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Inflation Targeting, Between Rhetoric and Reality. The Case of Transition Economies.

Daniel Daianu,
Romanian Economic Society

Laurian Lungu
Cardiff Business School

Not yet for Quotation

Abstract: The paper examines the inflation targeting regime in the context of transition economies. Recent years have witnessed an increasing number of central banks in these countries moving towards the implementation of inflation targeting regimes. However, the success of such a regime depends largely on the degree to which certain general requirements are met. As experience in a number of transition economies has shown so far, targeting inflation is not an easy task. The ongoing restructuring process in these economies makes the inflation forecasting process more difficult and introduces an additional source of uncertainty in the system. By unequivocally choosing inflation as a nominal anchor the central banks could face potential dilemmas if, for example, exchange rate appreciated too much under the pressure of massive capital inflows. The paper presents the broad framework in which inflation targeting could operate efficiently and attempts to assess the extent to which such a regime, when applied to transition economies, could fit into this framework.

Keywords: Inflation Targeting, Eastern Europe

JEL Classification: E52, E60.

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1. Introduction

In recent years a number of central banks have adopted inflation targeting (IT) as a monetary policy regime. There is now a large literature that deals with IT; see among others, Bernanke et al. (1999), Taylor (1999), Truman (2003). The move towards IT started in the 1980's, after the period of high inflation caused by the oil shocks. The inflation adversity that prevailed during that period made monetary institutions to voice their strong commitment in fighting inflation. Recent developments in economic theory strengthened the case for switching towards IT. The basic macroeconomic framework of the New Neoclassical Synthesis (Goodfriend and King, 1997) has provided a theoretical foundation for models employed in monetary policy analysis. These models seem to suggest that a central bank (CB) should pursue an activist policy to target inflation. It has to be said however, that it is too early to judge how well the IT framework is working. The rationale for IT is essentially a long-term one and the inflation targeters' experience is too limited yet in order to provide a definite assessment of its success or failure.

In a comprehensive study, Mishkin and Schmidt-Hebbel (2001) argue that inflation targeting proved to be in general a successful policy. The authors claim that IT reinforced accountability, credibility, resilience to external shocks and helped high inflation countries to reduce inflation to normal levels (most of them were emerging economies). Yet they point that, at the end of the process, inflation in IT countries is not lower than in non-IT countries. Along the same lines Ball and Sheridan (2004) show that, once corrected for the initial conditions, the differences between inflation targeters and non-targeters are minor. Fraga, Goldfajn and Minella (2003) also argue that average inflation in both emerging and developed economies fell after the adoption of IT. Other authors such as Friedman (2004) contend that IT, as practiced in reality in the low inflation countries, actually obscures the communication of the central bank's goals. Moreover, Friedman (2004) argues that this monetary policy framework is not as transparent as claimed by most IT advocates, casting doubts on the benefits brought about by the adoption of IT.

The paper examines the inflation targeting regime in the context of transition economies. The success of such a regime depends largely on the degree to which certain general requirements are met. As experience in a number of transition economies has shown so far, targeting inflation is not an easy task. The ongoing restructuring process in these economies makes the inflation forecasting process more difficult and introduces an additional source of uncertainty in the system. By unequivocally choosing inflation as a nominal anchor the central banks could face potential dilemmas if, for example, exchange rate appreciated too much following capital inflows. The idea of the paper is to present the broad framework in which inflation targeting could operate efficiently and provide an assessment of the extent to which such a regime, when applied to transition economies, could fit into this framework.

The structure of the paper is as follows. Section 2 describes the basics of the IT concept and mentions several requirements that are a prerequisite for its successful implementation in practice. Section 3 outlines the European context of monetary policy management. Section 4 addresses several issues regarding the implementation of the IT regime in transition economies and provides a brief account about IT experience in three transition economies, the Czech Republic, Hungary and Poland. Section 5 concludes.

2. Inflation Targeting: Theory and Policy

Historically, to achieve their main objectives (most often, low inflation and, eventually, sustained growth) numerous central banks targeted some intermediate variable, such as a monetary aggregate or the exchange rate. Success with this method requires that (a) the central bank were able to control the intermediate variable and (b) that there is a stable relationship between the intermediate target variable and the ultimate objectives. For instance, it was sometimes claimed that the Bundesbank and Swiss National Bank outstanding record of low inflation should be accounted for by their policy of targeting a monetary aggregate (monetary targeting). Other scholars underlined that in deeds the Bundesbank set more emphasis on inflation forecasts than on the monetary

aggregate, and also that the SNB was concerned with many other indicators (Gerlach and Svensson, 2003).

In recent years, several governments in developed and developing countries decided to implement “inflation targeting” (IT). Pioneers were New Zealand (1990), Canada (1991), Chile (1991), Israel (1992), United Kingdom (1992), Australia (1993) and Sweden (1993). In Eastern Europe, the Czech Republic, Poland and Hungary claim to have adopted this system (after 1998). Under the IT system, the central bank manages monetary policy instruments with the direct goal of *containing inflation over the medium run*. In this setup, inflation becomes the overriding goal of monetary policy. All the other indicators (output gap, money stock growth, the exchange rate, etc) become auxiliary variables; the central bank will take them into account only if this information helps it to improve its inflation forecast.

Experience with monetary policy management in the developed countries has shown that the impact of monetary policy changes on inflation works its effects with a significant lag (at least nine months, and up to two years for a full impact). To make things simple, when central bankers undertake a change in the main instrument at time t , the effects on inflation will be felt much later (let say, after 6 quarters, that is at time $t+6$). Therefore, if the central bank wants to achieve a quantitative inflation target, it must act in a forward-looking manner, that is must decide today on ground on a reasonable forecast of inflation at time $t+x$ (x being the number of quarters in the forecast). In Svensson’s (1997) terminology, inflation targeting should be interpreted as “inflation forecast targeting”. As Svensson (1997) mentioned, if the central banker is competent, the inflation forecast will be highly correlated with actual future inflation (which is unknown to the policymaker at the time of decision).

It should be emphasised that under IT, inflation forecasts are *contingent* upon the central bank view on the transmission mechanism, the current state of the economy and a planned path for the instrument. Complex econometric modelling and statistical inference building on high quality data and economic information is needed in order to produce reliable forecasts (a subjective assessment of the inflation path may be included too). The

forecast quality varies much from one central bank to another, in keeping with their expertise, experience with forecasting, and available data. No doubt that the better the forecast precision, the better will be the public image of the central banker.

In theory, the instrument planned path *might be seen as the solution to a dynamic programming problem*, where the bank has to find the instrument path that brings inflation close to the target while minimizing output volatility over the chosen time horizon (Svensson, 1999; 2000). In practice, the Bank might follow some simple decision rule consistent with its medium run objectives. The parameters of the rule depend on the quality of the forecast.

In Figure 2.1. we describe how a central banker takes its decision under the IT policy regime. At date t , the policymaker must decide on the instrument (interest rate). He knows the previous inflation path and, given its knowledge of the economy, has an idea of the future path for inflation. The *conditional* forecast on the inflation rate π , calculated for x quarters ahead is denoted by $E(\pi_{t+x}|I_t)$, where I_t is the information set available at the date of the forecast. Notice that the initial forecast is obtained for an unchanged instrument (and that a change in the instrument would allow to obtain a different forecast).

Figure 2.1 describes a situation where although at time t the inflation rate falls below the target, in the medium run (8 quarters ahead), the inflation forecast, obtained for a constant instrument value, exceeds the target. In this case, the policymaker must tighten its monetary policy (although at time t inflation is below the target).

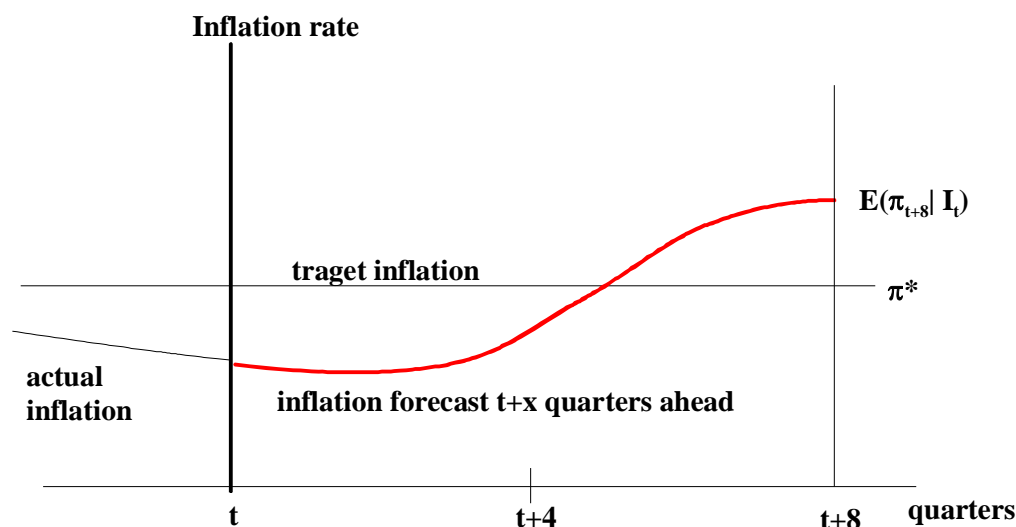


Figure 2.1. IT – the basic logic

From this simple (hypothetical) example, it can be seen how important is for the policymaker to dispose of reliable forecasts. A reliable forecast implies that over a long period the average forecast error must be zero and the variance of the forecast error must be as low as possible. Obviously, such a forecast can be obtained only if the policymaker has a good knowledge of the monetary transmission mechanism, and of the economy as a whole.

If the central bank model (or models) is (are) correct (on average) and if the central bank communicates extensively on the forecasting method, private agents may form better inflation expectations under this policy regime. It goes without saying that, if the central bank communicates by using a wrong model, its ex post credibility would be adversely affected, given that no private agent can trust an unreliable policymaker.

From the implementation point of view, a basic prerequisite for inflation targeting is the central bank's full *autonomy* and *independence*. In particular, the Central Bank should be endowed with powerful *policy instruments* and granted full control over these instruments. Furthermore, political influence over the Central Bank should be irrevocably suppressed.

Then inflation targeting needs to define the *relevant price index*; in general, it is a traditional consumer price index. In the Euro-area, the relevant index is the Harmonized Consumer Price Index (HCPI). Countries that adopt IT will next have to choose *a target and a band*; for instance, for a long period the UK aimed at the 2.5% central value within the 1% to 4% band; in Canada, New Zealand and Sweden the bands are respectively 1-3%, 0-2% and 1-3%. The bank has then to decide on the instruments it wants to use. In the last years, CBs all over the world choose to have a say on short term interest rates, mainly through reverse-repo operations carried out in the money market. Thus, the basic instrument is some repo-refinancing interest rate. At regular intervals the CB will adjust the main instrument (the interest rate) so as to bring the inflation forecast (over 6 to 8 quarters) as close as possible to the target.

A few influential economists are enthusiastic about this monetary policy framework (see e.g. Bernanke and Mishkin, 1997; Bernanke 2003). They argue that such a policy regime allows ruling out the inflation bias connected with time inconsistency. The policymaker's accountability should be quite high under IT since his performance can be directly measured, for instance by the deviation between actual inflation and the target. Transparency is taken a step further since the forecasting method (econometric model) is made available to the public. In general, IT central banks communicate very much on their policy and forecasting methods. This helps private agents to obtain better inflation expectations, which should entail lower economic fluctuations.

Although most inflation targeters share some of the features mentioned above, in practice there is considerable variation in the specifics (for a characterisation of IT see for example Kuttner, 2004). In practice, central banks adopt either a formal approach or a more flexible one. The distinction between the two is that the former entails the specification of an inflation target while the latter, so called "just do it", does not. Thus, it looks as if the "just do it" approach leaves more room for manoeuvre for the CB by not binding it to hit a specific inflation target. However, CB's credibility is bound to play an important role in the successful implementation of monetary policy.

3. The European Context of Monetary Policy Management

According to the Amsterdam Treaty (1997) which is now an integral part of the Treaty on the European Union¹, all the new EU members must join the Euro Area after a period that may be more or less extended. In this context, the monetary institutions in transition economies are expected to be able to cope with the constraints of the New Exchange Rate Mechanism (ERM2). The Convention for the New Exchange Rate Mechanism (September 1st, 1998) states that each euro candidate will have to define a central rate against the euro together with a standard fluctuation band of $\pm 15\%$ (a narrower band may be negotiated on a bilateral basis). Euro candidates should keep their currency within the New Exchange Rate Mechanism (ERM2) for at least two years before accession.² Given these elements, it is of interest to have a look first at the European monetary context, namely the ECB's monetary policy management.

3.1 The ECB's monetary policy management

The ECB was set up in 1999 to manage monetary policy within the European Monetary Union (EMU). The ECB's main mission is "to maintain price stability" and "safeguard the value of the euro". In the medium run the ECB has to keep inflation below 2%, as measured by the HCPI. Although the ECB is also highly independent and autonomous (its range of instruments is impressive, the governments' bail-out is banned, and member country governments' political influence over the Bank is weak) it is not of the IT type. Unlike genuine IT countries and more like the Fed, the ECB shares only a moderate concern for transparency. It is not clear how the Governing Council decides on interest rates given that the internal discussions are secret. The ECB does not issue an official inflation forecast. This is not surprising, given the high technical difficulties to carry out the task of obtaining reliable forecasts. As emphasized by Svensson (1999, pp.

¹ See the Treaty on European Union at the web address: www.europa.eu.int/eur-lex/en/treaties.

² See: "The Eurosystem and the EU enlargement process", *ECB Monthly Bulletin*, February 2000; "The ECB and the accession process", Speech by Willem F. Duisenberg, delivered at the Frankfurt European Banking Congress, November 23, 2001, www.ecb.int/key/01/sp011123.htm; Niels Thygesen, "The path to the euro for the enlargement countries", Speech delivered at the European Parliament on May 8, 2002, www.europarl.eu.int/comparl/econ/pdf/emu/speeches/20020521/thygesen.pdf; "Central Europe and the euro: up for adoption", *The Economist*, June 1, 2002. The text of the "Conventions and Procedures for the ERM2" on September 11, 1998 is available at: www.banque-france.fr/gb/euro/bce/cpresse/2c.htm.

645), “the lack of an EMU-wide transmission mechanism from monetary policy and the corresponding unavoidable uncertainty about the transmission mechanism will [...] constitute a formidable difficulty”.

Early in 2004, the framework for monetary policy management within the EMU area was clearly stated by the ECB President, Jean-Claude Trichet: “In our economic analysis, we introduce all elements, all factors, that have a bearing on the situation, and [...] we are not the prisoner of an equation, we are not the prisoner of a system of equations, we are not the prisoner of an algorithm which would dictate our conduct and behaviour.”³ That is, the ECB regime appears to be closer to the “just-do-it” behavior of the US Fed than to the the full-fledged IT system of the UK or Sweden central banks.

As in the US, the EMU monetary policy aims at *flexibility* so as to be able to address, in an efficient way, the various potential threats to price stability, including exceptional events (deflation, war, terrorist attacks, imports price shocks, stock market major crises, etc.).⁴

The monetary policy instruments of the ECB are: minimum reserves, open market operations and standing facilities. The ECB controls liquidity in the euro-area mainly through short-term reverse-repo operations. Every week, the ECB opens a call for tenders for the Euro-zone counterparts (banks and other financial institutions). It then lends cash to banks for a one week period against collateral (high grade bonds). Banks are asked to inform the ECB about the interest rate they are prepared to pay for every euro they borrow, knowing that those that offer to pay the higher price will be first served. Every month the Governing Council of the ECB decides on the downward limit on interest rates in this bidding operation, i.e. *the minimum bid rate*.⁵ According to information released by the ECB, this minimum bid rate aims at signalling the monetary policy stance to

³ Jean-Claude Trichet, President of the European Central Bank, Transcript of the answers at the Press Conference on January 8, 2004.

⁴ The speech by Allan Greenspan, “Risk and uncertainty in monetary policy” on January 3, 2004 is a convincing plea in favor of flexibility and adaptive monetary policy management. See www.federalreserve.gov/boarddocs/speeches/2004/20040103/default.htm.

⁵ Until June 2001 the ECB used a fixed rate auction, where banks borrowed reserve money at a constant pre-announced interest rate. This system was highly unstable (call for bids became as high as 100 times the allotment!) and had to be abandoned.

money market operators (ECB 2001).⁶ Assuming a stable demand function for monetary base, a higher short term rate is tantamount to a restrictive monetary policy, and vice-versa.

The ECB interest rate rule

The actual behaviour of a central banker may be analysed by inferring from the data an empirical monetary policy rule. Such a rule describes the relationship between the main central bank instrument as the dependent variable -- in general, the target short term interest rate -- and relevant economic independent variables. Svensson (1999) distinguishes between an explicit instrument rule, where the instrument is related to predetermined variables only and an implicit instrument rule, where the instrument comes out as a function of forward looking variables.

These rules are also referred to as Taylor rules, according to the name of John Taylor who developed this methodology (Taylor, 1993). Inspired by the US experience, Taylor focused on the role played by inflation and real economic activity in monetary policy management, the two main goals of the Federal Reserve. Denoting by $E[-]$ the expectation operator and by I_t the information set at the time the interest rate is chosen (i.e., at time t), such a baseline policy rule takes the form:

$$i_t^* = \bar{i} + \beta(E[\pi_{t+k}|I_t] - \bar{\pi}) + \gamma E[y_{t+q}|I_t] + AE[\Theta_{t+\ell}|I_t]$$

where i_t^* stands for the *target* interest rate, π_{t+k} is the inflation rate k periods ahead, $\bar{\pi}$ is the target inflation rate, y_{t+q} is the average output gap q periods ahead; Θ is a vector of variables other than inflation and the output gap (at time $t+\ell$) and A is the respective vector of coefficients. \bar{i} can be interpreted as the desired (target) nominal interest rate, to be obtained when both inflation and output are at their target level. β and γ are given parameters. In so called contemporaneous rules, k , q and l are set to zero; in “forward looking rules”, some of them are positive.

⁶ The signaling role of the minimum bid rate was emphasized by Willem Duisenberg at the *ECB Press Conference* on June 8, 2000, cf. www.ecb.int/key/00/sp000608.htm.

Several economists pointed to the important role played by the β coefficient on the stability of the macroeconomic system (inter alia, Kerr and King, 1996; Bernanke and Woodford, 1997; Clarida et al., 2000). They worked out simple macroeconomic dynamic models, with three main equations: an IS curve, linking the output gap to real interest rates; a Phillips curve, whereby the inflation rate is positively related to the output gap; and a monetary policy rule. When a shock pushes inflation above the target, the Central Bank increases its interest rates according to the policy rule. If $\beta < 1$, the increase is not strong enough to bring about a higher real interest rate, demand is stimulated, and, *via* the Phillips curve mechanism, inflation is further enhanced. To the contrary, if $\beta > 1$, the strong response of the Central Bank brings about an increase in the real interest rate, which tempers demand and inflation.

The fact that the ECB has such a short history makes difficult but not impossible the econometric estimation of an interest rate rule *à la* Taylor. The better understanding the ECB objectives should guide the implementation of goals and policies in the euro candidate countries. Table 3.1 below summarizes the main findings. All these studies point to the sensitivity of the ECB to the real activity; if the actual output goes below its trend (or the output growth rate falls below the target), the Bank will reduce interest rates and vice-versa.

In most these studies, the ECB will increase interest rates if the inflation exceeds the 2% target, but it is not clear whether the Banks's action is stabilizing or not; some economists found that the β coefficient is bigger than one, some others found a β lower than one. As a comparison, all studies about the Fed in the nineties show that the American central bank reacts very energetically to excessive inflation (β larger than one).

STUDY	TYPE OF RULE	PERIOD	β	γ	REMARKS
Gerdesmeyer & Roffia, 2003	Contemporaneous	99.01-02.01	0.45	0.30	
Ullrich, 2003	Contemporaneous	99.01-02.08	0.25	0.63	0.08 coefficient of the real ex. rate
Fourçans & Vranceanu, 2004	Contemporaneous	99.04-03.10	0.43	0.26(a)	0.08 coefficient on the nominal exchange rate

	Forward (+6)	99.01-03.10	2.8	0.19(a)	
Surico, 2003	Contemporaneous	97.07-02.10	1.93	0.20	Quadratic term in inflation
Sauer & Sturm, 2003	Contemporaneous	99.01-03.03	0.03	0.76	
	Contemporaneous	99.01-03.03	0.95	0.50(a)	

(a) real activity proxied as the industrial output growth gap.

Table 3.1. A review of main Taylor rules estimates for the EMU

In the study by Ullrich (2003) the ECB appears to react to real appreciation of the euro by lowering the interest rate; this reaction would suggest that the real activity goal is more important than would indicate the coefficient on output gap alone. In the study by Fourçans and Vranceanu (2004), nominal appreciation pushes the ECB to reduce interest rates; this would suggest that the Bank takes into account the depressing impact on prices that nominal appreciation would entail, and accommodate its monetary policy accordingly. Most empirical studies on the ECB show that, despite its verbal commitment to the reference value in the money stock growth rate, the Bank pays little attention to this indicator.

To sum up, from these studies, it might be inferred that the ECB interest rate rule is not very different from the Fed's policy. It is characterized by some weight set on real activity (a "leaning against the wind" policy) and some weight set on inflation (but is this weight strong enough?). Some studies also point that the ECB is indeed "not indifferent" to the exchange rate stability, which appears to be -- in some of the estimated rules -- a direct policy goal.

It must be emphasized that these simple linear estimates do not allow to infer the ultimate goal of the Central Banker. As Svensson (1997, 1998) has shown, a linear reaction function, including on the right hand side other variables than inflation (output gap, exchange rate) may be characteristic of a forward looking policymaker concerned with inflation only; it may also be consistent with a policymaker concerned with price and output stability.

Arguably, the "best international practice" IT is pursued by the Bank of England (BoE) and Riksbank, the Bank of Sweden. The design of procedures implemented by the

two banks has been come to be regarded as a benchmark in the way monetary policy under IT should be conducted.

3.2 Monetary Policy Practice at the Bank of England

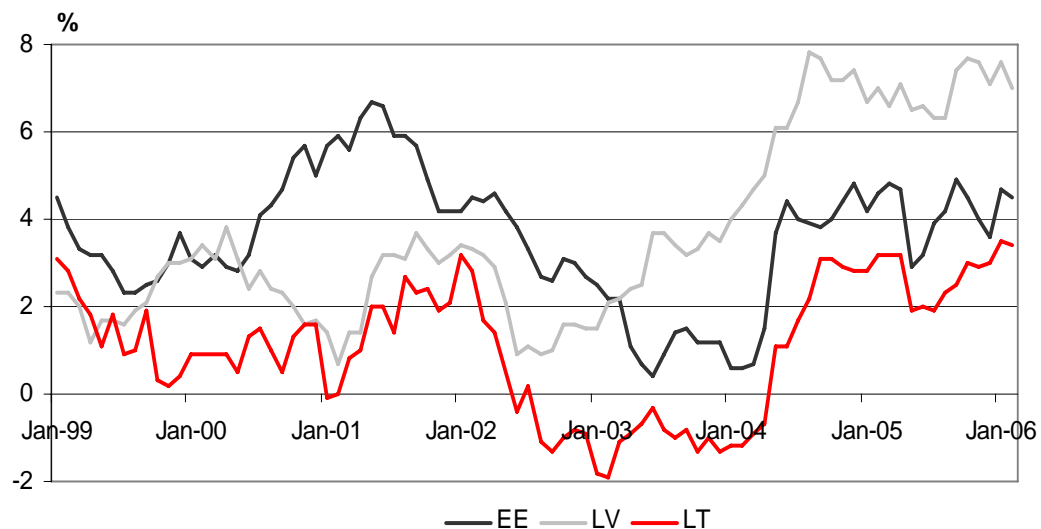
The Bank of England (BoE) has introduced the IT regime in 1992. In January 2004, the UK replaced the RPIX price index (which excludes mortgage payments) with the HCPI (which includes them) and which is the official index of the ECB. The Bank aims at holding the inflation rate within a narrow band around the 2% central value. Because monetary policy works its effect with several lags, under IT the central bank takes a forward looking stance over inflation developments; more in detail, the BoE focuses on inflation developments over a two year period. In order to implement this policy, it makes use of forecasts obtained from various models. Although for the forecasting process there is a so-called core macroeconomic model of the UK economy, the BoE also uses the forecasts obtained from several other smaller models. These are intended to capture and explain some phenomena that are rather difficult to assess by simply using the core model. For example they could offer a better understanding of the recent past or, sometimes, they could evaluate new scenarios. They are also used to test the appropriateness of assumptions made about the driving processes used in the core model. The models' output are a useful tool because they facilitate a better comprehension of how the economy works allowing for empirical quantification and thus helping in understanding the monetary policy transmission mechanism. Aided by the forecast output of these models, the BoE's Monetary Policy Committee (MPC) makes a judgement about the future potential developments of inflation and output growth. Every month, the BoE publishes a two-year ahead forecast for the annual CPI and RPIX inflation and four-quarter growth rate of GDP, under the assumption of constant short-term UK interest rates, in the form of a fan-charts. The forecast process at the BoE takes several steps. First, there is a meeting between the MPC and the BoE staff aimed at establishing the key assumptions together with a risk assessment. These are then incorporated into the BoE's economic models by the forecasting team in order to obtain a draft forecast. The draft forecast is analysed by the MPC which may require changes subject to revised assumptions and new information. Finally the forecast is fine-

tuned by the MPC in response to the latest economic developments. All monetary policy decisions are interpreted and motivated in the light of these forecasts. The basic principle is that a deviation of the forecast from target requires a current intervention of the Bank: when the forecast exceeds the target, monetary policy is tightened and vice-versa.

3.3 The Baltic Countries

Standing out from the group of inflation targeters are the Baltic countries. Notably, the central banks of Estonia, Latvia and Lithuania have all adopted some sort of a currency board arrangements. With the three countries committed to join the EMU as soon as possible it looks unlikely that they will change their current monetary policy framework before adopting the euro. The group of Baltic countries has managed to contain inflation although after joining the EU in 2004 the accession costs pushed up inflation by an average of 3 percentage points in all Baltic countries (see Figure 3.1 below).

Figure 3.1 Annual Inflation Rates in the Baltic Countries*



* EE – Estonia, LV – Latvia and LT – Lithuania.

Although a fixed exchanged rate mechanism is successful in anchoring inflation expectations it might be detrimental to the country's competitiveness if fluctuations in the value of the euro, to which the Baltic countries currencies are pegged, occur in international financial markets. Thus, the loss of monetary policy independence could affect central bank's response to shocks and prevent the timely adjustment of other macroeconomic variables. Moreover, higher commodities and energy prices could lead to imported inflation, a phenomenon which a monetary authority that targets a fixed exchange rate can do little against.

On the benefits side, for small open economies, like the Baltic countries, an exchange rate strategy could help in smoothing out global financial and commodity markets shocks while reducing foreign exchange rate volatility. And the latter is an important element as the exchange rate channel affects consumer price dynamics considerably in all Baltic countries.

Given that the Baltic countries have been pursuing a pegged exchange rate long before they joined the EU in 2004, it is not surprising that all three of them adopted the ERM II mechanism soon after becoming EU members.

Estonia. The country entered into the ERM II mechanism in June 2004 and, at present, maintains a currency board arrangement against the euro, which it intends to adopt in 2007. Since January 1999 the Estonian Kroon is fixed at 15.6466 Kroons for one euro. The fixed exchange rate regime has proved, so far, to be a successful nominal anchor for monetary policy. However, given the limitations the currency board places on the independence of monetary policy, the Estonian government has been forced to pursue a tight fiscal policy over the last years in order to reduce external vulnerabilities and restrict domestic demand.

Moreover, the external imbalances tended to worsen during the year 2005. With the domestic money supply being set by the size of foreign capital inflows and FDI, any change in the structure of the one of the two would impact on the monetary policy management. The increase in the current account deficit to 9.4% of GDP together with a reduction in the FDI has changed the structure of capital inflows. The growing reliance on foreign bonds financing of the current account pushed up the external debt to more

than 90 percent of GDP. This leaves the country more vulnerable to exchange rate fluctuations with monetary policy having little room for manoeuvre⁷.

Latvia. The objective of Latvia's central bank is to create favourable conditions for economic growth in the long run through price stability. The central bank pursues an exchange rate strategy under which the Latvian currency, Lats, is pegged to the euro⁸ at the rate of 0.72 Lats = 1 euro, within a +/- 1% fluctuation band. To achieve its objective the central bank uses standard monetary policy instruments, ie reserve requirements (currently at 8%), open market operations⁹ and standing facilities of lending and deposit of funds.

Lithuania. The main objective of the central bank's monetary policy is price stability, achieved by pegging the Lithuanian Litas to the euro. Lithuania joined the ERM II in June 2004 and has already drawn up a detailed plan for the adoption of the euro. The central bank implements its monetary policy by performing Litas and euro exchange transactions with authorised banks which are subject to reserve requirements. In line with the ECB practice, the reserve requirements have been gradually reduced from 10 to 6 percent.

The central banks from Czech Republic, Hungary, Poland, Romania and Slovakia have also moved towards IT (see next section). However, there is still some way to go until the performance of IT in these countries will be close to the one in more advanced economies.

While monetary authorities in the new EU members and candidate countries¹⁰ have adopted different monetary policy frameworks, because of the Maastricht criteria requirements they all face similar concerns in the medium term. Thus, apart from low

⁷ In addition, high fuel costs and a change in the weighting structure of the CPI in early 2005 pushed inflation up, putting in jeopardy the deadline to euro adoption.

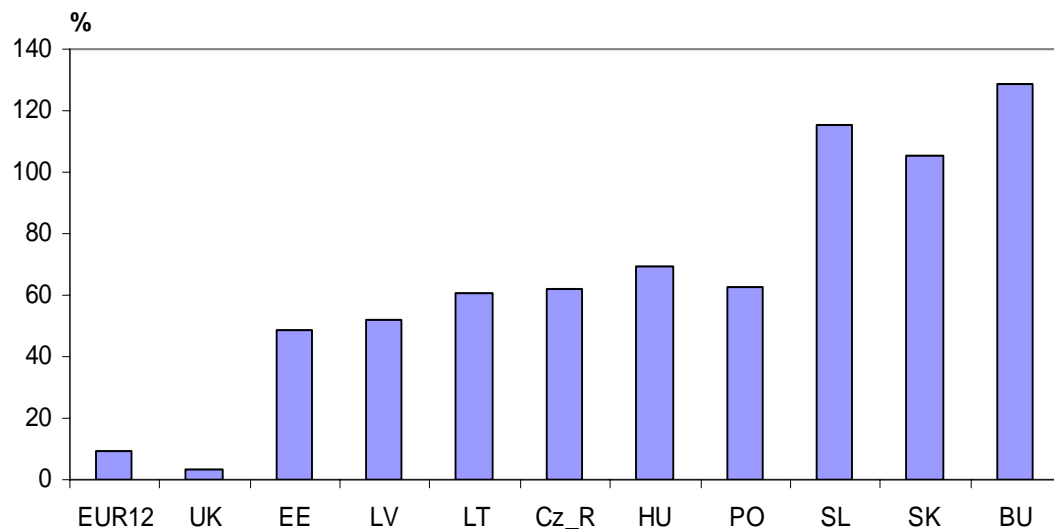
⁸ The Bank of Latvia has been pursuing its pegged exchange rate strategy since February 1994 when the Lats was pegged to the SDR currency basket. From January 2005 the Lats has been pegged to the euro.

⁹ Securities repo agreements have maturities of 7 and 28 days while currency swaps have maturities of 7, 28 and 91 days.

¹⁰ Candidate countries are Bulgaria, Romania and Croatia. Barring any unexpected developments the first two countries should join the EU in January 2007. Croatia still needs to complete its EU accession talks.

inflation, an objective which all central banks aim at, the stability of the exchange rate is also one of the variables closely monitored by the monetary authorities. As investment opportunities in the new EU members and the candidate countries have increased so did the volume of foreign inflows. In reply to the increased demand for domestic currency most central banks have been forced to resort to sterilised interventions. As a consequence their foreign currency reserves are much higher than those in other developed countries. For instance, Figure 3.2 below shows the ratio of foreign reserves to M1 at the end of 2004¹¹.

Fig. 3.2 Foreign Reserves to M1 Ratio, End-2004.



Data Sources : Eurostat

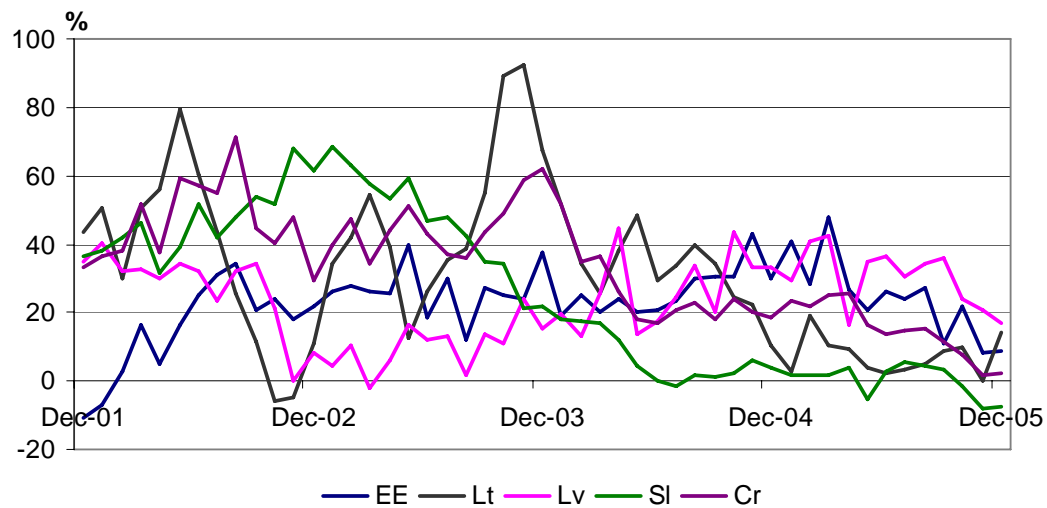
The share of foreign reserves in M1 in EUR12 countries is less than 10% while for the UK, one of the countries considered to have best IT practice, it is a meagre 3.4%. In contrast, in the Baltic countries the ratio stands between 50-60%, not surprising given their pegged exchange rate agreements. Bulgaria, which also implements a fixed exchange rate policy has a much higher ratio, around 130%. One would have expected that in the IT countries this ratio to be lower. In fact, in all Eastern European IT countries

¹¹ For the current purpose a more appropriate measure of the money supply would have been the monetary base, M0. However, given some data availability constraints the choice of M1 ensures direct comparisons between individual country ratios.

this is exactly the opposite. The Czech Republic, Hungary, Poland, and Slovakia all have higher foreign reserves to M1 ratios than countries that implement a fixed exchange rate regime. In Romania, which is not depicted in Figure 3.2, foreign reserves covered almost 4 times the M1 at the end of 2004¹²! Thus, paradoxically, the monetary conditions in the IT countries are more stringent than those in the countries with pegged exchange rate regimes.

Figures 3.3a and 3.3b show the annual increase in foreign currency reserves in the non-IT and the IT countries respectively.

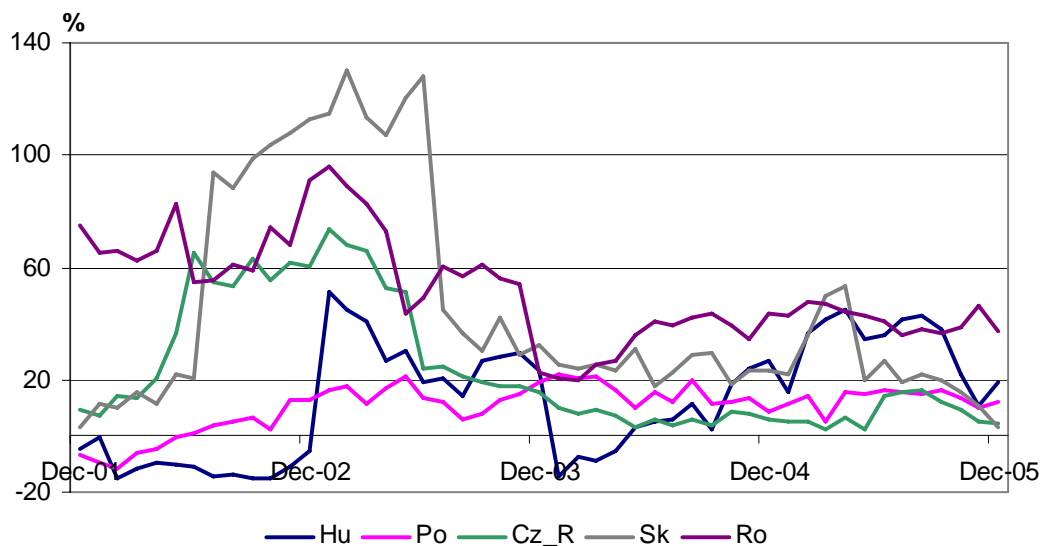
Fig. 3.3a Annual Increase in Foreign Currency Reserves (non-IT countries)



Data Source: IMF

Fig. 3.3b Annual Increase in Foreign Currency Reserves (East European IT countries)

¹² And more than 3 times the M0.



Data Source : IMF, except Romania for which data is from the NBR monthly bulletins.

The accumulation of foreign reserves does not seem to vary markedly between the two groups of countries. However, over the last months the trend in the growth rate of foreign reserves seemed to have come down from the high rates of 2002-2003. One exception is Romania where the annual growth rate of foreign reserves stands at around 40%. To avoid an excessive appreciation of the domestic currency, the Leu, the NBR continues to sterilise large volumes of capital inflows and then absorb the resulting excess liquidity from the money market. Because of its ERM II participation Hungary has been also forced to defend the trading band of the forint. The rate of change in foreign reserves is more volatile in Hungary than in other country. The January 2003 episode, when the NBH defended the forint against a speculative attack can be singled out, as a massive increase of 50% in foreign reserves was needed to fend off the attack. But, while targeting inflation, other central banks in EE have made routinely interventions in the foreign exchange markets. The CNB also used to intervene in the foreign exchange markets quite often in order to counter upward pressure on the exchange rate¹³. And so has done the central bank of Slovakia.

¹³ See OECD Economic Surveys: Slovak Republic 2005 and Disyatat and Galati (2005).

At various points in time all central banks in EE have been confronted with large capital inflows, some of which were speculative in nature. And these occurrences are likely to happen again in the near future if inconsistencies in macroeconomic policies emerge. To avoid excessive appreciation/depreciation of domestic currencies the central banks have tended to resort to sterilisation procedures – which led to the presence of chronic excess liquidity. Thus, in EE countries the relevance of reverse-repo transactions is much higher compared to developed countries (where the repo operations are common). While in some countries, like the Czech Republic or Poland, repo transactions have started to be used more intensively, the workings of monetary transmission mechanism is yet to be fully understood by the monetary authorities in order to make a better use of this monetary policy instrument.

4. Inflation Targeting in Transition Economies, Issues and Experience

4.1 Is the IT Framework Solely Responsible for the Disinflation Process?

Given their post communist experience with high inflation it is not surprising that several central banks in Eastern Europe (EE) have become strong adherents of IT. Following a period in which most of them pursued a monetary policy aimed at stabilising the exchange rate, subsequently they turned to IT. Although the EE central banks which follow IT tend to stress the importance of pursuing this monetary policy framework in achieving low inflation this might not necessarily hold true. Inflation in almost all Central and Eastern European countries has been following a downward trend (from the high levels of inflation experienced after 1990) – irrespective of the choice of monetary arrangements and regimes the central banks these countries have employed. Clearly the recent low global inflation environment has made it easier for the EE countries to control domestic inflation¹⁴. This argument aside, it is not immediately apparent what the results

¹⁴ Indeed, this is a view shared by a number of central bankers and economists from both EE and non-EE countries that target inflation as well.

of implementing a different monetary policy framework by the current IT countries would have been.

In general, it was the implementation of sensible domestic fiscal and monetary policies in transition economies, aided by favourable external inflation developments, that led to a low inflation environment. If these policies continue to be pursued responsibly there are no reasons to think why the inflation rate could not be maintained at the low levels already achieved in most of these countries even in the absence of a genuine IT regime.

As Table 4.1 below shows, countries that pursued different monetary policy frameworks – such as the Baltic countries or Bulgaria, for instance, have also achieved low inflation.

Table 4.1 Average Annual Inflation (%)

Year	Czech R.	Hungary	Poland	Slovenia	Slovakia	Estonia	Latvia	Lithuania	Bulgaria	Romania
1999	2.1	10.0	7.3	6.1	10.4	3.1	2.1	1.5	2.6	45.4
2000	3.9	9.8	10.1	8.9	12.3	3.9	2.6	1.1	10.3	46.3
2001	4.7	9.2	5.5	8.6	7.2	5.6	2.5	1.5	7.4	34.8
2002	1.8	5.5	1.9	7.5	3.5	3.6	2.0	0.4	5.8	22.7
2003	0.1	4.4	0.8	5.7	8.4	1.4	2.9	-1.1	2.4	15.4
2004	2.8	6.8	3.6	3.7	7.5	3.0	6.2	1.2	6.2	12.0
2005	1.8	3.6	2.1	2.5	2.8	4.1	6.9	2.7	5.0	9.1

Source: Eurostat

Inflation targeting in transition economies has been a more challenging task than in developed economies. As experience with IT in transition economies shows, the central banks in these countries often missed inflation targets by a sensible amount. Jonas and Mishkin (2003) look at the potential difficulties and evaluate the outcome in the three East European countries, the Czech Republic, Hungary and Poland that claim to use the IT system. They conclude that although the progress with disinflation has been good, the relative high level of uncertainty in these countries makes it relatively difficult to predict inflation over the medium term – as required by the IT approach.

This is not a minor shortcoming. In the developed countries, adoption of IT implies that the central bank dispose of the technical ability to:

- (1) have a reliable conditional forecast inflation (6-8 quarters ahead); and
- (2) know how to adapt its instruments so as to bring the forecast close to the target.

All the benefits which derive from IT in terms of accountability and credibility stem from these conditions. Obtaining a reliable conditional forecast is a very difficult task – and the ECB itself did not take this challenge! What if the forecast is wrong? Figure 2.1 proves the point. If the *true* forecast falls below the target, the policymaker would tighten monetary policy when he should loosen it. The relationship between the instruments is in general assumed to be known but this relationship changes continuously in developing economies.

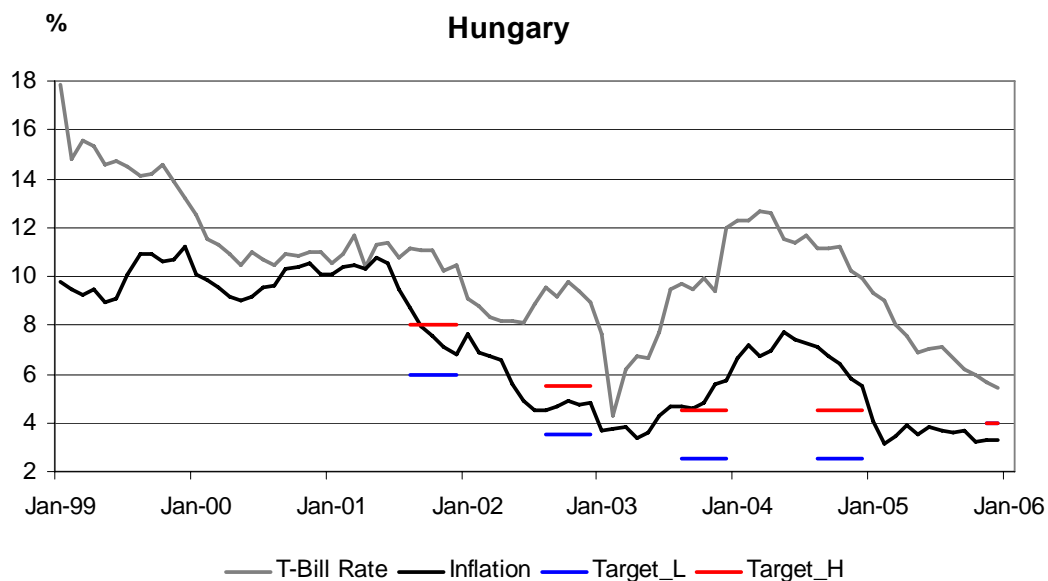
Given the fact that the risks of getting wrong forecasts – and thus missing inflation targets - in a transition economy are quite large, the central bank's credibility may be adversely affected by adoption of IT. By adopting a rigid framework for monetary policy management in the context where the criteria for the well functioning of this framework are not fulfilled, the central bank's credibility can only be damaged.

In a recent paper Stone (2003) shows that, although a series of developing countries pretend to practice IT, in reality they are not able to meet their inflation targets. The paramount policy issue in these countries is then whether the central bank should pre-commit itself to a single nominal anchor – namely inflation. The same question is posed for the particular case of transition economies. Is the formal IT regime, as claimed to be implemented by the central banks in transition economies, best suited given the current economic circumstances? And if it is not, what would be the alternative? To answer the first question one would have to look at the particular issues that might obstruct the implementation of the IT regime in transition economies. These issues resemble remarkable similarities in most of the transition economies. Here we look in particular at the preliminary IT experience in three transition countries, the Czech

Republic, Hungary and Poland, namely because of the existing track record – albeit small – these countries have in this respect. A comprehensive analysis of the economic developments that led to the introduction of IT in these countries is beyond the scope of this paper¹⁵. However, for evaluation purposes a brief overlook on the IT experience in these countries could be a useful exercise. This would also help in identifying some of the potential challenges for monetary policy that lie ahead.

4.2 IT Experience so in EE Countries

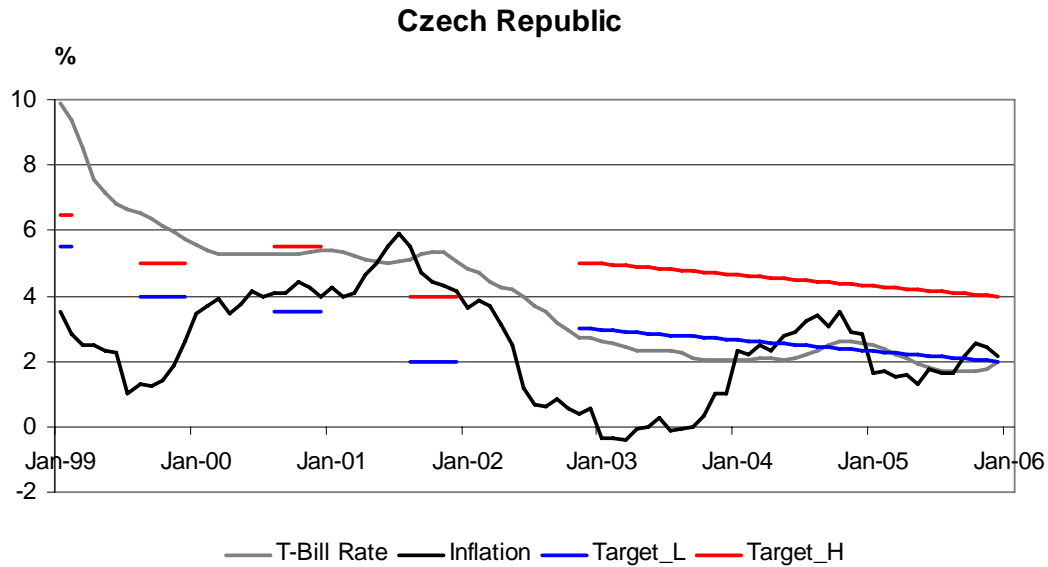
Hungary. Officially, Hungary launched inflation targeting in mid-2001. The first target band was +/-1% centred around a parity of 7%. For the end of 2004 the initial announced target band was 3.5% +/- 1%. With inflation pressures rising in early 2004 the National Bank of Hungary (NBH) revised upwards its end-2005 target band to 4% +/- 1% with the central parity target at the end 2006 falling by 0.5%. It is worth noticing that, while targeting inflation, the NBH aims simultaneously at maintaining the forint-euro exchange rate within a +/-15% band, which in effect emulates the ERM-II regime.



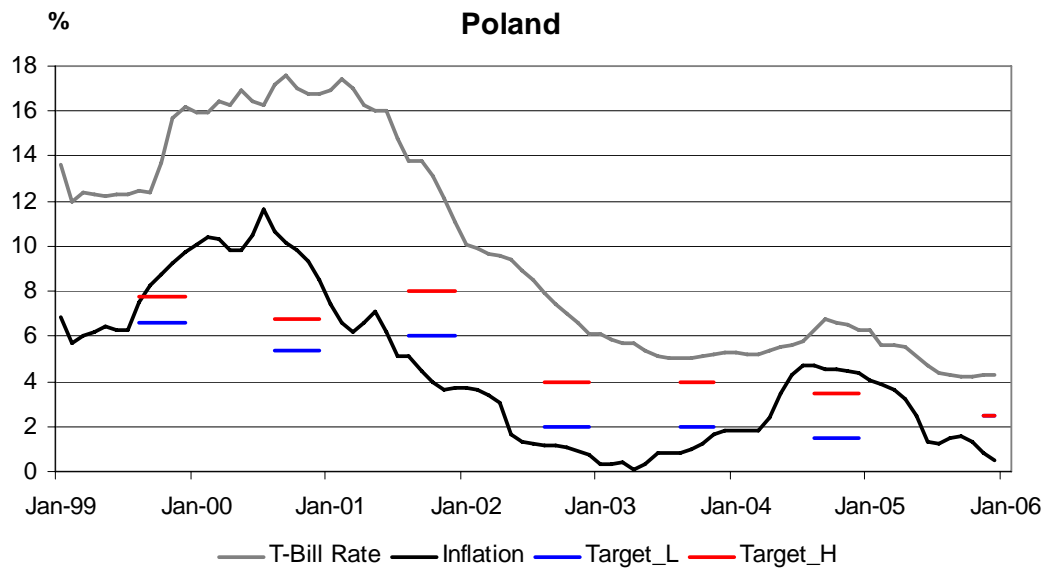
Czech Republic. The Czech Republic adopted the IT framework in December 1997 and had an initial band of 5.5-6.5%. and a one-year time horizon. Initially, the Czech National

¹⁵ For this see Jonas and Mishkin (2003).

Bank (CNB) chose to target core inflation but moved to CPI in December 2001. Starting with January 2002 the CNB adopted a 4-year inflation forecast period in which targeted inflation is expected to fall gradually within a band from 3-5% to 2-4% by the end of December 2005. From January 2006 the CNB announced that it would target an inflation rate of 3% until the country joins the euro area.



Poland. In Poland the National Bank of Poland (NBP) set a short-term inflation target within the 8-8.5% range in June 1998. Subsequently different targets were set at the end of each year. At the time of announcement to implement inflation targeting the NBP was still maintaining an exchange rate band. This was widened gradually before allowing the zloty to float freely in April 2000. For the end-2005 and 2006 the target inflation band was 2.5% +/- 1% and in the medium term monetary policy aims at keeping annual inflation as close as possible to 2.5%.



Prior to year 2006 the Monetary Policy Council (MPC) used to signal to the public its monetary policy bias. This was considered to limit the flexibility of monetary policy and so, starting from 2006 the MPC announced it would communicate an assessment of a sum of factors that could affect future inflation instead¹⁶.

Romania. The National Bank of Romania (NBR) announced its official adoption of the IT regime in August 2005. However, inflation targets – for a three-year time span – were made public long before that. Initially, the year end 2005 inflation target was set to 7%. This was later changed to a target band of +/- 1% centred around a parity of 7.5%. Actual inflation proved to be 8.6%, falling outside the upper limit of the band. For 2006 and 2007 the NBR’s inflation targets are 5 and 4% respectively¹⁷.

Slovakia. Subsequent to joining the EU in 2004 the government and the National Bank of Slovakia (NBS) announced a strategy for adopting the euro by 2009. Under this economic strategy, a new monetary policy framework – defined as ‘inflation targeting in

¹⁶ Inflation Report, January 2006, National Bank of Poland.

¹⁷ At the time of its inflation targets announcement the NBR also acknowledged that its 2006 inflation target would, very likely, be missed. The NBR’s decision to aim for an inflation rate which even the NBR considered to be unrealistic is questionable since the public’s inflation expectations – the ones that matter – are not influenced by the pre-announced inflation target anymore. This could cast some doubts on its overall approach to IT management.

the conditions of ERM II' – was established. The inflation targets announced by the NBS for 2006 and 2007 are asymmetric, below 2.5 and 2% respectively. However, these could prove to be ambitious if the current level of high oil costs are maintained. In the last quarter of 2005 alone inflation rose from 2 to 3.9%.

From the graphs in above it can be easily noticed that three central banks with more experience with IT (ie Czech Republic, Hungary, and Poland) have had limited success in hitting inflation targets¹⁸. This is not surprising given the challenges IT poses in transition economies. The next section highlights a series of policy implications for Eaaster European countries that target inflation.

4.3 Policy Implications for IT Countries in EE

In general, countries that moved towards IT in EE have done so because this operational framework of monetary policy was considered to be the best alternative. Monetary targets were pursued either directly or indirectly in early 1990's by Slovenia, Slovakia, Poland and Czech Republic among others. However, given the instability of money demand most of these countries moved gradually, in a more or less formal way, towards exchange rate targeting. The adoption of this monetary policy framework enhanced central banks' credibility for fighting inflation while the objectives of monetary policy itself were easier to understand by the public. As inflation rates were falling towards single digits it became apparent that the need for structural adjustment required the adoption of a more flexible approach to exchange rate policies. Apart from this, an exchange rate peg or target band is more prone to a currency attack, a risk worthwhile considering in countries where a combination of high interest rate differentials (vis-à-vis the EU countries in particular) and a tendency for a domestic currency appreciation existed. With nominal income or price level targeting not favoured for different reasons¹⁹, the move towards inflation targeting seemed particularly appealing because of its

¹⁸ Given the short time period which elapsed since both Romania and Slovakia moved officially towards IT it is too early to assess the success of IT regime in these countries.

¹⁹ Nominal income targeting has proved to be imprecise while price level targeting imposes more stringent restrictions on the behaviour of the central bank since any over/undershooting of the price level target will have to be subsequently corrected so as to hit the target implying a finite price level variance. This is in contrast to inflation targeting where the price level variance tends to infinity (see, for instance, Carlstrom and Fuerst, 2002).

apparent simplicity. While such a way to conduct monetary policy is more suitable for free market economies with a proven track record its adoption by the Eastern European economies – which still undergo structural changes – could face a number of challenges²⁰.

Firstly, *the source of the shocks* that hit the Eastern European economies is rather uncertain. A central bank would adopt a different course for monetary policy if it knew that the economy was subjected to a demand shock then in the case of a supply shock. The difficulty to disentangle the source of the shocks stems from the fact that the effects of structural changes these economies undergo overlap with those brought about by external causes, such as a shock to terms of trade for example. And this problem is going to persist in the near future as broad structural reform is still set to continue for some time in these countries. A solution to this problem could be provided by model simulations. However, the design of econometric models that would be able to produce a reasonable inflation forecast in any of the three countries has proved to be rather challenging so far.

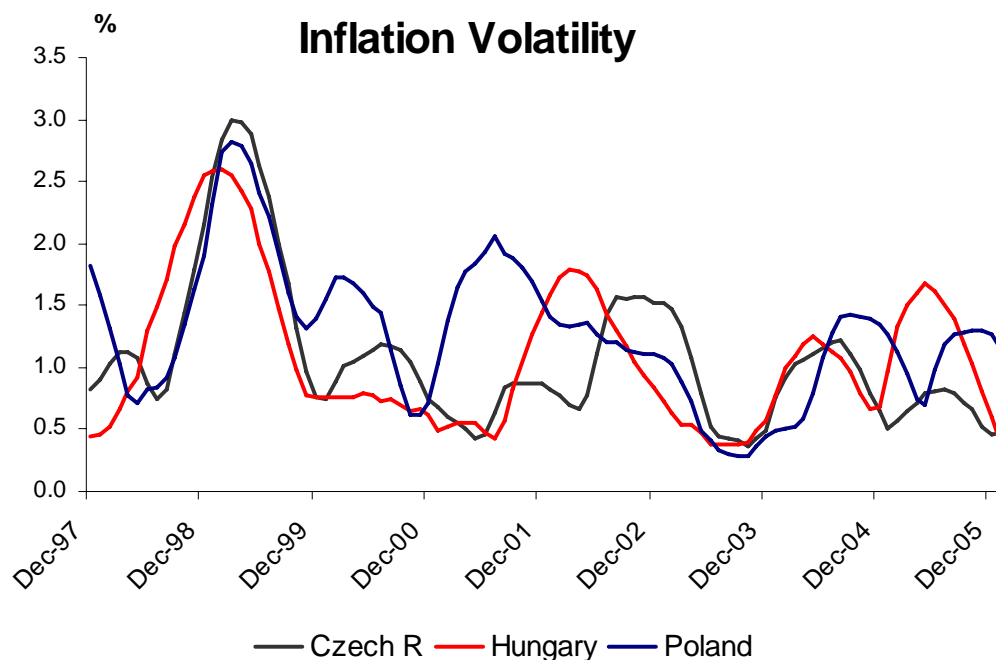
The NBH has been using initially the global model (NIGEM) of the National Institute of Economic and Social Research (NIESR). A Hungarian block was developed within the NIGEM which was then used for scenario analysis. More recently the NBH has developed a quarterly model, called NEM, which is used both for policy simulations and forecasting. Similarly, the CNB has been also using a small quarterly model for some time. The NBR uses a simple new-Keynesian model which it is still in its early stages of development and testing. There have been several attempts to build models for forecasting inflation at the NBP (see, for example²¹ Kokoszczynski et al., 2002 or Killos, 2002). But the conditional forecast of these models seems to have been falling short of expectations so far – as suggested by an ex-post comparison between realised end-year inflation against targets. This does not come as a surprise as the likelihood that these models are mis-specified is rather high. Additionally, some of the estimated coefficients in the models equations could be biased. Kemme and Gavin (2004) have found that the

²⁰ Moreover, the participation in the ERM II mechanism conflicts with the IT principles since the monetary authority will have two objectives instead of one – as required by the IT framework.

²¹ We are grateful to Marek Gruszczynski for providing us the links to those papers.

forecasting processes in these countries yield superior results if coefficients obtained by a panel data estimation of the 15-EU countries are used instead. This seems to suggest that there is already a relative high level of economic integration between these three countries and the 15 countries that formed the EU before 1 May 2004.

Another important observation pertains to *inflation volatility*. This – as measured by a rolling 12-month standard deviation – has tended to move in cycles and has not fallen considerably (see Figure 4.4 below).



A common feature of the IT countries seem in fact to be higher inflation volatility than non-IT countries. Although this observation is supported by findings in other papers²² the question that arises is whether such volatility is desirable.

Secondly, is the issue of *multiple objectives*. It is hard to believe that the authorities in transition economies would place a much lower emphasis on other macroeconomic variables such as economic growth or employment compared to

²² Levin et al. (2004) find that, while most of their developing countries in their sample succeeded in reducing the mean of inflation, the volatility of inflation remained quite high.

inflation. This is not to say that central bankers care only about inflation, in other words they are “inflation nutters” in Mervin King’s terminology. But the weights assigned to economic growth or employment for instance are bound to be higher in practice than the central bank would acknowledge. This is because, ultimately, higher unemployment could cause public dissatisfaction with the government economic policies which in turn may lead to macroeconomic instability. Already Socialist governments in the Czech Republic, Hungary and Poland have been losing support as they cut welfare and state jobs to meet EU requirements on deficits and debt. The prime ministers in all three countries bowed to public pressure and resigned since their countries joined the EU. And coalitions led by Socialists in the Czech Republic, Hungary and Poland suffered defeat in June 2004 European Parliament elections. This could add up to the pressure the central banks in these countries already face to pay more attention to economic growth.

Moreover, there is a potential unavoidable conflict caused by multiple objectives that lies ahead for all new EU members. All countries that intend to join the EMU (and all new EU members have to do so sooner or latter) are required first to spend a period of minimum two years in the ERM II. This means that the central bank will have to maintain a +/-15% exchange rate band around some predetermined central parity. But preserving the value of domestic currency against the euro within the band while, at the same time, targeting inflation could cause potential conflicts for the conduct of monetary policy. The experience of the NBH is illustrative in this respect. In 2003, in the aftermath of a speculative attack on the forint, the NBH was forced to shift the band the forint was trading in at that time. The NBH moved in strongly to defend the exchange rate band, spending some euro 5.3 billion or the equivalent of 7% of GDP. Apart from the spillover effects such actions might have²³, they are bound to affect the credibility of monetary authorities.

Thirdly, *fiscal policy considerations* play an important role in the evolution of inflation in transition economies. Although the design and implementation of monetary

²³ Foreign investors reacted to the NBH intervention in the foreign exchange markets by adopting different positions vis-à-vis other EE currencies. As a consequence, volatility of these currencies increased inducing more uncertainty. The movements in the Czech koruna against the euro provides a good example.

policy in all three countries lies ultimately with the central banks, other crucial elements of policy credibility such as the fiscal position play a decisive influence on inflation expectations. The pressure on budget deficits is likely to grow in the years to come as the EU accession costs will have to be added to the costs of reforming social security systems. The latest IMF country reports for all three countries suggest that fiscal policies are on unsustainable paths. Moreover, the level of public debt in Hungary and Poland is already close to the Maastricht limit of 60% of GDP. As a consequence, in 2004 both Standard and Poor's and Fitch rating agencies downgraded Poland's domestic debt. Such actions can affect the credibility of fiscal policies and raise inflation expectations. For example, the two criteria used by Stone (2003) to measure policy credibility in a range of developing countries were the actual rate of inflation and the Standard and Poor's long-term currency government debt ratings. On both counts the situation seems to get actually worse in Poland. In Hungary policy inconsistencies have weakened policy credibility, although in 2005 concerted efforts from the government and monetary authorities seemed to have reversed the trend somewhat. However, this could still be damaged if steps are not taken to achieve fiscal consolidation and contain the current account deficit (see Appendix 1).

4.4 Brief Individual Country Economic Issues

Czech Republic. As stressed in the latest OECD Country Economic Survey²⁴ and shown in Appendix 1, the government's fiscal position deteriorated in 2005, going over 6% of GDP. Although the size of public debt is under control, aided also by the low level of interest rates, long term stabilisation of public budgets would pose a challenge for both monetary policy, to keep inflation under control, and the country's strategy of joining the euro area. Moreover, high labour market rigidities prevents adjustment and impedes output stabilisation. Mainly because of these reasons, the monetary and fiscal authorities recommended the Czech government to avoid entry in the ERM II mechanism in 2006²⁵

²⁴ Czech Republic OECD Economic Survey 2004.

²⁵ Inflation Report, National Bank of Czech Republic, January 2006.

acknowledging that the economy needs to achieve more flexibility before getting locked in the ERM II.

Hungary. Fiscal balances in Hungary indicate a strong link with the political business cycle and the forthcoming 2006 general election would prove to be a test in this respect. Persistent high general government and current account deficits continue to call into question the sustainability of Hungary's macroeconomic path. And this situation of twin deficits is likely to persist in the medium term (see data in Appendix 1). In its November 2005 inflation report²⁶ the NBH acknowledged its limited influence on containing inflation pressures in the short and medium term. Uncertainties regarding both changes in external conditions as well as in domestic fiscal policy could lead to a radical alteration of the current monetary conditions and the factors that cause inflation. However, the timing and consequences of such influences on inflation are hard to predict making it extremely difficult for the NBH to assign a high probability for a certain time path for inflation. Hungary's current situation reflects both inconsistencies having multiple objectives, an inflation target and an exchange rate target, and government interference in decisions related to monetary policy.

Poland. The lax stance of fiscal policy over the last years has led to a rapid accumulation of public debt which has already reached over 52% of GDP. Even with privatization revenues remaining at the same level if fiscal policy is left unchanged the OECD simulations²⁷ show that public debt could expand at a rate of 5% a year in the medium term. The IMF projections²⁸ of a two-year slowdown in output by less than 3 percent indicate that public debt could reach 75% of GDP by the end of the decade. The uncertainties surrounding the future path of fiscal policy are seen as a major threat to inflation in the medium term. And missing inflation targets could damage the central bank's credibility. This could be further dented by other operational aspects flaws such as conflicting signals from the MPC regarding inflation developments or uncertainties regarding the future stance of monetary policy due to the MPC members nomination process.

²⁶ Quarterly Inflation Report, National Bank of Hungary, November 2005.

²⁷ OECD Economic Surveys, Poland, 2004.

²⁸ IMF Country Report No. 05/263, July 2005.

Although lately inflation undershoot its target, this was mainly due to external factors developments and the fall in food prices, over which monetary policy had little control. Given further need for further structural adjustment it is unlikely that Poland would move into ERM II in 2006.

Romania. Following a substantial liberalization of the capital account by early 2005, large foreign capital inflows have appreciated the domestic currency. Since then, over a period of one year, the leu has appreciated against the euro by around 18% aiding, to a large extent, to central bank's efforts in bringing inflation closer to the end-year target. The appreciation of domestic currency is looming as a threat to productivity and might hamper in the period to come²⁹. Fuelled by a relatively strong domestic demand the current account deficit is already above 8% of GDP and is likely to remain around this level in the short term. Although a restrictive fiscal policy has kept the budget deficit in check, this is likely to rise in the coming years, pushed up by the EU accession costs and pensions system reform. The government may resort to tax increases, most likely the VAT rate, if the tendency of its revenues would fall consistently short of its target in the short and medium term. This would represent an additional threat to inflation, in addition to those caused by external prices uncertainty. These factors together with the planned increases in energy prices in 2006 have made markets to be skeptical about NBR's capability to meet its 5% inflation target.

Slovakia. As stressed in the 2005 country's OECD Economic Surveys the inflation transmission mechanism in Slovakia is dominated by the exchange rate channel with the interest rate and aggregate demand channels being relatively weak. In these circumstances any increase in inflation coupled with an appreciation of the exchange rate would lead the monetary policy authorities with a difficult choice, either to raise interest rates to dampen demand or cut them to curtail capital inflows. Over the last years the central bank has struggled to limit the upward pressure on the koruna caused by large

²⁹ Sustained heavy capital inflows, that are induced by Romania's prospects of accession in 2007 and high interest rate differentials (when it comes to speculative inflows), drive the appreciation of the domestic currency; this, further erodes Romanian firms' competitiveness and can bring about a sort of a *Dutch disease* over the longer run. Migration helps mitigate the pains of adjustment, but the competitiveness challenge could only rise unless efficiency gains achieved by domestic companies are adequate.

FDI inflows, especially in the automobile manufacturing industry. Although the current level of exchange rate is perceived to be essentially sustainable, in the run-up for ERM II entry, scheduled for year 2006, swings in inflation and nominal exchange rate could lead to changes in real exchange rate that might be misaligned with economic fundamentals. In addition, pension system reform is estimated to add the equivalent of another 1.3-1.4% of GDP to the fiscal deficit which would push this to over 4% of GDP.

Although economic conditions vary among IT countries, a common challenge for all of them is to exert some control over the exchange rate channel so that the specified inflation targets could be achieved without hindering economic growth. This is because the exchange rate channel dominates, to a more or less extent, the inflation transmission mechanism in all these countries. However, uncertainties regarding the evolution of energy and commodity prices in international markets together with the need for further domestic structural and fiscal adjustment make the central banks' task of controlling inflation in these countries more difficult.

4.5 Is There a Better Alternative for Monetary Policy?

In retrospection it looks as if the IT experience in the Czech Republic, Hungary, and Poland has had limited success so far. There have been several benefits by adopting the IT but these could have been equally achieved, to a large extent, by the implementation of alternative monetary policy regimes. Take for example transparency and communication, the two main features hailed to be of great importance in an IT regime. They can be equally achieved under an exchange rate targeting regime. There is nothing that can stop the central banks to make public, periodically, their views on the economy while explaining the reasons for their actions. As, indeed, the Baltic countries and Bulgaria do to a large extent. In a race for a better understanding of their actions by the public, central banks' websites in EE publish a lot of information.

One major benefit of the IT regime in EE countries has been the publication of inflation reports – which present a comprehensive analysis of the current economic conditions and give useful insights regarding future policy actions.

The question that arises is then what should an alternative. A simple answer would be to follow the ECB's approach. Many empirical studies have shown that the ECB is not indifferent either to fluctuations in economic activity or the exchange rate. It seems that for a central bank, "flexibility" is an asset at least as important as "credibility".

An ECB-like system is likely to be a suitable regime. Under such an arrangement, the policymaker focuses on price stability too, but monetary policy management builds on the "just-do-it" principle. For small economies, which are still in the process of structural reforms, flexibility does not clash with credibility, to the contrary, they both back each other.

The distinction between a flexible pursuit of an inflation target and a genuine IT regime is not merely semantic. The latter imposes stringent requirements on the central bank, and may be a very efficient device in the context of the developed economies; to the contrary, pretending to behave like these countries, while in reality retaining a large degree of flexibility is no better than communicating honestly on the "imperfect IT" system that is actually implemented.

The recent experience with IT in the Czech Republic, Hungary and Poland poses the question whether a move towards IT would be beneficial for other countries that intend to join the EU in the near future. The answer will depend, of course, on the particular economic conditions existent in each country. But there are a few remarks that are worth mentioned here. One of them relates to the level of euro(dollar)isation. Countries that had high levels of inflation in the past tend to be more euro(dollar)ised as the public sought to protect their savings in a more stable currency. In Romania, for example, cca. 40% of M2 is in foreign currency, mostly euros and US dollars. Croatia is another example of a highly euroised country, almost 70% of savings here are denominated in foreign currency. A typical issue in these countries is the indexation of financial contracts either to the US dollar or euro. The euro(dollar)isation is bound to hamper the implementation process of IT here simply because the central banks have limited control over their money supply. A particular case is represented by the countries that adopted a currency board, like the Baltic countries (which are already EU members) or Bulgaria, for example. However, unless some significant large unexpected adverse

shock that could make them abandon their current exchange rate arrangements happens, it is extremely unlikely that these countries will change their monetary policy framework before adopting the euro.

Large interest rate differentials are another potential source of conflict with an IT regime. In the absence of capital account restrictions the domestic currency is bound to appreciate as foreign capital inflows move in to take advantage of higher returns. This should lead to an appreciation of domestic currency and put a downward pressure on the interest rates. But easier access to credit by domestic residents, which is in high demand in accession countries, could be a cause for a raise in inflation expectations and it may adversely affect central bank's efforts to target inflation.

Also, a stronger currency will put additional pressure on the current account deficits. In Romania and Bulgaria, for instance, these are already large and growing. Under such a scenario the adoption of IT will leave even less room for manoeuvre for fiscal authorities if the targets for inflation are not set in relation to government demands for fiscal consolidation. It is a well documented fact that government's budgets in accession countries tend to be more under strain as EU accession costs add up to other expenses incurred, such as those related to pensions or health care reforms.

It is therefore essential that a central bank should not adopt a policy regime only for communication purposes or because it follows some policy fashion trends. A central bank should be concerned first above all about credibility. And credibility will emerge if, over a long period, agreed targets are not missed – whatever they may be.

5. Conclusions

This paper examines the inflation targeting regime in the context of transition economies. However, the success of such a regime depends largely on the degree to which certain general requirements are met. The uncertainty surrounding the conditional forecasts, the inherent existence of multiple objectives for monetary policy together with other elements of policy credibility, such as fiscal policy, cast doubts that a formal IT can be adopted successfully in transition economies at the moment. The pre-conditions for a formal IT impose a more rigid operating framework for monetary policy and leave less

room for manoeuvre for a central bank. By consistently missing inflation targets a central bank is likely to damage, sooner or later, its credibility and this fact could have long-lasting consequences. It is relevant that some central banks have resorted to an eclectic (soft) form of inflation targeting, in view of the difficulties mentioned above. An alternative for these central banks is to adopt an ECB-like approach. This would not only help preserve their hard earned credibility achieved so far while allowing them the much desired flexibility in the implementation of monetary policy. But, since all these countries will join the EMU sooner or later, it also makes more sense for an accession country to adopt a monetary policy practice which resembles closely the one practiced by the ECB.

In practice, however, this is unlikely to happen. The participation in the ERM II mechanism cannot be avoided unless a change in the Maastricht criteria occurs. This is quite improbable. And, the announcement by a central bank of moving from an IT monetary policy regime towards an exchange rate target band is, again, hard to see it happening. Central banks in EE have invested some resources in striving to implement the IT regime and to influence public's inflation expectations. A change in the monetary policy framework now would be perceived by the public as a weakness of the central bank because of its inability to pursue IT. It is plausible that IT countries in EE will continue to implement their IT monetary policy framework until they join the euro area. However, *de facto*, the central banks that have adopted IT in EE could, as well, pursue an exchange rate targeting since their foreign exchange reserves levels would allow them to do so. Indeed, IT countries that intend to move into the ERM II, like Poland for instance, have already started to re-build their foreign exchange reserves. Such a measure is likely to be only a precautionary one if the economy is sufficient resilient to shocks. However, as the experience of Hungary so far shows, implementing an IT regime while in the ERM II, could be a challenging task especially if macroeconomic fundamentals are not strong and the economy's resilience to cope with external shocks is limited.

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Appendix 1. Selected Macroeconomic Variables*

Current Account(% of GDP)	Czech Republic	Hungary	Poland	Romania	Slovakia ^{4a}
2003	-6.2	-8.7	-2.2	-6.2	-0.9
2004	-5.2	-8.9	-4.3	-7.6	-3.6
2005*	-4.0	-8.4	-1.5	-9.1	-5.7
2006[§]	-3.1	-8.7	-0.9	-8.7	-5.3
2007[§]	-3.0	-8.5	-0.3	-7.0	-4.9

*-estimated, §-forecast.

Public debt (% of GDP)	Czech Republic	Hungary ^{2c}	Poland ^{3c}	Romania	Slovakia
2003	27.7	59.1	50.1	24.4	42.6
2004	27.8	60.7	48.8	23.7	
2005*	28.4	59.9	52.3	20.5	
2006[§]	28.9	59.9	54.4	21.0	
2007[§]	29.8	59.9	56.7		

Unemployment Rate (%)	Czech Republic	Hungary	Poland	Romania	Slovakia
2003	7.8	5.9	20.0	7.2	17.5
2004	8.3	6.2	19.1	6.2	18.1
2005*	8.0	7.1	18.6	5.9	17.9
2006[§]	7.8	7.0	16.9	5.8	17.5
2007[§]	7.6	6.7	15.6	5.6	17.1

Government Balance (% of GDP)	Czech Republic	Hungary	Poland	Romania	Slovakia ^{4e}
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* Data Sources: IMF Country Reports, OECD Country Economic Surveys, central banks websites.

2003	-6.0	-7.2	-5.9	-2.4	-3.7
2004	-4.0	-5.4	-6.1	-1.2	-4.3
2005*	-6.3	-6.1	-3.4	-0.8	-4.2
2006[§]	-5.8	-5.9	-3.6	-0.9	-4.2
2007[§]	-4.5	-5.9	-3.3	-1.9	-3.0

4e- OECD.