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MECHANISM OF EXPORT ORIENTED IMPORT SUBSTITUTION MANAGEMENT AT A REGIONAL LEVEL

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Abstract

Currently, the problem of import substitution is a priority for federal and regional policies. Under the conditions of sanctions and the food embargo of Russia, most of the subjects of the Russian Federation found themselves in an ambiguous situation. On the one hand, there were problems with the provision of domestic production with imported raw materials, as well as the population with food, and on the other hand, new opportunities for development opened up for the regions. In this regard, the Government of the Russian Federation has taken a number of measures to support domestic import substitution. However, the experience of a number of foreign countries of the world has shown that the orientation towards domestic import substitution leads to a limitation of the country's development opportunities in the world market and is a step towards the export orientation of the national economy, but not an end in itself. At the same time, there are problems of inconsistency and duplication of measures within the framework of import substitution and export support policies. In addition, it is not easy to reach the goals and objectives of such policies set at the federal level, especially when it comes to peripheral regions with a small territorial system and limited resources for development. In our opinion, this contradiction can be resolved through the implementation of an export-oriented import substitution policy, which is based on a combination of tools for supporting import substitution and export activities.

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Keywords: Export, export-oriented import substitution, import substitution, regional policy.



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1. Introduction

The relevance of the research topic is determined by the inconsistency of measures and actions to support import substitution and the development of export activities in the regions of the Russian Federation. The adopted course on import substitution is manifested in the adopted legislative acts and development programs starting in 2014 (State Program of the Russian Federation “Development of Industry and Increasing Its Competitiveness”, Plan for the Promotion of Import Substitution in Industry, Import Substitution Program in Agriculture, etc.). On the other hand, starting in 2016, the federal center has been actively supporting the development of regional export activities (the creation of the JSC “Russian Export Center”, the adoption of the Regional Export Standard, approval of the priority project “Systemic Measures for the Development of International Cooperation and Export”, etc.). However, there is no correlation between the goals and objectives, methods and tools for the implementation of both types of policies, which leads to duplication of resources and costs of missed opportunities in the implementation of regional policies by the constituent entities of the Russian Federation.

2. Problem Statement

Foreign economic literature, both scientific and educational, argues that regions can apply two policies of economic development: support for export activities or import substitution (Blair & Carroll, 2008; Hoover & Giarratani, 1999; Shaffer, 1989; Shaffer, Deller, & Marcouiller, 2004). The effectiveness of import substitution policies is emphasized by a number of prominent scientists (Hirschmann, 1958; Hagen, 1958; Shuman, 2000; Hoover & Giarratani, 1999; Krugman, 1995; Pred, 1966). The popularity of export support policies is explained by the multiplicative effect of exports: for every additional dollar brought into the regional economy through export, the gross regional product grows by more than \$ 1, due to indirect effects (Shaffer, Deller, & Marcouiller, 2004; Romanoff, 1974).

A fundamental prerequisite for both types of regional policies - import substitution and the development of export activities, is the presence of an unrealized comparative advantage of the regional economy, which can be used by increasing export volumes or reducing import volumes (Deller, 2009; North, 1955). Such comparative advantages may apply to both natural resources and high technology or human resources. The hypothesis of an unrealized comparative advantage is that the regional market is capable of producing a product of comparable quality at a competitive price. However, the import substitution policy is ineffective and even counterproductive in the absence of comparative advantages in the target sectors (Bruton, 1998). Foreign scientists (Cooke & Watson, 2011; Wilkinson, Keillor, & d'Amico, 2005) consider it appropriate to correlate investments and effects from the implementation of both types of regional economic policies.

Russian experts (Shaldenkova, 2017; Klimova & Sayapin, 2018; Oleinikova & Kholodkovskaya, 2017; Osipov, 2017; Bessonova & Mereshchenko, 2017) agree that the process of import substitution in our country is at an early stage of its development and is due to a greater extent not by the competitiveness of Russian products, but by protectionist measures, the contraction of domestic demand and the weakening of the national currency. In such circumstances, Russian producers are not yet ready to withstand competition in the global market. The problems of implementing the export-oriented import

substitution policy in our country include: parallel implementation of both types of policies, the lack of readiness of the institutional environment to enter foreign markets (backwardness of the material and technical base, lack of investment, a small number of innovations, etc.), "disconnected" methods and tools for implementing import substitution and export support policies.

The problems of the development of import substitution and export activities at the regional level can be solved through a combination of import substitution policies and support for export activities, which will reveal the resource potential of the constituent entities of the Russian Federation and ensure the competitiveness of products of regional enterprises and stability in the face of the challenges of modern economy.

3. Research Questions

- 3.1. What are the factors for the effective implementation of export-oriented import substitution policies?**
- 3.2. Are there general principles for the implementation of export-oriented import substitution policies?**
- 3.3. What is the difference between the goals and objectives of the implementation of the policy of export-oriented import substitution in the Russian Federation and other countries of the world?**
- 3.4. Which includes a model organizational and economic mechanism for implementing the export-oriented import substitution policy?**

4. Purpose of the Study

The aim of the study is to develop an organizational and economic mechanism for managing export-oriented import substitution at the regional level, which includes goals and objectives, methods and tools, principles and factors, objects and subjects for implementing this type of regional economic policy. The implementation of this mechanism will allow the constituent entities of the Russian Federation to coordinate the implementation of import substitution policies and support the development of export activities, which are currently being implemented in parallel.

5. Research Methods

The following research methods were used in the work:

1. A synthesis of Russian and foreign scientific literature in the field of export-oriented import substitution, which made it possible to determine the relationship between the implementation of two types of economic policy.
2. Expert analysis, which allowed identifying and systematizing the factors of the implementation of export-oriented import substitution policy.
3. Content analysis of strategic planning documents of a number of countries of the world, which made it possible to identify goals, objectives, methods and tools for implementing the export-oriented import substitution policy.

4. Systematization of goals and objectives, methods and tools for the implementation of export-oriented import substitution policies.
5. Modeling the organizational and economic mechanism for managing export-oriented import substitution at the regional level.

6. Findings

An expert analysis of trends in the implementation of the export-oriented import substitution policy in our country led to the conclusion that the export policy is aimed at the external market, and the import substitution policy - at the domestic one. At the same time, it is one and the same process of modernization of production or service delivery processes that meet international quality standards and are globally competitive. Experts note the low efficiency of the implementation of the import substitution policy in the Russian Federation, explaining the decline in imports by squeezing domestic demand, rather than increasing the competitiveness of domestic products (Prilepsky, 2017). The goal of export-oriented import substitution policy should be the internationalization of all production functions and processes, which is manifested in increasing the competitiveness of national goods and services in the world market.

As a result of the study, the organizational and economic mechanism for managing export-oriented import substitution was formed (Figure 01) - this is a system of goals and objectives, methods and tools, factors and principles for the development and implementation of export-oriented import substitution policies, which are implemented by federal and regional level management entities with respect to management entities, including service exporters, clusters and special economic zones (SEZs), small and medium-sized enterprises (SMEs).

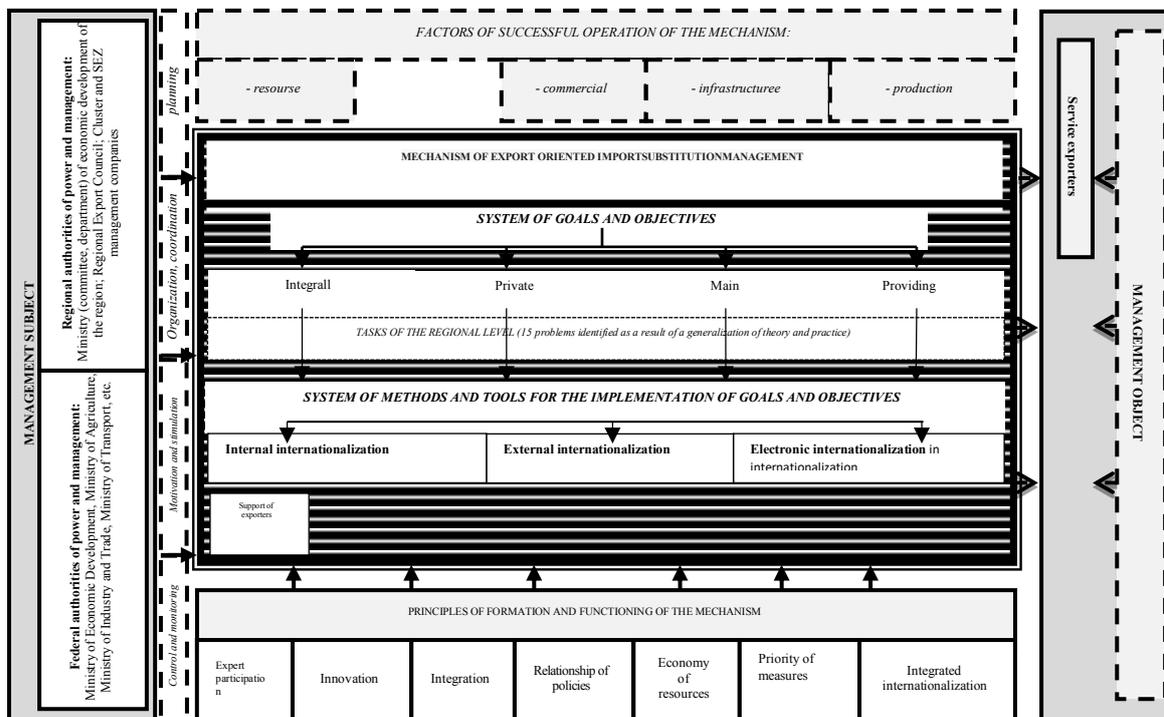


Figure 01. Organizational and economic mechanism for managing export-oriented import substitution at the regional level

The following groups of efficiency factors for the implementation of the export-oriented import substitution policy were identified as a result of summarizing the opinions of experts (Zverev, 2009; Prilepsky, 2017; Kuzminov, 2017; Matveeva & Glagoleva, 2017; Matveeva & Chueva, 2017):

- resource (endowment of the region with production factors: labor, land, capital, natural resources; resource mobility in the economy);
- market (product uniqueness, value for money in the world market);
- production (comparative advantages for the production of goods or services);
- infrastructure (border position, state support and a favorable investment climate, international business environment).

From our point of view, internationalization of the environment, geo-branding and international cooperation of the region (table 01) are the significant factors in the effectiveness of the implementation of export-oriented import substitution policies. That is, the proposed systematization can be supplemented by a group of marketing factors at the regional level. The region's endowment with factors of the effectiveness of the implementation of export-oriented import substitution policy determines the choice of methods and tools for supporting business.

Table 01. Systematization of factors of the effectiveness of implementation of export-oriented import substitution policies

Group of factors	Factors
Resource	Endowment of the region with production factors: labor, land, capital, natural resources Resource mobility in the economy
Commercial	Uniqueness of products or services Value for money in the global market
Production	Comparative advantages for the production of goods or the provision of services
Infrastructure	Border position Governmental support Favorable investment climate International business environment
Marketing	Internationalization of the regional environment Geobranding International cooperation of the region

The subjects of the Russian Federation vary significantly in terms of the effectiveness of implementation of the policy of export-oriented import substitution, which makes it expedient to manage this process at the regional level. At the federal level, legal conditions for export activities should be created, as well as measures taken to reduce barriers to exporters. The regions, in turn, are forced to work both in the domestic environment, promoting export activities, consulting and information support for business structures, internationalization of the intra-regional environment, and in the external environment through geo-branding and international cooperation of the region. All this determines the importance of developing regional strategies for the development of export activities, as well as

individual programs for reaching target countries, developing the export potential of key clusters and services.

The study summarized the principles for implementing the regional policy of export-oriented import substitution of Estonia (Strategy for 2015-2018), Canada (Export strategy report, 2015), the United Kingdom (Export Strategy: supporting and connecting businesses, 2018), and the USA (National Export Strategy, 2016). As a result, the following principles of implementation of the policy of export-oriented import substitution were formulated.

1. The principle of expert participation is close cooperation with the education and science sectors.
2. The principle of innovation - priority support for the development and introduction of innovative products and services on foreign markets.
3. The principle of integration - combining the efforts of the private and public sectors while eliminating duplication of support measures.
4. The principle of interrelation of measures of socio-economic development of the region, which is ensured by amending and consolidating the provisions of regulatory and program-planning documents at the regional level.
5. The principle of saving resources - the priority use of existing measures and resources instead of creating new ones, optimization of costs of all involved structures.
6. The principle of priority of support measures - reliance on the strengths of regional development.
7. The principle of comprehensive internationalization - positioning the region in the global space involves the development of international cooperation not only in the trade sector, but also the establishment of business contacts in other areas of the regional economy.

A comparative analysis of the goals and objectives of the export-oriented import substitution policy in the Russian Federation and in the target countries showed that approaches to goal-setting in this area are different (Table 02). In the first case, these are quantitative indicators of export activity (the number of exporters, export volumes, the share of exports in GDP, and the number of foreign tourists), in the second, these are the indicators of the country's competitiveness in the global market, and in the third, integrated effects for the regional economy (increase in enterprise incomes, attraction of foreign investment, formation of an effective system of division of labor and industrial cooperation). The fourth group of goals is the private goals of developing export potential: diversifying of sales markets, export structures, creating an enabling environment, and creating a culture of export activity. A number of goals of the export-oriented import substitution policy are the conditions under which such a policy will have a lasting effect: maximizing the use of the synergistic effect of export and other types of policies and ensuring a balance of instruments supporting export and import substitution.

Table 02. Systematization of export-oriented import substitution policy goals

Group of goals	Goals
Integral goals	
Enhancing global competitiveness	Increasing the country's competitiveness indicators in the global market, entering the TOP-20 leading countries in the global competitiveness rating, strengthening of participation in the global economy

Development of national economy	Increasing the income of enterprises, attracting foreign investment, formation of an effective system of division of labor and industrial cooperation
Private goals	
Increase in quantitative indicators of export activity development	Increase in the number of exporters, increase in exports, increase in the share of exports in GDP, increase in the number of foreign tourists
Strengthening quality indicators for the development of export activities	Diversification of sales markets, diversification of export structure, formation of a culture of export activity
Business environment development	Maximum use of the synergistic effect of export and other types of policies, ensuring the balance of instruments to support export and import substitution, creating a favorable environment for export activities

Thus, the integral goals of the export-oriented import substitution policy include increasing global competitiveness and developing the national economy. The private goals of the development of export activity are divided into three groups: increasing quantitative indicators of exports, strengthening quality indicators and developing the conditions for doing business.

The following is a systematization of the tasks of developing export activity at the regional level in the USA and the Russian Federation (Table 03). The main objectives of the development of export activities in the US metropolitan areas are related to the development of the regional economy and the sustainable development of the labor market. In the constituent entities of the Russian Federation, the main tasks of export development strategies are to create favorable conditions for the development of export activities, to create a model of export specialization in the region, and to develop and diversify export potential. In other words, export activity is seen as a separate area, and not as a factor in increasing regional competitiveness.

Table 03. Systematization and comparative analysis of the tasks of export development strategies at the regional level in the Russian Federation and the USA

Tasks	RF	USA
Main (export)		
Increase in exports	+	+
Creation of an export management system	+	-
Increase in the number of exporters	+	+
Diversification of regional exports	+	-
SME export potential development	+	+
Development of trade relations of the region with other countries	+	+
Business support in entering foreign markets	+	+
Targeted support of key exporters (industries)	+	+
Improving the conditions for conducting export activities (creating an export ecosystem)	+	+
Development of export infrastructure (transport, logistics, customs)	-	+
Providing (internationalization)		
The development of international cooperation in the region	-	+
Development of a culture of export activity	-	+
Geobranding	-	+
Improving the mechanisms of interaction between stakeholders	+	-
Internationalization of regional environment	-	+

Two groups of tasks are determined: the main ones related to the development of export activities, and those providing for the internationalization of the regional environment and international positioning of the region. Obviously, individual producers do not have the resources for high-quality positioning abroad, and the success of regional exports is determined by the international marketing of the region, which includes international cooperation, internationalization of the environment and geo-branding.

As a result of the content analysis of the methods and tools to support export-oriented import substitution at the federal and regional levels in the Russian Federation and target countries, a two-dimensional systematization was performed according to the group and the type of internationalization (internal, external, electronic). Tools for the development of the internal environment include measures to improve the infrastructure for supporting the business. Instruments for the development of the external environment are associated with the positioning of the region in the external space and the development of diplomatic and trade relations with the regions of other countries. Tools for the development of the electronic environment include both online support of export activities, and electronic commerce and positioning of the region's export potential in the Internet.

In terms of content, methods for supporting export-oriented import substitution at the regional level are united into 6 groups and include: methods for supporting exporters, international education and research, tools for integration and interregional interaction, geo-branding and international marketing, development of the business infrastructure of international business and improving the regulatory framework for foreign trade (table 04).

Table 04. Systematization of methods and tools to support export-oriented import substitution at the regional level

Methods	Tools		
	Internal environment	External environment	Electronic environment
Exporter support	Information and consulting infrastructure. Promotion of export activities. Decrease in expenses for entering foreign markets	Unified register of exporters. Business support in establishing contacts with foreign partners	Electronic export support. Support of remote export services. Consulting services in the field of electronic export
International education and research	International educational programs in universities. Development and support of export research. Labor market development in the field of export activities	International cooperation of universities. International congress events for export activities	E-market and E-commerce research. Training exporters in the basics of e-commerce and positioning
Integration and interregional interaction	PPP. Unified regional export network (association of manufacturers and intermediaries). Intersectoral collaboration. Interregional	Strategic partnerships between government and business in various countries. Departmental interaction (General Consulate, etc.). Collaboration with international	Information portal on the export potential of the region. Electronic information and consulting services for foreign partners

	cooperation of the constituent entities of the Russian Federation	organizations. Support in developing relationships with market partners	
Geobranding and international marketing	Targeted exports in priority countries. Branding and promoting the strengths of the region. Umbrella brand of the region	Business missions and fair events. Use of global events. Promotion of the image of the region	Positioning of a region in electronic space
Business infrastructure of international business	Infrastructure development for international business. Formation of a culture of export activity. Development of transport infrastructure	Sales offices in other countries. Promotion of international labor migration. Attracting foreign investment	Electronic platforms with information about Russian producers. International business electronic platform
Regulatory framework of foreign economic activity	Internationalization assistance program. Regional branding strategy. Key cluster export development strategies. Industry export strategies	Foreign economic cooperation agreements with strategic partner countries. Programs to support exports to priority countries (regions). International standardization	Improving legislation in the field of regulation of electronic markets and information flows

The policy of export-oriented import substitution, in our opinion, should be aimed at three main segments: service exporters, large clusters and special economic zones and individual producers (representatives of small and medium-sized businesses). Methods and tools for the development of the internal, external and electronic environment should be defined and implemented for each of the segments.

Organizational and economic mechanism for managing export-oriented import substitution can be used as the basis for developing such a policy and organizing the interaction of stakeholders. We can see directions for further research in the development of a model strategy for export-oriented import substitution at the regional level.

7. Conclusion

A unique feature of the Russian model of export-oriented import substitution is the extremely small time lag between the start of the active implementation of the import substitution policy (2014) and export policy (2016). As a result, institutional conditions that allow the products of Russian enterprises to compete with foreign counterparts have not been created. There is no correlation in the choice of target industries to support import substitution and export activities, especially at the regional level. The model is extremely centralized. An analysis of the planning documents and the practice of implementing such a policy at the federal and regional levels showed that the vast majority of decisions are made at the federal level, where the largest amount of resources is also concentrated. However, the subjects of the Russian Federation are characterized by an extremely high degree of differentiation in terms of their socio-economic development, as well as in factors of export-oriented import substitution.

As a result of the analysis of theoretical approaches to the implementation of the policy of export-oriented import substitution, it was found that the Russian scientific literature covers the issues of import substitution policy quite widely, while insufficient attention is paid to the issues of export policy. In foreign economic literature the situation is exactly the opposite; the predominant part of the work is devoted to the policy of supporting export activities. This trend is explained by the various stages at which Russia and the developed countries of the world are in the implementation of the export-oriented import substitution policy. In addition, approaches to defining goals and the effectiveness of implementing such a policy differ. Russian scientists and practitioners are guided by the private goals of increasing exports or reducing imports and evaluate the effectiveness of the implementation of both types of policies through private indicators. The policy of export-oriented import substitution abroad is considered as a factor in increasing the region's competitiveness in the world market and is assessed through integrated indicators of GRP growth, as well as the creation of additional jobs. The implementation of both types of policies is based on the unrealized comparative advantage of the regional economy. However, in the Russian Federation, methods and tools to support import substitution and export activities are aimed primarily at existing branches and industries, and not always at those in which it has comparative advantages in the world market. That is, in terms of international marketing, regions are trying to sell what they know how to produce to the world, but do not adapt to the demands of global market customers. This, in particular, explains the low efficiency of the implementation of both types of policies in the regions of our country, as indicated by a number of experts. Other reasons include a weak institutional environment, a shrinking domestic market, inefficiencies, and "fragmented" support measures. There is no systematic approach to managing the implementation of the policy of export-oriented import substitution, interagency interaction and interaction of stakeholders.

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References

- Bessonova, E. A., & Mereshchenko, O. Y. (2017). Organizational and managerial model of the import substitution process in the region (on the example of the Kursk region). *Bulletin of Southwestern State University*, 1(70), 105-114. <https://doi.org/10.21869/2223-1560-2017-21-1-105-114> [in Russ.].
- Blair, J. P., & Carroll, M. C. (2008). *Local economic development: analysis, practices, and globalization*. Los Angeles: Sage Publications.
- Bruton, H. (1998). A reconsideration of import substitution. *Journal of Economic Literature*, 36, 903-936.
- Cooke, S., & Watson, P. (2011). A comparison of regional export enhancement and import substitution economic development strategies. *Regional analysis & Policy*, 41(1), 1-15.
- Deller, S. C. (2009). Import substitution and the analysis of gaps and disconnects. *Targeting regional economic development*, In S. J. Goetz, S. C. Deller, & T. R. Harris (Eds.). New York: Routledge.
- Export strategy report. (2015). Retrieved from https://www.bot.com/portals/0/unsecure/advocacy/tagta_export_strategy_report_2015.pdf
- Export Strategy: supporting and connecting businesses to grow on the world stage (2018). Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/737201/HMG_Export_Strategy.pdf

- Hagen, E. (1958). An economic justification for protectionism. *Quarterly Journal of Economics*, 72, 496-514.
- Hirschmann, A. (1958). *The strategy of economic development*. New Haven: Yale University Press.
- Hoover, E. M., & Giarratani, F. (1999). *An introduction to regional economics*. Web Book of Regional Science, edited by S. Loveridge. Morgantown: Regional Research Institute, West Virginia University.
- Klimova, D. N., & Sayapin A. V. (2018). Import substitution strategy: basic models and implementation opportunities in Russia. *Socio-economic phenomena and processes*, 13(2), 78-84. <https://doi.org/10.20310/1819-8813-2018-13-2-78-84> [in Russ.].
- Krugman, P. R. (1995). *Development, geography, and economic theory. The Ohlin lectures*. Cambridge, Mass.: MIT Press.
- Kuzminov, S. S. (2017). Elaboration of a development strategy for an export-oriented enterprise using state support tools for non-resource exports in Russia. *Scientific Journal of OrelSIET*, 2(20), 102-108. [in Russ.].
- Matveeva, O. P., & Chueva, I. I. (2017). Import Substitution and Export in the Context of Food Security of a Country and Region. *Bulletin of the Belgorod State University of Cooperation, Economics and Law*, 5, 41-57. <https://doi.org/10.21295/2223-5639-2017-5-41-57> [in Russ.].
- Matveeva, O. P., & Glagoleva, N. N. (2017). Export of goods in the context of import substitution: regional aspect. *Bulletin of the Belgorod State University of Cooperation, Economics and Law*, 1, 78-87. <https://doi.org/10.21295/2223-5639-2017-1-78-87> [in Russ.].
- National Export Strategy (2016). Helping U.S. Businesses Increase Global Sales to Support Local Jobs. Retrieved from <https://www.trade.gov/publications/pdfs/nes2016.pdf>
- North, D. C. (1955). Location theory and regional economic growth. *Journal of Political Economy*, 63(3), 245-258.
- Oleinikova, I. N., & Kholodkovskaya, N. S. (2017). Import substitution in the system of mechanisms for sustainable development of the regional economy. *Bulletin of the Taganrog Institute of Management and Economics*, 1(25), 16-24. [in Russ.].
- Osipov, V. S. (2017). The role of import substitution in the formation of a new development model. *Intelligence. Innovation. Investments*, 5, 24-31. [in Russ.].
- Pred, A. (1966). *The spatial dynamics of U.S. urban-industrial growth, 1800-1914; interpretive and theoretical essays*. The Regional Science Studies Series. Cambridge, Mass.: M.I.T. Press.
- Prilepsky, I. (2017). Factors of the dynamics of export and import substitution after a sharp weakening of the national currency. *Economic policy*, 12(3), 100-133. <https://doi.org/10.18288/1994-5124-2017-3-04> [in Russ.].
- Romanoff, E. (1974). The economic base model: a very special case of input-output analysis. *Journal of Regional Science*, 14(1), 121-129. [in Russ.].
- Shaffer, R. (1989). *Community economics: economic structure and change in smaller communities*. Ames: Iowa State University Press.
- Shaffer, R., Deller, S. C., & Marcouiller, D. W. (2004). *Community economics: linking theory and practice*. Ames, Iowa: Blackwell Publishing.
- Shaldenkova, T. Yu. (2017). Catching up development: ASEAN experience and Russian import substitution policy. *Vestnik RUDN. International Relations*, 17(3), 539-554. <https://doi.org/10.22363/231306602017173539554> [in Russ.].
- Shuman, M. (2000). *Going local: creating self-reliant communities in a global age*. New York: Routledge.
- Strategy for 2015-2018 (2015). Retrieved from <https://www.eas.ee/wp-content/uploads/2015/11/EAS-Strategy-for-2015-2018.pdf>
- Wilkinson, T. J., Keillor, B. D., & d'Amico, M. (2005). The relationship between export promotion spending and state exports in the U.S. *Journal of Global Marketing*, 18(3), 95-114.
- Zverev, Y. M. (2009). Economic globalization, internationalization of production and the formation of international production networks. *IKBFU's Vestnik*, 1, 23-27. [in Russ.].