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Import substitution strategy in the economic policy of Russian regions: historical modern approach

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ORIGINAL ARTICLE

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Abstract. The article analyses the import substitution policy of Russia in different historical periods. The research compares industrialisation and neoindustrialisation as typical models of economic policy in the USSR and modern Russia. Authors use a historical-comparative approach to identify the characteristic features of the economic policies. According to them, Soviet methods are inappropriate in the modern economy due to fundamental changes in socio-economic conditions and the technological landscape. Moreover, nowadays the intensive development based on the introduction of innovations and increased labour productivity replaces the extensive production growth of the past. However, successful import substitution in modern Russia requires imported products replacement and competitive domestic analogues production. The paper highlights the relevance of active government support for innovation, stimulating industrial cooperation, and introducing of effective consumers feedback mechanisms. The analysis of regional experience, in particular, of the Yaroslavl region, demonstrates significant differentiation in the degree of import dependence and the structure of economies. It provides the development of regional import substitution strategies. Therefore, the active introduction of high-tech technologies and artificial intelligence will increase the competitiveness of Russian industry and ensure its technological sovereignty. Hence, integrated approach combining government support, innovation, and adaptation to regional specifics helps implement the import substitution strategy in the Russian Federation.

Keywords: import substitution strategy; neoindustrialisation; development institutions; Industry 4.0; economic policy of Russian regions

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Introduction

Import substitution in a government policy aimed at replacing imported goods and services with domestic analogues. The purpose is to reduce the country's dependence on external supplies, strengthen the national producers in the international market. According to the Great Russian Encyclopedia, import substitution is "the economic policy of the state aimed at expanding domestic production of products similar to imported ones, which should be ensured by increasing the competitiveness of domestic goods, greater efficiency of domestic producers and the national economy. In general, there are two approaches to import substitution: domestic production growth and import restriction"[1].

[1] *Import substitution. The Great Russian Encyclopedia. Source: https://bigenc.ru/c/importozameshchenie-a05859 (accessed on*

In foreign studies this strategy has been considered primarily in in terms of developing countries [1]. Moreover, this approach was typical for the mid-twentieth century [4]. For instance, an analysis of import substitution policy in Iran is considered in this context[2]. However, due to global crises, this factor was revised [5] and studied in terms of the BRICS countries experience [2].

Recently, the complicated geopolitical situation provides the scientific interest to import substitution in Russia. Indeed, according to scientometric analysis of publications on Elibrary.ru, the keyword "import substitution" occurs 233 times in 2019, 147 in 2020, 118 in 2021, 496 in 2022, 624 in 2023, and 411 in 2024. Generally, issues of software and digital technologies import substitution are under study. However, the aspects of regional economic policy development have not yet been sufficiently covered. At the same time, Russia's regions have a rich historical experience of import substitution.

In this regard, the purpose of the study is to compare the economic situation of modern and Soviet industrialisation to determine the factors contributing to import substitution strategy effective implementation in the Russian regions.

Until 2022, experts assessed Russia's import dependence as low one. However, the share of imports was quite significant. For instance, indirect imports for the automotive industry was more than 10% final product value. According to the Central Bank, in 2022, the share of imports from countries announced sanctions against Russia averaged 61% of total imports of raw materials, materials, and manufacturing industries[3]. According to Interfax, the number of sanctions imposed on Russia by foreign states was 18,384 in 21.02.2022 - 23.01.2025[4]. These restrictions should stagnate the Russian economy. However, they stimulate the development and implementation of import substitution strategies in terms of the individual enterprises, regions, industrial territorial complexes and the national economy.

Earlier, Russian technological dependence provided a shortage of important assembly components previously purchased from abroad, and decreased the rate of domestic production. Indeed, the interests of national security required serious changes. The conditions of the industrial sector were similar to the experience of the industrialiation of the Soviet Union in shifting the economy from an agrarian to an industrial development trajectory. Those time, it allowed country to multiply the volume of its industrial production at the shortest possible period. The example of Soviet industrialisation shows the potential of Russia in terms of addressing the complex economical issues.

Indeed, the import substitution strategy is extra-relevant for the economic policy of the Russian regions. It increases in labour productivity, jobs, tax revenues to the budget, and positive impacts on the diversification of regional economies. The regions of Russia are very diverse both in terms of the natural and social resources. Therefore, import substitution strategy concerns with the historical experience and development of local economy.

Main part

In the early 2020s, the sanctions became another large-scale crisis phenomenon after the pandemic. In terms of historical approach to the development of Russia, it is a kind of outstanding economic phenomenon.

Russian industry had a difficult period of deindustrialisation in the 1990s; in this period the industrial production index (IPI) was extremely low (Fig.1).

In the early 2000s, Russia began to restore the industrial potential mainly through the foreign investments. They stimulated Russian economy. However, imported goods prevailed at the market. The development of domestic production was difficult due to the high competition with imports produced in accordance with the latest technologies considering the lowest cost and the best quality. After 2014, the sanctions policy against Russia has sharply raised the issue of the urgency to establish production of its own high-tech products.

30.01.2025)

[2] Yamin M. (1975). Import substitution and the growth of manufacturing in Iran, 1955-72. Source: https://etheses.dur.ac.uk/10433/1/10433_7228.PDF?UkUDh:CyT (accessed on 05.02.2025)

[3] Assessment of Russia's dependence on imports of intermediate products. The Central Bank of the Russian Federation. Source: https://cbr.ru/content/document/file/144138/wp_106.pdf (accessed on 30.01.2025)

[4] Sanctions against of Russia: current statistics. X-Compliance. Source: https://x-compliance.ru/statistics (accessed on 30.01.2025)

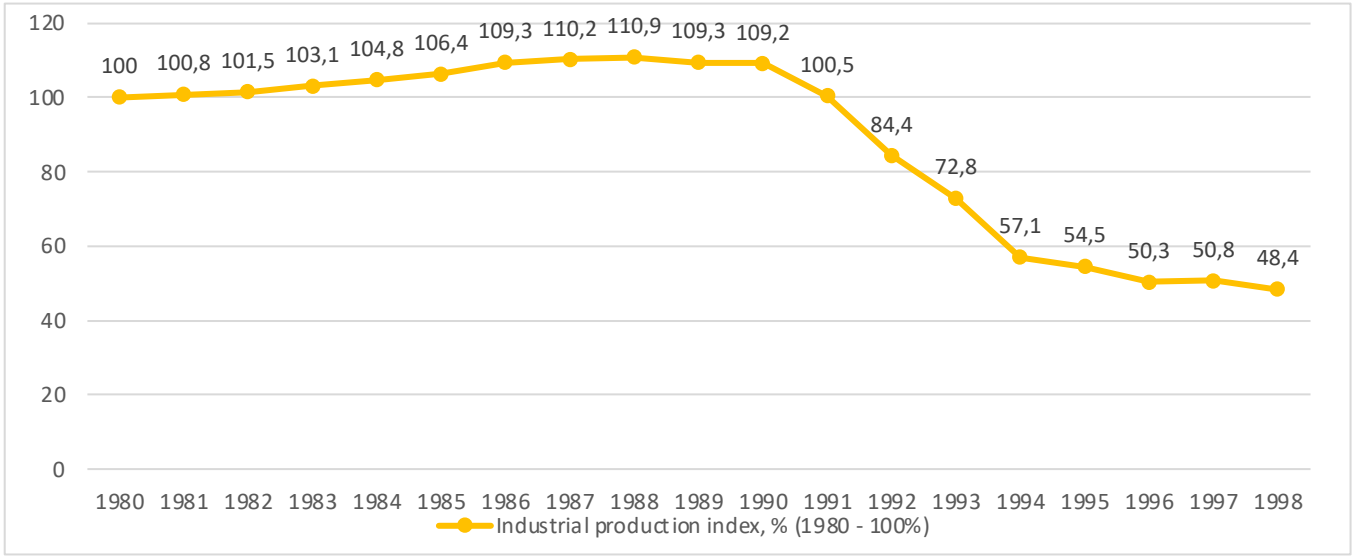

Figure 1. Industrial production index in the USSR-Russian Federation, 1980-1998

Source: [15]

The historical challenge was close to the experience of the Soviet Union industrialisation. Those time, it allowed country to multiply the volume of its industrial production at the shortest possible period. For instance, in five years, 1931-1936, the number of factories producing machine tools increased from 16 to 48; the volume of production increased by more than 27 times (Fig.2).

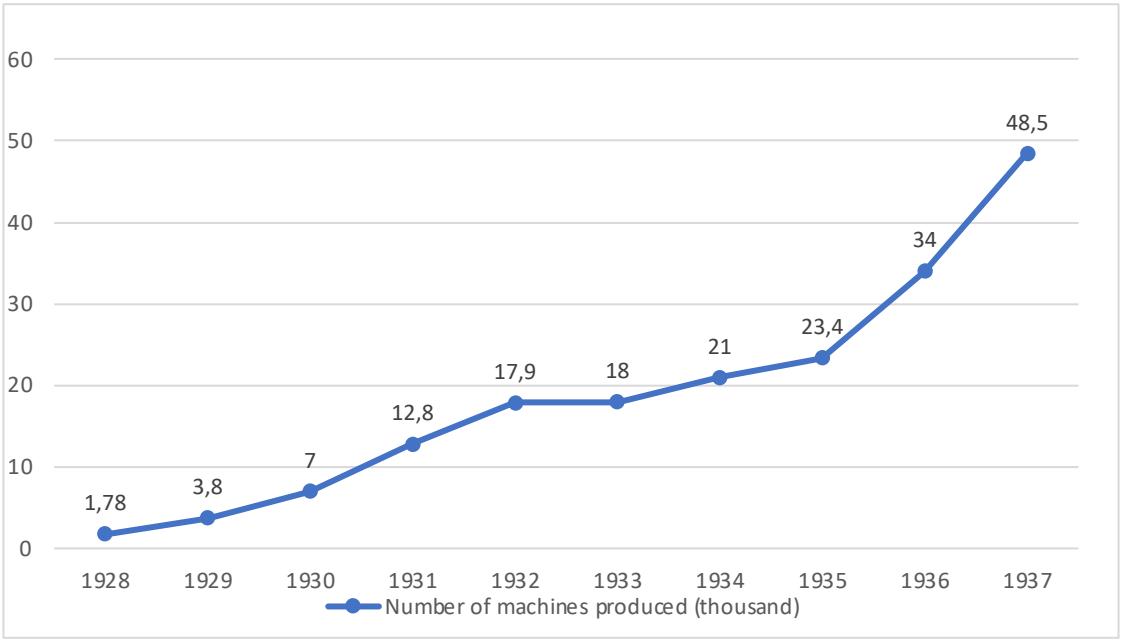

Figure 2. Dynamics of machine tool manufacturing in the USSR

Source: Machine tool industry in the USSR[5]

Indeed, since by 1941 more than 80% of machine tools in the USSR were of domestic production. This example illustrates the extremely high rate of production development, the effectiveness of the import substitution strategy, etc. The second trend of import substitution is the development of domestic production. For instance, synthetic rubber production. During the period of industrialisation in the USSR, several factories for its production were built. The technological process was based on the developments of the Russian scientist S.V. Lebedev. In 1934, the USSR produced 11 thousand tons of synthetic rubber, and by 1936 – 40 thousand tons [9].

[5] *Kalabekov, I.G. The USSR and the countries of the world in numbers. Source: https://su90.ru/machinetools.html#g5 (accessed on 30.01.2025)*

One of the components of the Soviet economic policy towards industrialisation was to support the formation of foreign concessions (investments) for the transfer of authority to manage domestic companies, without losing the ownership. The purchase of imported technologies and the joint ventures contributed to the Soviet economy formation. However, it was later decided to abandon the concessions, since the influence of foreign states and the promotion of their own interests within the country adversely affected both the development of their own independent production and the sovereignty of the USSR as a whole. Therefore, the country's leadership decided to practice of concluding paid foreign contracts for the implementation of technological assistance. Indeed, from 1923 to 1933, about 170 contracts were concluded with foreign companies and specialists [3]. One of the most striking examples of successful experience is the projects of the Magnitogorsk Iron and Steel Works (Arthur G. McKee and Co, Freyn Engineering Co, etc.), Nizhny Novgorod Automobile Plant (Ford and Austin Motor Company), Dneproges (Hugh Cooper, General Electric and Newport News Shipbuilding), the American company Albert Kahn Inc. contributed to the construction of more than 500 industrial enterprises in the USSR, i.e., the Stalingrad Tractor Plant.

There are also attracting foreign investments into the Russian economy in the 1990s. The Soviet Union faced organizing modern high-tech production in a short time. Developing our own technologies required resources. Therefore, it was decided to conclude contracts with foreign companies and purchase the missing drawings and designs. For instance, the production of tractors at the Krasny Putilovets plant in Leningrad since 1924 has been organised according to drawings purchased from the American company Ford. The foreign countries and companies cooperate was determined by the crisis of the economies of developed countries during this period (the "Great Depression)," and required huge financial costs from the USSR.

The fundamental difference between the historical stage of the import substitution policy of the USSR and the current situation, concerns with Russian industrial economy. The industrial recovery after the collapse of the 1990s is a brief period of reindustrialisation, i.e. the return of the usual industrial production methods. Nowadays, society is already living in the conditions of the fourth industrial revolution, described in book by K. Schwab. Emphasising the importance of the current period of technological development, he notes: "In terms of scale, scope, and complexity, the fourth industrial revolution has no analogues in all previous human experience. We will observe the technological breakthroughs in a wide range of fields, including artificial intelligence, robotics, robotic cars, three-dimensional printing, nanotechnology, biotechnology, etc." [14].

Indeed, the industrial growth as "a natural process of development of all productive forces based on digitalisation (automation, computerisation, networkingisation) in all sectors of the national economy, in terms of the requirements of social development, quality of life, and environmental conservation" [13] in economics is called neoindustrialisation. The theoretical content of neoindustrialisation continues to be actively debated. However, the research devoted to it allows us to define it a new paradigm of economic development [16]. Moreover, the processes of digitalisation and digital transformation increas scientific interest to the neoindustrialisation [6].

Moreover, there is a significant difference between the import substitution strategy of the two historical periods. The industrial growth of the USSR during the period of industrialisation was mainly extensive – the level of production increased due to the raise in quantitative characteristics. Nevertheless, it is ineffective for the Russian Federation, since the modern Russian economy is already at an industrial stage of development and it requires intensive technological growth increasing labour productivity. Moreover, there is a shortage of qualified personnel in the Russian Federation today. Therefore, the quantitative growth of production is associated with a significant risk of labour shortages. The current import substitution strategy, accompanied by a number of additional incentive mechanisms, allows the Russian economy to regain its lost under the influence of sanctions positions in conditions of personnel shortage. Analysing the current indicators, there are some positive trends. According to the Russian Ministry of Economic Development in 2024, the manufacturing industry is showing growth of +17.9%. The machine-building complex accounts for about 40% of the total growth in manufacturing output; the overall growth in the complex is +55.5%. Meanwhile, output growth accelerated significantly to +32.7% in the production of transport vehicles and equipment[6].

[6] *On the dynamics of industrial production. The Ministry of Economic Development of Russia. Source: https://www.economy.gov.ru/*

In modern conditions, high-tech technologies and innovative products are becoming a priority in import substitution [10]. The relevance of innovations in industrial production in the Russian Federation was studied by experts of the ISSEK of the Higher School of Economics. According to their research, the level of innovation activity in the Russian industry increased by +1.3% in 2023, compared with 2022. The largest increase in innovation activity occurred in the manufacturing industry due to both government industry support and increased consumer demand for domestic products. The total cost of innovation in industry has also increased to +9% compared to the level of 2022. The largest increase in innovation costs is in furniture, clothing, food, beverages, and tobacco production. However, the increase in the cost of innovation in high-tech industries, for example, in the manufacture of computers and electronics in 2023 amounted to +55.8%; the production of aircraft increases to +10.5% compared with 2022. The increase in the total volume of innovative high-tech products in 2023 was +19% compared to last year[7]. These shows the growing demand and production of high-tech goods. Domestic manufacturers of the high-tech industry were able to establish innovative production and introduce it into the market.

In 2022-2023, Russian production has become more innovative. The overall increase in innovation activity may shows a steady increase of economic policy effectiveness. The innovations became demanded by domestic companies largely due to the withdrawal of many foreign manufacturers from the Russian market. This increased the demand for domestic products. The government support for import substitution has increased the Russian economic development. The domestic manufacturer increases the production.

Currently, Artificial Intelligence (AI) is one of the most important components of industrial automation. The introduction of AI in the production provide the prospects for its development: reduction of production costs, greening of production, improvement of labour safety, etc. Meanwhile, according to the Skolkovo Research Centre's 2023 reports, the use of AI in industry is not widespread; only 20% of Russian companies use generative AI in production. Presumably, as a result of the national project 'Data Economy', by 2030, the contribution of AI to the GDP of the Russian Federation may amount to more than 11 trln RUB[8]. AI is currently used by Gazprom (to optimize gas production), Sber (optimization of logistics and production management), Rosatom (product quality control and forecasting of equipment technical condition), etc. The range of AI applications is extremely extensive. In general, the prospects for AI are difficult to overestimate. For example, according to PwC forecasts, by 2030, the growth of the global AI-based global economy will amount to $15.7 trln USD[9]. Therefore, artificial intelligence technology is an important component of the import substitution and neoindustrialisation strategy.

With sanctions being imposed against Russia, it is especially important to ensure stable regional socio-economic development. Therefore, to replace imports is a part of an independent economic policy.

According to the HSE, Russian regions have varying degrees of dependence on foreign technologies. The regions of the Russian Federation with a high share of the manufacturing industry in the domestic regional product, a high level of innovative development, and a multisectoral specialisation model are in the zone of maximum risk. In 2023, the Yaroslavl Region ranked 8th in terms of import dependence and contribution to the regional economy with a value of 4.7% (Table 1)

Indeed, the economic policy related to import substitution has been implemented in Yaroslavl region for a long time. On January 26, 2015, the Government of the Yaroslavl Region adopted Resolution No. 55-p "On approval of the consolidated import substitution plan in the Yaroslavl Region until 2020".[10]

Table 1 – Rating of the Russian Federation regions, level of import dependence, specialisation

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[7] Innovative economic growth. ISSEK HSE. Source: https://issek.hse.ru/news/966501540.html (accessed on 30.01.2025)

[8] Artificial intelligence in Russia – 2023: trends and prospects. Source: https://yakovpartners.ru/upload/iblock/c5e/c8t1wrkdne5y9a4nqlicderalwny7xh4/20231218_AI_future.pdf (accessed on 30.01.2025)

[9] AI set to add potential $15.7 trillion to global economy. PwC. Source: https://www.consulting.us/news/2926/ai-set-to-add-potential-157-trillion-to-global-economy (accessed on 30.01.2025)

[10] ISSEK. Source: https://issek.hse.ru/news/966501540.html (accessed on 30.01.2025)

Rank	Region	The level of import dependence and specialisation, the contribution to the regional economy, %
1.	Kaluga region	5.8
2.	Ulyanovsk region	5.5
3.	Samara region	5.4
4.	The Republic of Tatarstan	5.0
5.	Vladimir region	5.0
6.	Nizhny Novgorod region	5.0
7.	Republic of Mari El	4.8
8.	Yaroslavl region	4.7
9.	Kurgan region	4.7
10.	Tula region	4.6

Source: Rating of Russian regions by import dependence of their specialisations[11]

On December 28, 2022, the Order of the Department of Investment, Industry and Foreign Economic Affairs of the Yaroslavl Region No. 418-OD "On the products necessary to ensure import substitution" was issued[12]. The Yaroslavl Chamber of Commerce and Industry has been actively cooperated with manufacturers. For instance, the Direct Contact service was established to share information about the goods and services produced by the local enterprises; the guidebook 'Subcontractors of the Yaroslavl Region' with information about the opportunities of regional industrial enterprises was published. As a result, the regional enterprises actively interact with each other. It promotes the development of new logistics chains and co-operation links. Moreover, the Chamber organises subcontract exchanges on the portal subcontractrf.ru.[13]

In December 2024, a new technological platform for import substitution had been introduced in Yaroslavl. An experimental metalworking plant has been established at Yaroslavl State Technical University (YSTU). The new site has more than 15 pieces of equipment. The new technology platform was created with a grant from the Ministry of Industry and Trade of Russia in the amount of 300 mln RUB. The latest modern equipment has been purchased for it. Moreover, the Yaroslavl group of companies Paritet uses domestic components and raw materials for the production of its key products. Instead of foreign engines, it uses engines from the Yaroslavl Motor Plant YaMZ-536.

Nevertheless, the systematic and comprehensive approach requires planning and implementation of effective import substitution strategy in the region in terms of the existing industrial potential [11], and the institutional environment [12]. Indeed, the regulatory and scientific foundations of this strategy should be provided at the federal level. According to the experience of countries overcoming sanctions for years, the most effective policy is a policy of "aggressive" market cooperation [7].

Conclusion

Based on the USSR experience, the import substitution strategy contains the following aspects in terms of the regions:

1. Development of competitive products demanded both in the domestic and global markets and produced by innovative technologies.

2. R&D to implement domestic and international experience in marketing, industrial cooperation, intersectoral and interregional integration, modern methods of increasing competitiveness, business

[11] *On approval of the consolidated import substitution plan in the Yaroslavl Region until 2020. Source: https://docs.cntd.ru/document/424026795?ysclid=m6jtm58y4q2365597 (accessed on 30.01.2025)*

[12] *On approval of the consolidated import substitution plan in the Yaroslavl Region until 2020. Source: https://docs.cntd.ru/document/424026795?ysclid=m6jtm58y4q2365597 (accessed on 30.01.2025))*

[13] *From import substitution to import dependence. Kommersant. Source: https://www.kommersant.ru/doc/5607069?ysclid=m6jts10bi7936539277 (accessed on 30.01.2025)*

ecosystems, etc.

3. Improving the quality of management in forecasting, planning and decision-making, monitoring the effects of sanctions in various areas, and responding quickly to emerging problems.

In the future, import substitution through neoindustrialisation allows the Russian economy to achieve a new level of its development. The active public participation in supporting innovation and industrial cooperation will contribute to the sustainable growth of small and medium-sized businesses. The development of the high-tech sector of GDP will allow Russia to achieve technological sovereignty and increase the resilience of the economy to global crises. Therefore, the economic policy related to the implementation of the import substitution strategy contains significant development potential.

The modern import substitution strategy implemented in the Russian Federation has deep historical roots. At the same time, the conducted research revealed significant differences due to new economic and political realities. They require a careful approach to the application of historical experience. The territorial differentiation of Russian regions and the degree of their economies dependence on imports determine the development individualised regional import substitution strategy. The successful implementation of the import substitution policy in Russia requires a flexible and adaptive approach combining government support, stimulating innovation, and the latest technologies. However, a key success factor is the transition from extensive to intensive development requires investments in technology and human capital.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHORS' CONTRIBUTION

Konstantin A. Kruglov – writing.
Fedor A. Belyaev – writing.
Anna V. Rajkhlina – conceptualisation, project administration.

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