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The Economics of Russian Import Substitution

This policy brief discusses the economic mechanisms triggered by import substitution policies, associated losses and conditions that ensure positive economic effects. Numerical estimations of potential effects of Russian import substitution policies indicate a decline in GDP, decrease in output of unprotected sectors and consumers' welfare losses. We conclude with a discussion of the role imports play in economic efficiency.



Import substitution: pro and contra

Two years after joining the WTO, in the new political reality, Russia began implementing a series of import substitution policies. Supported sectors range from agriculture and production of metal products, to computer equipment and special purpose vehicles. The potential economic effects of these policies are of substantial interest and importance both for researchers, policymakers and the general public. However, they have not yet been quantitatively assessed. This policy brief summarizes the results of a study of these effects conducted at CEFIR in 2016 (Volchkova and Turdyeva, 2016).

Import substitution can be implemented by a range of instruments aimed at creating preferential conditions for domestic producers of imported goods compared to foreign competitors. Barriers to trade are the most common and easily available policy tools. Trade barriers lead to price increase on domestic market relative to the world price of the good.

Domestic manufacturers in the protected industry enjoy higher prices on domestic market, thereby securing higher revenues at the same costs. The protected sector also is able to put into operation those capacities that were generating losses in the absence of protective measures. However, if the economy works at full employment in absence of import substitution, then in order to increase production in the protected sectors, factors should be reallocated there from the other sectors. As a result of the import-substituting policy, producers in unprotected sectors will decrease the scale of production, and some will exit the industry. That is, producers that were efficient enough before import substitution policies will be forced out by those that cannot compete at international prices. From the point of view of welfare economics, this maneuver is accompanied by a loss of economic efficiency.

Economic literature discusses several cases when import substitution can be justified, such as a presence of positive external effects from protected sectors to the economy; learning-by-doing effects in protected sectors; and an infant industry argument. All of these cases imply market failures in the absence of government intervention, leading to lower than socially optimal output of the sector in question. Then, government interventions aiming to increase output – such as import substitution – might bring additional welfare improvement to the economy. If any of these effects do take place then the gain brought by protected sectors may compensate for the loss by the unprotected. To validate any of these cases one needs to perform a thorough and independent analysis of the economy based on very detailed information.

Estimates of static and dynamic effects of import substitution

In order to illustrate the potential effects of import substitution policies in the current Russian situation, we use a static CGE model of the Russian Federation constructed at CEFIR.

Based on publicly available documents (Russian Government's Decrees №2744-P 29.12.2015 and № 2781-p 31.12.2015), we identify the sectors that are targeted by the import substitution policy: agriculture and four manufacturing sectors (metal production; machinery and equipment; cars; sea crafts, airplanes and spaceships).

To model the effects of import substitution, we calculate an ad valorem tariff equivalent, which ensures a 10% decline of the volume of import in each of five industries. In order to simulate proposed policy measures, we conduct six experiments: increase in import tariffs in each of five industries individually, and a comprehensive policy change with an increase in all five tariffs simultaneously.



If import substitution policy is implemented not by trade policy instruments but only through producer support measures then it will be accompanied only by changes in relative prices for producers while consumer prices will not be affected and will be determined solely by international prices. In this case, our estimates will represent an upper bound of possible consumers' losses. Since the distortion of relative prices for producers do not depend on a particular instrument chosen to implement import substitution policy then the consequences for other sectors and for efficiency of the overall production will be the same under trade or domestic policy interventions.

Table 1 shows the results of our calculations. Columns (1) - (5) present the estimates of the effects of the import-substitution measures in the relevant sectors. Column (6) reports the results of the comprehensive policy reform.

Our results illustrate the anticipated effect of import substitution policy in economy with full employment. The protected industries increase their output at the expense of other industries. An increase in economic inefficiency is reflected by a fall in GDP.

In order to capture dynamic effects of the proposed import substitution policy, we simulate an import tariff increase in a Solow-type growth model calibrated for the Russian economy. The proposed policies result in a deeper economic decline in 2016 than in the baseline scenario (-0.76% in the baseline scenario and -0.79% in the import substitution scenario), followed by somewhat faster growth in subsequent years due to a lower base. The aftermath of the import substitution policy is still visible in 2020: GDP growth in 2020 relative to 2015 in the baseline equals 2.4365%, while the import restriction in all targeted industries will reduce economic growth in a five-year term by 0.007 percentage points, to 2.4295%. The numbers correspond to the expected reduction in economic efficiency as a result of the import substitution measures.

While numbers in terms of GDP do not look particularly large, the annual losses in GDP in nominal figures correspond to \$650 million in value added, which is roughly equivalent to 30,000 jobs lost in Russia due to import substitution. Besides, effect on growth adds to 5,000 more jobs lost over 5 years.

Table 1. Consequences of the decline in imports by 10% in the protected sector (s).

	Agriculture	Metals	Machinery, and equipment	Cars	Sea crafts, airplanes and space ships	Tariff change in all industries
	(1)	(2)	(3)	(4)	(5)	(6)
Ad valorem tariff equivalent, %	2.9	3.9	6.1	6.7	5.6	
Change in						
CPI, %	0.04	0.09	0.39	0.3	0.3	1.0
Protected sectors' output, %	0.7	2.5	9.8	10.3	8.3	3.8
All other production, %	-0.2	-0.4	-0.5	-0.2	-0.5	-2.3
GDP, %	-0.002	-0.011	-0.023	-0.005	-0.018	-0.049
Welfare, %	-0.015	-0.020	-0.074	-0.041	-0.080	-0.215



As we mentioned above these losses might potentially be justified by the positive external effect from an increased output of the protected industries on the rest of economy. To ensure this, the selection of industries for protection should have been done through independent expertise based on a thorough analysis of sectoral interaction over time. However, the way the economic policy is formulated in modern Russia, with heavy influence of lobbying groups and very little contribution from independent economic research, we can hardly expect that the industries targeted for import substitution satisfy the objective criteria of positive external effects.

Imports as drivers of competitiveness

Classical trade theory shows that imports are a major cause of gains from trade integration. Modern trade theory complements the classical mechanism by selection effects among heterogeneous firms when only the most productive firms are able to sell in foreign markets (Melitz, 2003).

Keeping in mind that a substantial part of manufacturing trade flows consists of intermediate products that are used as inputs in subsequent production (in the case of Russia, the share of intermediates in imports is more than 60%) then the above reasoning implies that the competitiveness of domestic production is determined, among other things, by the availability of cheap imports.

Numerous empirical studies for many countries confirmed that industries with a higher share of imported intermediate goods are more productive than industries with a lower share (Feenstra, Markusen, and Zeile, 1992). Recent studies, analyzing data at the level of individual firms (Bernard et al., 2012; Castro, Fernandes, and Farolec, 2015; Feng, Li, and Swenson, 2016), confirm that the effect takes place at firm level: firms importing more intermediate goods have

higher productivity than firms importing less, other things being equal, which suggests that imports of intermediate goods is an important source for the growth of firms' competitiveness.

A study conducted for Russian firms showed that labor productivity in Russian companies which import intermediate goods is 20% higher compared to similar firms not importing intermediates (Volchkova, 2016).

On this basis, we have every reason to believe that import is one of the sources of economic competitiveness that enhances effectiveness of the economy. Thus import substitution policies in the absence of objective information and a profound selection procedure for protected sectors, are harmful to the economy. In an open economy, the effect of the firms' selection and the availability of cheap imports ensure growth of sectoral productivity, but productivity declines in "protected" sectors. That is, while our estimates above assess the direct negative impact on Russian economic output and welfare from inefficient reallocation of factors of production, the implementation of import substitution policies also puts the Russian economy in a disadvantaged position relative to more liberal economies on the international markets due to forgone competitiveness. This creates additional obstacles for Russia on its way to export diversification and sustainable growth.

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