

# **MONETARY POLICY STRATEGIES FOR EMERGING MARKET COUNTRIES: LESSONS FROM LATIN AMERICA**

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## Abstract

The paper examines three possible monetary policy strategies for emerging market countries -- hard pegs, monetary targeting and inflation targeting -- by conducting case studies of the recent Latin America experience. The track record of monetary policy in these countries provides useful clues as to which of the three strategies might be best suited to conditions in different emerging market countries.

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## I. Introduction

The conduct of monetary policy in emerging market (and transition) countries confronts different challenges from that in industrialized countries. In contrast to the experience in industrialized countries, the past monetary policy experience of many emerging market countries has been dismal, with extreme episodes of monetary instability, swinging from very high inflations, to massive capital flight, to collapses in their financial systems. However, in recent years the prospects for successful monetary policy in emerging market countries have increased, as exemplified by the far lower rates of inflation in the Latin American region, which have fallen from an average of over 400% in 1989 to below 10% at the beginning of the millennium. (See Figures 1 and 2.)

Given the more favorable environment for the conduct of monetary policy in emerging market and transition countries, where should they go from here in designing appropriate long-run strategies for the conduct of their monetary policy? The central issue in addressing this question is whether an emerging market country has a chance of setting up institutions and mechanisms that will effectively and efficiently constrain the discretion of its monetary authorities. In principle, there are three broad monetary policy strategies that can produce a nominal anchor that credibly constrains the discretion of the central bank over the medium term: “hard” exchange-rate pegs, monetary targeting, and inflation targeting.<sup>1</sup>

An earlier paper, Mishkin and Savastano (2001), provides a theoretical framework for discussing the advantages and disadvantages of each of these three strategies. This paper complements the analysis in that paper by conducting detailed case studies of recent monetary policy experiences in Latin America in order to evaluate how well each strategy has worked in practice. The evidence from these case studies provides useful clues as to which of the three strategies might be best suited to conditions in different emerging market countries.

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<sup>1</sup> Although a soft peg may be appropriate as a tool in the initial phases of a stabilization program, this strategy is not discussed here, because as has been amply demonstrated by recent experiences in industrial and emerging market economies, it is not an appropriate *medium-term* strategy for monetary policy (see Obstfeld and Rogoff (1995), Eichengreen and Masson (1998) and Mishkin (1998, 1999).

## **II. Hard Pegs**

There are essentially two types of “hard peg” regimes for monetary policy: a currency board and full dollarization. In a currency board, the domestic currency is backed 100% by a foreign currency (say, U.S. dollars) and the note-issuing authority, whether the central bank or the government, fixes a conversion rate to this currency and stands ready to exchange domestically issued notes for the foreign currency on demand. A currency board is a hard peg because the commitment to the fixed exchange rate has a legal (or even constitutional) backing and because monetary policy is, in effect, put on autopilot and completely taken out of the hands of the central bank and the government. Full dollarization involves eliminating altogether the domestic currency and replacing it with a foreign currency (say, the U.S. dollar). It represents a stronger commitment to monetary stability than a currency board because it makes it much more costly--though still not impossible--for the government to regain control over monetary policy and/or change the parity of the (non-existent) domestic currency.

### **Lessons from the Recent Experience in Latin America**

The two prime examples of hard pegs in Latin America are Argentina and Panama. Both hard pegs were created under special, and quite different, historical circumstances. In the case of Argentina, the hard peg was the cornerstone of the stabilization program of 1990-91 that ended the hyperinflation bouts of the 1980s. In the case of Panama, the government’s decision to adopt the U.S. dollar as the legal tender and to eschew the creation of a central bank was made in 1904, the year after the country was founded.

**Argentina.** The extreme inflation of the 1980s wreaked havoc with the Argentine economy. Numerous stabilization plans failed to break the inflationary dynamics and psychology fueled by high fiscal deficits, entrenched indexation practices and ballooning interest payments on

government debt. To end this cycle of inflationary surges, Argentina tightened monetary and fiscal policies in early 1990 and then decided to adopt a hard peg with the passage of the Convertibility Law of April 1, 1991. The law transformed the central bank into a quasi-currency board that could only issue domestic currency when it was fully backed by foreign exchange (except for up to 10% of the monetary base which could be backed by dollar-denominated government bonds), could not alter the exchange rate from one new peso to the dollar, and could not provide credit to the government. The law also eliminated all exchange controls, banned automatic indexation clauses and allowed contracts to be expressed and settled in foreign currency (Cavallo, 1993).

The first four years of Argentina's quasi-currency board were highly successful and have become the textbook example of the benefits of a currency board for stopping high inflation (Hanke and Schuler, 1994). Inflation fell from an 800% annual rate in 1990 to less than 5% by the end of 1994, and economic growth was rapid, averaging almost 8% per year from 1991 to 1994 (see Figures 2 and 3). Fiscal deficits were also kept moderate, averaging below 1% of GDP, and the government implement far-reaching structural reforms, especially in the areas of privatization and trade.

However, in the aftermath of the Mexican crisis of late 1994, a speculative attack against the Argentine currency board quickly turned into a major banking crisis. From December 1994 until March 1995, the prices of Argentine stocks and bonds plummeted, the banking system lost 17% of its total deposits, the central bank lost more than a third of its international reserves (\$5.5 billion), the money supply contracted, interest rates shot up--with the interbank rate briefly exceeding 70%, and external credit lines vanished. An interesting feature of this attack is that the run on the banks had two distinct phases: a first phase where the public moved peso deposits from small banks to large banks and switched part of those deposits into dollars, and a second phase, during March 1995, where the run of deposits spread to the dollar segment of the system and affected all financial institutions--including local branches of large foreign banks (IMF, 1996). A run on dollar deposits in large banks (including foreign ones), clearly suggests that the public

was not only hedging against a devaluation of the peso but against something worse, such as a confiscation, the imposition of exchange controls or a complete meltdown of the banking system. Whatever the forces at play, the severity of the attack brought home the point that the Argentine currency board was not exempt from a sudden loss of confidence from domestic and foreign investors, and that the Argentine banking system was not prepared to cope with those shocks.

The Argentine central bank had its lender of last resort role constrained by the Convertibility Law, yet it mitigated the adverse effects of the run on bank deposits by lowering reserve requirements, providing direct credit via rediscounts and swaps, and participating actively in the restructuring, privatization and liquidation of troubled banks. By the end of April, the central bank had managed to provide over \$5 billion of liquidity to the banking system, more than a third of it in the form of direct loans, and was able to avert a large-scale collapse of the banking system. An often overlooked aspect of the success of the Argentine government in containing the banking crisis and preserving its quasi-currency board was the substantial assistance it received from the multilaterals (i.e., the IMF, the World Bank, and the Interamerican Development Bank) who lent Argentina almost \$ 5 billion during 1995. Despite all these efforts the real economy took a nosedive; the May unemployment rate shot up to 18% and 1995 real GDP fell by more than 3%. It was not until 1996 that the economy began to recover.

The overall performance of the Argentine economy from 1996 to 1998 was more uneven than in the first half of the 1990s. Real output grew at an average rate of 6 percent and inflation fell to practically zero but, apart from a strengthening of prudential regulations and supervision and a fast process of bank consolidation, the authorities' drive for undertaking further structural reforms and fiscal adjustment started to falter. The fiscal deficit, which had reached almost 4% of GDP in 1995, averaged 2.7% from 1996 to 1998 despite the pick-up in growth; the current account deficits widened, and all debt indicators deteriorated markedly. Investors' concerns about these developments surfaced in the Fall of 1998, following the Russian crisis and the decline in commodity prices. Domestic interest rates and spreads on Argentine bonds, which had been largely unaffected by the Asian crises of 1997, shot up in September 1998 to levels not seen

since the Tequila crisis. Although the spike was short lived and the Argentine government continued tapping the markets with IMF support, external financing dried up and real output fell by 3.5 percent in the second half of the year (see Figure 3).

The devaluation of the Brazilian real in January 1999 sent Argentina into a full-blown recession that lasted more than three years. The sudden loss of competitiveness vis-à-vis a major trading partner exacerbated the downturn that had started in late 1998. Although there was no run on deposits and no loss of reserves until late 2000, interest rates and spreads on Argentine paper rose steadily, bank credit stalled, and industrial production plummeted. By mid- 2001 the unemployment rate reached 18% and the fiscal situation became completely unsustainable, with spreads on government debt in excess of 2,500 basis points, collapsing tax revenues and no available sources of financing. On December 25, 2001, in the midst of a social and political crisis that brought down the de la Rúa government, Argentina declared default on over \$150 billion of government debt.

What transpired in Argentina in 2001 is a dramatic example of the perils of fiscal profligacy in a hard peg regime stressed in Mishkin and Savastano (2001). Faced with a weakening fiscal position and with no access to foreign credit, the Argentine government forced the banks to absorb large amounts of government debt (first by removing the central bank governor and appointing one that was willing to lower banks' liquidity requirements, and later by resorting to all forms of "arm twisting"). The ensuing decline in the value of the government debt in banks' balance sheets along with rising bad loans caused by the severity of the recession fueled increasing doubts about the solvency of the banking system. This led to a full scale banking panic in October-November, with the public rushing to withdraw their deposits and interbank interest rates soaring. On December 1, after losing more than \$8 billion of deposits, the government imposed wide-ranging controls on banking and foreign exchange transactions, including setting a \$1000 monthly limit on deposit withdrawals. Three weeks later the government was pushed out of office.

The government of President Duhalde that took office at the beginning of 2002, in

replacement of the brief interim government of Rodriguez Saa, finally pulled the plug on the currency board. On January 6, the exchange rate applicable to exports, essential imports and most capital transactions was set at 1.4 pesos/dollar, while a floating exchange was created for all other transactions. Announcements that banks would (eventually) be required to repay their dollar deposit liabilities in full, while bank loan assets of under \$100,000 would be converted into pesos (with their consequent lower value) created overnight a massive hole on banks balance sheets. The draconian limits on deposit were maintained, thus aggravating the already disruption to the payments system and bringing the whole economy to a virtual halt. The precise unfolding of the crisis remained unclear at the time of this writing, but the near term prospects seem unambiguously grim.

**Panama.** Panama has recently come into the limelight because it was the only fully dollarized country in Latin America until Ecuador abolished its domestic currency in 2000.<sup>2</sup> The inflation performance of Panama illustrates the key advantage of full dollarization: its ability to deliver low inflation. From 1960 to 2000, Panama's inflation rate has averaged 2.8% per year, which is significantly lower than in any other country in Latin America, and is even lower than the 4.6% average over the same period for the United States. Panama's growth performance during the same period was also good, but far less impressive. Since 1960, Panama's real GDP grew at an average of 4.2% --about one percentage point faster than Latin America as a whole (see Figure 4). However, some studies have shown that output volatility in Panama has been among the highest in the region, and that a main factor behind that volatility has been its exchange-rate regime (e.g., Hausmann and Gavin, 1995, Tables 4 and 14). These findings seem fully consistent with the earlier noted tradeoff between price stability and output stability that affects countries with no monetary policy.

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<sup>2</sup> See, for example, Eichengreen and Hausmann, (1999), Moreno (1999), and Schuler (1999). Panama has domestic currency coins (balboas) that co-circulate at parity with U.S. dollar coins. The balboas are issued by the Banco Nacional de Panama, a government-owned commercial bank that acts as the financial agent of the government but does not centralize official holdings of reserves nor acts as lender of last resort.

A hallmark and a key strength of Panama's economy is the soundness and sophistication of its banking system. Although the low inflation environment produced by full dollarization contributed to this outcome, full dollarization does not appear to be the primary source of the well-functioning banking system. The take-off of Panama's financial system only began in 1970 with the passage of a banking law--Cabinet Decree 238--that eased licensing and portfolio allocation requirements on foreign banks, strengthened secrecy provisions, and allowed unrestricted movements of capital (Moreno, 1999). The goal of transforming Panama into an offshore banking center was achieved fairly quickly. By 1987 there were more than 120 banks located in the country, the majority foreign-owned, and broad money and private sector credit as a share of GDP had risen by more than 15 percentage points (to 40% and 54% respectively). Except for a banking crisis in 1988-1989 which occurred as a result of economic sanctions imposed on Panama in 1988, including a freezing of the deposits held in the United States by the Banco Nacional de Panama, the Panamanian banking system has fared well.<sup>3</sup> One result is that private sector borrowers in Panama have access to international financial markets and can borrow at low interest rates. Indeed, Panamanian firms and banks do not face a "sovereign ceiling" and can often borrow at lower rates than the government. However, the small spread between domestic and foreign interest rates is probably more a reflection of Panama's sound and internationally-oriented banking system than the result of full dollarization.

The rest of Panama's economy displays many of the maladies common to Latin America. Until the late 1980s, Panama had a large and inefficient public sector that spent more than 25% of GDP on public sector wages and other current outlays, rigid labor markets that led to high unemployment (of more than 15%), a distorted trade regime that thwarted the development of agriculture and manufacturing, and a weak system of property rights (Loayza and Palacios,

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<sup>3</sup>The U.S. economic warfare against Panama sparked a series of bank runs that nearly caused the collapse of the Panamanian payments system (see Garber, 1999). When the standstill ended, after almost two years, a number of small banks had disappeared, the money supply had shrunk by 30%, and real output had fallen by 18%. This episode illustrates that a country with a hard peg is not exempt from bank runs and panics, whatever their origin may be. The fact that the United States also had frequent bank panics in the nineteenth and early twentieth century even when it had a hard peg (the gold standard) also illustrates this point--e.g., see Mishkin (1991).

1997). Given these problems, Panama had a lackluster fiscal performance, with fiscal deficits jumping from 2% of GDP in the 1960s to over 7% in the 1970s, and averaging 5% in the 1980s. Like the rest of Latin America, Panama financed its large fiscal deficits mainly with foreign borrowing, and when the debt crisis of the 1980s hit the region the country was not spared. In fact, partly due to the political upheaval, the resolution of Panama's external debt problems was particularly difficult and protracted. A reflection of this and of its fiscal profligacy is the fact that Panama has needed continued support from the IMF: from 1973 to 1997, Panama requested thirteen IMF programs, the greatest number for any country in Latin America during that period. Although the size of the IMF loans was generally small, and many of the loans were not drawn, the recurrent need to solicit IMF support cast doubts on the claims about self-adjusting properties of Panama's dollarized economy that have become popular in some circles.

### **Bottom Line**

Our review of the advantages and disadvantages of hard pegs and of the experience with those regimes in Argentina and Panama suggests two main conclusions.

The first one is that there are two necessary conditions for the success of a hard peg: a solid banking and financial system, and sound and sustainable fiscal policies. The sole adoption of a hard peg does not ensure that these two conditions will be met, at least not rapidly or automatically. The weakness of Argentina's banking system almost brought down its (quasi-) currency board during the Tequila crisis of 1995, whereas the strength of Panama's banking system --badly shaken by the incidents of the late 1980s-- seems to owe at least as much to the policies and regulations that transformed Panama into an offshore financial center for the region than to its hard peg regime. On the fiscal requirements, small fiscal deficits were key to the early success of Argentina's currency board but persistent fiscal imbalances in the second half of the 1990s and early 2000s raised recurrent concerns about the sustainability of the hard peg and eventually led to its demise. Furthermore, the fiscal crisis spilled over into a banking crisis which has been very damaging to the Argentinian economy. The fiscal problems of Panama, on the other

hand, have been as entrenched and protracted as those of the typical (non-dollarized) Latin American country. The claim that hard pegs ensure fiscal discipline and prevent fiscal dominance receives little support from these two experiences.

The second conclusion is that hard pegs remain subject to speculative attacks and bank runs, and are ill-equipped to counter country-specific shocks. The spillovers of the Tequila crisis on Argentina, its banking crisis in 2001-2002 and the runs on Panama's banks in the late 1980s provide evidence of the first point. The deepening recession in Argentina after the devaluation of the Brazilian real in 1999 and the high volatility of output in Panama are illustrations of the second.

Another problem of hard pegs is that they do not have an easy exit strategy. Not even when changes in the country's political and economic institutions make it possible and desirable to have a monetary policy able to focus on domestic considerations. Exiting from a currency board is highly dangerous unless the currency is likely to appreciate, but this is exactly when things are going well and so the political will to exit is likely to be weak, or nonexistent. Exiting from a fully dollarized economy is even more troublesome because the (new) monetary authorities, and the new currency, are likely to encounter a serious problem of lack of credibility. The dire situation of Argentina in January 2002 provides the best possible illustration of the enormity of the challenges involved.

Notwithstanding their shortcomings, hard pegs may be the only sustainable monetary policy strategy in the medium term for those emerging market countries whose political and economic institutions cannot support an independent central bank focused on preserving price stability. Countries that cannot find ways of locking-in the gains from their fight against (high) inflation, or those that have not yet started that fight, may find in hard pegs a reasonable second best strategy for monetary policy.

### **III. Monetary Targeting**

A monetary targeting strategy focused on controlling inflation comprises three key elements: 1) reliance on information conveyed by a monetary aggregate to conduct monetary policy, 2) announcement of targets on a monetary aggregate to guide the public's inflation expectations, and 3) some accountability mechanism that precludes large and systematic deviations from the monetary targets. In addition, the strategy presupposes that monetary policy is not dictated by fiscal considerations--i.e., lack of fiscal dominance--and that the exchange rate is "flexible."

### **Lessons from the Recent Experience in Latin America**

Despite what is often said, no central bank in Latin America has truly practiced monetary targeting. In their relatively recent experience with low(er) inflation and flexible exchange rates, the monetary policy frameworks of many central banks in Latin America, and in emerging markets in other regions, have contained the first of the three key elements mentioned earlier -- i.e., using the information conveyed by a monetary aggregate to conduct monetary policy. However, the other two elements (public announcements of the targets and some type of accountability mechanism) rarely have been present at the same time--see Cottarelli and Giannini (1997).

The commonly held view that Latin American countries have pursued monetary targeting is probably rooted on the observation that most central banks in the region traditionally have used monetary aggregates for the *internal design* of their monetary policy. In fact, they have followed this practice in "good" and "bad" times: in periods of high inflation and complete fiscal dominance and in periods of low inflation and high central bank independence; in periods when the exchange rate was fixed and when it was allowed to float more or less freely; during episodes of stabilization, both failed and successful; and as an integral part of the many IMF programs these countries have had over the years. However, the fact that monetary aggregates have played an important role in monetary policymaking in Latin America does not mean that the central

banks of the region have implemented a monetary targeting strategy. Regimes where monetary targets are not announced, or are announced but not given a chance to perform as the main nominal anchor, are not monetary targeting regimes. Instead these regimes are better characterized as ones where central banks make vague references to monetary aggregates, while they retain a high degree of discretion and instrument independence. A discussion of the experience in Mexico and Peru in recent years illustrate this point

**Mexico.** From late 1987 to 1994 the inflation rate in Mexico fell from a record high 140% to 7% (see Figure 5). The disinflation program comprised drastic cuts of government spending, a pegged exchange rate, and the periodic announcement of guidelines for public sector prices, the exchange rate and wages (see Aspe, 1993). Starting in November 1991, when inflation was running at 20% in annual terms, Mexico adopted a system of gradually widening exchange rate bands aimed at giving the central bank scope to strike a better balance between the “credibility” and “flexibility” of its monetary regime (Helpman et al., 1994). In effect, however, Mexico’s monetary policy in the early 1990s was overburdened by multiple objectives: accumulating international reserves, lowering interest rates, limiting exchange rate volatility, preserving the exchange rate band, and reducing inflation. To achieve these, the central bank conducted monetary policy guided by its internal forecasts of the demand for base money, and relied heavily on sterilized intervention to prevent the massive capital inflows that flooded Mexico in those years from fueling base money growth and inflation. Hence, from 1991 to 1994, excluding the December spikes, Mexico’s monetary base hovered around a remarkably narrow range, while the central bank accumulated more than \$ 11 billion of reserves.

In 1994 the conflicting demands placed on monetary policy clashed. The central bank reacted to the long string of adverse shocks hitting Mexico during the year by sticking to its internal forecast for base money and sterilizing the outflows of reserves. Instead of raising interest rates to arrest the reserve losses, the authorities issued \$ 40 billion of dollar-denominated short-term debt (the infamous *Tesobonos*) worsening the system’s vulnerability to a speculative

attack.<sup>4</sup> The end came on December 20, when the central bank tried to undertake a “controlled” 15% devaluation. The plan did not work, and two days later the peso was allowed to float.

In the ensuing panic Mexico’s central bank maintained its adherence to base money targeting. In January 1995 the central bank released to the public, for the first time, its monetary program for the year. The program had an inflation objective of 19%, and projected a 10 billion pesos increase in base money, which was presented as the main nominal anchor of the “new” regime. The program lacked credibility and the free fall of the peso continued until late March, when Mexico secured a \$52 billion support package arranged by the U.S. Treasury and the IMF. At that time, the central bank announced a modified monetary program that maintained the projected increase in base money at 10 billion pesos, revised the forecast of inflation to 42%, and, crucially, raised interest sharply and kept them high until May, when the peso showed signs of stabilizing. For the remainder of the year, the central bank seemed to gear its monetary policy to preventing "large" peso depreciations; every fall in the peso of more than 2-3% was followed by a large increase in the interest rates of *Cetes* (Mexico’s T-bills), both at the primary auction and in the secondary market (see Edwards and Savastano, 1998). At the end of 1995, the central bank actually complied with its announced target for base money (though with less foreign reserves and more domestic credit than it had projected), but inflation, at 52%, exceeded the program target by 10 percentage points (see Figure 5).

The confusion about the instruments and targets of Mexico's monetary policy continued for the following two years. The central bank maintained its (new) practice of releasing to the public its (quarterly) monetary program, which contained targets for base money, domestic credit and international reserves at about the same time as the government submitted to Congress a document containing the budget and the broad economic objectives for the following year (including an end-point objective for the rate of inflation). Starting in late 1996, the bank went one step further and released (and posted on its website) its *daily* forecast of the monetary base

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<sup>4</sup> The role of monetary policy in precipitating the Tequila crisis of December 1994 remains a matter of dispute. See, for example, the contrasting views presented in Gil-Diaz and Carstens (1996), Kamin and Rogers (1996), Calvo and Mendoza (1996), and Edwards (1998).

for the following year. However, it gave no indication of the expected path of inflation over the period covered by the forecast. Moreover, the fact that the nominal exchange rate exhibited remarkable stability from early 1996 to mid 1997 triggered suspicions that the central bank, despite its repeated pronouncements to the contrary, was once again targeting the peso/dollar exchange rate.

Assessing the stance of monetary policy in Mexico during this period, let alone understanding how the central bank conducted monetary policy, was a daunting task for analysts and the general public. Although inflation fell steadily, albeit slowly, throughout 1996-97, the Bank of Mexico had serious trouble communicating its monetary strategy to the public and producing a nominal anchor that would help lower inflation expectations. These problems became particularly acute in 1997 when the monetary base, which had remained fairly close to its preannounced (quarterly) path in 1996, started to show large and sustained deviations from its daily forecasts early in the year. As a result, the Bank of Mexico went to great lengths trying to explain to the public the reduced role that its own forecasts of the monetary base were playing in guiding its monetary policy (see Bank of Mexico, 1998). Even though the monetary base exceeded its target by 4.1%, inflation in 1997 fell to 15.7%, very close to the year-end objective of 15%. The unreliability of the relationship between the monetary base and inflation became apparent again in 1998 when inflation exceeded the year-end objective of 12% by almost 7 percentage points even though base money ended up 1.5% below its forecast. The opposite problem occurred in 1999, when the inflation rate fell below the end-year inflation target (12.3% vs. 13%), while base money exceeded its forecast by more than 21%.

Though it can hardly be argued that the instability of the monetary base-inflation relationship produced terribly bad outcomes since the floating of the peso in late 1994 until 1997, it was fairly apparent that it had left the Bank of Mexico without a useful nominal anchor to guide inflation expectations. Aware of this situation, the central bank gradually backed off from its flirtation with monetary targeting. When Guillermo Ortiz became Governor in 1998, the bank started to downplay publicly the role that base money forecasts play in the setting of

monetary policy, even though it has maintained the practice of releasing its year-ahead daily forecast of base money, and has allowed considerably more scope for exchange rate fluctuations. In fact, we will argue in the next section that the Bank of Mexico has been moving gradually in the direction of inflation targeting.

**Peru.** In August 1990, Peru launched an ambitious economic reform program aimed at stopping hyperinflation and dismantling the numerous controls and distortions prevailing in the economy. The central elements of the anti-inflation effort were the adoption of a freely floating and fully convertible exchange rate, the establishment of a cash management committee to handle the finances of the public sector without resorting to central bank credit, the de-facto elimination of interest rate ceilings, and a once-off large adjustment of administered prices--including a 3,000% increase in the price of gasoline--that helped push the inflation rate that month to 400% (Paredes, 1991). The decision to refrain from using the exchange rate as the main nominal anchor of the disinflation was probably the most distinctive feature of Peru's stabilization.

The stabilization program was highly successful (see Figures 2 and 6). In its first phase, from August 1990 to late 1992, annual inflation fell steadily, though gradually, from a high of a 12,000% rate in August 1990 to 57%. Key elements of the program during this phase were the tight control over government spending exercised by the cash management committee, the major reforms of the tax and tariff codes, and a bold program of privatizations. The second phase of the stabilization started in 1993, with the approval of a new charter for the central bank, and lasted until late 1996. The new charter provided a strong institutional foundation for the conduct of an independent monetary policy by making price stability the sole objective of the central bank, by prohibiting the bank from lending to the public sector, from providing any type of subsidized credit or from creating multiple exchange rates, and by making the central bank's Board accountable to Congress in case those directives were breached (de la Rocha, 1998). In addition, in 1994, Peru's central bank started to announce at the beginning of each year a target range for annual inflation at year end (the December to December 12-month inflation rate) which had been

agreed with the Minister of Finance and used in the preparation of the coming year's fiscal budget. These changes helped to consolidate the stabilization. Inflation fell from 56.7% in 1992 to 11.8% in 1996, while output growth averaged 9% from 1993 to 1995. Importantly, the disinflation proceeded at a fairly steady pace and the rate of inflation did not get "stuck" in the 20% range as had happened often in other stabilization programs in the region. In the final phase, from 1997 to the present, inflation has fallen to the single digit level, an outcome Peruvians had not seen for almost thirty years.

At least since 1993, Peru's central bank has used estimates of the demand for base money as its main intermediate target for monetary policy. However, and *most crucially*, Peru's central bank has not made its monetary targets public. Aware of the uncertainties surrounding those forecasts in a dollarized economy (80% of bank deposits and bank loans in Peru are dollar-denominated), the central bank has retained considerable discretion to revise and update its base money demand estimates, and to modify the setting of policy instruments whenever it has deemed necessary (de la Rocha, 1998). By doing so, Peru avoided the type of problems encountered by Mexico when it tried to employ base money forecasts as a nominal anchor for inflation expectations.

Even though the Peruvian authorities did not announce targets for monetary aggregates nor any type of money rule as an anchor for inflation expectations at any point during the 1990s, Peru's program has become the prime case of a "money-based stabilization" in the large literature on inflation-stabilization strategies (e.g., Calvo and Vegh, 1994, 1999). The "money-based stabilization" label has been pushed further recently with Corbo (1999), who argues that Peru used a monetary anchor as the central element of its stabilization program--see also Favaro, 1996. These characterizations are misleading: In the 1990s Peru's central bank did not pursue a monetary targeting strategy with a money anchor but instead followed a conventional two-step approach for the *internal* design of its monetary policy, using the growth of base money as one of the elements guiding its decisions on instruments settings. Peru's strategy in the past decade should be seen as one of *discretionary* monetary policy with an increasing focus on price

stability, not too different from the approach to monetary policy followed by many non-inflation targeting industrial countries (including the U.S.).

### **Bottom Line**

The recent experiences of Mexico and Peru illustrate the difficulties that the instability of the money-inflation relationship creates for monetary targeting as a strategy for monetary policy in emerging market countries. This does not mean that monetary aggregates have no role to play in the conduct of monetary policy in those countries. In many emerging market economies the signal-to-noise ratio of monetary aggregates in may be high owing to their history of high inflation and large swings in money growth. However, as inflation falls to single digit levels and remains there, money growth rates are likely to lose informational content and become less useful indicators of monetary policy, as occurred in industrial countries (see Estrella and Mishkin, 1997). As money aggregates become less reliable indicators of future inflation, central banks will be well advised to downplay the importance of monetary targets, and search for alternative nominal anchors and communication devices.

Central banks in emerging market economies are oftentimes regarded as monetary targeters (e.g., Fry et al., 1999); almost always that characterization is inappropriate. As in Mexico and Peru, the alleged monetary targeting is typically a disguise for a highly discretionary monetary policy. Even when that approach proves to be successful for a period of time, as has been the case especially in Peru, it is a highly dangerous strategy. Two crippling shortcomings of the approach are that it depends too much on the preferences, skills and credibility of the individuals running the central bank, and that it does not lend itself to make monetary policy transparent and accountable.<sup>5</sup>

In sum, our review of the evidence suggests that monetary targeting is a strategy for

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<sup>5</sup> One of us has argued elsewhere that even the discretionary monetary policy regime in the United States, which has been so successful, may not produce desirable outcomes over the long run and needs to be modified, even though the environment for “good” discretion in the United States is far more favorable than in emerging market economies (see Mishkin, 1999).

monetary policy that has not been used by Latin American countries in the recent past, and is probably not an advisable medium-term strategy for the future. This is so because the problems that led to the abandonment of this strategy in industrialized countries (Bernanke and Mishkin, 1992) are also likely to arise in emerging market countries as low inflation becomes a more permanent feature. Indeed, even Germany, the quintessential monetary targeter, encountered problems with the money-inflation relationship which led the Bundesbank to miss the target ranges for its monetary targets on the order of half the time.<sup>6</sup> The secret to the Bundesbank's success was its long-term adherence to a "monetarist" framework to communicate to the public its commitment to price stability, along with the credibility it earned over the years which made its explanations of target misses believable to the public. Germany's relative success with monetary targeting is not a model for emerging market countries, where central banks need to assert their credibility over the next few years. In fact, the Bundesbank's success may not even be a model for how the European Central Bank should conduct monetary policy.

#### **IV. Inflation Targeting**

Inflation targeting is a monetary policy strategy that involves five main elements: 1) the public announcement of medium-term numerical targets for inflation; 2) an institutional commitment to price stability as the primary goal of monetary policy, to which other goals are subordinated; 3) an information-inclusive strategy in which many variables, and not just monetary aggregates or the exchange rate, are used for deciding the setting of policy instruments; 4) a transparent monetary policy strategy that ascribes a central role to communicating to the public and the markets the plans, objectives, and rationale for the decisions of the central bank; and 5) mechanisms that make the central bank accountable for attaining its inflation objectives. The list should clarify one crucial point about inflation targeting: it entails *much more* than a

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<sup>6</sup> Partly because of this a number of researchers regard Germany's monetary policy as being closer to an inflation targeting regime than to a monetary targeting regime. See for example, Clarida and Gertler (1998), Bernanke, et al. (1999) and Mishkin (1999).

public announcement of numerical targets for inflation for the year ahead. This is important in the emerging markets context, because many emerging market countries have routinely reported numerical inflation targets or objectives as part of the government's economic plan for the coming year (see Fry, et al., 1999) and yet they *have not* been pursuing an inflation targeting strategy. The monetary policy strategy must contain the other four elements listed above for it to be consistent with inflation targeting and, hence, sustainable over the medium term.

### **Lessons from the Recent Experience in Latin America**

Inflation targeting is often in the eyes of the beholder. The monetary policy frameworks of several countries in Latin America contain some of the elements of inflation targeting that we have outlined. However, this does not mean that those countries should be regarded as having followed an inflation targeting strategy. To understand why we examine the recent experience of five countries: Chile, Colombia, Peru, Mexico and Brazil.<sup>7</sup>

**Chile.** The new central bank legislation of 1989, which took effect in 1990, gave independence to the central bank and mandated price stability as one of its primary objectives. However, the legislation also stipulated objectives of the central bank to ensure equilibria in domestic and external payments. Over time, the central bank of Chile gradually increased the weight it attached to its price stability objective. The first inflation objective under the new legislation was announced in September 1990 for the twelve-month inflation rate in 1991 and has been announced every year since then in the first fifteen days of September for the following year (December to December). However, the inflation objective was initially interpreted by the public more as official inflation projections rather than as formal or “hard” targets (Morandé and Schmidt-Hebbel, 1997). In fact, Chile’s central bank pursued a very gradualist approach to

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<sup>7</sup> A questionnaire-based assessment of monetary policy frameworks in emerging economies reported in Masson et al. (1997), identified Chile, Colombia and Mexico as the countries in Latin America that, as of end-1996, appeared to be good candidates for adopting an inflation targeting strategy. Brazil and Peru were not proposed as candidates by the IMF desk officers to whom the questionnaire was sent.

lowering its inflation objectives, starting with targets of over 20% for 1991 and lowering them slowly to below 5% (see Figure 7). Over time, as the central bank experienced success in both disinflating and meeting its inflation objectives, the public began to interpret those objectives as “hard” targets for which the central bank could be made accountable. As part of this process, in September 1994 the central bank started to announce point targets rather than target ranges for its inflation objective for the following year. However, it was only in 1999 when the central bank explicitly announced a multi-year target for inflation-- consisting of a target of 3.5% for the year 2000, and a longer-term target of 2 to 4% for 2001 onwards.

The Chilean experience with inflation targeting looks quite successful.<sup>8</sup> Inflation has fallen from levels above 20% when inflation projections were first introduced to a level around 3% at present. Over the same period, output growth has been very high, averaging almost over 8.5% per year from 1991 to 1997, a level comparable to those exhibited by the (former) Asian tigers. Growth performance faltered in 1998-99; output growth fell to 3.4% in 1998 and the economy experienced a mild recession in 1999 (see Figure 7). In 1998 the Chilean central bank was reluctant to ease monetary policy and let the exchange rate depreciate in order to cushion the effects of a substantial negative terms of trade shock. Instead, the central bank raised interest rates and even narrowed the exchange rate band. In hindsight, these decisions appear to have been a mistake: the inflation target was undershot and the economy entered a recession for the first time under the inflation targeting regime. Not surprisingly given these outcomes, the central bank came under strong criticism.<sup>9</sup> During 1999 the central bank reversed course, eased monetary policy by lowering interest rates, and allowed the peso to depreciate, thus setting the stage for a

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<sup>8</sup> Corbo (1998) and Landerretche, et al. (1999) analyze the factors behind Chile’s successful disinflation of the 1990s; see also Massad (1998). For a critical view of the disinflation, see Calvo and Mendoza (1999).

<sup>9</sup> In contrast, during this same period, Australia eased monetary policy, thereby allowing the currency to depreciate to cushion the effects of its own negative terms of trade shock. This policy met with great success, resulting in an economy that remained strong while the inflation target continued to be met. One reason why Chile’s central bank did not react in a similar manner to a comparable shock may have been its (unwarranted) concern that a large peso depreciation would lead to inflation exceeding the target and, hence, erode its credibility.

strong rebound of output growth in 2000

As part of its monetary policy regime, from the mid-1980s until August 1999, Chile had an exchange rate band around a crawling peg which was (loosely) tied to *lagged* domestic inflation. The central bank stressed that the purpose of the exchange rate band *was not* inflation control, and this was the reason why, for most of the period, the rate of crawl was set on a backward-looking rather than a forward-looking basis. Rather the central bank argued that the purpose of the exchange rate band was to keep the real exchange rate in a range consistent with medium- and long-term external equilibrium and, thus, preclude an “excessive” current account deficit. Over time, the central bank also made it clear through its actions that the inflation target would take precedence over the exchange rate band when there was a potential conflict between the two objectives. Thus, for example, in various instances from 1992 to 1997 when large capital inflows pushed the exchange rate close to the appreciated edge of the band, the central bank widened the band and even revalued the central parity while keeping the inflation target unchanged, thus signaling to the public that it attached a higher weight to lowering inflation than to resisting a real appreciation that seemed warranted by the “fundamental” determinants of the real exchange rate.

A strong fiscal position and a sound financial system are two key features of the Chilean economy that have supported the inflation targeting regime. The fiscal balance ended in surplus every year from 1991 to 1998, and during 1991-97 the surplus averaged 2.8% of GDP, clear indications that fiscal policy was kept under control. In addition, due largely to the measures taken in the aftermath of the severe banking crisis of the early 1980s, Chile’s standards and practices in the areas of banking regulation and supervision during the 1990s have been of a quality comparable to those found in industrialized countries and far superior to those found in the rest of Latin America (with the possible exception of Argentina since 1995). The resulting solidity of the Chilean financial system has meant that the ability of the central bank to take steps to defend the currency and the banks has never been in question, which may have helped Chile experience less pressures on its currency than other countries of the region at the time of

the Tequila crisis (see IMF, 1996). The controls on short-term capital inflows have also been cited often as another important factor behind the low vulnerability and relative stability of the Chilean economy in the 1990s. However, the controls are highly controversial and their contribution is difficult to ascertain.<sup>10</sup> Our reading of the evidence suggests that, from the perspective of monetary policy and inflation control, strict prudential supervision was probably more important.

The Chilean example suggests that inflation targeting can be used as a successful strategy for gradual disinflation, even when inflation starts from levels of around 20%. It is important to emphasize that the success of inflation targeting cannot be solely attributed to the actions of the Chilean central bank: supportive policies such as sustained fiscal surpluses and rigorous regulation and supervision of the financial sector have been crucial to that outcome. Another important element of Chile's strategy has been the gradual hardening of the inflation targets and, most recently, the announcement of multi-year targets. However, it was not until early 2000, when the central bank began publishing an *Inflation Report*-type document that included baseline inflation forecasts, that Chile arguably completed its transition to a full-fledged inflation targeting regime.

**Colombia.** A decade ago, the prospects for Colombia's monetary policy were quite promising. The country had avoided the populist excesses that had ravaged many of its neighbors, had not been much affected by the debt crisis, and had not suffered a hyperinflation (see Urrutia, 1991). Next to Chile, Colombia was seen by many as the country in the region best positioned for economic take-off. Breaking double-digit inflation, a feature of Colombia's economy since the early 1970s, was considered a key prerequisite for attaining that goal (see Dornbusch and Fischer, 1993). The Colombian authorities seemed up to the challenge. The 1991 constitution --and the supportive legislation passed in 1992-- made the central bank independent from the government, made inflation control the overriding objective of monetary policy, prohibited the central bank

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<sup>10</sup> For a recent overview of the debate surrounding Chile's capital controls, see Edwards (1999).

from financing private sector activities, and placed tight limits on the bank's financing of government deficits (see Steiner, 1995). In addition, since 1991 the central bank started to announce explicit numerical targets for the one-year ahead inflation rate, as part of the authorities' economic program--which continued to be centered around the crawling peg system which had been a hallmark of Colombia's economic policy since the late 1960s (see Williamson, 1996).

The anti-inflation strategy was unsuccessful. Average annual inflation in the period 1991-1998 (22.7%) was essentially the same as the average for the 1980s (23.6%), and from 1991 to 1996 the central bank consistently exceeded its always modest inflation targets (see Figure 8). The inflation target was met for the first time in 1997 --with inflation ending slightly below the 18% target-- but the target was breached again in 1998 (16.7% vs. 16%). In that year, investors' concerns about Colombia's large fiscal and external deficits (in the order of 4% and 5% of GDP, respectively) and about its political situation led to a string of speculative attacks on the peso. In response, the central bank first raised interest rates to record-high levels and then, in September 1998, depreciated both edges of the exchange rate band by 9%. The response did not arrest the speculative pressures and induced a sharp slowdown in activity. In 1999 the pressures on the peso continued and Colombia suffered its first recession in seven decades. By mid-year it was apparent that the inflation target of 15% would be undershot by a large margin, but it was also clear that this was not a desired policy outcome. In late September the exchange rate band was abandoned, the peso was allowed to float, and Colombia requested its first IMF program in more than 30 years in an attempt to allay investors' concerns and end the recession.

It is self-evident from Colombia's inflation performance s that reducing inflation from the 20-25% range was not a priority of monetary policy for most of the 1990s. Its increased independence notwithstanding, the central bank continued to give priority to other objectives, especially output stability, whenever those goals seemed to be put in jeopardy by the inflation target (see Cardenas and Partow, 1998). The central bank seemed relatively content with its approach to monetary policy; indeed, in 1998, the (former) Vice-Governor of the bank stated boldly that: suggests: : "the

stance of economic policy in Colombia has been defined in the context of a global objective which has been to maintain moderate inflation in the 20-30% range” (Carrasquilla, 1998, p.87). Interestingly, as had happened in Brazil a few months earlier (see below), the failed defense of the exchange rate band in September 1999 prompted a reformulation of Colombia’s monetary regime. As part of the policy response to the currency crisis, the authorities let the peso float and set an inflation target of 10% for 2000 which, in the event, was undershot by about 1%. Later, in October 2000, the Colombian authorities moved further in the direction of inflation targeting by announcing targets for 2001 (8%) and 2002 (6%) and taking concrete actions to increase the accountability and transparency of the central bank.

**Peru.** As noted in the previous section, Peru's central bank announced an inflation target since 1994 and was quite successful in bringing down inflation. However, from 1997 to 1999, the central bank consistently undershot its inflation targets. In 1997, the target range was 8-10% while the actual end-of-year rate of inflation closed at 6.5%; in 1998 the target range was set at 7.5-9% and actual inflation was 6%; and in 1999 the range was 5-6% and inflation fell to 3.4%. Only in 2000 did the end-year rate of inflation (3.7%) fell within the target range set by central bank at the end of the previous year (3.5%-4%)--see Figure 6.

In 1998 a series of adverse shocks (i.e., el Niño, low commodity prices, and the Russian crisis) provoked a collapse in exports, a substantial depreciation of the sol, and a sharp slowdown of bank credit. Those events brought the Peruvian economy to the verge of its first recession since 1992. Economic activity remained depressed in 1999-2000 despite an agriculture-led rebound of aggregate output. As a result, monetary policy came under fire from all fronts fueling a debate on whether there is a need for an alternative monetary framework for Peru, including the option of full dollarization. Thus, notwithstanding the successful disinflation, Peru’s monetary authorities continued to lack credibility.

Although the central bank announces inflation targets, Peru’s monetary policy framework does not contain many crucial features of an inflation targeting regime, such as the publication of

*inflation reports* (and, hence, of the central bank's inflation forecasts), mechanisms for making the central bank accountable for attaining its inflation targets, or the announcement of multi-year targets. However, probably the most serious shortcoming of Peru's monetary policy has been its lack of transparency. A main contributing factor has been the profusion of instruments of monetary policy employed by the central bank: intervention in the money market (through the auction of certificates of deposits), intervention in the foreign exchange market (through direct sales and purchases of foreign exchange), and several other secondary instruments such as rediscounts, reserve requirements on the sizable foreign currency deposits and the interest paid on those reserve requirements. The proliferation of signals, compounded by the apparent lack of a coherent framework to communicate and evaluate monetary policy, has made it difficult for the public to decipher the central bank's actions, intentions and priorities, as well as to assess the stance of monetary policy at any given point in time. Instances where these problems have arisen abound, but they have been particularly acute and frequent with regard to two indicators: the observed rate of growth of base money (which on many occasions has been considered excessive and inconsistent with the inflation target -- for example during 1995-1996) and the intervention in the foreign exchange market (which is often perceived as interfering excessively with equilibrium short-run movements in the nominal exchange rate--especially with depreciations). Although the latter criticism is probably warranted, Peru's central bank has consistently, and in our view, prudently, refrained from making any type of commitment, explicit or implicit, regarding the (expected or desired) level or path of the nominal exchange rate, and has let the exchange rate depreciate at a faster rate when market pressures have proved persistent--for example, in late 1998 and 1999. This flexibility, added to the desirable features already included in the central bank's charter, bodes well for a smooth transition to a monetary policy regime more consistent with inflation targeting.

One feature of the Peruvian experience that is of great interest is the high degree of dollarization of the economy. As noted before, more than 70% of bank deposits and bank loans in Peru are dollar-denominated; moreover, U.S. dollars circulate freely and are widely accepted as

means of payment. As in other countries of the region, Peru's dollarization has its roots in the high inflation of the 1970s and 1980s. The process of remonetization that accompanied the successful stabilization of the early 1990s was driven by repatriation of flight capital of domestic residents and was channeled primarily to the fully convertible dollar deposits offered by the banking system. Thus, also as in other countries -- i.e., Argentina, Bolivia, Uruguay-- the banking system has remained highly dollarized despite the success in fighting inflation.<sup>11</sup> As noted earlier, partial dollarization has the potential to make an inflation targeting regime, which requires some degree of exchange rate flexibility, vulnerable to financial instability. However, this does not seem to have presented a severe problem in the case of Peru. The country suffered no contagion whatsoever from the Tequila crisis of December 1994 and weathered the crisis nicely, although this outcome was substantially helped by Peru's limited access to short-term capital flows at that time. Similarly during the Russian crisis of 1998, when there was a substantial depreciation, Peru did not experience severe financial instability, although bank credit and economic activity slowed down considerably. The overhaul of banking supervision and prudential regulations undertaken since the mid-1990s are likely to have contributed to this outcome.

**Mexico.** We noted in Section III that Mexico's attempt at using base money forecasts as a nominal anchor has not been too successful, and that the central bank has started to back off from that practice. In fact, senior central bank officials have recently characterized Mexico's monetary policy framework as being in "a transition period towards a clear-cut inflation targeting scheme" (Carstens and Werner, 1999). We also noted earlier that for a number of years Mexico has made public an explicit inflation objective at the time the Minister of Finance submitted to Congress the government's economic program for the following year. However, Mexico's monetary policy still lacks some important elements of an inflation targeting strategy such as a transparent policy

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<sup>11</sup> See Rodriguez (1993) and Savastano (1996) for evidence on the path of remonetization in these economies.

framework, and high accountability for meeting the inflation target. It is true that the Bank of Mexico has increased the emphasis on the inflation goal as the central objective of its monetary policy and that, since 1998, has let the exchange rate fluctuate more freely. But those changes did not go far enough. Mexico's central bank has continued to release its year-ahead forecasts for the daily monetary base, has insisted on explaining its monetary policy actions in terms of its system of daily liquidity management (the "corto" and "largo"), does not produce or release to the public mid-course inflation forecasts and, until recently, maintained the one-year ahead horizon for the inflation target. These practices are not credibility-enhancing and tend to create confusion, especially when there are (downward) pressures on the exchange rate.

It is possible that the Bank of Mexico was waiting for the "right" time to move to a more explicit inflation targeting regime. After all, up until 2000, inflation remained in the (low) double digits, external financing conditions were tight, and the pass-through from exchange rate changes did not seem to have fallen much (see Bank of Mexico, 1998). In addition, the inflation rate in 1998 overshot the announced target by almost 7 percentage points, damaging the Bank of Mexico's anti-inflation credentials. As we have argued, there is a case to be made for central banks to wait until they have acquired some anti-inflation credibility before they "harden" their targets for inflation. From this perspective, 1998 was probably not a good year for the Bank of Mexico to push further in the direction of inflation targeting.

In 1999, however, things started to look different. Annual inflation, at 12.3%, fell below the 13% target, the pass-through from exchange rate changes seemed to abate slightly, and, unlike the other large countries of the region, the economy grew by more than 3% (see Figure 5). These outcomes helped enhance the credibility of the Bank of Mexico. Appropriately, the central bank stepped up its commitment to inflation targeting. For the first time, the central bank announced the 10% inflation target for the year 2000 before the Ministry of Finance submitted to Congress the economic program for the year. This (subtle) move contributed to raise the accountability of the central bank for complying with its inflation objectives. Also for the first time, the Bank of Mexico announced a multi-year target for inflation by stating that it intends to lower inflation to

"international levels," (i.e., somewhere in the 2 to 3% range) by 2003. Starting in April 2000, the Bank of Mexico began issuing an *Inflation Report*. The report explains developments on the inflation front and discusses their relationship with the policy actions taken by the bank, but it does not present the bank's inflation forecasts. ) Nonetheless, publication of the report was a welcome step that augurs well for a rapid transition to full-fledge inflation targeting. All in all, starting in the late 1990s the Bank of Mexico followed a strategy quite similar to the one followed by the central bank of Chile a few years earlier, i.e., it "hardened" gradually the inflation targets as the bank's credibility increased because of its demonstrated success on the inflation front.

**Brazil.** The exchange-rate based stabilization under the *Real* plan from 1994 until January 1999 was extremely successful, reducing inflation from 2,500% in December 1993 to less than 2% by December 1998 (see Figures 2 and 9).<sup>12</sup> However, the inability of the Brazilian government to put its fiscal house in order led to a gradual build up of public debt that increased the regime's vulnerability to speculative attacks and, following a costly defense in the fall of 1998, the *real* collapsed in January 1999. In the immediate aftermath of the currency crash, the (de-facto) resignation of two central bank presidents and the lack of a clear strategy for monetary policy made Brazilian prospects look bleak; doomsday predictions --such as: "*one caipirinha will amount to ten tequilas*"<sup>13</sup>-- became common in the press and in market commentary. However, soon after his appointment in early February, the new central bank president, Arminio Fraga, took two crucial steps. First, as the British had done in the fall of 1992,<sup>14</sup> he recognized the need to rapidly put in place a nominal anchor and announced that Brazil would be soon adopting an inflation targeting strategy. And second, he decided to increase the interbank interest rate by 600

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<sup>12</sup> For an overview of the main elements of the *Real* plan and of its initial results see Cardoso (1998), and Lopes (1998).

<sup>13</sup> A "caipirinha" is a popular alcoholic drink in Brazil, as is "tequila" in Mexico.

<sup>14</sup> See Mishkin and Posen (1997), and Bernanke et al. (1999).

basis points, to 45%, to arrest the plunge of the *real* and re-establish credibility in monetary policy.

On June 21, 1999 the President of Brazil issued a decree instituting an inflation targeting framework for the conduct of monetary policy. The regime contemplated in the decree contains all the key elements of an inflation targeting strategy, namely : 1) the announcement of multi-year inflation targets (with explicit numerical targets for the 12-month rate of inflation in the years 1999, 2000 and 2001, and a commitment to announce the targets for 2002 onwards two years in advance); 2) assigning to the National Monetary Council the responsibility for setting the inflation targets and tolerance ranges based on a proposal by the Minister of Finance; 3) giving to the central bank of Brazil full responsibility to implement the policies needed to attain the inflation targets; 4) establishing procedures to increase the central bank's accountability (specifically, if the target range is breached, the central bank president would have to issue an open letter to the Minister of Finance explaining the causes of the deviation, the measures that will be taken to eliminate it, and the time it will take to get inflation back inside the tolerance range) and 5) taking actions to improve the transparency of monetary policy (concretely, the central bank was requested to issue a quarterly *Inflation Report* modeled after that produced by the Bank of England).

In terms of its design, the framework set up by Brazil had all the “bells and whistles” of an inflation targeting regime, and it clearly was the most comprehensive attempt to establish a regime of this type in Latin America. What is especially striking about Brazil's move to inflation targeting is how fast it occurred. The first inflation report was issued in July 1999, just a few months after Fraga was confirmed, with the second, right on schedule in September. The reports not only discussed clearly the conditions prevailing in the economy and the prospects for inflation, but also provided the central bank's inflation forecasts under different scenarios-- including through the use of "fan charts" depicting the probabilities of different inflation paths. Many central bankers in emerging market countries have been concerned that it might take them a long time to acquire the technical capability to issue an inflation report of this type. Brazil's

example suggest that those concerns may be a bit overdone.

The initial inflation targets were set at 8% for 1999, 6% for 2000 and 4% for 2001, with a tolerance range of  $\pm 2\%$ . To the surprise of many, the strategy worked well from the start. There was a remarkably small pass-through from the large depreciation of the *real* (which fell by 45% on impact and thereafter stabilized at 30% below its pre-devaluation level) for several months, the output contraction was contained (in fact, annual GDP grew by almost 1 percent in 1999), Brazil was not cut-off from external financing--though there was some "arm twisting" involved--and there were no major bank runs. By March 1999, asset prices had started to recover, the *real* appreciated and the central bank found room to lower interest rates--which it did, quite aggressively (from a high of 45% to below 20% in a seven-months period). Inflation and the exchange rate remained subdued through October, when the monthly inflation rate rose to 1.2%, the largest monthly increase since June 1996, and the exchange rate crossed, briefly, the then "critical" mark of R\$2.00 per U.S. dollar (see Figure 9). In the event, inflation in 1999 reached 8.9%, above the 8% target for the year but well within the 2 percent tolerance range; during 2000 inflation continued falling, and closed the year right at the 6% mid-point target set by the central bank in mid-1999.

Its auspicious beginning notwithstanding, it is still too soon to tell whether Brazil's inflation targeting scheme will be successful. The two big question marks are, first, whether the central bank will be capable of enhancing and asserting its independence from the government and remain committed to controlling inflation, and second, the perennial question in Brazil, whether the government will undertake the steps and reforms needed to put fiscal policy on a sustainable path consistent with low inflation. If Brazil, yet again, cannot meet these challenges, monetary policy will become increasingly overburdened and discretionary, fiscal dominance will reappear, and the inflation targeting regime will blow up. Despite these risks, it is nonetheless useful to identify the factors that may have contributed to Brazil's initial success with inflation targeting. In our view, the three that stand out are the relative strength of Brazil's banking system (which had undergone a major restructuring following the bank crisis of 1994-1996--see Caprio and

Klingebiel, 1999), the existence of substantial “slack” in the economy (partly a consequence of the prolonged interest rate defense of the *real* plan), and, especially, the quick measures taken by Governor Fraga to reestablish credibility in monetary policy. Other emerging market countries may want to take note.

### **Bottom Line**

Our review of the conduct and orientation of monetary policy in five Latin American countries in recent years suggests to us that inflation targeting can become a viable medium-term strategy for monetary policy for many emerging market economies. In fact, all the countries reviewed in this section, seem to be moving in the direction of a full-fledged inflation targeting regime. In terms of a demonstrated commitment to lowering inflation in line with its target and of the general conduct of monetary policy, Chile is far ahead from the rest of the group. In terms of setting up a framework for monetary policy that contains all the key elements of inflation targeting, Brazil has taken the lead in the region, showing that an inflation-targeting regime can be implemented quite quickly. The other three countries reviewed lag behind in both the commitment to inflation control and adoption of the other key elements of inflation targeting. A key requirement for inflation-targeting regimes in emerging market countries, as elsewhere, is the recognition that undershooting inflation targets, as occurred in Chile and Peru in the late 1990s, is just as costly as overshooting the targets. Support for an independent central bank which is pursuing price stability can erode if the central bank is perceived as focusing too narrowly on lowering inflation to the detriment of other objectives, especially output stability. By just as readily admitting their mistakes when an inflation target is undershot as when it is overshot, and continuously refining their technical expertise to minimize the occurrence of such events, central banks may increase support for their independence and for the inflation targeting regime.

Fiscal discipline and a sound and well-regulated banking system are crucial for the viability and success of inflation targeting, just as they are for the success of hard pegs. Again, Chile seems to be way ahead of the other countries reviewed in terms of broad compliance with

these requirements. Lack of fiscal discipline is a particularly serious concern in Brazil and Colombia, whereas weaknesses in the banking system are the big question mark in Mexico, and, to a lesser extent, Peru. Inflation targeting alone will not solve these problems; neither will hard pegs. Setting *multi-year* inflation targets in coordination with the government (including on the issue of government-controlled prices) may help reduce the risk of fiscal profligacy, but it is not a long-term solution. Setting up institutions that help keep fiscal policy in check and others that promote and enforce sound banking practices, seem to be the only solutions that may prove lasting and workable for emerging market countries.

Then there is the difficult question of the role of the exchange rate in an inflation targeting strategy for monetary policy in an emerging market country. The five cases reviewed provide only limited guidance for answering this question satisfactorily. The countries' reluctance to adopt an attitude of "benign neglect" of exchange rate movements (i.e., a "pure float") seems broadly appropriate--especially while they were undertaking a disinflation-- but all of them probably went too far for too long in the direction of limiting exchange rate flexibility. They did so not only through the explicit use of exchange rate bands, employed by all countries, except Peru, for a good part of the 1990s, but also through frequent direct and indirect intervention in the foreign exchange market. The main problem with responding too heavily and too frequently to movements in a "flexible" exchange rate is, of course, that the strategy runs the risk of transforming the exchange rate into a nominal anchor for monetary policy that takes precedence over the inflation target, at least in the eyes of the public. With time, this practice may become observationally equivalent with a strategy of nominal exchange rate targeting.

To mitigate the risk that the exchange rate might replace the inflation target as the economy's main nominal anchor, central banks in emerging market economies would be well advised to be more transparent regarding the role they ascribe to the exchange rate in their monetary policy framework. For example, they could express a concern for the effects that exchange rate fluctuations may have on aggregate demand and supply and indicate that those concerns would lead the central bank to try to smooth large exchange rate fluctuations, but it would not try to prevent the exchange rate from

reaching its market-determined level over longer horizons. Exchange rate smoothing via foreign exchange market interventions might be necessary at times to prevent or arrest large and abrupt exchange rate fluctuations that are clearly divorced from fundamentals. However, systematic exchange market interventions, particularly sterilized ones, are likely to be counterproductive as they would make it very difficult to signal that the inflation targets, rather than the exchange rate, is the primary nominal anchor of the economy.

Central banks should also explain to the public the rationale for exchange rate intervention in a manner analogous to that for interest-rate smoothing, i.e., as a policy aimed not at resisting market-determined movements in an asset price, but at mitigating potentially destabilizing effects of abrupt and sustained changes in that price. More generally, we think it is important that central banks understand that there are no “good floats” or “bad floats,” but that there is such a thing as “good” and “bad” monetary policy under flexible exchange rates. Letting the exchange rate become the de-facto nominal anchor of the economy through excessive intervention in a quasi-inflation targeting regime is an example of the latter.

It is also important for central banks to recognize that, as is the case for most economic relationships, the pass-through from exchange rate changes to prices is likely to be regime-dependent. After a sustained period of low inflation with effective, as opposed to fictional, exchange rate flexibility, the informational content of the exchange rate in the expectations-formation process and price-setting practices of households and firms is likely to fall. Thus, the widespread view that a currently high pass-through from exchange rate changes to prices is a barrier to successful inflation targeting is probably exaggerated. Indeed, the low pass-through that occurred after the Brazilian devaluation in 1999, which might have been reduced by the adoption of an inflation targeting regime (as well as by the slack in the economy), suggests that a high pass-through is not a permanent feature of emerging market economies.

A related problem of special relevance for emerging market countries is the extent to which a high degree of dollarization may hinder inflation targeting. To a large extent a transparent and well-designed policy of exchange-rate smoothing combined with strong regulatory and

supervision practices in the financial system should mitigate potential inconsistencies. The recent experience of Peru is encouraging in this regard. In fact, the argument can be turned on its head. The high dollarization of bank loans and deposits and the widespread use of U.S. dollars as unit of account and medium of exchange (though not as legal tender) in countries like Peru, Bolivia and Uruguay is probably irreversible, at least in the medium run. Yet all these countries have retained a domestic currency and have managed to reduce inflation to very low levels.

Even Uruguay, the chronic inflation country *par excellence* has recently brought inflation down to the single digits. Highly dollarized economies are therefore reaping one of the main benefits of full dollarization (low inflation) while preserving some scope to mitigate the effects of other shocks through monetary policy. Because their payments systems and transactions technology are already partially dollarized, it would be relatively easy for these countries to switch unilaterally to full dollarization, if they chose to. Designing a credible strategy that allows them to retain an additional margin of flexibility without impairing their gains on the inflation front, which is what inflation targeting is all about, is probably a more demanding task, but its net benefits over the medium term are also greater, and, we think, worth pursuing.

## V. Conclusion

The case studies in this paper suggest that one size does not fit all when it comes to designing monetary policy strategies for emerging market and transition countries. The key to successful monetary policy is the ability to constrain discretion so that monetary policy can focus on the long-run goal of price stability. How best to do this depends on the institutional environment in each country. There are some emerging market countries which may not have the political and other institutions to constrain monetary policy if it is allowed some discretion. In these countries there is a strong argument for hard pegs, including full dollarization, which allow little or no discretion to the monetary authorities. On the other hand, there are many emerging

market countries that seem to have the ability to constrain discretion, with Chile being the clearest example, and for these cases we believe that inflation targeting is likely to produce a monetary policy which keeps inflation low and yet appropriately copes with domestic and foreign shocks. As we have seen, monetary targeting as a strategy for emerging market countries is not viable because of the likely instability of the relationship between monetary aggregates and inflation.

Regardless of which monetary policy strategy which is chosen, our case studies suggest that a monetary policy strategy will not be successful in maintaining low inflation over the medium term in emerging market countries unless government policies create the right institutional environment. Rigorous prudential supervision and sound fiscal policy are essential to the success of any monetary policy strategy.

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