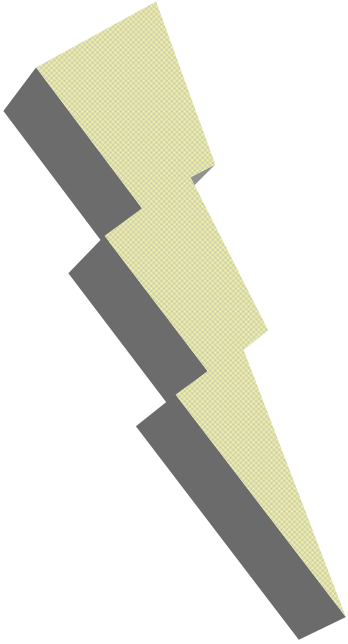

The Czech Approach to Inflation Targeting

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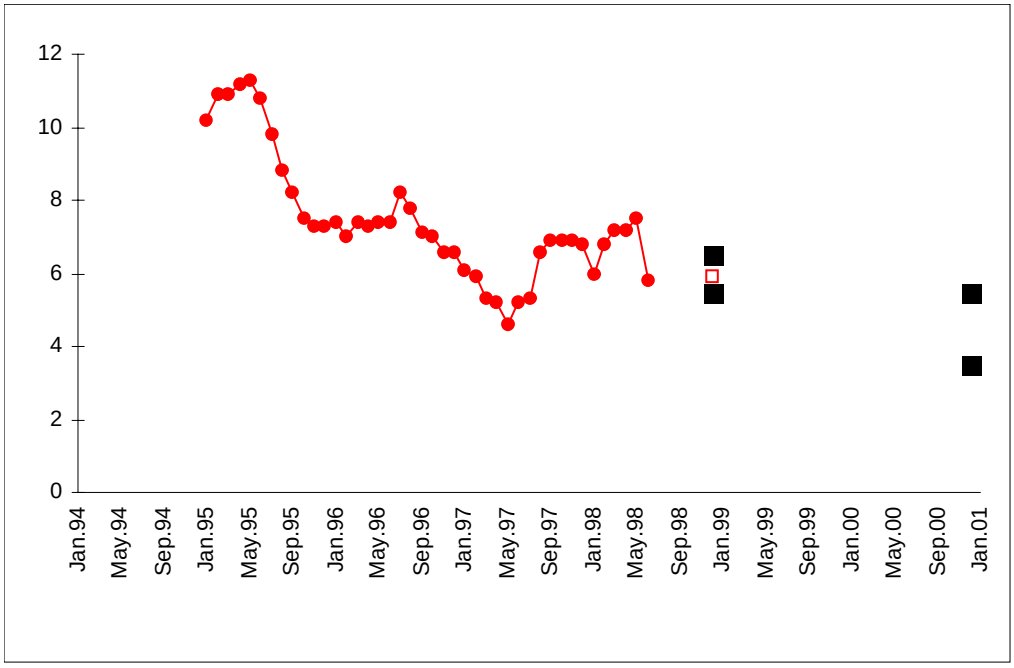
[1] We would like to thank Dana Rottová for her technical support during this project.

1 Introducing Inflation Targeting

In December 1997, the CNB announced that it would switch to inflation targeting. After eight years of relying on intermediate targets, this represented an historic change in the strategy of monetary policy. It is worth noting that price stability has always been the ultimate target of Czech monetary policy.

However, there were different strategies applied to reaching this long-term target. In the framework of inflation targeting, the inflation targets have been explicitly specified in terms of *net inflation* derived from CPI inflation for two time horizons: net inflation to be 6% ±0.5% by the end of 1998 and 4.5% ±1% by the end of the year 2000.

Graph 1 – Inflation Targets Announced in 1997



Note: The historical series of net inflation was calculated backwards in 1997 for the purposes of inflation targeting by the Czech Statistical Office for the period of 1995–1997. The CNB expects that net inflation will be close to the lower edge of the targeted interval by the end of 1998.

1.1 A Short History

The stability of the Czech koruna has been the ultimate monetary policy target of the CNB according to bank law since the very beginning of the bank's existence[2]. In 1993, the Czech Republic had reached the halfway mark in the transitional process and in the process of disinflation. As a consequence, it was necessary to derive the strategy of monetary policy from some concept of medium-term stability. During 1993–1997, before switching to inflation targeting, the CNB had used three strategies. All three were based on working with intermediate targets and were to a significant extent affected by the transitional process.

For example, instruments were being changed quite often as financial markets progressed from an embryonic stage of development to more advanced stages.

The first strategy was used in 1993–1995. The koruna was pegged to a basket of currencies, and the money supply was used as a complementary intermediate target. Each year, the targeted interval was announced for money supply annual growth together with a forecast of CPI inflation that was projected in accordance with both intermediate targets. Table 1 shows that in these years, the CNB was aiming at slow disinflation.

Table 1. Targets and Inflation Forecasts: 1993–1997

	Forecast of CPI Inflation (in %)	Intermediate Target: Money Supply Growth (in %)	Intermediate Target: Exchange Rate Peg	Operational Targets/ Instruments
1993	15 (18)	complementary 16 ±1 (21)	”92” peg band 0.5%	Monetary base
1994	10 (10)	complementary 13.5 ±1.5 (22)	”92” peg band 0.5%	Free reserves
1995	9 (9)	complementary 15.5 ±1.5 (19)	”92” peg band 0.75%	Free reserves with over-writing rule
1996	9 (9)	15 ±2 (8)	”92” peg band 7.5%	Short-term rates REPO rate
1997	8 (9)	10 ±2 (10)	”92” peg band 7.5% May: koruna floats	Short-term rates REPO rate

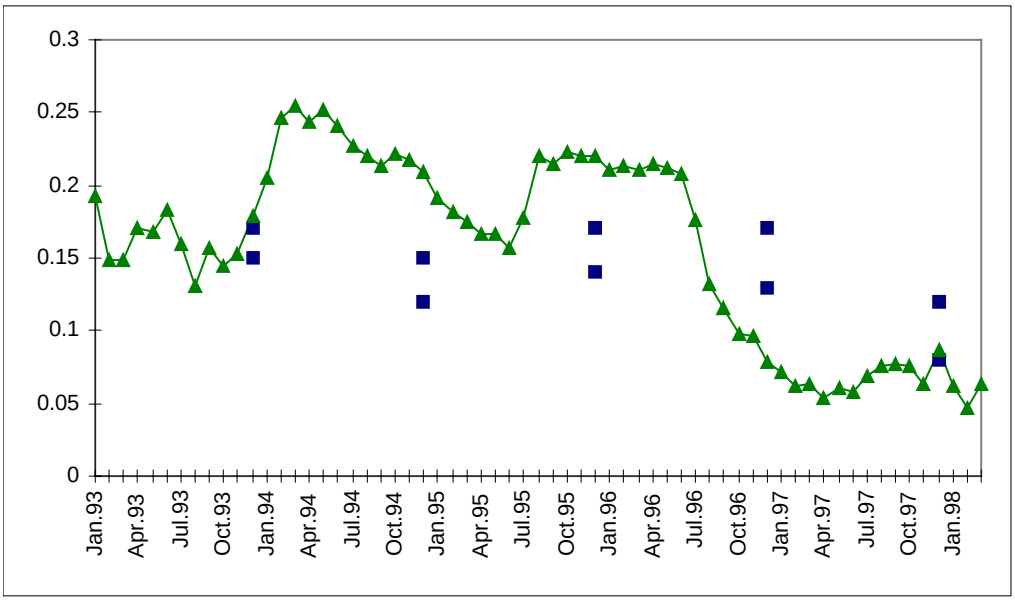
Note: The overview of intermediate, operational targets/instruments and inflation forecasts is based on Annual Reports by the CNB and the annual monetary documents prepared for each year in December of the previous year. Although some targets were modified during the year, we do not report the modifications here for the sake of simplicity. For example, in 1994 due to capital inflow, the target for money supply growth was modified upwards, but the growth exceeded the upper limit. The actual values of respective variables are in parentheses. The actual CPI inflation deviated from the forecast in two periods when monetary policy decisions were subject to transitional uncertainty. In 1993, the VAT reform was an exogenous shock with the impact on CPI inflation higher than anticipated. In 1997, exchange rate turbulence and subsequent exchange rate depreciation were the causes of deviation.

[2] As a consequence of the dissolution of Czechoslovakia, the Czech National Bank was established on January 1, 1993 and became the successor to the State Bank of Czechoslovakia.

In the first years of transition, the pegged exchange rate provided a nominal anchor for the Czech economy and was a key intermediate target for the CNB. Due to the low degree of koruna convertibility, it was possible to work with the money supply as well. This complementary intermediate target was important since due to embryonic financial markets, the only available operational targets were quantitative ones. Also, the target for money supply had its important signalling role, because the credit limits were characteristic features of the previous stages of transition.

In the period of 1993–1995, two operational targets were used simultaneously (monetary base, free reserves), and these targets were compatible with money supply targeting. The main reason for working with volume targets was that the financial markets were in an embryonic stage of development and were too thin to give reliable information on prices. In 1995, when markets became more advanced, the combined operational target was used for free reserves with the over-writing rule for maximum value of the short-term money market rate. The strategy of monetary policy was changed for the first time in 1996. As a response to large capital inflows, financial market developments and liberalisation of capital account transactions, the relative importance of intermediate targets was altered. The koruna was still pegged to a basket, but bands were much wider, and intervention on the foreign exchange market became rare. The target for money supply growth gained significance due to increased autonomy. Graphs 2 and 3 demonstrate the switch in importance of the two intermediate targets.

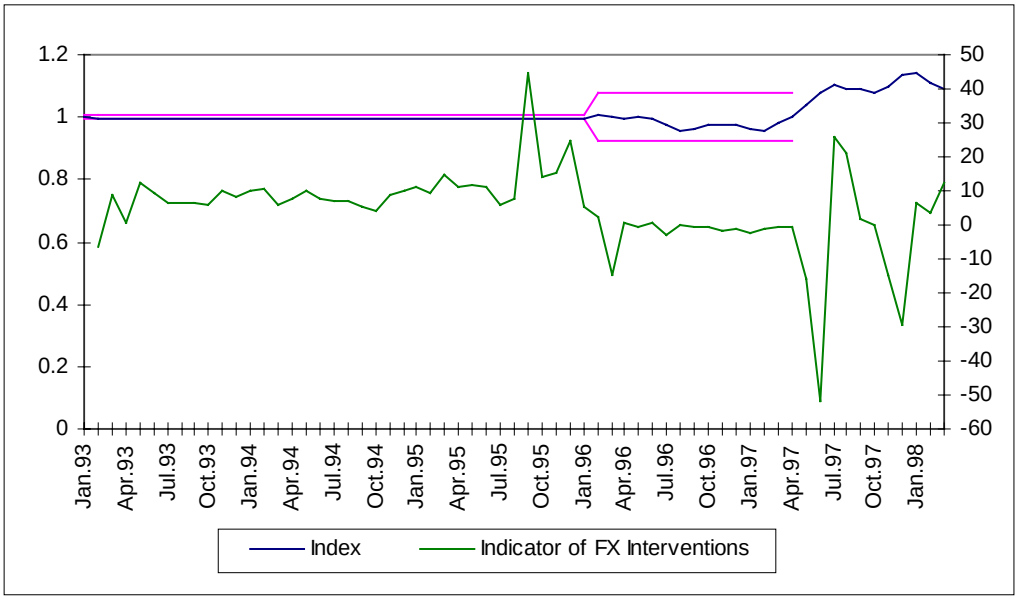
Graph 2 – Intermediate Targets: Money Supply



Note: Annual growth of M2 (in %) is compared to announced intervals for the end of each year in 1993–1997.

The general framework of monetary policy remained the same. For each year, the targeted interval was announced for money supply annual growth together with a forecast of CPI inflation that was projected in accordance with both intermediate targets (See Table 1). Similarly to the period of 1993–1995, the choice of operational targets was mainly determined by the stage of financial market development. In 1996, the short-term rates became an operational target of monetary policy with the repo rate being the instrument.

Graph 3 – Intermediate Targets: Exchange Rate



Note: On the left axis, the exchange rate bands and index are scaled. The bands were abandoned in May 1997. The indicator of foreign exchange rate intervention is scaled on the right axis (billion koruna).

The second change in the strategy of monetary policy before introducing inflation targeting came in May 1997. After exchange rate turbulence[3], the CNB let the koruna float. Hence, the second half of 1997 was a period of "pure" monetary targeting since the target for growth of M2 was not modified and had been reached by the end of the year (See Graph 2). The short-term rates remained the operational target for monetary policy although three months after the attack on the koruna, interest rate levels were predetermined by the strategy of landing.

1.2 Reasons for Introducing the New Strategy

The Bank Board's decision to switch to inflation targeting, announced on December 21, 1997, was the result of an intensive program of studies and discussions within the bank. This program was launched with the aim of overcoming ambiguity in the focus of monetary policy since the discontinuation of the pegged exchange rate regime and the shift to

[3] For more information on the May exchange rate turbulence, see the special working paper *"Koruna Exchange Rate Turbulence in May 1997" Šmídková, Kateřina et al.* We can mention briefly here the main reasons for the turbulence. There were growing internal and external imbalances. Although monetary restriction in mid-1996 was quite significant, it was not sufficiently backed by corresponding fiscal and wage policies. In May, various impulses such as the Asian crisis and domestic political instability triggered an attack on the koruna that was followed by resident panic. After a few days of defending the bands, the CNB and the government let the koruna float.

managed floating at the end of May 1997 left the central bank without a transparent nominal anchor for its policy. Arguments in favour of the adopted decision are explained in the following paragraphs.

Firstly, the key issue has become the challenge of securing effective control over the formation of inflation expectations. Though the Czech Republic was the first transition economy in the region to achieve one-digit inflation in terms of CPI in 1994, some inflation inertia prevailed, and CPI inflation has fluctuated around 9 – 10% since then. Moreover, in late 1997 a new inflation episode had begun to develop. The outlook for the first months of 1998 signalled the acceleration of inflation well above one-digit levels for the first time since 1994.

In the aftermath of exchange rate turbulence, not only did the economy lose its nominal exchange rate anchor of the past eight years, but the experience suggested that the previous strategies were not effective enough to reduce inflation expectations in the changing conditions of the successive transitional stages. In particular, the wage negotiations continued to be based on a double-digit assumption[4] despite the fact that the koruna was pegged to the basket of DEM and USD with no change in central parity up until May 1997. The parallel intermediary target, the money supply in terms of M2, was also met in 1997. The conclusion followed that those frameworks were not capable nor credible enough to affect the expectations, and therefore, could not secure the continuation of the disinflation process.

The strategy of inflation targeting offered an attractive alternative. Unlike previous non-binding annual forecasts, inflation targeting implies the unambiguous declaration of the disinflationary path and explicit quantitative targets of the disinflation process as a public commitment of the CNB. Disinflation became not only a prime objective, but also a direct objective of monetary policy. Accordingly, economic agents were provided with a new medium-term nominal anchor on which they could base their expectations and decision-making processes. This new nominal anchor also supplied economic agents with a longer time horizon than annual forecasts. Moreover, given the solid reputation of the CNB and its independence, this anchor was likely to be more credible than the previous forecasts.

Secondly, the intermediary targets, i.e. the pegged exchange rate and monetary aggregates showed increased inconsistency with the underlying conditions of an advanced stage of financial openness. In its relatively flexible version of a horizontal band of ±7.5%, though, the pegged exchange rate regime proved to be non-sustainable and lost credibility during the exchange rate turbulence in May 1997. The option to reintroduce this peg seemed therefore entirely unfeasible, especially due to two features: (i) the open capital account and liberalised financial markets made massive capital flows possible (both inflows and outflows) which started to dominate exchange rate developments especially in the short run, and (ii) the process of relative price adjustments especially in the segment of still administered prices, such as energy prices for households, rents, transport tariffs and utility prices, was targeted to continue in the forthcoming period.

Accordingly, the option of importing low inflation from abroad via the pegged exchange rate regime could not be expected to be sustainable. The risk of large external imbalances parallel to the developments of 1996 and 1997 would be rather high. The managed float alternative, on the other hand, provided for the flexibility of timely, smooth corrections. In the case of increasing major imbalances, the exchange rate movements would signal inconsistency in the policies. The flexible

[4] In 1993, growth of average nominal wage was 25%, in 1994 17%, 1995 18%, 1996 14% and 1997 12%.

character of the exchange rate arrangement was necessary in a regime of inflation targeting.

As for monetary aggregates and the monetary transmission mechanism, the previous experience had revealed some limitations and weaknesses. The links between money supply (M2) and price developments (CPI inflation) as well as between the intermediate target (M2) and controlled interest rates (REPO rates) did not prove to be predictable nor sufficiently stable. In addition to the constraints observed elsewhere, the conditions of an economy in transition made their application even less reliable. This was due, in particular, to (i) a sequence of price shocks related to transition (corrections of administered prices, tax reforms) which distorted the link between the money supply and price developments, (ii) the institutional features of financial markets going through profound changes within a relatively short time span. This refers also to the operational targets and instruments of monetary policy. In principle, monetary transmission switched from quantities to prices, and (iii) the emergence of new financial assets, as well as new types of transactions and new market players making the demand for money function very unstable. The behaviour of commercial banks, for example, was subject to far-reaching changes in their regulation, in the impact of privatisation as well as in the macroeconomic environment.

Consequently, monetary targeting itself could hardly secure a reliable basis for the medium-term disinflation strategy. Inflation targeting, on the other hand, provided a framework integrating a number of relevant economic indicators (including money supply as an important one). The common focus and the organising criterion for their assessment contributed to the final goal of disinflation.

Thirdly, inflation targeting has provided a scheme for filtering out exogenous price shocks from "standard" inflationary pressures. The adopted concept of net inflation excluded regulated or administered prices as well as the effects of indirect taxes on the prices of the remaining goods and services. Accordingly, net inflation allowed monetary policy to accommodate the primary inflation impulses of transitional shocks such as corrections of administered prices. On the other hand, this framework allowed the central bank to react to their secondary inflationary effects and to prevent a spillover to price level increases.

1. 3 Implementation

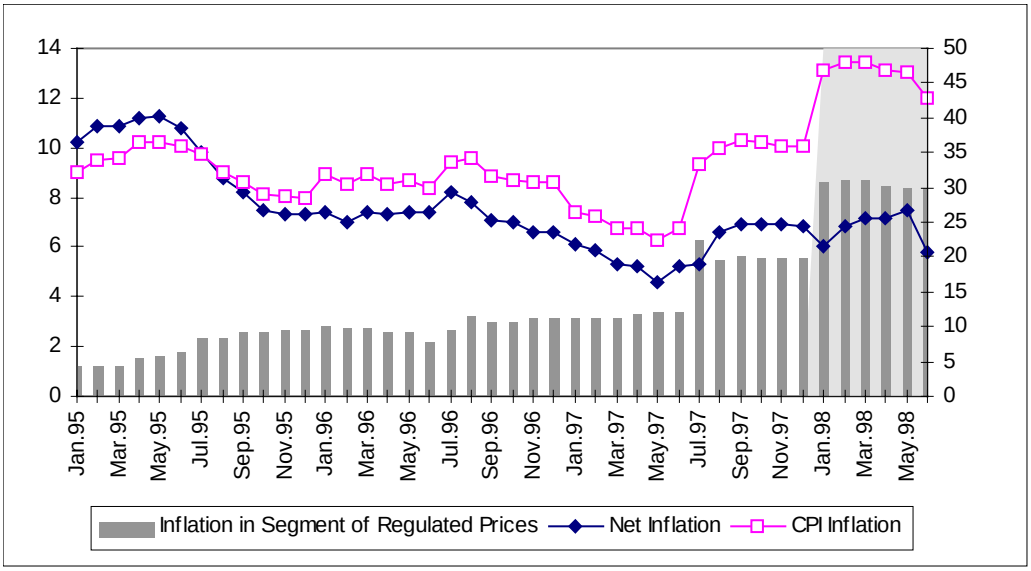
In December 1997, the CNB defined its inflation targets in terms of *net inflation* with the aim of excluding transitional price shocks such as price corrections (sometimes also called price deregulation) and changes in taxes. The net inflation index was calculated backwards for the purposes of inflation targeting by the Czech Statistical Office. The consumer basket defined for the purposes of the CPI was adjusted for items with regulated prices and prices affected by other administrative measures. According to this definition, the net inflation index represents approximately 82% of the consumer price index (it covers 663 of the 754 price items).

The list of items excluded from the total consumer price index was as follows: (i) prices regulated by the Ministry of Finance (e.g. electricity) and prices regulated by local authorities (e.g. taxis) - weight in CPI, 7.4%, (ii) items with semi-regulated prices (e.g. postal service) - weight in CPI, 6% (iii) fees (e.g. TV and radio fees) - weight in CPI, 4.4%. It is worth noting that the index of net inflation can change from year to year due to this definition if there is a change in government strategy. For example, in 1997 taxis became a sector regulated by local authorities. Hence, the prices of taxis were excluded from the net inflation index.

In the next step, the growth rate was calculated for this reduced index and the inflation rate was modified in order to exclude the impact of

changes in indirect taxes (e.g. tobacco tax) or the impact of changes in subsidies. This means that items whose prices change due to tax changes remained a part of the net inflation index, however, the influence of tax changes was eliminated from net inflation. Graph 4 shows the values of three inflation indicators – net inflation, CPI inflation and inflation in the segment of regulated prices. Data for the period of 1995-1997 were available at the time of introducing inflation targeting. It is interesting to note that the pattern of dynamics had changed quite dramatically over time. In 1995, net inflation exceeded CPI inflation due to nearly zero price corrections. On the contrary, the weight of price corrections in CPI inflation was exceptional in the second half of 1997, therefore causing CPI inflation to exceed net inflation.

Graph 4 – Inflation Indicators: 1995–July 1998



Note: Net inflation and CPI inflation are scaled on the left axis (%). Inflation in the segment of regulated prices is a complementary indicator to net inflation with respect to CPI inflation. This is scaled on the right axis. The shaded area shows information which was not available at the time of introducing inflation targeting.

When introducing inflation targeting, the CNB worked with two time horizons. It was not possible to announce a target only in the form of the defined price stability (e.g. 2% inflation with 1% bands) since the economy was on its disinflationary path. Hence, the "key" target was announced for the medium-term: net inflation 3.5–5.5% by the end of 2000. The centre of the targeted interval was specified to guarantee the convergence of net inflation to European inflation before the Czech Republic's entry into the EU. The three year horizon reflected time lags in monetary transmission. The short-term target was announced for the end of 1998: net inflation 5.5–6.5%. This was declared as an "orientation target" that was derived from the medium-term disinflation trajectory. It provided a nominal anchor for economic contracts, the horizon of which usually did not exceed one year. These contracts were linked to previously published annual inflation forecasts.

During the first months of inflation targeting, the CNB explained the strategy of its decision-making process at several press conferences and also via press releases. It has been declared that achieving the net inflation targets will be the ultimate criterion for monetary policy decisions. Decisions will be taken on an ex ante basis when analysing the conditional inflation outlooks and comparing them to targeted intervals. The methods of obtaining inflation outlooks

have been described. The CNB would evaluate both sets of economic indicators[5] as well as rely on model simulations. The following decision scheme was specified: should the inflation outlook deviate from the inflation target, an adjustment of the operational target (repo rate) will be considered.

Inflation targeting has been reflected in the CNB's approach to the general public. In order to increase transparency, the CNB has started publicising the minutes of the board meetings on internet two weeks after a meeting is held with a fairly detailed description of the discussion as well as the reasoning behind monetary policy decisions. At the end of the quarter, the CNB started producing inflation reports that focus on price and monetary developments, inform about real economy and external sector developments and include an inflation outlook together with an explanation of monetary measures.

2 The Decision-Making Process: January–July 1998

Let us now describe the decision-making process in the first seven months of inflation targeting in the Czech Republic. Following this, we will summarise some important features of the process. Our source of information has been the Minutes of the Board Meetings on monetary policy issues. The minutes are officially publicised each month, two weeks after the meeting is held.

In January 1998, the repo rate was left unchanged. During the first month of inflation targeting, the majority of available information was from December. Despite numerous uncertainties, the inflation outlook was in compliance with the inflation target for the end of 1998. However, a high trade deficit in December and the consequences of the Asian crisis were viewed as a potential impulse for weakening the exchange rate. Also, the January price deregulation together with the expected consequences of regular January re-pricing increased the probability that the inflation outlook would be closer to the upper limit of the targeted interval. It was evident that in the first months of 1998, net inflation would increase due to past developments.

In February, the repo rate was again unchanged. However, this time there were two alternatives considered (the other being to raise the repo rate). On the one hand, in this month, the inflation outlook started signalling that net inflation would be in the upper part of the targeted interval by the end of 1998. On the other, an agreement was reached that the decision on raising the repo rate should not be based on the unexpectedly high month-on-month increase in prices. The inflation outlook was modified upwards due to the previously underestimated scope of both the January re-pricing effect and the impact of deregulation on net inflation. An implication for future monetary policy decisions was that inflation expectations should be considered as a very important transmission channel and that there could be increased probability of their acceleration.

In March, by a majority vote, the repo rate was increased by 0.25% to 15%. The newly available February data on inflation confirmed that the risks of higher inflation in the future might outweigh the favourable trends in the economy. Various price indices signalled that without an adequate policy

[5] A set of indicators is formulated in such a way as to cover the main components of inflationary influences, i.e. demand and cost factors, as well as factors related to inflation expectations. The set of indicators includes: specific consumer price indices which cover various items of inflation and indicate inflation expectations; producer price indices indicating cost-related inflationary pressure; exchange rate indices; a complex of indicators characterising monetary development, specifically monetary aggregates and interest rates; a group of indicators expressing the mutual relationship between supply and demand (from which it will be possible to derive demand pressures); indicators of labour market and wage development.

response, net inflation might exceed the upper limit of the targeted interval in December 1998. Moreover, the available CPI forecasts for the end of 1998 (announced by various institutions) suggested that targeted net inflation should be in the middle of this interval rather than approaching its upper band in order to compensate for the higher than expected CPI inflation. The hypothesis of the potential for accelerating expectations formulated during a previous meeting was confirmed by the upward slope of the interest yield curve. According to the slope, inflation expectations exceeded the targeted values. It was said during the discussion that, although the observed exchange rate development supported a gradual reduction in inflation, it would not be desirable to shift the weight of the monetary transmission mechanism from an interest rate channel to an exchange rate channel. Consequently, the modest repo rate increase was mainly designed to affect the economy via the expectation channel.

In April, the repo rate remained unchanged. The inflation outlook for net inflation at the end of 1998 had moved back to the targeted interval. There was new information on the reduction of annualised trade and current account deficits as well as the closing of the gap between productivity and wage increases that was accompanied with the appreciation of the koruna. Also, imported deflation of input prices was reflected in domestic inflation development. At the same time, inflation expectations started decelerating.

In May, the repo rate had again remained unchanged. Similarly to the previous month, the newly available information was favourable. The inflation outlook was in accordance with the targeted interval for the end of 1998. However, it was agreed that to some extent this was the result of external factors. Firstly, the part of slower inflation was imported via input prices (mainly raw materials) that were purely exogenous. Secondly, the situation on both domestic and international financial markets caused the koruna to appreciate. On the one hand, this was partially an endogenous process linked to improving the domestic economic fundamentals. On the other hand, this was a consequence of exogenous factors since crises on some emerging markets made the koruna relatively more attractive to foreign investors. Since the above-listed external factors were viewed as temporary, this exogenous slowed-down in inflation was called “borrowed disinflation”.

In July, the repo rate was cut from 15% to 14.5%. According to the inflation outlook, net inflation was likely to be close to the lower band of the targeted interval by the end of 1998. The newly set repo rate was consistent with the medium-term target for 2000. It was stressed that the latest koruna appreciation was not a reason for cutting rates and that the exchange rate would not be directly affected by this monetary policy decision. The economic situation was characterised by a lower risk premium and a fall in inflation expectations. These were likely to slowly decelerate because of “borrowed disinflation”. Also, one of the main factors – the impact of price deregulation – would have a different impact in July from the one in January since the composition of prices that were subject to changes was different and the impact on net inflation would be smaller due to an income effect.

After describing the decision-making process, the main features can then be summarised. First, all decisions were discussed strictly in the framework of inflation targeting. There was no conflict of targets revealed during the discussions. The repo rate’s level was clearly linked to the inflation target and the inflation outlook. When the inflation outlook signalled a deviation of net inflation from the targeted interval at the end of 1998, the repo rate was changed. It is interesting to note that decisions were symmetrical since the repo rate was increased when the outlook signalled overshooting of

the targeted interval and cut when the outlook signalled undershooting.

Secondly, three periods of the introduction of inflation targeting can be identified. Until March, although the economic fundamentals such as the trade deficit or consumption improved, inflation expectations were not in line with the disinflationary path due to the backward-looking approach as well as to the re-pricing effect, the secondary impact of deregulation and increased exchange rate uncertainty. Up until July, the situation stabilised as expectations were formed more by economic fundamentals. Since July, expectations have been on a disinflationary path to some extent due to the impact of external factors.

Thirdly, it is important to note that the time horizon of the decision-making process did not change, because the weight of the targeted interval for the medium-term had increased gradually. At the same time, the uncertainty linked with external factors forming inflation increased. The problem of "borrowed disinflation" that helped in forming inflation expectations gained importance since external factors could be reversed in the medium-term and destabilise expectations once again.

3 Is a Transitional Country a "Good" Inflation Targeter?

The Czech Republic was the first economy in transition to adopt a regime of inflation targeting as the explicit framework for its monetary policy. Two important questions therefore arise. First, in the Czech case, do underlying conditions which still have specific features of transition allow for the effective implementation of inflation targeting? Second, what are the possible reactions to some transitional challenges within the framework of inflation targeting?

3.1 The Necessary Conditions for Effective Implementation

The first important issue is the emphasis that society puts on price and currency stability. If the priority of stability is high, the central bank's strategy as a whole is supported. The Czech experience suggests that the koruna has enjoyed remarkable stability in the course of past developments. After World War I, the currency of the newly formed Czechoslovak Republic was the only one in the region which had avoided hyperinflation. The relatively modest monetary overhang was a favourable feature of the macroeconomic situation also in the post World War II era. And again, since the start of transition, unlike most other countries in the region which sooner or later adjusted their framework to the requirements of external balance and external competitiveness[6], the priority attached to domestic price stability has remained a distinguishing feature of the Czech transitional strategy[7].

The conclusion follows that price and currency stability are highly respected and supported by society, and therefore have been "built into" Czech economic development and policies. This seems to be the underlying factor which is of utmost importance for the feasibility and sustainability of the inflation targeting regime in the Czech case. In situations where acceleration of economic activity and the disinflation process are discussed in terms of a short-run trade-off issue, the arguments of price stability can find public support.

[6] For example, Hungary and Poland used crawling-peg regimes. Under this scheme, the objective of monetary policy is not unambiguous since the process of disinflation can conflict with the external balance.

[7] Two types of nominal anchors were drawn upon in the course of the transition years in order to affect domestic stability. In the initial stages, this was the exchange rate nominal anchor. Despite persistent real appreciation, the koruna peg to the basket was maintained with unchanged central parity and the horizontal band over the whole period of January 1991 to May 1997. In the aftermath of exchange rate turbulence, the priority of domestic stability continued via the adoption of inflation targeting.

The second important factor is the institutional and economic pre-conditions of the inflation targeting regime. The first institutional requirement to be satisfied was evidently the capability of the central bank to conduct its monetary policy with a fairly high degree of independence. This pre-condition for the adoption of inflation targeting was, without a doubt, in place. According to the Constitution and central bank law, the Czech National Bank (CNB) is independent of the government and has sole responsibility for the conduct of monetary policy. And even more importantly, in the course of the entire transition, this independence was put into practice and demonstrated in the domain of both instruments and goals.

The second prerequisite, related to the real independence of the central bank, was fiscal discipline. With extensive public borrowing from the banking system (involving substantial increases in public debt, with shallow financial markets not being able to absorb the placement of debt instruments and high dependence on revenues from seigniorage), monetary policy would not be in a position to secure the meeting of disinflation targets. In this type of situation inflationary pressures of a fiscal origin would develop, the effectiveness of policies for attaining nominal targets would be undermined, and the central bank would be forced to follow an increasingly accommodative monetary policy. In the case of the Czech economy, the principle of a balanced budget policy was followed throughout the past period, and the public sector borrowing requirement remained moderate. Nevertheless, the revealed "hidden debt" of transformation institutions inflated the previous officially declared debt level.

There are other institutional factors that relate to the issue of inflation targeting. Specifically, a certain level in the development of financial markets is required. With a floating exchange rate, there is a need for a well-developed foreign exchange market that is complex enough to cushion the short-term volatility of capital flows. Also, instruments reducing exchange rate uncertainty should be available to economic agents. Moreover, if inflation targeting is introduced before major changes on financial markets take place, extensive structural breaks would make it difficult to create inflation forecasts or outlooks. Last but not least, it is very important that at the initial stage of introducing the strategy, external factors such as import prices do not damage the credibility of the new framework via significant shock. In the Czech case, the external factors sent favourable impulses and helped set inflation expectations on the disinflationary path.

3.2 Inflation Targeting as a Disinflation Strategy

The Czech approach to inflation targeting has been influenced by the necessity to distinguish between the long-term objective in the form of price stability and the medium-term target of disinflation. Obviously, no threshold inflation rate could be defined as a prerequisite for a viable shift to inflation targeting. Nevertheless, the experience from other countries suggested that this regime had not been introduced in times of high or moderate inflation. Moreover, most countries switched to inflation targeting only after inflation was under control and on a decreasing path. As a rule, the CPI index had one-digit values and in the majority of cases, the central bank was faced with the problem of reducing inflation fluctuations rather than the problem of disinflation.

In the Czech case, the inflation level fluctuated around ten per cent[8] with some inertia for several consecutive years. This level, though moderate, was higher than in other countries when shifting to

[8] There were three detectable inflation episodes. In 1993, the inflation impulse was created by the VAT reform. In 1995, the impact of capital inflow on demand started to affect inflation. In 1997, the exchange rate turbulence and the consequent depreciation of the koruna were significant factors in the development of inflation.

inflation targeting. Moreover, an acceleration of the inflation rate was envisaged for the first months of 1998, and market expectations for the future rate of inflation seemed quite unstable with little confidence from the public that the disinflation process would be reinstituted in the foreseeable future.

Under these circumstances, despite an unfavourable outlook or rather, because of that outlook, the CNB Board did not want to wait to take a clear stand on price stability as the main objective of monetary policy. The public commitment to the explicit disinflation target and the related resolute policy stance were aimed at reversing expectations and at reassuring the markets and the public. Given the situation of increased political uncertainty, highlighted by the resignation of the government, the independent central bank commitment to sound, transparent long-term goals seemed to be of utmost importance, irrespective of the potential swings in political power.

The design of inflation targets has reflected the above-analysed problems. In December, the public announcement of switching to inflation targeting reassured the public that monetary policy is devoted to providing price stability. By specifying the two targets for the short-term and medium-term horizon, the CNB also declared that monetary policy will aim at disinflation in a horizon that is relevant for negotiated contracts. This made the objective of price stability more "actual" since previous strategies did not declare any time horizon for reaching the European level of inflation. Hence, the channel of inflation expectations through which monetary policy affects economic decisions has become more efficient. Moreover, the new strategy probably changed as well the mode in which expectations are formed, from an adaptive mode to one that was more forward-looking. This has been a very important achievement. Should wages be negotiated under a strictly backward-looking mode of expectations, the costs of disinflation would be much higher and the risk of reappearance of the external imbalance would increase.

3.3 Transitional Challenges

The Czech experience in the first eight months of inflation targeting revealed two important challenges for policy makers. It has been necessary to deal with transitional shocks to prices and the consequences of having an emerging financial market. Let us describe the problem of price shocks first since it enters both the decision-making process as well as the process of target specification. Countries that are inflation targeters usually deal with the problem of price shocks by modifying the CPI index or by declaring "caveats". Central banks do not commit themselves to influencing CPI inflation as a whole. Both methods are used to distinguish inflation from primary exogenous shocks to prices in order to avoid a counter-productive reaction of monetary policy.

During transition, this problem is more complex since this reform carries with it a sequence of exogenous price shocks such as tax reform or the so-called deregulation scheme in which relative prices in previously regulated sectors are gradually corrected. As a result, there is a trade-off for policy makers. On the one hand, if the CPI index is modified in order to minimise the risk of a counter-productive reaction of monetary policy or the risk of missing the target, it is necessary to add to standard caveats the expected transitional shocks during transition. In this case, the new index used for specification of the target could become irrelevant to economic decisions since the share of excluded categories is high and CPI inflation might diverge from the targeted inflation[9].

[9] As was shown in Graph 4, two types of divergence are possible. During a period of small-scale deregulation, in which inflation in the segment of regulated prices was lower than inflation in the remaining price segments, net inflation exceeded CPI inflation. Large-scale deregulation caused the CPI to exceed net inflation. Since the scheme of deregulation was usually announced on an annual basis and

Consequently, the transmission channel through expectations is significantly weakened.

On the other hand, if only standard caveats are used, the targeted inflation is more likely to converge to CPI inflation and contracts would be linked to the target. However, during transition the excluded shocks would be quite significant as shown in Graph 4. Consequently, there would be three possible reactions of monetary policy: (i) to compromise on the slope of the disinflationary path and derive its slope from a deregulation scheme with all the disadvantages (e.g. large fluctuations around the disinflation trend caused by changes in government strategy), (ii) to compromise on the credibility of the target itself and allow for missing it in the case of large-scale deregulation, (iii) to rely on the substitution effect between regulated and non-regulated price segments and to accept the costs of non-accommodated supply price shocks.

In the Czech case, the first alternative has been evaluated as less costly. However, the CNB did not use many caveats explicitly when defining net inflation, because net inflation filters out some standard shocks such as the impact of indirect taxes. The majority of excluded items are those in the segment of regulated prices. Hence, one can classify net inflation as a "transitional" concept, and it is likely that in the medium-term, after major deregulation steps are completed, the two inflation rates would converge. Not only is the existence of a deregulation scheme and implied uncertainty a limiting factor when defining the target, it has consequences for the decision-making process as well. As the summary of the minutes of the meeting shows, it has been very difficult to predict the spillover effect from the segment of regulated prices to net inflation due to the unavailability of historical data as well as structural breaks.

The second important challenge for policy makers has been the problem of the existence of emerging financial markets. It is important to note that in the Czech case, the pegged exchange rate played the role of a nominal anchor for the entire period of 1990–1997. In May 1997, the peg was discontinued, and a more flexible regime in the form of managed floating was introduced. This shift was consistent with the requirements of the inflation targeting regime since it is feasible to target domestic inflation only in the context of a flexible exchange rate, otherwise conflicts of commitments to different targeted variables are likely to arise and the effectiveness of inflation targeting is undermined.

The shift to a floating exchange rate notwithstanding, the policy approach to the role of the exchange rate in the new setting remained an issue. Given the small size and the significant openness of the Czech economy, the exchange rate has had a remarkably large and direct impact on the CPI. At the same time, capital flows, much larger and more volatile than trade flows, have increasingly dominated short-term exchange rate developments. Moreover, in a transition economy with still relatively thin markets, wide interest rate differentials and a volatile risk premium, the exchange rate response to various shocks, new economic and political data and to changing perceptions of investors is much more volatile and occasionally even erratic in nature. In the given circumstances, some issues related to the exchange rate within the framework of inflation targeting required clarification – for example, policy stance.

On the one hand, the level of the exchange rate can neither be an explicit nor implicit objective of monetary policy. This is because the control of the exchange rate level is neither feasible in the existing conditions nor consistent with the inflation targeting

was conditioned with political stability, there has been uncertainty for both the scope and the direction of the divergence. Moreover, the index of net inflation itself is subject to uncertainty since the government can theoretically redefine the segment of regulated prices significantly.

framework. Accordingly, problems of external imbalances must be coped with within a broader framework of macroeconomic policies and their combination. The foreign exchange interventions aim at smoothing the moves from one exchange rate level to another and at reducing the volatility and erratic responses in the exposed but still relatively thin koruna foreign exchange market. On the other hand, for a small, open economy, movements in the exchange rate are a significant factor that enters the decision-making process of the central bank. Subsequently, foreign investors tend to guess the reaction function of the central bank and use the implicit bands to reduce foreign exchange risk when speculating on the foreign exchange market.

3.4 Transparency Gain

An important advantage of the shift to inflation targeting was related to the increased transparency of monetary policy. Transparency, in fact, has improved in both specifying the target and decision-making. As far as target specification is concerned, the adoption of an inflation targeting regime introduced a clear-cut focus for monetary policy. It has been a move from ambiguous specification of the disinflationary path to explicit specification of the slope of the path as well as the time horizons.

Moreover, in comparison to the previous situation with two parallel intermediary targets and non-binding inflation forecasts, the potential conflict of criteria that could emerge as a result of various imbalances has been removed. For example, when using two parallel intermediate targets in periods of capital inflow, it was not easy to determine which target should gain more importance in the decision-making process. Excessive monetary growth and an excessive current account deficit put monetary policy into a position in which only one parallel target could be achieved. With the inflation target, the importance of various indicators has been unambiguously (although implicitly) determined by their weight in the transmission scheme from interest rate to inflation outlook.

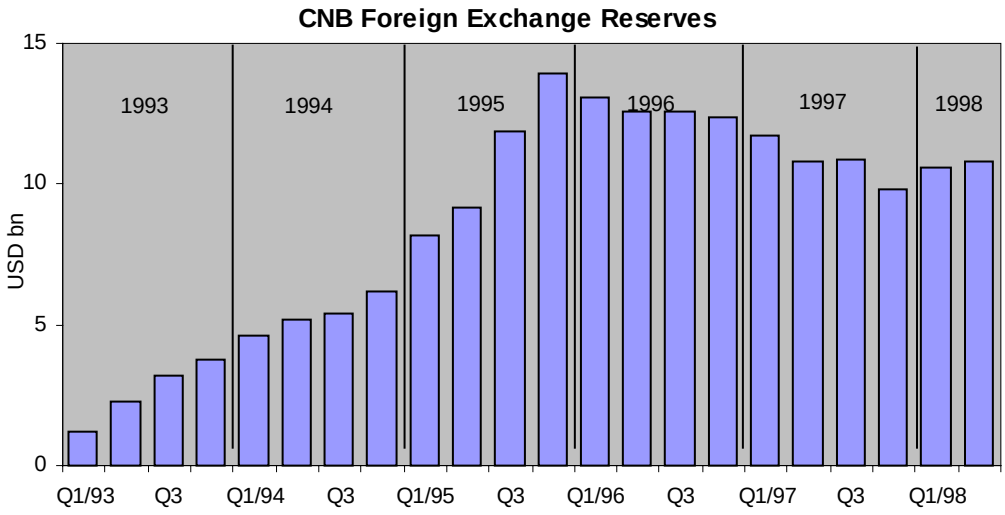
The second important improvement has been an increase in the transparency of the decision-making process itself. The policy steps of the central bank have become smoother and more predictable since with a clearly defined scheme of targets and instruments, the policy rule was now unambiguous. Also, the decision-making process was made transparent due to publicising the minutes of the meetings. By the same token, this process is more exposed to the reactions of professional economists and the general public.

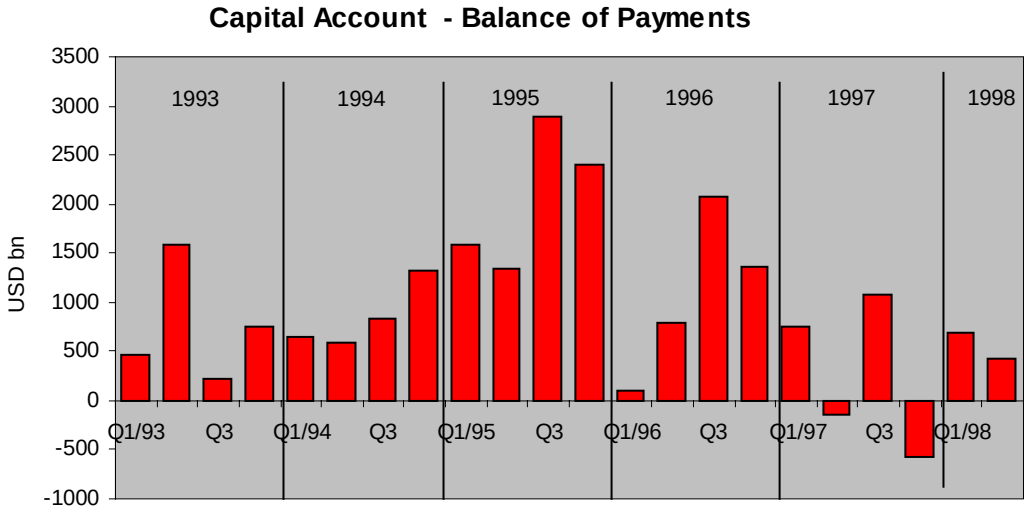
This gained transparency and accountability of monetary policy proved to be beneficial. It has had a positive impact on staff efforts and performance within the bank. It has contributed as well to a better understanding of the problem and to increased and more diversified public involvement. Also, it provided a clear framework for discussions about monetary policy since the target has been defined clearly and the commitment to ensuring disinflation has been explicit. There has been no conflict with other targets such as the external balance. One of the most important benefits has been the successful formation of expectations that have reduced the costs of the disinflation process. Also, an increase in the credibility of monetary policy has reduced the costs of external financing due to lowered risk premium.

Many foreign institutions have looked upon the new strategy as a real achievement. For example, the OECD report states:

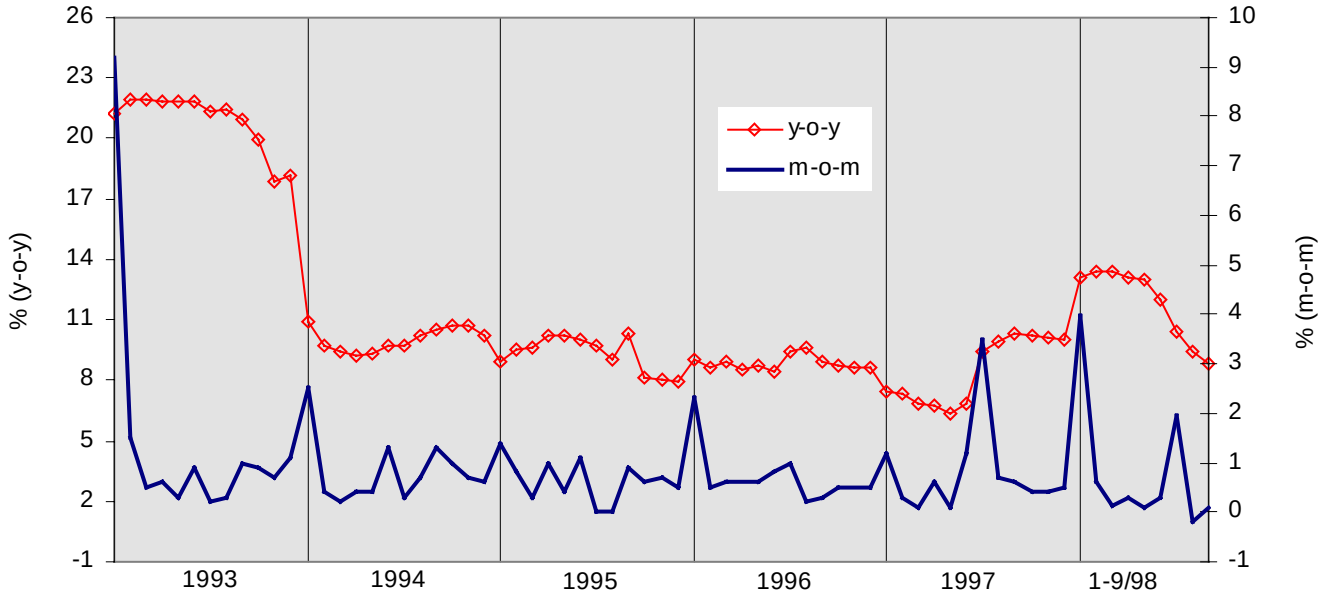
> Globally, monetary policy has successfully negotiated a very difficult period. The decision to abandon the fixed-exchange rate regime was made before too many reserves had been spent and the Central Bank has managed to use the subsequent period to partially restock them. Although subject to volatility emanating from the developments in Asia, there have been no precipitous falls in the currency since the spring 1997 crisis and the depreciation observed in recent months appears to be in line with economic fundamentals. Appropriately, given the still large trade and current account deficits, monetary policy has remained restrictive, while the announcement of a new inflation-targeting framework brought a welcome end to a period of uncertainty as to the main focus of policy.

Appendix: Basic Indicators

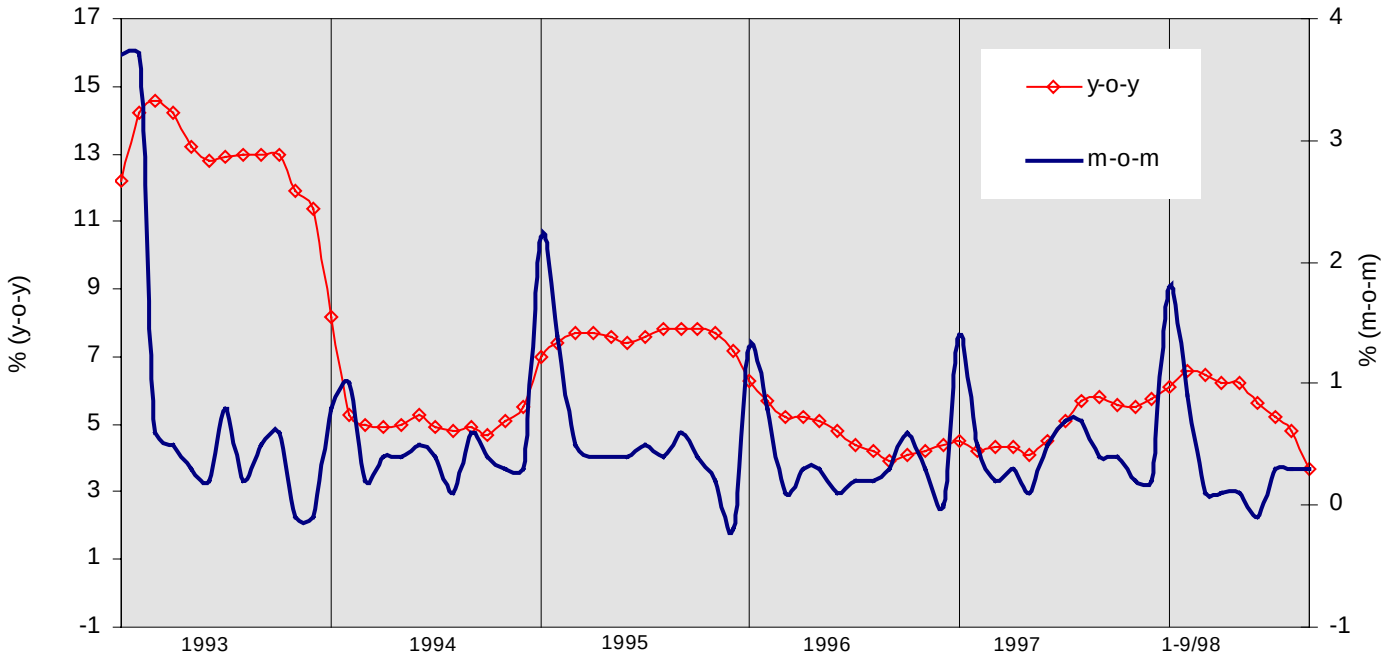




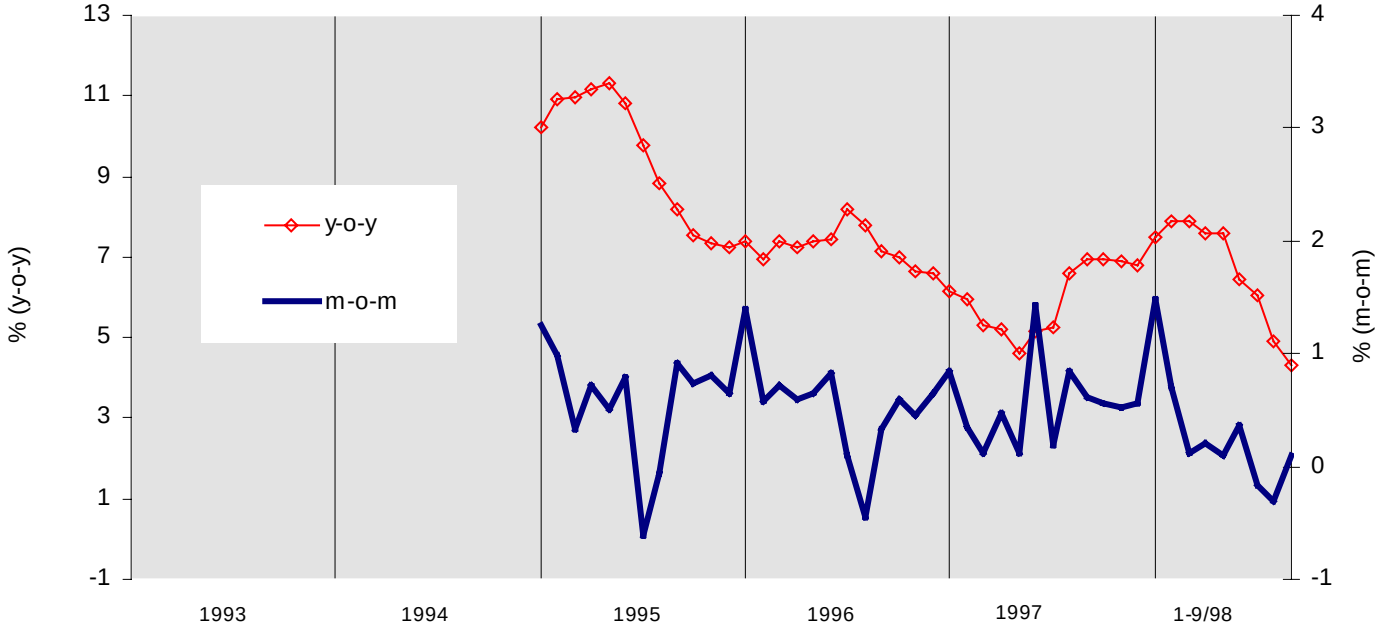
CPI Inflation



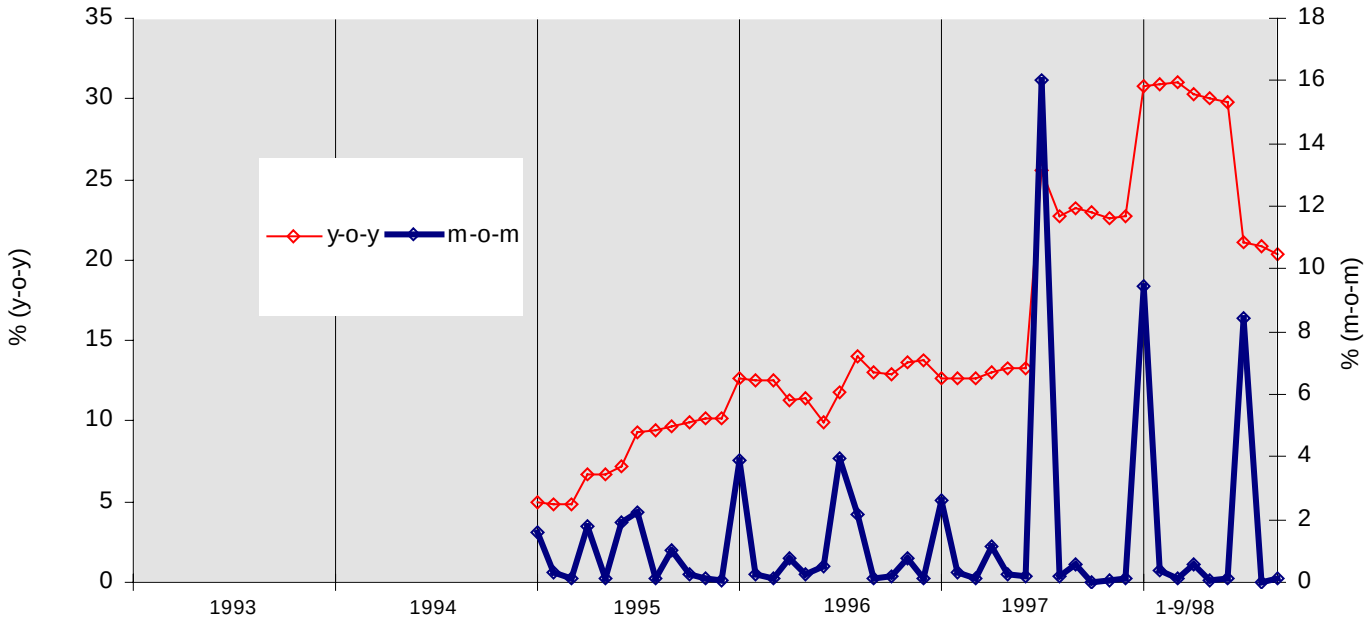
PPI Inflation



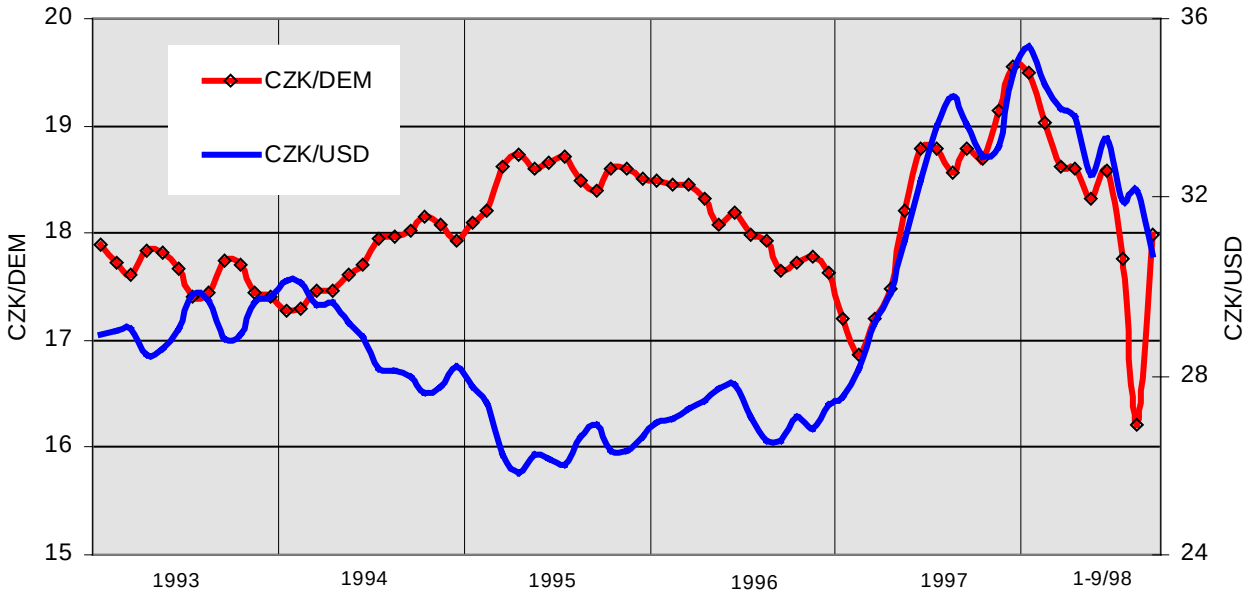
Net Inflation



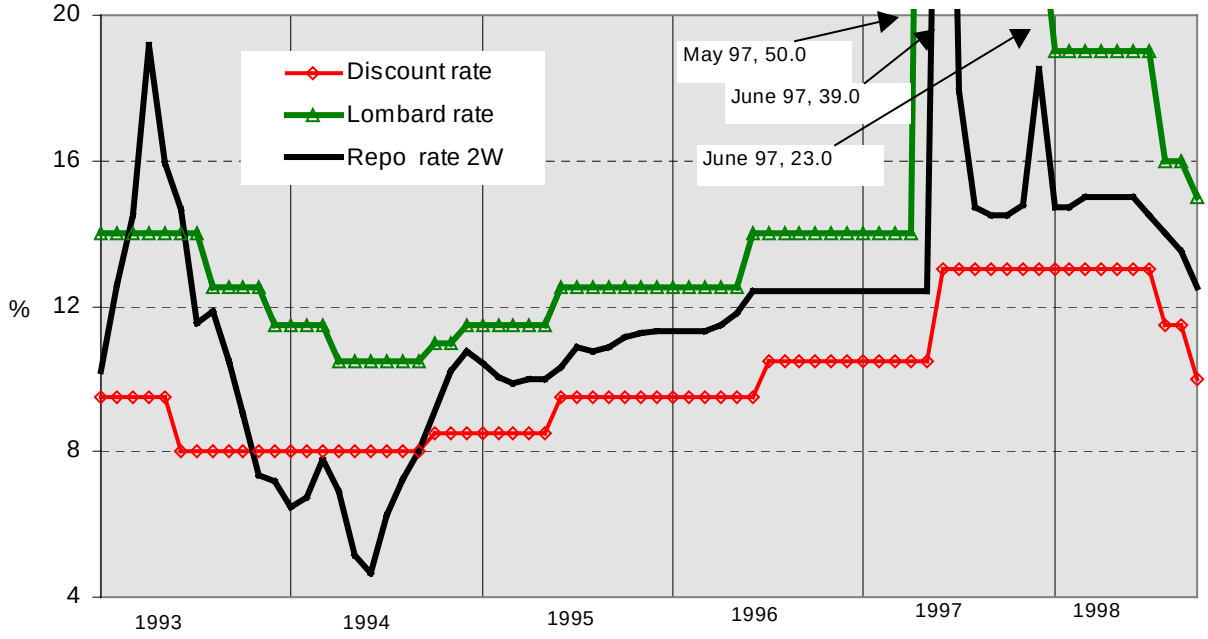
Regulated Prices

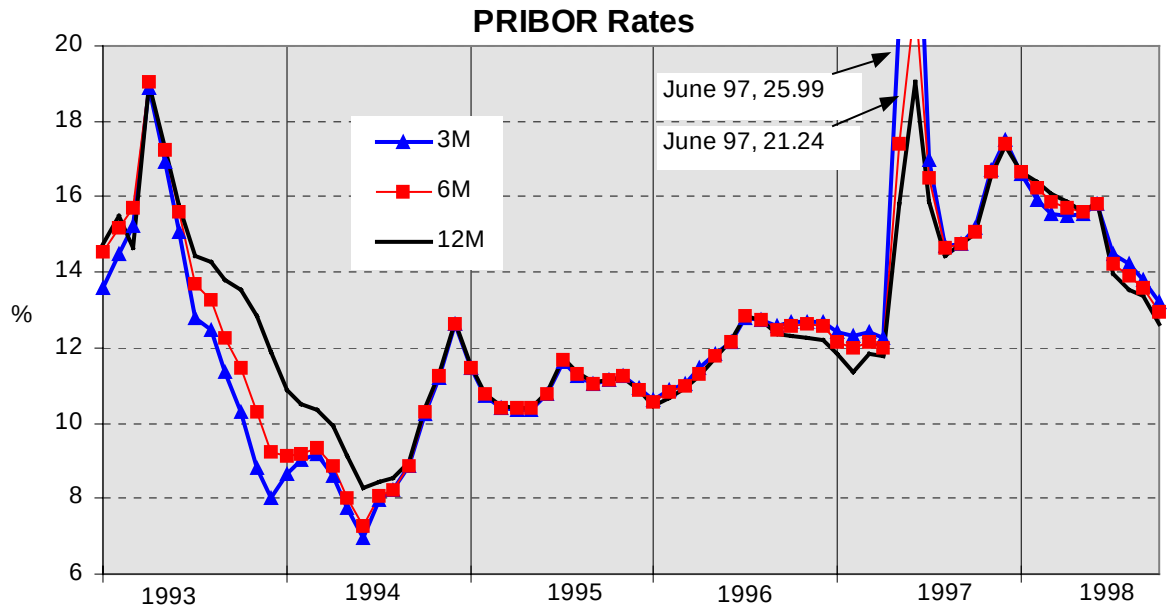


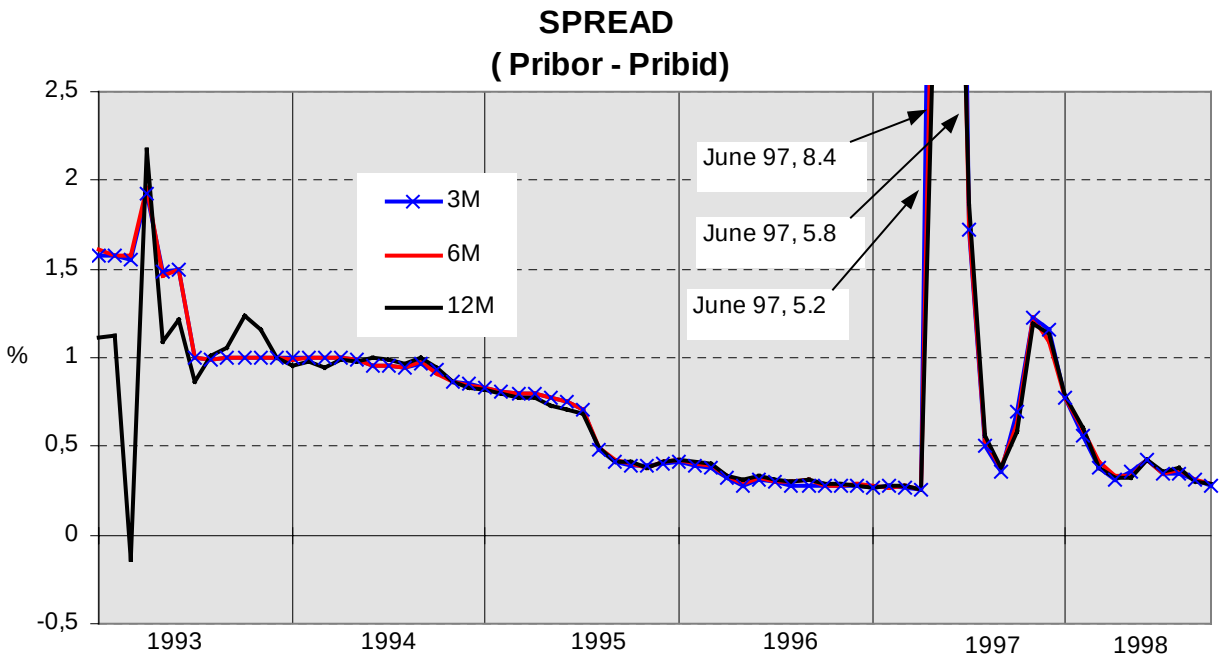
Nominal Exchange Rate
CZK vis-a-vis DEM and USD



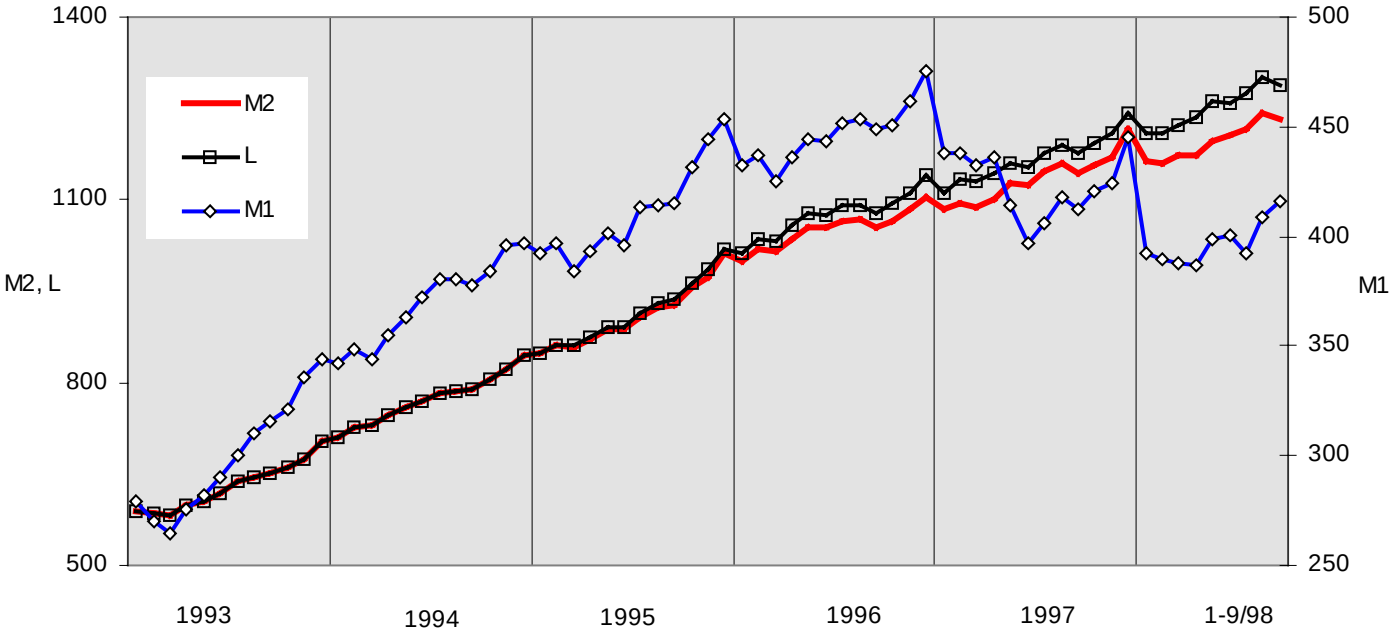
Key Rates




PRIBOR Rates
20
18
16
14
12
10
8
6
%
1993
1994
1995
1996
1997
1998
3M
6M
12M
June 97, 25.99
June 97, 21.24


SPREAD
(Pribor - Pribid)
2,5
2
1,5
1
0,5
0
-0,5
%
1993
1994
1995
1996
1997
1998
3M
6M
12M
June 97, 8.4
June 97, 5.8
June 97, 5.2

Monetary Aggregates M1, M2 and L
(CZK bn, end of period balance)



M1 = currency + demand deposits
M2 = M1 + CZK time deposits + foreign currency deposits
L = M2 + T-bills + CNB bills + NPF bills in the portfolios of domestic non-banking subjects

Monetary Aggregates M1, M2 and L
(increase in %, y-o-y)