INFLATION TARGETING IN TRANSITION ECONOMIES: THE CASE OF THE CZECH REPUBLIC

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Page

Table of Contents

Preface

The Czech National Bank formally adopted an inflation targeting approach to monetary policy on December 21, 1997. The first of its quarterly Inflation Reports was published in April 1998, and a more comprehensive statement of its policy strategy was published in April 1999. Over this period, the CNB has continued its efforts to elaborate and strengthen its approach to inflation targeting. As part of that effort, the IMF agreed to provide a number of experts in various aspects of inflation targeting to consult with the CNB staff. The experts were recruited by Warren Coats, Assistant Director of the Monetary and Exchange Affairs Department of the IMF.

Each expert visited the CNB for a few days in 1999: Daniel Yariv, Assistant Director of the Monetary Department, Bank of Israel (February 1–2, 1999); William T. Gavin, Director of Research, Federal Reserve Bank of St. Louis (March 8–10, 1999); Mario Blejer, Senior Advisor, Monetary and Exchange Affairs Department of the IMF (March 11–12, 1999); Kevin Clinton, Research Advisor, Department of Monetary and Financial Analysis, Bank of Canada (April 26–30, 1999); Paul Mizen, Lecturer, Department of Economics, University of Nottingham (June 8–9), and Douglas Laxton, Senior Economist, Research Department of the IMF (September 6–10, 1999). The core of this book collects the papers written by most of these experts following their visits to Prague. The subjects of each expert's visit and of the papers that appear here were meant to cover the key aspects of inflation targeting in a relatively logical order. While it has not been possible to cover all relevant topics or to give equal or appropriate weights to the coverage of topics, we at the CNB are pleased with the result. Compared with other contributions to the growing literature on inflation targeting, this book addresses those issues of particular relevance to transition economies and especially to the Czech Republic.

In addition to Mr. Coats' introduction, the subject in its transition economy context is introduced and reviewed by a Czech economist, Jiri Jonas, and the book concludes with an official statement by the CNB and a paper by staff of the CNB.

I would like to thank the International Monetary Fund for sponsoring this work.

Josef Tošovský
Governor
Czech National Bank
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Editor's Note

In the last two years, several transition and emerging market economies have adopted the rapidly evolving art of inflation targeting (Brazil, Chile, the Czech Republic, Israel, Poland, and South Africa). The contributions to adapting inflation targeting techniques to transition economies made by the six experts the IMF sent to Prague in 1999 were just too well presented not to make them available to a broader audience. The "project" of publishing a book based primarily on the visits of these experts to the Czech National Bank had not been planned, and thus the time to produce it had to be taken from here and there. This is not the best way to produce a book, but in the IMF we are used to making the best of the circumstances we are given.

I would like to thank Natalie Baumer, our editor in the Monetary and Exchange Affairs Department, and Rose Mary Sario, my much-appreciated former staff assistant, for their contribution to the completion of this project. Their time was also taken from other projects. I now understand why writers thank so gratefully those who helped.

Warren Coats

May 2000

I. Introduction

Warren Coats[1]

Economies in transition from centrally planned ones to those focused on market allocation of resources are experiencing changes at a speed unparalleled in history. Central banks can contribute to the transition by providing stable money and by contributing to an environment of financial discipline (hard budget constraints). The allocation of resources through decentralized markets requires good information on the public's demands for goods and services and the resource costs of producing them, together with a profit incentive to respond to that information. Such information is summarized in prices. Stable money and integrated and efficient markets for money and credit (stable prices at the macro level and the rule of one price at the relative price, or micro level) improve the quality of price signals and thus of resource allocation.

The search for a nominal anchor

Central banks in market economies have learned some important lessons since the collapse of the gold standard and the gold exchange standard of the Bretton Woods era. While monetary policy can affect economic activity and employment, the effects are only temporary. In the long run, central banks can only determine the price level. Increasing inflation above what is expected can stimulate the real economy, while reducing it below what is expected tends to do the opposite. Expected inflation adjusts to the information available, such as current and past rates of inflation, the monetary policy framework, the stated goals of monetary policy, and the credibility of the central bank's desire and capability to achieve them.

The 1960s and 1970s were a period of monetary policy activism during which it was believed that monetary policy's short-term influence on the real economy could be exploited to offset or at least moderate the business cycle. Policy fine-tuning ran into several devastating problems. Monetary policy's effect on the economy occurred only with a long and variable lag, though it's effects on output and employment tended to be quicker than it's effects on prices (hence the source of its short-term influence on the real economy). Long and variable lags made it difficult to know what the appropriate policy was at each moment for purposes of fine tuning future economic activity. In addition, political pressures tended to emphasize the immediate or short-term benefits of stimulating the real economy at the expense of long-term increases in inflation from such policies (myopia). Even independent central banks tended to give undue weight to already observable, thus past, conditions rather than to the expected future outcome of current policy. The combination of these [lags and myopia] imparted an inflationary bias to policy with the result that in the long run inflation

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was higher than it otherwise would have been (with, for example, a money growth rule), with no gain in real output.

In addition to these considerations, the more systematically monetary policy was used to fine-tune economic activity, the more the inflationary consequences of such policies were anticipated. An anticipated monetary stimulus would be passed through immediately to prices with no affect on real output.

Despite (or because of) efforts to fine-tune the economy, business cycle swings got wider and inflation higher in the 1960s and 1970s (and early 1980s). Improvements in economic theory and the experience of that period renewed interest in clear rules for monetary policy rooted in the objective of long-run price stability. If monetary policy could not be expected to dampen business cycles by fine-tuning, it might do so by stabilizing inflation expectations as the result of a clear and credible commitment to a nominal anchor that would stabilize prices on average in the long run. Such a policy has two goals. The first is to provide the market with reliable information on what the rate of inflation will be so that investment, wage setting, and other market decisions can be made with greater confidence in what the future price level will be. The second is to ensure that the inflation rate is very low in order to improve the quality of price signals, minimize the menu costs of nominal price adjustments, and remove the tax on cash, which results in the public's holding smaller cash balances than is optimal. Such a policy might minimize the gaps between actual and expected inflation that spill over to the real economy. By removing the inflation bias of discretionary policy, nominal interest rates would be lower, and by diminishing uncertainty over future price levels, a credible nominal anchor would reduce the inflation risk premium in both nominal and real interest rates.

Fine-tuning failed to dampen business cycles because of opportunistic behavior by central banks that favored short-run stimulus and because the long and variable lags in the effect of policy made it very difficult, if not impossible, to know what short-run stance of policy would be appropriate for the future. Both of these problems call for a clear operational rule by which policy should be conducted. Adjustments in policy motivated by the desire to fine-tune economic activity are given up for a policy stance that at least in the medium to long-term period should produce stable prices. The purest examples of such rules are a fixed exchange rate and a fixed rate of growth in a monetary aggregate. Either rule provides a clear anchor for inflation expectations.

A credibly fixed exchange rate (i.e., one in which other macro policies are subordinate to the preservation of the peg) is the most transparent nominal anchor. The central bank buys and sells foreign exchange for its own currency as needed to maintain the exchange rate. The supply of money adjusts to its demand (given the exchange rate). When capital mobility is high, fiscal policy and institutional factors determine domestic monetary conditions. In the long run, the price level will be determined by the home country price level of the currency pegged to (or to the relative market price of gold or other commodities pegged to).

A floating exchange rate with a money growth rule as the nominal anchor is also easy to monitor if somewhat more difficult to achieve. The price level in the long run will depend by and large on real income growth (or wealth) and evolving financial sector technology. In both cases (fixed exchange rates or monetary rules), the central bank is freed from the potential distraction of evaluating the future consequences of short-term policy adjustments.

Both anchors suffer, to some extent, from being indirect (intermediate) routes to the real objective of monetary policy (price stability). Targeting the price level directly, however, was generally considered not possible because the linkages between those things central banks directly controlled (policy instruments) and prices (and output) were somewhat uncertain and contained the long and variable lags discussed above. William Gavin in Chapter III quotes one of Milton Friedman's statements of this problem. Even an independent central bank committed to price stability can destabilize the economy if it attempts to target inflation or the price level directly on the bases of already observed data. This possibility becomes a strong probability, if the central bank also takes into account other factors such as the output gap or exchange rate. This is barely more than a restatement of one of the problems with fine-tuning discussed above. Policies of fixed exchange rates or monetary growth rates have generally failed eventually as a result of central bank efforts to pursue other objectives (output and exchange rates). The pursuit of multiple objectives has invariably led eventually to policy contradictions that could not be sustained.

Building upon the lessons of the previous four decades, two new factors are bringing about a revolution in the approach to central banking. The first concerns transparency and the second improved forecasting.

Central banking during the fine-tuning days was a secretive affair. In order to stimulate the real economy without creating inflation, the central bank had to trick the market. With the demise of confidence in fine-tuning came the opposite view. Monetary policy would be more effective and risk premiums lower, the more the market knew and the better it understood what the central bank was trying to do (once it was no longer trying to fool the market). Central banks are increasingly publishing information on their policies that they would have considered state secretes only twenty years ago (immediate announcements of changes in policy, minutes of board meetings, policy models, and similar information).

Any move away from fixed policy rules for long periods must face and deal with the long and variable lags in the economy's response to changes in policy stance. Improved modeling and forecasting is giving central banks increasing confidence in basing current policy decisions on expected future outcomes. It was only two or three years ago that Alan Greenspan, Chairman of the Board of Governors of the Federal Reserve System in the United States, raised eyebrows with the announcement that the Federal Reserve was raising the overnight interest rate on the basis of its judgment that such an increase was needed now to avoid an increase in inflation in the future. At the time of the increase, inflation was basically non-existent.

One further factor, when combined with the above developments, has helped to promote a new, still developing, approach to formulating and implementing monetary policy called ***inflation targeting.*** In democratic societies, independent central banks need be held accountable for their performance. It has not been easy to make the usual mechanisms of accountability (e.g., parliamentary and public reports) very meaningful, since central banks have too easily used the alleged need for secrecy and the complexity of the requirements of good policy to hid policy mistakes or the pursuit of other objectives. An explicit and public commitment to a specific inflation or price level target provides a good vehicle for accountability.

Thus inflation targeting has emerged as a promising approach to central banking. Its details are still being developed and refined but its key features are:

- Central bank commitment to a publicly announced inflation rate or price level target for the medium term, generally supplemented with short-run targets for the next year or two;
- Explicit escape clauses (rules) establishing the circumstances (shocks) under which the targets may be missed (or adjusted);
- Transparency of policy implementation. Public discussion of the central bank's view of the transmission mechanism from its policy instruments to its inflation target and hence of the reasons for adjustments in its instruments; and
- Public dialog over central bank performance.

Special circumstances of transition economies

The lessons outlined above have not been lost on the transition economies as they undertook their reforms. However, transition economies faced a somewhat different set of constraints than had the typical market economy.

In the first few years of transition, the goal of macroeconomic stabilization, and price level stability in particular, focused on how to reduce the high rates of inflation that had resolved the monetary overhang problem. The policies that were required to reduce inflation needed to be, and were, broadly supported in most transition economies.

Bringing inflation down to single digit levels was not difficult technically. However, the transition economy central banks faced several difficulties in attempting to implement their price level stabilization goals as their inflation rates came closer to EU rates. They lacked experience with their new powers and instruments[2] and thus the technical ability to implement their policy objectives effectively. The environment in which they had to operate (weak tax systems and fiscal controls, weak banking systems, weak market discipline over the allocation of resources and behavior of firms, and weak legal systems and enforcement of

[2] Almost all transition economies, especial those in Central and Eastern Europe, adopted new central bank laws that established the objective of price stability and gave the central bank complete or considerable independence.

property rights and contracts) was not conducive to the efficient transmission of policy. Moreover, they lacked a track record that might help establish public confidence in the credibility of their policies. The second of these points (underdeveloped market infrastructure and weak corporate governance due to often delayed privatization) weakens the link between monetary policy and prices, distorts relative prices and resource allocation, and also weakens the financial discipline (hard budget constraint) required in order for a country to enjoy the full economic benefits of stable prices. The third difficulty (lack of credibility) results in a slower adjustment of public expectations of inflation, with the result that tightening monetary policy causes higher real interest rates, which remain high longer, and larger, temporary reductions in output.[3] In addition to these difficulties, there was a lack of support for reform from some still in positions of power (i.e. a lack of enthusiasm for surrendering power or privileges).

These conditions call for a simple and transparent monetary policy. The simplest and most transparent monetary policy is a fixed exchange rate. A currency board version of a fixed exchange rate is the simplest to implement and carries the highest credibility (if the supporting conditions needed for it to work are in place and are credible). Thus, a fixed exchange rate can be particularly attractive for new central banks with no track record, poor market data, and little technical experience. In addition, because the money supply adjusts in the market to money demand at the fixed exchange rate, it is not important to know the demand for money or whether it is stable.

Unfortunately, a fixed exchange rate is also the policy regime that is most demanding in terms of the other policies (especially fiscal policy) required for its viability. It is the regime most unforgiving of policy mistakes. The difficulties in establishing fiscal discipline and new, market economy taxation systems have been the most serious impediments to macroeconomic stabilization in transition economies (especially in the former Soviet Republics). In addition, the defense of a fixed exchange rate against unjustified (or otherwise) attacks in the market requires sufficient foreign exchange reserves in the portfolio of the central bank. Where fiscal deficits are high and foreign exchange reserves are low, a fixed exchange rate is not a feasible option. The monetary regimes of transition economies that have adopted currency board arrangements (Estonia, Lithuania, Bulgaria, and Bosnia and Herzegovina) have been the most durable and successful, because they leave no possibility for other policies to be inconsistent with the fixed exchange rate.

In several Central and Eastern European countries, credibly fixed exchange rates, high domestic interest rates (partly because of the large amount of investment opportunities, and partly because of high fiscal deficits), and improving domestic conditions for investment, induced capital inflows beyond what could be easily or profitably absorbed (via increased

[3] It should be added that to some extent (a rather considerable extent in the former Soviet Republics), the public was unfamiliar with market determination of prices and thus with how to interpret monetary policy pronouncements and actions.

imports). This increasingly put the goal of price stability at odds with fixed exchange rate anchors.

The excess capital inflows would expand the money supply, if the central bank intervened to defend the exchange rate. If the monetary effects of these interventions were sterilized (as they often were in these countries), the pressure of higher domestic interest rates would be maintained, causing more capital inflows. This same interest rate differential generated large losses for central banks that sterilized their foreign exchange interventions (the foreign exchange purchased by central banks was invested abroad at "low" international interest rates, while the bills issued—or other sterilization tools used—bore the higher domestic interest rates). The high, expected profit that attracted foreign capital was paid for by the high cost of intervention by the central bank.

Some countries tried to slow capital inflows with capital controls (e.g., Slovenia and the Czech Republic). As has been the experiences in other countries, such controls were of limited effectiveness, especially when balance of payments surpluses where the result of fiscal deficit induced capital inflows. The inflows in the Czech case were induced by the large interest rate differential and by the high credibility of maintaining the peg. The Czech Republic's exchange rate might have survived with a more appropriate fiscal and monetary policy mix. In the end, domestic inflation objectives gave way to exchange rate objectives (Estonia) or pegged rates were replaced with market rates and other nominal anchors (Czech and Slovak Republics).

In the face of the above difficulties, about half of the transition economies were forced to float their exchange rates and most of these anchored their monetary policy with a monetary rule. There are some advantages and considerable risks in this evolution. A more flexible exchange rate eliminated (or reduced) the one way exchange rate bet of international investors and thus removed an artificial inducement for capital inflows. It also allowed monetary policy to focus on domestic price stability.

As most of these countries had stabilization programs supported by the IMF, most anchored their monetary policy to fixed growth rates in central bank (reserve) money. Where the political situation permitted, including the degree of success in containing fiscal deficits, monetary aggregate anchors where very successful in rapidly lowering inflation rates to modest levels. However, the institutional changes, which characterize transition economies, also made money demand less stable and more difficult to estimate empirically. As a result, monetary rules could not produce stable and predictable inflation rates with much accuracy in the low inflation range. Furthermore, the mismatch between a steady growth in the money supply and volatile money demand subjected the real economy to undesirable stresses.

The traditional anchors for monetary policy and of central bank accountability—exchange rate targets and money aggregate targets—have fallen victim to liberalized capital mobility, rapidly changing financial markets (new financial instruments, technology, financial globalization), and, as a result, unstable money demand. Transition economies also face additional challenges in formulating and implementing monetary policy because of their

dramatically changing market structures and the lack of relevant data over a sufficiently long period to conduct econometric analysis.

These features of transition economies are not promising for inflation targeting either. However, for those economies unwilling or unable to adopt currency board or other credible fixed exchange rate arrangements, the more disciplined and structured approach to flexibility offered by inflation targeting has considerable appeal as well as risks. At best, it is demanding of the capabilities of transition economy central banks, as it is of any central bank. At worst, it is camouflage for no anchor at all.

Is inflation targeting a rule or discretion?

The main benefit claimed for inflation targeting is its ability to adjust monetary policy to shocks with minimal real output loss while still anchoring inflation expectations. Inflation targeting regimes vary from adherence to a well defined rule for setting interest rates with adjustments permitted for well defined shocks, to the frequent setting of operating instruments (interest rates) on the basis of all available information so as to move to the inflation target at a rate that may also take into account the effect of policy on the income gap or exchange rate. While there is certainly a difference between these two versions of inflation targeting, it is not necessarily that large. Without a credible commitment by the central bank to its inflation objectives, the benefits of inflation targeting cannot be realized. Thus monetary policy must be bound by a set of rules, though they may be relatively complex. One way of thinking about inflation targeting is that it provides a set of rules for adjusting monetary policy to shocks.

Consider the stricter rule-based approach above as analogous to setting the autopilot on a ship sailing from Lisbon to the New World so as to land at what is now Plymouth Rock, Massachusetts. The rule (or autopilot setting) might be a fixed monetary growth rate, a forecasting equation that takes into account factors other than income that effect money demand and the pace of adjustment, or an inflation forecasting equation that takes a wider range of factors into account. The rudder setting will always be adjusted so as to hit the target on the basis of where the ship is and the values of the other explanatory variables projected on the basis of all of the information available each moment.[4] It is also possible to build in secondary but subordinate criteria, such as maintaining a smooth sail to avoid sea sickness. Such secondary criteria may result in a somewhat longer passage, with a somewhat later arrival, but do not change the ultimate commitment to arriving at Plymouth Rock. The simplest of these rules, the fixed money growth rule, assumes that unexpected winds and

[4] Everyone knows that a fixed money growth rule still requires an alert and diligent central bank to preserve reasonable liquidity conditions. Similarly, a fixed autopilot setting does not freeze the rudder. Rather it constantly adjusts the rudder to all shocks in order to maintain the compass setting. What it cannot do is change the compass setting to compensate for drift or other shocks that would change the setting needed to arrive at the targeted spot.

currents will cancel themselves out on average over the course of the trip. If the money demand equation on which the rule was based is reasonably stable, the ship should land somewhere near Plymouth Rock.

Compare the above strict end of the spectrum of inflation targeting approaches, with the other more discretionary end of the range. Imagine that every morning the ship's captain meets with his officers to review events in order to set the rudder for the day. The evaluation of all evidence by this group will enable them to take into account information that even the most sophisticated models cannot. Imagine yourself sitting at the morning briefing with the captain. What would you do with all of the information available? It will consist of every thing that actually happened (wind speed and direction, currents, water and air temperature), and new forecasts of future factors of relevance (such as weather forecasts of questionable accuracy). The goal remains to land at Plymouth Rock. Thus the policy instrument (rudder) setting must be based on the transmission mechanism that is thought to link instrument settings to the policy objective. There is no choice but to rely on the "best" forecasting model available, modified as your judgement suggests is appropriate by information that was not reflected in the model (see Chapter VI by Peter Isard and Douglas Laxton, which argues that models should be kept simple—taking explicit account only of the most likely shocks—and adjusted ad hoc in light of the occurrence of less usual shocks). This is not such a large step from the use of an autopilot driven by a relatively sophisticated rule with frequent updates to the data that are feed through the rule. But it may improve on the auto pilot approach. In all cases, any departures from the rule require clear justification that the captain and the public at large can understand and evaluate.

Adjustments to the rules for the reasons discussed above, namely evidence of changes in the parameters in the forecasting equation (e.g., shifts in money demand) or for shocks not reflected in the model, may be contrasted with another reason for departing from the rules that may be more problematic. The captain's briefing team may wish to change the weights assigned to the secondary criteria (smooth sail) in the rule, perhaps following a particularly rough night. These are precisely the types of decisions that should not be made in the moment on the fly for all of the opportunistic, myopic behavior reasons given against discretion in the first place. Like the inflation target itself, the weights to be given to the income gap and exchange rate, for example, should be determined for the medium term on the basis of public debate.

Thus, as with a monetary rule, inflation targeting must be guided and disciplined by a model (though potentially a more complex one than a simple money demand equation) that forecasts the price level consequences of current policy instrument settings. The current stance of monetary policy must be motivated by achieving the inflation target and must be perceived by the public as likely to succeed in that objective. In the end, the credibility of an inflation-targeting regime will rest on its success, after the fact, in achieving its stated objective most of the time.

The contribution of policy transparency and accountability to improving central bank performance is very welcome. As with a monetary rule, however, the success of inflation

targeting is dependent on the ability of the model on which it is based to forecast inflation correctly. The difficulties in estimating stable money demand as part of a macroeconomic forecasting model in transition economies may exist for inflation forecasting as well.

The universal use of a short-term interest rate as the operating instrument of monetary policy in an inflation targeting regime is not without considerable risk. If inflation forecasts are unstable or unreliable, it will not be possible to determine the interest rate needed now for the inflation target a year or two from now. An error in setting the interest rate and the failure to correct that error in a timely fashion can lead to an explosive self perpetuating inflation or deflation. An interest rate error is not self-correcting in the way an exchange rate error or money growth rate error is self-correcting (by a temporarily higher or lower inflation rate).

This book

The chapters of this book have been written by experts sent by the IMF during 1999 to the Czech National Bank to discuss inflation targeting or by staff of the CNB. The experts and the topics they have contributed to this volume where chosen to cover most of the issues relevant for a successful inflation-targeting regime. Chapters II–VI treat aspects of the subject in a more general way, while the remaining chapters address the subject more specifically within the Czech context.

The second chapter of this book (by Jiří Jonáš), introduces inflation targeting in the transition economy context by providing a summary of the practices and experience of transition economies that have adopted inflation targeting (primarily Poland and the Czech Republic). The chapter examines a number of issues of particular relevance for transition economies. These include the prerequisites that should be met before a central bank should adopt inflation targeting. In brief, these are as follows: public and government support for price stability; sufficient independence of the central bank to pursue price stability; absence of other, potentially conflicting objectives of monetary policy; absence of fiscal dominance (excessive public sector borrowing requirements); sufficiently developed money and financial markets to transmit monetary policy to inflation; and the capacity of the central bank to model and forecast inflation. Another topic is the choice of a disinflation path to the long-run inflation target when starting from high or moderate inflation rates. A related issue treated by the chapter is what to do when inflation opportunistically falls below the short run target but is still above the long run target.

Chapter III by William T. Gavin presents some model-based evidence that unless monetary policy is focused exclusively on inflation, an inflation target (as opposed to a price level target) does not anchor the inflation rate very well. However, targeting the price level, even with modest weights, does anchor inflation even when the output gap gets considerable weight in the central bank’s objective function. Contrary to the findings of backward-looking models, targeting the price level does not seem to increase the volatility of output much.

Chapter IV by Paul Mizen sets out the principal role of money under an inflation-targeting framework. Because of domestic and international reasons monetary targets are regarded as

likely to be operationally difficult, they serve a useful function only as a temporary measure to bridge the gap between credit control and inflation targeting. The reasons are clear: transitions economies are experiencing rapid adjustments in the real economy and financial markets, while internationally the euro is a major development that is likely to further destabilise the demand for domestic money. In such circumstances, it is likely that money will have a more useful role as a provider of incremental and corroborative information on inflationary conditions. This chapter explores how monetary conditions could be assessed using the McCallum rule and a measure of monetary disequilibrium.

In Chapter V, Daniel Yariv develops the methodology for deriving the expected inflation in Israel from interest rates on indexed and unindexed bonds. In general, inflation expectations determined in this way were reasonably close to actual, past inflation. Initially, the announcement of inflation targets in Israel led to a certain reduction of expectations, but thereafter the announcements did not themselves have any real affect on inflation expectations until significant policy measures were instituted to curb inflation.

The current stance of monetary policy needed to achieve a central bank's inflation target must draw heavily on models of the transmission of policy to inflation. The core of the approach is to solve an inflation-forecasting model for the current setting of the operational instruments (usually focused on a short-term interest rate) that produces the targeted inflation rate. The degree of transparency about how the forecast is constructed varies considerably across countries. Over the last several years, the Reserve Bank of New Zealand, which pioneered inflation targeting, has expended considerable effort to develop a consistent forecasting and policy system. To date, New Zealand is the only inflation-targeting country that releases a complete medium-term macroeconomic forecast, as well as the modeling and policy assumptions that are used to construct it. However, the Bank of England, in response to a parliamentary demand, has published all of its models in detail. Chapter VI of this volume, by Peter Isard and Douglas Laxton, argues that there may be significant potential benefits from using a consistent model-based projection process to inform policymakers even if considerable judgmental input is required to implement it. The chapter discusses the potential role of modern macroeconomic models in central banks, as well as the pitfalls associated with using different classes of models to analyze the effectiveness of policy rules. The chapter also argues that while it is useful to adopt one model as a basic paradigm to organize the projection process, it is important to consider insights from a range of plausible models in order to quantify the potential uncertainties surrounding the forecast. These points are illustrated with a simple model with parameter values appropriate for the Czech Republic.

The remaining three chapters focus directly on inflation targeting by the CNB. Chapter VII reproduces an official explanation of the CNB's adoption and use of the framework, while Chapters VIII and IX present assessments of the specific practices of the CNB by a foreign expert (Kevin Clinton) and by CNB staff (Miroslav Hrnčíř, Kateřina Šmídková) respectively.