Nevertheless, at the current stage of introducing the import substitution policy, there is an increase in the competitiveness of domestic enterprises, an increase in investments in the development of Russian companies, both external and internal, a reduction in unemployment due to new jobs, an increase in the real income of the population, stimulation of the country's economic growth, liquidation of the difficulties associated with the import of goods under sanctions, and the increase in the level of economic security in Russia.

In the Russian Federation, the most important industries for implementing the import substitution strategy include machine-tool construction, civil aircraft construction, heavy aircraft construction, equipment for the oil and gas industry, equipment for the energy sector, and agricultural machinery. In the area of food import substitution, domestic production of oils, butter and dairy products is actively developing. At the same time Russia can substitute 90 % of its import in this area.

The most efficient market instruments of the import substitution strategy will be:

1. State subsidies and equity financing of scientific research carried out by companies.
2. Provision of grants.
3. Issue of large targeted loans.
4. Financing of companies at the pre-production stage.
5. State and municipal procurement from domestic companies

## 5. Conclusion

The import substitution strategy will allow Russian regions to

– Form a competitive domestic industrial complex for domestic and world markets,

– Form a regional innovation system that will develop innovations in the region,

– Create favorable conditions for the efficient implementation of the state's industrial policy,

– Increase GDP due to active production of import substituting goods, and

– Form a complex for training highly qualified technical personnel to ensure the implementation of the import substitution strategy and programs.

If the countries of the European Union, the United States, Canada, etc. strengthen the sanctions pressure on the Russian Federation, it is possible to ban the supply of products of those companies, the products of which can be substituted. For example, Apple, Microsoft, Procter&Gamble, Citibank, General Electric, Coca-Cola, Pepsi, McDonalds, Ford, and General Motors.

In general, analyzing the above, it is possible to single out the following market instruments of the import substitution strategy that will allow efficiently overcoming consequences of the sanctions policy and develop the domestic production:

1. Customs regulation – a combination of tariff and nontariff measures of state regulation, applied, primarily, to protect Russian producers both on the domestic and foreign markets.

2. Restriction or a complete ban on the import of certain goods that allow developing domestic production.

3. Subsidizing domestic producers causes the modernization and expansion of production sites of companies.

4. Investing in the development of technical branches allows producing competitive products.

5. Contributing to the creation of new manufacturing companies causes the reduction in unemployment and the increase in the number of jobs.

6. Financing certain projects is favorable for the development of small and medium-sized businesses.

7. Mitigating credit conditions for companies will allow them to obtain additional funds under favorable terms and conditions, which in its turn will lead to their development.

8. Long-term agreements between the state and companies will ensure the stability of work and confidence in the future for the national producer, and hence the possibility of reliable planning and development.

9. Ensuring the state order, i.e. the guaranteed sale of top priority import substitution industries, which in its turn will allow companies to develop and modernize.

Active introduction of these market instruments of the import substitution strategy will allow reducing unemployment, increasing gold and foreign exchange reserves, developing R&D, creating new industries, and, as a whole, improving the country's economic security.

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