FREE NETWORK POLICY BRIEF SERIES

Aleh Mazol, BEROC
May 2016

Intermediate and Capital Goods Import and Economic Growth in Belarus

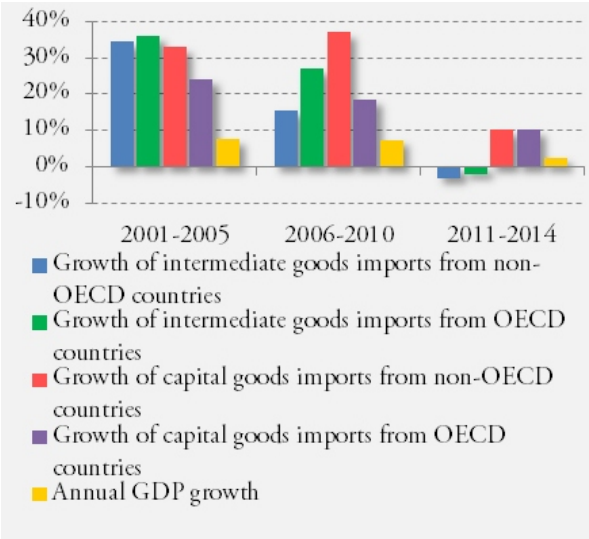
This policy brief presents estimation results of the influence of intermediate and capital goods (ICGs) imports on GDP growth taking into account changes in the exchange rate. The Belarusian economy substantially relies on ICGs imports, and my research indicates that imports of intermediate inputs negatively contribute to Belarus' economic growth. The findings suggest that a devaluation of national currency can negatively influence both GDP growth and imports of intermediate goods. The negative influence on GDP growth is caused by a lower price competitiveness of the export sector, and the negative influence on imports of intermediate goods is due to a significant increase in the costs of imports.

According to endogenous growth theory technological progress is a key factor that enhances long-run economic growth (Grossman and Helpman, 1994). However, in developing countries scarce commercial activities in R&D limit technological progress (Grossman and Helpman, 1991). From this point of view, imports of ICGs play the same role in the development of the Belarusian economy (taking into account the nature of Belarusian manufacturing, which is mostly to assemble finished goods) as R&D activities in developed countries by transferring foreign technology and innovations (Coe et al., 1997; Mazumdar, 2001). In turn, Belarusian economic policy related to imports of ICGs is seriously conditioned by the foreign exchange constraint.

Imports of ICGs and GDP Growth

Imported ICGs (excluding energy goods) account for approximately 55% of all Belarus' imports. Starting from 2001 up to 2010 high levels of GDP growth (7-8% on average) were associated with even higher growth levels of ICGs imports (see Figure 1).

Figure 1. Imports of ICGs in 2001-2014



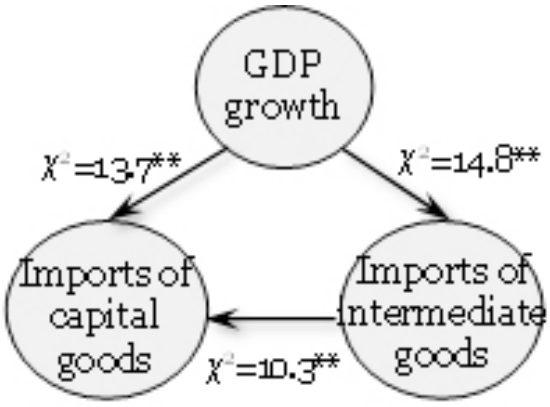
Source: Belstat.

However, from 2011, average growth rate of GDP has decreased significantly from 7% in 2006-2010 to 2% in 2011-2014. This was coupled with a substantial drop in the average growth rates of ICGs imports. All these may indicate an insolvency of the current import-led growth (ILG) strategy of Belarus.

Moreover, using an Autoregressive-Distributed Lag (ARDL) approach (Pesaran et al., 2001) to study the long-run relationship between ICGs imports and GDP growth, it was found that a 1% growth in imports of intermediate goods caused a 2.7% decrease in real GDP (Mazol, 2015). The effect of capital goods imports is statistically insignificant.

The Toda-Yamamoto (TY) causality test (Toda and Yamamoto, 1995) clarifies this result, indicating unidirectional causality running from economic growth to imports of intermediate goods, and further to imports of capital goods (see Figure 2).

Figure 2. TY Causality Test



*Note: * 10% level of significance; ** 5% level of significance; *** 1% level of significance. Source: Author's own estimations.*

Thus, instead of an ILG hypothesis, the findings establish presence of a GLI hypothesis for Belarus, supporting the view that for developing countries, trade is more a consequence of the rapid economic growth than a cause (Rodrik, 1995).

What is the intuition behind these results? The ILG strategy aims to improve efficiency and productivity, and can be appropriate only under two crucial conditions: first, it is necessary to acquire preferably advanced technology from abroad; and, second, there have to exist enough domestic technological capabilities and skilled human capital in order to successfully adapt new technologies from R&D intensive countries.

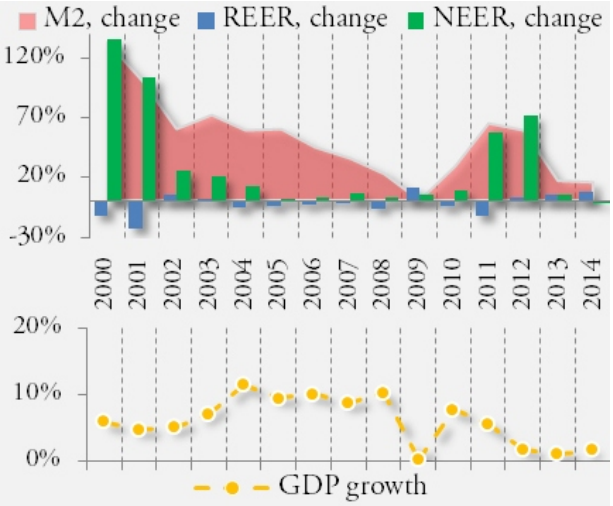
In Belarus, a violation of the first condition was caused by an ineffective industrial policy aimed to modernize state-owned enterprises (SOEs) (Kruk, 2014). In many cases, capital accumulation was accomplished without appropriate investment appraisal and efficient marketing strategies.

Furthermore, there is serious evidence against the second condition being fulfilled: the share of innovative goods of all shipped goods in the past 4 years have dropped by 5.5 percentage points – from 17.8% to 12.3% (Belstat); and the «brain drain» is still a big problem (mostly due to low salary levels in research areas).

Influence of Exchange Rate Policies

Through the cost of imported intermediates, the exchange rate has an important influence on the price competitiveness of the Belarusian economy. However, the Belarusian exchange rate has fluctuated widely since 2000s (see Figure 3). For example, between 2000 and 2014, the annual percentage change in the nominal effective exchange rate (NEER) has varied from approximately 135% to -2%, and the real effective exchange rate (REER) fluctuated between 23% and 11% annually.

Figure 3. The Exchange Rate 2000-2014



Source: Belstat, IFS.

The results from estimated ARDL models (Mazol, 2015) show that while a depreciation of the Belarusian currency negatively influences both the imports of intermediate goods and GDP growth, it does not have a statistically significant effect on the imports of capital goods.

Concerning the influence on intermediate inputs, the explanation is that there are two effects of exchange rate policy on trade. On the one hand, depreciation of national currency leads to growth in the domestic currency price of exports, which motivates national companies to expand production of exports – the derived demand effect. On the other hand, it increases the domestic currency price of imported intermediate inputs, decreasing the quantity of intermediate imports domestics companies can buy – the direct cost effect. The direct cost effect and the derived demand effect have opposite signs (Landon and Smith, 2007).

Additionally, devaluations in Belarus occur in most cases both to import source and export destination countries (first of all Russia). Thus, in the case of imports of intermediate goods, the impact of the direct cost effect is greater than the impact of the derived demand effect, leading to a negative effect on imports of intermediate goods.

Furthermore, the substantial reliance of the Belarusian export sector on imported inputs, combined with above-presented side effects, cause cost-push inflation in the export sector, which decreases its price competitiveness and, overly, the economic growth. This statement is confirmed by the fact that in the period 2002-2011, intermediate inputs were imported both under the permanent expansionary monetary policy and the fixed exchange rate policy (see Figure 3). As a result of such twin strategies, intermediate imports have become more and more expensive, while the price competiveness of Belarusian export goods have steadily declined (taking into account that most of its industrial part is shipped to Russia).

The reason why the exchange rate policy do not seem to have had an effect on capital goods imports is that machinery and equipment were typically imported in accordance with the government's modernization plans. The realization of these plans often disregarded the current macroeconomic situation in Belarus, and the imports were made just for the sake of importing (to accomplish the plan).

Finally, starting in 2012, depreciation of the Belarusian ruble coincided with the economic recession caused primarily by structural problems that hit the country (Kruk and Bornukova, 2013). Therefore, the increase in flexibility of exchange rate policy had no additional effect on ICGs imports and economic growth in Belarus.

Conclusion

The findings presented here indicate that trade (in terms of ICGs imports) is more a consequence of the rapid economic growth in Belarus rather than a cause. The influence of imports of intermediate goods on GDP growth in the long run is negative. Additionally, the depreciation of the national currency has had a large negative effect on both intermediate imports and economic growth, while its effect on capital goods imports was statistically insignificant.

Thus, Belarusian economic policy based on imported technologies seems ineffective especially in recent years, most probably due to decreasing skills and the ability to imitate and innovate using foreign inputs. Therefore, policy should focus on abolishing the directive industrial management, which has led to a negative influence of ICGs imports on economic growth in Belarus.

Additionally, the country's export strategy should be refined so that export destinations are different from import sources of intermediate goods that are used for export production. Moreover, the imports of capital goods should contribute to the development of new export markets, and monetary and fiscal policies should be refined in order to promote positive effects of currency valuation changes.

References

Kruk D., Bornukova K. 2013. Decomposition of economic growth in Belarus. FREE Policy Brief Series, October 2013.

Coe D., Helpman E., Hoffmaister A. 1997. North-south R&D spillovers. The Economic Journal 107(440): 134-149.

Grossman G., Helpman E. 1991. Innovation and growth in the global economy. The MIT Press, Cambridge MA.

Grossman G., Helpman G. 1994. Endogenous innovation in the theory of growth. Journal of Economic Perspectives 8: 23–44.

Kruk, D. 2014. Stimulating growth in Belarus: Selecting the right priorities. FREE Policy Brief Series, November 2014.

Landon S., Smith C.E. 2007. The exchange rate and machinery and equipment imports: Identifying the impact of import source and export destination country currency valuation changes. North American Journal of Economics and Finance 18: 3–21

Mazumdar J. 2001. Imported machinery and growth in LDCs. Journal of Development Economics 65: 209-224.

Mazol, A. 2015. Exchange Rate, imports of intermediate and capital goods and GDP growth in Belarus, BEROC Working Paper Series, WP no. 32.

Pesaran M.H., Shin Y, Smith R.J. 2001. Bounds testing approaches to the analysis of level relationships. Applied Econometrics 16: 289–326.

Rodrik, D. 1995. Getting interventions right how South Korea and Taiwan grew rich. Economic Policy 10: 53-107.

Toda H.Y., Yamamoto, T. 1995. Statistical inference in vector auto regressions with possibly integrated processes. Econometrics 66: 225–50.

Aleh Mazol

Belarusian Research and Outreach Center (BEROC)
Mazol@beroc.by
www.eng.beroc.by

Aleh Mazol received his Bachelor's degree in Economics from the Belarusian State Economic University in 2003, and obtained his Master's degree in Economics from Kyiv School of Economics (KSE) in 2013.

Since January 2015, Mazol works at the Belarusian Research and Outreach Center (BEROC) and currently holds a position of a researcher.

freepolicybriefs.com

The Forum for Research on Eastern Europe and Emerging Economies is a network of academic experts on economic issues in Eastern Europe and the former Soviet Union at BEROC (Minsk), BICEPS (Riga), CEFIR (Moscow), CenEA (Szczecin), KEI (Kiev) and SITE (Stockholm). The weekly FREE Network Policy Brief Series provides research-based analyses of economic policy issues relevant to Eastern Europe and emerging markets.

FREE NETWORK