

The inflation targeting regime in Hungary

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The inflation targeting (IT) regime was introduced in Hungary in 2001. Although at the start an ambitious disinflation strategy was announced, it took four years to bring inflation in the vicinity of price stability. Fast-track disinflation was hindered by large shocks, mostly of fiscal origin, and by the slow adjustment of expectations. The process was accompanied by large macroeconomic imbalances and the volatility of the real exchange rate. The prevailing external imbalances and the unsustainable fiscal position have made the economy vulnerable to changes in the risk assessment of financial investors. Nevertheless, we believe that the introduction of IT has made the economy more resilient to shocks. Better understanding of economic developments and more anchored expectations provide a better ground to weather the storm.

Motivation for the introduction of IT

From 1995 the MNB implemented its policy in a crawling peg framework. The devaluation rate was set so as to compensate for the forecasted inflation differential, adjusted for the expected productivity differential. For simplicity, this could be characterised as an RER managing regime, based on coordinating inflation expectations around a decreasing path. Indeed, this regime was highly effective in bringing down inflation from 30% to 10%, but then the inflation rate got stuck. It is well documented that most crawling peg regimes were abandoned around a 10% inflation level. The general explanation for this refers to inflation inertia.¹ However, in the case of Hungary there were also other contributing factors.

The second half of the 1990s brought about remarkably fast technology growth in Hungary, which, presumably, resulted in an equilibrium real appreciation of the currency. As the nominal exchange rate was tightly managed, the real appreciation pressure worked through in the form of higher inflation, accompanied by rising real wages and a widening inflation gap between the tradable and non-tradable sectors. In addition, the cyclical position of the economy would have called for tighter monetary conditions. Furthermore, the economy was hit by exogenous supply shocks – a fast rise in oil and food prices.

The transition to IT

Since early 2000 the market pressure to appreciate the currency and the pro-cyclical monetary stance made it clear that the monetary regime had to be changed. However, the shift to IT was not a straightforward process and consisted of several steps. First, the exchange rate band was widened to 30%, while maintaining the crawling depreciation of the central parity. The MPC opted for a regime which provides both ample room for manoeuvre to set the appropriate exchange rate and more flexibility to deal with market pressures. A few months later an inflation targeting framework, coexisting with the 30% wide exchange rate band, was introduced and finally, the central parity was fixed, mimicking an ERM II-environment for monetary policy.

The rationale behind maintaining the exchange rate band was that a euro adoption strategy, aiming at full EMU participation as soon as possible, was announced by the government. The

¹ Dornbusch, Rudiger – Stanley Fischer (1993) "Moderate Inflation", NBER Working Papers 3896, National Bureau of Economic Research, Inc.

implementation of that strategy would have implied an early ERM II entry and the irrevocable fixing of the exchange rate soon thereafter. The terminal condition raised doubts as to whether and to what extent it is worth driving the economy in the direction of relinquishing the exchange rate link. On the other hand, Hungary's experience with exchange rate targeting had been fairly positive relative to other countries. Accordingly, the reason for changing the regime was not its apparent failure (i.e. a crisis), as in some other cases, but rather the monetary conditions that resulted from it. This was an argument for widening the room for manoeuvre, but not for abandoning exchange rate management altogether. Moreover, ERM II was considered a more robust regime than most pegged regimes, as it provides the possibility of a smooth exit in the form of the irrevocable fixing of the parity. Learning that the current regime might prevail much longer than expected as a result of the likely delay in the euro adoption timetable, the MPC wished to move towards a fully fledged inflation targeting regime.

Status of preconditions at the time of adoption of IT

Despite the lasting process, there was no formal anteroom to the introduction of IT. Nevertheless, most of the basic prerequisites of IT were in place.

A necessary ingredient of inflation targeting² is a central bank law which sets achieving and maintaining price stability as the primary objective of monetary policy and provides institutional independence. During the crawling peg regime the law set a dual objective for the bank: to preserve the external and the internal value of the currency. By coincidence, the approaching EU accession also necessitated a redrafting of the law on the central bank, requiring the same features as IT. The adoption of the EU-conforming central bank law took place just a few months before the introduction of IT, thus creating an appropriate legal background for the new monetary regime.

One obstacle still remained, however. It was carved in the law on the central bank that changes in the exchange rate regime are conditional upon mutual agreement of the central bank and the government, although it was added that changes may not jeopardise the central bank's primary objective. The central bank considered this situation as a constrained optimisation problem rather than a dual objective.³ The 30% wide exchange rate band provided unprecedented degrees of freedom after a decade of tight exchange rate management.⁴

Regarding the technical prerequisites, some basic infrastructure was in place, since in the previous regime the forecast inflation differential to trading partners had played a salient role in the conduct of monetary policy. The bank staff used to prepare an assessment of macroeconomic developments incorporating inflation forecasts on a quarterly basis, although this was not made public. Nevertheless, after the formal introduction of IT a lot of resources were devoted to developing more sophisticated forecasting and modelling toolkits.

Despite the routine in terms of forecasting, the regime shift *per se* undermined the reliability of models estimated on data from preceding years. As a start, the central bank staff relied on the assumption that the regime shift caused no change in the relationship among real variables and between real and nominal variables, consequently the available estimated models can be used

² Nicoletta Batini – Douglas Laxton (2005) "Under what conditions can inflation targeting be adopted? The experience of emerging markets", mimeo., prepared for the Ninth Annual Conference of the Central Bank of Chile

³ The mathematical solutions of the two types of problem are the same. This seemed to suggest that there is not too much difference between them, a lesson we had to learn later on.

⁴ As a matter of fact, later on the exchange rate band became a binding constraint several times, both in terms of aligning monetary conditions with the inflation forecasts and setting the disinflation path (see below).

with a slight modification, namely, by plugging in a new pass-through equation. In the previous regime there was little exchange rate volatility and changes in the exchange rate were mostly permanent, which resulted in a fast and almost full pass-through into tradable prices. We presumed a weaker and slower pass-through after allowing for more exchange rate volatility, but it was challenging to calibrate this properly. Pass-through parameters for countries exhibiting similar structures to Hungary⁵ were estimated, and their average was considered as our best guess for the new pass-through. Later we re-estimated the whole model in every quarter, and partially updated the pass-through parameter. This process converged to slightly lower pass-through coefficients than initially assumed, but it is not possible to disentangle whether the starting value was overestimated or the ongoing structural changes in the time elapsed resulted in a further decline in the parameters.

Among the initial conditions, another feature of the economy should be highlighted. The behaviour of the economy during the previous regime suggested that the interest rate channel was rather weak and we presumed that this feature would prevail under the new regime, too. The weakness of the interest rate channel is related to the fact that the domestic sectors, except for the government, have very small open positions in domestic currency. Following the privatisation of the banking sector in the mid-nineties, we have experienced rapid financial deepening, but banks have been widening their customer base only gradually. Up to 2000 most households and SMEs were severely liquidity constrained, with banks focussing almost exclusively on large companies. Later, however, after changing commercial policies of the banking sector created a huge pent-up demand for mortgages and consumer credit, most of the credit was disbursed in foreign exchange⁶ and the large subsidised forint loans are not sensitive to interest rate changes. Since it is a peculiar feature of the economy, we have analysed the transmission process in Hungary using several methods. However, all of the studies confirmed that the direct interest rate channel is rather weak, the impact of interest rate changes is transmitted through the exchange rate.

Challenges faced in implementation

While the exchange rate has been the most important channel of transmission, there were times when the central bank had very limited influence on the developments in the exchange rate, given rather large swings in the risk premium. Besides international risk appetite, which has been mostly favourable so far, the exchange rate was also driven by changing expectations related to speed of convergence to the euro zone and the probable ERM II central parity.

In line with the structural characteristics of the economy, the conduct of monetary policy was based on the hypothesis that the most important channel of transmission works through the exchange rate, and the relevance of the interest rate channel is negligible. As a consequence, deviations of inflation forecasts⁷ from target were translated into an attempt to influence the exchange rate path. The question arose as to how much of this should be revealed to the general public. In the first period, when the regime was intended to prevail for at most 2-3 years, the MPC was quite open regarding its preferred exchange rate. Although this meant greater transparency, changes in exchange rate preferences proved to be too hard to communicate and caused confusion regarding the course of monetary policy. Market participants did not understand that temporary deviations are tolerable and the desired exchange rate level is conditional on the inflation outlook. Later, the MPC stopped direct communication, but this

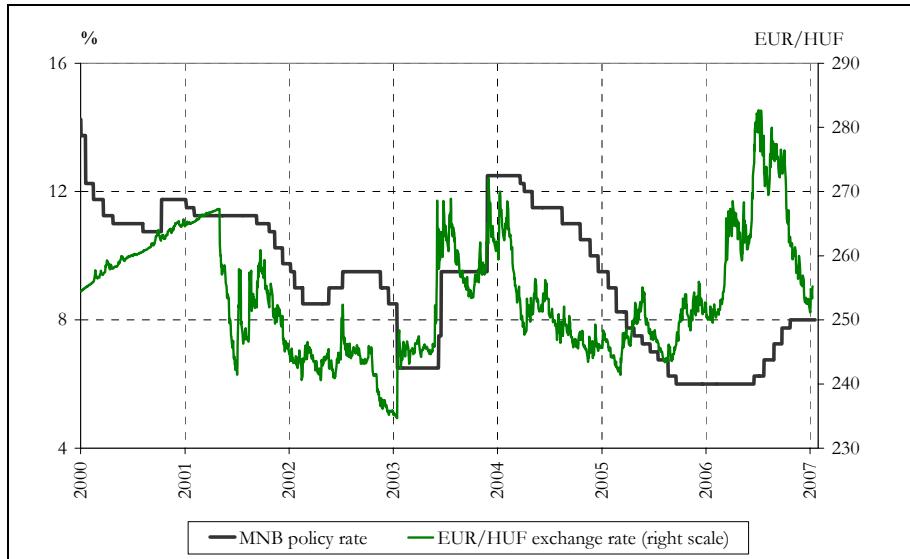
⁵ The Czech Republic and Greece were chosen as benchmark countries.

⁶ Several factors contributed to growing liability euroisation. On the supply side an important factor was easy access to forex funds from mother banks, while on the demand side the interest rate differential and the perceived timing of euro adoption provided incentives. liquidity constraints, lower instalments on fx-loans

⁷ Forecasts are conditional on the assumption of a constant exchange rate.

didn't solve the original problem, namely that monetary policy was best characterised as soft exchange rate smoothing, and there was a strong consensus in the MPC that neglecting the exchange rate would result in worse macroeconomic outcomes. It is worth emphasising that the primary reason for this behaviour was not the high pass-through but the lack of an independent interest rate channel.

The exchange rate and the MNB policy rate



Source: MNB

Indeed, with the benefit of hindsight, exchange rate and interest rate movements reveal a pattern of exchange rate smoothing. In real time, the conduct of monetary policy was a more complex process; the central bank accomplished its regular forecasting exercise in every quarter. The economy was hit by a series of large-scale shocks, mostly of fiscal origin, both on the demand and supply side.⁸ The magnitude of the shocks made it almost impossible to fine-tune the monetary reaction to them. They required large-scale monetary tightening several times, eating up almost the full manoeuvring room of policy. In response, the central bank let the currency appreciate very close to the strong edge of the band and tried to maintain the most stringent monetary stance possible within the exchange rate band amid large shifts in risk assessment. This policy resulted in rather volatile interest rates, while the exchange rate experienced tranquillity most of the time, albeit with spells of high exchange rate volatility.

The most extreme volatility was recorded when a conflict between the inflation target and the exchange rate band occurred for the first time. Based on the expectation that the government is committed to deliver on the announced fast-track euro adoption strategy, market participants thought that achieving the inflation targets had priority. The view that authorities were willing to accept exchange rate appreciation led to a speculative attack to revalue the exchange rate band in January 2003. The authorities defended the band at the cost of slower disinflation. In the aftermath of the attack, the exchange rate was highly volatile and the interest rate premium increased significantly.

While market confidence in a fast euro convergence scenario faded after the speculative attack, a second period of extreme exchange rate volatility was triggered by the authorities themselves.

⁸ The most important ones on the demand side include the sharp (50%) increase in public sector wages in 2003 and the generous mortgage credit system, which dealt a blow to both government and household savings. On the supply side the raising of the minimum wage put an upward pressure on wages. Expectations were influenced by VAT hikes in 2004.

The central parity of the exchange rate band was devalued by 2.26% in June 2003, in order to contain the risk of excessive currency appreciation. Although the move was intended to prevent further speculation regarding the future appreciation of the currency, markets interpreted it as a shift in preferences of monetary policy aiming to support a weaker ERM II central parity.⁹ Consequently, the depreciation of the market rate well overshot the intended correction.¹⁰ The weaker forint threatened disinflation objectives and it took several months to drive the forint back to the pre-realignment level. The consolidation of the yield curve has taken an even longer time. 2006 brought another period of high exchange rate volatility, driven mainly by increased uncertainty about the government's fiscal consolidation plans in conjunction with an unfavourable shift in global risk appetite.

Coordination with other economic policies

Implementing inflation targeting while observing the limits of exchange rate fluctuations requires strong cooperation of monetary and fiscal policies, namely, fiscal policy should contribute to stabilisation. At the time when IT was launched, central bank officials had expected that the institutions of the European Union, (the Stability and Growth Pact in particular) would provide a stable framework and an efficient incentive for the fiscal convergence process, which would support the central bank's primary objective.

This expectation has turned out to be illusory, especially since the new government took office in 2002. Although in public statements it reaffirmed its commitment to a timely euro entry, it had different underlying preferences regarding the desirable path of fiscal consolidation. However, the changes in preferences were not transparent at all. While it postponed the targeted euro entry date from 2008 to 2010, the government kept announcing ambitious multi-year fiscal consolidation programmes, and as soon as a huge fiscal slippage (of 1.5-3% of GDP) occurred in the first year of a programme, it launched an update, projecting an even tighter policy stance for the upcoming years. There have been significant deviations from the budgetary targets every year since 2002. In the fourth year of its term in office, in 2006, the budget deficit is still expected to exceed 10% of GDP, while euro adoption in 2010 was abandoned altogether.

Changing euro preferences influenced monetary policy in other ways as well. Postponed euro adoption implied that previous support from the government for fast disinflation policy also melted away. Furthermore, the new government called for revising the already announced inflation targets.¹¹ Although the bank refused to revise upwards the targets already set, for the period ahead a much less ambitious disinflation path was chosen, better characterised as stagnation of the inflation rate at a 3.5-4% level between 2002 and 2006. The constant medium term target of 3% was adopted only as of 2007.

Assessing the success of the Hungarian inflation targeting system

During the disinflationary period of the Hungarian inflation targeting system ending in 2006, inflation targets were specified as the annual consumer price inflation for December, while the target set for 2007 and beyond is 3%, with a tolerance range of ±1%. The tolerance range is

⁹ In the middle of the turbulence the prime minister announced that Hungary would apply for ERM II membership immediately after entering EU (in one year's time), a move strongly disapproved by the MPC.

¹⁰ As the market rate at the time of the realignment was in the overlapping range of the old and the new exchange rate band, the policymakers, wrongly, thought that the move wouldn't have any impact on the market rate.

¹¹ The inflation targets had been announced two years ahead in agreement with the government in office at that time. Coordination with the government is not a legal obligation. However, targets were communicated in the context of the strategy for euro adoption and, taking into account the limited room for manoeuvre of monetary policy, fiscal support was indispensable for achieving them.

intended to cover any unforeseen shocks that may surface within the monetary policy horizon, an ex post 1-1% deviation is within the range that can still be viewed as a success in terms of reaching the inflation target. The period between 2001 and 2006 saw three years when the inflation goal was formally met, while in 2003, 2004 and 2006, the rate of inflation was above target by more than 1%. While in 2003 the MNB clearly missed the inflation goal, in 2004 inflation moved above the target solely on account of higher VAT rates. The Bank made an announcement beforehand, namely that it would not react to the resulting one-off surge in prices. The index, minus any tax effects, was a little below the target rate, still within the tolerance margin. In 2006, the overshooting of the target was a consequence of both administrative price hikes and an upward trend in underlying inflation.

In line with international comparative analyses, we may assess the efficiency of the monetary system from the point of view of inflation and GDP developments, in addition to whether the inflation target was achieved or not. For the basis for comparison we have selected the period of the crawling peg system, and the past five years' accomplishments in the Czech Republic and Poland (see Table 2). Although the available time series are too short for any in-depth analysis, selecting these references is a good way to isolate exogenous effects, such as international economic activity and the effects of global inflation.

Table 1 Inflation and growth

	Hungary	Hungary: crawling peg	Czech Republic	Poland
Inflation	2001:3–2006:2	1995:2–2001:2	2001:3–2006:2	2001:3–2006:2
Average	4.4	13.2	1.8	1.8
Variance	2.2	5.0	1.9	2.0
Volatility of deviation from the HP trend	1.0	2.0	0.7	0.8
Increase	2001:3–2005:4	1995:1–2001:1	2001:2–2005:4	2001:2–2005:4
Average	3.9	3.8	3.7	3.3
Variance	0.5	2.6	1.8	2.2
Volatility of deviation from the HP trend	0.3	0.9	0.8	1.1

Source: Eurostat and EMED: Emerging Market Economic Database.

The primary measure of volatility is the spread of differences resulting from logarithmic time series. In order to isolate any distortion resulting from the existence of different trends, we have also calculated the variance of deviations from the HP trend.

Following the introduction of the inflation targeting system the average inflation rate dropped significantly, but it failed to reach the rate seen in the other two countries of the region. There was also a substantial change in inflation volatility for the better; however, in the other two countries inflation rates were even less varied. In Hungary, the volatility of core inflation, minus tax effects, was similar in magnitude to the volatility of the overall price index in the other two countries.

From the perspective of the average growth rate there was no major difference between the various regimes or between the countries. Comparing data on growth from the countries of the region across time, it is apparent that Hungary was ahead in the early parts of the period, as the fiscal expansion served as a buffer to reduce the impact of the unfavourable external economic environment; however, by the end of the period the growth rate of the other two economies significantly surpassed that of Hungary. Surprisingly, the volatility of growth remained very low during the period since the introduction of IT, in spite of numerous shocks the economy has suffered, and the output gap did not exceed 1% of the GDP in either direction.

Table 2 Statistical attributes of the various inflation indices

2001 Q3–2006 Q2

	CPI	Core inflation	Tax free core inflation
Average	4.4	3.9	3.6
Spread	2,2	2,4	1,7
Persistence	0.27	0.61	0.68

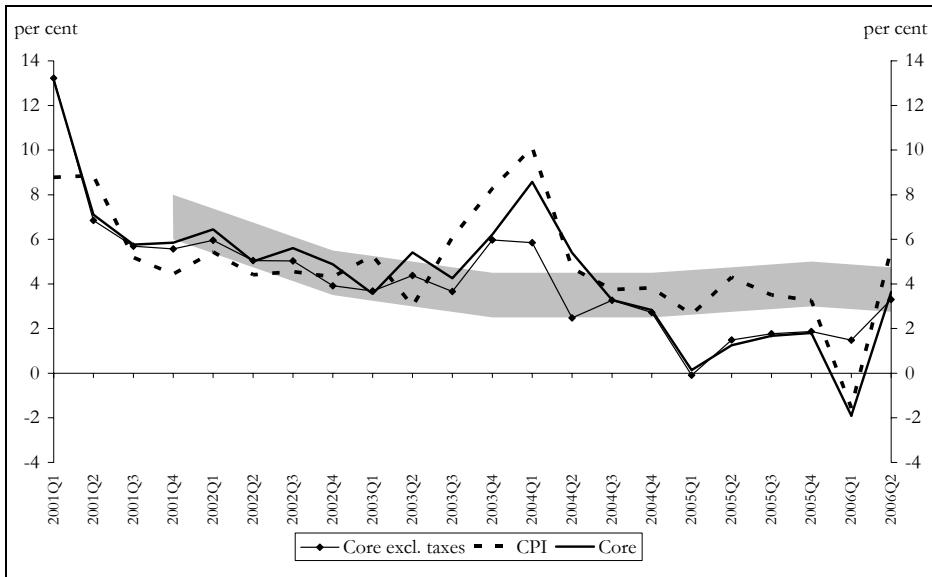
The measure of volatility is the variance of log first differences. Persistence: estimated AR(1) parameter for inflation.

The two most interesting properties of the period since the introduction of IT in terms of macroeconomic performance are the large volatility of inflation and low volatility of output. The reason for the volatility in the inflation process is the fact that factors which are very difficult to predict (for example, price shocks in unprocessed foods, regulated prices, movements in the prices of certain types of energies) played a major role in price developments (Table 3). The inflationary surprise resulting from the poor forecastability cannot be effectively smoothed by monetary instruments, as the central bank's scope to react to the secondary effects is limited. Another source of high volatility is the frequent changes in indirect taxes. These measures of the government cause a sudden surge in prices, yet they will not lead to a sustained inflationary process provided that they do not result in higher long-term inflation expectations. Therefore, the MNB has decided not to interfere by introducing stricter monetary conditions to offset the direct impact of higher VAT rates. As it is demonstrated by the varying persistence of the different inflation indexes, some of these shocks proved to be merely temporary, and so they did not have a long-term impact on inflation in general. At the same time, during the past 5 years these effects pointed to higher inflation on the whole, which is well demonstrated by the fact that the rate of core inflation – minus volatile items – was 0.5 percentage points lower, whereas the index – minus any tax effects – was 0.8 percentage point lower on the average of the reference period than the full consumer price index.

Due to the major role of these shocks, it is worth to assess monetary policy also in terms of the core inflation rate with constant tax rates, as it best reflects the long term trend component of the inflation process. Chart 1 illustrates that the past 5 years saw two periods when the inflation trend deviated from the target for quite some time, as the core inflation rate with constant tax rates settled above the target toward the end of 2003 and below the target in 2005.

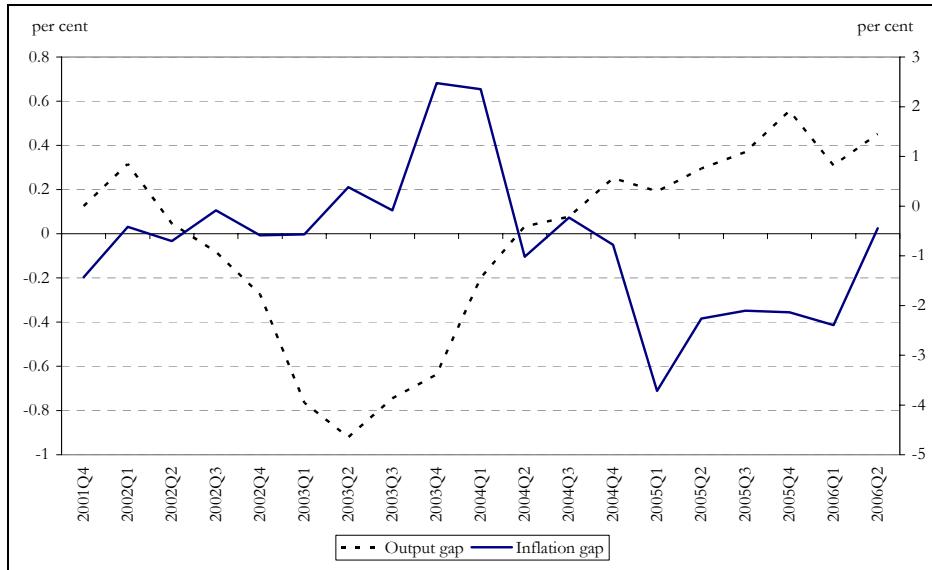
Chart 1 Inflation goals and actual inflation

Seasonally adjusted, quarterly annualized indexes



Source: MNB

Chart 2 Inflation and output gap 2001–2006



Source: MNB

In search of the reasons for the overshoot, it is worth to compare the inflation gap¹² to the output gap. As it is shown in Chart 2, the relation between these two factors was negative over the last 5 years ($R^2=0.58$), that is an indication that monetary policy performed well in terms of its responsibility to maintain growth stabilisation in the traditional sense. No “divine coincidence” à la Blanchard¹³ remained, meaning a one-way output gap and inflation gap, in reaction to which the Bank could have achieved any Pareto improvement.

¹² The inflation gap is defined here as the difference between the constant tax rate core inflation and the inflation target. The output gap is taken from the MNB quarterly projection model, where potential GDP is determined on the basis of a production function.

¹³ Blanchard, Olivier és Jordi Galí (2005) “Real Wage Rigidities and the New Keynesian Model” NBER WP 11806 November

Looking further into the correlation between the inflation and growth paths, it is evident that monetary conditions, in particular changes in real prices, tend to affect the tradable sector differently as opposed to the non-tradable or service sector in a small, open economy.¹⁴ Accordingly, in spite of the neutral aggregate output gap, the conditions for economic activity may differ significantly in the two sectors. If economic agents are forced to adapt to relatively large swings in prices, it will incur massive costs irrespective of whether or not this is reflected in the output gap, since the inefficiencies resulting from the slow resource reallocation process, and any delayed or cancelled investment may reduce potential growth as well. At the same time, in small, open countries, monetary tightening is generally absorbed for the most part by the tradable sector.

Table 3 Macroeconomic developments 2000–2006

	2000	2001	2002	2003	2004	2005	2006f
Inflation (annual average)							
Core inflation	8.1	9.3	6.0	4.8	6.0	2.2	2.0
Consumer price index	10.0	9.1	5.2	4.7	6.8	3.6	3.8
Economic growth							
Impact of fiscal demand ¹	-0.7	1.8	4.3	-0.5	-0.5	0.8	1.8
Household consumption	4.9	5.8	9.8	7.7	3.6	1.4	2.5
Gross fixed capital formation	7.7	6.0	10.2	2.9	8.0	6.6	6.3
<i>Domestic absorption</i>	<i>4.8</i>	<i>2.4</i>	<i>5.9</i>	<i>6.0</i>	<i>4.1</i>	<i>0.8</i>	1.5
Export	22.0	8.0	3.9	6.1	15.8	10.8	13.7
Import	20.3	5.2	6.6	9.3	13.5	6.5	10.8
GDP ³	5.2	4.3	3.8	3.4	5.2	4.1	3.9
Current account deficit							
As a percentage of GDP	8.6	6.2	7.1	8.7	8.6	7.4	8.1
Labour market							
Total economy gross average earnings	13.4	18.4	18.4	12.2	5.9	8.9	6.8
Total economy employment	1.3	0.5	-0.1	1.3	-0.4	0.0	0.4
Private sector gross average earnings	13.9	16.5	13.2	9.0	9.3	6.9	7.9
Private sector employment	1.9	0.8	-0.6	0.7	-0.2	0.3	1.0
Private sector unit labour cost	10.5	10.2	7.2	6.1	2.3	2.2	4.3
Household real income	2.6	6.5	7.7	4.5	3.9	3.7	4.3

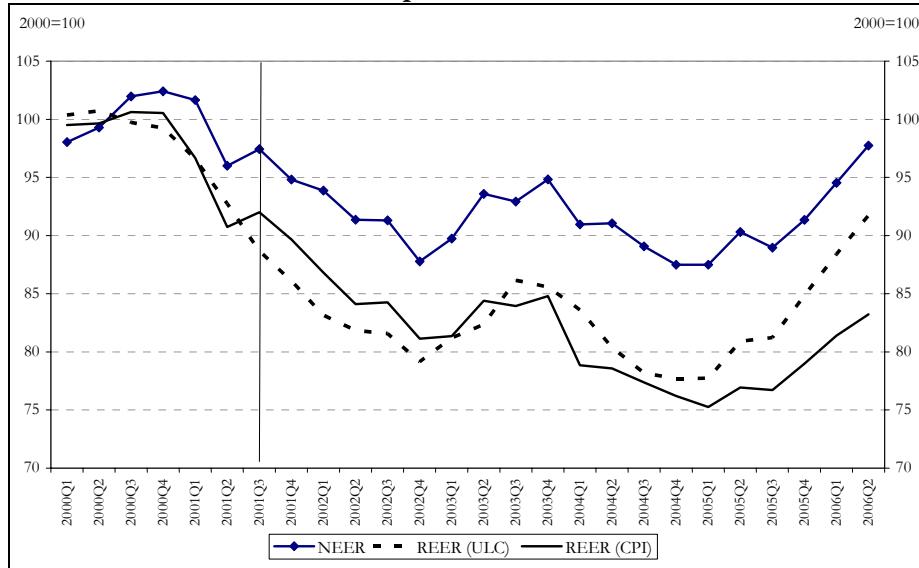
Source: MNB Report on inflation 2001-2006. 1. Calculated from the so-called augmented (SNA) type indicator; a negative value means a narrowing of aggregate demand.

The different situation of the two sectors has a key role also in explaining the overshoot in 2003. In 2001 and 2002 domestic demand accelerated in response to increasing household consumption resulting from fiscal expansion, and given the improved outlook in terms of income and to loosening liquidity constraints. This also had a positive impact on the services sector, which showed signs of rapid growth in output and only a slight setback in price pressures (in 2002 prices rose by 9% on average in the service sector, while the overall price index dropped to 5.2%). Due to increasing demand for labour in the services sector and the sharp increase in government employment and public sector wages, nominal wages increased at a higher rate. These factors jeopardised the inflation target, and required tighter monetary conditions. Given

¹⁴ This sector covers a broader spectrum of activities than services, strictly speaking. Below we will adhere to this broader definition.

the strict monetary policy, the exchange rate appreciated by nearly 9% by the end of 2002. The situation in the tradable sector diverged from that in services; companies were struck not only by unfavourable developments in the international economic environment but also by an appreciated currency. They were unable to reduce wage costs to offset the decline in external demand and the price competitiveness problem induced by the stronger exchange rate. Consequently, the unit labour costs based real exchange rate went up by close to 15% during the period.

Chart 3 Real price indices 2000–2006



Therefore, the primary reason for the 2003 inflation overshoot was the rapid increase in domestic demand. In order to counter the emerging inflationary pressures, the central bank used all means at its disposal, and by the end of 2002 the forint appreciated to the strong edge of the exchange rate band. Although tight monetary conditions should have stayed in place given the inflation outlook, from early 2003 the forint gradually weakened in a multi-stage process.¹⁵ In response, the Bank increased the base rate by a total of 600 basis points as a countermeasure, but to no avail. The market sentiment towards forint investments improved slightly after the spring of 2004 in the wake of growing risk appetite on a global scale.

Economic growth was not the main reason behind the negative deviation from the inflation target in 2005. The aggregate output gap was positive, which primarily reflected an improvement in the position of the tradable sector, as these companies benefited from stronger global business conditions. On the contrary, in consequence of slower consumption growth and a drop in residential construction, the market position of the service sector took a downturn and, according to statistical data, it appears likely that the softening consumer spending affected services more than goods, as households reacted to resulting from the changes in relative prices. As a consequence, the rate of price increases in the services sector slowed down somewhat (from 9%

¹⁵ In 2003 the substantial drop in the exchange rate resulted from several consecutive shocks. After the speculative attack against the forint in January of 2003 had failed, the exchange rate dropped by 4%, then it levelled off. In June 2003, the MNB agreed to adjust the exchange rate band as requested by the government, and to slightly reduce the central parity of the forint, by 2.26%. In response to this unexpected, though minor step, confidence in the forint fell considerably; and the forint market rate suffered a severe depreciation. Once these turbulent times were over, toward the end of the year the attention of the market shifted to Hungary's unfavourable external balance position. The long-term expectations of nominal convergence deteriorated; hence the prospective date of the introduction of the euro in Hungary was postponed by several years. As a consequence, at the end of November the exchange rate fell considerably, while yields were increasing as an indication that the outlook on forint investments in terms of riskiness have deteriorated significantly.

that was seen in previous years to close to 6%), and wage inflation also began to slowly turn onto a declining path, which in turn made it possible to ease monetary conditions starting in 2006. All these changes had a beneficial impact on the disinflationary process; however, they do not in themselves explain the fall in the inflation trend to 1%, as the developments in tradable prices had a greater role in the decline in inflation.

In 2005, the low rate of trend inflation resulted from the mystery of energy prices and global disinflation. Higher oil and commodity prices affected inflation through several different channels. Since energy is an essential component in the process of production of practically all products and services, any increase in their prices tends to result in an overall cost-push shock, which in turn results in higher inflation. At the same time, high oil prices tend to slow down economic growth on a global scale, which – *ceteris paribus* – tends to reduce inflation. While in previous periods the initial, direct inflationary effect clearly dominated, in recent years the rise in oil prices did not necessarily lead to higher inflation – on the contrary, the rate of inflation globally dropped considerably¹⁶ in an international environment showing signs of relatively fast growth. The unusual developments were the consequence of the integration of large and dynamically growing Asian countries into the global economy. While these countries' demand for oil and metals drove up commodity prices, their fast economic development has increased the supply of traded goods and services, an important factor behind the easing of core inflation on a global scale. This indeed was an unexpected and unpredictable development that took the MNB by surprise, not to mention that in 2004–2005 inflation in the countries using the inflation targeting system generally dropped below the target, and the pace of price increases slowed down in a host of other countries as well. At the same time, the impact of global disinflation was further enhanced in Hungary upon the country's accession to the European Union, which resulted in stronger competition in the markets of a large number of products. This is another factor whose magnitude and duration is difficult to forecast, and therefore the Hungarian monetary authority was unable to *ex ante* calculate these effects.

Let us point out that in this period the overall consumer price index did not drop below the target, as primary energy prices grew much faster than other consumer prices, only the second-round effects were somewhat less pronounced. As inflation was exposed to two shocks that practically originated from the same sources, notably increasing competition and rising oil prices, any inflation assessment relying on the development of core inflation only is not altogether correct, as it takes into account only one of the effects. Therefore, the inflation target cannot be labelled undershot from the perspective of both the formal criterion and the economic assessment of inflation.

Looking ahead, the experience of recent years does not suggest that the Bank should pursue a more accommodative policy in response to an increase in oil prices. Until we can fully understand the reasons behind the lesser than expected impact of higher energy prices and the reasons for global disinflation, a prudent central bank is not in the position to hypothesise that these factors will generate the same impact in the future as well.¹⁷

Based on the experience of previous years, we are of the opinion that – generally speaking – the Bank was correct in its assessment of the risks and in the achievement of inflation goals, and monetary conditions were in line with business cycle developments. At the same time, the inflationary shocks that are considered exogenous from the Bank's point of view and changes in risk premia made the implementation of monetary policy somewhat more difficult, which led to

¹⁶ For the reasons of global disinflation refer to Rogoff, Kenneth (2003) „Monetary Policy és Uncertainty: Adapting to a Changing Economy” (Paper prepared for the Federal Reserve Bank of Kansas City conference).

¹⁷ Certain economists are of the opinion that rising raw material and energy prices will more than offset the disinflationary effect of globalisation. See Rogoff, Kenneth (2006) „Impact of Globalization on Monetary Policy”, (Paper prepared for the Federal Reserve Bank of Kansas City conference)

massive fluctuations in monetary conditions. The slow disinflationary process did not result in any material negative output gap, in spite of the fact that the Hungarian economy suffered massive shocks, which monetary conditions had to react to. The reason why output was so “smooth” is attributed to a fortunate series of events more so than to the fine-tuning of monetary conditions.

Since the introduction of the inflation targeting regime, inflation came close to the 3% long-term inflation goal several times, and reached it for a short period, yet we cannot say that we have managed to achieve price stability. The combination of Hungary’s long history of inflation, the inflationary shocks blocking disinflation, and the shocks on monetary conditions are responsible for reducing the ability of the economy to adapt to low inflation, in fact considerably slower than it is seen in the countries using the inflation targeting system. Surveys show that inflation expectations remain flexible: public polls reveal that people tend to estimate the rate of inflation 10% higher than it actually is. In order to anchor inflation expectations, it would be necessary for the consumer price index – seen and felt by everybody – to remain at or near this level for quite some time, in addition to trend inflation indices. For future considerations this appears out of reach for the time being, since the fiscal consolidation package announced in 2006 relies mainly on measures which are likely to increase inflation.

The future of the inflation targeting system

Upon joining the European Union, Hungary undertook the commitment to join the euro area as well. Before the euro is adopted Hungary has to spend at least two years in ERMII, the European exchange rate mechanism. Even though ERMII constitutes an exchange rate system similar to what we have today, one major difference is that in current Hungarian system the central parity is considered insignificant, which means that the exchange rate has the whole band to fluctuate in, in ERMII all central banks are required to stabilise the exchange rate close to the central parity. This means that we will have to gradually give up monetary autonomy on the way leading to the introduction of the euro. Accordingly, it appears a feasible option for the MNB to return to an exchange-rate-based monetary policy.

As it is set forth in the Bank’s duty to maintain price stability, and as it is expected of the central bank by the European Union as well, the stability of inflation has to be given priority in the event of any conflict between the stability of inflation and exchange rate, namely, because the lack of price stability makes exchange rate stability less sustainable. In order to be successful and to take advantage of the benefits afforded by the single currency, the decisions of economic agents on prices and wages must be in harmony with inflation and productivity forecasts. Mainly because any fundamentally unjustifiable increase in prices and wages will impair the economy’s competitiveness, which cannot be corrected by monetary policy tools if the exchange rate is fixed.¹⁸

In the period of preparation to join the euro area, one of the most important tasks of monetary policy is to promote the adoption of certain disciplined techniques in pricing strategies, and to enhance the stabilisation of inflation expectations. Many of the countries that recently joined the European Union opted to base their monetary policy on the exchange rate. Nevertheless, the events that took place in these countries point to a risk, namely, that fixing the exchange rate in itself is not always sufficient to achieve nominal stability. On the other hand, fixing the exchange rate is made possible by price stability in an economy that is properly synchronised in terms of

¹⁸ In full knowledge of this the trade unions in a number of countries around Europe decided to change their attitude, and are now on a path of taking the wage improvements in other countries of the region as the basis for wage negotiations as oppose to demanding maximum increases in nominal wages as it was previously.

cyclical fluctuations. Therefore, the authors of this article are of the opinion that the inflation targeting regime offers the best monetary policy framework to achieve nominal stability.