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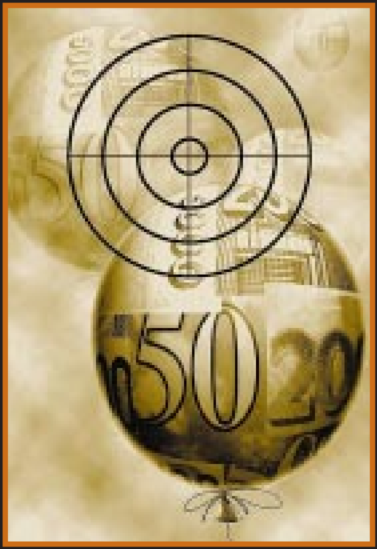
Inflation Targeting as a Framework for Monetary Policy



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INTERNATIONAL MONETARY FUND

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Preface

The Economic Issues series aims to make available to a broad readership of nonspecialists some of the economic research being produced on topical issues by IMF staff. The series draws mainly from IMF Working Papers, which are technical papers produced by IMF staff members and visiting scholars, as well as from policy-related research papers.

This Economic Issue draws on material originally contained in IMF Working Paper 97/35, “Inflation Targeting in Practice,” by Guy Debelle, and Working Paper 97/130, “The Scope for Inflation Targeting in Developing Countries,” by Paul R. Masson, Miguel A. Savastano, and Sunil Sharma. This version was prepared by David D. Driscoll. Readers may purchase the Working Papers ($7.00) from IMF Publication Services, or view them in full text on the IMF’s website (http://www.imf.org).

Inflation Targeting as a Framework for Monetary Policy

Inflation is bad news. Besides distorting prices, it erodes savings, discourages investment, stimulates capital flight (into foreign assets, precious metals, or unproductive real estate), inhibits growth, makes economic planning a nightmare, and, in its extreme form, evokes social and political unrest. Governments consequently regard inflation as a plague and try to squelch it by adopting conservative and sustainable fiscal and monetary policies. Experience and convenience have induced most of them to conduct their monetary policy by relying on intermediate targets such as monetary aggregates or exchange rates. During the past decade, however, seven small and medium-sized advanced economies have broken with this tradition of using such intermediate targets and have begun to focus on the inflation rate itself. This new approach to the age-old problem of controlling inflation through monetary policy is known as inflation targeting.

Why did these countries choose inflation targeting over alternative policy frameworks? First, the authorities in these countries have decided that achieving price stability—a low and steady inflation rate—is the major contribution that monetary policy can make to economic growth. Second, practical experience has demonstrated that short-term manipulation of monetary policy to achieve other goals—higher employment or perhaps enhanced output—may conflict with price stability. Some economists believe that an attempt to achieve several economic goals gives monetary policy an inflationary bias. Central banks certainly appear to get more public criticism for raising interest rates (a customary anti-inflationary tactic) than for lowering them, and they are subject to constant pressure to stimulate economic activity. Inflation targeting in principle helps redress this asymmetry by making inflation—rather than employment, output, or some other criterion—the primary goal of monetary policy. It also forces the central bank to look ahead, giving it the opportunity to tighten policies *before* inflationary pressures become intense.

Inflation targeting is straightforward, at least in theory. The central bank forecasts the future path of inflation; the forecast is compared with the target inflation rate (the inflation rate the government believes appropriate for the economy); the difference between the forecast and the target determines how much monetary policy has to be adjusted. Countries that have adopted inflation targeting believe it can improve the design and performance of monetary policy compared with conventional procedures followed by central banks.

This pamphlet addresses three issues in inflation targeting. First, it explains the requirements for putting such a policy in place. Second, it reviews the experience of the seven industrial countries that have actually tried it. And third, it discusses whether inflation targeting has a wider applicability to developing countries.

What Is Required?

Inflation targeting requires two things. The first is a central bank able to conduct monetary policy with some degree of independence. No central bank can be entirely independent of government influence, but it must be free in choosing the instruments to achieve the rate of inflation that the government deems appropriate. To comply with this requirement, a country cannot exhibit symptoms of “fiscal dominance”—that is, fiscal policy considerations cannot dictate monetary policy. Freedom from fiscal dominance implies that government borrowing from the central bank is low or nil, and that domestic financial markets have enough depth to absorb placements of public debt, such as treasury bills. It also implies that the government has a broad revenue base and does not have to rely systematically and significantly on revenues from seigniorage—revenues that accrue to the government from having the monopoly on issuing domestic money (the difference, for example, between the cost of paper and printing and the face value of a $100 bill, which can represent perhaps as much as $99.95 profit for the government). If fiscal dominance exists, inflationary pressures of a fiscal origin will undermine the effectiveness of monetary policy by obliging the central bank to accommodate the demands of the government, say, by easing interest rates to achieve fiscal goals.

The second requirement for inflation targeting to work is the willingness and ability of the monetary authorities not to target other indicators, such as wages, the level of employment, or the exchange rate. A country that chooses a fixed exchange rate system, for example—which is useful in certain situations—subordinates its monetary policy to the exchange rate objective and will be unable to operate an inflation-targeting system, especially when capital can move freely in and out of the country. Since the public will have no assurance that the authorities will give the inflation target precedence over the exchange rate target or vice versa, neither policy will enjoy the credibility needed for success.

Having satisfied these two basic requirements, a country can, in theory, conduct a monetary policy centered on inflation targeting. In practice, the authorities also have to take certain preliminary steps. They must establish explicit *quantitative targets* for inflation for some periods ahead. They must indicate clearly and unambiguously to the public that hitting the inflation target takes precedence over all other objectives of monetary policy. They must set up a model or methodology for *inflation forecasting* that uses a number of indicators containing information on future inflation. Finally, they must devise a *forward-looking* operating procedure in which monetary policy instruments are adjusted (in line with the assessment of future inflation) to hit the chosen target. The monetary authorities must have the technical and institutional capacity to model and forecast domestic inflation, know something of the time lag between the adjustment of the monetary instruments and their effect on the inflation rate, and have a well-informed view of the relative effectiveness of the various instruments of monetary policy at their disposal.

Distinguishing Characteristics

What distinguishes inflation targeting from other ways of controlling inflation is that the adjustment of policy instruments relies on a systematic assessment of future (rather than past or current) inflation and not on an arbitrary assumption about future inflation. Inflation targeting means that monetary authorities explicitly specify the inflation target and establish precise institutional arrangements to reach this target.

Specifying the inflation target involves selecting a price index to define the target, setting the target in terms of either the price level or the rate of inflation, giving the target a numerical value, deciding whether to define the target as a point or a band, and determining possible escape clauses or exemptions to the inflation target under specific circumstances. *Establishing the institutional arrangements* involves deciding whether to make compliance with the inflation target a formally mandated objective or simply an operational requirement of monetary policy, determining how best to integrate inflation targeting into the overall macroeconomic policy, and developing procedures to ensure its transparency and accountability.

These issues generally imply a trade-off between credibility and flexibility. Making inflation targeting credible typically diminishes the authorities' short-term flexibility and policy discretion although, in the long run, credibility, once acquired, may give the authorities more scope to be flexible. A consensus may be emerging on the advantages of specifying the target in terms of the inflation rate rather than the price level and on defining the target in terms of a well-known and widely used price index, such as the CPI (consumer price index), perhaps purged of a few items not linked to domestic demand pressures. The jury is still out on other issues. Nevertheless, the experience of industrial countries that have begun to target inflation directly is instructive in analyzing the wider applicability of this approach.

Industrial Country Experience

During the past decade, inflation targeting has been adopted (in chronological order) in New Zealand, Canada, the United Kingdom, Finland, Sweden, Australia, and Spain. Unsatisfactory experience with setting intermediate monetary targets or with maintaining a fixed exchange rate prompted this innovation in most of these countries. In New Zealand and Canada, the governments initially introduced the targets to help with disinflation. The success of these two countries in taming relatively high inflation (by industrial country standards) spurred in part the adoption of similar policies by the other five countries, where, in contrast, the inflation rate was already comparatively low.

These seven countries shared a relatively poor record in fighting inflation over the past 30 years in comparison with Germany, Japan, Switzerland, and the United States. Moreover, market participants generally perceived the seven as lacking monetary policy credibility. In one sense, inflation targeting was the foundation on which these countries sought to build a record of both low inflation and monetary policy credibility. In these countries, the inflation rate was the overriding objective of monetary policy and was given precedence over other objectives, such as the exchange rate or the level of employment.

The focus on the inflation rate highlights the paramount role that inflation forecasts play in this approach. Since the forecast dictates how monetary policy should respond, the structure of the economy must be stable and easily modeled to ensure an accurate forecast.

Assignment of the Inflation Target

The announcement of the inflation target varied across the countries. In Australia, Finland, and Sweden, the central bank originally announced the inflation target without explicit endorsement from the government. In Canada and New Zealand, the target resulted from a joint agreement between the minister of finance and the governor of the central bank. Where the inflation target was originally announced by the central bank, in most cases the inflation-targeting approach has been subsequently endorsed by the government. Although no central bank charter explicitly mentions an inflation target, the target has been justified as an operational interpretation of the ultimate goal of currency or price stability.

Definition of the Target

The definition of the inflation target also varied across the seven countries. The main differences concerned the time horizon specified (how long it would take to reach the goal and how long the target would prevail), how the price level was measured, and whether the target was specified in terms of a point or a band.

Horizon of the Target. The horizon of the inflation target depended in part on the inflation rate at the time the policy was adopted. In Canada and New Zealand, authorities used inflation targets to encourage disinflation, allowing about 18 months for reaching the initial target. Thereafter, they set targets for further step reductions in the inflation rate at 12-month intervals in New Zealand and 18-month intervals in Canada. Once inflation was reduced to the desired level, targets in both countries were set for five years. In the United Kingdom, the authorities first set the horizon as the end of the parliamentary term (mid–1997). During the period until mid–1997, inflation was to reach a band of 1–4 percent; then it was to be stabilized below 2.5 percent indefinitely. In contrast to the other six countries, in Australia the time horizon for the inflation target was to be the length of the business cycle.

Price Level. Biases in the calculation of the CPI (owing, for example, to the introduction of new goods or to higher demand for better-quality goods) imply that, in practice, price stability is likely to be associated with a small positive rate of CPI inflation rather than a zero rate. These and other considerations have caused the inflation targets to center on a rate of about 2 percent a year. At such low levels, targeting an even lower inflation rate is unlikely, according to existing empirical evidence, to yield significant benefits.

Width of the Target Band. A major difference in the definition of inflation targets across countries was the width of the band around the central target. In both Australia and Finland, the framework focused on a particular point target for the inflation rate, while Canada, New Zealand, Sweden, and the United Kingdom all specified a range for the inflation target. In Spain, authorities specified the target in terms of a ceiling for the inflation rate.

The need to specify a bandwidth results from the imperfect control of monetary policy over the inflation rate. The choice of a bandwidth reflects a trade-off between announcing a tight, hard-edged band, which may occasionally be breached, and announcing a wide band, which may be regarded as "softness" on the part of the central bank. Market participants may interpret a narrower band as indicating a stronger commitment to the inflation target. If remaining inside a narrow band proves difficult in practice, however, frequent breaches could undermine any credibility gain.

Accountability

Inflation targets provide a yardstick against which central bank actions may be judged; authorities can be asked to justify their monetary policy decisions. Transparency, or openness, is closely linked to accountability. To increase the effectiveness of monetary policy under inflation targeting, the authorities must announce policy changes and make the reason for these changes as explicit as possible. This increased transparency reinforces the impact and reduces the lag of monetary policy changes on price and wage decisions.

In general, central banks with inflation targets are directly accountable to the government. Regular testimony to parliament and the publication of annual reports have been the main vehicles of this accountability. Since 1989, the governor of the Reserve Bank of New Zealand has also been required to publish every six months a Monetary Policy Statement that discusses whether the bank has achieved the inflation targets during the previous six months and what its strategy will be for the next six months. This statement has served as a prototype for similar publications elsewhere. The Bank of England and the Riksbank of Sweden have for some time been issuing inflation reports focused uniquely on the recent history of and outlook for inflation, and the Bank of Canada and the Bank of Spain have begun publishing similar documents. In these documents, officials discuss monetary policy solely in terms of the inflation target. In addition, the Bank of England increases the transparency of monetary policy by publishing (with a five- to six-week lag) the minutes of meetings of its Monetary Policy Committee.

Inflation Forecasts

Given the lags in the effect of monetary policy, an inflation target must be forward-looking. Preemptive strikes are necessary: action must be taken *before* the inflation rate begins to rise. Consequently, the central bank's forecasts of inflation are critical.

A number of criteria underpin an inflation forecast. There must be sufficient historical data to estimate reliable relationships, and forecasters must be reasonably confident that these relationships will remain stable under the new regime. The authorities should base their monetary policy decisions on a projection for the future path of inflation, although this expectation need not be based on a particular model. In fact, experience in all the inflation-targeting countries has shown that using the input from many different models tends to give policymakers the most useful information.

Economic Performance Under Inflation Targeting

In general, inflation remained within or close to the target range in the countries where the target specified a band (Canada, New Zealand, Sweden, and the United Kingdom) or near the target rate (Australia, Finland, and Spain). Still, it is probably too early to declare that the inflation-targeting approach has succeeded in delivering lower inflation, given that inflation has also generally declined in many industrial countries that have not adopted inflation targeting. During 1988–92, however, inflation-targeting countries reduced their inflation rates more than the major industrial countries and since then have remained at levels of inflation comparable to those of the major industrial economies. This performance suggests that the inflation-targeting approach has been useful for those countries that lacked anti-inflation credibility.

Although inflation has fallen, it has been accompanied in most of the seven countries by higher unemployment. Only in New Zealand has there been a systematic decline in unemployment in the 1990s, but even there, unemployment remained significantly above its level of the second half of the 1980s. Comparing unemployment in the inflation-targeting countries with that in other major industrial countries shows that the average unemployment rate rose significantly in the early 1990s in the inflation-targeting countries, but since 1994 has tended back toward the level of the major industrial countries.

The experience through mid-1998 is that most countries that have announced target bands have successfully maintained inflation within the target, although recently Swedish inflation has been slightly below its band. In New Zealand, underlying inflation remained inside the band from 1992 to early 1995, but then breached the 2 percent band twice, though only by very small amounts. Initial indications from the New Zealand experience suggest that breaches of a narrow band may not be all that costly, since financial markets and inflation expectations seemed little perturbed by the small breaches that have occurred and by the subsequent raising of the band ceiling to 3 percent.

Applicability to Developing Countries

Under what conditions might developing countries adopt inflation targeting? These countries represent a mixed group, particularly in their monetary policy and financial markets. Despite a general trend toward greater reliance on indirect instruments of monetary policy, increased access to international capital markets, and financial sector reform, few generalizations can be made about the degree of financial development in these countries. Standard indicators of interest rates, financial deepening, and the level of income have not yet yielded a widely accepted classification or ranking of developing countries. As a result, it is extremely difficult to evaluate the benefits for these countries of adopting inflation targeting. The analysis therefore remains largely exploratory and argumentative rather than based on firm empirical evidence.

Basic Requirements

Recall that the basic prerequisites for adopting inflation targeting in any country are freedom from the dominance of fiscal policy and the absence of a firm commitment by the authorities to other, perhaps conflicting, targets such as the exchange rate.

In a few developing countries, the basic requirements for adopting inflation targeting are clearly not satisfied. In economies with chronic high inflation (above 30–40 percent a year), monetary policy will be largely accommodative and will generally have only short-lived and unpredictable effects on the inflation rate. The priority for economic policy in these countries should be a lasting reduction in inflation through a comprehensive program comprising a lower budget deficit, a break in borrowing from the central bank to finance government operations, and the targeting of one or more indicators to anchor inflationary expectations. For these countries, conducting monetary policy in a manner consistent with inflation targeting may be an option, but only after the fiscal roots of the problem are eradicated and the rate of inflation falls to manageable levels.

For most developing countries, however, assessing the degree of compliance with the basic prerequisites is more difficult. Studies of central bank independence in these countries suggest, with some notable exceptions, that the central bank's scope for conducting an independent monetary policy tends to be hampered by heavy reliance on seigniorage, shallow financial markets, and fragile banking systems.

Reliance on Seigniorage. Reliance on seigniorage is perhaps the simplest and most common indication of fiscal dominance. The link between a government's inability to raise the revenue it needs from conventional sources and its recourse to seigniorage is well documented. In developing countries, this link is often strong because of structural features (concentrated and unstable sources of tax revenue, poor tax collection procedures, and skewed income distribution) and a proclivity to abuse seigniorage, particularly in times of crisis.

Financial Markets. Shallow capital markets are also a common, though more subtle, indication of fiscal dominance. They are often a by-product of government schemes to extract revenue from the financial system through various forms of financial repression, including interest rate ceilings, high reserve requirements, sectoral credit policies, and compulsory placements of public debt. In some low-income countries, undeveloped capital markets may be as much a cause as a consequence of fiscal dominance, leaving seigniorage and other forms of fiscal repression as the only options. Regardless of the cause, however, evidence of an adverse relationship between financial repression and the development of domestic capital markets is indisputable.

Banking Systems. Fragile banking systems are an obvious consequence of prolonged periods of financial repression. In the aftermath of financial sector reforms, however, the banking system can impart an independent influence on the conduct of monetary policy, but in this context conflicts can arise between the goals of attaining price stability and restoring banking sector profitability. Recent studies have found that banking crises have been more severe in developing than in industrial countries. Evidence suggests that, in the early stages of financial liberalization, policy goals must be clearly ranked and followed in order of priority.

General Characteristics

A statistical analysis of the relative importance of these three factors in developing countries reveals several regularities. First, as expected, reliance on seigniorage is considerably higher in developing countries than in industrial economies. In developing countries, annual revenues from seigniorage average 1.4–3.0 percent of GDP, depending on the region, while in advanced economies annual revenues from this source in the last 16 years have consistently averaged less than 1 percent of GDP.

Second, the relationship among average fiscal deficits, inflation, and seigniorage varies considerably across regions and country groups. This apparent lack of association is due partly to measurement problems, but more fundamentally to the ambiguous relationship between fiscal deficits and inflation. The size of the fiscal deficit is, thus, a misleading indicator of the degree of fiscal dominance.

Third, the average reliance on seigniorage for the seven industrial countries that have adopted inflation targeting was similar to the average for all advanced economies, but higher than in the United States and Germany.

Fourth, the average reliance on seigniorage and the recent inflation performance in a number of high-middle-income developing countries (Israel, Korea, Mexico, and South Africa) do not seem much different from the averages recorded by the seven inflation-targeting countries immediately before they adopted this approach.

What seems clear from the evidence is that, in a large number of developing countries, fiscal dominance and a poor financial market infrastructure severely constrain the scope for independent monetary policy. In fact, for most of these countries, the effective independence of the central bank to use instruments of its own choosing will most likely have to await a comprehensive public sector reform that broadens the tax base, reduces the government's reliance on seigniorage and other revenues from financial repression, lowers inflation at least to low double-digit levels, and revamps the banking and financial systems.

Nonetheless, it is also evident that the constraints on monetary policy imposed by fiscal dominance, high inflation, and financial repression are considerably less severe in the 1990s for some high-middle-income developing countries. For these countries, the obstacles to conducting monetary policy in a way consistent with inflation targeting seem related less to feasibility than to the authorities' willingness to give clear priority to inflation reduction over other objectives of monetary policy and to their ability to convey policy objectives to the public in a credible and transparent manner.

Conflicts with Other Objectives

In developing countries with reasonably well functioning financial markets, moderate to low inflation, and no clear symptoms of fiscal dominance, the independence of monetary policy depends crucially on the exchange rate regime and the mobility of capital.

Although fixed exchange rates have become rare, they have given way in many developing countries to a variety of flexible, but still managed, exchange rate arrangements, and access to international capital markets has increased dramatically. Nevertheless, the nominally more flexible exchange rate arrangements that many of these countries have adopted do not seem to have led the authorities to attach a much lower weight to exchange rate objectives or to stop using the exchange rate to guide monetary policy settings. These developments have further complicated the task of conducting monetary policy in these economies and have an important bearing on whether these emerging economies can adopt inflation targeting.

The necessary conditions for inflation targeting—the priority of the inflation target over other policy objectives and a forward-looking operating procedure using inflation forecasts—are difficult to satisfy in a context where exchange rate stability is a stated or an implicit objective of monetary policy (as when the authorities adopt de facto a target level, path, or band for the exchange rate even when that rate is de jure flexible) or where the understanding of the empirical links between instruments and targets of monetary policy is rudimentary. As long as an inflation target coexists with other objectives of monetary policy, and the central bank lacks the means to convey to the public its policy priorities and its operating procedures in a credible and transparent way, tension between the inflation target and the other policy objectives is unavoidable. In such circumstances, the benefits of inflation targeting are lower, and the difficulties of conducting monetary policy in many emerging market economies will remain unresolved.

Specification of the Inflation Target

The inflation target should be specified on the basis of an assessment of the effect of different decisions about the level of the inflation target, the time it will take for the target to be reached, exemptions from the price index, and the treatment of administered prices.

A medium-term inflation target implies a consensus about the appropriate or optimal inflation rate. In most developing countries, including those with some scope for independent monetary policy, such a consensus simply does not exist. For a variety of reasons, the benefits of low and stable inflation in these economies have rarely been quantified or tied to a particular rate of inflation. As long as this situation persists, any choice of a medium-term inflation target for these countries is bound to be arbitrary.

Even less can be said about the speed at which the inflation target ought to be attained. Since opinions on this issue are intimately linked to differences of view about the primary goal of monetary policy in these economies, there are no grounds to expect that agreement on the appropriate speed of convergence to the inflation target can be reached quickly.

The choice of the price index on which to base the inflation target is also likely to be more problematic in developing than in industrial countries. Although in general using a widely recognized index such as the CPI enhances the credibility and transparency of monetary policy, the fact that developing countries tend to be subject to numerous and variable supply shocks argues in favor of removing some volatile items from the core inflation rate used to guide monetary policy settings.

In many developing countries, administered or controlled prices are an important component of aggregate price indices and thus of the short-run behavior of inflation. A proper inflation forecasting procedure needs to incorporate explicit assumptions about the timing and magnitude of changes in these prices. Consequently, greater coordination between monetary and fiscal authorities would be demanded than in economies where most prices are market determined.

Summary

The two major prerequisites for adopting inflation targeting are a degree of independence of monetary policy and absence of commitment to a particular level for the exchange rate. A country satisfying these requirements could choose to conduct its monetary policy in a framework of inflation targeting. Seven industrial economies have used such a framework and have so far met with apparent success. These countries have adopted inflation targeting from a starting point of low (less than 10 percent) inflation, considerable exchange rate flexibility, and substantial independence of the central bank—conditions rarely found in developing countries. In many of the latter, the requirements for an effective inflation-targeting strategy are absent, either because seigniorage is an important source of financing or because there is no consensus on making low inflation the overriding goal of monetary policy.

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