ICEG European Center

INFLATION AND DISINFLATION IN CENTRAL AND EASTERN EUROPE

TRENDS IN THE REGION NR. 1

A Report by the ICEG European Center

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1. INTRODUCTION

Disinflation and management of supply, demand and institutional shocks affecting price changes has been one of the key challenges for policy makers in transition economies. Following the initial price liberalization-cum-devaluation period, most economies exhibited turbulent price developments and it has been costly and time-consuming to low or even moderate levels. While most Eastern European economies have recently finally reduced considerably their inflation, disinflation requires significant efforts from policy makers.

First, progress with disinflation is fragile and in inflation remained volatile and unstable in several economies. Second, as economies proceed with real and nominal convergence, complete their real and financial liberalization, accelerate structural and institutional reforms, new sources of inflation emerge and policies need to be adjusted accordingly. On the other hand other factors of inflation prove to be very persistent and continuously affect price changes, including fiscal imbalances, changes in price structures among others. Finally, the recent successes in reducing inflation were accompanied by high sacrifice ratios in many economies, which poses another challenge for the design of appropriate disinflation programs.

The study analyzes price developments and disinflation based on their assessment in 12 Eastern European economies. The purpose is to highlight the major factors that have explained price developments and the ones, which will affect them in the future. The paper analyses the major stages of inflation, which had several similarities, notwithstanding the non-insignificant differences between the individual economies. Since the study is a regional overview, it tries to highlight region-wide developments, while presenting the differences between the individual economies, making distinction especially between pre-accession and second round transition economies in terms of dynamics and sources of inflation as well as the applied policy mix.

The remaining part of the study is structured as follows. The first chapter describes the stages of inflation development in the region between early 1990s and 2001. The second part divides the economies to three groups to present the different patterns of inflation and disinflation among them. One group of economies comprises those, which have had low inflation rates almost since early years of transition, another group has been characterized by persistent moderate inflation followed recently by accelerated disinflation, while the last group comprises economies with still moderate and unstable inflation.

The fourth part of the study analyses the factors that will shape inflation in the region in the short-term. Among the main sources of inflation pressure the study identifies the undergoing and further expected changes in price structures, the real and nominal convergence of these economies, the effect of chosen monetary arrangements and closely related exchange rate regimes on inflation. Besides these factors capital inflows and the high level of exposure to exogenous financial and real shocks as well as fiscal developments will have the strongest effect on inflation.

The analysis of major factors that are to affect future price changes results in the last chapter in policy recommendations. The Annexes contain a brief review of inflation developments in the Czech Republic, Hungary and Russia, which exhibited different from each other sources of inflation and patterns of disinflation.

2. STAGES OF INFLATION IN CENTRAL AND EASTERN EUROPE

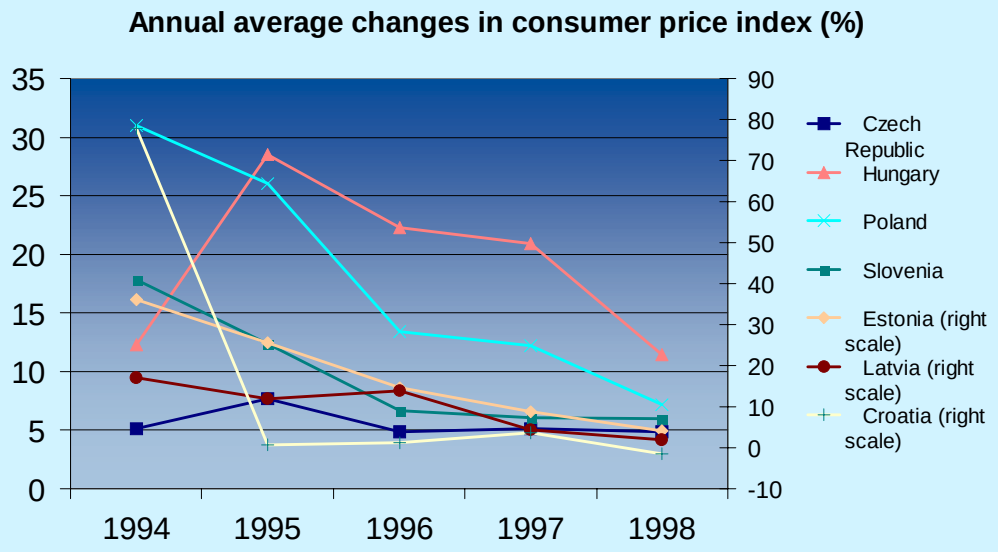
While there are sizeable differences between the individual economies and the evolution of inflation has strong country specific features, price changes in the 1990s may be divided to four periods, that differed according to major sources and dynamics of price changes.

In the first one lasting until 1992 all Central and Eastern European economies experienced a significant jump in inflation caused by price and trade liberalization, shift to market exchange rates and related significant devaluation. This first stage was also characterized by significant changes in relative price structures caused by changes in tax regimes, reduction of subsidies, differences in timing price liberalization. The degree and duration of initial price jump depended among others on the speed and comprehensiveness of liberalization measures, on the degree of inherited macroeconomic (especially current account) imbalances and on the choice of exchange rate regime and its consistency with the macroeconomic policy mix.

In the second period lasting between 1992/1993 and 1998 countries can be divided to successful and unsuccessful stabilizers. Among the successful ones inflation declined by the end of the period to moderate levels, reaching either low double or high single digit levels. In the other group initial price stabilization proved to be unsuccessful and inflation remained high and volatile, reverting back to initial levels reached after the price liberalization and devaluation period.

Successful inflation reducers can be divided to two groups, in which both the dynamics and factors of inflation differed slightly. In one group inflation was reduced from either moderate (Czech Republic, Slovakia) or high (Estonia, Latvia, Lithuania and Slovenia) to upper low levels reaching by the end of 1997 single digit rates in all cases. Disinflation was fast, with inflation rates mostly halving annually before reaching 10% and declining more gradually afterwards. The choice of pegged exchange rate regimes (except Slovenia, where however the flexible exchange rate was tightly managed) proved to be decisive. The discipline effect of pegs and the associated institutional constraints in the Baltics, the strong disinflation preference of central banks and the related tight monetary policies gave strong credibility bonus and prevented the emergence of backward looking expectations and price inertia. Finally, the gradual approach to price liberalization also helped to reduce the speed of price increases.

Chart 1.



In other group of successful reducers of inflation, price increases declined from lower levels more gradually and inflation remained well in middle moderate levels until 1997. In Hungary and Poland current account imbalances and weak net foreign asset positions required the adoption of exchange rate regimes that put equal weight on inflation and competitiveness. While the choice of crawling pegs helped to reduce inflation from high to middle moderate levels, it has gradually also contributed to the emergence of backward-looking expectations, and strengthened price inertia. Central banks either followed more lax monetary policies or their effects were neutralized by structural problems in the financial sector, high degree of financial openness and associated increase of capital flows and inefficient coordination between monetary and fiscal policies.

Besides exchange rate policy and monetary arrangement two further factors contributed to the persistence of moderate inflation. Fiscal imbalances have been an endemic problem for these economies and monetary dominance was missing in the relation of fiscal and monetary authorities. Second, these economies have been more ambitious in price liberalization and the accompanying relative price changes have prevented a more significant decline of consumer prices.

Unsuccessful reducers of inflation include four economies in Southeastern-Europe and the former CIS where inflation did not exhibit a hump-shape, and its initial burst was not followed by its stabilization, but it remained at high levels or eventually exploded in a typical first generation currency crisis (Bulgaria 1997). These economies proved to be less successful in finding the appropriate monetary arrangement and anchor for disinflation and fiscal and monetary policies were imprudent

and inconsistent with each other. Weak external competitiveness and the inherited high level of foreign debt/debt service put constant pressure on floating exchange rate regimes, which spilled-over due to high passthrough coefficients to domestic price increases. Bulgaria and Romania entered a full-blown crisis by the end of the period culminating in the Bulgarian hyperinflation, while Russia and the Ukraine could reduce their inflation rates only at the expense of serious exchange rate misalignments.

Price changes got a new direction in the period of significant exogenous shocks lasting for three years between 1998 and 2000. Besides macroeconomic policies and structural changes inflation in that stage was heavily affected by the variety of exogenous shocks that had a mixed effect on inflation. Initially the main effects came from the Asian and Russian crises, which had as a negative demand shocks a moderating effect on prices. The spill-over effects of the Asian and Russian crises contributed to declining oil-prices and moderating price increases in industrialized economies, which reduced imported and total inflation in transition economies too.

The Russian crisis have also forced policy makers to adopt tighter fiscal and monetary policies. The positive supply- and negative demand-side effects of the Asian and especially of the Russian currency crashes helped disinflation and contributed to declining price increases in 1998 and 1999. This could be observed in all economies except those, which were more directly exposed to the negative trade or financial channels of the Russian contagion (Ukraine and Bulgaria). The exogenous shocks changed from early 2000, when the collapse of stock exchanges and the increase in oil prices produced a positive supply and a negative demand shock, which partially reversed the inflation gains of the previous two years. Increases in oil prices and the unfavorable terms of trade changes, the appreciation of the US dollar with their high passthrough effect on domestic prices, cost push pressures reflected in producer price increases exceeding consumer prices were behind the acceleration of imported inflation and in some cases consumer price index in 2000.

Table 1.

Recent inflation developments (%, annual average)

	1998	1999	2000	2001
Central-Eastern Europe				
Czech Republic	10,7	2,1	4,0	4,7
Hungary	14,3	10,0	9,8	9,2
Poland	11,6	7,2	10,1	5,5
Slovakia	6,7	10,6	12,0	7,3
Slovenia	7,9	6,1	8,9	8,6
Baltics				
Estonia	8,1	3,3	4,0	5,8
Latvia	4,5	2,4	2,6	2,4
Lithuania	5,1	0,8	0,9	1,5
South-Eastern-Europe				
Bulgaria	18,7	2,6	10,3	7,3
Croatia	5,7	4,2	6,2	5,0
Romania	59,1	45,8	45,7	34,5
CIS				
Russia	84,4	36,5	20,2	21,6
Ukraine	20,0	19,0	26,0	12,0

Altogether and notwithstanding the adverse shocks hitting the economies in the region, consumer price inflation declined significantly during this period. Excluding Bulgaria, which experienced a short period of hyperinflation in 1997 and thus would bias the figures, the average unweighted CPI in 1997 was 22,8% for the remaining 12 economies in the sample: average inflation declined in 1999 to 16,8% (notwithstanding its temporary acceleration in Russia and Ukraine after the August 1998 crisis) and further to 12,8% in 2000.

While the strength and contribution of inflation suppressing effects of the exogenous shocks proved to be stronger and more persistent than of inflation generating ones in 2000, several domestic factors contributed to further progress with disinflation. First, the more conservative macroeconomic policies and the preventive measures following the Russian crisis had a positive feedback effect on inflation. Second, following the crisis Eastern European economies shifted towards corner solutions: hard peg economies strengthened their adherence to institutional constraints, while others - either experiencing crash or fearing a future one - switched to managed or free floats. Adherence to hard pegs brought credibility bonus and helped disinflation, while shift to floats allowed the underlying appreciation to materialize.

Within the general trend of progress with disinflation, some economies experienced temporary increase in inflation, caused by two closely linked factors. One was the price liberalization, carried out among others in the Czech Republic, Croatia, and Slovakia. Related to this, some economies have

embarked on socially costly adjustment policies to reduce the high and unsustainable fiscal imbalances accumulated in the second half of 1990s. Fiscal and incomes policy adjustment was accompanied by temporary increase in inflation to reduce domestic demand and bring back fiscal and current account balances to sustainable levels.

The last stage of price developments have been characterizing these economies since early 2001, when the effect of external conditions on price changes changed again, this time supporting disinflation via improving terms of trade, declining oil prices and less volatility in US $/ Euro exchange rates. Average level of consumer price increases declined further decreasing for the first time below 10% for dozen economies. The global slowdown had its repercussions on the transition economies and slower growth of private and aggregated demand fuelled back positively on inflation.

Within declining average inflation rates in 2001 two groups of economies could be separated in terms of inflation persistence and speed of disinflation. There was one group of countries which experienced significant downward price rigidity, including economies with upper low (Slovenia) or medium moderate inflation rates (Russia and Romania). The other group of countries could achieve significant disinflation, including Poland, Slovakia, Hungary (if year end and not average inflation is considered), the Ukraine and to smaller extent Croatia and Bulgaria.

Several factors contributed to the downward rigidity of inflation rates in 2001 in the first group of countries. One of them was the significant cost pressure stemming from energy price and nominal wage increases. Inflation persistence was also associated with the liberalization of administrative prices, as these economies embarked on a further step-by-step freeing of prices. Finally, Russia and to lesser extent Romania experienced problems with net reserve inflows and their effect on money supply. As instruments to sterilize net capital inflows were underdeveloped, these inflows contributed to inflation due to their impact on the growth of money supply.

The other group of countries in 2001 was in more favorable position and experienced continued disinflation. One factor behind their inflation performance is the weaker effect of imported inflation on price increases, as those unfavorable shocks that persisted in 2000 weakened. Second, monetary policies were tightened or remained relatively tight in this group of countries and central banks have widened the tolerance band for output losses in order to accelerate disinflation. Finally, relative currency stability and in some cases nominal appreciation of local currencies helped too, as exchange rates still had significant effect on domestic price developments.

3. PATTERNS OF INFLATION AND DISINFLATION

Looking at the evolution of inflation in the last decade, the 12 transition economies can be divided to three broad groups in terms of patterns of inflation and disinflation. The first group includes economies where low inflation has been reached relatively soon after the beginning of transition and has been maintained since amidst strong exogenous shocks and changes in relative price structure. This group of economies includes the Baltic states, Croatia, the Czech Republic and Bulgaria following the 1997 currency crash.

In the second group the initial price stabilization was followed by persistent moderate inflation and strong price inertia, which increased the costs of further disinflation. But in the last 1-1,5 years a notable shift in the attitude of monetary authorities has been observed as inflation aversion increased and a steep disinflation began, bringing inflation down, close to the level observed in the first group. This set of countries includes four Central European economies: Hungary, Poland, Slovakia and Slovenia.

The final group still faces higher and more volatile inflation rates, and sizeable efforts are required to reduce inflation from current moderate levels to low one. Inflation in these economies strongly depends on exogenous shocks hitting them, on the behavior of nominal exchange rates and the relationship between monetary and fiscal authorities. Romania, Russia and the Ukraine belong to this group.

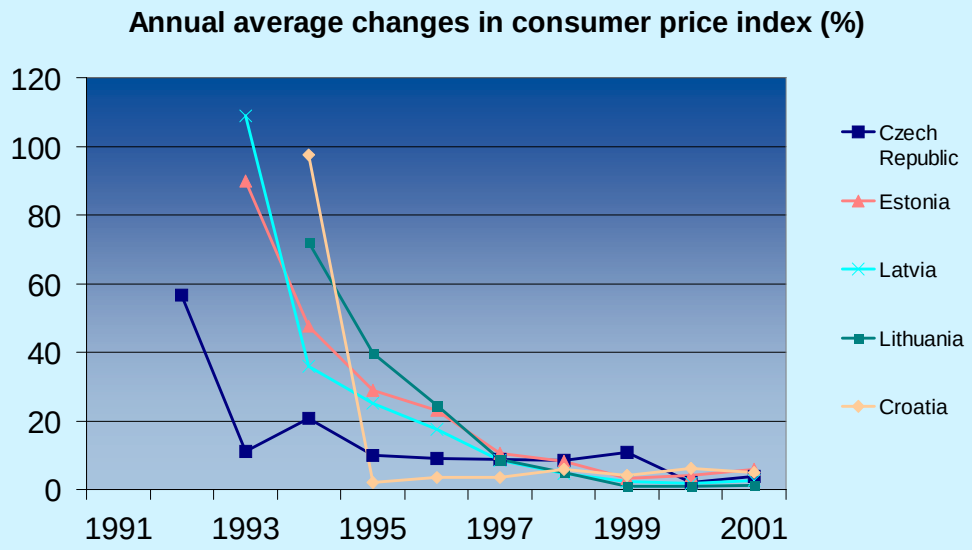
LOW INFLATION : THE BALTICS, CROATIA AND THE CZECH REPUBLIC

The Baltic countries, Croatia and the Czech Republic had almost equal initial conditions: cessation from an unstable monetary zone and hyperinflation (except the Czech Republic) and the need to establish monetary independence. The initial price and trade liberalization cum devaluation period overlapped with monetary regime change, making inflation stabilization a particularly difficult task. Notwithstanding this, the initial inflation period proved to be relatively short-lived and inflation exhibited a hump-shaped pattern: early price jumps were followed by rapid disinflation and one digit inflation rates were reached within 3-4 years.

Low inflation was later maintained and further gradual disinflation was interrupted only by new rounds of price liberalization, unfavorable exogenous shocks (Baltics and Croatia), currency crisis (the Czech Republic), or policy measures aimed at preventing the emergence of currency crisis (Croatia).

The hump shaped pattern of inflation and the rapid initial disinflation were important factors in explaining inflation behavior, as they prevented the emergence of indexation, backward looking expectations and significant price rigidity. Therefore the adverse shocks, the repeated rounds of price liberalization, the adjustment of administrative prices and the changes in relative price structures did not spill-over to domestic price increases and resulted only in short-term price jumps.

Chart 2.



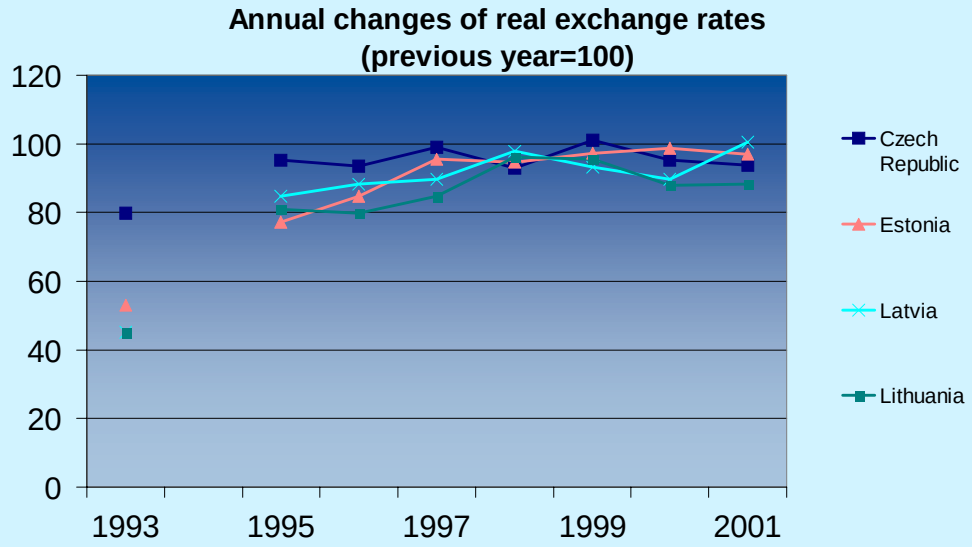
Several factors explain the described behavior of prices in these economies. Among them the choice of monetary arrangement has played a crucial role in disinflation, as reflected the high degree of inflation aversion of policy makers and preference for rapid disinflation. The Baltic countries have successfully maintained from the beginning of transition hard or unilateral pegs and gave clear preference for low inflation. Croatia opted for managed floats, but have effectively shadowed the German Mark and used it as an anchor for disinflation. In the Czech Republic the early years of unilateral pegs were followed after the May 1997 currency crisis by switch to direct inflation targeting with clear long-term inflation commitment of the central bank. Inflation was always considered the key priority for monetary authorities even at the expense of external competitiveness and worsening external balances. Disinflation was supported by early establishment of central bank independence, and the gradual accumulation of credibility bonus by policy makers. The credibility of policy makers and their policies helped to manage the adverse shocks and prevent their spill-over to open inflation.

The behavior of the exchange rate was the key element of the monetary arrangement: one remarkable feature of these economies is the stability of their nominal exchange rates against the key

currencies and in nominal effective terms. In the Baltics and the Czech Republic this has been delivered by the exchange rate regime itself, while in the Czech Republic following May 1997 and in Croatia by central bank interventions aimed at managing floating exchange rates to keep them consistent with inflation targets. Moreover, in the last two years one could observe some nominal appreciation of the Croatian and strong one of the Czech currency against the Euro, which helped inflation further.

With the exception of Lithuania, which has competitiveness problems, nominal exchange rates remained fairly stable in longer-term perspective against their anchor currencies, and this resulted in sizable and persistent real exchange rate appreciation both on CPI and PPI bases. Exchange rate stability reduced the differences between actual and long-term PPP exchange rates, bringing the actual one closer to its equilibrium level. Exchange rate stability was a key component of disinflation, because exchange rate passthrough was significant and under floating regimes the exchange rate was the main channel of monetary transmission.

Chart 3.



Several factors explain this key role assigned to the exchange rate. One of them is the significant real and financial openness of these economies: foreign trade ratios exceed 100%, financial markets are integrated due to rapid capital account liberalization and the institutional requirements of currency boards. The importance of the exchange rate channel is also explained by the relatively underdeveloped financial markets. With the exception of Czech Republic and Estonia financial deepening and stock market capitalization is low, banking sector is not diversified and therefore

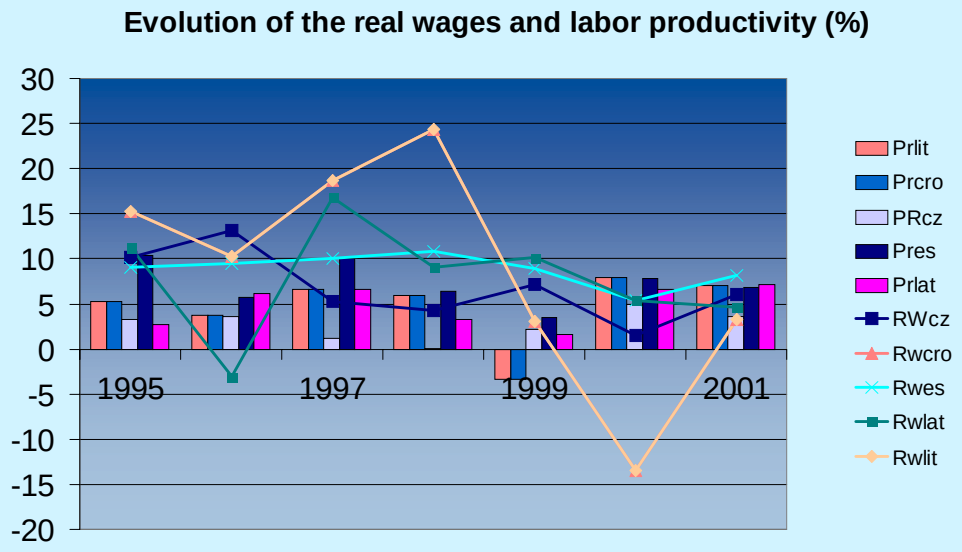
central banks are constrained in affecting macroeconomic variables through the interest rate or wealth channels.

The major factor of inflation in these economies is the adjustment of administrative prices and the market driven changes in the relative price structures. Administratively determined prices still make around 20% of the consumer price index and their liberalization has recently accelerated. This has been an important contribution to inflation and is expected to last in the forthcoming years too, due to the need to adjust price levels and structures to the EU ones.

The market driven changes in price structures are mainly related to the shift in the relative level of tradable versus non-tradable prices. Looking at the evolution of price indices and economy wide and sectoral (tradable and non-tradable) productivity, one is puzzled how weak is the effect of productivity changes on prices. With the exception of the Czech Republic in 1995-1998 and Croatia in 1998-1999, productivity has grown significantly, with the expected pattern that tradable productivity grows faster than non-tradable. If this were true, than the question is why the Balassa-Samuelson effect is less observable in these economies?

One possible answer is that the differences (Backé (2001) for data) exist in productivity changes, but regulated non-tradable prices prevent them from spilling-over price increases (especially in the non-tradable sector), which lead to the build-up of suppressed inflationary pressures. The second possible explanation is that productivity increases are fast also in the non-tradable sector, due to the recent privatization measures in most economies, and the relatively high economy-wide productivity increases reflect balanced growth in tradable and non-tradable sectors.

Chart 4.



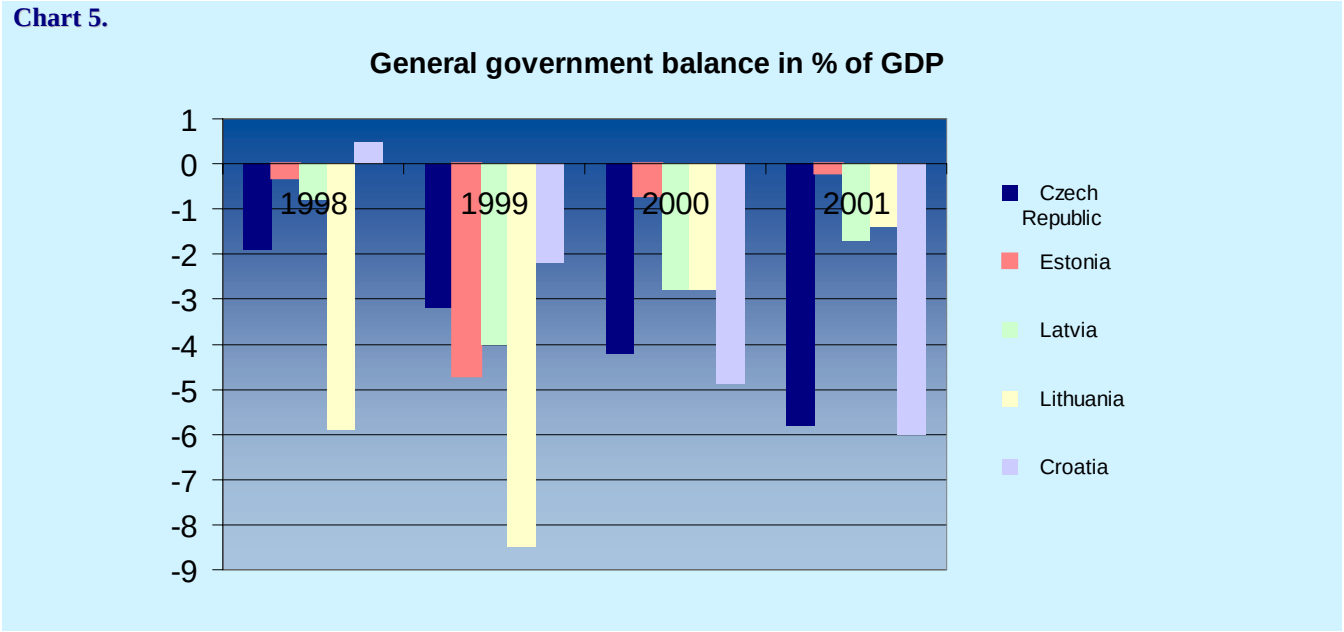
One general feature of these economies is the relatively high and persistent increase in real wages. Average annual increase in CPI deflated real wages was 3% in Croatia and Czech Republic and 5% in the Baltic countries between 1998 and 2001, but this had small effects on tradable and also on overall inflation rates. The data show that the persistent growth of real wages and domestic demand led to increasing imports, while their effect on inflation was moderate. These economies have been running persistently high trade and current account deficits: in Croatia the deficit averaged between in 1999 and 2001 4,4% of GDP, while the same figures for the Czech Republic and the Baltic countries were 4,6% and 7,1% respectively.

Currently there are three factors that could slow-down further disinflation towards stable low inflation. One is their strong exposure to exogenous shocks due to the mentioned high real and financial openness: while the Baltic countries are more exposed to adverse shocks related to oil price changes and Russian growth, Croatia and the Czech Republic depend more on global capital flows and financial contagion.

Another challenge for disinflation in the Czech Republic and Croatia comes mainly from the increasingly unsustainable fiscal position. Fiscal deficits in these countries reflect structural changes (privatization and accompanying restructuring), effects of competitiveness problems (high unemployment in Croatia) and counter-cyclical fiscal policies. The extent of fiscal imbalances has however become alarming and significant adjustment will be required. The situation is much better in the Baltics, where conservative fiscal policies under hard pegs together with the favorable effects of

high growth kept deficits under control, even produced slight surplus in Estonia.

Chart 5.

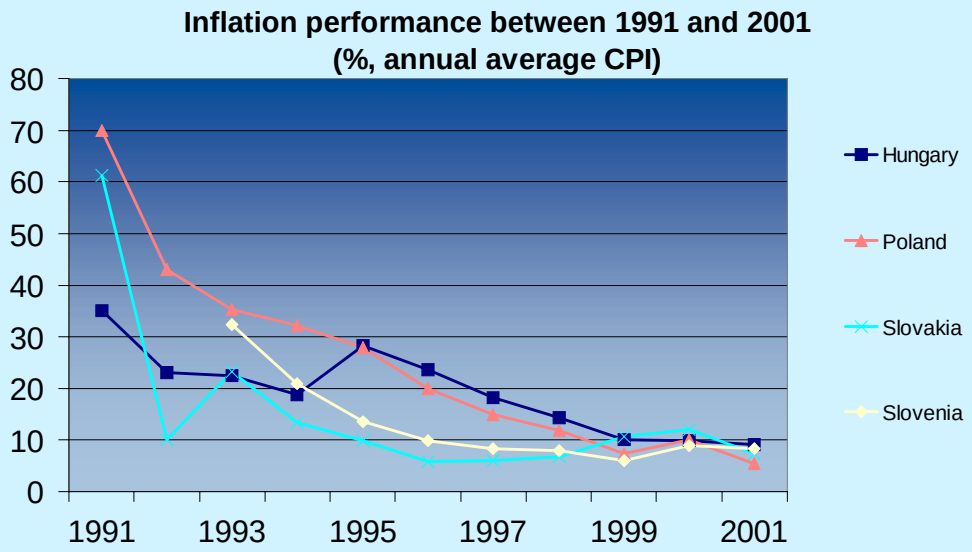


Finally, inflation is still strongly influenced by structural changes, including ongoing liberalization of prices, alignment of tax regimes to European structures, fast productivity increases driven by foreign capital inflows. These factors will keep the rate of inflation above the European levels.

PERSISTENT MODERATE INFLATION FOLLOWED BY ACCELERATING DISINFLATION

While the major factors of inflation are quite similar to the previous group, economies belonging to the second group exhibited different pattern of disinflation. The initial price jumps were similar caused by the price/trade liberalization cum devaluation: differences existed only in the extent of this price jump, as Hungary and Slovakia inherited relative price stability, while Poland and Slovenia started reforms amidst hyperinflation. When the effect of initial price adjustments was absorbed, inflation declined to moderate levels and remained persistent for long period: further disinflation was gradual and costly in terms of foregone output. Disinflation was periodically interrupted by the effects of adverse exogenous shocks or adjustment measures aimed at avoiding or managing currency crises (Hungary in 1995 and Slovakia in 1998). This added additional momentum to inflation persistence and resulted in a long period of moderate inflation.

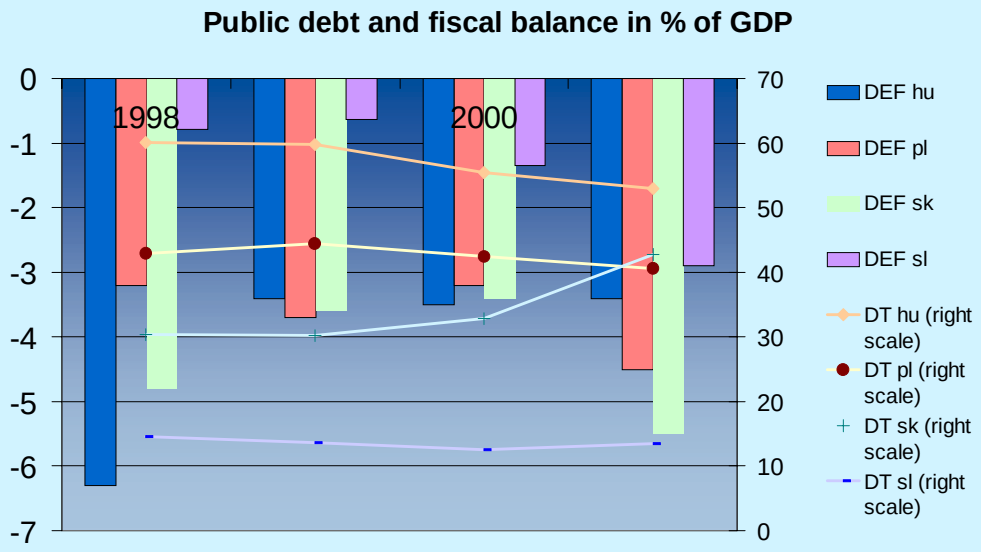
Chart 6.



But the costs of moderate inflation and the pressures to reduce it to low levels were strong and led to enhanced disinflation in the last 2 years. This was reflected in the shift of monetary regimes to inflation targeting accompanied by the change (with the exception of Slovenia, which had flexible regimes since 1992) in exchange rate regime to floating, and in the greater willingness of authorities to tolerate temporary output losses of disinflation. While external conditions were mixed for disinflation, the new emphasis brought its results and led to sizeable decline of inflation in Poland, Hungary and Slovakia.

What factors contributed to the persistence of moderate inflation and the slow progress with disinflation before 2000? The preferences and targets of monetary authorities played a key role, as central banks gave almost equal weight to inflation and external competitiveness. These economies had higher net foreign debt and foreign debt service expenditures (Poland and Hungary) than the first group of economies, or had low reserves (Slovenia), and thus had to monitor closely their trade and current account balances. Net foreign asset position and current account sustainability received much higher weight in preferences of central banks.

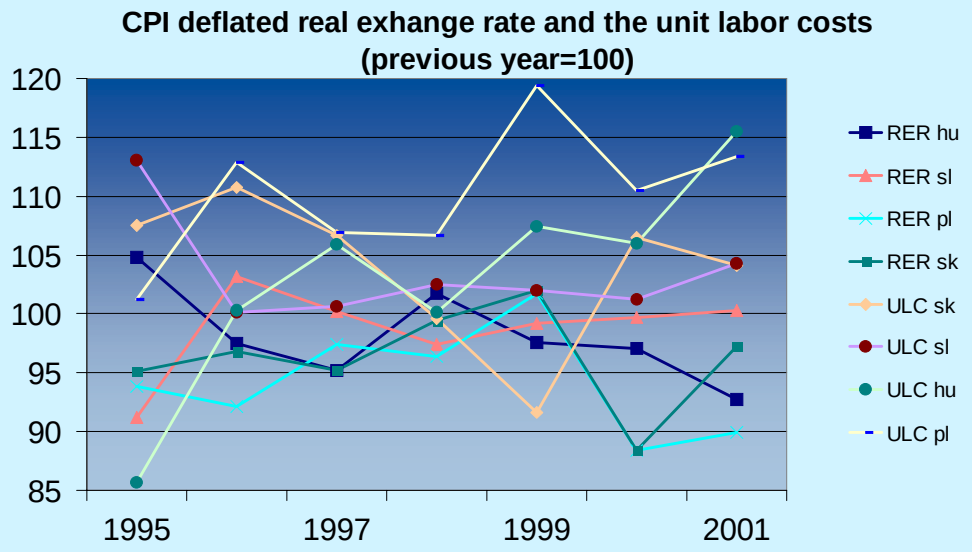
Chart 7.



This was mainly reflected in the choice of exchange rate regime. These economies adopted either crawling pegs (Hungary and Poland), or managed tightly their flexible regimes to avoid nominal appreciation and associated loss of price and cost competitiveness. Slovakia was the only exception with its peg, but there the initial steep devaluation produced sizeable competitiveness gains and current account sustainability received lower preference until the 1998 currency crisis. While the primary target of both crawling pegs and the managed float in Slovenia was inflation, authorities tried to maintain price and cost competitiveness: with the exception of Slovakia until 1999 they allowed significant depreciation of nominal exchange rates and tried to keep real exchange rates stable.

But as inflation differentials exceeded the depreciation of local currencies, real exchange rates appreciated. However, the extent and the dynamics of appreciation was much less than in the first group. Annual appreciation of the CPI deflated real exchange rate was 1,4% between 1996 and 2000, compared with 4,4% in the first group. Moreover, deflated by the producer prices, the real exchange rate depreciated by 7% between 1996 and 2000 in Slovenia, and the cumulative appreciation was between 9% and 12% for the remaining three economies, which can be regarded as limited.

Chart 8.



Increasingly strong inflation inertia and the dominance of backward-looking expectations, which generally add to persistence of moderate inflation, appeared in these economies too. While except Slovenia formal indexation was not applied, informal indexation was widespread, and the backward looking expectations were a manifestation of coordination and credibility problems of central banks. The long period of moderate inflation contributed too to the strength of backward-looking expectations. It took years and repeated efforts till central banks could convince the public about their inflation preferences and could gradually alter the expectation formation of private sector.

Another problem that slowed down disinflation and increased its costs was the inconsistency between fiscal and monetary policies, caused mainly by the irresponsible fiscal policies in Poland, Hungary and Slovakia, and to smaller extent in Slovenia. Exogenous shocks and political constraints led to persistent and high fiscal deficits, resulted in fiscal dominance except short periods of time (like Hungary 1995-1997 or Slovakia in 1998-1999). Since fiscal deficits were not monetized, they did not have a direct but only an indirect effect on inflation, mainly through the growth of public debt and capital inflows driven by interest rate differentials and high returns on government securities.

The monetary effect of net capital inflows was mainly neutralized by sterilized interventions, they periodically led to increase in real money supply and their volatility affected also the stability of nominal exchange rates and their effect on inflation. Slovenia was one of the countries, which had long-term problems with management of capital inflows, but Hungary in 1996-1997, Poland in 1999-

2000 and Slovakia in 2000-2001 experienced also some negative effects.

Another issue which deserves more attention is the break with past inflation persistence and the recent decline of inflation. The decisive factor has been the change in inflation aversion of central banks, as monetary authorities put more weight on inflation and accepted higher sacrifice ratios. As the costs of inflation persistence started to outweigh the benefits of lower sacrifice ratio and competitiveness gains, central banks shifted their policies at reducing inflation more decisively. One sign of that change was the shift in exchange rate regimes, which occurred either as the outcome of currency attack (Slovakia in 1998), or as a deliberate choice by policy makers (Poland in 1999 and Hungary in 2001).

Table 2.

Exchange rate regimes in economies with moderate inflation

	1994	1995	1996	1997	1998	1999	2000	2001
Hungary	*3*	*1*	*1*	*1*	*1*	*1*	*1*	*3*
Poland	*1*	*2*	*2*	*2*	*2*	*2*	*3*	*3*
Slovakia	*4*	*4*	*4*	*4*	*3*	*3*	*3*	*3*
Slovenia	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*

1 - crawling peg
2 - crawling band
3 - managed float
4 - peg

The shift towards more exchange rate flexibility had three beneficial effects on inflation. First, it gave more room for maneuvering for the central banks by freeing them from the “impossible trinity” constraint and allowing them more restrictive policies. Second, as exchange rates were undervalued compared to their equilibrium levels, their expected appreciation materialized following the change in regime and greater exchange rate flexibility was associated with nominal appreciation of local currencies. In Poland and Slovakia the shift in exchange rate regime coincided with accelerated privatization and increased inflow of foreign capital, which strengthened significantly the local currencies. While there is a general observation that the strength of exchange rate passthrough has declined in these economies, nominal appreciation had some positive effects on imported inflation too. Finally, the shift towards more exchange rate flexibility reflected the change in the loss function of central banks as they gave up completely (Poland) or partially (Slovakia and Hungary) the targeting of exchange rates, and thus no inconsistency between exchange rate and inflation targets could be a problem for disinflation.

Linked to the change in exchange rate regime, central banks - except Slovenia, which continues to adhere to monetary targeting - adjusted their monetary arrangements from exchange rate to inflation targeting. The shift to inflation targeting may have help in disinflation by providing long-term commitment of central banks, by increasing their transparency and accountability and by increasing fiscal prudence. But these benefits can materialize in longer terms after the credibility of new regimes is established and markets tested the central banks.

So far the decline of inflation is only partly related to the adoption of inflation targeting: either targets were significantly missed (Poland), or the framework is still in its early stage (Hungary). Moreover, besides domestic factors recent disinflation has occurred due to the favorable exogenous shocks hitting these economies, which reduced inflation in tradable sector and mitigated indirectly the growth of non-tradable prices. Some time is needed to assess whether the favorable inflation developments can be maintained with worsening terms of trades and increasing import prices.

Besides foreign prices one potential source of danger for future disinflation is the increased pressures from wage increases. In 2001 the gap between real wages and labor productivity changes narrowed significantly in all economies compared with the average of 1998-2000. This was simultaneously caused by increasing real wages and significantly declining labor productivity. If the trend continues further, this may create not only competitiveness and current account sustainability problems, but may have an adverse effect on inflation too.

The second source of concern is related to fiscal performance. Recently all economies have experienced significant worsening of their fiscal balances due to unfavorable exogenous shocks and counter-cyclical fiscal policies. But the rapidly increasing fiscal deficits undermine the credibility of inflation targeting, weaken the co-ordination and long-term commitment of monetary and fiscal authorities and by leading to short-term capital inflows, increase the pressures on central banks.

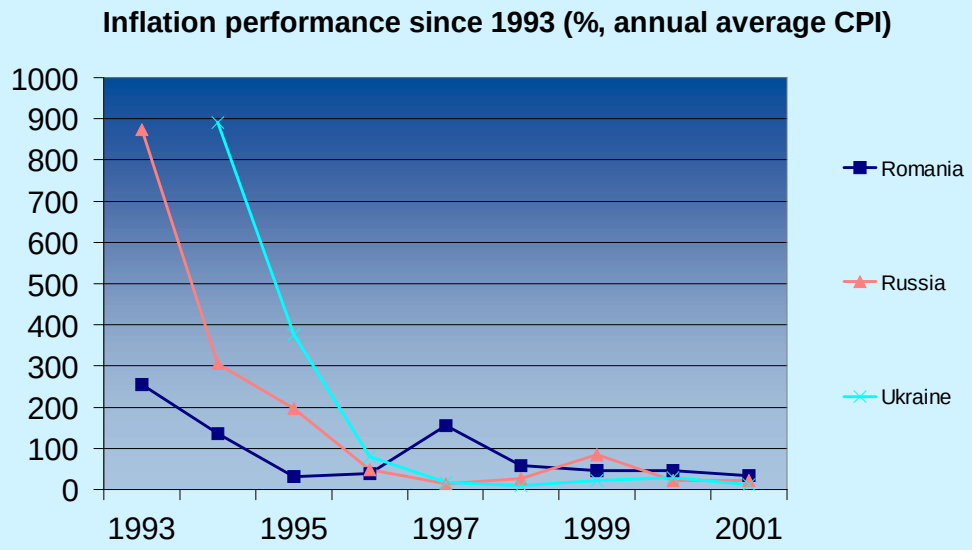
PERSISTENTLY MODERATE INFLATION : ROMANIA, RUSSIA AND THE UKRAINE

The final group includes countries which are the least successful in disinflation. They had on average much higher inflation rates than other countries, and their inflation has also been much more volatile compared with others.

The history of inflation in these economies has two special features. First, the initial liberalization and devaluation measures led to explosion of inflation which - contrary to the first two groups - was not stabilized and resulted in persistently high inflation rates. Inconsistent macroeconomic policies,

sizeable initial macroeconomic imbalances, long period of price liberalization were responsible for the unsuccessful initial stabilization. Second, it is very difficult to determine a clear trend in inflation, as it was always very volatile, and was adversely affected by currency and current account crises. Inflation had a "boom and bust cycle" pattern, increasing after exogenous or policy related shocks, with gradual stabilization followed by new shocks.

Chart 9.



Several factors explain the slow progress with disinflation and the persistence of price increases. The key one is exchange rate instability. Though these economies are less open in real and financial terms than the first two group, exchange rates played a key anchor role in driving expectations and inflation. This was due to their natural anchor behavior under high inflation, and to the long history of moderate inflation in these economies. Moreover, as financial sector is underdeveloped, the exchange rate remains the main transmission channel of monetary policy.

Exchange rate volatility was due to fragile net foreign asset position and low competitiveness of these economies as they have both inherited and accumulated in the 1990s huge net foreign debt and debt service requirements put strong pressure on exchange rates. Moreover, as their export and production structures are distorted, are not diversified and thus depend heavily on changes in terms of trade and global demand. Therefore, shifts in terms of trade, changes in growth and import demand of advanced economies transmit rapidly on them and result in strong nominal exchange rate volatility.

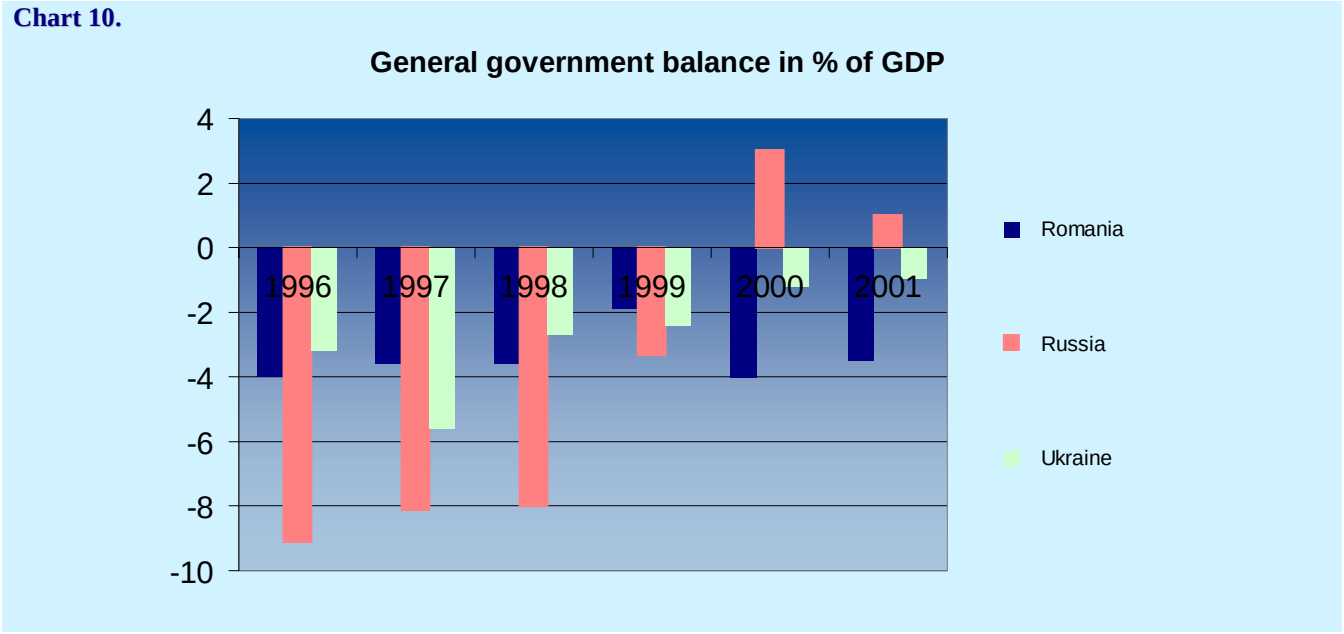
Though these economies have been (with the exception of Russia in terms of portfolio and credit

flows) insignificant recipients of foreign capital, these inflows created significant difficulties for monetary authorities and contributed to inflation persistence. Capital flows exhibited a typical boom and bust pattern and the bulk of inflows consisted of short-term, volatile elements. Besides their magnitude another source of difficulty was that central banks were unable to sterilize their monetary consequences due to the lack of appropriate instruments. Therefore under high inflows conversions led to sizeable increase in money supply, which spilled over inflation. On the other hand, when capital outflows increased, this resulted in significant depreciation of local currencies, with its effects on inflation.

A continuous threat to inflation comes from the state of public finances. Fiscal deficits (except recently in Russia, when windfall gains from terms of trade improvements eliminated it) have been the highest among transition economies due to unstable tax base and low revenue collection, and almost unchanged level of expenditures. Moreover, central banks played a key role in deficit financing due to limited central bank independence and underdeveloped financial markets. Seigniorage covered sizeable part of fiscal expenditures and was an important source of inflation.

On the other hand, when deficits were financed by issuing domestic debt, this led to rapid accumulation of public debt due to the extent of fiscal imbalances and short maturity of public debt. Moreover, as the debt was financed by short-term capital inflows, this resulted either in a typical first generation currency crisis (Russia 1998), or in increased currency pressures (Romania, Ukraine several times).

Chart 10.



The final important source of inflation has been the persistent and sometimes uncontrolled increase of wages. Nominal and real wages have followed a very strong cyclical behavior. They have periodically increased substantially leading to sizeable real wage increases followed by either current account or inflation difficulties, which eventually required adjustment in wages which led to drop in real wages. Such cycles were observed in all three economies. In Romania in 1995-1996 real wages increased by 27% followed by their cumulative 23% decline in the following three years and 11,5% increase in 2000-2001. In Russia real wages increased cumulatively by 6% in 1996-1997, followed by almost 33% decline in the crisis years (1998-1999), while in 2000-2001 real wages increased altogether by 44%. The main reason for this cyclical and volatile evolution of nominal and real wages has been – besides policy inconsistencies - the lack of appropriate financial discipline in the corporate sector. As budget constraints in the still dominantly public or manager owned corporations are weak, there has been no effective constraint for wage increases. This has periodically been a significant factor contributing to the persistence of inflation at moderate levels.

Recently inflation has somewhat declined: less spectacularly in Romania and more convincingly in Ukraine and especially in Russia. But there are significant concerns related to the long-term nature of this decline and the likely re-emergence of earlier inflation pressures. First, this decline has been achieved – besides the positive impact of favorable external shocks - at the expense of sometimes artificial exchange rate stability. Nominal exchange rate stability was accompanied by significant worsening of external price competitiveness. When either the favorable external shocks are reversed or

the competitiveness problems spill-over to current account sustainability ones, than devaluation seems to be unavoidable with its effect on price increases.

Second, these economies are still lag behind other transition ones in terms of price liberalization and adjustment of their tax regimes. The changes in price and tax structures will be accompanied by price increases. Finally, nominal wage increase in the last two years were very significant and they contributed to sizeable cost pressures.

4. SHORT-TERM FACTORS AFFECTING INFLATION

While there has been an increasing correlation between price developments in Eastern Europe and the EU, and between transition economies themselves (Backé(2000)), there are several factors that make inflation different in Eastern Europe from advanced economies. Out of them five will strongly affect both inflation levels and the pace of disinflation in Eastern Europe, especially in more advanced economies.

One of them is the change in price structures, which has not been completed and is affected besides market forces by institutional, administrative changes too. Second, Eastern European economies are at the beginning of a long catch up process, when they have to converge in real and nominal variables. Part of the convergence (price level one) itself represents a contribution to inflation, while other elements (income or wage level convergence) may have an indirect effect on it.

Next, the transition economies are very open in real and financial terms, have good growth potentials, and as a result face sizeable capital inflows, while simultaneously are vulnerable to various exogenous real and financial shocks. Their external exposure and vulnerability may periodically have negative effects on price increases. Finally, fiscal developments and wage pressures may be an additional source of inflation, as these are areas, where significant stock and flow adjustments should occur. This section describes in details the effect of these factors on inflation.

ADJUSTMENT IN PRICE STRUCTURES

Adjustments in price structures and changes in relative prices are ongoing processes in open economies, which do not have direct inflation effects, as long as increases in certain prices are matched by the decline of others. However, in Central and Eastern Europe several factors affect changes in price structures and give them additional inflationary effect, thus keeping inflation rates above the level of advanced economies.

One reason for inflationary effect of changes in price structures is that they are still partly driven by liberalization and adjustment of administrative prices. First, though Eastern European economies made significant progress in price liberalization, the share of goods and services with administratively regulated prices is still above the advanced economies. There is only a weak negative correlation between the progress in liberalization and share of administrative prices. While the unweighted average of administrative prices in pre-accession economies is 20%, it varies between 13% and 30%

with 13% in Slovakia, 15% in Estonia, 18% in the Czech Republic, Hungary and Romania, 21-22% in Bulgaria, Latvia and Lithuania, 24% in Poland and almost 30% in Slovenia.

Besides differences in the extent of liberalized prices, countries also differ in share of "sensitive" goods and services, the liberalization of which can contribute to inflation[1]. The strictest price controls and regulations exist in utility prices, whose ongoing liberalization will have spill-over effects on inflation. In pre-accession economies the EU-membership requirements will demand further liberalization and adjustment of prices (public transport, rents e.g.) to cover costs. Postponed price adjustment will be allowed only in exceptional cases, and these prices will have to be liberalized fully until accession. There is less pressure on price liberalization in economies, which are further from EU membership, though efficiency and fiscal considerations may lead to accelerated price liberalization too.

Second, it should also be noted, that the share of regulated goods and services in the consumption baskets in transition economies is above the advanced ones, and thus their liberalization may have strong and in certain cases long-lasting inflationary effects.

Besides liberalization of regulated/administrative prices there are two major groups of prices, where structural changes may have strong inflationary effects: energy and agricultural ones. In most transition economies there was a segmented energy price liberalization: administrative constraints were lifted in the corporate, while maintained in the household sector. The remaining liberalization of energy prices will have a direct effect on consumer prices and producer prices will be affected less. But as emphasized in Backé-Fidrmuc-Reininger-Schardax (2002) increase of producer prices and its impact on wages may have second-round effects on consumer prices. As 15% of the consumer basket consists of energy prices, their liberalization may have a strong effect on wages, and thus give additional momentum to price increases. The direct effect of energy price liberalization both on producer and household prices can be weakened, if world prices decline and if the countries proceed with the liberalization of energy supply and distribution networks.

Agricultural products are the second group, whose liberalization may have inflationary effects as there are still significant gaps in their price levels between transition and advanced economies. The price level of agricultural products in Eastern Europe is around 50-75% of the EU, and the convergence of general price levels will come mostly from the decline of this gap. The inflationary

[1] For example, in case of energy sector, prices are more liberalized in those economies, which have made more significant progress in privatization.

effect of agricultural price adjustment will come not only due to the size of the gap, but also to the high share of agricultural products in consumption basket: while they represent 15% of the basket in the EU, their weight is around 30% in most Eastern European economies. Price increases will come from the shift of relative prices in favor of agricultural ones, adoption of CAP rules, and huge capital investments needed to improve the competitiveness of agriculture.

Both the general price level and agricultural prices will be affected by the growth of land prices. While currently land prices are only 10-15% of the average of prices in the EU their convergence will be robust after accession because of increasing investments in agriculture, growing demand for land by foreign and domestic investors, and price equalization. This price change in price structures and convergence will have both direct (agricultural prices) and indirect (other assets) effects on inflation.

Finally, relative price structures are affected by the adjustment of tax regimes. While most of changes in direct (income) taxes have been implemented, several changes are due in indirect, especially value added taxes. These changes are either the introduction of VAT, or increase in its rates, and only in some cases will there be a reduction in rates. While changes in tax regime should have a one-off effect on inflation, there may be second round effects depending on the impact of tax changes on inflation expectations and relative price structures.

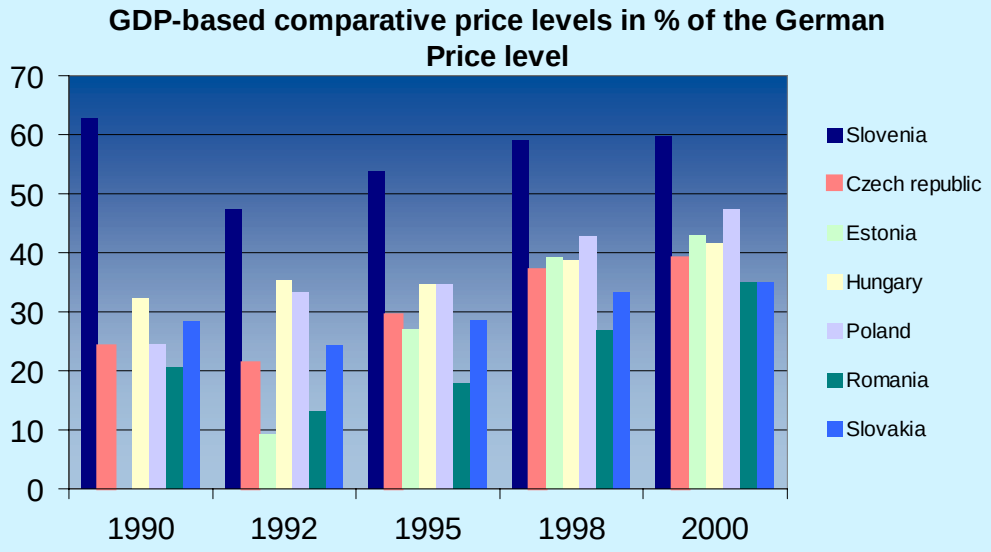
REAL CONVERGENCE AND ITS EFFECT ON INFLATION

While inflation is itself a convergence indicator, other elements of real and nominal convergence affect changes in price levels. Real convergence means the narrowing of the existing gaps in income, wage and price levels, and the reduction of differences in price structures, price dispersion ratios between transition and advanced economies. Nominal convergence represents the adjustment of major nominal variables to threshold levels set by Maastricht criteria. While the channels of the effect of and nominal convergence on inflation are different, they strongly influence price developments in pre-accession and lesser extent in less advanced transition economies.

The mentioned three elements of real convergence (price, wage and income convergence) will affect inflation in Central and Eastern Europe. Price levels are currently very low in Eastern Europe compared to the average of EU. According to Backé (2001) the comparative price levels of the 10 pre-accession economies in German prices in 2000 varied between 28,7% and 59.9%, with the lowest rate belonging to Bulgaria and Romania, while the highest to Slovenia. Notwithstanding the gap there was a significant convergence in price levels in the 1990s thanks to price liberalization, changes in price

structures and exchange rate developments. As the chart below shows the comparative price level for the first round accession economies (Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia) increased between 1992 and 2000 from 28,5% to 44,3%. Similar if not bigger increases occur if other 4 pre-accession economies (Bulgaria, Latvia, Lithuania and Romania) are included, as the index changes in this case from 21,6% to 42,1%. Notwithstanding the recent price level convergence, the gaps remain sizeable and further convergence is needed in the future.

Chart 11.



When the price index is divided to tradable and non-tradable ones, than it becomes clear, that both groups of prices contribute to differences in price levels, though the extent and timing of their contribution differs significantly. Most of price level convergence occurred due to tradable prices, as trade and current account liberalization, exchange rate adjustments narrowed significantly the price gap in tradable goods between transition and advanced economies. While the differences in tradable prices between the countries are never eliminated due to non-price factors (pricing to the market, transportation and other trade-related costs, tax and quality differences)[2], these differences – at least in the case of pre-accession economies –declined to levels observable between advanced economies.

However, two factors may maintain in the short-run price increases in tradable sector in transition

[2] A recent study by the EU Commission indicates that the differences within the EMU economies have declined only marginally after the introduction of common currency due to the presence of distorting factors and also the emergence of news ones (including the e-business and new economy effects.)

economies above the EU levels. One is related to wage pressures coming from wage rigidities and convergence of wage levels. Where wage increases in tradable sector exceed productivity growth, this may result in sizeable wage growth, which could keep inflation rates high, especially if wage increases are equalized between tradable and non-tradable sectors.

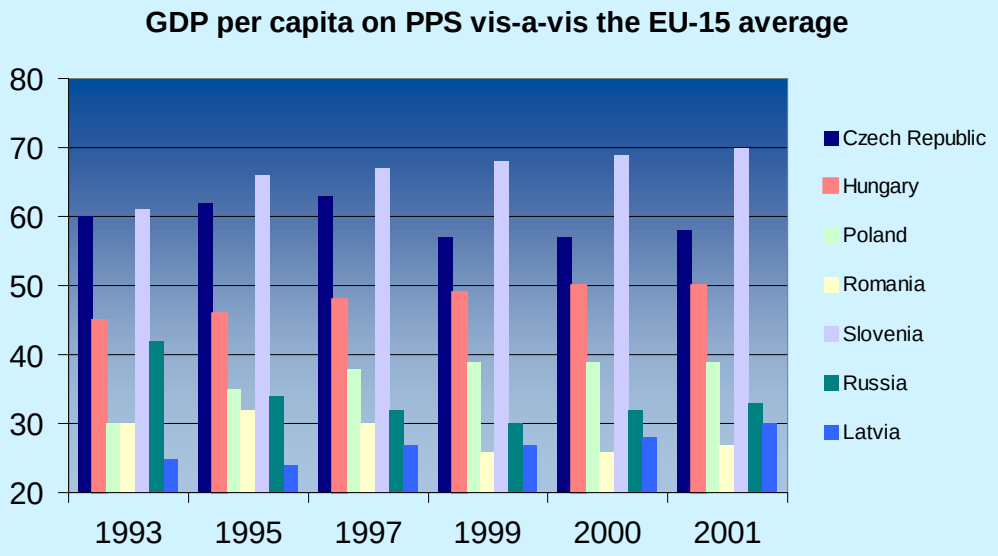
Similar effects may come from quality improvements in tradable sector, which allows more room for price increases, especially in more competitive pre-accession economies. Due to their existing real, technical and organizational gaps, the room for quality improvements in these economies is greater than in advanced ones, and this may add to increases of tradable prices.

But even with unfinished convergence of tradable prices, the bulk of price level convergence is expected to come from the increase in non-tradable prices. Currently non-tradable prices in transition economies are much below the levels of advanced ones notwithstanding the recent catch-up, driven by number of. Possibly the strongest among them was the Balassa-Samuelson effect and the underlying it gap in productivity increases in tradable and non-tradable sectors. Second, increase of non-tradable prices has been strongly affected by the shift in demand towards services and non-tradable goods. They represented smaller share in consumption in early 1990s and recent increases in real disposable incomes increased their role. Finally, the mentioned liberalization of administrative put non-tradable price increases above tradable ones. These factors will be present in the short– and medium-term, and will influence both non-tradable prices and the price level too.

Another factor affecting inflation through price convergence is related to the expected decline of price dispersion ratios. Currently price structures in transition and accession economies differ from advanced ones, and price dispersion ratios are much higher (Cihak and Holub (2001)). Dispersion ratios should decline due to competition enhancing effect of integration, shifts in production structures and adjustment in tax regimes. Declining price dispersion ratios should in principle have neutral effect on prices, but in Eastern Europe they may add to inflation due to the nature of factors influencing them.

While the convergence of price levels has a direct effects on inflation, another aspect of convergence, the income one, may also have inflationary effects. Income convergence and growth differences between transition/accession and advanced economies will be driven by productivity differences between the two groups. These productivity differences cause on the supply-side the Balassa-Samuelson effect, which has recently been hotly disputed both in terms of its existence as well as future relevance, and its extent.

Chart 12.



The supporters of Balassa-Samuelson effect emphasize its long-term presence in the convergence and catch-up of several middle-income economies. Recent differences in tradable and non-tradable sectors' productivity growth were explained by the initial supply side constraints in non-tradable one, rapid productivity growth in tradable sector due to high capital inflows, improvements in X-efficiency and structural changes. These sizeable productivity differences and wage equalization between tradable and non-tradable sectors are a continuous source of price increases in non-tradable sector, and of real exchange rate appreciation. As most of transition economies are small and very open, growth and catch up comes mainly from exports and expansion of tradable sector and this will maintain the already existing productivity differences.

Another argument in favor of the Balassa-Samuelson-effect is that inflation in the non-tradable sector is above the tradable one due to delayed and gradual price liberalization and constantly shifting demand towards non-tradable sector.

Opponents have emphasized their reservations against the presence and especially the level of the Balassa-Samuelson effect (Kopits (1999), Podkaminer (2000)). One counter-argument is that as the catch up comes simultaneously with transition to market economy, the positive effects of liberalization and opening, increasing capital inflows, changes in ownership and management structures effect the supply side equally both in tradable and non-tradable sectors.

Moreover, since supply in the non-tradable sector was limited and demand shifted rapidly,

profitability is high, attractive to stimulate new investments. The increase in aggregate supply of non-tradable may thus lead to productivity growth similar to tradable at least in the recent stage of transition. Therefore, there are less differences between productivity changes in tradable and non-tradable and there is less room for a Balassa-Samuelson-type real exchange rate appreciation.

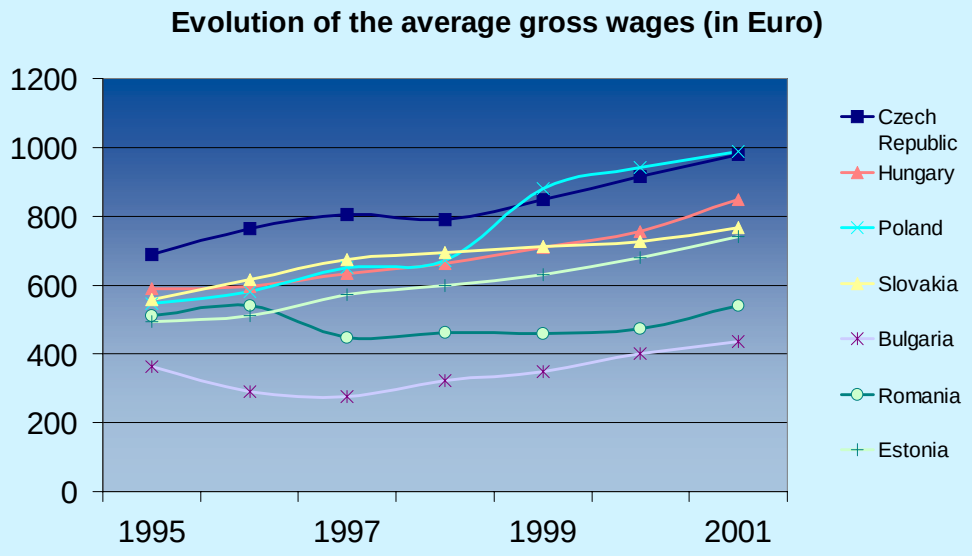
While the assessment of pros and cons of the Balassa-Samuelson effect is beyond the topic of this study, some tentative conclusions on its contribution to short-term inflation developments in transition economies may be derived. First, neither the strength nor the causes of past trends in Balassa-Samuelson effect can be extrapolated in pre-accession economies: these effect were partly caused by one time, transition related factors and they will be a misleading guide due to the structural and institutional changes that occurred in the meantime. (Wojcyk(2001))

Second, it is very important to distinguish between the Balassa-Samuelson related and other factors of price increases, including the liberalization of prices, changes in demand and supply conditions. Several recent studies have attributed price increases to Balassa-Samuelson effect, when they were caused by demand-side factors.

Finally, while countries differ and there are several estimates, the mostly likely level of the Balassa-Samuelson-effect – based also on comparable experiences of other economies - in longer-term is between 1,5 and 2,5 % annually. This is a manageable level and should not cause serious concerns for policy makers in bringing down inflation to low levels.

Another important aspect of convergence is the reduction of the wage gap, where the scope for catch-up exceeds the income levels. Gross monthly wages calculated on nominal exchange rates vary between 14,3% and 28,3% of the EU average, and only in Slovenia exceed half of it (50,7% in 2000). Real purchasing power of wages is higher than indicated by the pure relationship between dollar wages due to the lower non-tradable prices and price level. Calculated on PPP in 2000 average gross monthly wages in manufacturing in the six pre-accession economies were by 27,5% higher compared with 1996, and the average of monthly gross wages of these economies compared to EU average increased by 7 percentage.

Chart 13.

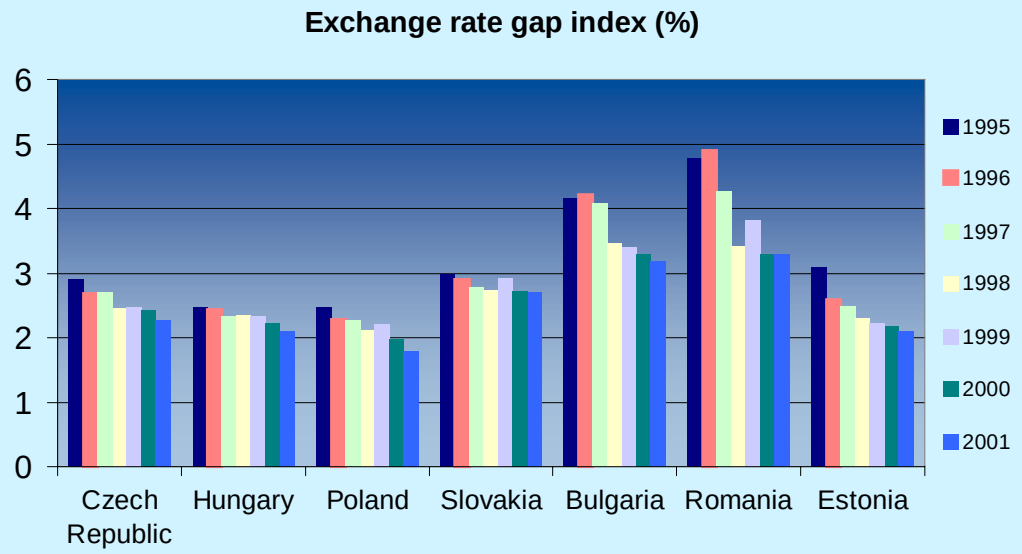


Slow past convergence of wage levels is due to several factors. First, there is a natural time lag between the recover and catch up of output and wage levels. Second, wage convergence in recent years was delayed by macroeconomic imbalances resulting in stabilization programs, which involved sizeable real wage adjustments. Finally, in several countries currency crises resulted in significant loss of purchasing power and reduced dollar and Euro wages, which has partly been reversed only recently.

In the medium-term accelerated convergence of wage levels can be expected, driven mainly by the mentioned productivity differences which can allow an equilibrium catch up of wage levels. Second, as tradable prices are sometimes undervalued, their increase may result in wage growth exceeding price increases justified by productivity differences in tradable and non-tradable sectors, which may result in higher real wage increases. As long as wage catch up is matched by increasing productivity there is no threat for inflation, but the relationship may change time to time and thus can have periodically sizeable inflationary effects.

The final aspect of real convergence is the reduction of the gap between actual and equilibrium exchange rates, represented by the decline of the exchange rate gap or exchange rate deviation index. Actual exchange rates are significantly undervalued compared with their equilibrium levels and the gap between them exceeds comparable figures for Spain, Portugal and Greece 5 years before their EU-membership.

Chart 14.



The exchange rate deviation index for the six pre-accession economies varied in 2000 between 1,5 (for Slovenia) and 2,68 (for Slovakia), and generally declined in recent years, though modestly. This decline is a sign of real exchange rate appreciation. According to Halpern-Wyplosz(1996), following the initial overshooting of nominal exchange rates real appreciation reflects simultaneously the reduction of the gap between actual and equilibrium real exchange rates, and the appreciation of the latter. Some argue that the former factor may be more important, while others claim that appreciation reflects stronger equilibrium exchange rates due to increases in productivity and incomes. If productivity growth remains at current levels and wage increases are moderate, than differences in labor productivity between transition and advanced economies can produce annually a 2-3-percentage point equilibrium real exchange rate appreciation.

The effect of trend appreciation on inflation depends whether it will come from nominal appreciation or from inflation differences, which hinges among others on the choice of monetary arrangement discussed in more details below. If nominal appreciation is limited by monetary authorities for competitiveness and growth reasons, than decline in exchange rate gap will come mainly from inflation differences, reducing the speed of disinflation. If monetary authorities allow the convergence of exchange rate deviation index through nominal appreciation, than besides direct positive effect on inflation the effect depends on the relationship with productivity growth and current account sustainability. As long as appreciation is in accordance with external sustainability, its positive effect on inflation will dominate the negative one of increased exchange rate volatility and financial

vulnerability.

NOMINAL CONVERGENCE AND INFLATION

Besides real, the nominal side of convergence will also affect inflation and the speed of disinflation in pre-accession economies. Two elements of nominal convergence are important for inflation: interest rate and fiscal ones. Fiscal convergence has mainly positive effects on price convergence and inflation. Lower fiscal deficits and public debt reduce the need for seigniorage, which are already low in these countries with the exception of Romania (monetary seigniorage 3% on average between 1998 and 2000), Czech Republic (2,8% between 1998-2000) and Hungary (1,7% in the same period). Moreover, lower fiscal deficits help to reduce risk premia and accelerate interest convergence, which may weaken speculative capital flows and the exposure to boom-and-bust cycles. Improving fiscal balances will also lead to enhanced exchange rate stability, which helps disinflation due to high real openness and exchange rate passthrough.

While these beneficial effects may materialize, two remarks are worth mentioning. First, fiscal is one of the most difficult areas of convergence. Reported fiscal balances in transition economies are better than the actual and if they are accounted properly, according to EU standards, than higher adjustment is required. Besides accounting problems, the limited progress with institutional and structural reforms and their short-term costs make it difficult to achieve rapid fiscal consolidation. Finally, these economies have to incorporate the EU-enlargement related fiscal expenditures to their budgets and have to manage periodically emerging shocks (banking sector distresses, negative effects of boom-and-bust cycles, etc.), which reduces the scope of expenditure adjustment. These factors make fiscal convergence a slow and protracted process.

Second, fiscal convergence also implies policy measures that have direct inflationary effects: taxes should be harmonized, sometimes increased, subsidies should be reduced, certain government supplied services have to be out-sourced. While in longer-term fiscal convergence helps disinflation, these temporary shocks may weaken its direct contribution.

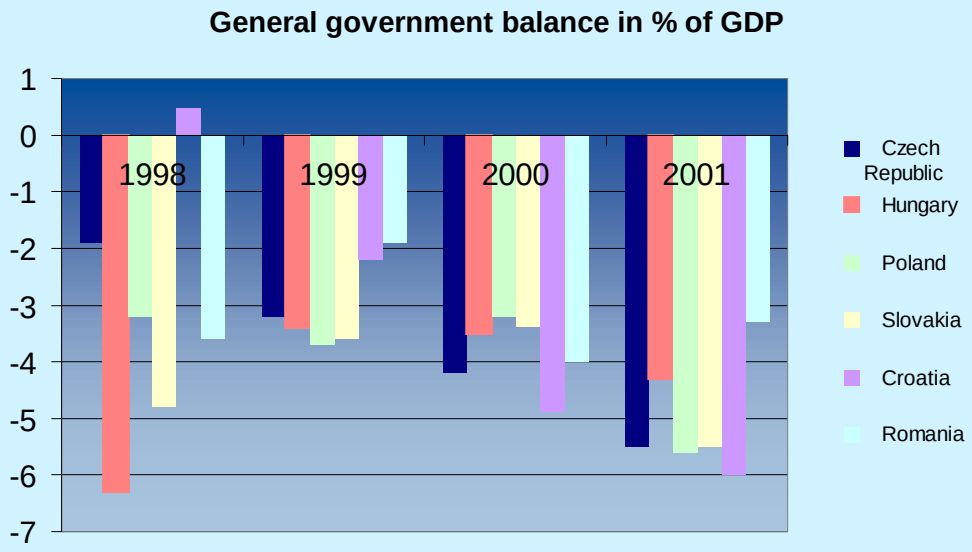
There are differences between pre-accession economies in their fiscal performance and the effect of fiscal convergence on inflation. The Baltic countries are in the best position: they have prudent fiscal policies, low deficit and debt levels, and have already adjusted their budgets to structural reforms, institutional (banking sector crisis for example) and financial shocks (Russian crisis). Hungary and Poland have adjusted their revenue and expenditure sides, but have sizeable fiscal

imbalances and need to account their balances in according to EU rules. Slovakia, the Czech Republic and in some respect Slovenia have more serious problems, since while their debt levels are low, deficits reached high levels, fiscal policies are constrained by structural changes, banking and corporate sector restructuring with its clear fiscal implications. Therefore, fiscal consolidation in these countries will be more difficult and longer-term with indirect effect of fiscal performance on inflation.

Less advanced transition economies face other fiscal challenges, that have implications on price developments. In Russia, the Ukraine, Romania, Croatia fiscal balances are much more unstable, and depend more on cyclical, rather than structural factors: windfall gains or positive cyclical effects improve fiscal balances, while negative ones worsen them significantly. These economies have to implement basic fiscal reforms, including the reform of tax regimes, public expenditures and institutions, while they have to reduce their reliance on seigniorage, which exceeds well pre-accession economies. These reforms – as the experiences of pre-accession and middle-income economies show - will have short-term inflationary effects, which may slow down disinflation or increase sacrifice ratio.

Recent fiscal developments highlight the potential dangers of fiscal imbalances on inflation convergence. In the last two years brought a significant worsening of fiscal balances in most of transition economies, driven both by cyclical (slow-down of growth rates) and structural factors (banking sector clean-up and strengthening corporate discipline). Increasing fiscal deficits pose a serious challenge for disinflation. In less advanced transition economies the main problem remains the high reliance on seigniorage, while in pre-accession economies the main cost is the unhealthy fiscal-monetary policy mix resulting from it as looser fiscal policies are accompanied by tighter monetary ones. This policy mix leads to increased capital inflows, which in some cases (Poland, Hungary) moderates inflation due to the appreciation of local currencies, but in countries with less developed monetary instruments it either increases monetary pressures or requires additional interest rate increase thus worsening both sacrifice ratio and fiscal costs of sterilization. Altogether higher fiscal deficits represent an additional burden for disinflation.

Chart 15.



The convergence of short- and long-term interest rates is the final convergence factor that effects inflation and there has been a gap in the speed of this convergence between the two rates. In the last 2-3 years gap in long-term interest rates declined remarkably, reflecting longer-term improvements in fiscal positions and increased likelihood of EU membership. The convergence is much slower on the short end of the yield curve, leading to high nominal and – with declining inflation rates – frequently real interest rates.

Currency and especially country risk premia, lack of full credibility of monetary policies, worsening fiscal balances, problems with monetary transmission channels are the most important factors hindering interest rate convergence. The slow convergence of short-term interest rates and high real interest rates have several implications for inflation, especially in pre-accession economies.

First, this slow convergence makes them conducive to short-term speculative capital inflows and to the shift in structure of inflows from stable to more volatile elements. Cyclical inflows and the high level of short-term flows may create demand pressures, increase sterilization needs of central banks and lead to cost pressures. Second, in the medium-term the presence of interest rate gap will lead – similarly to the experience of other new EMU-entrants - to convergence play, with its potential adverse effects on exchange rate stability and inflation.

Finally, the last threat for inflation from slow short-term interest rate convergence comes from increasing likelihood of emerging currency mismatch and its negative side-effects. Remaining interest

rate gap will simulate the domestic financial and corporate sectors to borrow more in foreign and less in domestic currency. As long as lending goes to the tradable sector, there is no serious danger, but if it is excessive and leads to permanent shift of assets towards non-tradable one, this may create sustainability and exchange rate problems, which spill-over on inflation.

EFFECTS OF MONETARY ARRANGEMENTS ON DISINFLATION

The literature on relationship between monetary and exchange rate regimes and inflation is huge but inconclusive. Opinions differ concerning the contribution of different arrangements to growth and price stability. For example, Ghosh, Gulde and Wolff (1998) argue that between 1970-1996 countries with currency boards had inflation rates lower on average by 4 percentage points than ones with pegged arrangements, and their inflation rates were smaller compared to economies with flexible regimes. In contrast to them Edwards (2001) and others argue that both inflation and growth performance were better under more flexible arrangements.

Looking at the current arrangements in Eastern Europe, two trends are discernible. First, pre-accession economies seem to behave consistently with the hollowing out hypothesis, as increasing number of them have shifted their arrangements towards corner solutions of currency boards or managed/free floats with inflation targeting. Second, economies with upper moderate levels of inflation have been seriously exposed to financial vulnerabilities, exogenous shocks and home made monetary crises, which influenced shifts in their monetary and exchange rate arrangements. Therefore, the likely evolution of the links between monetary arrangements and inflation in Eastern Europe will be analyzed independently in case of these two groups of countries.

Concerning pre-accession economies, two regimes seem to remain in place until their accession to the EMU: currency boards, which could eventually be replaced by unilateral adoption of Euro (Euroisation), and increasingly flexible exchange rate regimes with direct inflation targeting. Countries with currency boards have reduced their inflation rates to lowest in the region, and their monetary arrangements will support further decline (Bulgaria) or maintenance of low levels (Estonia, Lithuania). Currency boards are transparent and credible, keep fiscal policies under tight control and help to avoid the build-up of currency mismatches and balance sheet problems, which may have strong indirect inflationary effects. A problem with currency board arrangements will be the management of Balassa-Samuelson-effect, as this requires sufficient degree of price and wage flexibility, which is not equally present in all of these economies. Therefore productivity advances may easily spill-over to price

increases. A related problem with currency boards is linked to interest rate differentials, as they are not completely eliminated and credit risk maintains at least part of this gap, which stimulates capital inflows. These inflows under currency boards may have inflationary effects if fiscal policies are not sufficiently flexible to handle the growth of aggregate demand.

Under managed or free floats with inflation targeting both elements of monetary arrangement can directly support disinflation. While nominal exchange flexibility in middle income economies is frequently said to have adverse effects on inflation (in case of significant devaluation, high exchange rate pass-through and volatility), in pre-accession economies this will mainly support disinflation. First, nominal exchange rates are undervalued and their trend appreciation is likely in the short- to medium-term. Second, recent experiences of central European economies (most notably of Poland and Hungary) with managed floats indicate that exchange rate passthrough coefficients have declined. This is in accordance with international experiences, which show that exchange rate passthrough is lower both in tranquil and normal times than in emerging market economies. Therefore, one may expect that even high volatility would not have significant negative inflationary effects in economies with managed floats.

Another frequently emphasized reservation against floats is the presence of currency mismatch (Calvo-Reinhart (1999), Hausmann-Panizza-Stein (2001)), which increases the exposure of emerging economies to exogenous shocks and the adverse inflationary effects of exchange rate volatility. While the share of foreign currency denominated liabilities in the private and public sector is not negligible in Central European economies, currency mismatch is low in international comparison. Therefore the choice of managed floats will not have negative effects on inflation.

The experiences with inflation targeting are relatively new, as Poland and the Czech Republic shifted to this arrangement in 1998, followed later by Slovakia and Hungary. So far the new framework delivered the expected results as inflation declined significantly in Poland and Hungary, and was maintained at low levels in the Czech Republic. But it is questionable to which extent has the new framework contributed to this outcome, as favorably developing exogenous factors have significantly helped disinflation. Moreover, the effectiveness of the regime is questionable if technical problems of implementation, the sizeable gaps between actual and targeted results, and the moderate (Hungary) to significant (Poland) sacrifice ratios are considered.

If these short-term constraints and difficulties are overcome, inflation targeting will help disinflation. First, the long-term inflation commitment of central banks, the enhanced transparency of

monetary policies and the pressures on fiscal authorities to subordinate their policies to monetary ones will help disinflation. Second, the negative effects of mentioned difficulties with implementation (exchange rate versus inflation targets, appropriately defined targets, still incomplete credibility of central banks) will gradually diminish, as inflation rates decline, policy credibility as well as wage and price flexibility increase.

The less advanced transition economies have relatively similar to pre-accession economies choices for their monetary arrangements. As their macroeconomic fundamentals are weaker, but their exposure to global financial shocks and capital flows is greater, they can either opt for dollarization or Euroisation of their economies, or shift to different floats. Intermediate regimes are mainly unsustainable in these economies, similarly to other emerging economies. The only exception are the countries that have maintained significant restrictions on their balance of payments operations, and are in the early stage of capital account liberalization (like Yugoslavia).

While the choice of monetary and exchange rate arrangements in these economies is very similar to pre-accession ones, its impact on disinflation will be different. This is due to the differences that exist between less advanced transition and pre-accession economies in their macroeconomic and institutional fundamentals. Contrary to the pre-accession group, these economies have weaker financial sectors, higher levels of currency mismatch, greater exposure to financial pressures and exogenous shocks.

Besides that fiscal balances are much weaker, their current account and net foreign asset position is more vulnerable, which increases inflationary pressure. Therefore, either under pegged, rigid arrangements or flexible ones the effect of monetary arrangement on inflation will be less favorable as the mentioned negative side-effects will be stronger compared to the first group of economies.

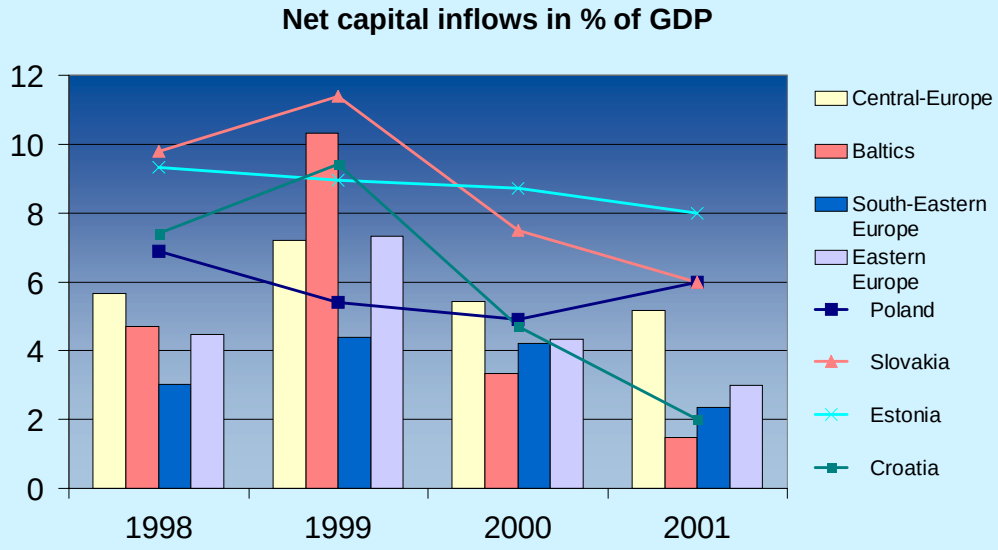
CAPITAL INFLOWS AND EXPOSURE TO EXOGENOUS SHOCKS

Eastern and Central European economies have already experienced significant net foreign capital inflows[3], and they are expected to increase further, especially in pre-accession economies. As analyzed by several studies (Begg et al. (2001), Rostowski (2001)) expected high growth rates and productivity increases, high levels of real and financial openness will lead to permanent and significant net reserve inflows. While the literature on capital flows to emerging markets emphasized mostly the potential

[3] These inflows are especially significant when compared to other economies with similar level of real and financial sector development.

adverse effects of speculative flows on financial vulnerability, on boom and bust cycles in the banking sector and associated maturity and currency mismatches and high external exposure to contagion and currency crises, capital inflows may have adverse effects in transition economies on inflation too.

Chart 16.



In less advanced transition economies these inflows can have a strong direct inflationary effect due to the lack of appropriate instruments in the disposal of the central banks to sterilize their monetary effects. While there have been institutional and structural improvements in Russia or Romania, central banks still come repeatedly under pressure to manage capital inflows. Additional problem is that the fiscal costs of sterilization are high, due to the high sterilization requirements and significant gap between domestic and foreign interest rates. These costs have so far been manageable in pre-accession economies and as their public debt and interest rate levels converge and central bank have increasingly sophisticated tools for sterilization, this has less direct impact on inflation.

However in advanced pre-accession economies another problem can be that both under floats or hard pegs the hands of monetary authorities will be tied: under hard pegs due to the institutional constraints, while under floats to the neutralizing effects of additional capital inflows stimulated by sterilization measures. Therefore fiscal policy should be prudent, strongly counter-cyclical to manage the likely positive demand effect of capital inflows and be substitute for monetary policy adjustment. But depending on the extent of structural rigidities, EU accession related obligations this may be difficult to accomplish and there will be no appropriate adjustment tool to capital inflows.

There is another source of concern, which equally applies to advanced, pre-accession and less advanced transition economies: the stability of the banking sector, and the possibility that capital inflows may result in boom-and-bust cycle developments, and rapid credit expansion. Central European economies may be exposed to this due to the size of expected capital inflows and the relative exchange rate stability (both under hard pegs and managed floats), while in other economies due to the low level of their financial development.

Financial sector weaknesses, lack of prudential regulations may lead to rapid expansion of banking sector credit with its negative effects on its vulnerability and its stimulus provided to domestic aggregate demand. The latter effect may have inflationary implications, especially if it leads to decline of liquidity constraint of the household sector, significant increase of private investments and consumption.

Finally, capital inflows may have inflationary effects if they lead to increasing current account deficits due to increased consumption smoothing, improved growth and spending prospects. As long as this is manageable and doesn't lead to significant exchange rate volatility, it does not threaten inflation, but when it becomes unsustainable it may raise inflation fears. This is mainly the case in less advanced transition economies, where the sustainability level is lower, the direct effect of current account deficit on exchange rate is stronger and the exchange rate passthrough may be higher.

5. SHORT-TERM POLICY CHALLENGES FOR DISINFLATION

The future issues for disinflation in transition economies are determined by the current macroeconomic framework and past price developments. These economies made significant progress in liberalizing their prices, adjusting exchange rates towards equilibrium levels, in making fiscal and monetary policies consistent with the chosen exchange rate arrangement and in overcoming the institutional and structural elements of inflation. On the other hand their income level and relatively underdeveloped services sector forecasts significant price increases, future membership in the EU reflects likely changes in the price structure due to the assumption of common European policies and integration effects, and high openness and financial vulnerability presents additional challenges for disinflation.

Concerning policy framework, the difficulties of policy makers are deepened by the almost complete real and financial liberalization, by their heavy exposure to global real and financial shocks and the rigidities of their factor markets. These conditions influence the policy choices available for national authorities in designing their future disinflation policies.

One of the recent debates is related to the speed of disinflation. Several economies had to face high sacrifice ratios when trying to reduce their inflation rates, which raised doubts on the necessity of rapid disinflation. Notwithstanding the fact that in several cases disinflation has been accompanied by the slow-down of growth rates and increase in unemployment, there are significant arguments in favor of pursuing fast disinflation in transition economies.

First, the literature on the output effects of disinflation shows that the relationship between decline in inflation and associated output costs is non-linear, as the costs are relatively small under low and high inflation, and high under moderate. Most of these economies (especially accession ones) have already reduced their inflation rates below moderate levels and have passed the most costly part of disinflation. Therefore further reduction of low or lower moderate levels of inflation should not be accompanied by high output losses.

Second, while the sacrifice ratio of further disinflation could be kept moderate, these economies can gain from rapid disinflation. The gains are generally observed ones, including better allocative efficiency and signaling effect of prices, reduced rigidity of wages and pries, and changes in ways expectations are generated. Additional gains stem from the medium-term goal of joining the Euro zone, which will have positive growth effects, reduce transaction and other independent currency

related costs and will protect these economies from the erratic movements of global capital markets. The sooner the Euro zone is joined, the earlier and bigger are the benefits, which shifts further the cost-benefit ratio of rapid disinflation.

Finally, due to their transition and catching-up position, several factors described above will maintain price increases above the level of advanced economies, including the catch up of incomes and productivity differences, changes and convergence of price structures, adjustment of regulated and administrative prices. These factors will keep a constant pressure on inflation and therefore macroeconomic policies should be designed to account for them and strive for rapid disinflation.

The choice of appropriate monetary arrangement and related exchange rate regime strongly affects the speed and costs of further disinflation in transition economies. In terms of choice and maintenance of monetary arrangements the described transition economies can be divided to two major groups: pre-accession ones and those who would stay outside the monetary union. In pre-accession economies the final goal of joining a currency area is given and these economies have mostly decided which regime to choose prior the Euro zone and only smaller changes are expected in the adopted regimes. In the other group the major issue is to find the most appropriate monetary arrangement for financial and currency stability.

Those pre-accession economies that have hard pegs, will maintain this arrangement until their eventual membership in the Euro zone, as the costs of "double switch" exceed their benefits. Hard pegs could be a problem both in terms of their sustainability and their disinflation effect if there are costs pressures, the flexibility of wages is low, the country faces serious fiscal imbalances and exchange rates become misarranged. Hard peg pre-accession economies should therefore have very flexible fiscal and incomes policies and should proceed with remaining liberalization of labor and goods markets as fast as possible.

While economies adopting direct inflation targeting with either managed or free floats have established the major policy preconditions for their efficient use, the recent problems with inflation targeting (missing targets, transparency problems) show that several measures are needed to improve their functioning and effect on inflation. First, there is a need to strengthen the interest rate channel of monetary transmission, as short-term interest rates have become the major policy and signaling tool for central banks. This will be however a longer-term process, requiring financial deepening and development of the financial sector.

Another important precondition is to let the exchange rate to evolve towards their equilibrium

levels. This would be needed to avoid the well-known tradeoffs between meeting inflation and exchange rate targets and also to let the equilibrium real exchange rate appreciation to materialize through nominal one. This is a hard task for policy makers to detect which movements represent a shift towards equilibrium and which are the outcome of speculative, short-term pressures. Therefore, central banks should refrain from too frequent and direct intervention, but should carefully assess financial vulnerability indicators to keep the exchange rate consistent with external and internal equilibrium.

Fiscal policies play a crucial role in the future behavior of prices and speed of disinflation in transition economies, which role has been strengthened by the discussed shift to corner exchange rate and monetary arrangements. Under floats and direct inflation targeting fiscal authorities bear joint responsibility with the central banks for inflation targets and for the consistency of fiscal policy with this target. Under hard pegs fiscal policies are heavily constrained by the monetary arrangement and their role is to be flexible enough to adjust to shocks and changes in market sentiments. Under both arrangements fiscal policies should be subordinated to monetary and fiscal dominance should be replaced by monetary one.

Besides this general principle, fiscal policies will affect disinflation in transition economies through the changes in revenues, expenditures and fiscal balance. First, authorities should avoid measures aimed at increasing indirect taxes and leading to a too rapid adjustment of regulated prices. In several economies the adjustment of tax regime is incomplete and the shift from direct to indirect taxes should still be accomplished. But this has temporary inflation costs ad therefore its implementation should be appropriately sequenced and timed.

On the expenditure side, fiscal policies may have two major contribution to disinflation. They should pay a close attention to wage increases in the public sector, which – besides the expected convergence of wage levels in transition economies – are below private sector ones. These increases should come together with the reduction of public employment to reduce the wage bill in the public sector and increase its efficiency, and should remain moderate to minimize their effect on private sector wages. Another issue on the expenditure side is the increase of capital expenditures, as public investments may reduce supply side bottlenecks and thus have a moderating impact on price increases.

The major impact of fiscal policies on disinflation is linked to keeping fiscal deficits low, and their beneficial effect on inflation may come from three sources. First, low deficits provide more scope for anti-cyclical fiscal policies, which help in containing inflationary pressures during recoveries and

periods of rapid growth. Second, in similar vein they provide more room for policy makers to react to exogenous shocks affecting these economies without requiring a more costly and inflationary way of adjustment. Third, prudent fiscal policies help in reducing the extent of speculative capital inflows and their destructive effect on inflation and monetary conditions. High fiscal deficits are partly financed by foreign savings, and the resulting interest sensitive capital flows may have as explained above undesired direct and indirect effects on inflation. Finally, in financially less advanced economies, fiscal deficits are still partly financed by seigniorage and the reduction of deficits is a precondition for the decline of both inflationary finance and inflation.

While monetary and fiscal policies have their impact on inflation from the demand side, supply side policies should also be considered. Supply-side aspects of inflation may be controlled by structural policies, aimed at eliminating the supply-side bottlenecks and increasing competition. Authorities should aim at privatizing the majority of public utilities simultaneously with increasing the competition between the suppliers. While the prices for these services are mostly regulated, privatization and increasing competition may reduce the pressures for future price adjustments and increases. In more competitive sectors regulators should aim at increasing the competition between the suppliers by following more liberal attitudes for market entry and exit, reducing the barriers faced by new entrants.

Similarly, competition policies should be used more effectively to reduce monopolistic behavior of market participants. Finally, policy makers should make all efforts at increasing the flexibility of labor markets, which are very rigid in transition economies and significantly add to inflationary pressure. There is a need for the comprehensive reform of labor markets and increase of labor market flexibility, as this significantly adds to supply-side factors of inflation.

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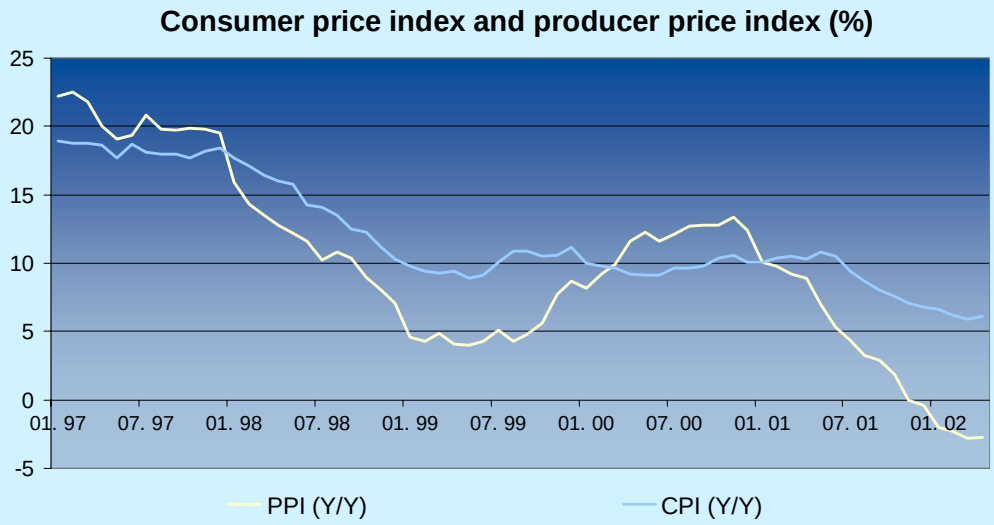
ANNEX 1. INFLATION IN HUNGARY

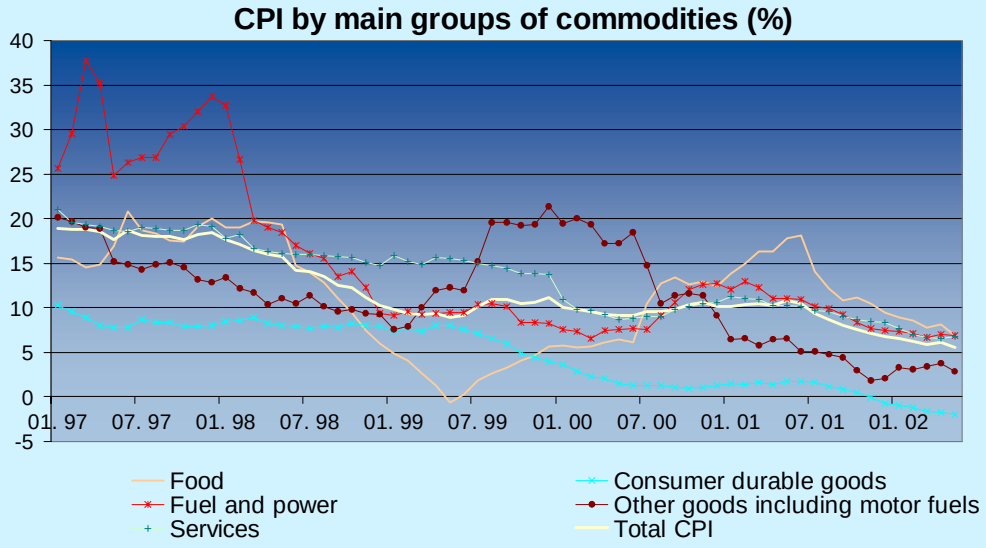
The evolution of Hungarian inflation was gradual from mid 1990s. The 12-month consumer price index peaked at 31% in June 1995 and slowly decreased till the third quarter of 2000. The break in disinflation at that time was illustrated by the core inflation, which turned into upward trend from September 2000. From June 2001 consumer price index returned to its downward trend and the year-on-year inflation fell to 6.8% by the end of 2001.

Chart 17.



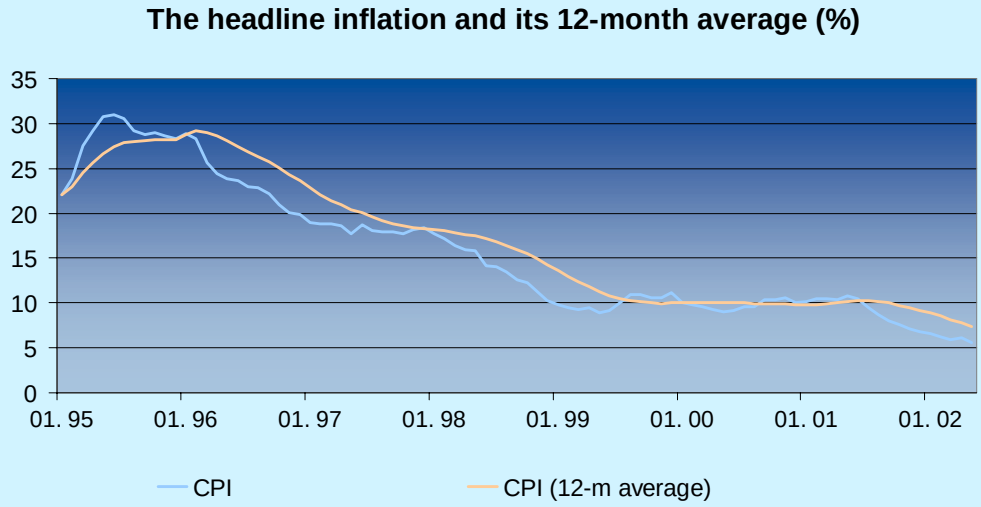
From 1997 to 1999 group of fuel and power exerted a strong inflationary pressure. The majority of these commodities has mainly administrative prices. Due to excessive growth of coal, electricity and gas prices the public sector contributed to the slower fall of consumer prices. In line with the sharp decline of domestic inflation pressures (prices of food, fuels and power) the CPI moderated by more than 7% in 1998.

Chart 18.



In the middle of 1999 the slowdown of inflation stopped in line with the acceleration of EU and Hungary's GDP growth. As the 12-month average inflation rate stagnated around 10% from August 1999, confirmed the break in disinflation.

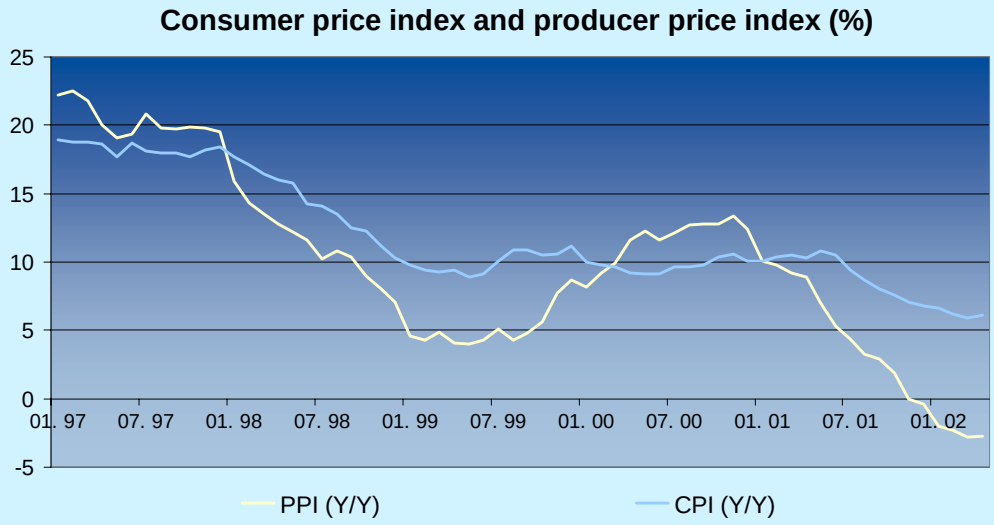
Chart 19.



The main reason of the unfavorable shift was related to the evolution of external factors. The sharp rise of oil prices and the constant depreciation of the Euro against the US dollar pushed up imported prices, which first rolled over the Hungarian producer price index and afterwards over the CPI. The prices of other goods including motor fuels (which has a 17% share in the consumer basket) soared in

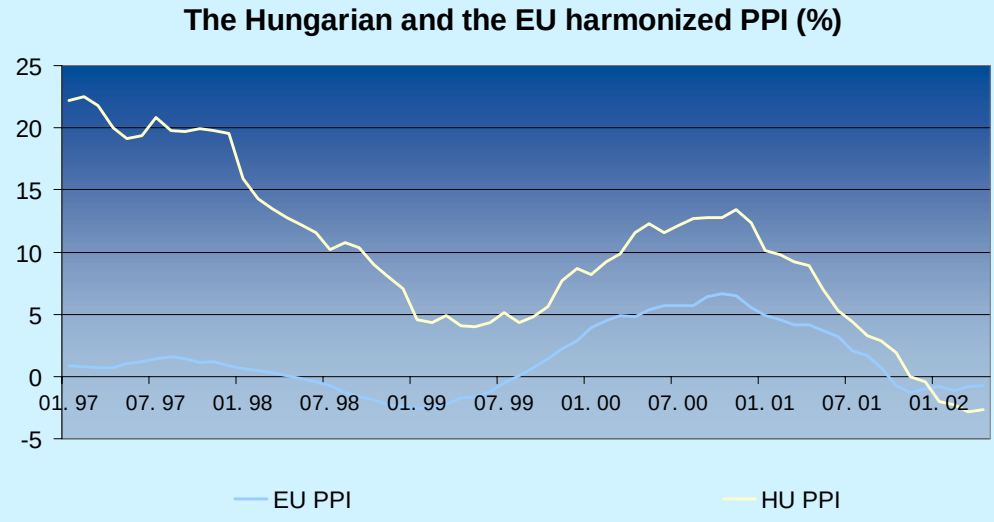
1999 and in 2000. Due to the poor crop food prices strengthened inflation pressures and contributed to the non-expected increase of consumer prices from the 3rd quarter of 2000.

Chart 20.



In line with the acceleration of the EU GDP growth the EU harmonized index of producer prices started to increase at the end of 1999, fuelled also by rising oil prices. Due to high openness of the Hungarian economy, the unfavorable evolution of EU PPI had a strong impact on domestic production costs.

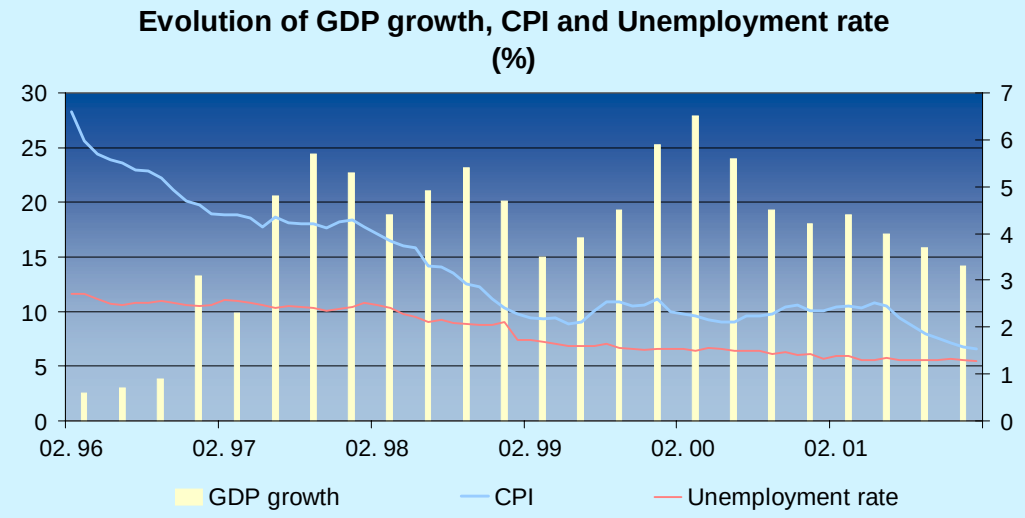
Chart 21.



The delayed effect of external and internal price shocks pushed the CPI till May 2001. External factors improved from early 2001: the Euro appreciated against the dollar, while oil prices fell and EU PPI dropped sharply. Although rise in food prices maintained the domestic inflation pressure till August, but basis effect caused strong decline in year-on-year inflation. From May 2001 the crawling peg exchange rate regime was changed. The widening of the Forint fluctuation band gave room for appreciation, which partly affected the consumer price index through the slowdown of tradable price index and imported inflation. As a result of this appreciation, year-on-year price index of consumer durable goods decreased by 0.7% in December 2001.

During the Hungarian disinflation there was no trade off between the slowdown of the inflation and the real economic growth, unemployment rate, internal/external balance. The inflation rate decreased from 1996, while real GDP growth was high and balanced, and unemployment rate declined.

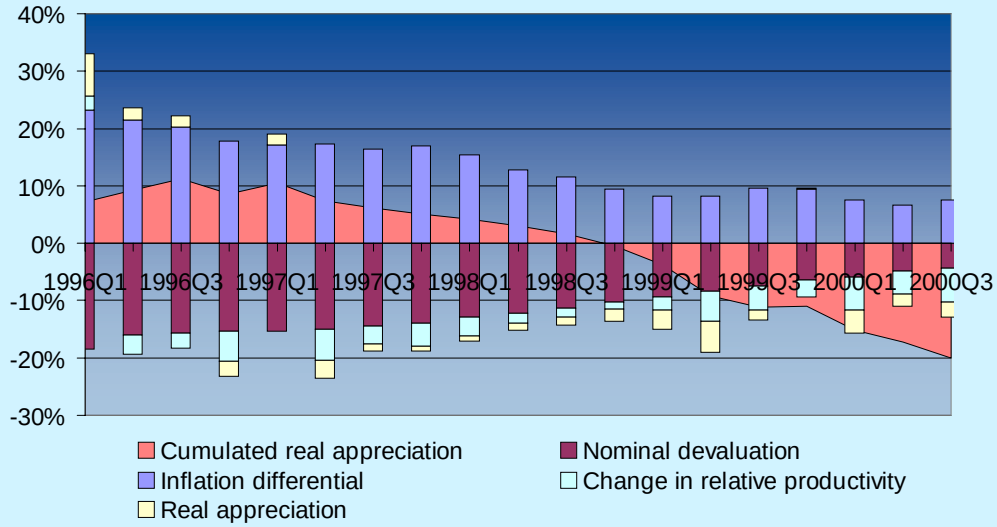
Chart 22.



The favorable evolution of the Hungarian economy can be mainly explained by appropriate monetary policy. During the crawling peg regime (1995-2001) monetary policy focused on maintaining productivity and the high export-driven GDP growth with the nominal devaluation of national currency. The real appreciation of the Forint (based on price indicates) was lower then the improvement in Hungary's relative productivity (based on ULC). Therefore, real appreciation did not harm Hungary's transition and vulnerable economy. The main instrument of the central bank was the exchange rate policy, while the narrow (+/- 2.25%) band determined its interest rate policy. Its key

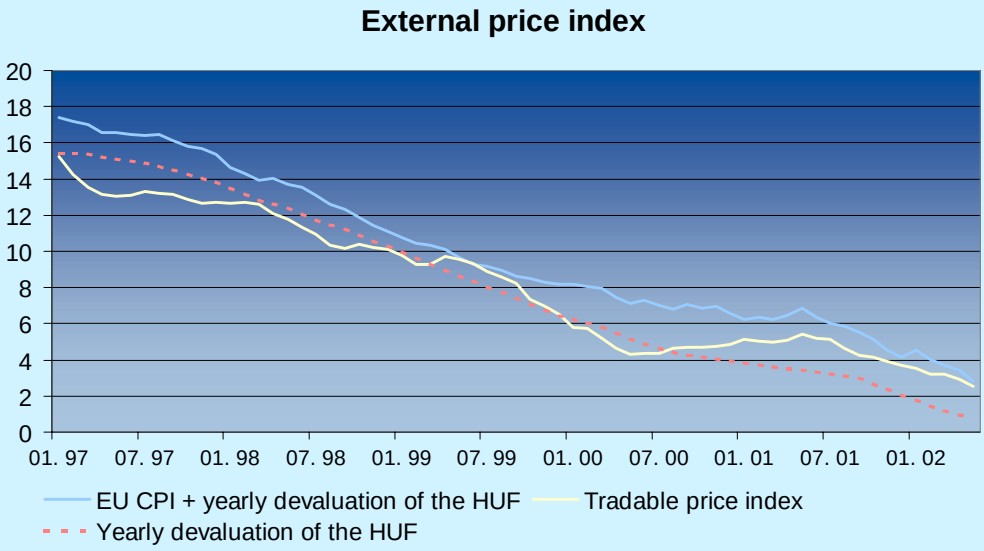
role was the ensuring of capital inflow with respective ex-ante real interest rate.

Chart 23.



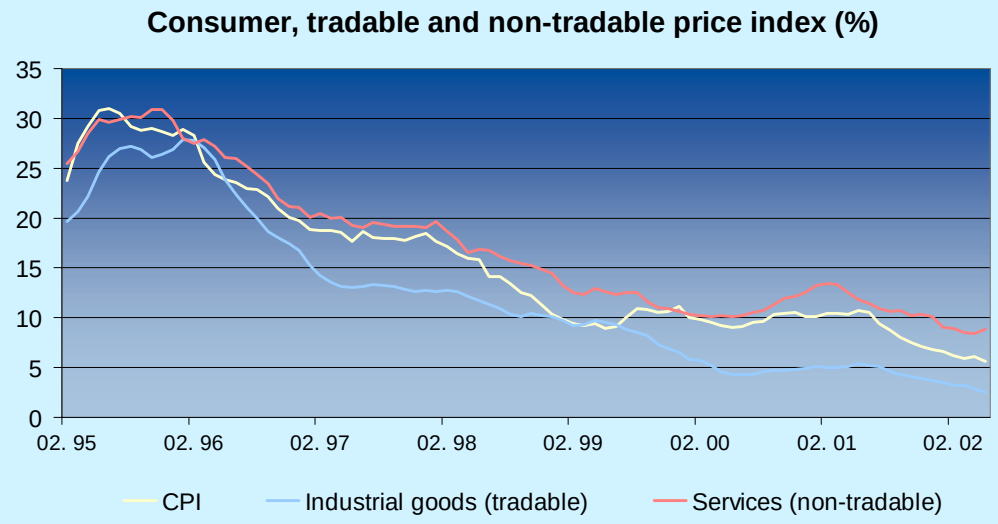
As the prices in the tradable sector were determined by the EU inflation and nominal devaluation, the decreasing monthly devaluation directly affected consumer prices through the weight of tradable goods in the consumer basket.

Chart 24.



The role of monetary policy was decisive in disinflation. The tradable price index was lower than headline inflation over the period of 1995-2001. On the contrary the prices of non-tradable goods increased more dynamically than the CPI.

Chart 25.



We categorized the main groups of commodities according their contribution to the change of consumer prices. Our method of calculation is the following: We took the real price index in the main groups of commodities (real price index of food, real price index of industrial products…). Than we focused on the total CPI and calculated the partial price indexes according to the weights of each group in the costumer basket. As a result, we got the difference between the real price indexes and the price indexes calculated by the weights in the basket.

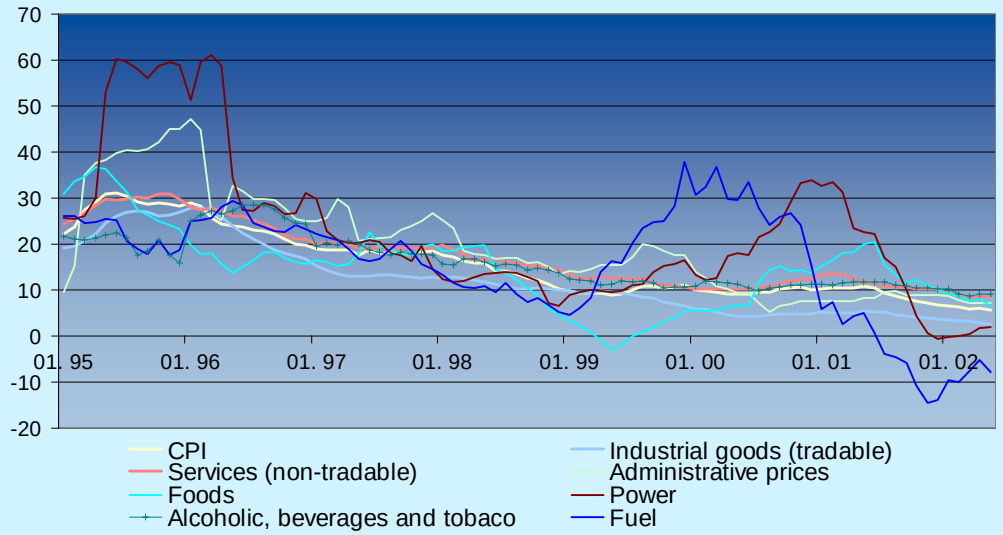
Table 3.

Contribution of main groups of commodities to CPI

	Food	Industrial products (tradable goods)	Services (non-tradable)	Power	Alcoholic, beverages and tobaco	Fuel	Administrative prices
Weight (2001)	*19,0%*	*26,8%*	*20,3%*	*1,3%*	*9,1%*	*5,0%*	*18,6%*
1995	*-1,1*	*-0,4*	*0,2*	*0,6*	*-1,2*	*-0,5*	*2,3*
1996	*-0,9*	*-1,0*	*0,2*	*0,2*	*0,4*	*0,2*	*0,7*
1997	*0,4*	*-1,7*	*0,1*	*-0,1*	*-0,1*	*-0,2*	*1,4*
1998	*-1,3*	*-0,1*	*0,7*	*-0,1*	*0,3*	*-0,3*	*0,6*
1999	*-1,2*	*-1,3*	*-0,1*	*0,1*	*-0,1*	*1,3*	*1,2*
2000	*0,7*	*-1,5*	*0,4*	*0,3*	*0,1*	*0,3*	*-0,5*
2001	*0,6*	*-0,8*	*0,7*	*-0,1*	*0,3*	*-1,0*	*0,4*
Average (1995-2001)	*-0,4*	*-1,0*	*0,3*	*0,1*	*-0,0*	*-0,0*	*0,9*
Average (2000-2001)	*0,6*	*-1,2*	*0,5*	*0,1*	*0,2*	*-0,4*	*-0,0*

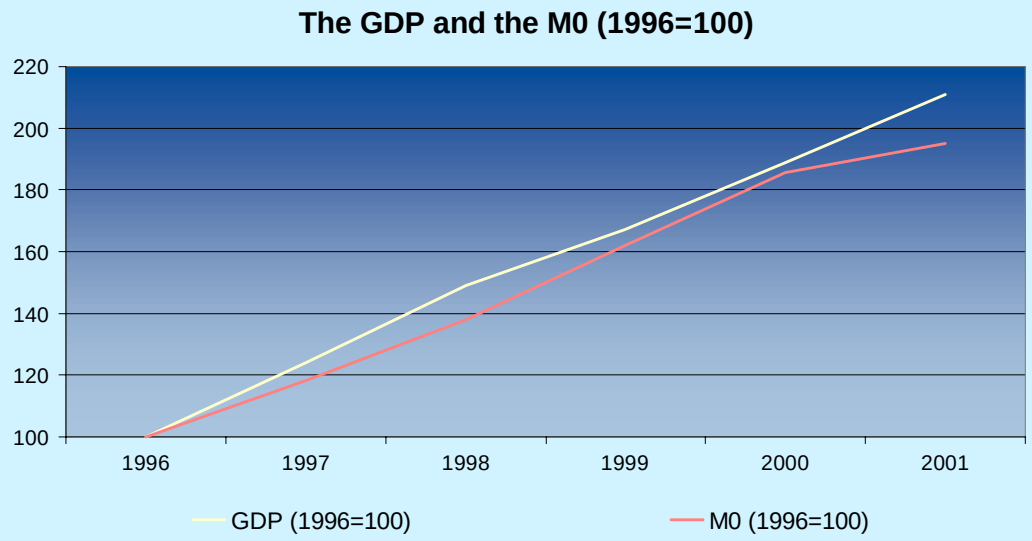
Our consequence is that mainly industrial products (which can be identified by the tradable goods) contributed to the slowdown of Hungarian inflation. The behavior of foods is inconsistent. Between 1995-2001 the growth of food prices was below the average, but from 1999 food prices started to accelerate and became a strong source of inflation in 2000 and 2001. The next considerable group contains services, which typically belong to non-tradable sector and along with the groups of food, power and fuel constitute significant repressed inflation. The administratively determined prices remained an important source of inflation till 1999, while from 2000 they contributed to the slowdown of the CPI.

Chart 26.



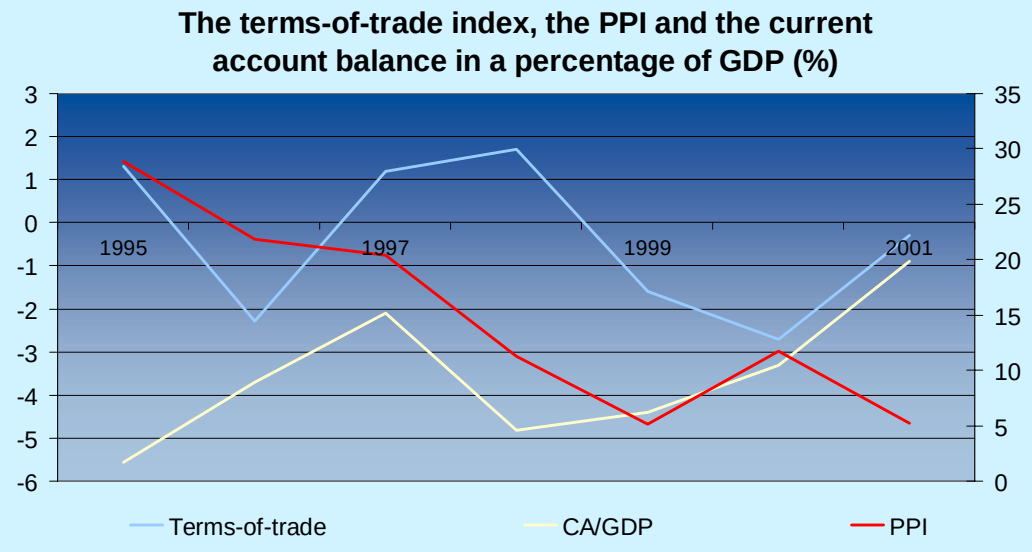
The growth of money supply did not exceed GDP growth: between 1996-2001 the cumulated amount of M0 grew in line with the GDP, meanwhile sterilization cancelled the impact of strong capital inflow on monetary aggregates.

Chart 27.



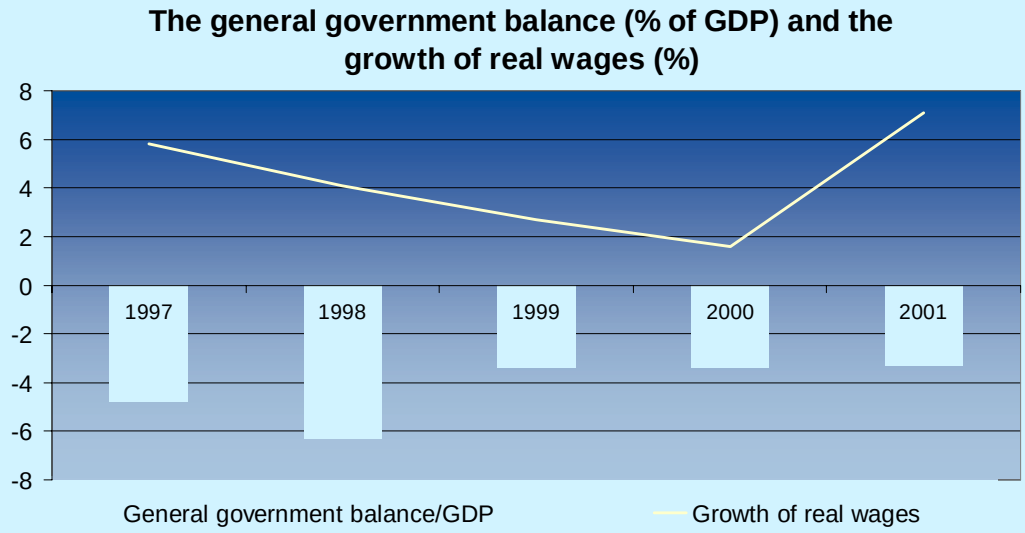
There were two major terms-of-trade shocks from 1995 to 2001. A sharp fall in export prices triggered the worsening of term-of-trade indicator, which is mainly due to the improving productivity of the Hungarian economy. Therefore we cannot reckon this event as a shock. The next worsening of terms-of-trade index was in line with the acceleration of external price shocks, which had an impact on the Hungarian PPI and CPI from 1999 and peaked in 2000. As a result of declining oil prices and EU PPI, unit price index of import fell in 2001.

Chart 28.



Over the period 1997-2001 general government balance improved (except for 1998, when expenditure of social security, welfare services and general state debt management increased sharply) and there was no overheating demand from public finances. Growth of real wages moderated till 2000, while hike of minimal wages and the wages of state employees contributed to the reverse trend in 2001 in the pre-election period. Although, wages grew dynamically in 2001, there is still no sign of excess household consumption growth.

Chart 29.



ANNEX 2. INFLATION IN RUSSIA

The Russian inflation had numerous distinct from other transition economies features over the last decade. Transition began with significant devaluation of previously administratively determined exchange rate and liberalization prices, reduction of subsidies, which together with the huge monetary overhang led to hyperinflation in 1991-1992. Contrary to other economies, where initial increase in inflation was followed by its rapid stabilization, high inflation proved to be very persistent and remained well above 100% between 1993 and 1995.

The major factors that contributed to this poor performance were the weak fiscal and financial sector discipline, which resulted in huge fiscal deficits and accumulation of payment arrears by the corporate sector, lack of independent monetary policy, which allowed the monetization of both inter-enterprise payment arrears and of fiscal imbalances. High and persistent inflation resulted in loss of credibility in national currency and widespread dollarization that produced a vicious circle between inflation and depreciation. As neither the exchange rate was credibly fixed nor the monetary policy had consistent targets, there was no nominal anchor that could have stabilized prices.

Table 4.

Inflation and macroeconomic variables in Russia

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
CPI	*1528*	*875*	*309*	*197*	*48*	*15*	*28*	*86*	*21*	*22*
PPI	*3280*	*900*	*340*	*238*	*51*	*15*	*7*	*59*	*47*	*19*
Change in Rbl/$ rate	*9500*	*382*	*138*	*107*	*12*	*13*	*70*	*154*	*14*	*4*

The table shows one of the reasons for the change in the behavior of inflation from 1996. The central bank adopted a new exchange rate strategy in which the target band was supposed to provide the nominal anchor for disinflation. The policy of relative nominal exchange rate stability was the main factor behind the observed decline of inflation between 1996 and 1998. Besides it, smaller nominal wage increases also weakened cost factors of inflation, which was caused by rapid increase in unemployment and acceleration of corporate sector restructuring.

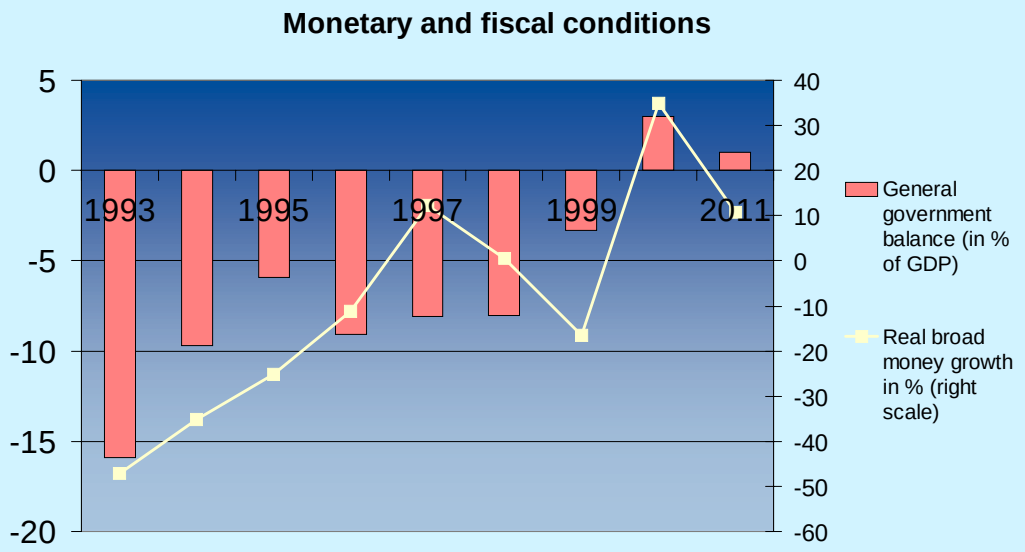
While exchange rate policy helped in mitigating inflationary pressures, the monetary-fiscal mix was inconsistent with the chosen exchange rate regime. The source of problems was the fiscal development, as due to revenue collection problems the central and general governments ran

significant deficits, which were persistently above 6-7% of GDP.

These sizeable deficits were however financed in a different way compared to the early 1990s, as financial sector development and reduction of central bank financing led to domestic debt financing of fiscal deficit. But as domestic savings were low, the government had to rely on inflow of net foreign savings and the liberalization of capital account provided the background for the increasing involvement of foreign investors in deficit financing. This led to sizeable increase of net foreign capital inflows (as real returns on public debt instruments were attractive) and this has become a new source of inflation pressures.

On the one hand the increase of net foreign capital inflows resulted in huge increase of real broad money supply, as the central bank was unable to sterilize the monetary effects of reserve inflows. Second, similarly to many other emerging market economies, exchange rate and country risk skewed public debt towards shorter maturity and this resulted in rapid build-up of public and foreign currency denominated debt, increasing financial vulnerability of the economy. Therefore good inflation performance has hidden serious macroeconomic imbalances, and gradually increased the pressures that culminated in the currency collapse of 1998.

Chart 30.



The immediate effect of the crisis was similar to other economies with currency collapse as inflation accelerated. But the inflationary effect of currency depreciation was relatively minor similarly to other crisis-hit economies: while the table shows annual average rates the

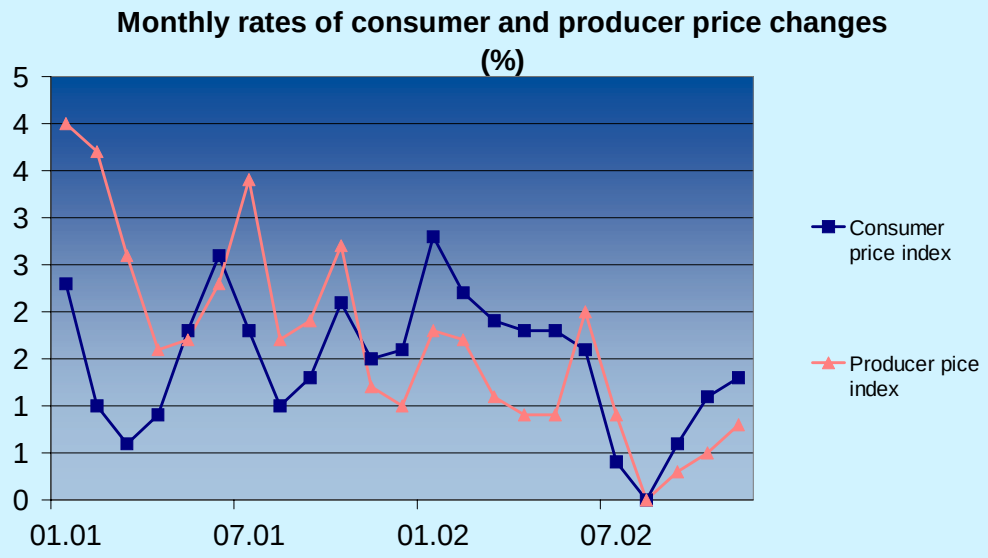
December/December and especially monthly figures reflect that exchange rate passthrough was small and short-lived.

Moreover, the crisis led to significant changes in policy stance. One of them was the revision of unsustainable monetary-fiscal policy mix: helped by the suspension of debt service and improving exogenous conditions, general government deficit declined, and in 2000 it recorded for the first time surplus. Monetary policy became extremely tight following the crisis, and the resulting contraction of output helped to contain inflationary pressures.

After declining rapidly in 2000 inflation remained in 2001 at moderate level, around 20%. While the persistence of inflation at this level and the deceleration of the pace of disinflation has been observed in many other emerging economies, it creates serious concerns in Russia. While inflation remained basically unchanged compared to the previous year, prices behaved slightly differently in 2001. In 2000 inflation was very strongly affected by the rapid increase of non-food consumer prices driven by the high producer price index. In 2001 industrial producer price growth decelerated to around one third its rate in 2000, and this considerably moderated the increase of non-food consumer prices.

On the other hand the growth of the biggest item of the consumer price basket, food prices reached almost 18% and was mainly driven by high growth of agricultural producer prices, which exceeded the growth of consumer prices by wide margin between 1999 and 2001. Another source of price increases in 2001 was the growth of service prices, which - as in 2000 - increased by around 35%. Part of this increase came from the growth of prices of regulated services following the tariff hikes. Another source of their growth is linked to the increase of demand for services following the sizeable real wage increases. Altogether there has been a massive shift in the difference of dynamism of producer and service price increases and their contribution to the overall price increase.

Chart 31.



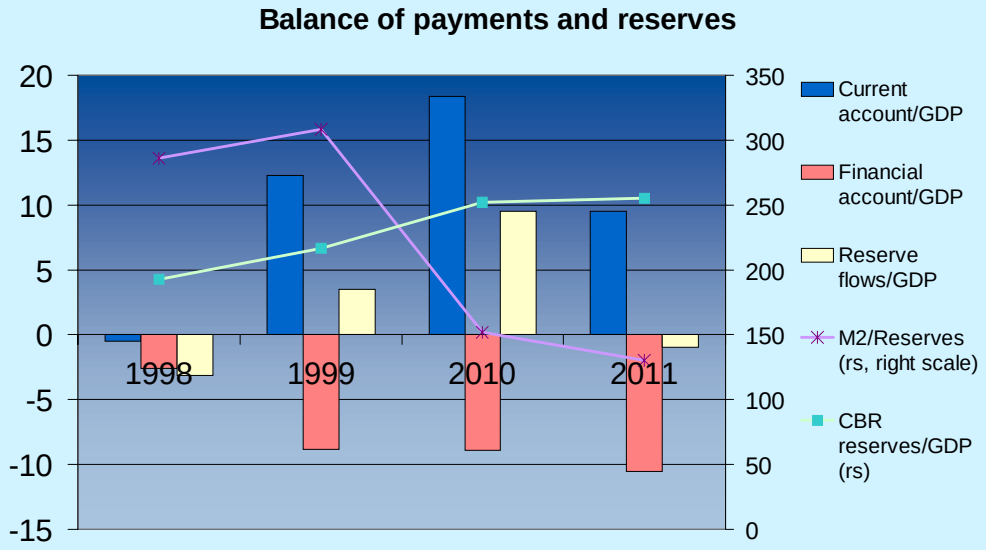
When looking at the factors accounting for the persistence of Russian inflation, one should start with the effect of the August 1998 currency crisis, after which price developments reflected a pattern very similar to a typical crisis hit economy. Prices jumped immediately after the devaluation, following the sizeable depreciation of the Ruble. After the exchange rate was stabilized, fiscal policy became restrictive and depreciation resulted in positive supply-side output response, inflation started to decelerate in 1999 and in 2000. But after rapid disinflation, price increases stabilized at an average monthly rate of 1,5% since mid 1999 and this resulted in a sizeable slowdown of disinflation.

The persistence of Russian inflation can be explained by the simultaneous effect of structural and macroeconomic factors. The price structure is undergoing rapid changes, reflected primarily in the catch-up of services prices. One source of this increase is linked to price liberalization and upward adjustment of regulated prices, which accelerated recently but is far from being complete. Price increases also reflect the slow pace of reforms in public utilities sector. Finally, the changes in price structure reflect the differences in price increases in non-tradable and tradable sectors, driven both by supply (productivity differences) and demand (changes in consumption structures and preferences) side factors.

Among macroeconomic factors key role is played by balance of payments developments and by the monetary effects of reserve accumulation by the Central Bank of Russia. Thanks to favorable terms of trade changes Russia experienced huge current account surplus in 1999-2001, averaging 13,5% of GDP and peaking 18,5% in 2000. As current account surplus exceeded capital and financial

account deficits, this tripled the reserves of the central bank. Reserve accumulation was however accompanied by the increase of money supply as central bank could not sterilize fully the monetary consequences of reserve inflow.

Chart 32.



The inability to pursue effective sterilization is connected to the aftermath of the August 1998 crisis, as it was followed by the collapse of government securities market, decline of the already low level of financial intermediation, lack of appropriate capital markets instruments. As a result, money supply increased in nominal terms in 2000 by 62,5% and in 2001 by 38,9%, meaning an almost 17% real money supply growth in the latter year. While the increase of money supply has been partly linked to rapid output growth, it was excessive and contributed to the maintenance of moderate inflation rate.

The rapid increase of real wages and incomes had similar to the growth of money supply effect on inflation: real wages in 2001 have increased by 4,5%. Within the macroeconomic policy mix there were two factors that mitigated price increases in 2001, similar to 2000. One of them was the restrictive fiscal policy, which showed sizeable surpluses in 2000-2001 after many years of deficit, thanks to the positive effect on revenues of rapid growth and improving terms of trade. The other one was the evolution of nominal exchange rate, which depreciated less than expected, mostly due to reserve inflows. But these two factors could only partially neutralize the strong inflationary effects of monetary and incomes developments.

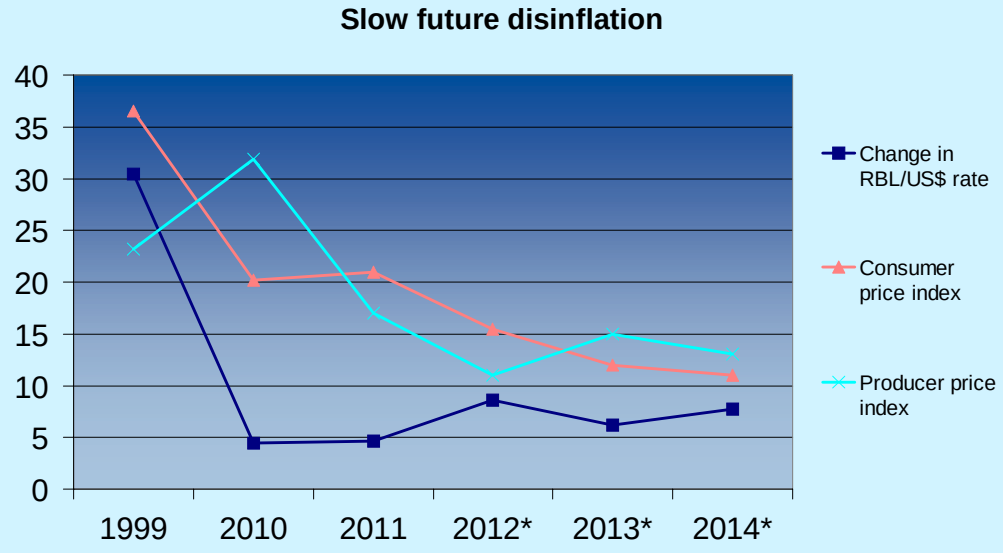
Concerning the short- and medium-term outlook for price changes one may expect that there will

be only a gradual decline in inflation, while there is a change in the relative weight of factors contributing to inflation. One important source of price pressures is related to the changes in price structures. This is partly related to the increase of regulated prices, which continues in 2002-2003 and will add significant momentum to overall inflation. Another source of inflation is linked to the emerging Balassa-Samuelson effect, which also leads to changes in relative price structures. Besides changes in price structure, inflation will also be driven by relatively rapid growth of wages and incomes, both in the public and corporate sectors.

The effect of current account surplus and of monetary consequences of reserve inflows on inflation may weaken in the short-run, as smaller trade and current account surpluses are expected. Also it is not likely that Russia will experience capital inflows in size similar to the period before the currency collapse of August 1998. On the other hand, weaker current account position and slower growth may have an indirect effect on inflation via the likely depreciation of the Ruble. As can be seen from the chart, it is expected that the Ruble will depreciate more against the dollar and also in effective exchange rate terms than it happened recently. This may have some inflationary effects, as imports correspond to more than 25% of the Russian GDP.

Fiscal policy and fiscal deficit will play a minor role in inflation in the future compared to recent years: while fiscal balances may worsen in the coming years due to the only partial substitution of windfall revenues with regular tax ones, general government will be in balance and will not have strong effects on price changes.

Chart 33.



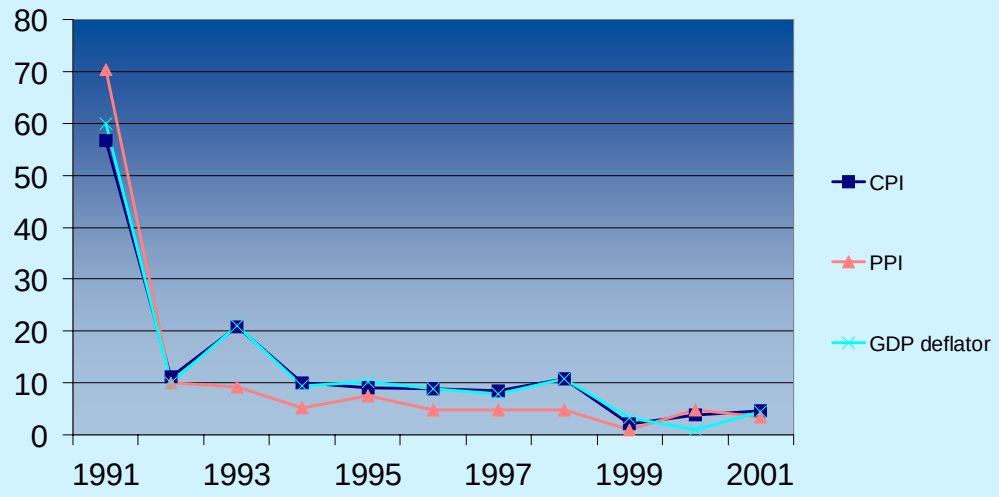
Summarizing the factors that contribute to inflation it may be stated that altogether it is very likely that consumer price index will decline very slowly, while there may be a temporary reversal in producer price inflation due to the increase in production costs and price of raw materials. Therefore neither the producer, nor the consumer price index is likely to fall to one digit level before 2005.

ANNEX III. INFLATION IN THE CZECH REPUBLIC

The Czech Republic is one of transition economies that succeeded in reducing inflation rapidly and maintaining it at low level following the initial transition related price jumps. The Czech economy was one of the most closed, regulated ones at the beginning of transition, which required sweeping price and foreign trade liberalization, almost 100 % devaluation resulting in a 56% consumer prices increase in 1991. This one-time price jump was well managed, as the initial macroeconomic conditions were better most transition economies and because the exchange rate was pegged, providing a stable anchor for monetary policy. Therefore price liberalization didn't spill-over to continuous price increases and inflation fell back in 1992 to slightly above 10%.

Chart 34.

The evolution of price indices (%, annual average)



Following the initial liberalization and devaluation period, inflation stabilized at upper low levels, varying around 10 % between 1992 and 1997. The only exception was 1993, when changes in indirect taxes and liberalization of regulated prices pushed inflation once again above 20%. But between 1992 and 1997 the average increase of consumer price index was 11,1%, while of producer price 6,8%.

Several factors contributed to this good inflation performance. One of them was the monetary and exchange rate regime: the pegged exchange rate was a strong channel for disinflation, due to openness and strength of the exchange rate channel. While the real exchange rate appreciated sharply, and price and costs competitiveness worsened, reflected in significant increase of current account deficit, the

pegged exchange rate was maintained thanks to significant net foreign capital inflows, financing current account deficit.

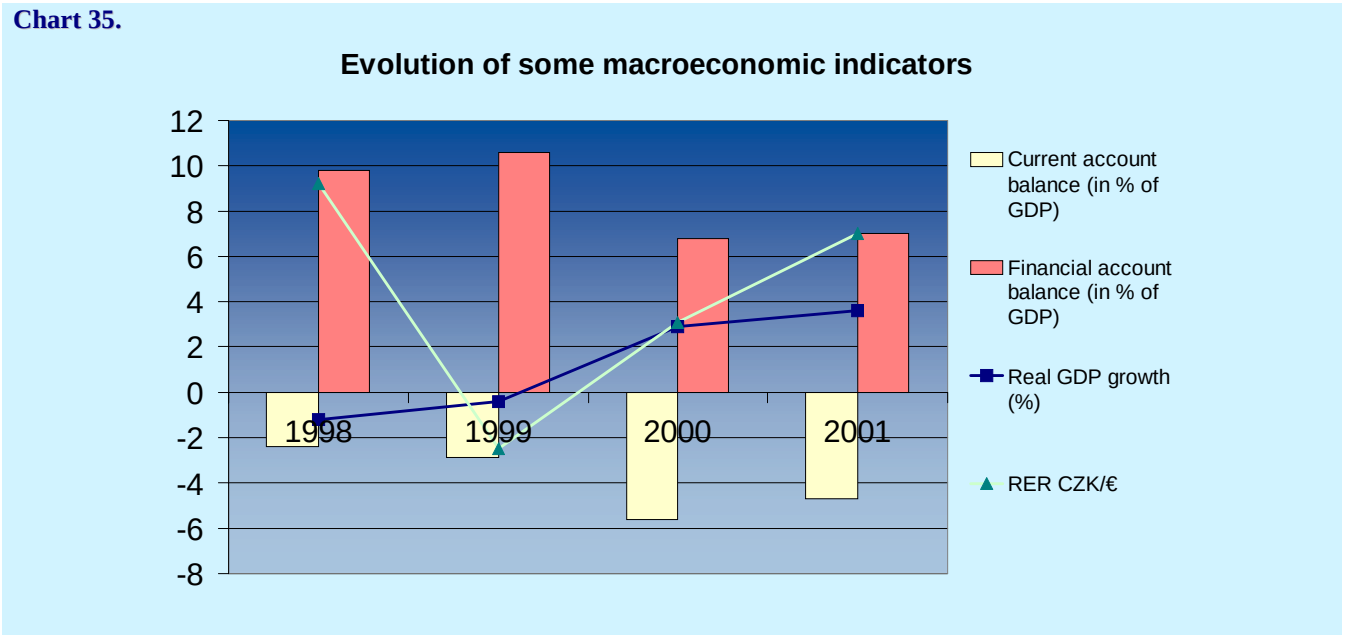
The pegged exchange rate was combined with tight monetary and prudent fiscal policies. Restrictive monetary policies were effective at this time due to incomplete (thought much bigger than in other transition economies) level of capital account liberalization and lack of the Holly Trinity problem. On the other hand fiscal policies were conservative, reflected in low and stable deficits, in continuous decline of public redistribution and public debt until 1997. Fiscal prudence reflected however also the lack of those structural reforms, that have resulted in other transition economies in significant real and financial costs (rise in unemployment, banking sector consolidation, etc.) and worsening fiscal balances.

The final factor contributing to low inflation was the gradual approach in price liberalization, which followed the initial very rapid rise in the share of liberalized prices. Gradual price liberalization helped in shifting the structure of relative prices, but did not spill over to permanent price increases and helped to contain inflationary pressures.

As in many other elements of economic policy and macroeconomic developments, the currency crisis of May 1997 brought a change in the pattern of inflation. Similarly to other economies experiencing currency crash, the Czech economy didn't witness high levels of exchange rate pass-through: the 27% depreciation of national currency against the US $ was accompanied by the decline of average and only a slight increase of the year-end inflation rate. The reasons of the low pass-through have been the significant slow-down of the economy in the year of the currency crash (GDP growth of 3,8% in 1996 was followed by its virtual stagnation in 1997 (+0,3%) and decline in 1998 (-2,3%)), which reduced the scope for price increases. On the other hand, the central bank allowed the national currency to float and it went through a typical overshooting cycle, as initial depreciation was followed by subsequent appreciation.

Moreover, the crisis was followed by restrictive monetary policy and credit crunch in the banking sector, which significantly constrained price increases. Finally, wage increases and other cost-push elements of inflation were moderated by accelerating structural reforms (deregulation, increase of corporate and banking sector financial discipline), which resulted in a jump in the rate of unemployment.

Chart 35.



While exchange rate pass through was moderate and inflation increased slightly, the central bank shifted its policy stance from the earlier exchange rate to inflation targeting. The new monetary framework (which targeted net inflation, with a band around the central rate) served to express the long-term inflation commitment of the central bank, and replaced the pegged exchange rate as the main nominal anchor. While the initial outcome with the new regime was far from perfect (as inflation targets were missed, credibility and transparency was imperfect), the central bank succeeded in reducing the rate of inflation sizably. This was due to favorable exogenous shocks (declining oil prices and improving terms of trades in 1999) and slow-down and decline of output following the currency crash and acceleration of structural reforms, as well as renewed stability and continued nominal strength of national currency due to the increasing capital inflows.

In the following two years inflation was heavily influenced by exogenous developments, mainly changes in terms of trade (and especially oil prices). Besides them the reviving economic activity and the rapid increase in domestic demand contributed to inflation. On the other hand the central bank managed to stabilize the rate of inflation at low levels, and it was mainly driven by the undergoing changes in the structure of relative prices. These changes reflected continued price liberalization, which shifted upwards the prices of several products and services. A new factor behind both shifts in the price structure and inflation have been productivity differences, as the restructuring led to rapid increase in productivity in tradable sector far outpacing the non-tradable one. The Balassa-Samuelson-effect has been among the increasingly important elements explaining inflation and inflation

differentials vis-à-vis the advanced economies.

Recent figures indicate that inflation in the Czech Republic is running at a lower level than anticipated earlier. In the fourth quarter of 2001, favorable external developments shifted inflation down and thus the December net inflation result of 2.4% was within the target range of 2%–4% set for the year-end. This was followed by an adjustment in the CNB's inflation targeting system: as from the beginning of 2002, the CNB's inflation target is not a year-end target range, but a continuous band. Besides that, since April 2001 the CNB targets CPI inflation as opposed to the previously targeted net inflation, which increases the transparency of targets, while makes monetary policy more reliant on fiscal measures.

The inflation decline in recent months was due mainly to disinflationary cost factors, consistent with the overall tendency of the Czech inflation shifting from cost-push to demand-pull. These factors included a gradual slowdown in annual oil price inflation and other raw materials, appreciation of the Koruna against the Euro and the dollar, and weakening of cost pressures on food prices. Among the external factors, oil prices have been and are expected to remain relatively low over the next two years.

The course of the Koruna is also an important external inflation factor. The appreciation of the nominal effective exchange rate driven by the inflow of FDI in 2000 and 2001 had anti-inflationary effects and the strong currency still accounts for much of the decline in inflation. However, the rate of nominal appreciation recorded at the end of 2001 was inconsistent with competitiveness and the inflation target itself and thus the CNB, in co-operation with the Government, adopted some measures to counter the excessive appreciation. In October the CNB responded to the sharp appreciation by intervening on the foreign exchange market and lowering interest rates.

Out of domestic factors, consumer price inflation was restrained by a gradual weakening of the annual growth in agricultural producer prices, which changed into a sharp decline at the end of last year. Following a period of major growth in agricultural producer prices in 2001, when prices of some primary agricultural commodities had almost reached EU levels, prices first stopped growing and then even recorded a gradual year-on-year decline. This trend should change into a year-on-year decline of up to 6% by the end of 2002.

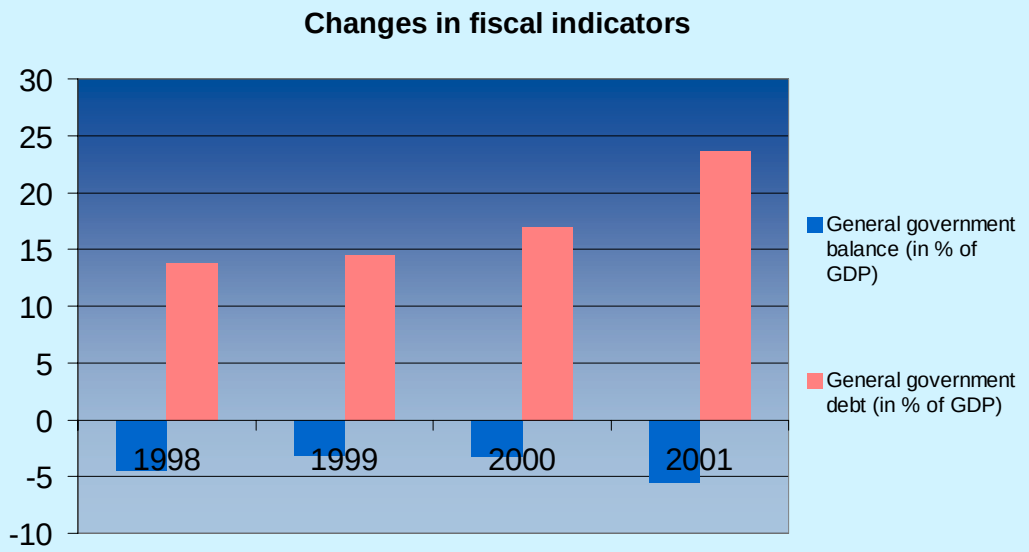
There is little inflation pressure on the supply side. The declaration of wage targets by trade unions for 2002 and the process of wage bargaining have signaled restraint on the part of trade unions. Nevertheless, given the expected whole-economy labor productivity growth of 3%–3.5%, the declared

average wage growth of around 8% in 2002 may lead to an annual rise in unit wage costs of 4.5%–5%. Under favorable for inflation external factors, the difference between unit wage cost growth and inflation should not substantially modify price increases.

The expected GDP trend should generate no major inflationary pressures overall. In 2002 the rate of economic growth is likely to be lower than in 2001, but in 2003 it is expected to be higher. Money supply growth rate, in line with the expected growth in gross domestic product, should be lower in 2002 and higher in 2003. Foreign capital inflows will continue to be the most important source of money supply growth, however, lending will also have a steadily rising influence.

Regulated prices in 2002 were most affected by rises in electricity and gas prices and rents. The changes in regulated prices at the end of 2002 and in 2003 are difficult to predict and election outcome should influence fiscal policy too. In the area of indirect taxes, no changes are expected until the Czech Republic enters the EU.

Chart 36.



Public finances continue to present the most serious medium-term risk to the stability of the Czech economy. Although the state budget approved for 2002 implies a lower deficit than in 2001, budget deficit as a whole is likely to widen. The CNB foresees modest growth in public debt in the years to come: an increase of 1.5 percentage points from around 24% of the GDP was recorded last year.