Inflation Targeting in Emerging Market and Transition Economies: Lessons after a Decade

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Abstract

Starting in the early 1990s, several emerging market and transition economies (EMEs) have adopted inflation targeting (IT). In this paper we discuss a number of issues that arise in this context: (a) the definition of IT, (b) the role of preconditions for IT, (c) the use of intermediate exchange rate targets, and (d) the specification of inflation targets. Our overall conclusion is that, suitably modified, IT is a useful policy strategy for EMEs.

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1. Introduction

The announcement of explicit inflation targeting (IT) by a number of countries during the last decade constitutes arguably the most important change in the framework of monetary policy since the collapse of the Bretton Woods system in the early 1970s. While New Zealand and Canada led the adoption of such a framework, it is not always recognised that some emerging market and transition economies (EMEs) launched at the same time policy strategies containing many of the elements of the IT regimes used in more advanced economies. For instance, the Bank of Chile adopted numerical targets for inflation as early as 1990, and the Bank of Israel in 1991. Other EMEs that have switched to a monetary policy framework anchored around a numerical objective for inflation include the Czech Republic and Korea (1998), Poland, Brazil, and Colombia (1999) and South Africa and Thailand (2000).[1]

In this paper we summarise what can be learned from the experiences of the EMEs that have adopted inflation targeting regimes since the early 1990s. We emphasise that EMEs are diverse in terms of economic structure, the development of their financial markets and the capacity of the central banks to conduct independent policy. While IT has been introduced by relatively advanced EMEs (Schaechter et al. 2000), it seems likely that this framework will also be adopted by a number of EMEs with intermediate income levels. The discussion below focuses on issues of importance for this group of countries.

The paper is organised as follows. Section 2 reviews the nature of IT regimes. Section 3 discusses the importance of preconditions for the adoption of IT, which play an important role in the literature. Section 4 considers a number of issues that arise when adopting IT in an EME. Section 5 concludes.

2. What is Inflation Targeting?

An immediate question that arises when discussing IT regimes in EMEs concerns the definition of IT. A number of authors have proposed formal criteria that can be used to discriminate between this and other policy strategies. While the proposals vary somewhat between authors, those suggested by Mishkin (2000) and Mishkin and Savastano (2000) are representative of those found elsewhere in the literature. The criteria are: a public announcement of a numerical target for inflation; a commitment to price stability as the overriding goal of policy; the use of an information-inclusive strategy (defined as one in which the central bank does not solely rely on information from e.g. monetary aggregates or exchange rates to set policy); and the adoption of high levels of transparency and accountability.

Although there is little doubt that these criteria capture the spirit of IT, they are not very helpful in formally defining this policy framework. First, several central banks, including the Swiss National Bank and the European Central Bank, that do not consider themselves as targeting inflation would arguably satisfy these criteria. Moreover, the Bundesbank would almost surely have argued that these criteria admirably capture the spirit of the monetary targeting strategy it used until the introduction of EMU.

1 As discussed further below, it is difficult to formally determine whether a monetary policy framework should be classified as IT or not. This is particularly so among EMEs, which have tended to initially adopt relatively simple IT regimes. Moreover, some (including Chile and Israel) adopted IT before it was recognised as a separate policy framework.

Second, several criteria are unclear. For instance, what is a "high" level of transparency? The degree of transparency thought essential for IT increased drastically in the 1990s. Third, and more importantly, the IT frameworks in use have typically been refined considerably over time, suggesting that the definition of IT has evolved as well.

While one might argue that some slippage in any definition is unavoidable, the use of overly stringent criteria sends a strong signal to central banks that there are no short cuts to IT and risks leading them to adopt or maintain other, arguably less desirable, policy strategies. Moreover, the notion of IT as a regime which can be given a clear definition stands in contrast to the experiences of EMEs that conduct policy using a numerical objective for inflation. Indeed, central banks in EMEs have tended to adopt relatively simple frameworks initially, as a way to signal their commitment to achieving better inflation control and to start building a consensus about the benefits of price stability. In some cases, the initial inflation objectives were perhaps best described as indicators of the authorities' aspirations with respect to inflation rather than as hard targets. As experience has been gathered, policy frameworks have become increasingly refined. These considerations suggest that IT is best thought of as a range of strategies. The only essential elements of IT seem to be the announcement of a numerical inflation objective together with a clear desire on the part of the central bank and the government to achieve the objective, as represented, for instance, by the central bank actively adjusting its instruments whenever it comes to believe that future inflation might deviate from target.

3. Preconditions

The notion of preconditions plays a prominent role in the literature on IT in EMEs.[2] It is implicit in the argument that, unless the prerequisites are satisfied, the central bank should refrain from targeting inflation. Yet a closer look suggests that the preconditions typically specified are necessary for any monetary policy strategy to be successful - be it inflation, exchange rate or monetary targeting. Amato et al. (forthcoming) study a number of indicators of economic and financial structure for a group of EMEs with and without IT and do not find systematic differences between them, which suggests that the preconditions do in fact play little role in practice. Rather, the evidence indicates that steps are taken to satisfy the so-called preconditions only after the adoption of IT.

One precondition regarded as essential is *central bank independence*. There is broad agreement that instrument independence is desirable for good monetary policy, whatever the exact policy framework. Goal independence, however, appears to be less important. Indeed, since the precise numerical specification of the inflation target may be controversial, it may be preferable not to have the central bank set it.[3]

2 See, for instance, Masson et al. (1997), Debelle et al. (1998) or Agénor (2000).

3 The criticism the ECB has received over its definition of price stability as inflation in the range of 0-2% indicates the drawbacks of central banks operationalising their policy objectives.

Sound fiscal policy is also frequently noted as a precondition. It is easy to see that good government finances are highly desirable. Most obviously, they reduce the risk of the central bank ending up as a residual-purchaser of government bonds. While it is possible to introduce legislation that restricts the central bank's ability to extend credit to cover public deficits, laws can always be circumvented and it is better to guard against a need for monetary finance by limiting government deficits directly. Erratic government spending also may lead to significant changes in inflation. Large budget deficits in many EMEs in the past have tended to be associated with high and variable inflation. Thus small movements in government spending may trigger disproportionately large movements in inflation expectations and, ultimately, inflation (Mishkin and Schmidt-Hebbel 2000). Poor government finances may also lead to increases in regulated prices in order to limit public deficits. Such prices are quite important in EMEs, where many governments determine prices for transportation, electricity, fuel, etc. Changes in government-controlled prices and subsidies can therefore have a large and immediate impact on inflation. Since monetary policy affects inflation with a long lag, this may raise the volatility of inflation and render it more difficult for the central bank to establish credibility.

Moreover, large government debts are also problematic since they provide incentives to reduce the real value of the debt through inflation or by forcibly converting the maturity structure of the debt.[4] This raises inflation and risk premia, and therefore nominal interest rates. If the central bank in fact maintains low inflation, ex-post real interest rates will be high, reducing growth and leading to unstable debt dynamics. Finally, by contributing to a shortening of the maturity structure of the debt, poor fiscal policy requires the government to roll over the debt more frequently. This raises the risk that a confidence crisis will occur and that the central bank will need to step in to monetise part or all of the public debt.

Another precondition is that the *economy needs to be resilient to changes in exchange rates and interest rates* (Mishkin 2000). Since monetary policy under IT is no longer geared to maintaining a stable external value of the currency, large exchange rate changes can result. This is potentially problematic because the lack of large domestic capital markets in many EMEs has led firms, households and the government to borrow in foreign currency. Needless to say, exchange rate changes can have a severe impact on borrowers' balance sheets in this case. Under IT, the central bank may be required to raise short-term interest rates sharply in response to a depreciation to achieve the inflation objective. This may have a marked impact on the profitability of banks and widespread weakness in the banking sector could become an obstacle to achieving the inflation target.

Finally, it is frequently argued that, because IT is a forward-looking monetary policy strategy, there is a *need for econometric models of the inflation process and the transmission mechanism*. Only with such models, it is argued, can policymakers judge what level of interest rates is appropriate in given economic conditions.

4 Mishkin and Savastano (2000) review incidents of confiscation in Latin America. A high debt level also implies large debt service obligations which may threaten monetary stability.

In judging the importance of these preconditions for IT, it should be clear that they apply equally well to *any* monetary policy framework. Instrument independence would be desirable under fixed exchange rate or monetary targeting regimes. The foreign exchange crises experienced by a large number of countries in Europe in 1992-93 and in Asia in 1997-98 provide ample evidence that poor government finances, weak banking systems and large debts denominated in foreign currency impair the credibility of fixed exchange rate regimes.[5] Large public deficits and foreign borrowing are also problematic under monetary targeting in that they limit the central bank's ability to contain credit growth. Moreover, it should be emphasised that several countries that adopted IT did so under adverse circumstances (Mishkin and Schmidt-Hebbel 2000). In particular, and as demonstrated by Table 1, the precondition of sound government finances was commonly violated.[6] The notion that econometric models are critical to IT also seems difficult to reconcile with country experiences. Many of the European central banks that adopted IT in 1992-93 following the collapse of their exchange rate pegs did so without having econometric models to rely on. Moreover, the introduction of a radically new policy framework is likely to be associated with changes in macroeconometric models, as suggested by the Lucas critique, implying that the value of models estimated on past data may be in doubt.[7]

Overall, whether or not these preconditions are satisfied does not appear to be critical for the adoption of IT. The role of preconditions is to determine how ambitious the central bank can be in conducting monetary policy; that is, how rigidly the objectives and institutional framework should be defined.

4. Special Issues for EMEs

As noted above, several EMEs have introduced successful IT regimes. However, adopting this policy framework in EMEs raises important questions concerning exchange rate objectives, the choice of the price index and the level of the target. Below we review these issues.

4.1 Coexistence with Exchange Rate Objectives

A central question in conducting policy under IT concerns what importance the central bank should attach to the exchange rate. Central banks in advanced economies using IT commonly argue that policy should only respond to exchange rate movements if they threaten the attainment of the inflation objective. They have therefore eschewed intermediate exchange rate objectives. By contrast, a number of central banks in EMEs have adopted IT frameworks that, at least for some time, have coexisted with crawling exchange rate bands.

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5 It is instructive to note that the ability of Hong Kong's currency board to survive the massive speculative attacks during the Asian crisis in 1997-98 is typically attributed to the strength of the banking system and the very large stock of net financial assets held by the government.

6 However, the majority of countries in Table 1 experienced sharp reductions of their budget deficits following their adoption of IT. This is instructive of the importance of fiscal rectitude, and suggests that the government was supportive of, or even instrumental in, introducing the new framework.

7 The Riksbank, which adopted IT in 1992, did so without well developed econometric models, largely as a result of having conducted policy with a fixed exchange rate since the early 1930s. Notably, the bank argued that the introduction of the new policy regime and the financial deregulation the Swedish economy underwent in the 1980s rendered the value of econometric models doubtful.

There are several reasons why it may be appropriate to attach a greater weight to the exchange rate in EMEs. First, with relatively thin foreign exchange markets, pronounced shocks and large capital flows, neglect of the exchange rate may lead to excessive exchange rate volatility (Eichengreen et al. 1999). Second, for those central banks that lack a track record of monetary stability, the exchange rate naturally serves as a focal point for inflation expectations. Depreciations have therefore tended to have a large inflationary impact in EMEs with poor inflation histories.[8] In particular, the pass-through of exchange rate changes to inflation has been faster in some EMEs, especially in Latin America, than elsewhere. Third, even if pass-through is small, there is still the possibility that sharp fluctuations in exchange rates will have a large impact on the relative profitability of firms across sectors, leading to financial difficulties in parts of the economy. Such sectoral imbalances have been witnessed in the past, and there is the potential for even greater strains to arise under IT. Fourth, the balance sheets of firms, financial institutions and the government sector in EMEs may be quite sensitive to exchange rate changes because of the importance of foreign currency borrowing (Chang and Velasco 2000). A large exchange rate change may therefore lead to bankruptcies in the corporate sector, which in turn is likely to reduce the value of bank assets. This effect may be exacerbated by the fact that central banks in some EMEs enjoy relatively limited credibility. An adverse movement in the exchange rate may therefore require a sharp increase in interest rates, which could worsen the financial conditions of firms and banks alike.

On the other hand, the adoption of a crawling exchange rate band may lead market participants to underestimate the degree of foreign exchange risk and encourage excessive capital inflows.[9] In countries in which bank supervision is weak, such inflows can fuel a domestic lending boom, leading to the accumulation of bad loans, which may cause financial fragility and increase the susceptibility to a financial crisis.

The central banks of Chile, Columbia, Israel and Poland targeted inflation while using a crawling exchange rate band.[10] In these cases, the strategy of dual objectives was adopted because reducing the rate of depreciation offered an effective mechanism to speed up disinflation. While fixing the exchange rate is a common initial step in a disinflation strategy, over time this policy led to a real appreciation. The introduction of some exchange rate flexibility therefore became necessary to resolve the tension that arose between maintaining the disinflationary momentum and guarding against a loss of competitiveness. As the disinflation process continued, the bands were typically broadened as the need for the exchange rate to play an anchoring role receded while at the same time exchange rate flexibility was needed to deal with economic disturbances and capital inflows. In the end, exchange rate objectives were abandoned because of conflicts with the inflation objective. Leiderman and Bufman (2000) argue that such conflicts were endemic during the period in which the Bank of Israel used a crawling band as a part of its IT strategy.

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8 See Mishkin and Savastano (2000). Leiderman and Bar-Or (2000) argue that pass-through depends on the credibility of the inflation target, and is therefore likely to decline over time as the authorities' commitment to the IT regime becomes clearer. Kamin and Klau (2001) provide evidence indicating that the extent of the pass-through is strongly linked to the average rate of inflation.

9 See Mishkin (1998).

10 Leiderman and Bufman (1996 and 2000) discuss crawling exchange rate bands and their relationship to inflation targeting.

These experiences and the arguments above point to two conclusions. First, a crawling exchange rate band may be helpful during the transition to a low-inflation IT regime. Second, the financial structure of many EMEs suggests that monetary policy should respond to exchange rate movements over and beyond what they imply for future inflationary pressures. The coexistence of several nominal objectives might lead to situations of conflicts, but this is unlikely to be important as long as policymakers adopt a clear hierarchy between the objectives (Debelle 2000).

4.2 Specifying the Inflation Target

The adoption of IT requires that an appropriate price index be selected and that the exact level of the target be determined. We discuss each issue in turn.

Like more advanced economies, EMEs target the CPI because it is well understood by the public, is available quickly and is not revised. However, CPI baskets in EMEs tend to differ from those in more advanced economies on two accounts. First, food constitutes a greater part of the basket.[11] Since food prices are highly variable as a result of their sensitivity to weather conditions, this translates to more volatile CPI inflation. Second, regulated prices are more important (Debelle et al. 1998). Large movements in regulated prices, which have a direct impact on the overall price level, may lead to poor control of inflation and damage the central bank's credibility. For this reason, the Czech National Bank initially targeted a measure of "net" inflation that removed regulated prices from the CPI basket.

While poor inflation control resulting from the large weight of food in the CPI could be addressed by the central bank targeting a measure of core inflation, this strategy is also subject to problems. A measure of core inflation that reduces the importance of food and regulated prices may reflect the actual cost of living quite poorly. The use of core inflation may also lead to credibility problems. In Brazil, where there was a widespread impression that, in the past, price indices had been revised ex-post to reduce recorded inflation, the central bank decided that any core inflation measure would lack credibility and therefore chose to target CPI inflation. The National Bank of Poland also decided not to target core inflation on the grounds that doing so would raise credibility concerns since there were no independent measures of core inflation available. Of course, even if core inflation is not used as a target, the central bank may nevertheless make use of it in judging economic conditions and in setting policy.

Turning to the issue of the appropriate target level, it is sometimes argued that EMEs should aim for somewhat higher rates of inflation than more advanced economies (Masson et al. 1997).[12] But there is no reason to believe that having a somewhat higher inflation target would promote growth, while there is evidence to suggest that even moderate levels of inflation may have negative consequences for growth (Feldstein 1999). Furthermore, while little is known about the size of measurement error on inflation in most EMEs, there is little reason to assume that it is greater in these countries than elsewhere.

11 For example, Debelle and Lim (1997) note that food accounts for 59% of the CPI basket in the Philippines.

12 The discussion here focuses on the choice of long-run target. The issue of specifying transitional targets during an initial disinflationary phase is beyond the scope of this paper. See Amato et al. (forthcoming).

However, the Balassa-Samuelson effect may justify adopting a slightly higher inflation target. Given that EMEs grow on average at a faster pace than more advanced economies, adopting an inflation target at the same level as more advanced economies is likely to be associated with smaller increases (or perhaps even declines) in the prices of traded goods and exchange rate appreciation. Alternatively, the central bank may prefer to adopt a somewhat higher inflation target, in order to maintain the rate of price increase for traded goods at the international level and a relatively stable nominal exchange rate. The estimates in Amato et al. (forthcoming) suggest that the Balassa-Samuelson effect may warrant a 1-2% higher inflation target in EMEs.

Another issue that has an impact on the desired level of the inflation target is the "zero lower bound" (ZLB) on nominal interest rates.[13] Two factors play a role in determining the importance of the ZLB. First, the size of shocks. EMEs appear to be subject to greater economic disturbances than more advanced economies, suggesting that central banks in these countries are more likely to face highly adverse economic conditions. For any given inflation rate, they are therefore more likely to want to reduce nominal interest rates below zero.[14] Second, the level of the equilibrium real interest rate. Standard growth theory suggests that the real interest rate is higher in developing economies. Given the inflation rate, higher real interest rates translate into higher nominal interest rates. Consequently, the central bank will have more room to cut nominal interest rates before the ZLB is reached. Overall, it may well be that the importance of the ZLB is no greater in EMEs than in more advanced economies.[15]

In sum, there is little hard evidence to suggest that the level of inflation targets in EMEs should be much different than in more advanced economies.

5. Conclusions

A number of EMEs have adopted IT regimes since the early 1990s, and much can be learned from their experiences. Our assessment of these experiences, combined with theoretical considerations, has led us to two main conclusions. First, in most cases IT has been introduced successfully without the economy in question satisfying the preconditions that play such an important role in the current literature. Second, exchange rate objectives might play a relatively greater role in EMEs, primarily due to the financial structure of these economies. In particular, during disinflations, inflation targets have coexisted with exchange rate targets, and while there have been conflicts, central banks have typically interpreted the inflation objective as the overriding goal of policy and acted accordingly. As the transition to low inflation progressed, formal exchange rate bands were broadened and, more recently, relinquished. However, the use of intermediate exchange rate objectives has arguably been helpful.

13 The problems associated with conducting monetary policy at very low inflation rates are discussed in IMF (1999).

14 While the historically greater variance of inflation and output in EMEs may be partially due to poor monetary policy, it also reflects economic structure, in particular the greater importance of commodities in trade.

15 It is also possible that the interest rate channel of the monetary transmission mechanism is of less importance in economies with less developed financial systems; instead, credit availability may play a more central role.

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Table 1: Fiscal Balances of Countries Adopting Inflation Targeting

(as a percentage of GDP in the year of adoption)

Country	Year adopted	Fiscal balance in year of adoption	Country	Year adopted	Fiscal balance in year of adoption
Sweden	1992	- 9.76	Israel	1991	- 4.35
Finland	1992	- 8.11	Australia	1993	- 3.90
United Kingdom	1992	- 7.24	South Africa	2000	- 2.65
Brazil	1999	- 6.89	Thailand	2000	- 2.24
Poland	1999	- 4.98	New Zealand	1990	- 1.68
Canada	1990	- 4.93	Czech Republic	1998	- 1.63
Spain	1992	- 4.92	Chile	1990	3.48

Source: Adapted from IMF (2001, Table 4.5, p 142).