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Working Paper

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ZEI working paper, No. B 14-2004

**Provided in cooperation with:**

Rheinische Friedrich-Wilhelms-Universität Bonn

Suggested citation: Jonas, Jiri (2004) : Euro adoption and Maastricht criteria: Rules or discretion?, ZEI working paper, No. B 14-2004, <http://hdl.handle.net/10419/39597>

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Jiri Jonas

**Euro Adoption and  
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# **Euro Adoption and Maastricht Criteria: Rules Or Discretion?**

**Jiri Jonas**<sup>1</sup>

## **1. Introduction**

The debate about rules versus discretion has a long history in the fields of economics and economic policy. Economists have intensively debated whether sticking to firm rules or allowing more room for discretion and flexibility in decisionmaking would produce superior economic results. Perhaps the most well-known example of the rules versus discretion debate is the debate about the conduct of monetary policy. Opponents of discretion argue that in view of the inherent weaknesses and defects of human character, and due to the pressure of politics, too much discretion will eventually lead to its misuse and to inferior economic performance; opponents of rules argue that their application in a dynamic, difficult to predict and ever-changing economic systems would produce policies that are not responding flexibly to changing circumstances, and therefore produce – yes – inferior economic performance. In the area of monetary policy, this debate has never been definitively settled, even though the ever-growing use of inflation targeting regimes, characterized as constrained discretion, suggests that in practice, a sort of a compromise solution may have been found. A truce has been achieved.

However, while the debate about rules versus discretion in the conduct of monetary policy may have been put on a backburner for the time being,<sup>2</sup> it reappeared in another area: the application of Maastricht criteria in assessing the compliance of the accession countries of Central Europe (further Central European Countries, CECs) with the criteria for the adoption of the euro.<sup>3</sup>

Arguments were made that the CECs are sufficiently different from the present members of the Economic and Monetary Union (EMU) that a different treatment, and

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<sup>1</sup> Senior Advisor to Executive Director, International Monetary Fund. Views expressed here are of the author and do not represent an official view of the IMF.

<sup>2</sup> More recently, the debate has intensified whether the Fed should move from a discretionary approach to monetary policy conduct to a more rule-based approach, by introducing a more formal inflation target.

<sup>3</sup> The discussion in this paper does not cover the Baltic countries, Cyprus and Malta, because the issues discussed here are less relevant for these countries.

particularly a more flexible interpretation of the Maastricht criteria, would be justified on economic grounds.<sup>4</sup> On the other side, representatives of the European Central Bank (ECB), European Commission (EC) and present EMU members (further referred to as European institutions) argue that the rules and conditions for the euro adoption, as formulated in the existing legal documents, will be applied equally to the new applicants as they were applied to the existing members, and that the principle of equal treatment needs to be upheld.<sup>5</sup>

Does the emphasis by the European institutions on upholding the rules pose a problem? What is the risk that excessive emphasis on rules relative to discretion would force the CECs to pursue economic policies that would be damaging to their economic performance and slow down their real convergence with the more advanced European economies? Or, conversely, is there a risk that a further relaxation of rules and application of more discretion in managing the process of EMU enlargement would weaken the credibility of legal and institutional framework in the monetary union? These are difficult and legitimate questions, and need to be debated openly. This paper purports to contribute to this debate in a constructive way.

In the second section, we will discuss the potential problems that could arise for the CECs from the present interpretation of the Maastricht inflation criterion, and we will make an argument in favor of a modified interpretation that would better reflect the changes related to the introduction of the euro and the specific conditions of the CECs. In the third section, we will address the exchange rate stability criterion and the potential conflicts that monetary policy could face while trying to meet simultaneously the inflation and exchange rate objectives. We will discuss how serious such conflict could be and how to deal with it. The next section discusses fiscal policy: it analyzes whether a more ambitious objective of fiscal consolidation than the Maastricht criteria for public debt and fiscal deficit should be pursued, and whether fiscal policy could be used to assist monetary policy in dealing with short-term macroeconomic fluctuations. Final part concludes with some thoughts about the desirability of interpreting with adequate flexibility and economic sense the rules guiding the euro adoption.

## **2. Maastricht inflation criterion: in need of overhaul?**

One often voiced concern is that the Maastricht inflation criterion is not well-suited for the CECs because it would force them to target a very low inflation that would not

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<sup>4</sup> For example, see G. Szapary, (2000), Kenen (2003).

<sup>5</sup> For example, the 2000 Convergence Report, Annex B states that “The Treaty makes no distinction between initial and later entrants to the euro area as regards the application of the criteria. The principle of equal treatment implies that, *as far as possible*, Member states joining later should not be confronted with additional hurdles, nor be allowed to join on looser terms than the first-round entrants.” (italics by the author).

eventually be sustained and whose achievement would require a temporary excessive monetary restriction or administrative measures reducing temporary indirect taxes or administered prices. Both methods of reducing inflation would do nothing to strengthen the evidence that the CECs are pursuing policies conducive to price stability, yet could produce higher interest rate, increase output instability and create distortions.

The objective of the Maastricht inflation criterion is to ensure that only countries with low inflation will be able to adopt the euro. Because decisions about monetary policy in the monetary union are taken collectively, the fear was that the presence of countries with a higher tolerance for inflation could produce a pro-inflation bias in the union-wide monetary policy that would not be acceptable to countries with a preference for lower inflation.<sup>6</sup> Therefore, the observance of the Maastricht inflation criterion served as a test that countries that join the monetary union are capable of delivering low inflation.<sup>7</sup>

The Maastricht Treaty stipulates that to be able to join the monetary union, a country's inflation during the 12 month test period must not exceed by more than 1.5 percentage points the average inflation of three best performers in the EU. Subsequently, three best performers were interpreted as three EU members with lowest inflation. There was nothing conceptually wrong with such specification of inflation criterion for the founding members of the monetary union.<sup>8</sup> However, at the start of third stage of EMU, situation for new applicants for membership in the monetary union has changed.

Before the founding of the ECB, monetary policy in the EU was operated by 15 independent national central banks.<sup>9</sup> Inflation in each individual EU country was determined primarily by the conduct of monetary policy, even though inflation may also have been affected by temporary shocks unrelated to their conduct of monetary policy. In contrast, monetary policy in the EU countries today is conducted by the ECB for the 12 members of the monetary union, and only the United Kingdom, Denmark and Sweden have their own

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<sup>6</sup> See de Grauwe (2000), chapter 6.

<sup>7</sup> However, as the test period for inflation is only twelve months, observing the Maastricht inflation criterion does not actually say much about the long-term inflation preference of society and policy makers in individual countries. It also says little about how the representatives of these countries would vote on the ECB board.

<sup>8</sup> The reason for choosing this specification of price stability is explained in the 2000 Convergence Report. At the time of drafting the Treaty, there was no established definition of price stability. Referring to "best performance in terms of price stability" was deemed a satisfactory standard to be applied.

<sup>9</sup> Of course, several central banks were in practice closely following the Deutsche Bundesbank's monetary policy.

monetary policy. While Denmark follows closely the ECB, by pegging closely their currency to the euro, the United Kingdom and Sweden are implementing an independent monetary policy within the inflation targeting framework.

In these circumstances, the question arises whether the original interpretation of the Maastricht criterion of inflation should not be reassessed. First, the ECB has now provided a clear definition of price stability, meaning inflation less than but close to 2 percent. Second, inflation in the 12 members of the EU that have adopted the euro is not any more the result of their own national monetary policies, but the result of euro-wide monetary policy conducted by the ECB. The ECB is following the objective of inflation of less than but close to 2 percent. However, as a result of relatively large differences among the euro area members regarding cyclical position a structural characteristics, there is a relatively large dispersion of inflation rates within the euro zone. In the faster growing countries with lower than euro-average income level, inflation tends to be higher, while in the slower growing countries, it tends to be lower than the euro area average. Inflation in individual countries of the euro area reflects partly the conduct of monetary policy by ECB, but partly their specific characteristics like income level, productivity and GDP growth, openness and sensitivity of domestic prices to exchange rate fluctuations etc., which are in no way related to the conduct of monetary policy. The more is an euro area member different from the euro area average, the more can inflation in that particular country reflect its structural specifics, and commensurately less the impact of monetary policy.

New EU members that will be obliged to adopt the euro at some point in the future will nevertheless be required to meet the Maastricht inflation criterion that may well be calculated using as a reference inflation in three best performers of the euro area.<sup>10</sup> In terms of their structural characteristics, particularly income level and growth, the new EU members are akin to the fastest growing/lowest income present euro area members. However, under the existing rule, or, more accurately, under the unchanged approach to the interpretation of the existing rule, these countries would most likely be required to replicate inflation performance of countries that are at the different end of the euro area membership ranked by income level.

Of course, there is the 1.5 percentage additional margin for inflation that provides some leeway to the CECs. So if the inflation in the three best performers does not fall too low, the Maastricht inflation criterion need not be unduly restrictive. But leaving the issue of the likely quantitative value of the Maastricht criterion aside, there remains a more general problem: the new candidates will be required to conduct their monetary policy in such way as

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<sup>10</sup> Another question is whether inflation in the non-euro area EU members should continue to be used in calculating the Maastricht reference value of inflation. For the discussion of this issue see the 2000 Convergence Report, Annex B, which concluded that there is no economic reason why decision on fulfillment of the criteria for euro adoption should depend on inflation and interest rates of countries outside the euro area.

to replicate inflation developments in some members of the euro area even though this inflation will not be exclusively the result of monetary policy conduct, but will also reflect structural characteristics and euro area-wide monetary conditions. As the former ECB governor Duisenberg recognized, measuring inflation in individual members of the monetary union does not make much sense; inflation in Germany or France has the same meaning as inflation in Texas or California.<sup>11</sup>

There are two possible approaches how to deal with this problem.

From a theoretical perspective, the most attractive inflation criterion for the new applicants for euro adoption would be to use the ECB inflation objective. The margin of 1.5 percentage points would still be maintained, in recognition of the fact that faster-growing countries with income and price levels still significantly below that of the euro area average tend to exhibit a somewhat higher inflation which is not a result of unduly loose monetary policy but a result of relatively faster growth. The mechanism described as the Balassa-Samuelson effect implies that a period of catching-up (real convergence) is characterized by somewhat higher inflation, and the estimates of the size of such structural inflation in the CECs range from 1 to 2 percent a year, suggesting that the 1.5 percentage point room above the ECB inflation target should accommodate the structural specifics of the CECs, without forcing inflation below a level that would be sustainable.<sup>12</sup>

Using as a Maastricht criterion the ECB's inflation objective rather than actual inflation would carry important benefits.<sup>13</sup> First, it would avoid the risk that the new candidate countries may need to replicate ECB's policy mistake. Second, and more importantly, it would provide an exact numerical value of the inflation target instead of a qualitative definition. Such clarity and predictability is important for the conduct of monetary policy. It is easier for a central bank to make a decision when it knows what inflation it is targeting.<sup>14</sup> Another important benefit would be that the inflation target would be stable, and would not change in response to changing cyclical conditions in the euro area and as a result of structural shocks. Cyclical developments and structural shocks may not always affect the CECs and present euro area members symmetrically, which would further complicate the conduct of monetary policy in the CECs if they were to target actual inflation in the euro area.

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<sup>11</sup> Comments at the press conference on June 5, 2003. See, for example, The New York Times, June 6, 2003.

<sup>12</sup> D. Mihaljek and M. Klau (2003); NBH (2002).

<sup>13</sup> In numerical terms, this should mean targeting inflation about 3.4 percent (1.9 plus 1.5 percent) because ECB objective is less than 2 percent, but close to 2 percent.

<sup>14</sup> See recent discussion on the desirability of a specific numerical inflation target for the Fed.

However, in its present form, the Maastricht inflation criterion is defined on basis of actual inflation, not on basis of inflation target. Maintaining this practice, the second option would be to apply a different interpretation to the “three best performers”. Best performers could mean countries with lowest inflation when we are referring to a situation when inflation remains above the desired objective, and when the main task of monetary policy is to reduce inflation further. This interpretation has also made more sense at the time when there was no established criterion of price stability. But as was already noted, the ECB has now provided a clear definition of price stability. Furthermore, inflation in the euro area is now at a level close to the inflation objective, and maintaining price stability and not reducing inflation further is the main objective of monetary policy. Being closest to the target thus means “being best” in terms of inflation performance. After the travails of Japan with deflation, it is now widely understood that inflation could be too low, and that less is not always better.<sup>15</sup> Therefore, taking as a reference for calculation of the Maastricht inflation criterion inflation in three EU countries with inflation closest to 2 percent could be a reasonable compromise between the past interpretation of the Maastricht inflation criterion and the theoretically appealing option of using the ECB inflation target.

In theory, the second approach could have some disadvantages. One is that actual inflation fluctuates, which means that the Maastricht inflation criterion becomes a moving target, and its actual value is not known until the decision is made about the period for the evaluation whether the new candidate has met the criterion. There is also a risk, though probably more theoretical than real, that the ECB will make mistakes in the implementation of monetary policy and that inflation could become too low or too large.<sup>16</sup> There is no reason why the new applicants should replicate such a mistake to qualify for the euro adoption. But the main advantage of the second option is that it would not require a rewriting of the existing rules for euro adoption, just a different interpretation of these rules that reflects changed conditions and that does not violate the equality of treatment of individual members. Inflation performance would still be judged on basis of existing rules, but these rules would be interpreted with a certain degree of flexibility which should allow to pursue an economically sensible approach to assessing monetary policy of new members, without at the same time undermining the credibility of the rules.

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<sup>15</sup> The present practice is to exclude from the calculation of the Maastricht reference value countries that are outliers in terms of inflation performance, which means countries with negative or too low inflation. However, this rule is somewhat arbitrary as it is not clear where is the line that separates outliers from others.

<sup>16</sup> This is not to suggest that the ECB would make such a mistake deliberately. However, decisions about monetary policy are always made in an environment of uncertainty, and even the best-intentioned decisions could prove mistaken *ex post*.



Figure 2 shows the Maastricht reference value of inflation using the three different methods: the method applied thus far (current calculation), the method using the ECB target, and the method where three best performers would mean three EU members with inflation closest to 2 percent. As we can see, this proposed new interpretation of “best performers” would have two benefits for accession countries.

First, it would provide a more stable reference value than the currently used calculation, which has fluctuated sizably. Second, it would permit a somewhat higher inflation to accommodate the specific sources of faster growth in prices. It could be hardly objected that requiring the CECs to keep inflation at about 3.5 percent would provide room for running irresponsible monetary policy and would thus not represent a sufficiently ambitious hurdle for them to overcome in order to prove that they do not suffer from an excessive inflation bias that would make them a threat to price stability within the monetary union.<sup>17</sup> On the other hand, the benefits of such approach could be nonnegligible. The CECs would not be forced to conduct monetary policy in such way as to bring inflation to a level that would be less than can be sustained once they adopt the euro. In such case, either monetary policy would have to be temporarily too restrictive, slowing down real convergence, or temporary administrative measures would need to be implemented to achieve a transitory and artificial reduction in inflation. Such solution is possible as well, but at least from an economic perspective, it lacks attraction.

### **3. Too many objectives for monetary policy?**

The above discussion of the Maastricht inflation target was based on the assumption that the main objective of monetary policy in the period ahead of the euro adoption will be to keep inflation below certain limit. However, the extent to which monetary policy in the CECs before the euro adoption can be devoted exclusively to the pursuit of inflation objective is not quite clear.

The reason is that in order to qualify for the euro adoption, the CECs will also be required to meet the objective of exchange rate stability, and they will also have to stay at least two years in the exchange rate mechanism (ERM2). While the conditions for the ERM2 membership are quite clear - a mutually agreed exchange rate parity with a fluctuation band  $\pm 15$  percent around that parity, observance of the exchange rate stability criterion is less clear cut and the criterion leaves room for judgment by the European institutions that will be making the final assessment of whether or not the criterion was observed.

The Maastricht Treaty (Article 121(I) ) stipulates that meeting the exchange rate stability criterion requires that the country observes “normal fluctuation margins provided by

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<sup>17</sup> Specifically, for 2003, applying this method for inflation in EU members would produce Maastricht reference value for inflation in the range of 3.4-3.7 percent.

the exchange rate mechanism of the European Monetary System, for at least two years, without devaluing against the currency of any other Member State”. Originally, this normal fluctuation band meant  $\pm 2.25$  percent. However, after the currency crisis in 1992-93, the fluctuation band of the exchange rate mechanism was widened to  $\pm 15$  percent. This widening has created some uncertainty about the role of the original narrow fluctuation bands in assessing the fulfillment of the exchange rate stability criterion. The 2000 Convergence Report observes that “a ‘standard’ fluctuation band of  $\pm 15$  percent has been established and this, in principle, corresponds to the ‘normal fluctuation margins’ referred to in the Treaty.”<sup>18</sup> But then it continues that “equality of treatment can be reasonably assured by a modification of the framework for applying the exchange rate criterion ... a similar assessment of exchange rate stability can be made in the context of a fluctuation band of  $\pm 2.25$  percent.”<sup>19</sup> However, the Convergence Report also adds that a movement of the exchange rate outside this narrow band should not be automatically seen as an evidence of serious exchange rate tension and thus does not automatically imply a breach of the stability criterion. A judgment will be applied to make that assessment, taking into account the size and length of deviation from the narrow band, whether it was in the direction of depreciation or appreciation (with the latter being treated more leniently), the underlying reasons of the deviation and what was the policy response. In a more recent attempt to clarify the interpretation of the exchange rate stability criterion, the ECB (2003) takes a somewhat more relaxed position about the width of the fluctuation within the ERM2 band, by noting that “the width of the fluctuation band within the ERM II shall not prejudice the assessment of the exchange rate stability criterion”.

After the negative experience with the managed exchange rate regimes (soft pegs) in many emerging market countries in recent years, it is not surprising that the requirement for the CECs to adopt an exchange rate band and to manage their exchange rates even more tightly within this band has raised some concerns.<sup>20</sup> Currency pegs were identified as a significant factor contributing to a number of serious financial crises in emerging market economies.<sup>21</sup> Since then, soft pegs have gained a reputation of a very risky regime that should be preferably avoided. However, the CECs are not in the same situation as a typical emerging market country that has suffered from a financial crisis, and it could be argued that a more tightly managed exchange rate does not make them necessary more vulnerable, as in a typical emerging market country. The very prospect of euro adoption and the associated adoption of stability-oriented policy framework enhances the policy credibility of the CECs. Equally important, the introduction of the exchange rate band is a temporary measure, a step from a more flexible regime to a hardest possible peg, an adoption of a common currency. The exit from the soft peg arrangement is defined *ex ante*, perhaps not necessary in terms of

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<sup>18</sup> EC (2000), p. 68.

<sup>19</sup> Ditto, page 68.

<sup>20</sup> See Begg et al. (2003); Kenen and Meade (2003).

<sup>21</sup> See M. Mussa et al. (2000).

timing, but certainly in terms of conditions under which it would take place, and what will replace it.

While managing for some time exchange rate more tightly may not pose the same threat to the CECs as to a more vulnerable emerging market countries, it raises a different problem. What will be the main objective of monetary policy during this period?

According to the Maastricht Treaty, in order to meet the conditions for the euro adoption, the candidate countries must meet both an inflation objective and an exchange rate objective. There is also a fiscal deficit objective that will be the occupation of fiscal policy. But what other instrument than monetary policy could be used to meet both inflation and exchange rate objectives? And if only monetary policy is available, how should this one policy instrument be used to pursue two different objectives?

In theory, for a country that is open to capital flows, it is not possible to peg exchange rate while at the same time maintaining control over money supply (and thus inflation).<sup>22</sup> As part of the obligation resulting from the EU membership, the CECs had to liberalize their capital account transactions, and are now fully open to capital flows. While the Maastricht Treaty allows to reintroduce temporary capital controls, this could happen only exceptionally and controls cannot be used as a standard policy tool. Therefore, monetary policy is left as the only available policy instrument to pursue the inflation and exchange rate objectives.<sup>23</sup> Some suggest that fiscal policy could, in addition to pursuing the Maastricht fiscal deficit and public debt objectives, also assist in meeting the inflation objective. We will discuss this issue later.

Pursuing two objectives with one policy instrument should not necessary be impossible at all times. Whether or not this could be done depends on the following considerations: (1) how long this two objectives/one instrument situation is supposed to last; (2) what are the starting conditions: are the two objectives already observed at the beginning of the test period, that means, is the policy task "only" to preserve the objectives, or is it necessary to move toward these objectives? (3) how precisely (or narrowly) are these objectives defined? (4) how likely is the attainment of one objective to conflict with the attainment of the other objective? We discuss these in turn.

First, concerning the duration of dual objective/one policy tool situation, it is not possible to say ahead how long this situation will last. We know that at a minimum, a country

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<sup>22</sup> The discussion of historical validity of this proposition see Taylor and Obstfeld (2004).

<sup>23</sup> Some argue that sterilized intervention in foreign exchange market could be used as an additional policy instrument that could at least mitigate the two objectives/one instrument problem. Referring to recent research results, Bergsten (2004) argues that sterilized intervention has now been shown to represent additional policy instrument.

that wants to qualify for the euro adoption needs to stay two years in the ERM2 and needs to maintain exchange rate stability (that is, normal fluctuation margins) for a minimum period of two years. As was noted, these two criteria are not identical, and staying in the ERM2 does not necessarily mean that the test period for assessing the exchange rate stability is running. This means that the shortest possible time for pursuing these two objectives is two years, but could last longer. The longer the situation of two objectives/one instrument lasts, the more likely is the conflict.

Second, the starting conditions. If a country would join the ERM2 and at the same time would seek to meet the exchange rate stability criterion while its inflation would still be above the required target and would need to be brought down, the likelihood will be higher that the two objectives would conflict. Bringing inflation down would likely require tighter monetary policy and higher interest rates than just maintaining inflation stable.<sup>24</sup> Higher interest rate and positive interest rate differential vis-à-vis the euro area, in combination with the expectation that exchange rate will remain stable or even appreciate, could attract large capital inflow that would fuel the growth of liquidity, and could either threaten the achievement of inflation target, or produce a currency appreciation. While currency appreciation need not entail the violation of the exchange rate stability criterion, and it could be eventually accommodated within the ERM2 system by parity revaluation, to the extent that the appreciation of actual exchange rate does not reflect the appreciation of equilibrium exchange rate, it could be costly as a result of loss of competitiveness and output.

Similarly, if the exchange rate would be fluctuating significantly prior to the ERM2 entry, it could be subsequently more difficult to maintain its fluctuation close to the ERM2 parity, and to meet the exchange rate stability criterion. High exchange rate fluctuation prior to the ERM2 entry would also make it more difficult to determine the appropriate ERM2 parity. Clearly, it would be less demanding to ensure exchange rate stability and avoid potential conflict with inflation objective if a sufficient degree of exchange rate stability prevails at the time of the ERM2 entry and if inflation would be close to the Maastricht reference value.

Third, how precisely are the objectives defined? Arguably, if a central bank would be required to reach inflation  $x$  percent and at the same time maintain a specific exchange rate of its currency against the euro, monetary policy would be facing a nearly impossible task, and such precisely defined targets would be simultaneously achieved only by a pure coincidence. However, despite the concerns about the specification of the Maastricht inflation criterion, it could be argued that both inflation and exchange rate targets are defined in a relatively flexible way. Inflation target is defined as a maximum permissible value, and any inflation rate below that ceiling meets the Maastricht criterion. Similarly, exchange rate to be achieved

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<sup>24</sup> Of course, high interest rates may be needed even to keep inflation stable, for example, if there is a risk of excessive growth of domestic demand and subsequent overheating.

is not defined as a fixed point but rather as a range, though not exactly defined *ex ante*.<sup>25</sup> As a result, there are many combinations of inflation and exchange rate values that would, *ex post*, be deemed as compatible with the Maastricht criteria (see figure 1).

Fourth, how likely are the two objectives to be in conflict with each other? The fact that there is a range of permissible values for inflation and exchange rate reduces, but not eliminates, the possibility that attainment of one objective could conflict with the other objective. Under what circumstances are such conflicts likely to arise? There are two possible scenarios.

In first scenario, exchange rate would appreciate sharply, and bringing it back closer to parity would require lower interest rates which could then threaten the achievement of the inflation objective. The policy response should depend on the acceptability of deviation of exchange rate from the parity in the direction of appreciation versus the acceptability of deviation of inflation from the target. An exchange rate appreciation could pose a problem if inflation would still be above the required Maastricht value and further disinflation would be needed. Reducing inflation would likely require higher interest rates relative to the euro area, thus pushing the exchange rate up even further.<sup>26</sup>

In this context, the expected timing of the assessment of the observance of the Maastricht inflation criterion is also important. Monetary policy operates with lags, and changing interest rates is likely to affect exchange rate first, while inflation rate would respond with a lag. Therefore, it could be possible to reduce interest rates and slow down capital inflows relatively soon, yet this reduction in interest rates would affect inflation only after several months. The implication is that if inflation is already in line with the Maastricht requirement and if the test period for inflation criterion is approaching, the conflict between the exchange rate and inflation rate objectives would be less serious and monetary policy could pay more attention to exchange rate stability.

Intervention in the foreign exchange market can also be used to prevent the undesirable currency appreciation. Monetary effects of the foreign exchange market intervention could be sterilized, to prevent excessive growth of liquidity and eventual breach of the inflation target. However, the problem is that sterilized foreign exchange market intervention may not be fully effective in fully neutralizing the undesirable effects of large capital inflows on the exchange rate and/or inflation. Sterilized intervention prevents a downward adjustment of interest rates, thus sustaining the incentive for capital inflows to

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<sup>25</sup> It should be again emphasized that allowing the currency to fluctuate within the whole ERM2 band may not be compatible with the observation of the exchange rate stability criterion.

<sup>26</sup> Such situation will not create a problem from the perspective of meeting the Maastricht criterion, but from the perspective of competitiveness.

continue. At the same time, sterilized intervention on a large scale can have its own undesirable consequences, including fiscal costs.

Under an alternative scenario, exchange rate would be depreciating rapidly and bringing it back to parity would require rising interest rates (and possibly adopting other measures, depending on the causes of the exchange rate pressures). Again, such policy response would not conflict with the attainment of the inflation objective. If actual inflation would be higher than the inflation target, interest rates would most likely need to be increased anyway. If inflation would not be above the target, it could be that an increase in interest rates could result in the undershooting of the inflation target and lower inflation than what is required to meet the Maastricht criterion. But this would not disqualify the country from adopting the euro, and it should be an acceptable price to be paid for the ability to adopt the euro.

The bottom line is that the way in which the inflation and exchange rate objectives are specified and evaluated makes a conflict between these two objectives less likely. For practical purposes, inflation rate is defined as a ceiling, while exchange rate is defined as a floor. From the perspective of meeting the Maastricht criteria, there is practically unlimited room for exchange rate to appreciate and for inflation to fall. Appreciating nominal exchange rate usually tends to push inflation lower, while falling inflation is unlikely to push nominal exchange rate to depreciate. Rather than missing one of the two criteria, the concern could be about the impact of the possible appreciation on economic performance of the CECs. Such appreciation could be triggered by investors' perception of asymmetric exchange rate risk, in combination with high interest rates. This underscores the importance of entering the ERM2 with relatively low inflation, to avoid the need to achieve further disinflation and thus to keep interest rates elevated.

What should be the framework for the conduct of monetary and exchange rate policy in the ERM2?

The official view of the European institutions appears to be that once a country joins the ERM2, exchange rate objective should have a priority. In fact, it is argued that inflation targeting, as practiced today in a number of the CECs, is not compatible with the ERM2.<sup>27</sup> In principle, one can imagine two different approaches to the conduct of monetary policy within the ERM2. One approach would be to focus on exchange rate stability, and subordinate

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<sup>27</sup> The ECB (2003) lists the exchange rate regimes that are not compatible with the ERM2. This list includes a float or managed float. However, this does not need to imply that inflation targeting would be necessary incompatible with the ERM2. Hungary is pursuing an exchange rate regime that closely mimics the ERM2 while at the same time targeting inflation, though Hungary's experience also shows that such policy framework could be tricky in the absence of disciplined macroeconomic policies. Kontolemis (2003) also recognize that inflation targeting could be compatible with participation in the ERM2.

inflation to the exchange rate target. The assumption would be that with stable macroeconomic policies and exchange rate, inflation would remain stable (and low) as well, ensuring the observance of the inflation criterion. Another approach would be to continue targeting inflation (of course, in a modified form because of the necessity of setting the ERM2 parity), assuming that monetary policy producing low inflation would, in combination with disciplined fiscal policy and expected observation of the Maastricht fiscal criteria, produce a reasonable degree of exchange rate stability. Which one of these two approaches is preferable?

While the official view is that the exchange rate objective needs to be the primary target, giving priority to the inflation target would appear to be more attractive, for the following reason.

As was noted above, the range of values of exchange rate that would be compatible with the observation of the exchange rate stability criterion will not be known ex ante; the judgment will only be made ex post. The ERM2 fluctuation band is too wide, and exchange rate deviations from the parity will have to be less than what would be permitted under the  $\pm 15$  percent fluctuation band. But how close is not known ex ante. The original narrow  $\pm 2.25$  band could provide a reference value, but deviations from this narrow band are possible, particularly in the direction of appreciation. Defining the task of monetary policy as keeping the exchange rate close to the parity may avoid the problem of absence of exact quantification of the exchange rate objective, but it is questionable whether it provides a sufficient operational guidance to monetary policy. Crucially, it leaves some ambiguity regarding how soon and how forcefully should monetary policy respond to deviations of actual exchange rate from parity, and how the policy response should depend on specific factors driving the exchange rate away from the parity.<sup>28 29</sup> The more aggressively will monetary policy seek to keep the exchange rate near the parity, the more can inflation and other variables fluctuate. If this approach would be pursued, inflation could exceed the Maastricht reference value, even if all other criteria would be observed. Inflation criterion would then need to be interpreted flexibly, though such flexible interpretation has not been – and is unlikely to be – advertised by the European institutions beforehand.

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<sup>28</sup> One possibility how to deal with this uncertainty would be for the CECs and the European institutions to consult how policies should respond to exchange rate movements away from the agreed parity.

<sup>29</sup> It could be argued that similar uncertainty applies to deviations of actual or expected inflation from inflation target as well. However, inflation fluctuates much less than exchange rate. While exchange rate data are reported daily, data on actual inflation are only collected and reported on a monthly basis, and projected inflation is published even less frequently. Moreover, market participants and general public already have some idea about how inflation-targeting central banks will respond to deviations of actual inflation from inflation target.

Targeting inflation as a primary objective would make the task for central banks easier. First, most CECs are already practicing inflation targeting, it is a well-established operational framework in which they have already gained some expertise. Second, particularly if the Maastricht inflation criterion would be defined with the reference to the ECB objective, it would provide a quantitatively defined target (keeping inflation close to but below  $x$  percent). This should make the conduct of monetary policy easier and more predictable. Of course, giving priority to an inflation objective could entail fluctuations in other variables, including the exchange rate. But the Maastricht Treaty allows some fluctuation of exchange rate that would be compatible with exchange rate stability criterion. Moreover, if monetary policy stays on track and keeps inflation low as required, and with fiscal policy being on track in meeting the Maastricht fiscal criteria, markets should gradually guide the actual exchange rate toward the ERM2 parity (of course, assuming that the parity is seen as the likely conversion rate).

Thus, with other policies on track, market participants can assist in meeting the exchange rate objective. It should be noted that market forces cannot be harnessed in the same way to assist in moving actual inflation toward the inflation target. But as the experience with the ERM has shown, once the euro adoption gains credibility, market forces can provide an important support to exchange rate stability.

In the end, there need not be a huge difference between inflation targeting and exchange rate targeting, in the sense that these two policy regimes would produce vastly different trajectories of inflation and exchange rates. What is important is that macroeconomic policies, and particularly fiscal policy, are being seen by markets as bringing the countries credibly toward the observance of the Maastricht criteria. If the policies are on track, shocks to exchange rate or inflation rate resulting from policy-unrelated events should not disqualify the CECs from adopting the euro.

#### **4. ERM2: purgatory, training room or waiting room?**

The requirement that the countries wishing to adopt the euro need to stay at least two years in the ERM2 system has provoked a discussion about the merits of this mechanism. The views differ with respect to the merits of this exchange rate mechanism for the CECs.

Some authors, probably reflecting on the negative experience of a number of emerging market countries that underwent a serious financial crisis, argued that there is little attraction in asking the countries wishing to adopt the euro to accept for a limited period of time an exchange rate regime that turned out to be very risky for other countries. These



authors did not see a good reason why adopting the euro should be conditioned by staying two or more years in an economic purgatory.<sup>30</sup>

On the other side of the debate, representatives of the European institutions argue that staying in the ERM2 could help some countries to get better prepared for the adoption of the euro, by fostering a faster nominal and real convergence.<sup>31</sup> According to this view, ERM 2 provides a policy framework that instills more discipline in policy implementation. At the same time, establishing a central parity helps guide market expectations toward a sustainable equilibrium exchange rate and reduce the risk of unwarranted large exchange rate fluctuations. At the same time, this discipline does not come at the cost of lack of flexibility: the ERM 2 provides enough room for exchange rate adjustment to asymmetric shocks. Another benefit to the CECs of participating in the ERM2 is its multilateral character with a continuous mutual monitoring of economic development and policies, as well as the possibility of coordinated foreign exchange interventions.

In the middle among these two opposite views is the view probably prevailing among the CECs officials, namely that while the ERM2 should not pose a serious risk to participating countries, it does not bring any particular benefits either. This is the view of the ERM2 as a “waiting room”. Staying for two years in the ERM2 is part of the required criteria for the euro adoption, but there is little reason to prolong the stay in this system beyond what is necessary.

Of course, ex post, it cannot be excluded that a country may need to stay in the ERM2 for a longer period, but this would happen in case when there are problems with meeting other criteria for the euro adoption.<sup>32</sup> But this does not mean that a deliberate ex ante decision to stay in the ERM2 for a longer period than two years is advisable. An argument against longer than two year stay in the ERM2 can be made on basis of the following assumptions: first, countries should join the ERM2 only when they have made a significant progress in nominal convergence (that is, significant progress toward meeting the fiscal and monetary Maastricht criteria); second, adoption of the euro is a superior policy framework compared to the ERM2. The first assumption guides the decision on the entry into the ERM2, the second consideration guides the exit from the ERM2 and the adoption of the euro.

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<sup>30</sup> As an example of skeptical views about the ERM2, see Buiters and Grafe, (2002); Kenen and Meade (2003).

<sup>31</sup> For example, see Tommaso Padoa-Schioppa (2003) and ECB (2003). Some of these views may have been motivated by concerns that the CECs would want to rush to the euro adoption, without being sufficiently prepared.

<sup>32</sup> It should also be noted that both Italy and Finland stayed less than two years in the ERM when their compliance with the exchange rate stability criterion was assessed. This decision was justified by the fact that their currencies were not depreciating against the median currency of the exchange rate mechanism prior to entering the ERM.

As for the exit, there is probably no disagreement that the adoption of the euro represents a superior policy framework compared to the ERM2. Therefore, if a country participating in the ERM2 meets the Maastricht criteria and can adopt the euro, it will likely prefer to do so.<sup>33</sup> It could be argued that the main objective of the CECs is to join the EU, and since they have no other option than to adopt the euro as well, they do it because they have to, not because they want. But if they did not wish to adopt the euro, the CECs could postpone joining the ERM2 and meeting the Maastricht criteria and thus delay the euro adoption, and none of the CECs is contemplating such strategy. Also, as we have noted earlier, euro adoption is expected to bring additional benefits to the CECs.

As for the ERM2 entry, there appears to be a broad consensus that the CECs should join the ERM2 only at a time when they will be sufficiently sure they will meet the Maastricht criteria soon, that is, at a time when nominal convergence has progressed significantly. We have already discussed the reasons for such approach earlier. If these two assumptions are correct, it is difficult to argue that a longer than two year stay in the ERM2 should be contemplated beforehand.

What has been said does not exclude that an individual country could decide to join the ERM2 at a time when it is still some way from meeting the Maastricht criteria on fiscal deficit and inflation, in expectation that nominal convergence would proceed faster within the ERM2 framework. The argument that staying in the ERM2 could assist real and nominal convergence and that it should not be necessary limited to two years may partly be based on the positive experience of Greece which joined the ERM2 with inflation and fiscal deficit still relatively high and successfully reduced them further.<sup>34</sup> However, experience of Greece was quite unique. Greece moved to the ERM2 from a pegged exchange rate regime, and it stayed in the ERM2 only somewhat longer than two years - about 2 <sup>3</sup>/<sub>4</sub> years. Therefore, it does not provide a strong support to the view that the participation in the ERM2 would make nominal convergence in the CECs faster. Yet at the same time, potential risks of announcing a parity and exchange rate bands should not be underestimated. Markets could be tempted to test these bands, and subsequent turbulence in financial markets could slow down rather than accelerate real and nominal convergence. Therefore, a deliberate decision at the time of the ERM2 entry to stay there for more than two years does not appear very attractive.

The CECs may also need to stay in the ERM2 longer than two year for the wrong reason. This would happen if that after two years, they would still not have met the other Maastricht criteria for euro adoption. In such case, market reaction could be quite negative

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<sup>33</sup> From the legal perspective, EU members participating in the ERM2 will even be obliged to adopt the euro once they are found to have met the Maastricht criteria.

<sup>34</sup> See Hochreiter and Tavlas (2004).

(of course, depending on the underlying causes and size of non-observance of the Maastricht criteria). This is a situation which should rather be avoided.

The best strategy appears to be to make a sustained progress toward meeting the Maastricht criteria and join the ERM2 when meeting these criteria is within the reach and when there is a clear evidence that policies are likely to remain on track to ensure that these criteria are met in a sustainable way. Once the CECs join the ERM2, it seems that the best course of action is to make sure that they qualify for the euro adoption as soon as possible. Otherwise, adverse market reaction could make meeting the Maastricht criteria more difficult.

### **5. Maastricht fiscal criteria: too soft?**

While there seem to be a broad agreement among economists and central bankers in the CECs that in its present form, Maastricht inflation criterion could be too strict, some analysts argue that Maastricht fiscal criterion is too soft for the CECs.

The Maastricht Treaty (Article 121) says that each Member State will have to achieve the sustainability of the government financial position, that means, a government budgetary position without an excessive deficit. In turn, excessive government deficit and requirements of budgetary discipline are further explained by Article 104 of the Treaty. Two criteria are used to examine whether a Member State is in compliance with budgetary discipline: (1) whether the ratio of the planned or actual government deficits to GDP exceeds the reference value; and (2) whether the ratio of government debt to GDP exceeds the reference value. However, should if ratios exceed the reference value, it does not imply a violation of budgetary discipline. Two exceptions are considered: (a) the ratios are declining rapidly and sustainably, and are approaching the reference value; or (b) excess over reference value is only exceptional, limited and temporary. On basis of these and other factors, and on basis of the Commission report, the Council will decide whether excessive deficit exists.

This implies that there is a considerable room for judgment. However, in most CECs, the relevance of this room for judgment for fiscal policy practical policy decisions is limited by the fact that fiscal deficits are well above the reference value and have not yet fallen significantly.

All CECs have presently public debt below the Maastricht reference value of 60 percent of GDP, but except Slovenia, fiscal deficits are well above the 3 percent reference value. Therefore, to qualify for the adoption of the euro, they have to bring the deficits down

from present high levels to close to 3 percent of GDP or less.<sup>35</sup> This would require a significant fiscal consolidation, and as public revenues in the CECs are already quite high, spending cuts will need to play an important part in deficit reduction.

Table 1. CECs: Public debt and fiscal deficit (in % of GDP) , 2003

Czech Republic		Hungary		Poland		Slovakia		Slovenia	
Debt	Deficit	Debt	Deficit	Debt	Deficit	Debt	Deficit	Debt	Deficit
30.5	7.6	57.2	5.2	50	5.7	44.9	4.8	27.8	2.0

Source: IMF

However, the IMF (2004) argue that the Maastricht target for fiscal deficit is not ambitious enough, and that there are good economic reasons why the CECs should aim at bringing fiscal deficit below 3 percent of GDP in the period before the euro adoption. There are two reasons for a more ambitious fiscal target than prescribed by the Maastricht Treaty.

First, once the CECs adopt the euro, they will need to keep their fiscal deficits below 3 percent of GDP to comply with the prescription of the Stability and Growth Pact (SGP). However, if they would adopt the euro with headline fiscal deficit close to 3 percent and soon after that, they would be hit by a negative shock that would push the headline deficit above 3 percent, to abide by the SGP requirement to keep the deficit below 3 percent of GDP, they would need to implement procyclical, i.e., restrictive fiscal policy. This could be politically difficult, because it would further exacerbate the adverse impact of the shock on economic activity and employment. Therefore, one can argue that it would be prudent to guard against such risk by adopting the euro at the time when fiscal deficit will be sufficiently below the 3 percent Maastricht limit. How much below could be calibrated on basis of the size of the past negative shocks and their fiscal impacts.

Second, bringing the headline fiscal deficit below 3 percent of GDP in the period before the euro adoption could make the process of euro adoption smoother. It would minimize the risk that a negative shock that could hit the economy shortly before the intended euro adoption would rise doubts about the ability to keep fiscal deficit within the Maastricht limit. Shifts in market expectations about the ability of the country to maintain, at the time of negative shock, the necessary fiscal discipline to meet the criteria for the euro adoption could generate excessive market volatility. Such volatility could further complicate

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<sup>35</sup> The room for judgment could go both ways. Reducing the fiscal deficit below 3 percent of GDP does not automatically guarantee the compliance with the budgetary discipline and absence of excessive deficit, if such reduction is not considered as sustainable.

the task of meeting the criteria for the euro adoption, in addition to affecting adversely economic activity.

Following this line of argument, a prudent strategy would be to bring the structural fiscal deficit below 3 percent of GDP at the time of ERM2 entry, and to reduce it further before the euro adoption, in order to create a buffer zone against the potential negative shock. Figure 2 illustrates the point, approximating the situation in the Czech Republic. We assume that the euro adoption is targeted to take place in eight years, at time  $t$ . Structural fiscal deficit at time  $t-8$  is 6 percent of GDP, and declines monotonically by 0.5 percent of GDP every year. It reaches 3 percent of GDP at time  $t-2$ , and 2 percent of GDP at the time of euro adoption. Of course, Maastricht criteria relate to headline, not structural deficit, and thus the ease with which the Maastricht fiscal criterion would be met will depend importantly on the cyclical situation of the CECs. To illustrate the case, lower panel of figure 2 shows two different paths of output gap (difference between actual and potential output), and two corresponding paths of headline fiscal deficits. We assume that output gap of one percent of potential GDP translates into a deviation of headline deficit from structural deficit of 0.5 percent of GDP. We also assume that output gap is zero at  $t-6$ .

Scenario one assumes that at the time when the criteria for the euro adoption will be assessed, the economy will be in a boom, possibly driven by easy credit conditions, positive expectations relating to the euro adoption, and large capital inflows. As actual output exceeds progressively potential output and positive output gap approaches 2 percent of GDP, headline deficit begins to fall even more below the structural deficit. It falls to 1 percent of GDP, 1 percent of GDP below the structural deficit. In this scenario, meeting fiscal criteria for euro adoption does not present a problem. If fiscal policy would be called to help tame the cyclical upswing, fiscal deficit would be reduced even further. And if cyclical conditions were to deteriorate suddenly, there would be room for a countercyclical fiscal easing.

Scenario two assumes that in the period before the euro adoption, actual output would fall below potential output, and negative output gap would gradually widen, to approach 2 percent of GDP at the time of the euro adoption. This could happen either as a result of tight domestic policies, possibly in combination with currency appreciation, or as a result of adverse external conditions, for example, low growth of import demand in Western Europe. While structural deficit would continue to fall below 3 percent of GDP, as in the previous scenario, widening negative output gap would keep headline fiscal deficit at about 3 percent of GDP. Headline deficit would exceed structural deficit as a result of operation of automatic stabilizers. In our illustrative scenario, automatic stabilizers can operate fully without pushing the headline deficit above the 3 percent of GDP because we assume that negative output gap appears only at the time when structural deficit falls below 3 percent, and that it widen only gradually, as structural deficit falls below 3 percent, thus creating more room for automatic stabilizers to operate, without pushing the headline deficit above 3 percent of GDP. If structural deficit at the time of appearance of negative output gap would still be above 3 percent, or if the negative output gap would increase faster than the speed of decline of structural deficit below the 3 percent of GDP, automatic stabilizers would not be able to operate fully. Otherwise, the risk would be that headline fiscal deficit would rise about 3

percent of GDP. To stay within the Maastricht limit would then require a less than full operation of automatic stabilizers.

In view of these risks, there appears to be a strong case for targeting lower fiscal deficit in the period preceding the euro adoption than prescribed by the Maastricht Treaty. Bringing the structural deficit below 3 percent of GDP – at minimum at the time of the ERM2 entry – would provide some comfort that in case of negative shock to demand and output, fiscal policy will have a certain degree of flexibility in mitigating the effects of potential adverse shocks. This flexibility is even more important as other policy tools – monetary policy and exchange rate policy – may not be in a position to respond to the shock without endangering the observance of the other Maastricht criteria. Even though it could be possible to pursue a procyclical fiscal policy in case of a negative shock, this could be damaging for economic growth. And even though procyclical fiscal tightening could be technically feasible, it may not be feasible politically, or at least market participants could have doubts whether it would be feasible. This could imply a reassessment of timing of the euro adoption which could provoke undesirable market volatility. For example, yield spreads could widen again and there could be market pressures for the currency to depreciate. Even though a sufficiently large increase in interest rates could prevent the exchange rate from depreciating well below the ERM2 parity, it could come at the cost of further fall in demand and output.

Given the fact that both structural and headline deficits in most CECs are presently well above the Maastricht ceiling, and also far from meeting the SGP requirement that fiscal positions remain broadly in balance over the business cycle, the question arises how fast should the CECs move to meet these targets?

In general, a faster reduction of fiscal deficits would be desirable if (1) the earlier adoption of the euro would provide clear benefits to the country; (2) if observing the Maastricht fiscal deficit criterion would be the main constraint on euro adoption; (3) if it would be politically feasible to implement a rapid reduction of structural fiscal deficit; and (4) if the output and employment costs of structural deficit reduction would not be too sensitive to the speed with which the deficit is reduced.

Concerning the benefits of the euro adoption, while the estimates vary significantly, there is a general agreement that it will bring additional economic benefits to the CECs. Concerning the second question, even though inflation in some countries is still rather high and needs to be brought down, to most CECs, reducing fiscal deficits appears to be the most difficult hurdle that they need to pass to qualify for the euro adoption.

As for the political feasibility of rapid reduction of structural fiscal deficits, this is more difficult to judge *ex ante*. An important consideration is what benefits the population expects from the adoption of the euro, and thus what sacrifice they are ready to make so that the country is able to join the euro zone. The expectations of benefits could be affected by a whole variety of factors, but judging from the experience of other EU members that did not yet decide to adopt the euro, an important consideration appears to be relative economic

performance of the euro zone compared to the performance of other European countries that maintain their own currency.

Viewed from this perspective, doubts could be raised whether the population in the CECs would eagerly support painful fiscal adjustment only for the sake of being able to join a monetary union with at best a mediocre economic performance. However, average performance of the euro area may not be a good indicator of expected benefits from the euro adoption in the CECs. Euro area members that resemble most the CECs are performing generally better than the core euro area countries, and it could be argued that the CECs, too, could perform better in the euro zone than the average. It could be also argued that the reduction of structural deficit needs to be undertaken regardless of the euro adoption, for its own sake. Under the current trends, fiscal situation in a number of the CECs would become unsustainable, and at some point in the future, correction of these trends to observe the government intertemporal budget constraint would in any case be needed. Therefore, feasible speed of deficit reduction should ultimately depend on public awareness of the looming fiscal problems, and on politicians' ability to forge public consensus to fiscal adjustment.

What about the output and employment costs of fiscal consolidation? Will these costs be the same regardless of the speed with which structural deficits are brought down to zero? This is a complicated issue which cannot be fully discussed here. But two main factors need to be considered.

First, the standard Keynesian effect of fiscal deficit reduction operates to reduce domestic demand, and thus, *ceteris paribus*, growth and employment. There seems to be no *a priori* reason why cutting deficit for three years in a row by 2 percent of GDP should produce a different cumulative Keynesian effect than cutting deficits for six years in a row by 1 percent of GDP. Second, fiscal consolidation could have a non-Keynesian or confidence effect. To the extent that market participants have doubts about the long-term sustainability of fiscal position and these doubts are reflected in government's higher borrowing costs, deficit reduction measures that credibly address these concerns would reduce borrowing costs. Lower interest rates would have a beneficial effect on economic activity, and also contribute to a further reduction of fiscal deficit, as the costs of servicing public debt would decline too. A government that undertakes fiscal consolidation would seek to achieve these positive non-Keynesian effects of fiscal consolidation as soon as possible, to mitigate or offset the negative (contractionary) Keynesian effects.

However, while the contractionary Keynesian effects of fiscal consolidation occur from the very start of fiscal consolidation, and increase monotonically with the size of the consolidation, the expansionary non-Keynesian effects could appear only after the fiscal consolidation reaches a certain critical size.<sup>36</sup> Once market participants come to the

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<sup>36</sup> This would be particularly the case when fiscal consolidation is not initially fully credible and thus a mere announcement of government plans to reduce fiscal deficits does not allay market concern about long-term fiscal sustainability.

conclusion that the government is serious in its intension to reduce deficits to the targeted level, borrowing costs could fall rapidly.

Therefore, from the cost/benefit perspective, the optimal speed of fiscal consolidation would appear to depend on the initial credibility of government plans to pursue fiscal consolidation. If the credibility of the announced plans is expected to be low, it would be preferable to reduce fiscal deficits more rapidly, so as to bring forward the moment when markets will come to the conclusion that fiscal consolidation is credible and interest rates will fall. If the government already enjoys a high credibility, beneficial effects of fiscal consolidation may be faster to come even with a slower pace of deficit reduction.

On balance, the expectation that euro adoption will bring net benefits to the CECs, and that the CECs governments may need to persuade markets about the seriousness of their deficit reduction plans would argue for a faster fiscal consolidation. However, the confidence effect of fiscal consolidation could be limited in some CECs, and the standard demand effect of fiscal consolidation could prevail, making faster deficit reduction more difficult. Paradoxically, the reason is that fiscal position in the CECs is stronger than it was in some current euro area members at the time preceding the euro adoption.

In the run-up to the launch of monetary union in 1999, fiscal consolidation in countries like Greece, Italy and Portugal was facilitated by significant confidence effects and yield convergence resulting from market expectations of the euro adoption. But to enjoy significant confidence improvement and decline in yields, a country needs to have a weak fiscal position to start with. This was certainly the case of the three countries mentioned above. Their public debt exceeded by a large margin 100 percent of GDP and interest rates and costs of servicing public debt were quite high. But some CECs are unlikely to benefit from yield convergence to the same extent as some current euro area members did, for two reasons.

First, in some CECs, local currency government bond yields are already quite low, and spreads over the euro area yields are only relatively small (table 2). This is particularly the case of the Czech Republic and Slovenia. Therefore, there is little additional benefit from fiscal adjustment to be expected in the form of lower interest rates, as convergence of interest rates has already to a large extent taken place. Second, unlike some current euro zone members with a long history of fiscal profligacy, CECs public debt is relatively low, in all cases below 60 percent of GDP, and only around 30 percent or less in the Czech Republic and Slovenia.

Table 2: CECs: Government bond yields (local currency) and spreads over EU benchmark

	Czech Republic		Hungary		Poland		Slovakia		Slovenia 1/	
	Yield	Spread	Yield	Spread	Yield	Spread	Yield	Spread	Yield	Spread
3M	2.06	0.02	12.11	11.07	5.48	3.44	5.76	3.72	5.03	2.99
6M	2.15	0.19	12.04	10.08	5.43	3.47	5.58	3.62	5.28	3.32



1Y	2.29	0.2	11.82	9.73	5.8	3.71	5.33	3.24	5.20	3.11
5Y	3.57	0.44	9.2	6.07	6.6.	3.48	5.08	1.95	X	X
10Y	4.65	0.67	8.12	4.14	6.64	2.66	5.15	1.17	X	x

Source: Erste Bank (2004); Ministry of Finance of Slovenia.

1/ Slovenia does not publish data on current bond yields, only the coupon rate.

The size of the required fiscal adjustment, and the limited contribution that could be expected from interest savings resulting from yield compression suggest that fiscal adjustment in the CECs could be a challenging task. The recognition of difficulty of bringing fiscal deficits down to meet the Maastricht criteria has also been reflected in postponement of the expected timing of euro adoption, from 2007/2008 to 2009/2010 in most of the CECs.

It should also be noted that in the past, fiscal consolidation in present euro area members has proceeded faster when growth in Europe has been stronger. From this perspective, a weak economic growth in the euro area since 2000, and particularly in Germany, the largest trading partner to the CECs, does not augur well for the fiscal consolidation in the CECs either. On the positive side, latest projections suggest that growth in the euro area should accelerate in the coming years, hopefully providing a better environment for fiscal consolidation.

## 6. Fiscal policy and cyclical management

Despite these difficult conditions under which the CECs will have to reduce fiscal deficits, some argue that fiscal policy should be assigned yet one more task, namely to neutralize the unwanted effects of large capital inflows. In IMF (2004), the authors argue that in the CECs, fiscal policy could be a central macroeconomic policy tool to manage the effects of possible credit and demand booms. The authors recognize that given the relatively small share of discretionary spending in total public spending, it could be difficult to change rapidly fiscal policy stance, and argue that the fiscal balance needs to be positioned in advance to be able to restrain domestic demand and prevent overheating. In the same vein, von Hagen (2004) suggests that if the CECs government are reluctant to allow capital inflow to produce an exchange rate appreciation, and if they do not want to allow money supply to increase, fiscal policy could be used to reduce aggregate demand. In turn, a decline in aggregate demand would reduce demand for money and allow interest rates to fall, thereby removing the incentive for capital inflows. While intervention in foreign exchange market can be applied to prevent capital inflows from causing exchange rate appreciation, and sterilization of this intervention could be applied to neutralize its impact on money supply, von Hagen concludes that this would prevent the adjustment of interest rates that would eventually reduce capital inflow.

While these arguments about the potential use of fiscal policy to deal with the unwanted consequences of large capital inflows are attractive from theoretical perspective,

question arises whether they represent a realistic option for policy response to deal with the consequences of eventual capital inflows.<sup>37</sup>

The IMF (2004) recognizes the limited flexibility of fiscal policy, resulting from a large share of mandatory expenditures that could be changed only slowly through legislative process. Thus, increased ability of fiscal policy to respond flexibly to credit and demand booms could be achieved by reducing the share of mandatory expenditure and increasing the share of discretionary expenditures that could be reduced flexibly as and if the need arises. Yet the IMF paper does not follow this line of argument and instead speak of fiscal balance that needs to be “positioned” to deal with the credit and demand booms. They seem to have in mind that fiscal position should be preemptively tightened. But this recommendation would make sense only if fiscal tightening would reduce the risk of capital inflows. If such inflows were to take place, it is hard to see how a tighter initial fiscal balance could make it easier to tightened fiscal policy even more to neutralize the expansionary effects of these inflows.<sup>38</sup> It would seem that the opposite is true: a relatively loose fiscal position, with a larger size of discretionary spending that could be cut, would appear to provide more room for preemptive fiscal tightening. Preemptive tightening of fiscal policy could provide more room to respond to an eventual adverse shock to economic activity by increasing temporarily fiscal deficit. But preemptive tightening cannot at the same time prepare ground for a response to an opposite shock - to a positive demand shock resulting from large capital inflows.

Similarly, the practicality of von Hagen's suggestion that fiscal tightening could be applied to offset the effect of capital inflows on domestic demand could be limited under the current conditions in the CECs. In theory, fiscal tightening could provide the desirable reduction in domestic demand and could neutralize the unwanted overheating effect of large capital inflow and credit boom. But given the high share of mandatory expenditures in total budget spending in CECs, it is questionable whether there would be room for sufficiently large and rapid reduction of budget spending to offset to a sufficient degree an effect of large capital inflows on domestic demand. Similar objection applies to increasing budgetary revenues. This too will require a legal action that may not be easy to achieve rapidly, particularly in the world of coalition governments and small parliamentary majorities of governing parties that are typical for the CECs today.

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<sup>37</sup> Here we leave aside the question whether large capital inflows to CECs are likely to materialize in the run-up to the euro adoption. For discussion of capital inflows to the accession countries, see Lipschitz et al. (2002) and Jonas (2003).

<sup>38</sup> Alternatively, it could be argued that initial fiscal tightening would create room for subsequent capital inflow so that these do not result in an overheating. But even such policy is open to criticism.

The arguments above are not meant to suggest that the CECs should maintain looser fiscal policies, in order to be able to apply a larger dose of fiscal tightening if large capital inflows would produce a rapid growth of demand and threaten overheating. The preferable strategy is to focus on structural fiscal reforms needed to ensure the observance of the Maastricht criteria and long-term fiscal sustainability. Automatic stabilizers can provide some help in case of incipient overheating and inflationary pressures, while the scope for their operation during downturns would depend on the progress made in reducing structural fiscal deficits in line with the requirement for the euro adoption. Full use of automatic stabilizers may not be advisable if it would imply a delay in the adoption of the euro that would disappoint market expectations. In sum, the room for using fiscal policy to deal with short-term cyclical developments could be limited, and would depend on the nature of the shock and on the structural fiscal balance at the time of the shock.

### **7. Needed: applying rules with economic sense**

The prospect of EU enlargement and subsequent adoption of the euro by the new EU members have provoked a lively debate about the conditions that the new EU entrants must meet to qualify for the euro adoption.

The conditions for the euro adoption are specified in the Maastricht Treaty, Article 121, which lists the four convergence criteria to be used for judging the readiness of the individual countries to adopt the euro. These criteria are further explained in the Protocol attached to the Treaty. Could the less developed CECs meet these criteria as successfully as the present members of the euro zone, without adverse effects on real convergence? And does the fact that the monetary union has been launched and that the ECB is conducting a common monetary policy for the 12 out of 15 (25 after the enlargement) members of the EU call for a modified interpretation of the Maastricht criteria?

The European economic and monetary integration is a rules-based process, and the main objective of the rules is to ensure the discipline in economic policy among the members and to prevent a free-riding policy. In the presence of externalities that would spread the costs of undisciplined policies across the whole membership of the monetary union while benefits of such policies would accrue to the offender, the incentives would be skewed in support of policies that would ultimately harm all members.

For these reasons, institutional constraints and rules that prevent such undisciplined policies play an important role in ensuring the success of the EMU. However, if the rules are not well-designed, they may become difficult to follow as they could eventually conflict with economic reality. If serious tensions between rules and reality were to arise, this could have one of two undesirable consequences: either the rules continue to be observed, but at the cost of sub-par economic performance, or the rules are violated, which could damage their credibility, and in the extreme, could threaten the prospects of the whole rule-based process of economic and monetary integration. Recent problems arising from the repeated violation by some countries of excessive deficit rules imposed by the Stability and Growth Pact provide an example of such conflict between the rules and economic reality. Arguably, in

such situation, the best solution would be to consider how to adjust the rules to new economic reality while ensuring that the adjusted rules still prevent the detrimental behavior of member countries.

In light of the importance of maintaining the rules-based nature of European economic and monetary integration, it would be highly unfortunate if the process of EU enlargement and eventual euro adoption was accompanied by an erosion of this rules-based system. Yet at the same time, there are legitimate concerns about the suitability of the existing rules (Maastricht criteria) for the less-developed CECs and whether their strict enforcement would not slow down economic growth and real convergence.

As we have discussed in this paper, these concerns apply particularly to the interpretation of the Maastricht inflation criterion and the criterion of exchange rate stability. However, we have also suggested that as formulated, present rules guiding the euro adoption do not need to represent an insurmountable problem. Treaty definitions of the Maastricht criteria related to inflation and exchange rate leave some room for flexibility. As has been also emphasized on occasions by representatives of European institutions and in different Convergence Reports, when assessing whether the applicant has qualified for the adoption of the euro, Maastricht criteria are not applied automatically. In addition to looking at the observance of specific numerical values of inflation, deficits etc., the European institutions will also apply always judgment.<sup>39</sup> The application of such judgment should provide the necessary flexibility that would reduce the risk that the effort to meet the requirements for the euro adoption would force the CECs to pursue policies that would slow down economic growth. Such outcome would be undesirable not only from the economic perspective; it could be also damaging politically, by undermining public support for European economic and monetary integration.

However, this recognized role of judgment in making the final decision about the eligibility of the CECs to adopt the euro still leaves open one problem. From the CECs perspective, this room for certain ex post discretion and judgment does not make ex ante decisions on economic policy necessary easier. European institutions may inform the CECs what factors will be taken into account when making a judgment whether the eventual deviation of actual inflation or exchange rate from the target is or is not compatible with meeting the criteria for the euro adoption. But to the extent that there will be ex ante uncertainty about the extent of deviation that will be ex post judged as acceptable, it could be more difficult for the policy makers to decide whether, and if yes - how forcefully - to respond to expected deviations of Maastricht variables from the Maastricht limits. Furthermore, in such circumstances, it could be more difficult for markets to predict a policy response to observed and expected economic developments. Large difference between

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<sup>39</sup> As we have noted, there are already examples of such a flexible use of judgment in interpreting the Maastricht criteria, e.g., the decision to allow Italy and Finland to qualify for euro adoption while staying less than two years in the ERM.

market expectations of future policies and their actual course could undermine their efficacy in reaching the desired targets.

Conversely, from the perspective of European institutions, there is an understandable preference for maintaining ex post discretion when assessing whether the CECs have met the criteria for the euro adoption but avoid giving too much assurance on how this judgment will be applied. Giving too much ex ante assurance about a more flexible (i.e., benevolent) interpretation of the Maastricht criteria could be - rightly or wrongly - seen as risking a weakening of policy discipline of the new members, an outcome that is clearly undesirable.

The interpretation of the Maastricht inflation criterion suggested in this paper - taking as a reference for the calculation inflation rate of three members with inflation closest to the ECB target - should strike a reasonable compromise: it should provide a margin for flexibility in line with the specific structural characteristics of lower-income CECs undergoing real convergence, while at the same time avoiding too much laxity that would allow undisciplined monetary policy to pass the Maastricht test. In the same spirit, the judgment used to assess compliance with the Maastricht fiscal criteria should be applied strictly, to ensure that bringing fiscal deficit below the 3 percent prescribed ceiling actually reflects a sustainable improvement in public finance and does not reflect only temporary or cosmetic measures.<sup>40</sup> Some leniency and flexibility on inflation front should be combined with a strict assessment on the fiscal front.

Regarding the exchange rate stability criterion, two conclusions are to be drawn from the discussion in this paper. First, targeting exchange rate stability without a support of disciplined monetary and fiscal policies would be futile and useless. Exchange rate stability should be seen less as a direct objective of economic policy and more as a result of disciplined economic policies and market expectations that the euro adoption will proceed smoothly and without bad surprises. As long as the CECs are implementing such disciplined economic policies, we have argued that continuing the policy of inflation targeting may produce a degree of exchange rate stability that would meet the Maastricht requirements. Second, while it is not possible to exclude it ex ante, a longer than two-year stay in the ERM2 does not appear to be desirable for the CECs. Establishing a parity and margin for fluctuation could invite markets to test their firmness. Therefore, the CECs may prefer to limit their stay in the ERM2 by entering the mechanism only after achieving a significant progress in nominal convergence and thus preparing ground for an early euro adoption.

Finally, it should be noted that the extent to which the European institutions may eventually be willing to use more flexibility in assessing the CECs compliance with the rules for the euro adoption may depend on the CECs credibility and resolve to pursue disciplined

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<sup>40</sup> Observing the Maastricht interest rate criterion should be interpreted as a signal that markets see the reduction of inflation and fiscal deficits as sustainable.

policies. The higher will be the perception that more flexibility will not be misused, the more willingness there could be to provide it, to the benefits of all members.

#### References:

Begg, D., Eichengreen, B., Halpern, L., von Hagen, J., and Ch. Wyplosz (2003), "Sustainable Regimes of Capital Movements in Accession Countries." CEPR Policy Paper No. 10.

Buiter, Willem H. and Clemens Grafe, (2002), "Anchor, Float or Abandon Ship: Exchange Rate Regimes for the Accession Countries." Banca Nazionale Del Lavoro Quarterly Review, Vol. 55, No. 221, pp.11-42;

Erste Bank, Macroeconomic and Fixed Income Weekly Report, March 8, 2004

European Central Bank (2003), Policy Position of the Governing Council of the European Central Bank on Exchange rate Issues Relating to the Acceding Countries." December 18, 2003.

European Commission (1998), Convergence Report 1998.

European Commission (2000), Convergence Report 2000.

European Commission (2002), Convergence Report 2002.

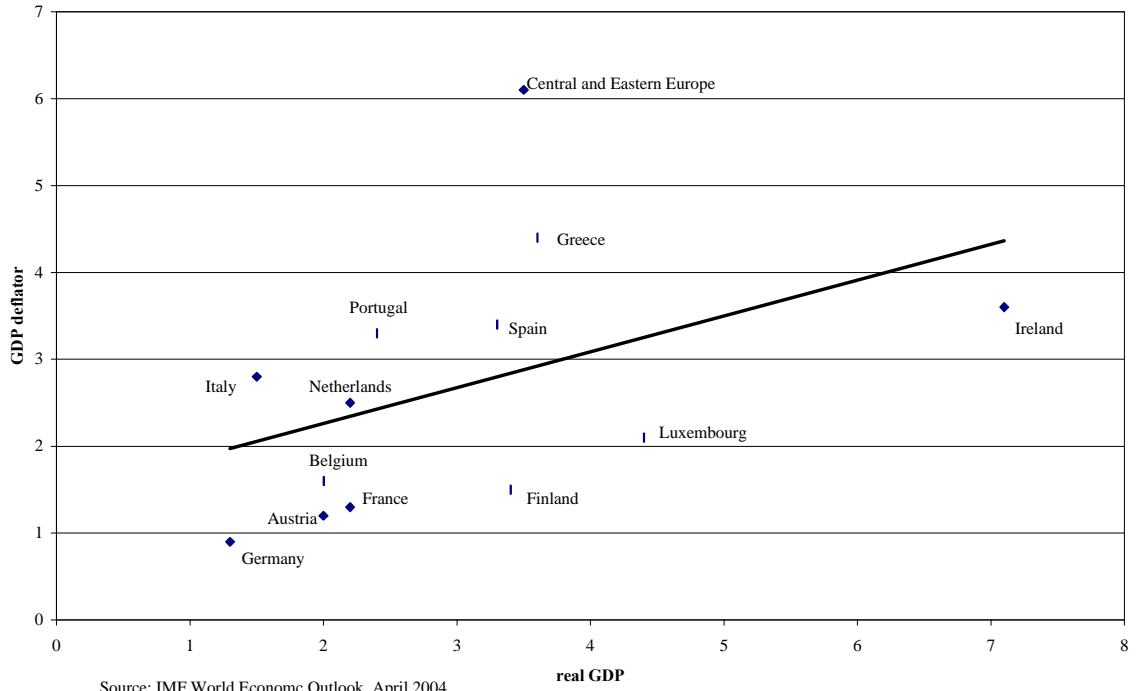
De Grauwe, Paul (2000), Economics of Monetary Union. 4<sup>th</sup> edition, Oxford University Press, Oxford.

Hochreiter, Eduard and George S. Tavlas, "Two Roads to the Euro: The Monetary Experience of Austria and Greece." Paper presented on the Euro conference in Prague, February 2-3, 2004.

International Monetary Fund (2004), "Adopting Euro in Central Europe: Challenges of the Next Steps in European Integration". Paper presented on the Euro conference in Prague, February 2-3, 2004, forthcoming as IMF Occasional Paper.

- Jonas, Jiri (2003), "Economic and Monetary Union Accession and Capital Flows", *Prague Economic Papers* 3/2003.
- Lipschitz, Leslie, T. Lane and A. Mourmouras (2002), "Capital Flows to Transition Economies: The Dilemma for Stabilization Policy. IMF Working Paper 02/11. Washington: International Monetary Fund.
- Kenen, Peter B. and Ellen E. Meade (2003), "EU Accession and the Euro: Close Together or Far Apart?" Institute of International Economics Policy Brief 03-9, Washington, D.C.
- Kontolemis, Zenon (2003), "Exchange Rates Are a Matter of Common Concern: Policies in the Run-up to the Euro?" European Commission Economic Papers No. 191, Brussels.
- Mussa, Michael et al. (2000), "Exchange Rate Regimes in an Increasingly Integrated World Economy." IMF Occasional Paper 193, Washington, D.C.
- National Bank of Hungary (2002), "Adopting the Euro in Hungary: Expected Benefits, Costs and Timing." NBH Occasional Paper 24.
- Padoa-Schioppa, Tomaso (2003), "Trajectories Towards the Euro and the Role of the ERM II". *International Finance* 6:1, pp. 129-144,
- Szapary, G. (2000), "Maastricht and the Choice of Exchange Rate Regime in Transition Countries During the Run-Up to EMU", NBH Working Paper 2000/7.
- Taylor, Alan and Maurice Obstfeld (2004), *Global Capital Markets: Integration, Crisis and Growth*. Cambridge, Cambridge University Press.
- von Hagen, Jurgen, (2004), "Fiscal Position and Sustainability: Policy Challenges for EU Accession Countries." Paper prepared for the IMF/CNB conference on "Euro Adoption in the Accession Countries – Opportunities and Challenges", Prague, February 2-3, 2004.

Figure 1. Euro zone members: average growth and inflation 1996-2005



Source: IMF World Economic Outlook, April 2004.



Figure 2. Maastricht criteria: inflation reference values (in %)

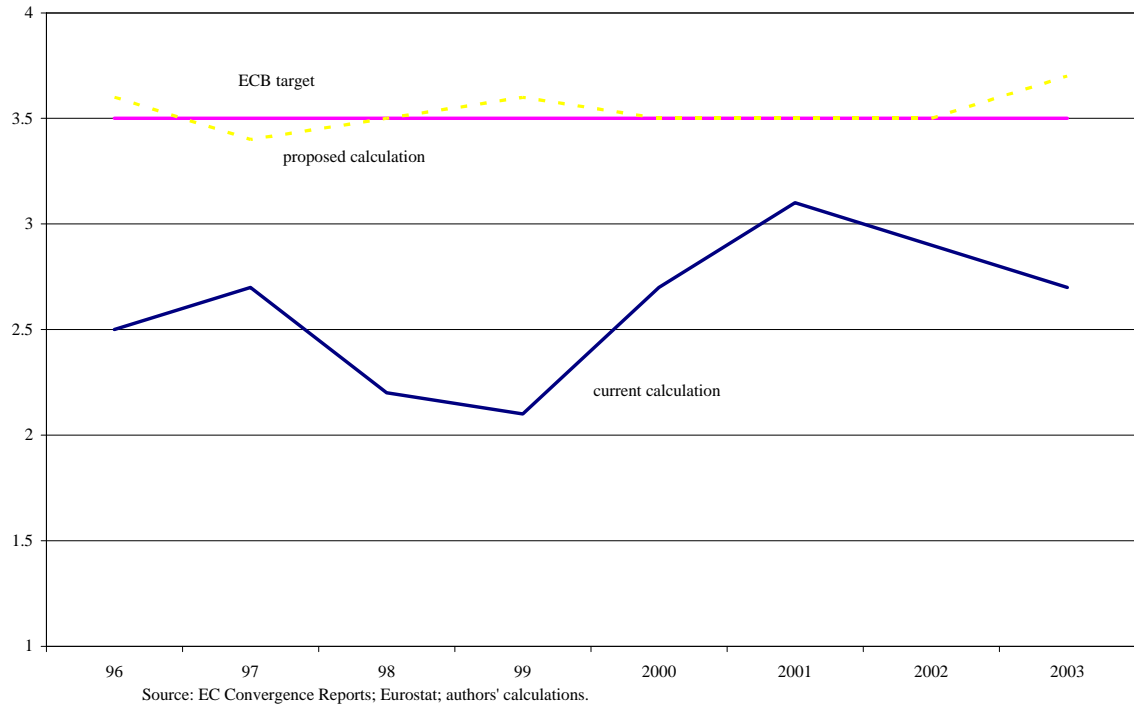


Figure 3. Maastricht Inflation and Exchange Rate Criteria

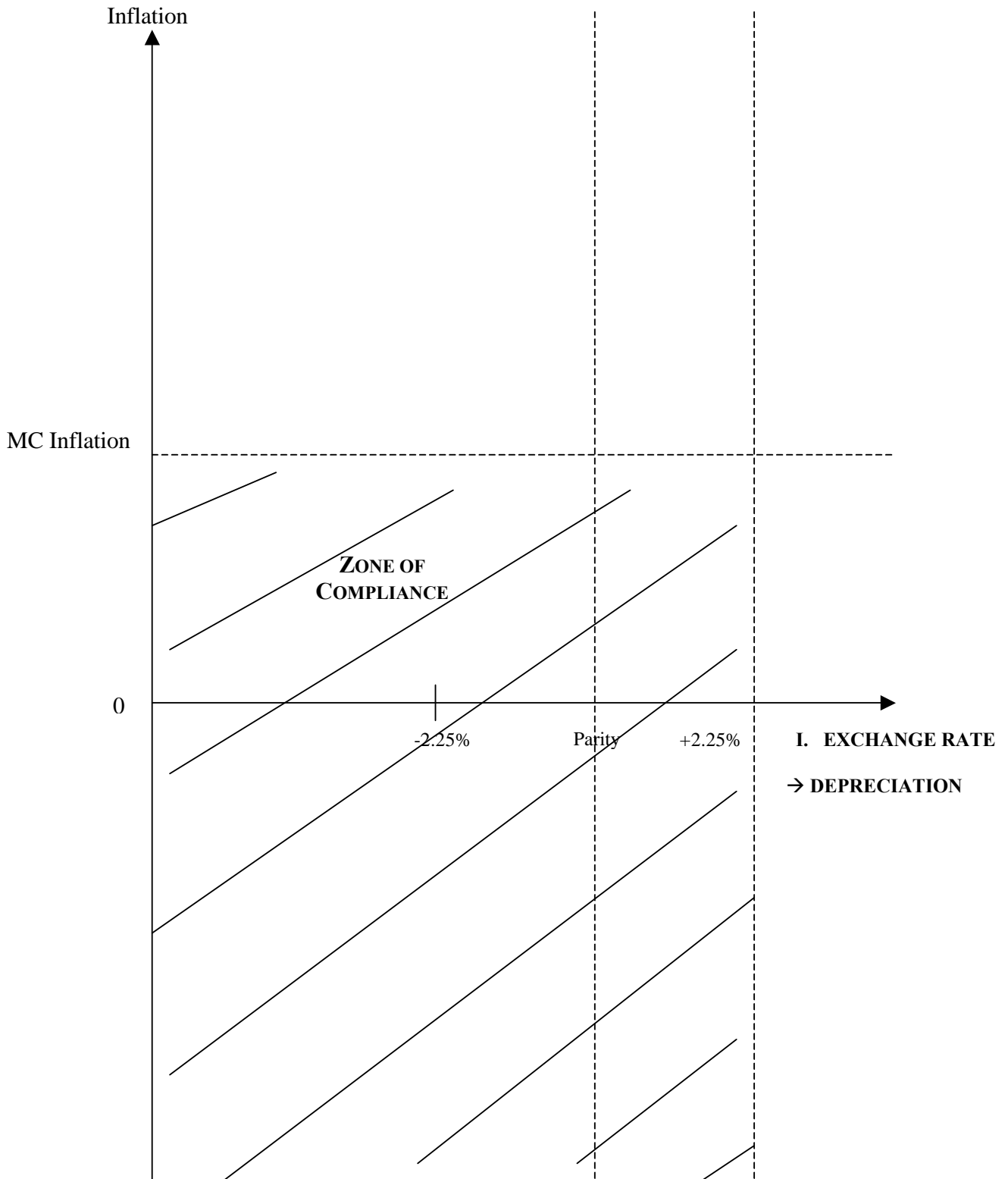
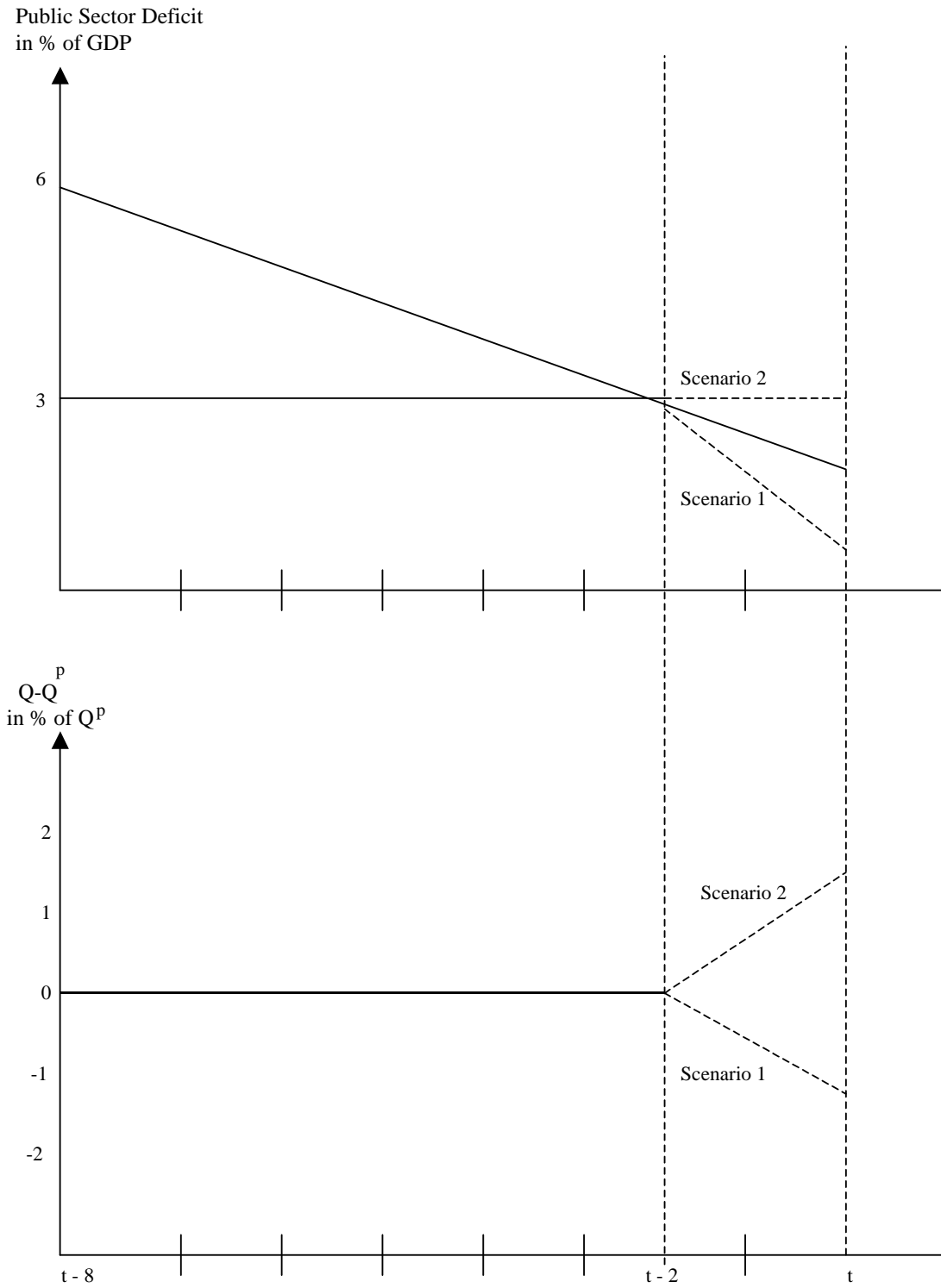


Figure 4. Scenarios of Fiscal Adjustment



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ISSN 1436 - 6053

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