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Risks to Sustainable Economic Development in Russia Under Sanction-Induced Import Restrictions: A Regional and Sectoral Perspective

Riesgos para el desarrollo económico sostenible en Rusia bajo restricciones a las importaciones inducidas por sanciones: una perspectiva regional y sectorial

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Abstract

The purpose of the article was to analyze the direct and indirect dependencies of Russia's economic sectors on imports of intermediate and final consumption. The methodological foundation of the study is the construction of an intersectoral balance through the creation and subsequent analysis of "input-output" tables. The statistical data were collected from Rosstat for the period from 2012 to 2020. The object of the study is the Russian Federation. Based on the evaluations carried out, the most critical areas have been identified that determine the dependency of the Russian national economy on the import of intermediate and final products within the system of economic activity organization for the major types of economic activities. An important result of the work is the assessment of import dependency across individual sectors of the manufacturing industry.

***Keywords*:** Import Substitution, Intersectoral Balance, Types of Economic Activities, Manufacturing Industry, Economic Development Sustainability.

Resumen

El objetivo del artículo era analizar las dependencias directas e indirectas de los sectores económicos de Rusia de las importaciones de consumo intermedio y final. El fundamento metodológico del estudio es la construcción de un balance intersectorial a través de la creación y posterior análisis de tablas “input-output”. Los datos estadísticos fueron recopilados por Rosstat para el período de 2012 a 2020. El objeto del estudio es la Federación de Rusia. A partir de las evaluaciones realizadas, se han identificado las áreas más críticas que determinan la dependencia de la economía nacional rusa de la importación de productos intermedios y finales dentro del sistema de organización de la actividad económica para los principales tipos de actividades económicas. Un resultado importante del trabajo es la evaluación de la dependencia de las importaciones en distintos sectores de la industria manufacturera.

Palabras claves: Sustitución de Importaciones, Equilibrio Intersectorial, Tipos de Actividades Económicas, Industria Manufacturera, Sostenibilidad del Desarrollo Económico.

Introduction

In the context of globalization and the interdependence of national economies, international sanctions are increasingly significant as a tool of foreign policy. Sanctions not only directly impact the target country but also create a chain of interconnected consequences in the global economy. This makes the analysis of the resilience of economic systems at the macro and meso levels under sanction conditions critically important. A comprehensive study of the impact of sanctions requires a multifaceted approach, including the analysis of foreign trade, financial flows, domestic investments, and a general economic assessment of the dependence of regional and sectoral economic systems on changes in the external economic agenda.

These issues are particularly relevant for the national economy of Russia at its current stage of development. In an era of increasing geopolitical turbulence and the imposition of unprecedented sanctions, the Russian economy has been compelled to radically reassess its economic strategy and seek new paths for sustainable development (Safiullin et al., 2022; Elshin et al., 2021). Western restrictions are aimed at undermining key sectors of the Russian economy, creating significant obstacles for international trade, attracting foreign investment, and transferring advanced technologies. In these challenging conditions, a comprehensive and systematic assessment of the import dependency of specific types of economic activities becomes a crucial task. Understanding this aspect will largely determine the success of the state policy in adapting economic sectors to the new emerging conditions and mitigating the risks of disrupting the sustainable development of the economy as a whole.

Modern anti-Russian sanctions affect a wide range of economic sectors. One of their key manifestations is the restriction of imports of both final and intermediate products, aiming to weaken the economic potential of Russia's national economy and ensure the country's technological lag. In this regard, a crucial operational direction of state policy in the context of sanction resistance is the search for and identification of economic sectors' dependencies on the transformation of export-

import operations and, accordingly, the determination of adaptive development directions.

It is important to note that studying import dependency at the sectoral and industrial levels is a rather complex task and requires the use of specialized methodological tools. These tools include both descriptive data analysis methods and approaches based on the application of special economic-mathematical models. The latter may rely on econometric modeling methods, block modeling, matrix data analysis, construction of aggregated indices, and so forth. At the same time, the most progressive methods for conducting a comprehensive, systematic analysis of the national economy's import dependency are those based on constructing balance models aimed at identifying patterns of intersectoral linkages. This methodological toolkit forms the basis for determining the desired parameters that characterize the dependency of economic sectors on imports, considering the use of foreign goods in the business processes of Russian enterprises for both final and intermediate consumption, whether within the framework of direct consumption or in the context of established intersectoral internal business processes.

Literature review

The study of import dependency in economic systems and the search for optimal import substitution strategies have always been relevant and have attracted significant interest among scholars. It is generally accepted that one of the first to bring this issue into the realm of theoretical and methodological consideration was List (1891). He adhered to the position that a national economy develops effectively within the framework of protectionist policies, which, according to the scholar, are effective only during the development phase of economic systems.

This concept of economic policy gained significant traction in the second half of the 19th century, a period marked by intense industrialization processes in Europe. During this historical period, almost all European countries went through a phase of focusing on implementing intensive import substitution policies. Much later, this path was also followed by countries in Asia, Africa, and Latin America, where the

doctrine of import substitution was fully developed as these nations entered an active stage of industrialization (Lukyanchuk, 2011; Kaznacheev, 2015, Mironova, 2015).

In the contemporary stage of historical development, the ideas of import substitution policy also play a prominent role in various economic theories and modern development concepts. Among contemporary works that highlight the necessity of implementing protectionist policies in regulating foreign economic activities, the studies of Bali, Rapelanoro (2021), Bershka, Lee (2022), Carfora et al. (2022) and Prebisch (1992) are particularly noteworthy. For instance, in Prebisch's research, based on extensive empirical data, it is argued that countries focused on creating final products with a high level of added value demonstrate higher development dynamics compared to those producing and selling low-value-added goods. In this context, the author hypothesizes the need for protectionist policies aimed at import substitution to create conditions for the development of manufacturing industries.

Similar views are held by representatives of the Neo-Keynesian school, such as Irwin (2021), Karuppiah, Sankaranarayanan (2023), Krugman et al. (2018), and Leibovici, Waugh (2019). According to their position, economic development is ensured only when imported goods are replaced with domestic ones.

Amid the escalating global sanction conflicts at the interstate level, the theory of import substitution is receiving additional momentum for its development. Research is emerging, focused on finding mechanisms to ensure the sustainable development of national economic systems under the destructive impact of external constraints. In these conditions, the issue of expanding import substitution policies acquires a doctrinal character within the state governance system.

Russian scholars' research in this area has actively developed since the 2014 crisis, characterized by an exacerbation of the external economic agenda, which intensified the sanction pressures on the Russian national economy. The sanction packages imposed in 2022, prompted by a new wave of external economic tensions, have significantly increased both Russian and international interest in the subject.

Scientific works have begun to actively appear, examining import substitution as a tool for localizing imbalances in the structural development of the economy. Among these are the works of Kireev (1997), Kadochnikov (2005), Zaitsev (2002), Ismagilova (2004).

Despite the evident progress in recent years in studying import substitution issues amid the worsening external economic environment, it must be acknowledged that a unified, comprehensive theory has not yet been developed in either Russian or foreign literature. There is a need to focus more on the development of conceptual frameworks and, of course, on the development of methodological tools that allow for empirical assessment of import dependency processes at national, regional, and sectoral levels.

In this context, the present scientific article aims to further develop the principles of import substitution as a critical state policy directed towards the sustainable development of industries under external pressure. Drawing on the intersectoral balance theory of Leontiev (1990), this work proposes an approbation of a methodology for analyzing the import dependency of the national economy under the conditions of sanctioned restrictions on the supply of final and intermediate products from abroad.

Methodologies and Data

The most crucial methodological aspect of addressing the issue of import dependency in economic sectors, according to the key principles of intersectoral balance, is the assessment of the share of imports in the intermediate expenses of economic sectors and the final product output. Based on this methodological principle, the iterative steps for finding the desired parameters are presented below.

Assessment of the Share of Imported Goods in Intermediate Expenses

The parameter (Lj), which evaluates the level of dependency of the intermediate consumption of a particular type of economic activity (TEA) on the supply of imported goods, is calculated using the following formula:

$$Lj = \sum_i w_{ij} * s_{ij} \quad (1)$$

The indicators w_{ij} and s_{ij} are calculated, respectively, using formulas 2 and 3:

$$w_{ij} = \frac{x_{ij}^{imp}}{x_{ij}} \quad (2)$$

$$s_{ij} = \frac{x_{ij}}{x_j} \quad (3)$$

where:

x_{ij} – the volume of intermediate consumption by economic activity j (TEAj) of products supplied by economic activity i (TEAi);

x_{ij}^{imp} – the volume of intermediate consumption of imported products by economic activity j (TEAj) within the intermediate products supplied by TEAi;

x_j – the total volume of intermediate products consumed by economic activity j (TEAj) from all types of economic activities in the national economy.

w_{ij} – the share of imported goods used by economic activity j (TEAj), supplied by TEAi;

s_{ij} – the share of TEAj in the total consumption from TEAi.

A simplified representation of the parameter that characterizes the level of dependency of intermediate consumption by the studied type of economic activity (TEA) on the supply of imported goods can be presented as follows:

$$Lj = \sum_i \frac{x_{ij}^{imp}}{x_j} \quad (4)$$

Assessment of the Share of Imported Goods in the Final Product

Next, we move to the methodological approach that allows for the assessment of the share of imports in the product output. Here, it is necessary to evaluate the dependency of the final product on direct imports—i.e., the products that are directly used in the production of the final product of the studied type of economic activity. It is also necessary to assess the share of indirect imports—i.e., products involved in

the production of the final product of the studied type of economic activity, which in turn were produced domestically using imports. Thus, the implementation of these iterative steps will allow for the assessment of the total share of imports in the final product of the studied type of activity.

In the first iteration, the direct cost matrix A and the vector reflecting the intermediate consumption of imports z. are calculated using the following formulas:

$$a_{ij} = \frac{x_{ij}^{domestic}}{p_j} \quad (5)$$

$$z_{1j} = \frac{v_{1j}}{p_j} \quad (6)$$

where $x_{ij}^{domestic}$ – the volume of intermediate consumption of domestic products by TEA j from TEA i;

p_j – the final output of TEA j;

v_{1j} =$\sum_i x_{ij}^{imp}$ – the volume of intermediate consumption of imported products by TEA j.

Thus, a_{ij} – are the coefficients of direct costs of domestic products from TEAi, which are directly used in the production of products by TEAj. In turn, z_{1j} represents the volume of imports from all TEAs directly involved in the production of one unit of product by TEA j.

Next, we calculate the matrix of total cost coefficients—the inverse matrix of Leontiev.

$$C=(I-A)^{-1}$$

Where C- is the inverse Leontiev matrix, I – is the identity matrix, A - is the direct cost matrix.

To complete the calculations, it is necessary to compute the vector k, which will contain the values of the total share of imports in the final product output across the studied TEAs:

$$k=z_1*C$$

The data sources used in the calculations are the statistical databases of National Accounts (n.d.). The data were selected for the years 2012, 2015, 2018, and 2020. More recent statistical data are not available in the public domain.

Results and discussion

Based on data from the Federal Customs Service (Reference and Analytical Materials, n.d.), about half of the imported products delivered to the Russian Federation consist of machinery, equipment, and transport vehicles (HS codes 84-90; ranging from 46% to 49% between 2017 and 2021). Approximately 18% of imports are from the chemical industry, including rubber (HS codes 28-40; ranging from 17% to 19% during the same period). Foodstuffs and agricultural raw materials (HS codes 01-24) accounted for 11.6% to 12.8% over the period, metals and metal products (HS codes 72-83) ranged from 6.8% to 7.3%, and textiles, textile products, and footwear (HS codes 50-67) accounted for 5.8% to 6.3% (Figure 1).

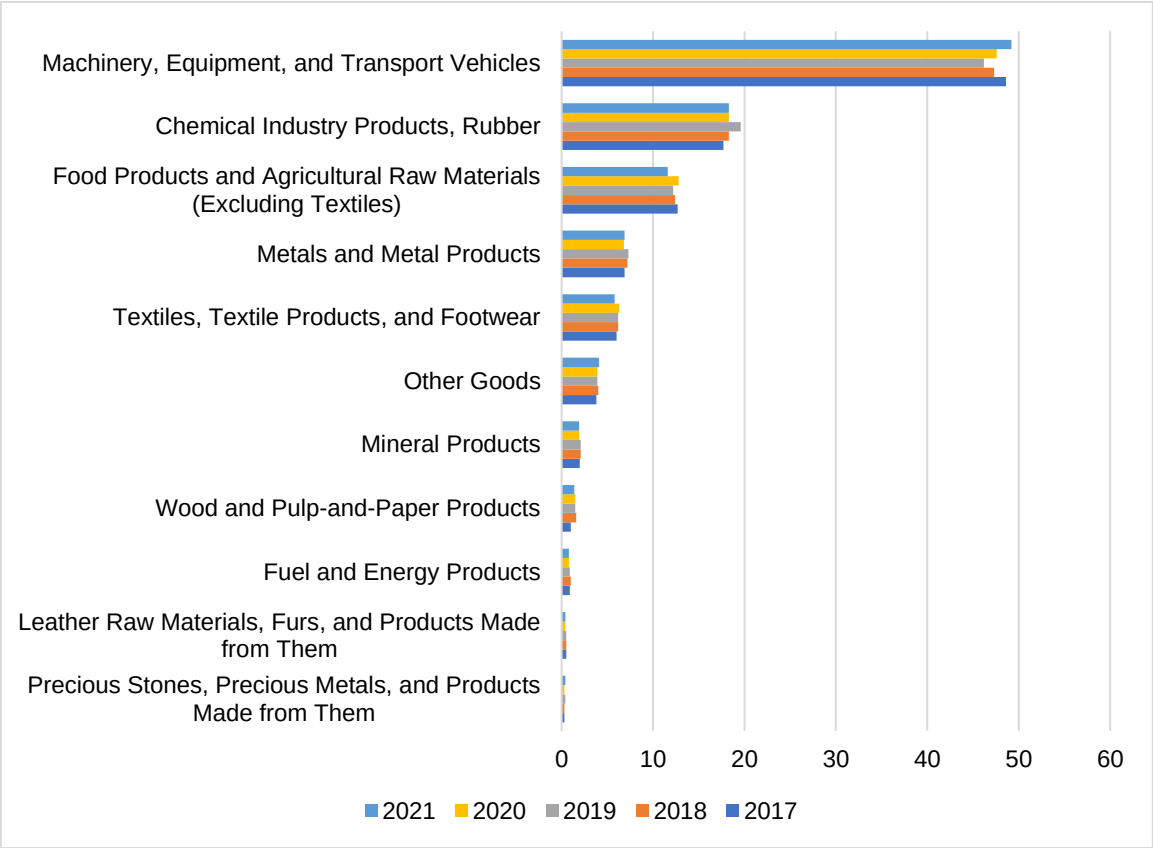

Figure 1. Structure of Imports to the Russian Federation (as a percentage of total imports)

Source: Calculated by the authors based on data from Reference and Analytical Materials (n.d.).

A similar import dependency profile is observed in the breakdown of the commodity nomenclature imported into the Russian economy (Figure 2):

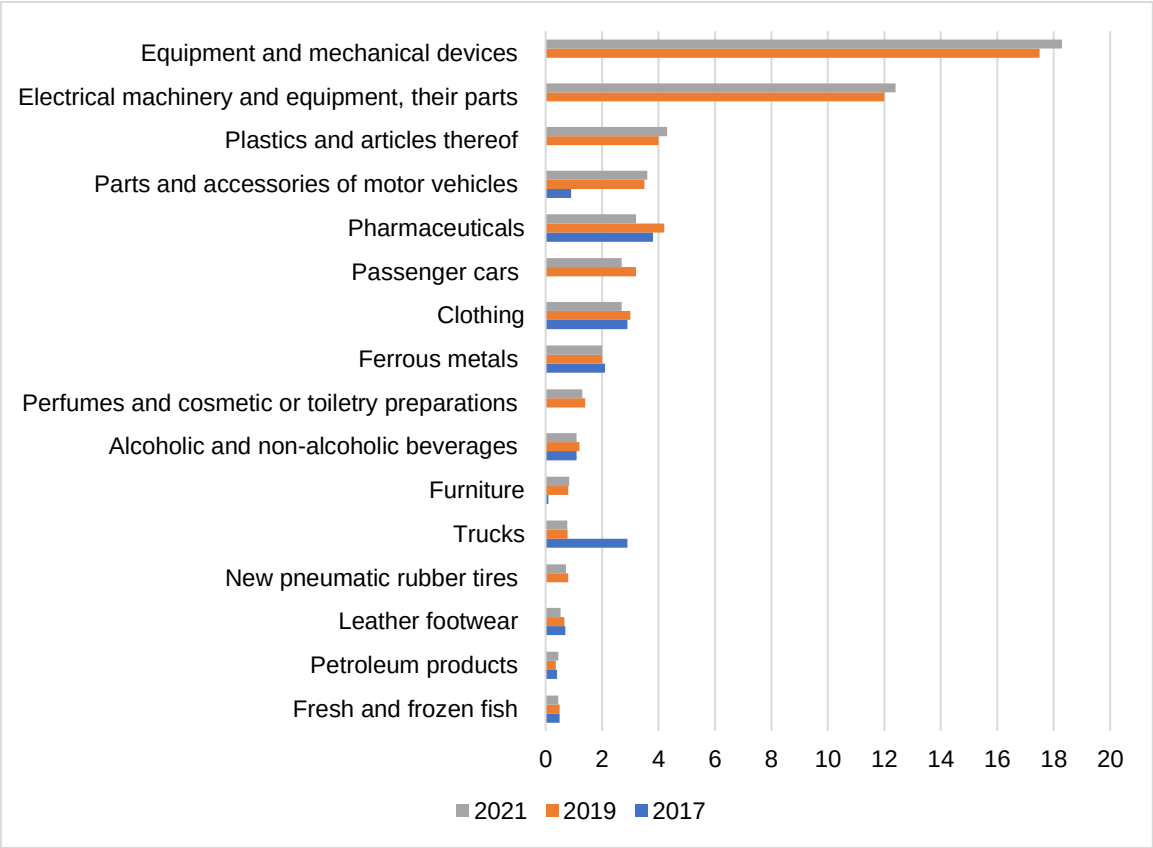

Figure 2. Import of Major Commodity Groups Imported into the Russian Federation (as a percentage of the total volume of imports)

Source: Calculated by the authors based on data from Reference and Analytical Materials (n.d.).

Next, relying on the presented methodological approaches, assessments were carried out that reveal the characteristics of the import dependency of major types of economic activities in the Russian Federation on the supply of intermediate and final consumption products from abroad (Table 1).

Table 1. Share of Imports in Intermediate and Final Products by Major Types of Economic Activities in 2018 and 2020

OKVED 2	Share of Imports in Intermediate Product (%)		Share of Direct Imports in Final Product (%)		Share of Total Imports in Final Product (%)	
	Lj		Z1j		Kj	
	2018	2020	2018	2020	2018	2020
Manufacturing	14,1	15,6	10,3	11,2	17,1	18,7
Construction	12,3	13,8	7,1	8,0	13,5	14,8
Water Supply; Sewerage, Waste Management, and Remediation Activities	8,2	9,0	5,1	6,1	11,8	14,1
Accommodation and Food Service Activities	10,2	11,6	5,6	6,7	10,6	12,7
Information and Communication	16,9	13,7	8,3	6,8	12,6	11,2
Transportation and Storage	9,6	9,3	5,4	5,2	10,7	10,5
Professional, Scientific, and Technical Activities	17,1	14,3	7,3	6,3	11,2	10,2
Agriculture, Forestry, Hunting, Fishing, and Aquaculture	7,7	8,0	3,8	3,8	8,9	8,9
Electricity, Gas, Steam, and Air Conditioning Supply	2,7	2,3	1,9	1,6	7,0	7,2
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	7,5	7,1	3,2	3,2	6,6	6,9
Others	11,7	13,0	3,7	4,2	6,3	6,8
Mining and Quarrying	6,5	9,8	1,9	3,5	4,4	6,8
Financial Activities	7,6	6,3	2,3	1,8	4,1	3,2
Real Estate Activities	5,1	5,3	1,2	1,3	3,1	3,2

Source: Calculated by the authors based on data from National Accounts (n.d.).

The obtained assessments indicate a highly differentiated level of import dependency across various sectors of the Russian national economy. The highest level of vulnerability, according to this parameter, is observed in the manufacturing sector. The share of total imports in the final product in this sector is approximately 20%, and it has shown an upward trend since 2018.

A very high level of import dependency (ranging from 10% to 15% of the total share of imports in the final product) is noted in the following economic sectors:

- Construction (14.8%);
- Water supply; sewage, waste management, and remediation activities (14.1%);
- Accommodation and food service activities (12.7%);
- Information and communication activities (11.2%);
- Transportation and storage (10.5%);
- Professional, scientific, and technical activities (10.2%).

The last sector in the list above poses heightened risks to the country's technological sovereignty in case it becomes impossible to change the geography of supply for the corresponding products from unfriendly countries.

A retrospective analysis of the data characterizing the parameters under consideration in the past (2012) shows a slight increase in the degree of import dependency over the last 10 years for the vast majority of major economic activities (Table 2). This trend, in the context of escalating sanction pressures on Russia, indicates a somewhat increased vulnerability of the Russian economy to import supplies during the study period.

Table 2. Share of Imports in Intermediate and Final Products by Major Types of Economic Activities in 2012 and 2015.

OKVED 1	Share of Imports in Intermediate Product (%)		Share of Direct Imports in Final Product (%)		Share of Total Imports in Final Product (%)	
	Lj		Z1j		Kj	
	2012	2015	2012	2015	2012	2015
Section D Manufacturing	15,5	14,1	11,0	10,0	17,4	17,9
Section F Construction	14,2	12,1	6,9	6,3	12,2	12,9
Section H Hotels and Restaurants	13,6	11,1	7,1	6,0	11,6	12,0
Section I Transport and Communication	9,2	11,0	4,9	5,9	9,6	9,5
Section O Provision of Other Community, Social, and Personal Services	12,4	12,9	5,4	5,5	8,7	8,7
Section A Agriculture, Hunting, and Forestry	8,6	8,3	4,1	3,8	8,5	8,6
Others	14,8	15,6	5,1	4,8	7,5	7,3
Section E Electricity, Gas, and Water Supply	2,3	2,2	1,6	1,5	6,2	6,3
Section C Mining and Quarrying	8,9	9,8	3,0	3,3	5,6	5,7
Section K Real Estate, Renting, and Business Activities	13,4	12,7	3,4	3,7	5,3	5,6
Section G Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles, Household Goods, and Personal Items	6,6	7,2	2,4	3,0	5,2	5,5
Financial and Insurance Activities	7,4	11,2	2,3	3,9	4,0	4,1

Source: Calculated by authors based on National Accounts (n.d.).

Given that the manufacturing sector of the Russian economy shows the highest level of vulnerability to imports of both final and intermediate products, it is

prudent to focus specifically on this segment of the Russian economy for a more detailed analysis of data by types of economic activities that comprise this sector.

Relying on the methodological tools for studying sectoral import dependency, similar assessments were conducted for the corresponding types of economic activities within the manufacturing industry of the Russian national economy (Table 3).

Table 3. Share of Imports in Intermediate and Final Products in the Manufacturing Industries of Russia (2020)

OKVED 2	Share of Imports in Intermediate Product (%)	Share of Direct Imports in Final Product (%)	Share of Total Imports in Final Product (%)
	Lj	Z1j	Kj
Production of Motor Vehicles, Trailers, and Semi-Trailers	37,4	30,8	42,9
Production of Rubber and Plastic Products	29,7	23,4	32,1
Production of Textiles, Clothing, Leather, and Leather Products	34,8	24,1	31,8
Production of Computers, Electronic, and Optical Products	38,2	23,1	29,4
Manufacture of Machinery and Equipment not Included in Other Categories	27,9	19,1	26,9
Manufacture of Electrical Equipment	24,7	18,7	26,7
Manufacture of Pharmaceuticals and Materials Used in Medical Purposes	35,3	21,0	26,7
Manufacture of Furniture and Other Finished Products	25,1	18,1	24,6
Printing and Reproduction of Recorded Media	20,4	14,4	23,1
Manufacture of Other Transport Equipment	19,1	12,9	22,0
Repair and Installation of Machinery and Equipment	25,8	15,0	21,7

OKVED 2	Share of Imports in Intermediate Product (%)	Share of Direct Imports in Final Product (%)	Share of Total Imports in Final Product (%)
	Lj	Z1j	Kj
Manufacture of Fabricated Metal Products, Except Machinery and Equipment	15,3	10,9	18,7
Manufacture of Paper and Paper Products	16,8	11,7	18,5
Manufacture of Chemicals and Chemical Products	16,7	11,6	17,8
Manufacture of Food Products, Beverages, and Tobacco Products	12,5	9,5	16,9
Manufacture of Other Non-Metallic Mineral Products	11,8	8,1	14,5
Wood Processing and Manufacture of Wood and Cork Products, Except Furniture; Manufacture of Straw and Plaiting Materials	10,5	7,4	13,5
Metallurgical Production	10,0	6,7	12,9
Manufacture of Coke and Petroleum Products	2,3	1,8	7,2

Source: calculated by author based on National Accounts (n.d.).

The highest dependency on total imports in the final product produced in the manufacturing sector of the Russian economy is observed in the automotive industry, rubber and plastics production, textile industry, electronics manufacturing, machinery and equipment production, and pharmaceuticals (ranging from 26% to 43%).

For instance, in the production of motor vehicles, the share of direct imports in the final product was 30.8% in 2020, and with indirect imports included, it reached 42.9%. In comparison, the share of imported products in the intermediate product of this industry was 37.4% (Figures 3 and 4).

Similar indicators in the production of rubber and plastics were 23.4% for direct imports, 32.1% for total imports in the final product, and 29.7% in the intermediate product. In the production of textiles, clothing, leather, and leather products, the figures were 31.8% for direct imports, 24.1% for total imports in the final product, and 34.8% in the intermediate product.

In the production of computers, electronic, and optical devices, the highest level of imported products was noted in intermediate consumption, at 38.2%. The share of direct imports in the final product was 23.1%, and with indirect imports included, it reached 29.4%.

A high level of imports in the intermediate product is also noted in the production of pharmaceuticals and materials used in medical applications, where the share was 35.3%, and the total share of imports in the final product was around 27%. The same level of dependency on total imports in the final product is observed in the production of electrical equipment and machinery and equipment not included in other categories. The share of imported products in intermediate consumption in these industries ranged from 25% to 28%.

To provide a clearer visualization of the obtained data, Figure 3 presents a graphical representation of the results.

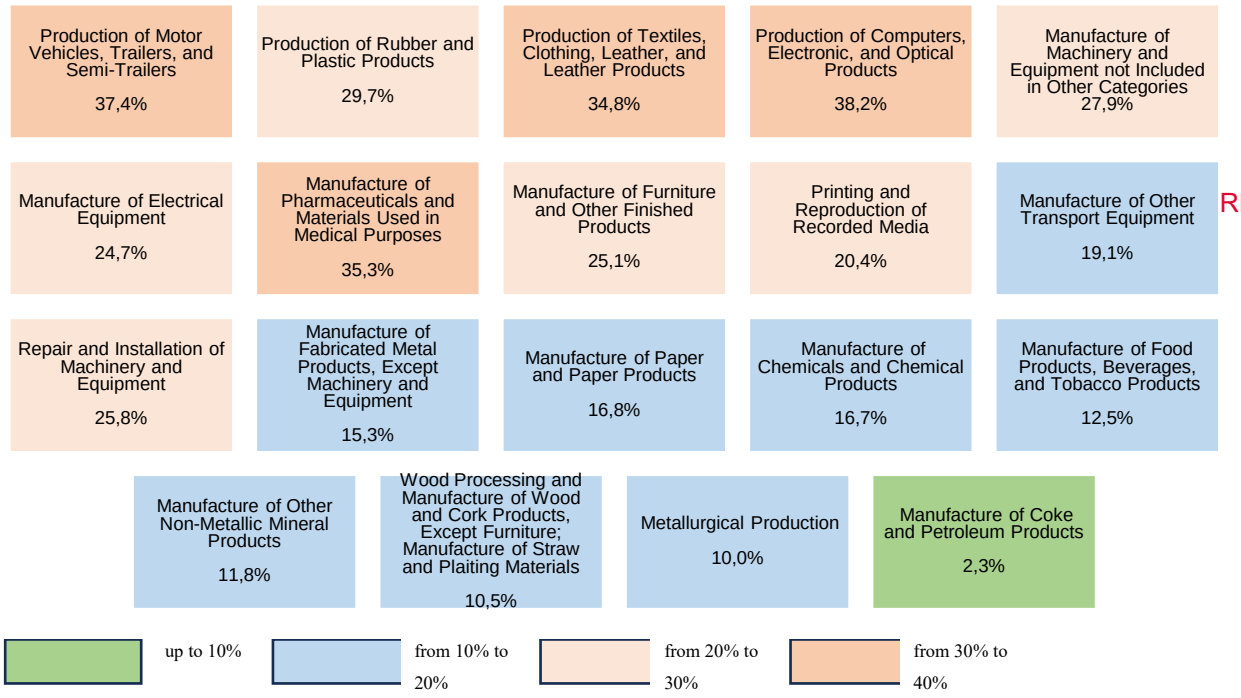

Figure 3. Share of Imports in Intermediate Products by Types of Economic Activity in Section C "Manufacturing" in 2020

Source: Calculated by the authors based on data from National Accounts (n.d.).

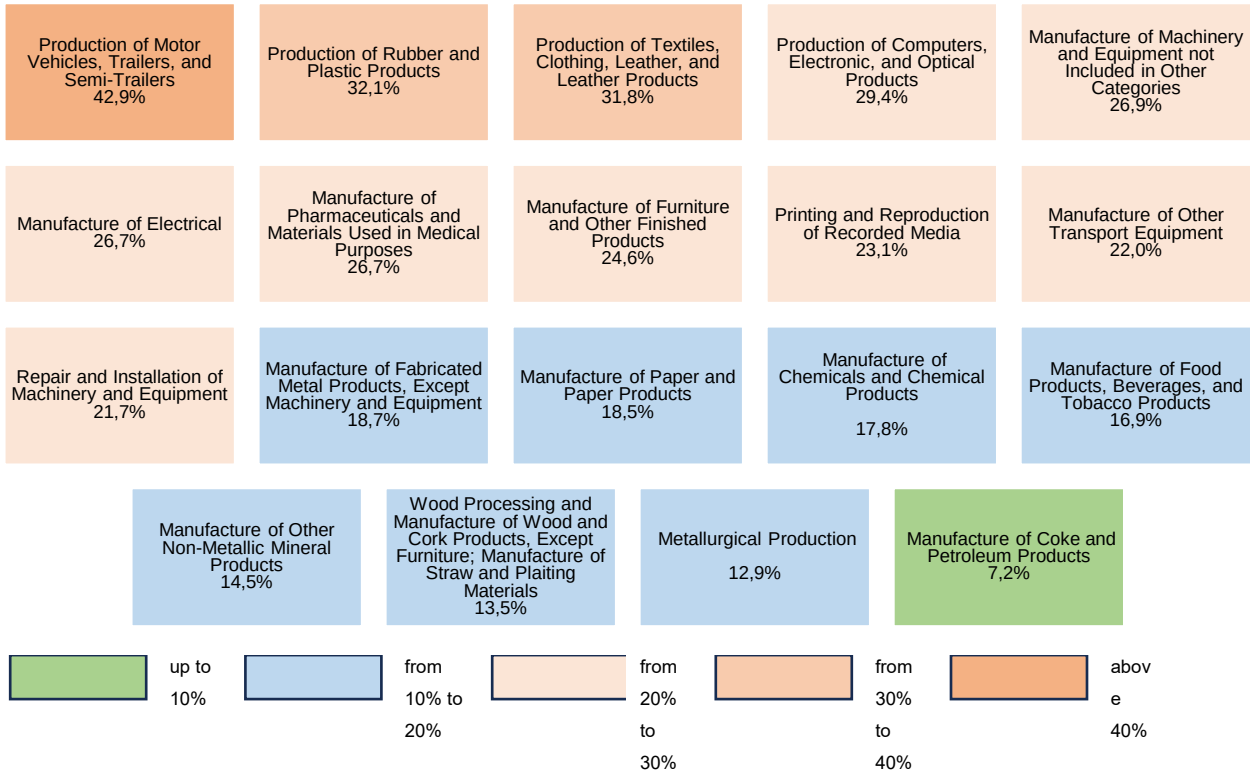

Figure 4. Share of Total Imports in Final Products by Types of Economic Activity in Section C "Manufacturing" in 2020

Source: Calculated by the authors based on data from National Accounts (n.d.).

When examining the dynamics of changes in import dependency in the manufacturing sector from 2012 to 2020, a decrease can be noted in the automotive industry (Table 4, Figure 4), the production of computers and electronic devices, metallurgical production, and the production of paper and paper products.

Table 4. Share of Imports in Intermediate and Final Products in the Manufacturing Industries of Russia (2012)

OKVED 1	Share of Imports in Intermediate Product (%)	Share of Direct Imports in Final Product (%)	Share of Total Imports in Final Product (%)
	Lj	Z1j	Kj
Production of Motor Vehicles, Trailers, and Semi-Trailers	41,2	34,9	44,2
Production of Office Equipment and Computers	46,8	33,1	38,9
Textile Production	38,9	27,1	33,0
Production of Electronic Components, Radio, Television, and Communication Equipment	35,5	24,6	32,6
Production of Rubber and Plastic Products	29,0	22,6	29,9
Production of Tobacco Products	45,0	24,6	28,0
Production of Clothing; Tanning and Dressing of Leather	40,3	22,4	27,1
Production of Leather, Leather Products, and Footwear	29,1	18,3	23,7
Manufacture of Pulp, Paper, and Paper Products	24,8	17,9	23,4

OKVED 1	Share of Imports in Intermediate Product (%)	Share of Direct Imports in Final Product (%)	Share of Total Imports in Final Product (%)
	Lj	Z1j	Kj
Manufacture of Electrical Machinery and Equipment (Excluding Insulated Wires and Cables)	20,8	14,7	22,0
Shipbuilding, Aircraft, and Spacecraft Manufacturing; Production of Other Machinery and Equipment for Petrochemicals	21,7	14,3	21,8
Manufacture of Machinery and Equipment (Excluding Weapons and Ammunition)	23,3	14,3	20,5
Manufacture of Medical Instruments; Measuring, Testing, Navigating Instruments; Optical Instruments, Photo and Film Equipment; Clocks	26,2	14,2	19,9
Manufacture of Furniture and Other Products Not Included in Other Categories	16,4	11,9	19,0
Manufacture of Fabricated Metal Products	14,6	10,6	18,1
Publishing, Printing, and Reproduction of Recorded Media	15,4	9,9	17,4
Recycling	11,0	8,2	16,3
Chemical Production (Excluding Gunpowder and Explosives)	15,8	11,0	16,3
Manufacture of Food Products, Including Beverages	12,3	9,3	15,9
Metallurgical Production	11,9	8,6	15,1
Manufacture of Other Non-Metallic Mineral Products	11,3	7,8	13,8

OKVED 1	Share of Imports in Intermediate Product (%)	Share of Direct Imports in Final Product (%)	Share of Total Imports in Final Product (%)
	Lj	Z1j	Kj
Wood Processing and Manufacture of Wood and Cork Products, Except Furniture	9,7	6,6	12,3
Manufacture of Coke; Manufacture of Petroleum Products	2,6	1,8	5,4

Source: calculated by authors based on National Accounts (n.d.).

Overall, the results of the import dependency assessment for the period from 2012 to 2020 in Russia's manufacturing industry demonstrate an increase in this parameter across the vast majority of economic activities. The most significant growth in dependency is observed in the production of electrical equipment, machinery and equipment not included in other categories, furniture production, and printing activities. Exceptions include sectors such as metal products manufacturing, building materials production, food production, and the production of textiles, clothing, leather, and leather products.

The results of the conducted study allow for identifying the degree of vulnerability of major types of economic activities in Russia to the supply of imported intermediate and final consumption products. The obtained assessments indicate a high level of import dependency in the Russian economy, particularly in the manufacturing sector. At the same time, it should be noted that over the past 10-12 years, the level of vulnerability in the manufacturing industry has been increasing. If in 2012 the value of this parameter (the share of total imports in the final product) was 17.9%, by 2020 this figure had reached 18.7%. This trend points to increasing risks to the sustainable development of both the manufacturing industry and the national economy as a whole. Given the identified threats, it seems advisable to focus on identifying and justifying measures for state regulation of this economic

sector under sanction pressure, which necessitates the localization of goods and services supply from abroad.

As a result of this study, the highest import dependency is noted in the automotive industry, rubber and plastics production, textile industry, electronics manufacturing, machinery and equipment production, and pharmaceuticals: import dependency ranges from 24% to 38% in intermediate consumption and from 26% to 43% in the final product.

Specialization in these types of activities entails risks of certain economic and social problems in regions with high levels of specialization in the identified economic sectors with a high level of import dependency. In this regard, such regions should primarily activate import substitution policies by revising the established production chains.

For example, if we consider the specialization of the regions in the Volga Federal District, the district accounts for about 60% of the workforce employed in Russian automotive manufacturing (key regions: Samara Region – 17%, Republic of Tatarstan – 15%, Nizhny Novgorod Region – 12%, Ulyanovsk Region – 5%). More than a third of all employees in the country's electrical equipment manufacturing work in the Volga Federal District (34%), and about a third (29%) in the production of computers, electronic, and optical devices. Additionally, 26% of those employed in machinery and equipment manufacturing, 25% in rubber and plastics production, and 22% in the textile industry also work in the Volga Federal District (Assessment of Russia's Dependency on Imports of Intermediate Products, 2023).

Conclusion

The significant heterogeneity in the dependency on imports across different product groups requires appropriate attention from government authorities and necessitates the development of adaptive and selective mechanisms to stimulate import substitution. Implementing universal solutions for all import-dependent sectors of the economy is inherently vulnerable and limited. A "fine-tuning" of state

support measures is needed, taking into account the most vulnerable positions characterized by regional economies' dependency on the product groups with the highest import share.

Considering that the share of manufacturing in Russia's economy is 40% (as of 2023), the potential risks associated with the high level of import dependency in Russia's manufacturing industry become quite evident. However, it should be noted that the results of the study indicate that not all types of economic activities within the manufacturing sector exhibit a heightened level of vulnerability. Nonetheless, some do pose threats to their sustainable development under conditions of import localization. The identified sector-specific characteristics can significantly influence government policy priorities in supporting the Russian economy, considering the established import dependency patterns across different types of economic activities.

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