The Role of Industrial Production Localization in the Import Substitution Policy*

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Abstract. The article is devoted to defining the role of localization of industrial production in the implementation of the import substitution policy. The methodological framework of the research consists of the system approach, methods of structural, object, functional, and statistical analysis, as well as the method of expert estimations. The article reviews the concept of “import substitution” and “localization”; it is concluded that the implementation of the import substitution policy is inextricably linked with the localization. It provides examples of successful localization policy in individual industries (automotive, pharmaceutical and railway engineering), proves its effectiveness in creating high-tech industries for industrial output. The mechanism of localization in the railway engineering sector, whose competitiveness is currently provided largely by imported technology, is discussed in the case of locomotive engineering and rolling stock manufacturing for high-speed operation. There is an example of successful implementation of the import substitution policy in the framework of catching up development of the Ural railway engineering cluster — including foreign technology in order to establish in Russia firstly assembly and later localized production of foreign technology based on domestic materials, components, and resources. It has been determined that basic conditions for localization are availability of capital, availability of technology, production capacity and availability of market. The paper examines the legal framework for promoting import substitution in Russia and its regions, presents an overview of legislatively mandated programs, concepts and development plans for import substitution in Russian constituent entities. The authors demonstrate that the implementation of the import substitution policy in the regions is based on creating and developing special economic zones, clusters, industrial and technology parks; however, regulatory documents in the regions do not pay enough attention to localization issues. It is concluded that Russia’s import substitution based on localization is a platform for economic diversification and transition to production of high value added technological products. Separate research concepts are used for developing the Strategy of the Ural railway engineering cluster and the Sverdlovsk Oblast cluster for transport and logistics. The research results can be used in further research of the effectiveness of implementing the import substitution policy and economic modernization in Russia and its constituent entities, as well as by federal and regional authorities in drafting and adopting strategic documents of regional development and stimulating import substitution.

Key words: import substitution, localization, regional policy, economic modernization, industrial production, technological development.
should be aimed at developing of Russian products in order to replace imports (import substitution) and, as a consequence, increase the volume of domestic products (production localization). In this regard, the purpose for the study is to determine the role of localization of industrial production in the import substitution policy based on systematization of theoretical and methodological approaches to the definition of localization, to systematize localization experience in specific industries and study the legal framework for promoting import substitution in Russia and its regions.

**Theoretical and methodological substantiation of the role of production localization**

The category of “import substitution” has lately received increased attention from both public authorities and scholars. In particular, import substitution is regarded as a type of industrial policy aimed at replacing imported industrial goods with domestic ones [15]. Production of commodities similar to the imported ones and reduction or elimination in this context of their imports is a different approach to the definition of import substitution1. At the same time, these products should possess higher consumer properties, their price should be lower that of the imported ones [10]. V.V. Zaryankin formulates three alternative approaches to the definition of import substitution [8]. Import substitution may be regarded as: an economic category representing a system of economic relations aimed at substitution of the imported goods; an economic process where increased production, consumption and exports of domestic goods and services take place amid reduced consumption of similar imported goods and services; public economic policy on rationalization and optimization of the imports of goods and services by promoting local producers.

The key success factor for the implementation of the policy of import substitution is often export-oriented localization and not only focused on import substitution. The substitution must be a tool of economic policy whose result must be the support of the development of enterprises whose products are aimed for the domestic market, and further improvement of the export potential of companies to occupy a niche in the global production market [6, 19].

In Russia, the concept of “localization” began to be widely used in the early 2000s along with the increasing interest of foreign investors to our market. Lack of serious competition on the part of domestic manufacturers, along with rapid economic growth and potentially large market made Russia attractive to international corporations, which resulted in the establishment of multinational industries [14].

There are various interpretations of the term “localization” in recent scientific publications. A.M. Vaz’yanskii and S.Y. Obydennova define localization of production as the process of producing original goods of foreign origin on the territory of another country [4]. According to A.N. Makarov, localization involves the supply to foreign companies of components produced on the national territory on the basis of previously existing industries by local producers [13].

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A number of authors develop this approach with an emphasis on opportunities to reduce the prime cost by saving on transaction and transport costs, taxes and costs for the development of technological solutions [17]. I.D. Kotlyarov considers localization as a complex phenomenon representing the development by foreign companies of their own production capacity on the territory of the country. At the same time, domestic manufacturers are mastering a certain number of production stages of the final product (from one to a full cycle) [9]. Based on this interpretation of the term “localization” D. Kotlyarov distinguishes between the following forms: primary, secondary, and tertiary localization depending on the number of production stages, their technological complexity, market characteristics, etc. We agree with the author that the national economy need to focus on the third stage as it gives an opportunity to form our own global value chain and enter the global market with the final product (Tab. 1).

According to V.K. Akinfiev, the term “production localization” means the process of transferring technologies to the territory of Russia, their adaptation and organization of assembly production of samples of foreign equipment with partial manufacturing of particular parts and components at Russian enterprises [2]. The degree of production localization characterizes the share of costs of Russian companies in the total production cost of equipment sample.

The concept of “localization” is inextricably linked with the concept of “production” used in economic geography. One may say that localization is a special case of location with a number of features. From our point of view, the essence of production localization lies in the supply by local manufacturers of parts and components manufactured within the country on the basis of previously existing or newly established industries to foreign companies. The framework conditions for localization are: availability of capital, availability of technology and production capacities, and availability of market. The main role of localization in import substitution in the region is modernization and creation of new industries in the country, increased production of imported

<table>
<thead>
<tr>
<th>Stage of localization</th>
<th>Content of the stage</th>
<th>Result of localization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary localization</td>
<td>The final stage of production of the finished product is transferred to the territory of the country</td>
<td>Creation of new jobs, increased tax revenues, easier consumers’ access to the final product. Only the stage of assembly of the final product is localized, no real import substitution</td>
</tr>
<tr>
<td>Secondary localization</td>
<td>Domestic producers form a local supply chain replacing certain links in the overall chain</td>
<td>Measures of direct and indirect incentives for foreign producers and potential domestic suppliers of individual components for the final product</td>
</tr>
<tr>
<td>Tertiary localization</td>
<td>National value chains are formed aimed at the release of final export-oriented product in the country created from domestic subcontractors serving the needs of localized foreign manufacturers</td>
<td>Formation of own value chain leading to production of the final product</td>
</tr>
</tbody>
</table>
products equivalent to foreign ones, more technologically sophisticated with the use of foreign technology; increased export potential of such products, preservation and creation of new jobs.

**Domestic experience of localization in particular industries**

A successful example of the localization policy is the promotion of domestic goods in the automotive industry. Since the beginning of the 2000-s, Russia has imposed reduced customs duties on imported automotive products provided that the importer relocates part of its production to Russia. The producers were also supported through signing of investment contracts providing for certain obligations (e.g. an obligation to annually increase the share of local value added and production of a certain amount of goods), and the Russian Government, in turn, received a zero duty on imported components necessary for production. Such benefits are applied today in almost all spheres of the automotive industry (cars, trucks, car parts). The level of localization at motor plants ranges from 30% (Toyota) to 95% (Chevrolet (Niva)) [7]. The largest automotive clusters have formed in the Volga region, in the North-West and the center part of the country (Figure).

The pharmaceutical industry also demonstrates the growth of localization. The objective to increase by 2018 the share of vital domestic pharmaceuticals to 90% set by the President of the Russian Federation is almost complete: 76% of pharmaceuticals on this list are produced in the country. Moreover, an active process of clustering of the pharmaceutical industry is taking place. The total number of cluster projects is close to fifteen. The main characteristics of the pharmaceutical cluster are presented in Table 2.
The policy of localization has proven effective in creating high-tech industries in manufacturing products of railway engineering. Consumers of railway equipment place demands on its quality and performance parameters. The demand for locomotives, wheeled containers, units and components of outdated design will weaken; therefore, among mechanical engineering companies only those will survive who provide their consumers with modern products. The most obvious way of obtaining the necessary technology is the search for strategic partners, technology transfer and subsequent localization [5].

Let us consider the mechanism of localization in the case of certain sectors of the Russian railway industry whose competitiveness is currently largely ensured by foreign technology: this is locomotive engineering and rolling stock for high-speed rail. In recent years in Russia there appeared a number of new series of traction rolling stock: locomotives, electric locomotives and electric trains whose production is mastered in the framework of joint ventures with foreign manufacturers (Transmashholding CJSC and a French company Alstom Transport, Sinara Group JSC and a German company Siemens).

Sinara Group JSC unites enterprises of different sectoral focus. One of priority business directions of the company is mechanical engineering. The engineering holding of Sinara-Transport machines JSC includes Ural locomotives JSC whose key activity is production of freight DC and AC locomotives, electric trains “Lastochka”. The manufacturing is based on Siemens technology with gradual localization of production.

The first project of the company in electric locomotive engineering was the manufacturing of electric locomotives with asynchronous traction engine “Granit” (series 2es1). In 2015, the level of its localization reached 80%. More recent developments of the company include TMH-EP20 and 2ES5 locomotives: their level of production localization in 2015 reached 55 % and 45 % respectively. It is planned to achieve the 80% level of local production for EP20 in 2017, and for 2ES5 – by 2020.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Russian constituent entity</th>
<th>Year of establishment</th>
<th>Number of participants</th>
<th>Included/Non included in the list of pilot territorial innovative clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceutics, biotechnology and biomedicine</td>
<td>Kaluga Oblast</td>
<td>2012</td>
<td>&gt; 50</td>
<td>Included</td>
</tr>
<tr>
<td>Altai biopharmaceutical cluster</td>
<td>Altai Krai</td>
<td>2008</td>
<td>&gt; 10</td>
<td>Included</td>
</tr>
<tr>
<td>Tomsk Oblast cluster of pharmaceutics, medical equipment and information technology</td>
<td>Tomsk Oblast</td>
<td>2013</td>
<td>&gt; 50</td>
<td>Included</td>
</tr>
<tr>
<td>Innovative cluster of information and biopharmaceutical technology of the Novosibirsk Oblast</td>
<td>Novosibirsk Oblast</td>
<td>2013</td>
<td>&gt; 60</td>
<td>Included</td>
</tr>
<tr>
<td>Pushchino biotechnological innovation territorial cluster</td>
<td>Moscow Oblast</td>
<td>2012</td>
<td>&gt; 70</td>
<td>Included</td>
</tr>
<tr>
<td>Saint Petersburg cluster of medical, pharmaceutical industry and radiotechnology</td>
<td>Leningrad Oblast</td>
<td>2011</td>
<td>&gt; 10</td>
<td>Included</td>
</tr>
<tr>
<td>Ural biomedical cluster</td>
<td>Sverdlovsk Oblast</td>
<td>2010</td>
<td>&gt; 40</td>
<td>Not included</td>
</tr>
</tbody>
</table>
The most important direction of enterprise’s activity is manufacturing of Desiro RUS high-speed trains (“Lastochka”) launched in May 2013. The contract with Russian Railways JSC provides for strict conditions of localization of component production. The level of localization from the launching of production was expected to reach 55%, and by 2017 – 80%. By 2014, around Ural Locomotives have formed a cluster of more than 100 Russian suppliers of parts and components capable of operating according to international standards, adapting technology to customer needs and Russian conditions; the degree of localization reached 62%. In 2016, the level of localization of production of “Lastochka” was more than 70%, it is expected that in 2017, the localization will reach the target level of 80%.

At this enterprise, the first and the second form of localization became the stages of transition to tertiary localization. The complexity of tertiary localization explains the situation with components. Increased importance of components is determined by industry-specific features of railway engineering, i.e., its technological complexity and significant metal consumption. At the same time, according to strategic documents of transport engineering development, there is no serial production of components in the country; without it, it is impossible to create technology corresponding to international standards. The share of foreign components in most manufactured types of machinery and equipment is 10–25%, in some cases – up to 80% of production costs. To create a modern production enterprises of transport engineering are forced to buy components of foreign production. Russia does not possess technology for serial production of components.

Given the existing experience, the main direction of the industry development in the near and medium term is production of modern rolling stock, including fast and high-speed rail traffic, in the required volume using foreign experience, taking into account Russian conditions and localization of the third type.

The activity of the Ural cluster of railway engineering is an example of successful implementation of the catching-up import substitution policy: with the use of foreign technology in order to establish in Russia assembly and then localized production of foreign technology on the basis of domestic materials, components, and resources (labor, raw materials and energy) [17]. The strategic goal of import substitution in sectors of railway engineering is to create new types of products which would provide Russia’s technological equality along with advanced countries in transport development, and active influence on the world market of technology and knowledge-intensive products.

Thus, localization stimulates the emergence of Russian producers of final products with new technology and imposes requirements...
applicable to providers at different levels. Producers of the final product focus producers of materials, logistics, service and financial institutions and thus form clusters [13].

**Study of the legal framework in promotion of import substitution in Russia and its regions**

Analysis of domestic experience of import substitution suggests that in Russian constituent entities, producers of import-substituting goods are supported in various ways: favorable environment (legal, administrative, financial, etc.), various regional preferences, formation and development of related infrastructure; promotion of local producers on the Russian market, assistance in cooperation with federal authorities, etc.

However, the emergence of individual programs of import substitution in a number of regions, large departments, companies and enterprises is more political in nature; regional and sectoral programs of import substitution often become inconsistent and contradict each other. The result is more severe restrictions than those specified in applicable federal regulations, or the expanding range of goods and services falling under restrictions [1].

The study of the regulatory framework in promoting import substitution in Russia and its regions indicates that the introduction of import substitution measures is observed. A condition for success in this direction is the development of appropriate legal acts, including programs of import substitution at both federal and regional level [16]. Most regions adopted plans to ensure sustainable economic development and social stability, plans to promote import substitution (action plans) ([Tab. 3](#tab3)).

### Table 3. Legal acts of Russian constituent entities regulating the processes of import substitution

<table>
<thead>
<tr>
<th>RF constituent entity</th>
<th>Legal act</th>
<th>Localization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Astrakhan Oblast</td>
<td>Import substitution program of the Astrakhan Oblast for 2015–2017</td>
<td>Yes</td>
</tr>
<tr>
<td>Vladimir Oblast</td>
<td>State program “Development of industry in the Vladimir Oblast, raising its competitiveness and ensuring import substitution for 2015–2020”&lt;sup&gt;1)&lt;/sup&gt; Sub-program “Development of intra-oblast and inter-regional cooperation, promotion of import substitution”</td>
<td>No</td>
</tr>
<tr>
<td>Penza Oblast</td>
<td>Import substitution and expansion of production release program of the Penza Oblast for 2015–2017&lt;sup&gt;2)&lt;/sup&gt;</td>
<td>No</td>
</tr>
<tr>
<td>Sverdlovsk Oblast</td>
<td>State program “Development of industry and science in the Sverdlovsk Oblast up to 2020”&lt;sup&gt;3)&lt;/sup&gt; Sub-program “Development of import substitution and production cooperation in industries in the Sverdlovsk Oblast”</td>
<td>No</td>
</tr>
<tr>
<td>Chelyabinsk Oblast</td>
<td>State program “Development of import substitution and production cooperation in industries in the Chelyabinsk Oblast for 2015–2020”</td>
<td>No</td>
</tr>
<tr>
<td>Chuvash Republic</td>
<td>Program of the Chuvash Republic “Economic development and innovation economy for 2012–2020”&lt;sup&gt;4)&lt;/sup&gt; Sub-program “Development of import substitution in specific economic sectors of the Chuvash Republic”</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Concepts

<table>
<thead>
<tr>
<th>Oblast</th>
<th>Concept of import substitution in the Oblast for 2015–2017 and plan of measures for promoting import substitution in the Oblast for 2015–2017</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saratov Oblast</td>
<td>Concept of import substitution in the real economic sector of the Saratov Oblast</td>
<td>No</td>
</tr>
</tbody>
</table>

### Plans

<table>
<thead>
<tr>
<th>Oblast</th>
<th>Action plan to promote import substitution in the Oblast for 2015–2017</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altai Krai</td>
<td>Action plan to promote import substitution in Altai Krai up to 2020[7]</td>
<td>Yes</td>
</tr>
<tr>
<td>Belgorod Oblast</td>
<td>Action plan to promote import substitution in the Belgorod Oblast for 2016–2018</td>
<td>Yes</td>
</tr>
<tr>
<td>Voronezh Oblast</td>
<td>Plan to promote import substitution in industry for 2016–2018</td>
<td>Yes</td>
</tr>
<tr>
<td>Irkutsk Oblast</td>
<td>Plan to promote import substitution for 2016–2018</td>
<td>No</td>
</tr>
<tr>
<td>Kursk Oblast</td>
<td>Regional plan on import substitution in the Kursk Oblast for 2016–2020[8]</td>
<td>No</td>
</tr>
<tr>
<td>Saratov Oblast</td>
<td>Plan to promote import substitution in the real economic sector of the Saratov Oblast for 2015–2016[10]</td>
<td>No</td>
</tr>
<tr>
<td>Republic of Tatarstan</td>
<td>Action plan to develop import substitution in the Republic of Bashkortostan for 2016</td>
<td>Yes</td>
</tr>
<tr>
<td>Vologda Oblast</td>
<td>Regional plan on import substitution in the Vologda Oblast for 2016–2020[13]</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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The Role of Industrial Production Localization in the Import Substitution Policy

Programs for the development of import substitution are implemented in six Russian regions (the Chelyabinsk, Sverdlovsk, Astrakhan, Vladimir, and Penza oblasts, the Chuvash Republic). In the Volgograd and Saratov oblasts, concepts of import substitution were adopted and currently operate. About ten Russian constituent entities have not yet adopted such documents (Republic of Tyva, Krasnoyarsk Krai, the Magadan Oblast, Chukotka Autonomous Okrug, etc.). In some constituent entities, promotion of import substitution is conducted through plans to promote import substitution; programs of socio-economic development; regional sectoral programs and other documents [3].

According to the table, localization in regulatory documents of regions is not paid sufficient attention. As a rule, these papers devoted to the issue of localization of production are declarative. For example, the action plan on import substitution in the Republic of Tatarstan states the necessity of creating favorable conditions for production localization of priority products for enterprises with attraction of foreign partners; in the Chuvash Republic, one of the major actions on the development of import substitution is the creation and localization on the territory of the Republic of new enterprises producing import-substituting goods or proprietary products with further export orientation.

There are four possible organizational forms of localization differing in sources of investments and technology (Tab. 4) [13].

During project implementation, the investor selects the supplier of domestic equipment, imported counterpart or the purchase of a localized product on the territory of the country. In recent years, developing countries and countries of South-East Asia and South America implementing the policy of production localization, have considerably increased their influence in the world. Considering these countries as new markets, transnational corporations demonstrate their growing interest in their companies, which helps the leadership of these countries dictate terms to foreign investors.

Conclusion

The implementation of the import substitution policy is aimed at solving key issues of the Russian economy – insufficient
competitiveness. Localization as one of the main tools of import substitution encourages the development of knowledge-intensive industries, creates new jobs and new industries on the country’s own territory.

Analysis of the legal framework in the sphere of promoting import substitution at the national and regional levels has shown that regions are actively involved in the development of regulations encouraging the development of import substitution, they implement measures on import substitution. However, the issues of localization of industrial production are not fully covered in the documents. Inconsistent and sometimes contradictory regulations are also noted.

The industrial policy should be aimed at developing production of Russian goods, which should replace imported goods (import substitution) and, as a consequence, increase the volume of domestic production (production localization).

For Russia import substitution on the basis of localization of industrial production is a platform for economic diversification, the end of the era of oil and gas dependence, and the transition to production of high-value-added technology-intensive products. Increasing the number of operating enterprises located in the country provides opportunities for economic growth, attracting new technology, and creating jobs.

References


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