

LONG-TERM BENEFITS OF EURO ADOPTION IN SLOVAKIA

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In March 2006, the NBS Research Department published an extensive analysis of the effects of euro adoption on the Slovak economy.¹ Selected topics from this study are being successively presented in BIATEC. In this article, the focus is on how euro adoption will affect foreign trade, economic growth and, ultimately, growth in living standards – which is, in the end, the most important effect of introducing the single European currency.

Direct benefits of euro adoption have also wider effects on the national economy. Lower transaction costs, price transparency, higher competition pressure, and overall higher quality of business environment will create stimuli in various ways for the realization of long-run benefits of the single currency. New foreign direct investments (FDI) and an increase of foreign trade, which will be the main results of these processes, will be reflected in enhanced economic growth and thus facilitate overall performance of the Slovak economy. It should be noted at the start that literature on the effects of monetary unions on foreign trade and its subsequent impact on economic growth uses overall import and export data that includes also FDI. For this reason the effects linked to the foreign trade involve also those arising from FDI.

Growth of foreign trade

A growth of foreign trade can be expected due to a decrease of total costs of its execution. As explained in the study *The Effects of Euro Adoption on the Slovak Economy*, two factors will contribute to making mutual trade cheaper, namely a decrease of transaction costs and stabilization of exchange rate.

Studies on the effects of monetary union on foreign trade

The seminal paper by Andrew Rose (2000) stirred up an intensive discussion on the impact of a monetary union on foreign trade. In his study Rose (2000) used a gravity model of bilateral trade for the quantification of the effect of membership in a monetary union, and he came to the conclusion that single currency may lead to a tripling of foreign trade. Such fin-

ding stimulated further studies since the “trade effect” of monetary unions was extremely high. An increase of international trade as a result of integration into a monetary block is in economic literature informally called also the “Rose effect”.

However, there was no consensus on the size of the Rose effect. This resulted in a relatively wide spread of estimates of foreign trade increase in response to a country integration into a monetary union. The original Rose’s study was mostly criticized in economic literature for the nature of monetary unions included in his sample of countries. Rose analyzed mainly small and poor countries² which started using American dollar instead of their national currencies. The “dollari- zation” of economy is perceived by the study as a form of monetary integration although the reason might have been effort to stabilize economy. Furthermore, in Rose (2000) panel regression the proportion of countries meeting the criteria of a monetary union is very low. It is somewhat higher than one percent. Due to all the above deficiencies it is problematic to draw general conclusions for a large monetary union like the euro area. In spite of that, it can be concluded that integration of a country into a monetary union has clearly positive effects on the development of the foreign trade. Its size remains a question.

In connection with the issue of the quantification of “average” effect of a monetary union on foreign trade, Rose and Stanley (2005) used a meta-analysis (cross-section analysis) of the results of several tens of existing studies including hundreds of estimates and using various methods and data sources. Apart from an unambiguous conclusion proving a positive effect of monetary integration on foreign trade, they determined an estimate of the contribution of single currency to bilateral trade within an interval of 30 to 90%. When applied to the membership in the euro area, such estimates are much more realistic because the concerned studies include also the effect of the euro area itself after 1999.

¹ http://www.nbs.sk/PUBLIK/06_KOL1.PDF

² This involved the countries like, e.g. American Virgin Islands, Guam and the Northern Marianas.



Several studies deal explicitly with the effect of euro adoption on the development of foreign trade. Micco et al (2003) analyzed the effect of the euro area on a sample of 22 industrial countries and came to a conclusion that foreign trade of the euro area member states increased due to the single currency by 5 to 20%. Barr et al. (2003) estimated the effect of the euro area membership on the growth of foreign trade at 29%. In both cases the authors included among control variables also volatility of the exchange rate. Their findings are hence linked solely to a single currency adoption regardless of the effect which will manifest itself by a decrease of the exchange rate volatility. Accordingly, such estimated growth of trade may be attributed exclusively to strengthening of trade relations.

Baldwin et al. (2005) offered an explanation for relatively high estimated effects of the euro area even after the adjustment for the exchange rate stability. They pointed out to the fact that the relationship between exchange rate volatility and foreign trade is not linear as has been assumed in most studies. Their theoretical model predicts that the relationship is convex, which means that as volatility gradually approaches zero, marginal increment of trade increases progressively. Intuition behind this result is based on two facts. First, exchange rate affects small businesses more than large ones.³ Second, when categorizing companies according to their size, small businesses prevail in the EU. Thus, the theoretical model assumes that after joining the euro area not only the volume of sales of currently exporting companies will increase, but also the number of exporting companies will increase. Empirical tests show that due to euro area membership foreign trade can be increased from 70% to 112%.

Although exact quantification of the increase in foreign trade as a consequence of euro adoption is yet impossible because of a short time of its existence, historical development of foreign trade of the euro area has already proven that monetary integration had an overall positive effect on the development of the domestic trade as well as the trade of euro area member states with third countries.⁴

Empirical tests of the effect of a monetary integration contributed also to the definitions of other criteria for an optimum currency area proposed by Baldwin and Taglioni (2004). Thus, they supplemented traditional economic criteria, like openness of economy, labor market mobility and export diversification. Results of their tests proved that integration rate of a country with the monetary union has a positive impact on the development of mutual trade. The livelier the trade relations between a new member and the monetary union were before integration itself, the more significant was the growth of their bilateral trade. The second finding is that the membership in a monetary union increases bilateral trade in the sectors where the degree of competition is rather low. This finding is directly related to the effect of price transparency.

Estimate for Slovakia

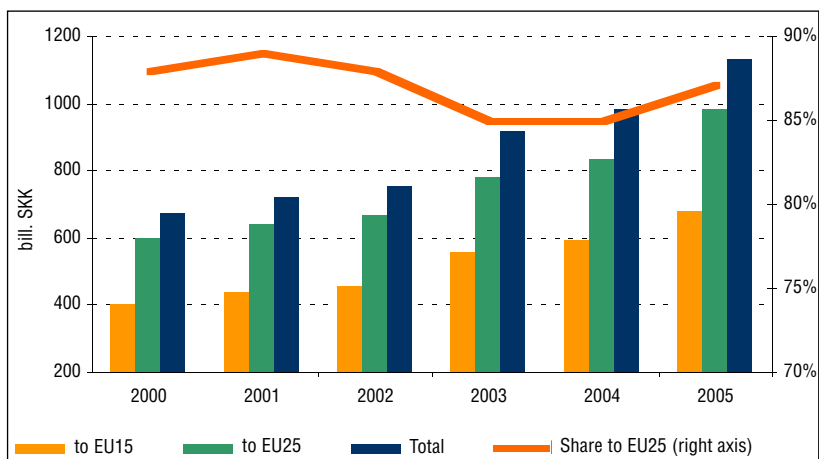
Slovakia is a traditional example of a small open economy, which has been fully integrated in international trade and financial flows. Slovakia is closely after Estonia the second most open country of the group of eight new EU member states. At the same time, it has more open position compared to the countries currently participating in the exchange rate system ERM II and planning euro adoption in the forthcoming two or three years.⁵

³ Large companies may hedge or self-insure against exchange rate risk, which, however, requires substantial finances. Therefore, hedging is an inaccessible form of protection against exchange rate risk for small businesses.

⁴ The estimation of the Rose effect for individual countries of the euro area is given in the study by Baldwin and Taglioni (2004), who disaggregated the total effect for the euro area according to the study by Micco et al. (2003).

⁵ Estonia, Lithuania and Slovenia entered ERM II in June 2004 and they plan euro adoption in 2007. As regards Latvia, which entered ERM II simultaneously with Malta and Cyprus in April 2005, the adoption of European single currency is planned for 2008.

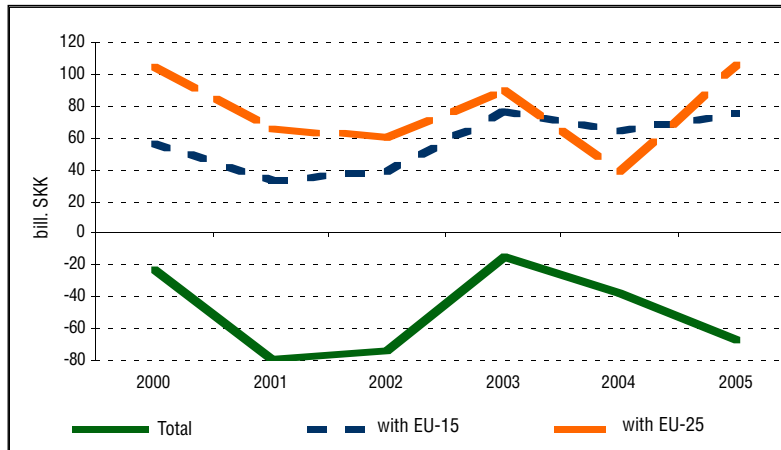
Figure 1 Development of Slovak exports



Source: Eurostat.



Figure 2 Trade balance of Slovakia



Source: Eurostat.

Foreign trade has become one of the corner stones of economic growth of Slovakia which thus utilizes its potential of competitive labor supply and favorable economic environment. The inflow of foreign direct investment and expected launch of the production of the already implemented investment projects⁶ are the preconditions for further expansion of export in coming years.

In estimating the impact of single currency on foreign trade it should be noted that over 85% of the Slovak export (see Figure 1) is directed to the EU member states (EU 25). We will get even more interesting result if we analyze trade balance of Slovakia through the territorial point of view. Figure 2 clearly shows that we achieve positive trade balance with the countries of the "European 15", as well as with enlarged EU. The fact that export to the EU countries increases every year gives us a potential for reducing trade balance deficit (given that exports will grow faster than imports), which is caused by, inter alia, import of strategic raw materials (in particular in energy industry and petrochemistry) or the investment imports.⁷

After integration of Slovakia and other new member states into the euro area one can expect a growth of

⁶ This regards in particular the investments in car industry and their supply network which are predominantly aimed at exporting their output.

⁷ Investment import includes, e.g. import of technologies which are costly, but on the other hand, their implementation will have a stimulating effect on export activity of Slovakia in the future.

⁸ In estimation we applied the mean value of the range from the study by Rose and Stanley (2005). Since it is a cross-section analysis of effects of a monetary union on foreign trade, we consider such approach objective.

⁹ We used the actual share of export to the EU member states in the total export of Slovakia ($0.5 = 0.6 \cdot 0.85$) for this indicative calculation.

foreign trade of Slovakia with the euro area by approximately 60%,⁸ which will result in an increase of overall foreign trade by approximately 50%.⁹ In the case of more consistent liberalization of services market, which is for the EU rather a matter of the future than of the present, even higher growth of trade among euro area members can be expected. Nevertheless, an increase in foreign trade by one half is economically significant, especially from the perspective of its impact on the economic performance of economy, as will be analyzed in more detail below.

Acceleration of economic growth and improvement of living standards

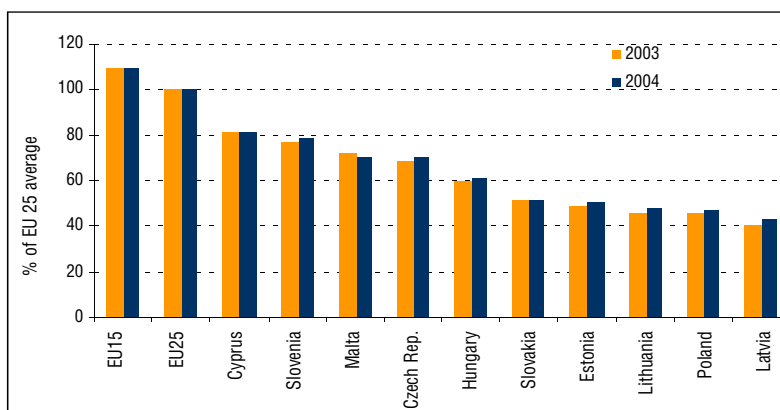
The preceding part has pointed out to the fact that euro adoption will contribute to enhancement of foreign trade of Slovakia and thereby strengthen competition on the Slovak market. Due to this factor we can expect that the single currency will have a positive effect on economic growth, and subsequently it will manifest in the growth of the citizens living standards. The current level of GDP expressed in purchasing power parity amounts to a little more than one half of the average of the EU member states (Figure 3). Through its positive influence on economic growth, euro adoption will facilitate faster convergence of the living standard of Slovakia to the European average.

The relationship between a country entry into the monetary union and economic performance is indirect and is much more complex than, for example, interaction between the single currency and foreign trade. Furthermore, positive effects will be manifested only in the medium- or long-term horizons. If we realize that the economic growth and living standards are target (and hence in a way ultimate) variables for economic policy makers, there is nothing surprising in this finding.

Foreign trade forms the main channel through which direct positive effects of a single currency translate to the overall economic performance, namely by contributing to the reallocation of available resources and their subsequent more effective utilization. One of the concrete elements of the trade is for example FDI, where the transfer of new technologies and processes takes place and it subsequently increases the main

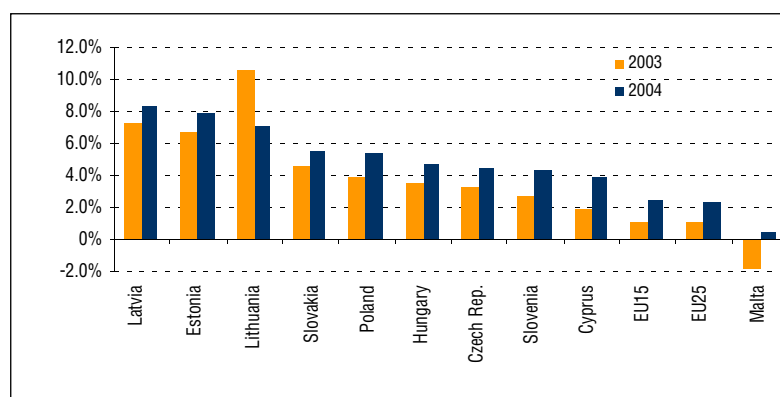


Figure 3 GDP per capita (in PPP)



Source: Eurostat.

Figure 4 Real GDP growth



Source: Eurostat.

component of economic growth – the total factor of productivity. FDI thereby supports also an increase in trade, and hence these two channels should be considered as mutually interlinked.

Foreign trade

The theories dealing with the effects of foreign trade say that trade liberalization leads to an increase of effective allocation of the factors of production. This results in higher output specialization of countries, depending on comparative advantages. If countries specialize, higher output can be achieved, which then increases economic growth.¹⁰ An increase of output can be achieved due to an expansion of the consumer market, and the positive effect of economies of scale comes into play. In such environment the unit production costs decrease and additional pressure for competition among enterprises is created.

Although euro introduction will not affect the market size, it will definitely have an impact on the allocation

of factors of production, in particular capital. As explained in the study *The Effects of Euro Adoption on the Slovak Economy*, introduction of the single currency will result in a decline of real interest rates, elimination of exchange rate risk against euro and decrease of exchange rate volatility against other currencies. These factors will subsequently stimulate two key processes. On the one hand, due to reduced costs of capital acquisition the investments will increase, which will contribute to the accumulation of physical capital. According to Wacziarg (2001), the accumulation of physical capital due to an increased domestic investment rate can explain 46% to 63% of the overall positive impact of the foreign trade on economic growth. On the other hand, due to the elimination or decrease of exchange rate risks, the output will grow, since it will be beneficial also for smaller businesses to export at least part of their output. In both cases the result will be a positive impact on economic growth of a country.

Beck et al. (2000) studied empirically the role of financial sector with respect to economic growth. In their study they state that financial intermediaries have a significant positive influence on the growth of the total factor productivity, which will subsequently affect the economic growth of a country. In another study Beck and Levine (2002) pointed to a positive role of the financial sector in achieving higher economic growth not only through the banks, but also, for example through the stock markets.¹¹ Therefore, if a single currency adoption contributed to higher competition in the financial sector, or more pressure for the improvement of fund raising through the stock market, we might expect a contribution to the economic growth also from this source. In Slovakia, however, such possibilities seem to be limited. Majority of Slovak banks and financial institutions are owned by foreign banks which have already taken care of streamlining the operation of the Slovak financial sector. Because the stock market in Slovakia is rather poorly developed,

¹⁰ Wacziarg (2001), pp. 394.

¹¹ Beck and Levine (2002) similarly as Beck et al (2000) use as the indicator of the development of financial sector a ratio of all bank credits to private sector to GDP.



its improvement might bring some benefits. However, the possibilities there are also considerably limited since Slovakia has only a small number of firms with sufficiently high capitalization. Moreover, many firms are owned by foreign investors who are capable to raise funds abroad.

Much attention in literature has been devoted to the relationship between foreign trade and economic performance of countries. Individual studies highlighted the importance of foreign trade, or on the contrary, its relatively negligible significance for the economic growth of a country. The main reason for such inconsistent conclusions was the usage of various econometric techniques and definitions of economic openness. Recent studies (e.g. Frankel and Rose, 2002 and Irwin and Terviö, 2000) solve many of initial reservations to basic research and conclude that foreign trade indeed has a positive impact on economic growth. According to Frankel and Rose (2002) the growth of the foreign trade share in GDP by one percentage point may lead to an increase of GDP per capita by one third of a percentage point.

Foreign direct investment

FDI may contribute to the growth of an economy in two main ways: (i) through the inflow of capital and (ii) through increasing the total factor productivity. Accordingly, FDI may, first of all, cause a direct increase in the stock of capital and thereby create a potential for increased economic growth. It should be noted, however, that FDI is not a synonym for additional investment. In many cases this means mainly a change of ownership when foreign investors acquire control over domestic firms either by acquisition or purchase of majority shares in existing businesses. A significantly higher benefit of FDI can therefore be expected in the form of increased productivity, which should be stimulated mainly by (i) the transfer of advanced technologies, methods and procedures, (ii) transfer of new managerial approaches in human resources management (e.g. improved personnel training), and (iii) generally increased competition on the market. The importance of the contribution of such factors to an increase of productivity is obvious, when we realize that in particular productivity is the main source for increasing the growth of potential GDP.

The studies dealing with effects of FDI on the domestic economy have therefore concentrated mainly on the relationship between FDI and productivity (or between FDI and positive externalities) and only to a smaller extent on mutual links between FDI

and domestic stock of capital. The available research results focusing on the USA and Great Britain clearly show that labor productivity in companies owned by foreign investors is higher than in domestic firms.¹² However, even more significant difference in productivity has been recorded between transnational and domestic firms.¹³ Consequently, regardless of the fact whether it is the effect caused by FDI or rather by transnational companies, in the case of Great Britain about 20% productivity differential has been detected between firms owned by foreigners and domestic firms.¹⁴

There is extensive literature focusing on externalities arising from transnational corporations. Baldwin et al. (2005) point out that larger amounts of FDI led to a faster growth of labor productivity, which resulted from side effects of new technologies. While initial studies highlighted high positive externalities,¹⁵ more recent literature offers a little more moderate estimates. Haskel et al. (2002) tested the productivity performance on a large sample of English industrial enterprises and concluded that an increase of FDI by 10% leads to a 0.5% increase of the total factor productivity of other domestic firms. This is a small, but statistically significant effect. In the case of Slovakia we may envisage stronger effects since the difference in technologies between foreign and domestic producers is generally higher than in the developed countries. It should be also noted that in this case this is a secondary effect of FDI on domestic firms, and hence not its direct contribution to the productivity of the firms receiving the FDI. A strong positive effect of FDI on the growth of labor productivity in Slovakia can be expected also based on the existing trends where we see that foreign firms investing in Slovakia implement the same technologies as in their parent companies, whereby they pursue achievement of high productivity.¹⁶

Regarding FDI inflow it should be noted that its positive effect on the domestic economic environ-

¹² For Great Britain see Griffith and Simpson (2001); for the USA Doms and Jensen (1998).

¹³ Doms and Jensen (1998) came to such conclusion for the USA, and Criscuolo and Martin (2002) for Great Britain.

¹⁴ Such comparisons may be problematic with regard to the selection of FDI. Because many FDIs come in the form of mergers and acquisitions, it cannot be excluded that foreign investors choose the best firms with the highest productivity. In such case it is difficult to imply causality between FDI and higher labor productivity.

¹⁵ Caves (1974), Blomstrom (1989), Borensztein et al. (1998).

¹⁶ This is also the reason why despite relatively high inflow of FDI its impact on the growth of employment rate is rather low.



ment depends on the level of development of each country. Positive externalities may appear only if the domestic environment is able to absorb them. The extension of benefits of FDI depends on whether the countries are able to provide foreign investors not only with a certain combination of economic advantages, but also sufficient amount of qualified workers able to use advanced technologies. When appropriately qualified workers and the required level of technological knowledge are not available, the costs of investment abroad increase and such country becomes less attractive for the placement of FDI (Blomstrom and Kokko, 2001). In the near future Slovakia, also due to reform efforts in education, should not face such deficiencies. Therefore, in general we might expect that single currency will increase the attractiveness of Slovakia for FDI, which will subsequently contribute to labor productivity and thus to overall economic growth.

Estimation of the effect of euro on economic performance

There are not many studies dealing with the direct effect of single currency adoption on the GDP. For instance, Frankel and Rose (2002) make efforts to quantify such effect. In the first step they estimate the effect of the membership in the monetary union on foreign trade. The second step involves the quantification of the effect of the foreign trade on Gross Domestic Product. It follows from their analysis that an increase in international trade by % should lead to an increase of GDP by one third of a percent. Accordingly, the effect of single currency adoption is a combination of the effect of a monetary union on foreign trade and the effect of the increase of trade on GDP. Regarding this estimate we assume that it already includes a pro-growth effect of FDI because Frankel and Rose did not adjust their estimates for a change in FDI. In this case we can also state that advantages arising from the membership in a monetary union in the form of dynamic growth of GDP grow proportionally to the openness of economy.

In this connection and with regard to the expected contribution of euro adoption to the increase of foreign trade in the forthcoming 20 years the level of GDP in Slovakia should increase by 7 to 20%. It means that every year a single currency would increase the domestic economic performance by approximately $0.7\% \pm 0.3\%$.

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