MAASTRICHT INFLATION CRITERION AND PRICE LEVEL CONVERGENCE IN THE NEW MEMBER STATES[1]

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Abstract

The new EU Members States (NMS) have committed themselves to adopting the euro when they fulfil the so-called Maastricht criteria at a sustainable level. However, these countries are actually pursuing two objectives at the same time: 1) meeting the Maastricht criteria and 2) increasing their real convergence towards the EU average. The catching-up process is accompanied by increase in productivity and price level. As price level convergence brings higher inflation and/or nominal exchange rate appreciation, it could endanger meeting the Maastricht inflation criterion and/or criterion on exchange rate stability, particularly in the countries with the lowest level of real convergence. Hence, the question should be answered if the current formulation of Maastricht criteria is adequate for assessment of the NMS readiness for euro adoption. The aim of this paper is to draw attention to the shortcomings of the criteria, particularly those of the inflation criterion, which has several critics nowadays. The progress in price level convergence in the NMS, inflation development in these countries and fulfilling the price stability criterion since beginning of this millennium is also analyzed. Considering these issues, the timing of euro adoption in the NMS is discussed.

Keywords: *the new Member States; inflation; Maastricht inflation criterion; price level convergence; the euro*

JEL codes: *E31*

1. Introduction

Following the enlargement of the EU on 1 May 2004 by the largest number of countries in the history of European integration, and what is more, countries with a relatively low economic level (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia) and after EU integration of Bulgaria and Romania in 2007,

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Economic and Monetary Union (EMU) is also entering its next stage, in which it will have to face new challenges. The currently applicable EU legislation does not contain provisions allowing Member States opt-outs from the third stage of EMU, such as are available to Denmark and the United Kingdom. In the accession treaties, the new Member States (NMS) committed themselves to adopting the single currency when they meet the Maastricht criteria in a sustainable way.[2] They have become EMU members with derogation regarding adoption of the euro[3]; however, the time horizon for their entry has not been specified explicitly.

At present, these countries can be divided into following three groups: 1) euro area members (Slovenia), 2) ERM II members (Cyprus, Estonia, Latvia, Lithuania, Malta, Slovakia) and 3) ERM II non-members (Bulgaria, the Czech Republic, Hungary, Poland, Romania). Particular attention has to be paid to euro introduction in the former transition economies that are constantly experiencing substantial structural changes.

Nowadays, economic differences between individual EU countries are greater then ever before. Apart from the ambition of meeting the Maastricht criteria in a sustainable way, the aim of the macroeconomic policies in the NMS is to increase their real convergence towards the more advanced EU economies and improve their adaptive mechanisms. This is not only in the interest of their smooth accession, but also in the interest of the successful future operation of the euro area as a whole and in the interests of the stability of the euro as an important world currency.

In 2006, following the conclusions of the convergence reports elaborated by the ECB and the European Commission, the ECOFIN Council decided to cancel the derogation of Slovenia, which, together with Lithuania, requested to be evaluated. Slovenia was allowed to adopt the euro on 1 January 2007, whereas the status of Lithuania as a country with derogation has not been changed because of exceeding the inflation reference value. Thus, Slovenia became the thirteenth member of the euro area and the only economy within the NMS using the single currency so far.

Also Malta and Cyprus, the two non-transition candidates, already meet conditions for euro area entry, which will take place on 1 January 2008. Ministers of Finance and Economy from the EU States definitely confirmed their monetary integration at their meeting at the

[2] The term “sustainability” is not clearly defined.
[3] Greece also had this derogation until 31 December 2000 and Sweden, which has not yet fulfilled the necessary criteria for introducing the single currency (the Swedish krona has still not entered ERM II), still has it.

beginning of July 2007, where also exchange rates of the Cypriot pound and the Maltese lira against the euro were set.

Many of the others NMS were forced to delay their entry into the monetary union because of problems with meeting the Maastricht criteria, namely inflation criterion and public finance criterion. This is also why discussion on the relevance of the convergence criteria has intensified recently.

The remainder of this paper is organized as follows. The second section discusses the shortcomings of the Maastricht criteria, particularly those of the criterion on price stability. The third section deals with the process of real convergence in the NMS with special attention to the increases in their comparative price levels. Inflation development in these countries is analyzed in section four. The following section discusses the timing of euro adoption considering the difficulties in meeting the inflation criterion. Conclusions of the paper are summarized in section six.

2. Controversy about the Maastricht criteria

When deciding on the integration of other EU members into the euro area, *the principle of equal treatment* between the new and the current Member States should be fully applied. The European institutions emphasize that the nominal Maastricht criteria will be applied strictly. However, these criteria were formulated at the beginning of the nineties of the last century, it means in time when monetary union did not exist, transition of the Central and Eastern European countries had only begun and EU (or even euro area) enlargement had not been considered.

A serious design weakness of the Maastricht criteria is that they specify a number of nominal convergence criteria that jointly constrain the development of real economic variables (Buiter, 2004). The candidate countries are required to pursue simultaneously three nominal objectives at the same time, namely reference value for inflation, reference value for long-term interest rates and nominal exchange rate target zone centred on fixed nominal euro parity. However, even talented central banks have their hands full pursuing just one nominal objective (Buiter – Sibert, 2006a).

In addition, at the beginning of the 1990's, the world financial system was different than it is today. In the time when the Maastricht criteria were formulated some Member States of the current euro area applied capital controls and global financial markets were less developed and less sophisticated. Nowadays, the EU members have fully open capital

accounts and the capital mobility is much higher, so there is enough room for speculative attacks on the currencies of small economies.

Hence, many authors deal with the question if the Maastricht criteria are still appropriate for evaluating the readiness of countries to adopt the euro. According to Bolle and Jacobsen (2001), a revision of the criteria could help minimize risks arising during euro area enlargement and would enable the NMS to cope adequately with special needs of their economies. In this context, Kenen and Meade (2003) point out that when evaluating convergence progress of the NMS, *equal* treatment should not mean *identical* treatment but *equivalent* treatment, taking into account the changes brought about by the creation of the monetary union and the situation of the NMS, which is different from that of the old Member States due to the catching-up process.

2.1 Criterion on price stability

According to the Article 1 of the *Protocol on the convergence criteria* annexed to the *Treaty on European Union (Maastricht Treaty)*: „The criterion on price stability referred to in the first indent of Article 109j(1) of this Treaty shall mean that a Member State has a price performance that is sustainable and an average rate of inflation, observed over a period of one year before the examination, that does not exceed by more than 1 1/2 percentage points that of, at most, the three best performing Member States in terms of price stability. Inflation shall be measured by means of the consumer price index on a comparable basis, taking into account differences in national definitions."

The Maastricht inflation criterion is a moving target, thus, it is associated with a high uncertainty. It is calculated on the basis of the average inflation of the three best performing EU, not euro area, Member States. Consequently, these could be three countries outside the monetary union. However, from the economic point of view, there is no reason why the decision on the country's readiness for euro adoption should depend on the inflation in non-euro countries.[4] It is possible that the average inflation of the three best performing EU countries (which, in addition, can be relatively small economies) will be close to zero or substantially lower than the euro area average. Consequently, the reference value could be

[4] If only inflation rates of euro area members, i.e. not all EU members, were taken into account when calculating the reference value of the inflation criterion, the value would be 0.2 percentage point higher (Finland + Netherlands and Austria instead of Poland and Sweden) in 2006, and 0.4 percentage point higher (Finland + Netherlands + Germany instead of Sweden) in 2005.

lower than 2 % (price stability definition of the European Central Bank - ECB)[5], or lower than the average euro area inflation. In such case, it would be necessary to revaluate what Member States should be taken into consideration when calculating the Maastricht inflation criterion (NBS, 2004).

In addition, the NMS themselves, which aim to adopt the euro as soon as possible, can push the reference value for inflation to lower levels in future. Their central banks strive to achieve lower inflation than is the anticipated reference value. As a result, it is possible that they record one of the lowest inflation rates within the EU, thus, their inflation can be crucial in the calculation of the criterion. Examples of such development are Malta and Cyprus. According to the forecast of the European Commission, their inflation rates (and the Swedish inflation) are likely to be the basis for the calculation of the reference value in 2007.

Another debatable issue is the fact that in the countries evaluated, sustainability of meeting the inflation criterion is analyzed, whereas factors of the low inflation in the Member States considered in calculation of the reference value are not investigated more deeply. However, non-sustainability of the low inflation in these states in the time of deciding on euro area enlargement is also possible. In such case, rejection of euro area entry based on exceeding the reference value for inflation by a few percentage points could seem unfair.

The next issue results from the fact that the NMS are still experiencing the catching-up process. Countries with a relatively low economic level usually have also low price and wage levels in comparison with more advanced EU economies. The catching-up process is accompanied by increase in price level, i.e. also by inflation. Low wage levels and high wage dynamics can be seen as a sign of wage convergence. However, backed by high productivity increases, this is also getting into conflict with the inflation criterion.

Hence, several authors recommend redefining the inflation criterion to take into account the specific situation in the NMS. Elena Kohutikova, the former vice governor of the National Bank of Slovakia, pointed out already in 2001 that the catching-up process in these countries requires a certain level of inflation and that its inordinate reduction could cause recession (Janáčková, 2002). She also mentioned that this problem will continue after adoption of the euro and suggested to consider price stability only according to price development in the tradable sector, not according to the overall inflation, which is and also

[5] In addition, the 2 percent inflation rate is considered as *phantom inflation* caused by the quality improvements and product innovations.

will be influenced to a great extent by the Balassa-Samuelson effect (BS – effect)[6] in the catching-up economies in a long term.

Several representatives of the central banks in the NMS and a number of economists consider the inflation criterion inadequate, too. Even a liberal think-tank as the European Economic Advisory Group (EEAG, 2007) proposes in its recent report on the European Economy a "Balassa-Samuelson rebate" (maximum 1 percentage point) for the inflation criterion to be applied at the EMU accession of the NMS; and the IMF argues that meeting the inflation criterion depends much on its interpretation (Schadler et al., 2005). Some economists even argue for delay of euro adoption, while strong trend of real appreciation in the candidate countries remains (Tullio, 1999).

According to Buiter and Sibert (2006b, p.3), the decision to reject Lithuania as a euro area member because of exceeding the reference value for inflation was „erroneous and based on a *rigid application* of an *inconsistent interpretation* of a *flawed inflation criterion*". Apart from already mentioned shortcomings of this criterion, they consider it flawed also because of the fact that it is coupled with a nominal exchange rate criterion. As they say, no central bank should have two nominal objectives.

The inconsistent interpretation means that the ECB and the European Commission applied a definition of best performing in terms of price stability to the candidate countries (the lowest inflation rate) that differs from the definition used for the existing euro area members (ECB target - inflation below, but close to 2 percent). Hence, Buiter and Sibert (2006a, p.18) consider a natural interpretation of "best performing in terms of price stability" as the inflation rates of the three EU countries that are closest to, but below 2 percent.[7] Thus, the reference value for inflation should be about 1.9 % + 1.5 % = 3.4 %. According to the authors, real exchange rate appreciation, i.e. also higher rate of inflation, is an efficient, equilibrium phenomenon that should not be penalised by the inflation criterion as it does not hinder effective functioning of the monetary union. Consequently, adding 1.5 % as the Balassa-Samuelson

[6] The subject-matter of this effect is the different growth rate of labour productivity in tradable and non-tradable sectors. While this growth is faster in the tradable sector, wages have a tendency to rise in both sectors at almost the same rate. A gap is thus created in the non-tradable sector between growth in productivity and growth in wages. If growth in productivity in the tradable sector outstrips that in the non-tradable sector at home more than in other countries, this leads to faster growth of the domestic price level in comparison with abroad, i.e. a higher inflation rate differential.

[7] The Czech Republic and some other non-ERM II countries tried to open discussion with the aim of reinterpreting the inflation criterion in accordance with the ECB definition of price stability. However, this initiative was not successful (MF ČR – MPO ČR – ČNB, 2006).

equilibrium inflation differential would put the benchmark at 4.9 %. In such case, meeting this criterion would be feasible for more NMS.[8]

Buiter and Sibert (2006b) also criticize arguments of the ECB and the European Commission in favour of retaining the existing way of calculation of the reference value. The both institutions proclaim that this criterion has been used in all previous convergence reports, thus, it is not going to change.

Unlike the institutions mentioned above, the European Parliament in its resolution of 12 July 2007[9] „acknowledges that the definition of price stability used for assessing the convergence criteria is not identical to the price stability definition adopted by the ECB in its monetary policy, as the convergence criteria mainly assess measured past performance whilst the ECB's definition is an aim set for future performance; regrets that the inflation criterion as set in the Treaty is measured against all Member States instead of concentrating on those which are now part of the eurozone."[10] The European Parliament also „considers that the new Member States may face challenges in joining the eurozone especially with regard to the price stability criterion, since inflation may be part of the catching-up process; therefore calls on the Council and the Commission to examine the convergence criteria through further analysis of and policy debate on the application of the convergence criteria to prospective new members of the eurozone and in the light of the new reality and differences in economic development."

3. Price level convergence in the NMS

Increasing real convergence, i.e. GDP per capita in purchasing power parity, towards the more advanced EU economies is a key objective of the NMS. The catching-up process of these countries is expected to take several years, even decades. It is realized through faster GDP growth compared with the more advanced economies (particularly due to faster productivity growth) and through real exchange rate appreciation.

Real appreciation of the currency, i.e. price level convergence, has two channels: inflation differential and nominal exchange rate appreciation. Hence, real convergence could affect nominal convergence (meeting the Maastricht criteria) negatively, or vice-versa –

[8] Estimates of the impact of the Balassa-Samuelson effect on the real appreciation of the Eastern European countries against the euro area appear to be in range of 1.5% to 2.5% per annum (Buiter, 2004). As De Grauwe and Schnabl (2004) find, in case of fixed exchange rates, the equilibrium level of inflation is 1 to 3 percentage points higher in the Central and Eastern European NMS than in the EU-15.

[9] European Parliament resolution of 12 July 2007 on the 2007 annual report on the eurozone (2007/2143(INI)).

[10] In case of Lithuania, the reference value of the inflation criterion was calculated on the basis of inflation in Finland, Poland and Sweden, i.e. on the basis of one member of the euro area and two non-members.

excessively strict macroeconomic policies could hinder catching-up process. So, simultaneous fulfilment of the criterion on price stability and the criterion on exchange rate stability could require low inflation and/or revaluation of the central parity to the euro during the ERM II membership.

In addition, after entry into the euro area, only inflation channel remains available for real appreciation of the NMS, as the definite exchange rates of their national currencies against the euro will be set. Since inflation will not be smothered by the appreciation of the national currency, during several years after euro adoption, a faster increase in prices and lower (or even negative) real interest rates in comparison with the euro area average are to be expected. This regards particularly the countries where price convergence occurred mainly through the exchange rate channel in the past.

Price level convergence will be reflected in inflation rates mainly in the case of the BS-effect and adjustments in regulated prices. Inflation in the NMS will likely exceed the ECB's objective and also the Maastricht reference value, i.e. this criterion will not be fulfilled in a sustainable way. However, the ECB will probably not raise interest rates because of higher inflation in the small economies of the NMS, as their effect on the inflation rate in the enlarged euro area will be rather limited.

As is shown in Figure 1, the comparative price levels[11] in most NMS are much lower then the EU average. Cyprus with price level of approximately 90% is very close to the EU average, followed by Slovenia, Malta (both about 75%) and Estonia (more than 65%). The other countries have price levels between 55% – 65%, Bulgaria even only 44%.

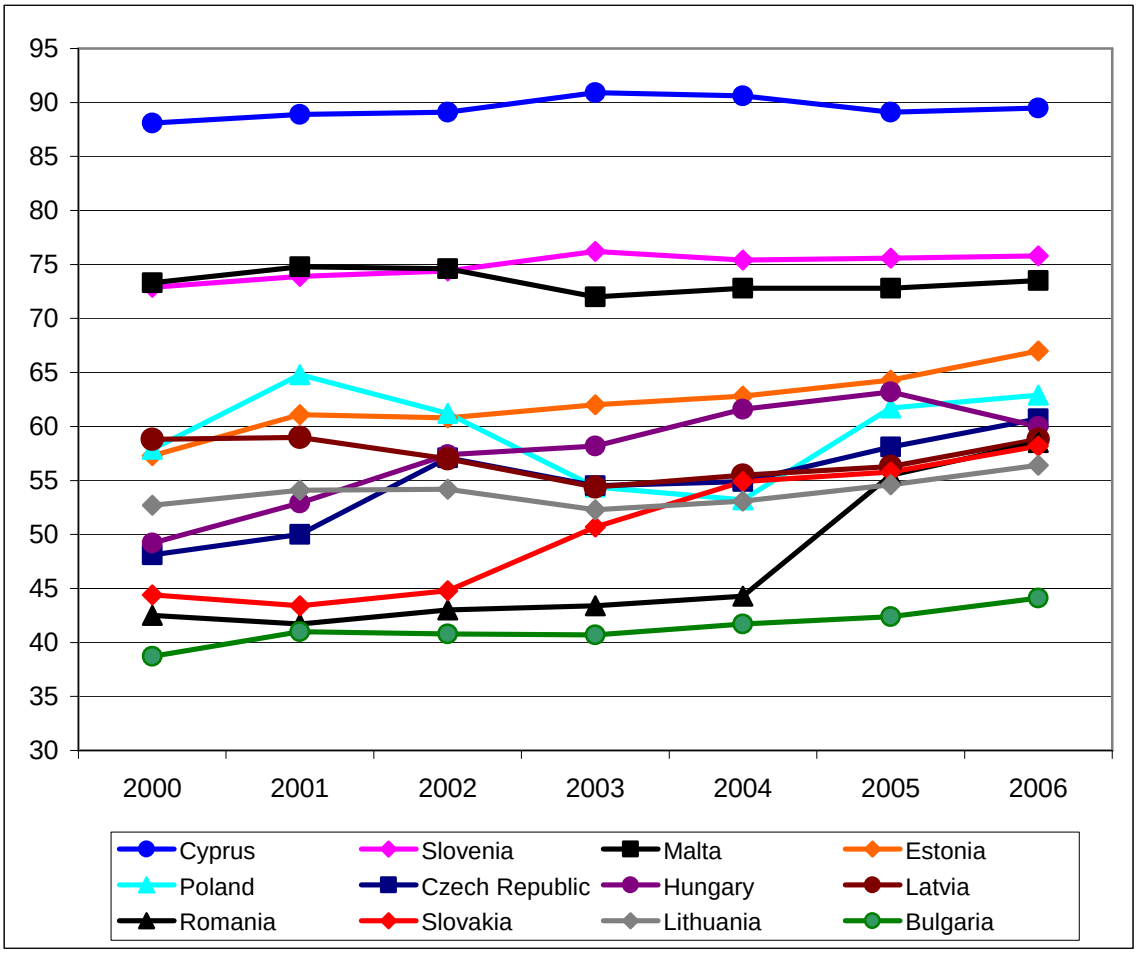
Since Slovenia as the only new EU Member State, which entered the euro area for the time being, together with Malta and Cyprus, that are going to adopt the single currency on 1 January 2008, record the highest comparative price levels within the NMS, they will probably not face problems with a significant increase in inflation rates during the membership in the monetary union.

Assuming that Slovakia meets the Maastricht criteria, on 1 January 2009, it will become the fourth country among the NMS in the euro area. Together with Romania, Slovakia has recorded relatively fast increase in price level during the last few years.

[11] Comparative price levels (CPL) are the ratios of purchasing power parities (PPPs) to market exchange rates. They provide a measure of differences in price levels between countries and, with certain restrictions, a means of observing the movement of price levels over time. Price levels converging towards EU average actually mean increase in purchasing power of national currencies on the EU market. ERDI (Exchange Rate Deviation Index) is a reversed value of the CPL, i.e. deviation of the exchange rate from the PPP.

However, the comparative price level in Slovakia is still by more than 15 percentage points lower than in Malta or in Slovenia, by about 30 percentage points lower in Cyprus and the lowest among the V4-countries. So, after euro adoption in 2009, Slovakia would be the euro area member with the lowest comparative price level and consequently relatively strong inflation pressures.

Figure 1 Development of comparative price level in the NMS in 2000-2006 (%, EU25=100)



Source: Eurostat (2007)

Dobrinsky (2003) highlights that aiming at a rapid rate of convergence to the inflation rates prevailing in the EU while at the same time striving for quickly catching-up on the per capita income levels in the EU can to some extent be regarded as a conflicting and mutually exclusive objectives. According to him, the catch up inflation that emerges during a dynamic process of productivity catch up can in no way be related of disequilibria in the economy; on the contrary, this is an inherent feature of its equilibrium growth path.

Rossi (2004) finds that for present euro area countries, the process of real convergence has been rather slow both before and after their entry in the monetary union and that this conclusion might apply to acceding countries as well. Thus, the process of nominal convergence could be undertaken with some success only at the expense of accepting real divergence among the participating countries.

Inflation in fast growing and catching-up Greek, Spanish, Portuguese and Irish economy exceeded the Maastricht reference value almost every year after their euro adoption, i.e. after abandoning exchange rate channel of real appreciation. So, they would not qualify for monetary union if they applied for membership at that time; and actually, they do not meet the inflation criterion in a sustainable way. Along with damping of inflation pressures in some rapidly growing members of the current euro area (e.g. Ireland and Portugal) induced by the EU, economic growth of these countries has been reduced. According to Vintrová (2006), the time concurrence of these phenomena is not evidence of their direct dependence; however, it would be useful to analyze experience of the mentioned economies more deeply.

Although sufficient level of real convergence and relatively high price level are not necessary conditions for euro adoption, they are conditions for successful membership of the country in the euro area and for gaining benefits from the membership. In case of sufficient level of real convergence and also effective adaptive mechanisms available, the economy would not lack its autonomous monetary policy including exchange rate channel of real appreciation so much, i.e. inflation pressures would not be as strong as in the countries with less progress in real convergence.

4. Inflation development in the NMS

Regarding inflation development, the NMS are a relatively heterogeneous group. With the exception of the Baltic States, they recorded more or less decrease in inflation rates since 2000 (Table 1). However, inflation was higher in 2006 than in the previous year in most of the countries. Romania, in particular, was an exception with inflation falling down, but still one of the highest in the EU.

Only five out of the NMS (the Czech Republic, Cyprus, Malta, Poland and Slovenia) did not exceed the reference value of the Maastricht inflation criterion in 2006. Malta and Cyprus do not converge towards the more advanced EU economies as fast as the other NMS do, as their convergence gap is smaller, so their inflation rates are the lowest within this group of countries.

The disinflation process in Slovenia prior to euro adoption has been successful and the economy met the criterion on price stability at the time of the evaluation. Prices did not rise as much in the first quarter of euro area membership (January – March 2007) as the Slovenian population was afraid. However, in the following months, euro introduction could be considered one of the factors pushing inflation in Slovenia up, along with economic growth exceeding the EMU average.

The Czech and Polish economies face a slight increase in inflation due to wage increases, higher prices for food, rising regulated prices and excise duties in 2007, leading central banks to raise key interest rates in both countries. However, according to the European Commission forecast, they will likely keep inflation rates below the reference value (Table 1).[12]

Table 1 Fulfilment of the Maastricht inflation criterion (HICP) in the NMS in 2000-2006 and forecast for 2007

	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***
Bulgaria	10.3	7.4	5.8	2.3	6.1	6.0	7.4	4.2
Czech Republic	3.9	4.5	1.4	-0.1	2.6	1.6	2.1	2.4
Cyprus	4.9	2.0	2.8	4.0	1.9	2.0	2.2	1.3
Estonia	3.9	5.6	3.6	1.4	3.0	4.1	4.4	5.1
Hungary	10.0	9.1	5.2	4.7	6.8	3.5	4.0	7.5
Latvia	2.6	2.5	2.0	2.9	6.2	6.9	6.6	7.2
Lithuania	1.1	1.6	0.3	-1.1	1.2	2.7	3.8	4.7
Malta	3.0	2.5	2.6	1.9	2.7	2.5	2.6	1.4
Poland	10.1	5.3	1.9	0.7	3.6	2.2	1.3	2.0
Romania	45.7	34.5	22.5	15.3	11.9	9.1	6.6	4.6
Slovakia	12.2	7.2	3.5	8.4	7.5	2.8	4.3	1.7
Slovenia	8.9	8.6	7.5	5.7	3.7	2.5	2.5	2.6
reference value	2.7	3.1	2.9	2.7	2.2	2.5	2.9	2.8

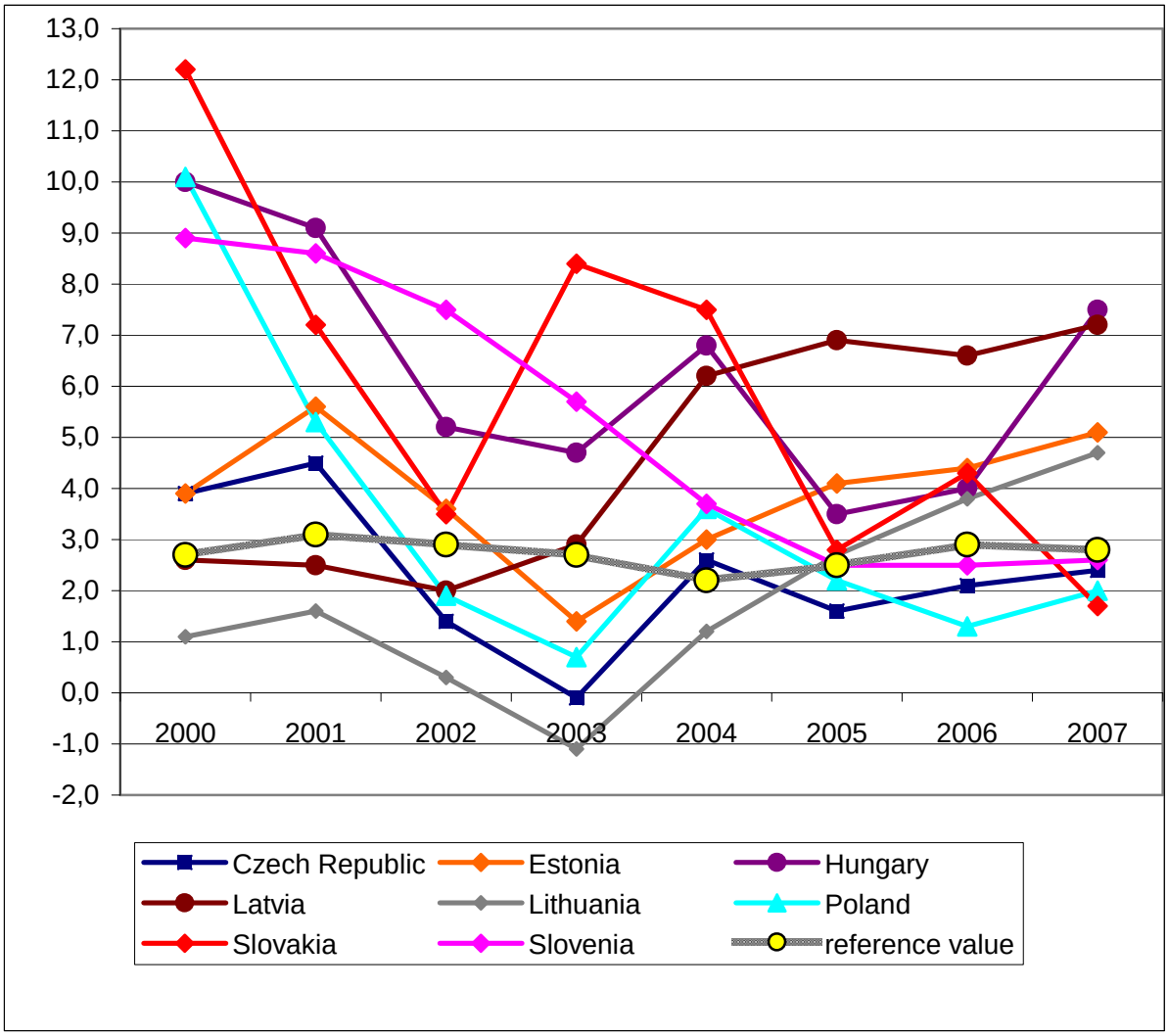
Source: Eurostat (2007), European Commission (2007)

In 2006, Slovakia, Romania and Bulgaria have recorded inflation rates exceeding the reference value; however, their reduction is expected. In Slovakia, inflation is falling down and converging to the reference value despite exceptional economic growth. While the Slovak koruna is appreciating, inflation decreased bellow the reference value in July this year. According to the forecasts, the Maastricht criterion will probably be fulfilled without any problems (with reserve of about 1 percentage point) in spring 2008, when progress in convergence will be evaluated. As the Figure 2 shows, Slovakia is the only country among the former transition economies in the EU, where decrease in inflation rate, even relatively

[12] According to the Czech National Bank, inflation in the country will likely exceed the inflation reference value in 2007 and 2008, due to administrative measurements, and decline in the following years.

substantial (by 1.6 percentage points in comparison with the previous year), is expected in 2007. However, the ECB expressed doubts about the long term sustainability of the currently low inflation rate in Slovakia in its report for the International Monetary Fund. If the criterion were not met in a sustainable way, euro adoption planned for 1 January 2009 would be endangered.

Figure 2 Fulfilment of the Maastricht inflation criterion (HICP) in the V4 countries, Slovenia and in the Baltic countries in 2000-2006 and forecast for 2007



Source: Eurostat (2007), European Commission (2007)

Similar to Slovakia, appreciation of the national currency smothers inflation pressures also in Romania. In this country, relatively rapid disinflation is expected in medium term, while due to strong wage pressures, slower disinflation is predicted for Bulgaria.[13]

[13] In September this year, Bulgaria recorded inflation rate of 13.1% when compared with the same month in 2006.

The Baltic States and Hungary record higher inflation rates, mainly due to increase in energy and food prices. The increase in food inflation results from weather conditions, rising global food prices and the lagged impact of higher energy costs on food prices. Whereas inflation is expected to remain high or even increase in the Baltic States, it is going to be reduced in Hungary.

Continuing and even stronger inflation pressures are expected in several NMS. The main reasons are as follows: high domestic demand induced by growing wages[14], adjustments in regulated prices and excise duties having also secondary effects on other prices, currently weakening tendency towards rising exchange rates in countries with floating rates and last but not least, the BS-effect induced by price level convergence.

5. Timing of euro adoption

Since 1 January 2008, the euro area will comprise of fifteen members including three NMS, namely Slovenia, Cyprus and Malta. However, many of the NMS were forced to postpone their planned entry into the monetary union (Table 2). Their economic growth is high and can be considered sustainable in most cases, but these countries face problems with macroeconomic imbalance in the areas relevant for qualification into the monetary union – inflation (Baltic countries, Hungary, Bulgaria and Romania), as mentioned above, and public finances (most of the V4-countries). Some of the NMS have not yet set or reset (after the cancellation) the date for the euro adoption. As far as the newest EU Member States are concerned, the aim of Bulgaria is to adopt the euro as soon as possible, whereas Romania will probably focus on increase in real convergence first.

The Baltic States intended to introduce the euro as soon as possible. Real convergence of these economies towards the old EU members is relatively fast, as they started from considerably low levels. All Baltic States fulfil the Maastricht criteria apart from the inflation criterion. While fixing their exchange rates, they have smaller room for monetary policy; and thus, their inflation targets are more likely to be missed. Lithuania and Estonia planned to join the euro area on 1 January 2007 and Latvia on 1 January 2008. According to the European institutions, in time of assessment, Lithuania did not fulfil criterion on price stability in a sustainable way; and further development of the economy has confirmed the unsustainability of its inflation rate. Estonia and Latvia did not even request for assessment as their inflation rates were already too high in time of planned assessment. Latvian government adopted anti-

[14] Outward migration of labour creates additional wage pressures.

inflation measures in order to slow down the overheated economy. However, the efficacy of the measurements is questionable. So far, strong inflation pressures caused four-year delay of planned euro adoption in the Baltic States and additional postponement is also possible.

Table 2 Timing of euro adoption in the NMS

	Date	***Comment***
Slovenia	1 January 2007	already euro area member
Cyprus	1 January 2008	originally 2007
Malta	1 January 2008	
Slovakia	1 January 2009	originally 2008 - 2009
Estonia	?	originally 2007, not before 2011 (inflation)
Lithuania	?	originally 2007, not before 2011 (inflation)
Latvia	?	originally 2008, not before 2012 (inflation)
Czech Republic	?	originally 2009 - 2010, not before 2012 (public finance deficit)
Poland	?	probably not before 2012 (government's lack of enthusiasm in adopting the euro)
Hungary	?	originally 2008, probably not before 2014 (does not fulfil any criterion)
Bulgaria	?	originally 2009, probably not before 2012 (inflation)
Romania	2014	originally 2010 – 2012 (inflation)

Source: National websites

Slovakia intends to join the euro area on 1 January 2009, but there are doubts about sustainability of fulfilling the criteria, particularly inflation criterion and criterion on public finance deficit.[15] The other NMS are expected to adopt the euro during the next decade, Poland, the Czech Republic and Bulgaria becoming probably the euro area members sooner than Hungary and Romania. Inflation rates of the last three mentioned countries are very likely to exceed the Maastricht reference value in the years to come. By now, Hungary even does not fulfil any of the Maastricht criteria as the economy is in a difficult fiscal position.

Slovakia is currently the only country among the Eastern EU Member States with a formally set date for euro adoption and seems to become the fourth euro area member among the NMS. It remains to hope that the Slovak economy will manage this process without serious difficulties and will become an example of a successful monetary integration.

[15] In case of the public finance deficit criterion, there are even doubts about not exceeding the reference value as Eurostat will probably recalculate the value of the deficit for 2006. Hence, public finance deficit could be higher than expected also this year.

6. Conclusion

The highest priority of the NMS is their real convergence to the more advanced EU countries. At the same time, they are supposed to meet the Maastricht criteria in a sustainable way in order to join the euro area. The process of real convergence includes real appreciation of the national currency, which occurs through nominal appreciation of the currency and higher inflation differential prior to euro adoption. Once the country adopts the euro, the exchange rate channel will no longer be available; inflation is expected to increase and real interest rates to decrease.

Although the Maastricht criteria formulated at the beginning of the nineties of the last century, particularly inflation criterion and criterion on exchange rate stability, have several weaknesses, their modification seems to be politically unfeasible. For this reason, their flexible interpretation taking into account individual needs of the NMS would be desirable, especially for countries with effective adaptive mechanisms, i.e. countries that are able to maximize benefits from euro adoption. On the contrary, for economies that should first implement the necessary reforms, delay of the entry would probably be more convenient as potential costs of abandoning autonomous monetary policy could be reduced gradually.

The better the economies entering the euro area are prepared for the monetary integration, the more benefit they can achieve. Apart from sustainable fulfilment of the Maastricht criteria and adaptive mechanisms available, sufficient level of real convergence and adequate rate of caching-up process - including increase in price and wage levels supported by productivity growth - can be considered as a part of the readiness for euro adoption. Hence, optimal timing of entry into the euro area based on a complex assessment of a country's readiness is a significant prerequisite for its sound economic development during the membership.

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