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The policy of import substitution as the basis for economic security and well-being of society

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Abstract. The study presents the analysis of import substitution opportunities on separate branches of economic activity, preceding the realization of import substitution policy with the aim to support national economic security, which is essential for the contemporary society welfare insurance. Currently, social well-being is considered to be the reflection of economic activity, the instrument of state influence on the society, as well as an indicator of the social security system. Due to the fact that Russia is integrated into the world economy, the foreign-economic policy currently is playing an important role in the development of national security and the state's interest to the spheres of economy considering external and internal threats. Decline in external economic conditions may result in serious consequences for the functioning and development of the country as well as for the trade and investment activities, which will further lead to the decline in export, withdrawal of capital, recession of industrial production, trade and investment sphere, fall of GDP and living standards. Thus, considering the current state of instability in the world economy and the growing political tension in relation to Russian Federation, the measures to increase economic security in the country should be taken. The policy of import substitution is considered to be one of the major solutions nowadays.

1. Introduction

Economic security is traditionally considered to be the most important qualitative characteristics of economic system which defines its ability in the maintenance of high standards of living, steady provision with the resources of national economy development, as well as in the consecutive realization of the national interests [1]. Under the conditions of world economy instability and growing political tension in relation to Russian Federation, the measures to increase the economic security in the country should be taken. The policy of import substitution (IS) is considered to be one of the major solutions nowadays.

2. The need for import substitution policy

There are two main features of IS: competitiveness and economic effectiveness. This research is aimed at the revealing of the basic aspects of these features, not only at the detailed theoretical analysis. The development of competitiveness, as a means to leave the competitors behind, is a strategic goal and the basis of sustainable socio-economic growth of any country, but the development of "knowledge economy" is the major aspect influencing the growth of the competitiveness. [2] Thus, in order to analyze the IS in terms of economic security it is necessary to investigate not only the level of competitiveness in the areas of concern, but also the level of innovations.

Besides, while speaking about the economic efficiency it is necessary to consider the fact that from the point of view of international trade theory, the structure of foreign trade of any country basically depends



on the structure of economy, which in its turn is defined by the features of the country recourses. [3]

The country will have a competitive advantage (mainly in price) in case when it is producing goods from the resources which are in abundance. If the production of the product involves scarce and therefore expensive resources, it will be imported. In realization of IS policy it is important to understand that the goods which are producing in accordance with such policy are likely to be more expensive than the imported alternative. The protectionist policy under the conditions of multilateral trade agreements between various organizations such as WTO could lead to the serious consequences. Thus, for the successful realization of the IS policy it is necessary not only to increase the level of competitiveness, which will enable to squeeze the competitors from national market, but also to implement the investment policy (basically the state support) at the enterprises producing goods which are analogous to the imported ones. Consequently, while analyzing the IS, apart from the evaluation of the innovation and competitiveness level, it is also important to consider the level of investments into the troubled branches of economic activity. [4]

Thus, *the following analysis will include three main parts: the study of competitiveness level, innovations and investments in accordance with the highly dependent on import branches of economic activity.*

The development of efficient IS policy requires, first of all, objective evaluation of the degree of the country's dependence on import, detection of the most dependent on import branches of economic activity and the degree of readiness to import substitution. This will precede the research of the *competitiveness level, innovations and investment.*

To define the dependence of Russian economy on import, it is necessary to calculate the share of import in different branches of economic activity (table 1). For calculation, the data were taken at current prices [5] according to purchasing-power-parity exchange rate [6].

Table 1. The share of import in domestic consumption on RNCEA, %.

Code		2005	2010	2012	2013
	In whole consumption	6.72	9.33	11.77	11.54
01	Agriculture, hunting	11.47	18.76	20.19	20.86
02	Forestry, logging	0.52	0.10	0.18	0.27
05	Fishing, operation of fish hatcheries and fish farms	27.34	62.74	186.60	289.92
11	Extraction of crude petroleum and natural gas	0.11	0.25	0.40	0.24
12	Mining of uranium and thorium ores	0.00	0.01	0.13	0.27
13	Extraction of metallic minerals	13.00	9.75	26.62	29.35
14	Extraction of other mineral resources	4.62	7.76	10.08	9.72
15	Manufacture of food products and beverages	13.04	16.93	18.39	18.38
16	Manufacture of tobacco products	5.30	3.64	2.48	3.41
17	Manufacture of textiles	61.97	65.24	77.78	79.05
18	Manufacture of wearing apparel; dressing and dyeing of fur	67.46	82.59	89.20	90.20
19	Manufacture of leather and leather products, including footwear	31.51	50.23	57.33	61.97
20	Manufacture of wood and wood products, except furniture	10.04	19.53	31.71	40.80
21	Manufacture of pulp, paper and paper products	42.08	44.32	53.50	63.81
22	Publishing, printing	6.83	10.34	12.78	13.30
24	Manufacture of chemicals and chemical products	50.75	69.77	83.37	107.11
25	Manufacture of rubber and plastic products	50.14	51.79	62.70	66.53
26	Manufacture of other non-metallic mineral products	10.62	17.11	19.59	20.92
27	Manufacture of basic metals	14.23	34.00	62.83	88.52
28	Manufacture of fabricated metal products	28.30	37.00	45.98	50.03
29	Manufacture of machinery and equipment	55.30	67.33	76.33	80.78
30	Manufacture of office machinery and computers	84.91	88.30	90.26	92.87

31	Manufacture of electrical machinery and apparatus	45.39	64.44	76.24	80.90
32	Manufacture of radio, television and communication equipment	66.06	73.84	77.44	80.41
33	Manufacture of medical equipment, instruments and appliances for measuring, checking, testing, navigating and other purposes	31.60	39.67	47.58	43.59
34	Manufacture of motor vehicles, trailers and semi-trailers	7.35	7.45	5.51	6.44
35	Manufacture of aircraft and spacecraft and other transport equipment	55.86	59.90	71.13	65.30
36	Manufacture of furniture and goods, which are not included into the other groups	32.42	41.25	57.37	59.76
37	Recycling	5.85	9.20	12.28	11.92
40.1	Production and distribution of electricity	0.37	0.06	0.10	0.17

Before the data analysis, it is necessary to define the criteria explaining the necessity of IS. For this purpose, the current legislation could be applied, where these criteria are registered only for a limited branches of activity. For example, in forestry sector this share will go down to 10 % by 2020; in paper, cardboard and furniture manufacture – to 10.5 % and 10. 7% respectively [7]. In food products the share will go down in average up to 3-15% by 2020 (the share of Russian production must be: in sugar up to 96.7%, in vegetable oil – 84%, meat and meat products – 88.3%, in fish products – 82%, in milk and milk products – 85.3) [8]. Thus, regarding the necessity of IS, the branches of economic activity with the criterion from 15% and higher could be considered. The index share of IS could be more than 1 (100%) if the production requires semi-products or constituting parts which are included in the production of export goods.

3. Innovative parameters and indexes of competitiveness

Basing on the analysis, the basic types of troubled economic branches with a different degree of dependence (marked in Table 2) could be defined - the manufacture of metals, chemicals and chemical products, machinery and equipment, textile manufacture, fishing and fish farms, wood manufacture. These branches will further be viewed in more detail in the next analysis.

Three types of branches could be distinguished basing on the indexes of competitiveness in Russian national economy:

1) competitive branches: oil and gas industries, forest industry, diamond industry, ferrous and non-ferrous industries, power industry. These branches have powerful raw materials base and they make up approximately 75% of Russia's export.

2) semi-competitive branches: aerospace industry, atomic industry, heavy engineering industry, wood-pulp and paper industry, power machine building, production of metalware, food manufacture, food industry, fish industry.

3) noncompetitive branches: machine-tool industry; manufacture of high-tech_consumer electronics; equipment for metal manufacture, petroleum and chemical manufacture, wood and paper manufacture; agricultural machinery industry, light industry.

The main conclusions on the competitiveness of import dependent branches of economic activity are given in the final table.

The provision of competitive IS requires serious investments in the development of local competitive industries. Deprecation of the main reserves in Russia is about 50% in total (in 2005 it was 45.2%, in 2013 – 48.2%) [9].

The worst indexes, according to the deprecation degree data of basic funds of Russian Federation commercial organizations on the types of economic activity (especially from the point of view of IS), belong to the fish industry and fish farming – in 2010 the deprecation was 60.3%, by the end of 2013 this index lowered, but it is still considerable – 51.3%. In the other branches under the analysis, this index is slightly lower, but on the whole it is close to the average index in Russia. [10]

According to the FSSS data [10], the investment in the analyzed branches was 7.2% (in 2005) from the total value of investments into the main capital all over the Russia. During the next years, the volume gradually increased, but considering the volume of investments in whole, the share of investments in these branches decreased to 5.3% by the end of 2013.

The lag in metallurgical production is more notable (1.5 percentage points in 2013 in comparison with 2005). The share of investment in fish industry and fish farming, in manufacture of textile and clothing, as well as (with little decrease in 2010 and 2011) in manufacture of electrical and optical equipment was not changing over a period from 2005 to 2013.

Only the manufacture of chemicals and chemical products showed a little increase of the investment share by 0.1 percentage point (at the same time, in 2010 and 2011 it also decreased).

In all analyzed branches the main sources of investments are the own company's funds. The highest share of the own funds is in the manufacture of machinery and equipment, in the manufacture of electrical and optical equipment (70.8 and 72.5% respectively in 2013), in the manufacture of basic metals (66.2 % in 2012 r. and 69.2 % in 2013), in fishing and fish farms (72.7% in 2012 and 51.9% in 2013). [10]

It should be noted that the financial investments of the organizations of the analyzed types of economic activity are mainly the short-term investments [11].

It is a big challenge for the company to cope with IS increase with its own funds due to the fact that the money should be invested not only in the recovery of the deprecated reserves, but also in the modernization. It is essential to develop new innovative technologies [12] for the provision of the competitive production for further replacement of the imported products with the domestic ones, which will be put to the global market.

Russian researches also note Russia's lag in many innovative parameters. For example, insufficient level of national scientific and technical potential and effectiveness of its use. This points at an extremely low level of our economy innovativeness [13].

The share of innovative products is very low in most of the analyzed spheres. [14], [15] Only the manufacture of chemicals and chemical products shows a relative increase of the indexes (from 4.8% in 2010 to 9.2% in 2013). But even these index fall (from 11.9% in 2010 to 9.6% in 2013). According to the FSSS data in 2013 there was an increase in the production of electrical and optical equipment - 10.7%. In other branches it is much lower. Thus, in the manufacture of textiles and clothing it was 2.9% in 2010, but in 2013 it decreased to 2.4%. Compare: the unit weight of new for the innovative products market goods (in total amount of shipped goods of innovation-active enterprises) was 12% in Great Britain, 14% in Hungary, 14.1% in Germany, 15.4% in Portugal [8].

As for the costs on innovative activity, only the metal manufacture has a higher index in comparison with the other branches in the analyzed sector. Its dynamics is negative: 18.9% in 2011, 15.0% in 2012 and 8.2% in 2013 – thus, the decrease is more than 10% in 3 years only! In other branches this index is much lower (from 0.1% in the textiles and clothing manufacture to ≈ 9 % in the manufacture of chemicals and chemical products).

Considering the given indexes, it is very hard to talk about a really effective import substitution as well as to ensure the competitiveness product on the branches of economic activity experiencing currently the high import dependence.

Table 2. Analysis of IS possibilities on RNCEA.

	Branches	Import quota in domestic consumption		Competiveness [16],[17],[18]		Innovations		Investments	
		Level	Dynamics	Level	Dynamics	Level	Dynamics	Level	Dynamics
1	Manufacture of metals	high	–	high	–	high	–	low	–
2	Manufacture of chemicals and chemical	high	–	high	–	average	–	low	+

	products								
3	Manufacture of wood and wood products, except furniture	high	–	low	0	very low	–	low	+
4	Manufacture of machinery and equipment	high	–	low	–	average	0	low	+
5	Fishing, operation of fish hatcheries and fish farms	high	–	high	–	-	–	low	0
6	Manufacture of textiles and clothing	high	–	low	+	very low	0	low	0
7	Manufacture of electrical and optical equipment	high	–	low	–	high	0	low	0

Basing on the data given in Table 2 it could be noted that the dynamics of import quota is negative for all troubled branches of economic activity as well the level of investments. Taking this into consideration, the branches with the high or average level of competitiveness and innovation activity could be referred to the branches of economic activity, which are open for IS and where economic security threat free IS policy could be implemented. These branches are – the metal manufacture (against the negative dynamics), the manufacture of chemicals and chemical products and fish industry. The realization of the IS policy in the other branches is impossible without serious government program and government financing, otherwise this could result in the threat to the country's economic security. The results of the research indicate to the necessity of serious analysis of IS opportunities on separate branches of economic activity, preceding the realization of IS with the aim to support the national economic security.

4. Conclusion

Considering the given indexes, it is very hard to talk about a really effective import substitution as well as to ensure the competitiveness of product of the economic activity branches experiencing currently the high import dependence.

To cope with this challenge, it is necessary to attract all possible funds, to involve both budget and extra budgetary funds in the investment process. Regional and municipal authorities could play a significant role by participating in the renewal and development of corresponding branches on their territory. This will allow to reach not only economic targets but also social ones, namely - to rise the employment level, to provide corresponding domestic goods, to rise the income and the standard of living.

References

- [1] Aslanova L, Batova B 2014 Goeconomic position of Russia in the world: problems and prospects. *Modern problems of science and education* **Vol. 2** pp. 1-9
- [2] Kravchenko N, Bobylev G, Valieva O, Fyodorov A 2013 Competitiveness on the Basis of Innovation: The International Position of Russia. *Studies on Russian Economic Development* **Vol. 5** pp. 90-101
- [3] Mukherjee S 2012 Revisiting the Debate over Import-substituting versus Export-led Industrialization. *Trade and Development Review* **Vol. 5** pp. 64 – 76

- [4] Elvin David 2008 An Analysis of Methods for Identifying Local Import Substitution Opportunities to Foster Sustainable Regional Economies. Master's Theses 1896 February 2014. Paper 141
- [5] Hand Books of statistics 2014 [Electronic resource]: [Official website] / United Nations Conference on Trade and Development (UNCTAD) – URL: <http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx> (reference date: 21.06.2014)
- [6] World Economic Outlook Database April 2014 [Electronic resource]: International Monetary Fund (IMF) – URL: <http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/weorept.aspx?sy=2003&ey=2012&scsm=1&ssd=1&sort=country&ds=.&br=1&c=922&s=PPPEX&grp=0&a=&pr.x=32&pr.y=4> (reference date: 28.09.2014)
- [7] About the approval of Russian Federation forestry industry development for the period to 2020 [Electronic resource]: Order of Ministry of Industry and Trade RF № 248, Ministry of Agriculture RF № 482 from 31 October 2008 – URL: <http://www.consultant.ru>
- [8] About the approval of Russian Federation food and recycling industry development for the period to 2020 [Electronic resource]: Decree of the RF Government from 17 April 2012 № 559-r – URL: <http://www.consultant.ru>
- [9] Federal State Statistics Service. [Electronic resource] // URL: <http://www.gks.ru> (reference date: 17.02.2015)
- [10] Investments in Russia 2013 Moscow, *Rosstat* 300 (in Russian)
- [11] Investment activity in Russia: conditions, factors, tendencies 2013 (in Russian) [Electronic resource] – URL: http://www.gks.ru/bgd/regl/b13_112/Main.htm (reference date: 17.08.2014)
- [12] Supporting Investment in Knowledge Capital, Growth and Innovation 2013 OECD, *OECD* 360
- [13] Mindeli L 2012 Science and Innovation in Modern Russia. *Energy: economics, technics, ecology* **Vol. 3** pp. 11-16
- [14] Indicators of Innovation in the Russian Federation 2013 Moscow, *National Research University "Higher School of Economics"* p. 472 (in Russian)
- [15] Falcman V 2014 Competitiveness of the basic types of Russian goods on the world market *Contemporary Europe* **Vol. 1** pp. 87-98 (in Russian)
- [16] Romanov V 2013 Modern condition and perspectives of forestry complex development *Regional problems of transforming the economy* **Vol. 2** pp. 37-46 (in Russian)
- [17] Tumalanov N, Ivanov V, Tumalanov E 2013 The impact of modernization on the competitiveness of the domestic manufacturers *The Bulletin of KrasGAU* **Vol. 8** pp. 14-18 (in Russian)