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**ASPECTS OF THE EURO ADOPTION IN SLOVAKIA  
AND ITS TIMING**

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## **INTRODUCTION**

*“For us, the euro adoption is not a matter of races or a sudden whim. It is the matter of benefits that are connected with this step. The Slovak cabinet is convinced that the euro adoption on 1 January 2009 will bring substantially more advantages than disadvantages. If the cabinet was not convinced about the advantages prevailing over disadvantages, it would have had enough courage ...to take a different decision.” (Slovak PM Robert Fico<sup>1</sup>)*

Visegrad Four (V4) countries – the Czech Republic, Hungary, Poland, and Slovakia – joined the European Union on 1 May 2004. Based on the EU Accession Treaty the new EU countries have no euro opt-out clause like the Great Britain and Denmark. It means each of them is committed to replace their national currencies with the euro but can choose when to request permission to do so.

Several years before their EU accession some of the Visegrad Four (V4) countries presented ambitious plans to adopt the euro as soon as possible. At that time Hungary’s intention to have the euro only two years after the EU accession, in 2006, was the most courageous one. However, Hungary abandoned this date very early.<sup>2</sup> After the countries became EU members their officially announced deadlines for the euro adoption did not go beyond 2010 except Poland which did not set any deadline at all.

Growing difficulties in tackling public finance deficits and growing inflation in some of these young market economies as well as increasing euro-sceptic attitudes in the other ones have brought more postponements in their euro adoption plans.

As a result, Slovakia is currently the only V4 country which is sticking to its original official plan to adopt the euro on 1 January 2009. If it succeeds it will be the first V4 country which will have its currency, the Slovak *koruna*, replaced by the euro.

None of the other V4 countries have currently officially set targets for euro adoption. The possible dates of euro adoption in these countries are more of an estimation and guesswork. The Czech Republic is unlikely to join the euro area before 2012, if not even 2013. Hungary will most probably not enter the euro -

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<sup>1</sup>“Slovakia Before the Eurozone Accession” international conference organized by Slovak Finance Ministry, ASA Institute, Bratislava, 4 June 2007, TASR (Slovak news agency)

<sup>2</sup> Béla Greskovits, “European States and the Euro: The First Decade” conference, British Academy, London, 24 May, 2007

zone before 2014. Poland is not expected to enter the euro-zone till 2012 or even 2013.<sup>3</sup>

With regard to the EU Accession Treaty and the obligatory adoption of the single European currency by the EU newcomers, I find an examination whether Slovakia should join the euro-zone as pointless. Slovakia has to join. Currently, a much more interesting question is when to join in order to be able to enjoy expected benefits from the euro and to avoid possible risks as much as possible.

The opening quote of the Slovak PM Robert Fico shows that the Slovak government is determined to have the euro on 1 January 2009. I would like to look at the reasons why the earliest entry into the eurozone of all V4 countries should be the best option for Slovakia when other countries in the region – the Czech Republic, Hungary, and Poland, have decided to postpone their euro adoption. Does it really mean that if Slovakia adopts the euro as the first one in the region it will be the winner and the other V4 countries will be considered as losers? And, indeed, is Slovakia the best performer in meeting the Maastricht criteria to be able to adopt the single European currency several years ahead of the other V4 countries?

### Methodology

Slovakia was part of each of the V4 states at some point over the past centuries. All V4 countries have shared a similar economic and political background during the last several decades – the fall of communism and the struggle to create a proper democracy and market economy. Many political and economic processes which took place in one of those countries later appeared in the other countries. Therefore I decided to place the assessment of the Slovakia's euro adoption process and its timing in the V4 region rather than comparing it with any other European countries.

The first chapter is focused on the assessment of the Maastricht criteria. How far have Slovakia and the other V4 countries gone in meeting these? The second chapter is on the benefits and costs of euro adoption projected by the central banks in Slovakia, Hungary, and Poland. As the Czech National Bank has not issued a similar analysis, the Czech Republic is not included in this chapter. Finally, the third chapter analyzes the timing of the euro adoption itself.

The project is based on literature and articles published by academic economists, publications of the European Central Bank and V4 central banks, articles in the Slovak and international press and webpages, and analyses produced by financial and banking houses as well as on opinion surveys of Slovak analysts and economists.

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<sup>3</sup> Piet Lammens and others, *The New Europe Is Greying – Recent Economic and Demographic Developments in Central and Eastern Europe*, KBC Group, Brussels, 2007

## CHAPTER 1:

### MAASTRICHT CRITERIA AND MACROECONOMIC CONVERGENCE

#### SLOVAKIA

Given that Slovakia wants to adopt the euro on 1 January 2009 the crucial years for meeting Maastricht criteria (see Box 1) in Slovakia are 2006 to 2008. The European Central Bank and the European Commission will take into consideration data from 2007 when assessing the fiscal criteria. Due to the complexity of calculation the schedule for the final results of the GDP and the state budget of 2007 can be expected in April 2008 at the earliest. Data concerning the fulfilment of other criteria will be available much faster – the ECB Convergence Report will take into consideration the average inflation and long-term interest rates data for February or March 2008. The last two years of participation in the ERM II will be used for the evaluation of exchange rate stability which means the two-year period of March/April 2006 until March 2008 will be crucial.

#### Box 1:

##### Maastricht criteria

#### 1. Price Developments

A EU member state has a sustainable price performance and an average rate of inflation (over a period of one year before the examination) that does not exceed by more than 1.5 percentage points the three best performing EU member states.

#### 2. Fiscal Developments A

The ratio of the planned or actual government deficit to Gross Domestic Product (GDP) does not exceed a reference value defined as 3% of GDP.

#### 3. Fiscal Developments B

The ratio of government debt to GDP does not exceed 60%.

#### 4. Long-Term Interest Rate Developments

Observed over a period of one year before the examination, a EU member state has had an average nominal long-term interest rate that does not exceed by more than 2 percentage points the three best performing EU member states.

#### (5.) Exchange Rate Developments

- can be assessed when a currency participates in the ERM II

The ECB examines whether the country has participated in ERM II (Exchange Rate Mechanism II) for a period of at least two years prior to the convergence examination without severe tensions, in particular without devaluing against the euro.

Source: Convergence Report December 2006, ECB, 2006

The National Bank of Slovakia as well as a large part of Slovak financial market representatives believe that Slovakia will meet all the Maastricht criteria in 2007 although they acknowledge that certain risks still remain (see Table 1). The Institute for Economic and Social Reforms (INEKO) based in Bratislava has been conducting a poll among leading Slovak analysts and economists on the Maastricht criteria fulfilment each month since September 2006. Based on the latest poll which took place in May 2007 the likelihood to adopt the euro on 1 January 2009 (and meeting the Maastricht criteria on time) stands at 77% which is the highest level since the poll has been carried out.<sup>4</sup>

**Table 1:**  
Maastricht criteria in Slovakia – update and forecast

	Current reference value (June 2007)	2005	2006	2007	2008
General government deficit including pension reform costs <sup>1)</sup>	3% of GDP	3.5	3.9	2.9	2.3
General government deficit excluding pension reform costs <sup>2)</sup>	3% of GDP	2.9	2.7		
General government gross debt	60% of GDP	34.5	30.8	31.8	31.0
HICP inflation	3%	2.8	4.3	1.5	1.9
Long-term interest rate	6.3%	3.5	4.4	4.3	4.2

Source: National Bank of Slovakia (NBS), Finance Ministry of the Slovak Republic, Eurostat, calculations of NBS, VÚB Bank

1) Public deficit in 2005 and 2006 is assessed excluding a pension reform impact as this was allowed by Eurostat

2) Since 2007 the public deficit includes the pension reform impact

Based on the ECB Convergence Report December 2006 in which the data from October 2006 were taken into account Slovakia at that time fulfilled two out of the four assessed Maastricht criteria. These were the long-term interest rate and the general government debt to GDP ratio. The 12-month average rate of inflation as well as the general government deficit to GDP ratio were above the reference value (see Table 2).

<sup>4</sup> [www.ineko.sk](http://www.ineko.sk)

**Table 2:**  
 ECB Convergence Report – Meeting Maastricht criteria in V4  
 (excluding the exchange rate criterion)

		HICP inflation <sup>1)</sup>	Long-term interest rate <sup>2)</sup>	General government surplus (+) or deficit (-) <sup>3)</sup>	General government gross debt <sup>3)</sup>
Czech Rep.	2004	2.6	4.8	-2.9	30.7
	2005	1.6	3.5	-3.6	30.4
	2006	2.2	3.8	-3.5	30.9
Hungary	2004	6.8	8.2	-6.5	59.4
	2005	3.5	6.6	-7.8	61.7
	2006	3.5	7.1	-10.1	67.6
Poland	2004	3.6	6.9	-3.9	41.8
	2005	2.2	5.2	-2.5	42.0
	2006	1.2	5.2	-2.2	42.4
Slovakia	2004	7.5	5.0	-3.0	41.6
	2005	2.8	3.5	-3.1	34.5
	2006	4.3	4.3	-3.4	33.0
Reference value		2.8%	6.2%	-3%	60%

Source: Convergence Report December 2006, ECB, 2006

1) Annual average percentage change. 2006 data refer to the period November 2005 to October 2006.

2) In percentages, annual average. 2006 data refer to the period November 2005 to October 2006.

3) As a percentage of GDP. European Commission projections for 2006.

4) Reference value refers to the period November 2005 to October 2006 for HICP (Harmonised Index of Consumer Prices) inflation and long-term interest rates and to the year 2005 for general government deficit and debt.

## Inflation

Inflation remains one of the largest problems for Slovakia. However, analysts expect that prices should develop favourably supported by the strong domestic currency. Additionally, the Slovak regulation body announced that the gas price might drop in the second half of the 2007. Based on the National Bank of Slovakia (NBS) estimation, the HICP inflation (Harmonised Index of Consumer Prices) in 2007 should reach 1.5% although some market expectations are a bit higher than this number. The risks are seen mainly in food and energy prices which are determined by exogenous factors, as well as in tradable goods which are sensitive to the *koruna* exchange rate. Moreover, there is still a long period before the assessment date.



### The general government deficit

The general government deficit ratio to GDP is another area where Slovakia must improve. The current government has pledged to limit the public finance deficit to 2.9% of GDP in 2007. This figure already includes costs on Slovakia's pension reform (it is approximately 1.1% of GDP - Slovakia was allowed to record its public deficit without pension reform costs in 2005 and 2006 but in 2007 this will not be possible any more).

Despite some risks on the expenditure side of the state budget, analysts are optimistic that the budget deficit will remain within the limits of the Maastricht threshold. Apart from the fact that the cabinet has pledged to keep the deficit below 3% in 2007 it could also freeze some expenditure items during the year if necessary. Moreover, it is now clear that economic growth will be stronger than projected when the budget was approved and higher revenues could still offset the increased social expenditure of the current left-wing cabinet.

As concerns future sustainability, Slovakia is expected to experience only a moderate increase in age-related expenditures in the years up to 2050, amounting to 2.9 percentage points of GDP, according to the latest projections by the EU's Economic Policy Committee and the European Commission. This reflects in part the implementation of pension reforms.

### Public debt and long-term interest rates

These two criteria have so far not caused Slovakia any problems. In fact, the public debt to GDP ratio should decrease further in future under the impact of more dynamic economic growth.

### Exchange rate developments

The criterion of currency stability unexpectedly appeared as a possible problem for Slovakia. Whether Slovakia will fulfil this criterion will much depend on how the ECB will interpret the Slovak performance on currency stability.

The Slovak *koruna* is the only currency from among the V4 countries that is already in ERM II (Exchange Rate Mechanism). It entered the ERM II in November 2005 with a central parity set at 38.455 SKK/EUR and a standard fluctuation band of  $\pm 15\%$  (44.2233 SKK/EUR - 32.6868 SKK/EUR). Since then the *koruna* has significantly strengthened.

The Slovak currency began the year 2006 with the exchange rate 37.8 SKK/EUR. The *koruna* weakened during the summer months due to parliamentary elections and the change of the government but in September

2006 it started to strengthen. By the end of December 2006 it reached the level of 34.3 SKK/EUR. The overall appreciation of the currency in 2006 stood at about 10%. The appreciation trend continued at the beginning of 2007 with 34.0 SKK/EUR in early March.

The strength of the *koruna* was a source of concern to the central bank and, therefore, it decided to intervene in both word and deed in December 2006, flooding the money market with surplus cash in early January and March 2007. The massive intervention occurred on the foreign exchange market in mid-March. After consulting the ECB Slovakia revaluated its central parity by 8.5% to 35.4424 SKK/EUR in March 2007, with the new fluctuation band of 30.1260 SKK/EUR – 40.7588 SKK/EUR.

The market expects further appreciation of the Slovak currency. The May INEKO poll showed that analysts expect the conversion rate of Slovak *koruna* (at which it should be converted into the euro) on the stronger side of the fluctuation band, at 32.39 SKK/EUR.<sup>5</sup>

The ERM II regime offers national currencies a fluctuation band of  $\pm 15\%$ . However, some economists argue the fulfilment of the conditions in the Maastricht Treaty might be evaluated according to the previously set ERM I narrow band of  $\pm 2.25\%$ . If a country is able to keep its currency within the narrow fluctuation band it can be automatically considered as meeting the criterion of the currency stability. If the currency occasionally slips out of the narrow band but does not surpass the wide band of  $\pm 15\%$  it can still be evaluated as meeting the criterion. The European Commission and the Ecofin (EU member state finance ministers body) will judge what caused the currency fluctuations but it gives great room for various interpretations.<sup>6</sup>

Revaluation of *koruna*'s ERM II central parity might also cause difficulties for Slovakia when it will be assessed on the sustainability of the inflation criteria. The ECB or European Commission may argue that the inflation criterion (if just narrowly met) has only been met due to a sharp appreciation of the currency and as the currency clearly will not have a dampening effect after entry to EMU, inflation will again take off. Therefore, the criterion would not have been met in a sustainable way.

And, indeed, the ECB and EC can be seen to be inclined to use this stricter approach of sustainability in fulfilment of the Maastricht criteria for EU 12 newcomers in the case of Lithuania. Lithuania's application to the EMU was rejected (the first ever), not only because its inflation was a negligible 0.06 percentage points above the threshold, but because they thought inflation would pick up pace again. Lithuania is an economically successful and small country

<sup>5</sup> [www.ineko.sk](http://www.ineko.sk)

<sup>6</sup> Vladimír Vano, *Nová parita ERM II – aj tak sa dá* (New ERM II Parity – That Is Possible Too), *Trend*, No 12, 2007

whose inflation rate would never affect the overall EMU inflation data and its rejection, in fact, confirms the ECB and EC's growing emphasis on meeting the criteria in a sustainable manner.<sup>7</sup>

### Economic growth

When looking at the macroeconomic convergence it should be stressed that the effort of meeting Maastricht criteria in Slovakia takes place against the background of the strongest economic growth within the V4 region.

In 2006 the real GDP grew by 8.3% year-on-year, supported both by domestic and foreign demand. The growth rate of exports exceeded the growth of imports (20.7% versus 17.8%) and net exports contributed 1.7 percentage points to GDP, thanks to the expansion of new capacities in the automobile and electronics industries. Household consumption also remained strong (6.3%) and added 3.5 percentage points to GDP. The main reason for this was the sharp increase in real wages and the improving situation in the labour market.

According to analysts investments should continue to grow robustly. This year, 2007, the favourable development of this economic growth should continue with net exports strongly contributing to the growth<sup>8</sup> (see Table 3).

## **CZECH REPUBLIC**

As showed in the ECB Convergence Report December 2006, the Czech Republic was not meeting a single criterion over the reference period (the currency stability has not been assessed). It was the general government deficit to GDP ratio which reached 3.5% (see Table 2).

In the period 2001-2006, the country only once, in 2004, reported a budget deficit below 3% of GDP. The Czech Republic's social security system is seen as the greatest burden on state finances. The current Czech government's ambition is to reduce public deficit and push it to 3% of GDP by 2009. However, the current ruling coalition does not have enough political strength to propose the cuts in

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<sup>7</sup> Some economists argue that it was the fixed exchange rate that made ECB more inclined to reject Lithuania. In countries with fixed exchange rates, economic convergence, and hence real appreciation pressures, fully translates into higher inflation, possibly above the Maastricht inflation criterion. In countries with a floating currency (such as Slovakia), part of the real appreciation occurs via the appreciation of the nominal exchange rate and less via inflation, making it easier for these countries to satisfy the inflation criterion. (The New Europe Is Greying – Recent Economic and Demographic Developments in Central and Eastern Europe, KBC Group, Brussels, 2007)

<sup>8</sup> Piet Lammens and others, The New Europe Is Greying – Recent Economic and Demographic Developments in Central and Eastern Europe, KBC Group, Brussels, 2007

expenditure. The budget criterion is thus not expected to be solved in this electoral term.

As for the future, the EU projections point to a substantial increase in age-related public expenditures in the years up to 2050, amounting to 7.1 percentage points of GDP.

In recent years, the Czech Republic had no difficulties at all in reaching both low inflation and very low long-term bond yields. At the same time the Czech Republic enjoys strong economic growth (see Table 3). Over the last two years, the harmonised inflation was almost continuously below the Maastricht criterion, in spite of the continuing price deregulations, excise tax increases, and a rapidly growing economy and domestic demand. One reason why the Czech Republic's inflation rate remains very low is the strengthening *koruna*, which makes the import of raw materials, production inputs and consumer goods cheaper. Another reason is the continuing competition battle amongst retailers.

When looking at the Czech Republic's performance in respect of the Maastricht criteria, the country could be on a fast track to adopt the euro with a little more political will. It could probably be done with less of struggle than, for example, in Slovakia. However, the current Czech government is not really demonstrating the political will to speed up the euro adoption process.

## HUNGARY

Over the reference period assessed in the latest ECB Convergence Report, Hungary meets none of the Maastricht criteria (see Table 2). The date for the euro adoption in Hungary remains very uncertain.

High budget spending and fiscal profligacy of Hungarian cabinets in recent years has led to an unsustainable macroeconomic environment. The new government had thus to revise its policy after the elections in spring of 2006. The government survived serious street protests and has started to implement an inevitable fiscal austerity programme.

The high Hungarian general government deficit remains the biggest hurdle. According to preliminary data, the public deficit of GDP reached 10% in 2006. According to analysts, even if the government continues to implement further measures, it does not appear probable that it will be able to bring the deficit below the required 3% before 2009.

Moreover, from a long-term point of view, the EU predicts that Hungary should experience a substantial increase in age-related public expenditures in the years up to 2050, amounting to 7.0 percentage points of GDP. This is despite the

implementation of structural pension reforms in the past.

The overall state debt also exceeds the permitted 60% of GDP but this ought not be a major obstacle for adopting the euro, provided the government succeeds in getting the budget deficit back under control.

Analysts predict that the inflation outlook for Hungary remains uncertain, due to the direct impact of the fiscal measures on final prices and other secondary effects. However, a slowdown in consumption and overall economic growth should squeeze inflation to lower levels even if the pressure for wage increases continues. High inflation and the critical state of public finances are the main reasons why the official Hungarian interest rates are still 425 basic points above those in the euro zone. The most recent inflation prognosis, however, suggests that this gap could be closing.

In the first half of 2006, the Hungarian economy grew relatively fast, although not as fast as other V4 countries (see Table 3). In the second half of 2006, however, economic growth slowed down, due to the implementation of government fiscal packages aimed at consolidating public finances.

## **POLAND**

Poland was the only V4 country which according to ECB Convergence Report December 2006 fulfilled all the Maastricht criteria (currency stability has not been assessed). However, there are some question marks when it comes to meeting the general government deficit ratio to GDP (see Table 2).

Poland got its public finance deficit under the Maastricht reference value thanks to including its mandatory pension scheme assets into the public finance. However, based on the new Growth and Stability Pact rules this is not possible any more – from April 2007 onwards. According to the ECB further consolidation is required if Poland is to bring the deficit below the 3% of GDP reference value when excluding the impact of the mandatory funded pension scheme.

The ECB estimated that, excluding the scheme, the fiscal deficit ratio would have been 1.8 percentage points higher in 2004, 1.9 percentage points higher in 2005 and 2.0 percentage points higher in 2006. The government debt ratio would have been 4.0 percentage points higher in 2004, 5.3 percentage points higher in 2005 and 6.9 percentage points higher in 2006 – but these numbers would still keep the government debt ratio under the reference value.

According to the EU's Economic Policy Committee and the European Commission projections, Poland is expected to experience a decline in age-related public expenditures in the years to 2050, amounting to 6.7 percentage

points of GDP. This reflects in part the implementation of pension reforms in the past.

Inflation was lower than the average for the euro zone and the entire EU as well. In fact, Poland was among the three best inflation performing countries which were the basis for calculating the reference Maastricht value. According to analysts the outlook for the longer term is slightly less encouraging, as consumer prices are expected to go up slightly faster, fuelled by rising domestic demand. However, they should not accelerate to such a point that the inflation criterion would not be met.

The level of long-term interest rates stays below the reference value as well. Polish long-term interest rates and their differential with government bond yields in the euro area have generally declined.

As in the Czech Republic, the low inflation in Poland was reached in an environment of continuing strong growth (see Table 3). And, like the Czech Republic, when it comes to meeting the Maastricht criteria Poland would be able to get much closer to the euro adoption than Slovakia if it tried a bit harder to push down the public deficit (when excluding mandatory scheme). Despite Polish Finance Minister Zyta Gilowska's apparent commitment to implement (limited) fiscal austerity measures, the government as a whole seems reluctant to curb spending. For the Polish government, the euro adoption seems not to be a good enough motivation to do this.

Table 3:  
Key countries data

Est. – estimation  
F. – forecast  
FDI – foreign direct investments  
\*in % of GDP

Slovakia	2002	2003	2004	2005	2006 Est.	2007 F.
GDP growth (%)	4.6	4.2	5.4	6.0	8.3	8.6
Current account*	-7.9	-6.0	-7.9	-8.6	-8.3	-4.4
FDI*	na	3.2	2.4	1.4	3.4	4.9

Source: Slovak Statistical Office, NBS, Eurostat, CSOB bank

Czech Republic	2002	2003	2004	2005	2006 Est.	2007 F.
GDP growth (%)	1.5	3.6	4.2	6.1	6.1	4.7
Current account*	-5.6	-6.2	-6.0	-2.1	-4.7	-4.1
FDI*	na	2.3	4.6	8.9	4.2	3.5

Source: Czech Statistic Bureau, Czech National Bank, CSOB bank

Hungary	2002	2003	2004	2005	2006 Est.	2007 F.
GDP growth (%)	4.3	4.1	4.9	4.2	3.9	2.5
Current account*	-7.0	-7.9	-8.4	-6.8	-6.3	-5.8
FDI*	4.4	1.5	4.0	6.0	4.6	3.5

Source: KBC Group

Poland	2002	2003	2004	2005	2006	2007 F.
GDP growth (%)	1.1	3.5	5.3	3.5	5.8	5.6
Current account*	-3.7	-1.9	-1.7	-1.6	-2.1	-2.2
FDI*	2.0	2.0	4.7	2.1	3.1	2.8

Source: Polish Central Statistical Office, Polish Ministry of Finance, National Bank of Poland, Kredyt Bank

## CONCLUDING REMARKS

When looking at the current meeting Maastricht criteria by V4 countries, Slovakia is certainly not the best performer. At the end of 1990s and the early 2000s Slovakia carried out drastic reforms which have brought improvements in public finance but the deficit is currently still slightly above the Maastricht reference value as well as is inflation.

When looking at Hungary's compliance (or rather non-compliance) with the Maastricht criteria, the country's postponement in the euro adoption is a logical step.

The situation in Poland and the Czech Republic is quite the opposite. They would probably be able to fulfil the Maastricht criteria faster and with less, or at least the same, effort as Slovakia. However, they are not so much keen to do so. Neither the Czech Republic, nor Poland did join the ERM II and none of the other countries have announced when they would intend to do so. Poland even wants

to hold a referendum on the EMU accession although, as it has been said, it has no opt-out clause in relation to the euro.<sup>9</sup>

The political representatives of the Czech Republic and Poland probably do not consider the early adoption of the euro worth cutting public expenditures and risking their political future in the elections. Additionally, the Czech Republic as well as Poland are in quite good economic shape since they have grown much faster than any other euro-zone economy (although not as fast as Slovakia). It is probable they do not see an economic motivation to join the euro-area, the more so when it requires quite strict fiscal policies.

Slovakia's approach is different. The country seems committed to meet the Maastricht criteria in 2007 and the confidence of markets and analysts that it will do so is increasing. It has been not discouraged by quite a rigorous look by the ECB and EC at EU newcomers' performance in terms of Maastricht criteria which might mean its efforts were in vain. Slovakia is willing to risk it. It is thus useful to ask why and examine expected costs and benefits of the euro adoption (see Chapter 2).

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<sup>9</sup> Andrzej Ratajczyk, Going for the Euro Double, Warsaw Voice, 9 May 2007, [ww.warsawvoice.pl](http://ww.warsawvoice.pl)



## CHAPTER 2:

### EXPECTED BENEFITS AND COSTS OF THE EURO ADOPTION

#### SLOVAKIA

##### Benefits

In its 2006 study the National Bank of Slovakia (NBS) analysed the main expected benefits and costs of the euro adoption. Elimination of transaction and administration costs, elimination of exchange rate risk against the euro, reduction of exchange rate volatility against the currencies of trading partners, higher price transparency, and decrease of capital costs should be direct benefits with an immediate effect on the economy just after the euro adoption. The NBS expects the direct benefits to stimulate long-term benefits: new foreign direct investments, increase in foreign trade and a more dynamic economic growth.<sup>10</sup>

##### Benefits of immediate effects

The National Bank of Slovakia (NBS) used the data for Slovak foreign trade as the main basis when quantifying some of the direct effects of the euro adoption in this country. The main prerequisite is the fact that Slovakia is a highly open economy. The share of its overall foreign trade (the sum of exports and imports) on the GDP stood approximately at 170% in 2006. This is the highest number from among the V4 countries (see Table 4).

Table 4:  
Open economy (2006)

	Total exports+imports of GDP (in %)
Czech Republic	149
Hungary	122
Poland	66
Slovakia	171

Source: CIA World Factbook

<sup>10</sup> Martin Šuster and others, The Effects of Euro Adoption on the Slovak Economy, National Bank of Slovakia, March 2006

In 2005 Slovak imports from the EU were 75% of its total imports and imports from the euro area represented an almost 50-percent share. Slovakia sold 85% of its exports in the EU countries. Approximately 85% of Slovak exports and 80% of imports were traded in euros. The NBS estimates the share of transactions directly exposed to exchange rate risk is between 6.36% and 8.59% of GDP.

#### *Transaction and administrative costs*

According to the NBS the euro adoption should result in savings of financial transaction costs amounting to 0.3% of GDP. The Slovak central bank also used the EC assumption that transaction costs in small open economies (such as Slovakia) may reach eightfold of financial transaction costs in large countries (like Germany and France) where financial transaction costs constituted 0.11% of GDP before euro adoption.

The savings on administrative costs incurred by companies on the human and capital resources required for the performance of foreign exchange operations should represent 0.06% of GDP.

#### *Exchange rate risk elimination and reduction of volatility*

Exchange rate volatility is the main source of the exchange rate risk to enterprises and citizens. One of the advantages of joining the euro area is thus the elimination of exchange rate risk and volatility of the *koruna* exchange rate against the euro.

Although some countries such as Great Britain argue that after joining the euro area the exchange rate volatility against other currencies may increase, in case of Slovakia the exchange rate risk of the *koruna* against other important currencies might slightly decrease. According to the NBS the euro exchange rate against the dollar and the Czech *koruna* is slightly more stable than the Slovak *koruna* exchange rate against both these currencies.

#### *Price comparability*

An immediate effect of the euro adoption in Slovakia should also result in a direct comparability of prices in the domestic market and within the euro area countries market. The transparency of consumer prices should give the citizens a clear picture of relations between domestic and foreign prices and it should result in increased competition.

However, the NBS admits that, currently, in the traded sector, domestic prices in Slovakia are in principle equalized with the prices in the euro area (if allowance is

made for transportation costs). In the non-traded sector (in particular services), where the competition is weak, prices in Slovakia are lower than in the euro area and their evolution after euro adoption will be closely tied to the growth of earnings and purchasing power of the Slovak consumers.

#### *Decrease of capital costs*

Euro adoption should increase effectiveness and competition in financial markets. The NBS expects that risk surcharges on the grounds of a country risk will be also eliminated. All this should keep the real interest rates at low levels or bring it down in the future. However, for the last few years Slovak real interest rates have already been frequently lower than in many euro-zone countries and thus the NBS admits this benefit will not be as significant as in other countries. Real interest rates on loans to enterprises in Slovakia have been on average one percentage point lower than in the euro area since 1999.

#### Long-term benefits

According to the NBS, historical development of foreign trade within the euro area has proven that the livelier the trade relations between a new member and the monetary union were before the integration itself, the more significant was the growth of their bilateral trade after the euro adoption. However, the exact quantification of the foreign trade increase after the euro adoption is impossible due to the short history of the single European currency.

Slovakia is an example of a small open economy where foreign trade has played a crucial role in the economic growth. The country achieves a positive trade balance with the countries of the EU 15, as well as with the enlarged EU. After full integration of Slovakia and other new member states into the euro area the NBS expects a growth of foreign trade of Slovakia with the euro area by approximately 60% and the overall increase in its foreign trade by 50%. In case of a larger liberalization of services market within the EU even higher growth of trade among euro area members can be expected.

One of the expected effects of euro adoption is also an increased inflow of foreign direct investment (FDI) to Slovakia. FDI represents an important factor in the economic growth in Slovakia. The elimination of exchange rate volatility, lower costs of capital and the elimination of transaction costs should be the main factors contributing to an increased FDI inflow.

Similarly, the quantification of FDI inflow in Slovakia due to the euro adoption is rather complex, given the number of factors affecting it. A problem in quantification also stems from the relatively short period of existence of the euro.

As was mentioned above, the euro adoption in Slovakia should contribute to a more dynamic FDI inflow and foreign trade growth and also strengthen competition within the Slovak market. Due to these factors the NBS expects that the single currency will have a positive effect on economic growth and living standards in Slovakia. The current level of GDP in purchasing power parity amounts to just more than a half of the average of the EU member states.

However, the relationship between a country's entry into the monetary union and its economic performance is indirect and is much more complex than, for example, the interaction between the single currency and foreign trade or FDI.

The NBS estimates that in the coming 20 years the level of GDP in Slovakia should increase by 7% to 20% due to the euro adoption. It means that every year the single currency would increase the domestic economic performance by approximately 0.3% to 0.7%.

## **Costs**

The disadvantages of euro adoption include one-off costs of euro changeover and the permanent drawback of the loss of independence in monetary policy. One-off costs of currency conversion will be incurred during the period of one to three years before joining the euro area or immediately after the euro changeover. The loss of an independent monetary policy will be a permanent disadvantage arising from entry to the euro area although over time its intensity may vary. The NBS expects that with gradual synchronization of business cycles and the structure of the Slovak economy with the euro area the losses of abandoning one's own monetary policy will decline. A specific permanent disadvantage is a decline of revenues of banks from currency exchange activities and foreign exchange trade which will affect also banks' profits.

### One-off costs

These costs will include mainly costs on the adjustment of information systems, changes in relations with employees, contractors, and customers, personnel training, dual prices display. They will impact the public administration as well as the commercial sphere. The one-off costs will not be covered by public resources and each business entity will have to cover them by itself.

In Slovakia the NBS expects the one-off costs of the euro adoption to be about 0.3% of GDP. Based on the experience of the euro-zone the largest proportion of the costs will be born by banks and large enterprises. However, when calculated as a share to their annual turnover, the highest burden will be born by small and

medium-size enterprises which constitute 99.1% of all enterprises in Slovakia. Therefore, during euro adoption most attention must be devoted to this group of entrepreneurs.

#### Specific costs of banking sector

These costs arise from a specific position of banks in the system of cash flow. The banks will have to be able to ensure a free conversion of domestic currency into the euro within the system of cash payments in a short period of time which will mean a short-term one-off increase of their operational costs. The costs are also related to the changes in the structure of costs and revenues in the foreign currency operations.

#### Loss of an independent monetary policy

One of the main permanent disadvantages of the euro adoption will be the loss of independence in monetary policy. Monetary policy enables the central bank to respond to specific situation in the economy, to curb shocks (internal and external, demand and supply) and consequently to create an environment for sustainable price stability and to support the stability of the real economy.

According to the NBS, in a small, highly open economy with a liberalized fluctuation of capital, like Slovakia, monetary policy has limited scope for operation. The loss of independent monetary policy will be therefore substantially less disadvantageous for Slovakia than for larger or less open economies.

#### *Monetary policy under conditions of liberalized capital flows*

Capital flows into and out of Slovakia respond to domestic and external stimuli. Domestic factors include mainly the differential of interest rates between Slovakia and the euro area, capital gains, exchange rate development and risk premia of the country. Out of these factors domestic monetary policy can affect only the short-term interest rate and partially also the foreign exchange rate.

Various external factors influence capital flows in Slovakia, quite beyond the influence of domestic policies. These include world interest rates, regional influences and regional perception of markets by investors, global liquidity supply etc. The development of the Slovak *koruna* exchange rate (SKK) is much affected by the currencies of neighbouring countries, mainly by the Czech *koruna* (CZK) but also Polish *zloty* (PLN) and Hungarian *forint* (HUF). The Slovak currency's development thus often did not correspond to the domestic economic

fundamentals (see Graph 1 and Graph 2).

With high openness and high capital flows it is quite possible that net capital flows to Slovakia or their composition will not meet the needs of the domestic economy. However, the possibility of monetary policy to respond to such a situation is limited.

If it sets domestic interest rates according to the needs of the domestic economy, foreign capital flows may shift the foreign exchange rate to an unfavourable level. Consequently it may negatively affect the foreign trade balance or the development of inflation. If the monetary policy tries to set the foreign exchange rate at an equilibrium level, it may become forced to accept interest rates which create or contribute to economic imbalances, too high or too low domestic investment or household saving.

With liberalized capital markets the monetary policy is unable to guarantee both internal and external monetary equilibrium. The official interest rates alone are not able to ensure fulfilment of two objectives at the same time. Official foreign exchange interventions appeared to have limited success and, moreover, are an extremely expensive instrument.

#### *Independent monetary policy versus entry to monetary union*

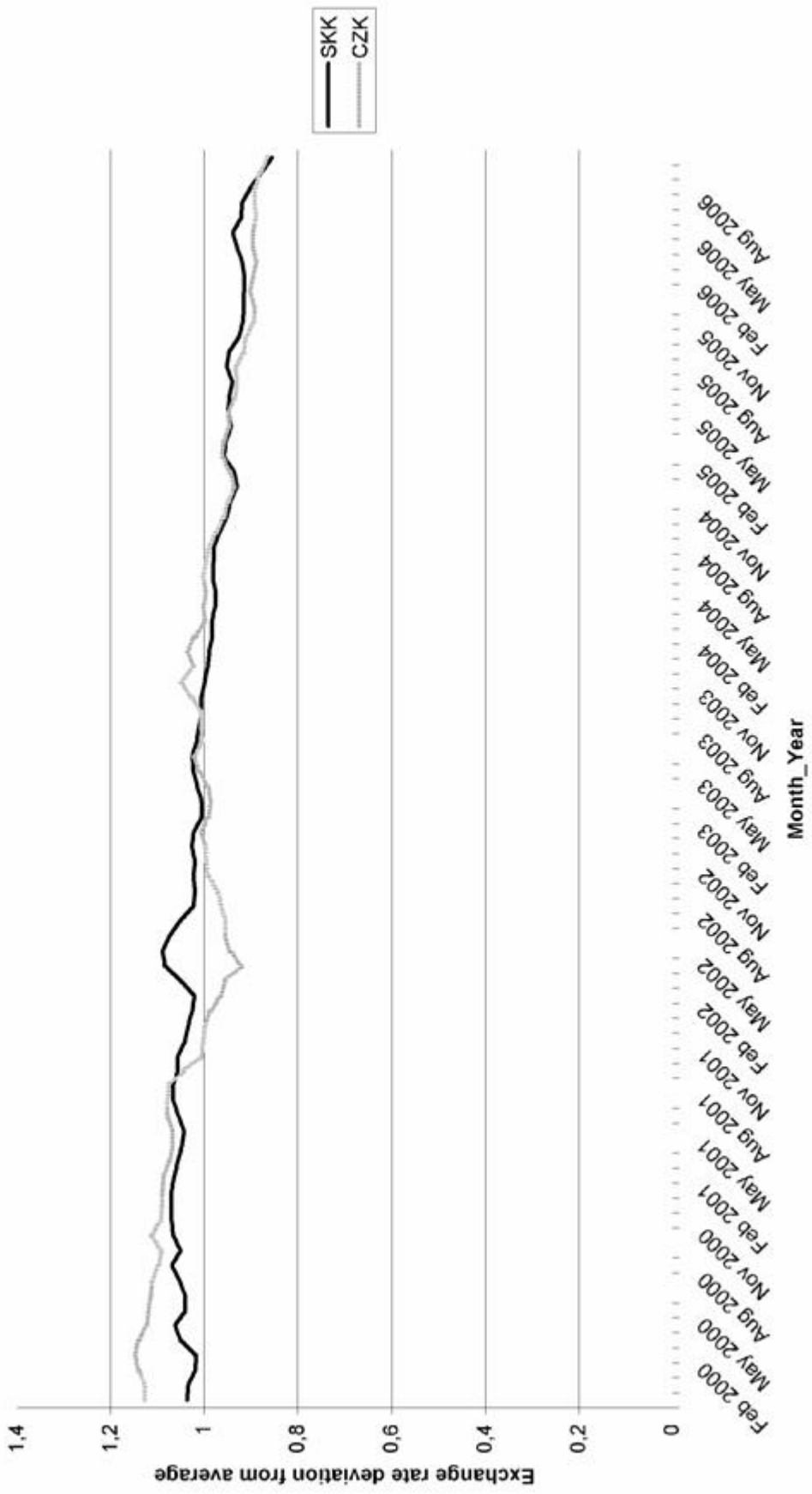
An exchange rate which is difficult to predict and to influence reduces the capacity of a central bank to achieve its objectives of price and overall economic stability. This may, of course, decrease its credibility. In such a situation the central bank must respond more resolutely than a central bank with full credibility. However, resolute actions may cause higher volatility in the financial and monetary variables and in the development of real economy. According to the NBS it is therefore wise to examine a more favourable option against the autonomous independent monetary policy applied under conditions of free movement of capital. An entry into a monetary union may be such a n option.

The NBS used an analysis by Federico Ravenna on relations between the credibility of a central bank and the regime of monetary policy on a sample of 81 central banks.<sup>11</sup> The analysis shows that when a central bank lacks full credibility, the increase in credibility obtained through joining a monetary union will exceed any loss arising from the abandonment of an independent monetary policy. If such results are applied to Slovakia, its entry to the euro-zone will represent a fully credible option of an irrevocably fixed exchange rate within the monetary union against the option of an independent monetary policy with the lower credibility of the central bank.

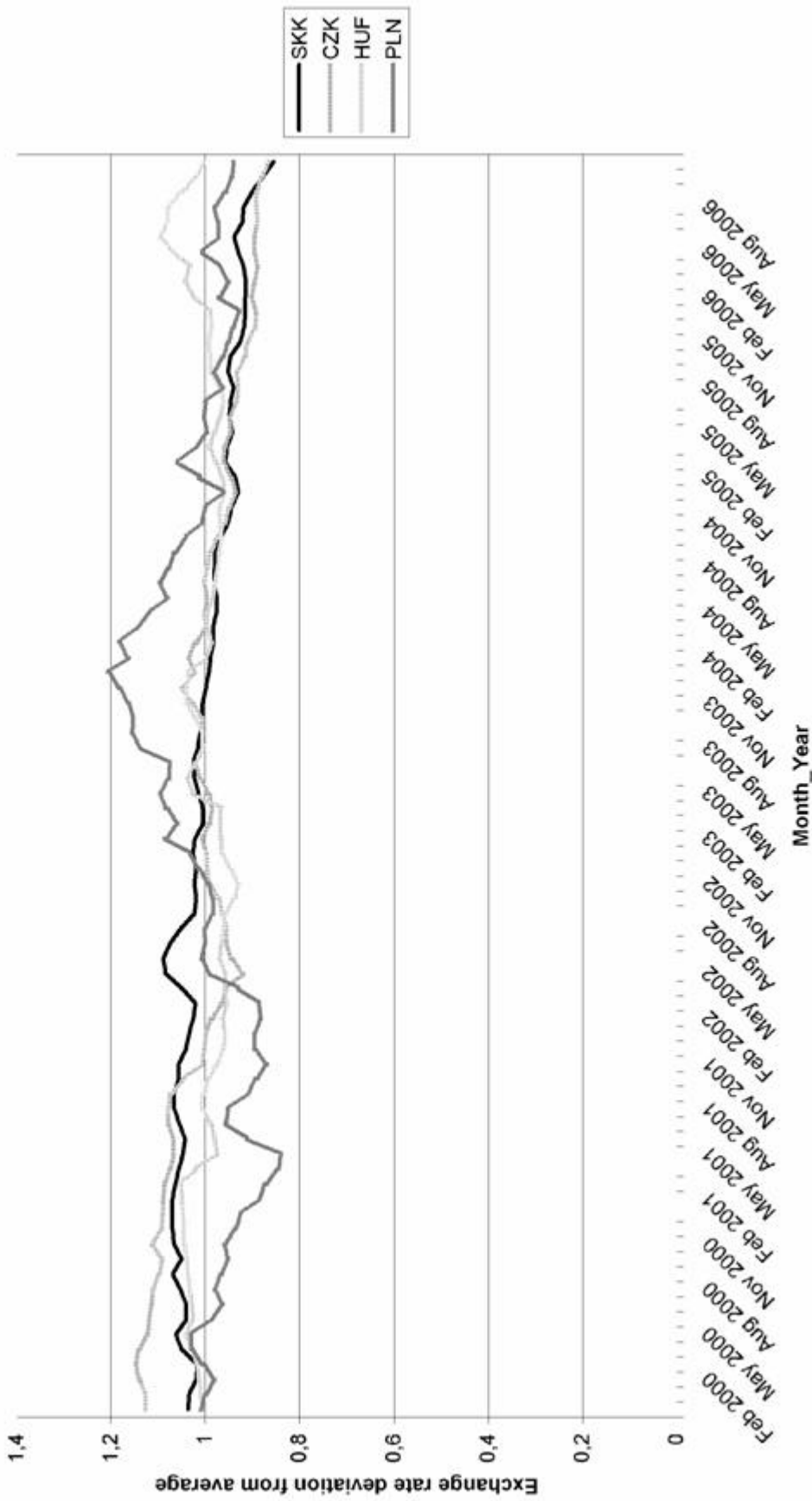
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<sup>11</sup> Federico Ravenna, "The European Monetary Union as a Commitment Device for New EU Member State", 33<sup>rd</sup> Economics Conference of the Österreichische Nationalbank, Vienna, 12 – 13 May, 2005

Graph 1: Volatility of exchange rates (CZK, SKK)



Graph 2: Volatility of exchange rates (SKK, CZK, HUF, PLN)





### *Asymmetry of shocks*

The loss of monetary policy also raises the question whether the common ECB monetary policy will be suitable for a country whose business cycle is different from that of large euro-zone countries. If, for instance, a country is in a recession and needs a more relaxed monetary policy but the rest of the union is on the rise and needs a restrictive monetary policy - the regime of a single currency certainly is a problem. A country is able to take advantage of adopting a single currency in a situation where its business cycle is similar to the rest of the monetary union and their business cycles are expected to continue converging in the future.

According to the NBS the business cycles of the euro area and Slovakia are not very well synchronized. A certain proportion of different cyclical development in Slovakia has been caused by the government reform and stabilization programmes. Restrictive reform “packages” reduced the growth in Slovakia in the period of 1998 – 1999 when the growth in the euro area was high. On the contrary, slowdown of reforms and more expansionary policy in 2002 affected Slovakia at the time when the euro area was experiencing stagnation.

After finalizing the most essential reforms these extensive shocks caused by the government should not occur and thus the NBS expects higher synchronization of cycles in the future. The countries like Spain (and to some extent also Greece and Portugal) are currently in strong symmetry with the euro area although at the time of their entry to the euro-zone their behaviour was similar to that of Slovakia at present. It is probable that closer cooperation and more intensive trade will bring a higher symmetry of responses to shocks and also higher synchronization of business cycles between Slovakia (and other acceding countries) and the euro area.

The NBS simulated in its prognostic model the impact of the independent monetary policy loss. The central bank compared two simulations – in the first one there are an independent policy and a floating exchange rate and in the second one there are a common ECB monetary policy and fixed exchange rate.

The comparison of the two simulations showed that the loss of the monetary policy had only a small impact on the development of the real economy. GDP fluctuations increased only slightly in an environment of a common monetary policy: a standard deviation with independent monetary policy was 1.04%, and with common monetary policy 1.11%. However, an independent monetary policy had a significantly higher stabilization impact on inflation. After the loss of independence the standard inflation deviation from the long-term average increased from 0.24% to 0.68%. The NBS results are very similar to the simulation of the International Monetary Fund for the Czech Republic.<sup>12</sup>

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<sup>12</sup> Susan Schadler and others, *Adopting the Euro in Central Europe, Challenges of the Next Step in European Integration*, IMF 2005

## Other risks and concerns

### *Households and consumers*

There are other concerns and risks connected with the euro adoption mainly on the part of households and consumers.

Consumers are most concerned about increases in prices after the conversion of the currency. In the countries of the current euro area an increase in prices occurred in some areas, caused by incorrect price conversion to euro or by rounding up. However, the overall impact of the euro on the increase in prices was very low; according to Eurostat it was about 0.2%. An extensive programme of dual pricing in Slovakia should help consumers not to lose their orientation on prices. The NBS also expects that the rounding effects during euro conversion will have only a minimal impact on the price level.

The NBS admits that a concern about higher inflation in the long-term perspective is more justified. Price levels in Slovakia are only a little higher than half the average of the EU. With fast economic growth Slovakia will be catching up with the EU not only in the living standards, but inevitably also in price levels. The NBS estimates that inflation in Slovakia will be on average approximately 1.5 percentage points higher than the average inflation within the euro area for several years after the euro adoption.

A concern about a decline in the real value of savings or pensions is also often mentioned. According to the NBS the currency changeover itself does not pose a risk of decreasing the value of savings or pensions because currency conversion should not increase price levels. Prices of goods and services will be converted to the euro by the same conversion rate as savings and pensions, thus their purchasing power will remain unchanged. A concern that higher inflation after joining the euro area will decrease the real value of savings is, however, justified. Real interest rate on household deposits is currently negative and it will probably remain negative also after euro adoption. However, slightly lower interest rates on savings after euro adoption will be accompanied also by lower interest rates on credits. While for entrepreneurs a decrease in the interest rate will work to their benefit, because enterprises are net debtors, such a decline in the interest rate will represent a loss for households which are net savers.

Potentially higher inflation should not represent a threat to the value of pensions. Pensions are regularly valorized; therefore pensioners will be compensated for higher inflation by successive valorizations.

### *Factors limiting the euro adoption advantages*

The NBS admits that the euro area is not an ideal group with a fully open market for all members. There are still several administrative barriers. There is a free movement of goods and capital within the euro area but a common market for services has not been established yet. However, the largest restrictions exist in the labour market mainly for workers from the new member states. Limited labour force mobility weakens member states' resistance to potential asymmetric shocks. Administrative barriers and other market rigidities mean that the euro area is not an entirely optimum currency area.

There are risks also in the decentralized fiscal policy with a common monetary policy. Disorderly fiscal policy of one union member may cause damage to all the members - it can lead to an increase in interest rates or a fluctuation of the exchange rate. In order to solve such problems the Stability and Growth Pact has been developed but the effectiveness of the Pact has proved to be less than desired. From a long-term perspective it will be necessary to support the functioning of the monetary union also by closer political integration and better coordination of economic policies.

## **COUNTRY SUMMARIES OF THE COST-BENEFIT BALANCE**

The National Bank of Poland and the National Bank of Hungary produced similar studies assessing the benefits and costs of the euro adoption. They came to the same conclusion as the National Bank of Slovakia – the benefits prevail over the costs (see Tables 5, 6, 7).

Table 5:  
Advantages and disadvantages of euro adoption in Slovakia

Euro adoption effects	Estimated impact
<b>Benefits</b>	
Reduction of financial transaction costs	Savings of 0.30% of GDP
Reduction of administrative costs	Savings of 0.06 of GDP
Elimination of the exchange rate risk against euro	Savings of 0.02% of GDP (range 0.01% – 0.08% of GDP)
Reduction of exchange rate volatility against currencies of other trading partners	Reduction of the overall effective volatility to 0.35% (from 0.63% in 2001 - 2005), after entry of all V4 countries to the euro area to 0.17%
Reduction of capital costs	Decrease of current real interest rates for business from approximately 2% to the level of 1% – 1.5%
Increase of foreign trade	Increase of foreign trade by 50%
Increase of the GDP per capita due to increases in trade and FDI inflows	Increase of the GDP per capita between 7% - 20% in the long term. Increase of the annual GDP growth by 0.7% (range 0.4% - 1%)

annually)	
Increase of FDI	
Increase of price transparency and competition	Increase of pressure on prices and prevention of their growth
<b>Costs</b>	
Technical and organizational costs of euro conversion	One-off costs of 0.3% of GDP
Specific costs of the banking sector	Costs in connection with the task of providing free conversion of the domestic currency to euro and reduction of the range of activities and revenues of banks.
Loss of the independent monetary policy – abandoning an instrument for mitigation of asymmetric shocks	The value of the loss of the monetary policy is estimated at approximately 0.04% GDP
Possibly higher inflation rate in the long term	Additional contribution to the inflation in comparison with the euro area average amounting to 1.5 percentage point annually.

Source: Martin Suster and others, The Effects of Euro Adoption on the Slovak Economy, National Bank of Slovakia, March 2006

## Hungary

The study by the National Bank of Hungary<sup>13</sup> stated that the final effect of the euro adoption on the Hungarian economy would be positive. In the long-term horizon the euro adoption should lead to an acceleration of GDP growth due to a decline in real interest rates and foreign trade growth.

Giving up the national currency will entail the loss of a tool for keeping some of the asymmetric shocks at bay, while, at the same time, it eliminates one potential source of asymmetric shocks (i.e. emerging market financial contagion). The likelihood of other asymmetric shocks is not higher than in the less developed euro-area countries, thanks to the similarity of production structures, the advanced state of trade integration with the euro area and cyclical synchronicity.

**Table 6:**

Advantages and disadvantages of the euro adoption in Hungary

Euro adoption effects	Estimated impact
<b>Benefits</b>	
Reduction of financial transaction costs	One-off increase of the GDP level by 0.11% - 0.22%
Reduction of administrative costs	One-off increase of the GDP level by 0.07% - 0.08%
GDP growth stimulated by decrease of real interest rates	Increase of the GDP growth rate by 0.08% - 0.13% annually in the long term

<sup>13</sup> Attila Csajbók, Ágnes Csermely and others, Adopting the Euro in Hungary: Expected Costs, Benefits and Timing, National Bank of Hungary, 2002

GDP growth stimulated by increase of foreign trade and reduction of exchange rate risk	Increase of the GDP growth rate by 0.55% - 0.76% in the long term
Reduction of the risk of financial system instability due to contagion from the neighbouring markets	
<b>Costs</b>	
Loss of income from money emissions (seignorage)	0.17% - 0.23% of GDP
Abandoning the currency – loss of an instrument for mitigating asymmetric shocks	This loss is not higher than in less developed countries of the euro area member states. This is due to similarity of economic structures, high degree of integration and synchronization of the business cycle. The loss can be reduced by increasing flexibility of remaining policies (especially labour market policies).

Source: Martin Suster and others, The Effects of Euro Adoption on the Slovak Economy, National Bank of Slovakia, March 2006; Attila Csajbók, Ágnes Csermely and others, Adopting the Euro in Hungary: Expected Costs, Benefits and Timing, National Bank of Hungary, 2002

## Poland

According to the National Bank of Poland<sup>14</sup> the balance of potential costs and benefits of the euro adoption is positive. The costs arising from the potential increase in economic fluctuations following the introduction of the euro should be relatively low and it is unlikely that the ECB's policy will prove inadequate for the Polish economy.

The euro adoption should enable Poland to enjoy sustainable and significantly higher GDP and consumption, most likely with only a slight increase in fluctuations in both categories. As a consequence, Poland's membership of the monetary union will translate into improved welfare, which constitutes the major argument for joining a common currency area.

Table 7:

Advantages and disadvantages of the euro adoption in Poland

Euro adoption effects	Estimated impact
<b>Benefits</b>	
Reduction of financial transaction costs	One-off increase of the GDP level by 0.14%
Reduction of administrative costs	One-off increase of the GDP level by 0.07%
GDP growth after euro area entry in 2007	Increase of the GDP growth by 0.21% - 0.42% annually in the long term
GDP growth after euro area entry in 2010	Increase of the GDP growth by 0.19% - 0.40% annually in the long term
Growth of the overall consumption until 2030	Increase of the GDP growth by 0.16% - 0.37% annually in the long term

<sup>14</sup> Jakub Borowski and others, A Report on the Costs and Benefits of Poland's Adoption of the Euro, National Bank of Poland, 2004

Reduction of the real interest rates	Reduction by 150 – 200 basis points
Increase of growth of domestic investments and increased FDI inflows as well as integration into the euro area financial markets	It will contribute to an increase of the GDP growth
Reduction of the exchange rate risk, elimination of risk of monetary crises, increase of macroeconomic policies credibility	It will contribute to an increase of FDI inflows and reduction of capital costs
Increase of price transparency and competition	It will have a positive influence on improvement of labour productivity
<b>Costs</b>	
Additional disinflation efforts by 1 percentage point	Reduction of GDP growth by 0.3% - 0.8% of GDP in the two-year horizon
Increase of the trade deficit	Increase by 1.3% - 3.0% of GDP annually. This increase, however, does not endanger macroeconomic stability.
Loss of the independent monetary policy – abandoning an instrument for mitigating asymmetric shocks	The risk of asymmetric shocks is moderate and the costs of its elimination should not be significant.

Source: Martin Šuster and others, The Effects of Euro Adoption on the Slovak Economy, National Bank of Slovakia, March 2006; Jakub Borowski and others, A Report on the Costs and Benefits of Poland's Adoption of the Euro, National Bank of Poland, 2004

## CONCLUDING REMARKS

Benefits of the euro adoption are presented by the central banks as significantly larger than its costs in Slovakia as well as in other countries in the V4 region. However, the expected advantages and disadvantages are largely based on assumptions and various simulation models. Some of them are not even quantifiable. Additionally, the euro itself has only a short history which makes the predictions even more difficult and imprecise.

These naturally imprecise estimations do not give much opportunity to compare expected costs and benefits among the countries themselves. Additionally, some of the central banks' analyses are outdated and are using presumptions currently not valid mainly as concerns their planned date of the euro adoption. However, in general, the expected costs and benefits do not seem to be significantly larger in one country than in another. Perhaps, Slovakia is slightly more optimistic in its estimates of the euro's impact on the GDP growth via foreign trade and foreign direct investments. Its optimism also stems out from the fact it is the most open and the smallest economy in the region. What can make another difference in enjoying the benefits from the euro adoption or being exposed to its risks is the timing of the euro adoption (see Chapter 3).

## CHAPTER 3:

### TIMING OF THE EURO ADOPTION

A key consideration in decisions on the euro adoption timing – whether it should be an immediate policy priority or delayed until some notion of readiness is better defined.

If the objective of a euro candidate country is to maximize the long-term benefits of the euro adoption (which is, in fact, also an objective of the European Commission and the current euro area members), it should look at not just how to come into the EMU as soon as possible but how to proceed in the EMU with the smallest costs and the greatest benefits. Here, the indicators such as stability or sustainability with regards to a real convergence are the really important ones. The search for strategies for the euro adoption should then concentrate on this goal. And the question of when to adopt the euro should also be decided against the background of this goal.<sup>15</sup>

#### **“WAIT AND SEE” STRATEGY**

A “wait and see strategy” (or a “wait and improve strategy”)<sup>16</sup> may not be bad for some acceding countries. To wait and see means that one wins time to create stronger structures and institutions that may help a country withstand the pressure coming not only from external, country-specific shocks, but also from internal conflicts. Such conflicts arise when a country tries to simultaneously achieve a fiscal consolidation and improve its structural and institutional basis to achieve the real convergence. Proposing a wait and see strategy should not mean that one regards a country as second-rate. If EMU enlargement comes too hastily, the objective of real convergence may be compromised. This danger is due the effects of restrictive fiscal policy (which is necessary to meet the Maastricht convergence criteria) on infrastructure in the acceding countries.

Most current euro candidate countries also have significantly lower income per capita than is the EU average. These countries should grow faster and many of them do grow faster (Slovakia too) than the entire EMU area, and once inside EMU, they are likely to have higher inflation too. EMU monetary policy thus might

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<sup>15</sup> Susan Schadler and others, Adopting the Euro in Central Europe, Challenges of the Next Step in European Integration, IMF, 2005

<sup>16</sup> Helmut Wagner, Commentary on “Euro Adoption in the Accession Countries: Vulnerabilities and Strategies” by Susan Schadler and others, IMF, 2005

be less suitable to their specific situation even if their trade and financial links with the EMU area are extensive.

EMU has existed only since 1999 and therefore there is still little evidence on the benefits of being “in” (rather than “out”) for countries lagging behind the average per capita income and pursuing in a catch-up strategy. Spain, Portugal and Greece offer some evidence. But most new EU countries have even lower per capita income in terms of EU average than Spain, Portugal, and Greece in the years of their EMU entry – Spain: 83% in 1999, Portugal: 73.6% in 1999 and Greece: 83% in 2001 (see Table 8).

Table 8:

GDP per capita in Purchasing Power Parity (PPP)  
(EU 25 = 100, until 2005)

	2003	2004	2005		2003	2004	2005
Cyprus	80	83	83	Lithuania	45	48	52
Czech Republic	68	71	73	Malta	73	70	69
Estonia	48	51	57	Poland	47	49	50
Hungary	59	60	61	Slovakia	52	53	55
Latvia	41	43	47	Slovenia	76	79	80

Source: Eurostat, Ivana Šikulová, Konvergencia v procese európskej menovej integrácie (Convergence in the process of European monetary integration), Institute of Economic Research SAV, Bratislava, 2006

Additionally, the performance of Spain, Portugal and Greece gives a mixed picture. Spanish EMU entry is considered quite successful, but there are some doubts. The Spanish economy has expanded strongly and it slashed the chronically high level of unemployment as Spain also implemented a number of reforms, especially in the labour market. However, the robust growth was largely domestically generated, driven by the construction sector. Lower interest rates combined with above-average inflation boosted lending growth and sent housing prices up. However, Spanish international competitiveness was eroded and the current account deficit soared to about 10% of GDP (EU Commission estimate, 2007). Now the question is whether Spain will have to pay the price of its success once the effect of lower rates has completely filtered through and construction comes to a standstill. Will it be able to adjust and restore its competitiveness without its interest rate and currency tools?

Portugal's EMU entry experience is somewhat different. The country probably joined EMU with an overvalued currency and has not been able to generate a positive dynamic. Devaluation is no longer an option for Portugal (which also has a high current account and budget deficit) to restore competitiveness. Portugal's GDP per capita in 2006 is even slightly lower than in 2000 when compared to the EU average (70% compared to 74%).



In conclusion, countries in the early stage of catching up which start from a low level of income and which wish to enter EMU should evaluate whether EMU is an optimal currency area (the optimal grouping of regions or countries within which exchange rates should be held fixed). They should also be aware that entry might be conducive to growth at first, but could lead to a build-up of imbalances that need to be fixed later on. This certainly does not mean that EMU entry as such is a recipe for failure, but sometimes it is mistakenly assumed that EMU is a recipe for automatic success and occasionally an alternative to suitably focused domestic policies.

An alternative is that euro candidates will try to catch up outside EMU and keep their currency and interest rate tools for longer. This might avoid serious misalignments in the fundamentals which could cause economic problems sometime later. A second advantage of staying outside is that the country can still react to any currency depreciations carried out by their peers, with whom they compete for foreign investment, a weapon that is lost if they join EMU too early.

Staying out could also spare a dynamically growing euro candidate country from an obligation to push inflation to the lowest possible level as soon as possible (because of meeting the Maastricht criteria) which might be, in fact, at the cost of its economic growth. As mentioned before, in a dynamic economy a stronger price growth is not unusual. Estonian Prime Minister Andrus Ansip explained a postponement of the euro adoption: "With the economic growth of 10 percent there is no scientific reason to believe that the inflation could reach 1 or 2 percent." Although Slovakia's economic growth is slightly less dynamic than Estonian this rule directly applies to Slovakia too.<sup>17</sup>

The ECB itself does not seem to be very much inclined to endorse early euro adoption by EU newcomers with a low level of income and real economic convergence. ECB President Jean-Claude Trichet delivered a speech in Bulgaria advising the authorities to prepare well in advance for the EMU entry and certainly not to rush things. Financial stability-oriented EU institutions would not want to see a crisis inside the EMU, due to countries rushing into the EMU membership.<sup>18</sup>

The fact that the ECB and EC tightened their assessment approach of the Maastricht criteria also proves the cautious view of these institutions (see the Lithuania case in Chapter 1). Although the Maastricht criteria are totally

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<sup>17</sup> František Múčka, *Posledný problém slovenskej koruny* (The Last Problem of the Slovak Koruna), *Trend business weekly*, No 21, 2006, p. 15

<sup>18</sup> Piet Lammens and others, *The New Europe Is Greying – Recent Economic and Demographic Developments in Central and Eastern Europe*, KBC Group, Brussels, 2007

inadequate for assessing the readiness of low income countries to join EMU<sup>19</sup>, the European authorities have no other option but to use them and be strict.

## **ADOPTION IN 2009**

The Slovak officials and the National Bank of Slovakia are convinced that the best option for Slovakia is to adopt the euro as soon as possible – this means as soon as the country can prove it is meeting all the Maastricht criteria in a sustainable manner (Slovakia is supposed to meet the criteria in 2007 – see Chapter 1). The NBS is confident that the benefits will outweigh the costs and possible risks including the risk of higher inflation and the loss of an independent monetary policy once in the euro-zone (see Chapter 2).

Provided that Slovakia is prepared for the entry to the euro area on 1 January 2009, the postponement of euro adoption would mean a loss of direct benefits of its adoption and all positive effects of the euro on the economy would be postponed. The NBS estimates the total amount of lost benefits when the euro adoption is postponed just by one year to approximately 0.7% GDP per year (for the period of approximately 20 years).

The NBS admits that the euro adoption can be postponed by a political decision or if the Maastricht criteria are not met despite the government's efforts and the current good prospects. For instance, further considerable increases in oil and energy prices might prevent the fulfilment of the inflation criterion since energy has considerably higher weight in the Slovak consumer basket than in the majority of other EU countries. There may also appear the situation that under unfavourable circumstances the fulfilment of Maastricht criteria would require extremely high costs and the government decides rather to postpone the fulfilment of all criteria. It will be important to assess how the markets would respond to a possible postponement of the euro area entry.

If the markets believed that the reasons consisted in external shocks and the Slovak policy continued to remain responsible and credible, losses of the postponed euro adoption would not be considerable.

If the markets assessed the situation as a change of official policy and lost confidence in it, the loss from the postponement of the euro adoption could be, however, much higher. The postponement of the date of the euro adoption would mean not only a loss of potential benefits, but it would lead also to direct losses,

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<sup>19</sup> These criteria were agreed at the start of the 1990s to evaluate a group of countries that generally had a similar level of development. It is clear that these criteria are not suitable for evaluating the readiness of newcomers that have per capita incomes significantly lower than EU 15 average. (Piet Lammens and others, *The New Europe Is Greying – Recent Economic and Demographic Developments in Central and Eastern Europe*, KBC Group, Brussels, 2007)

because the credibility of the Slovak economic policy in the eyes of investors would be shaken.

The Strategy of Adopting the Euro approved by the Slovak cabinet currently represents an important anchor for the expectations of international investors. The inflow of FDI might slow down or reverse.<sup>20</sup>

In the case of a cancellation of the euro changeover plans for 2009 significant fluctuations or depreciation of *koruna* exchange rate might occur. Another highly probable effect would be an increase of interest rates and margins. If after the postponement of the euro adoption the interest rates in Slovakia increased just by 1%, it would mean higher costs in servicing government debt by approximately 0.4% GDP and equivalently higher general government deficit. Higher interest margins would be negatively reflected also in the investments of Slovak enterprises.

This might result in destabilization of macroeconomic development, which might endanger for a long time the fulfilment of Maastricht criteria and the euro adoption in the future. In case of a postponed euro adoption membership of ERM II would also pose a great risk. Under extended membership in ERM II the range for appreciation of the exchange rate might be used up and the exchange rate stability and low inflation might come into conflict. There is even a threat that short-term capital could make use of such situation for speculative attacks against the *koruna*. If such attacks succeeded and the *koruna* was excluded from ERM II, the prospects of the euro adoption in Slovakia would get even worse; the whole process of the fulfilment of the Maastricht criteria would have to start over again.

A recent event just after the latest parliamentary elections in June 2006 gives a certain picture of what could happen if Slovakia tried to retreat from its date for the euro adoption. The new Slovak PM Robert Fico publicly distanced himself from his new finance minister's statements (Ján Pociatek) that the euro adoption in 2009 was a priority. At that time Slovak *koruna* was already in ERM II with the previous central parity of 38.455 SKK/EUR. After the PM's statements doubting the date of the adoption the *koruna* started to weaken dramatically and the situation got even worse when Fico did not support the statements of his finance minister on the need to continue with searching for savings in the state budget. Mr. Fico said that the stance of the finance minister would be "adjusted by the will of the ruling coalition". After such statements the NBS had to spend more than 1 billion euros to protect the *koruna* exchange rate at 38.71 SKK/EUR and there was still a trend for the *koruna* exchange rate to rise. After a two-hour meeting of Mr. Fico with the NBS governor Ivan Šramko, the PM's statements about the euro adoption in Slovakia on 1 January 2009 and savings in the budget became definite and the *koruna* stopped weakening. Insider sources indicated that the

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<sup>20</sup> Martin Šuster and others, The Effects of Euro Adoption on the Slovak Economy, National Bank of Slovakia, March 2006, p. 108

meeting in the NBS turned into a rapid briefing for the PM on how monetary policy actually works.<sup>21</sup>

According to the NBS Slovakia should make an effort to adopt the euro on the mentioned date even though the rest of the V4 countries chose to postpone the euro adoption. It admits that entering the EMU along with its neighbours would generate more benefits to Slovakia but the NBS thinks it is not a sufficient argument to postpone the euro adoption.

The Czech Republic, Poland and Hungary are important trade partners of Slovakia. Altogether they represent approximately one fourth of Slovakia's trade. As those countries do not have the intention to adopt the euro jointly with Slovakia, the benefits of the euro adoption, in particular the decrease of transaction costs and the increase of Slovak foreign trade, will be temporarily lower. "But postponing the euro adoption and waiting for other countries would be, however, disadvantageous. Moreover, in some countries the euro changeover plans have been repeatedly postponed because their governments are not able or willing to take appropriate steps towards fulfilling Maastricht criteria. Waiting for them would mean a threat of an unforeseeable extension of the waiting period," reads the NBS analysis.<sup>22</sup>

## ECONOMISTS SPEAK

In order to get a broader picture of what Slovak business circles think about the euro adoption in 2009 in Slovakia and the euro itself I decided to collect opinions of some leading Slovak economists and analysts.

### Euro-skeptics

Peter Gonda<sup>23</sup>

Economist with the Conservative Institute of MR Štefánik, Bratislava

Slovakia is not fully prepared for the monetary union and thus losing the Slovak *koruna* exchange rate can have large negative impacts on households and enterprises. The price level and the structure of the economy lagging behind the EU average are the main problems. The price level in Slovakia in 2005 reached around 57% of the EU average while Portugal's price level four years before its euro-zone accession

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<sup>21</sup> František Múcka, Potvrdil odvolané, odvolal potvrdené (He confirmed what had been called off and he called off what had been confirmed), Trend business weekly, No 28, 2006, p. 15

<sup>22</sup> Martin Šuster and others, The Effects of Euro Adoption on the Slovak Economy, National Bank of Slovakia, March 2006

<sup>23</sup> E-mail memo, June 4, 2007

reached approximately 75% of the EU average (at that time country with the lowest price level in the EU). Given such a large difference in price levels there are significant pressures for increasing inflation and faster convergence towards the price level of the EMU.

Slovakia can be also more vulnerable to external shocks because the production and employment in this country largely depend on several companies in industries of a cyclical nature such as the automotive industry. In case of the euro adoption already in 2009, the flexibility of the Slovak economy and labour mobility will be still quite low. Slovakia has not yet reached an ability to flexibly respond to cyclical deviations.

An impression has been created in Slovakia that the only issue which now can be discussed is how and when to meet the Maastricht convergence criteria. They are emphasized even more because they are considered a guarantee of the cabinet's budgetary discipline. The ERM II can be a trap from which it is difficult to escape.

On one hand the advantages of the euro adoption in Slovakia are overestimated and on the other, the experience of the monetary unions from the past - the real risks and potential problems are not taken into consideration (Latin and Scandinavian monetary unions in 19<sup>th</sup> century Europe – both of them fell apart because the member countries were not willing to integrate politically).

The NBS presents savings from transaction costs as one of the most important direct benefits and yet it estimates the savings from the transaction costs only at 0.36% of GDP. Additionally, these savings will be compensated by losses from the transaction operations in banks – NBS estimates them at 0.2% of GDP. Elimination of the exchange rate risk and larger price transparency are even more negligible benefits. NBS estimates savings from the exchange rate risk elimination only at 0.02% of GDP. Other declared benefits are empirically uncertain (GDP and foreign trade growth).

Another, very often declared advantage – the EMU as a guarantor of financial stability, mainly in the area of budgetary discipline – can be very much doubted. The combination of national fiscal policies with the super-national monetary policy encourages governments to partially shift the financial burden of their policies at the ECB. It leads the governments towards budgetary indiscipline and growing deficits up to or even over 3% of GDP.

Among the existing EMU countries themselves there are significant differences in the economic efficiency and economic cycles, in their economic and social policies and interests. What is more important,

they have still quite largely regulated markets, especially labour market – inflexible labour and inflexible wages and salaries. The largest tensions come from unreformed and indebted pension systems in Germany, France, Italy and Portugal. Economic, cultural and language heterogeneity, various economic conditions and experience are important factors suggesting that Europe is not and probably will not be, in foreseeable future, an optimal currency area.

Juraj Karpiš<sup>24</sup>

Economist with the Institute of Economic and Social Studies, Bratislava

According to NBS the euro should be adopted as early as possible because the benefits outweigh the risks. In my opinion there are more political than economic reasons. I see no economic reasons to hurry up to the eurozone. An effort of politicians to adopt the euro has more to do with national prestige, political capital and media interest as it was in Slovenia. The change in (PM) Robert Fico's approach proves that. When he was in the opposition his opinion on the euro was very reserved. When he is in the cabinet he is willing to freeze the increase of salaries (in public administration) to keep the deficit low.

I think the negative impacts and potential risks of early adoption exceed the benefits. Insufficient convergence and quite dramatic differences in price levels between Slovakia and EU 15 are the main risk. The convergence of price levels will be able to proceed only via inflation because the channel of exchange rate appreciation will be eliminated. Increased inflation and a negative real interest rate on deposits in banks (real interest rates are slightly negative even now) will consequently accelerate a depreciation of citizens' savings.

## **Euro-optimists**

Anton Marcincin<sup>25</sup>

Economist for Slovakia with The World Bank

Slovakia is the most open (see Table 4) and the smallest economy in the (V4) region. The expected positive effects from the euro adoption are higher for Slovakia and the reasons to join the eurozone are more urgent. None of the other V4 countries has a higher economic growth than Slovakia and Slovakia is focused on the GDP growth even

<sup>24</sup> E-mail memo, June 4, 2007

<sup>25</sup> E-mail memo, June 5, 2007; Martin Hanus, Robert Žitnanský, Zatiaľ radšej nie (So Far Better Not), Týžden weekly, No 5, 2007, p. 16

without the need to postpone the euro adoption. A higher inflation does not mean a faster convergence (refers to the need to cut inflation in order to meet the Maastricht criteria which might in theory be counterproductive for economic growth). Slovakia took the reform path which helps the country in a fast convergence. After all, the euro adoption is a political decision and in the case of Slovakia it impacts positively on economic policy.

The euro adoption as of certain date has its pros and cons which have to be watched and, in theory, it is possible that the disadvantages might prevail. However, I see more advantages now.

### Zdeno Štefanides<sup>26</sup>

Chief Economist with the VÚB Bank (Intesa Group)

In my personal opinion, the time for assessing the pros and cons of the early euro adoption has already gone. The result of these analyses presented in the most complex study by the National Bank of Slovakia is that the advantages largely outweigh the disadvantages.

It is also necessary to see it in the light of the fact that Slovakia is the smallest and the most open economy in this region. The share of the foreign trade in GDP is currently the highest from among our neighbours. It means that the advantages from the exchange rate elimination can be larger for us than for other countries in the region.

The opinion that the real convergence is needed first and then the euro should be adopted is perhaps academically arguable but in the real economic conditions the convergence is not always certain. Disciplined government policies and structural reforms are the main prerequisites of the real convergence. In this respect, in my opinion, the single European currency works as an efficient means of tightening fiscal discipline. In other words, it is not certain whether Slovakia would be on the path of real convergence without the euro. I think the opposite - the euro adoption will accelerate the convergence.

### Viliam Pätoprstý<sup>27</sup>

Analyst with the UniCredit Bank

The political consensus to adopt the euro as early as possible in Slovakia was fairly easy to reach and the reason was that the net benefits are quite definite. When comparing the net expected benefits of the euro adoption among the V4 countries, they are slightly higher

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<sup>26</sup> E-mail memo, June 5, 2007

<sup>27</sup> E-mail memo, June 4, 2007

than in Hungary and the Czech Republic and significantly higher than in Poland. Maybe this is the reason, why there is no euro populism like in the Czech Republic and Poland. The NBS which enjoys a strong credibility in Slovakia, possibly stronger than central banks in Hungary and Poland, also largely contributed to the political consensus.

From what has been said it is quite clear that in the Czech Republic, Hungary, and Poland, the anti-euro rhetoric is more a hiding manoeuvre disguising budgetary expansion trends and partially a conformism with the moods of a majority of a population (which is not necessarily correct).

## **CONCLUDING REMARKS**

The sooner a country tries to meet the Maastricht criteria and enter the euro-zone the earlier it is able to take an advantage of the monetary union benefits. However, at the same time early adoption increases a risk that the country is not prepared enough to resist new economic and political challenges within the EMU.

The risk is higher for a country with income and price levels fairly below the EU average and growing much faster than large euro-zone countries. The common ECB monetary policy, which is designed to respond to economic conditions of the core euro-zone countries with much higher income per capita, higher price levels and lower GDP growth dynamics, might not be suitable for them. Once the country is in the EMU it will not have an independent monetary policy to adjust to specific conditions. In the case where a country waits for the euro adoption until its real convergence (income and price levels) is closer to the euro-zone members, the country can benefit from the single currency with less fear from suffering an asymmetric shock.

Additionally, a country's effort to meet the Maastricht criteria as soon as possible (especially low inflation and public deficit) might temporarily decrease GDP growth and slow down convergence with wealthier union members due to the restrictive policy environment – which is, in fact, the opposite effect of what it expects from the euro adoption.

However, a country with a too distant target of the euro adoption might relax its budgetary discipline which makes meeting the Maastricht criteria even harder and pushes the date of the euro adoption into uncertainty. A country thus might lose many years of enjoying euro adoption benefits and irresponsible fiscal policy may lead a country into economic difficulties. In this case, staying out would not help with economic convergence.



## **CONCLUSION**

Slovakia has fairly good chance of meeting the Maastricht criteria in the course of 2007 and 2008. Doubts remain whether the ECB and the EC will consider that the Maastricht criteria in Slovakia are being met in a sustainable manner, mainly as concerns the inflation and the exchange rate stability criteria.

The National Bank of Slovakia as well as the Slovak authorities came to a conclusion that as soon as the Maastricht criteria were met, Slovakia should adopt the euro in order to enjoy the expected benefits as soon as possible. The main expected immediate benefits are elimination of the transaction and administrative costs and of the exchange rate risk. These should support the growth of foreign trade and attract new foreign investment which should consequently result in improved GDP and living standard growth. The fact that Slovak economy is small, open, and its foreign trade is already quite tightly connected to the euro-zone countries should further strengthen the expected advantages from the euro adoption.

On the other hand, considerable risks remain. Economic cycles in Slovakia are only weakly synchronized with those of the euro area countries. Slovakia's income and price levels significantly lag behind the EU average. This suggests that the common EMU monetary policy will not have to be the most appropriate for the healthy development of the country. The critics of the early euro adoption in Slovakia thus call for reassessment of the expected benefits and costs of such a move.

However, the scope to reconsider the date of the euro adoption in Slovakia is currently very limited. If Slovakia postponed or dropped January 1, 2009 as the euro adoption date, its credibility in the eyes of international business and economic circles could be shaken and the costs of such a move would be too high also with respect to the membership in the ERM II.

The history of the euro is too short to have firm evidence on how small and open economies with low income and price levels behave in the euro-zone. The chance of doing very well is about equal to the chance of doing very poorly – just as the euro can create new opportunities it also poses new risks.

The extremely high potential losses of an economically unjustified retreat from the planned euro adoption date, the strong belief of the NBS in the success and the economic circles more inclined to believe in the success are more in favour of the sticking to the January 1, 2009 as the euro adoption date in Slovakia than giving it up.

This does not mean that the other V4 countries will be doing worse when waiting outside the euro-zone. They might be very successful with their strategies of the real convergence outside the euro area as well.

However, at the end of the day, it will be the sound economic policies and market flexibility that will help the countries to be successful:

*“The euro will help but it is not decisive for our future well-being. It does not matter what currency we use to pay for the goods, it is important that the goods and services are produced and sold effectively. The money is a sort of a lubricant that you pour into your machine but if you do not have a good machine, no good lubricant will help you. Policies encouraging business, good legal environment, and research are really crucial, and then they are followed by other supporting things such as a good and stable currency.” (Martin Šuster, Economist with the NBS<sup>28</sup>)*

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<sup>28</sup> Martin Hanus, Robert Žitnanský, Euro pomôže, ale nie je rozhodujúce (The Euro Will Help But It Is Not Decisive), Týžden weekly, No 5, 2007, p. 19

## **BIBLIOGRAPHY**

Arendáš M., Odhad možných vplyvov zavedenia eura na podnikateľský sektor v SR (Estimation of Possible Impacts of the Euro Adoption on the Business Sector in SR), Biatic - National Bank of Slovakia magazine, Bratislava, No 9, 2006

Arendáš M., Pripravenosť podnikov na zavedenie eura (Preparedness of Enterprises at the Euro Adoption), Biatic - National Bank of Slovakia magazine, Bratislava, No 11, 2006

Bencík M., Nemeč M., Šuster M., Zeman J., Strata nezávislej menovej politiky po zavedení eura (Loss of Independent Monetary Policy After the Euro Adoption), Biatic - National Bank of Slovakia magazine, Bratislava, No 8, 2006

Bittner I., Zavedenie eura v slovenskej ekonomike (The Euro Adoption in the Slovak Republic), Ekonomické rozhľady (Economic Views magazine), Bratislava, No 1, 2007

Borowski J. and others, A Report on the Costs and Benefits of Poland's Adoption of the Euro, National Bank of Poland, 2004

Chown J., A History of Monetary Unions, Routledge Taylor & Francis Group, 2003

Csajbók A., Csermely A. and others, Adopting the Euro in Hungary: Expected Costs, Benefits and Timing, National Bank of Hungary, 2002

Dedek O., Rizika a výzvy menovej stratégie k prevzetí eura (Risks and Challenges of the Monetary Strategy Towards the Euro Adoption), Politická ekonomie (Political Economy magazine), Prague, No 1, 2006

Hanus M., Žitnanský R., Euro pomôže, ale nie je rozhodujúce (The Euro Will Help But It Is Not Decisive), Týžden weekly, No 5, 2007, p. 19

Hanus M., Žitnanský R., Zatiaľ radšej nie (So Far Better Not), Týžden weekly, No 5, 2007, p. 16

Lammens P. and others, The New Europe Is Greying – Recent Economic and Demographic Developments in Central and Eastern Europe, KBC Group, Brussels, 2007

Múčka F., Posledný problém slovenskej koruny (The Last Problem of the Slovak Koruna), Trend business weekly, No 21, 2006, p. 15

Múcka F., Potvrdil odvolané, odvolal potvrdené (He confirmed what had been called off and he called off what had been confirmed), Trend business weekly, No 28, 2006, p. 15

Palacková D., Je Európska menová únia nezvratným projektom? (Is the European Monetary Union an Irreversible Project?), Ekonomické rozhlady (Economic Views magazine), Bratislava, No 1, 2007

Ratajczyk A., Going for the Euro Double, Warsaw Voice, 9 May 2007, [www.warsawvoice.pl](http://www.warsawvoice.pl)

Schadler S. and others, Adopting the Euro in Central Europe, Challenges of the Next Step in European Integration, IMF 2005

Schadler S. and others, Euro Adoption in the Accession Countries: Vulnerabilities and Strategies, IMF, 2005

Šikulová I., Konvergencia v procese európskej menovej integrácie (Convergence in the process of European monetary integration), Institute of Economic Research SAV, Bratislava, 2006

Šikulová I., Vašková V., Kritériá menovej integrácie - optimálna menová oblasť verzus maastrichtské criteria (Criteria of monetary integration – optimum currency area), Ekonomický časopis (Economic Magazine), Bratislava, No 3, 2006

Sipko J., Európska menová únia a euro (European Union and the Euro), Elita, Bratislava 1999

Solanic V., Ako ovplyvní zavedenie eura slovenské obyvateľstvo (How Will the Euro Adoption Impact the Slovak Citizens?), Biatec - National Bank of Slovakia magazine, Bratislava, No 11, 2006

Solanic V., Tirpák M., Dlhodobé prínosy zavedenia eura na Slovensku (Long-term Benefits of the Euro Adoption in Slovakia), Biatec - National Bank of Slovakia magazine, Bratislava, No 7, 2006

Šuster M. and others, The Effects of Euro Adoption on the Slovak Economy, National Bank of Slovakia, March 2006, p. 5

Vano V., Nová parita ERM II – aj tak sa dá (New ERM II Parity – That Is Possible Too), Trend, No 12, 2007, p. 80

Zboril Z. and others, Pet let eura (Five Years of the Euro), Mezinárodní politika (International Politics), Prague, No 3, 2007

**Web-pages**

CIA – The World Factbook, [www.cia.gov/library/publications/the-world-factbook/index.html](http://www.cia.gov/library/publications/the-world-factbook/index.html)

EU web page on the euro

[http://ec.europa.eu/economy\\_finance/euro/our\\_currency\\_en.htm](http://ec.europa.eu/economy_finance/euro/our_currency_en.htm)

National Plan of the Euro Adoption in the Czech Republic, government of the Czech Republic and Czech National Bank, 2007: [www.cnb.cz](http://www.cnb.cz)

National Plan of the Euro Adoption in the Slovak Republic, government of the Slovak Republic and National Bank of Slovakia (NBS), [www.nbs.sk](http://www.nbs.sk)

[www.ineko.sk](http://www.ineko.sk)