

THE NEED FOR MONETARY REFORM IN MEXICO

Manuel Sánchez

There is perhaps no more striking feature in Mexico's economic history than the persistent instability of the general level of prices. For any sufficiently long period for which there are reliable statistics, high and variable inflation is a consistent phenomenon. As a result of this behavior, living standards have been severely damaged, as reflected in several indicators, including low economic growth, frequent business fluctuations, sharp declines in real wages, and the worsening of the distribution of income.

This dismal record has prevented Banco de México, in operation since 1925, from attaining a solid reputation in terms of its commitment to price stability. During most of the 20th century, the country's monetary policy was conducted under a variety of predetermined exchange rate systems, which invariably ended in failure, with major devaluations of the peso against the U.S. dollar and consequent outbreaks of inflation. Following the 1995 crisis, the central bank has applied a flexible exchange rate policy, and since 1999 has moved toward an inflation-targeting approach. Even though inflation has recently fallen to rates not seen for several years, it is still high in terms of international standards.

Furthermore, the episodes of instability during the 1990s have given way to proposals in favor of extreme fixed exchange rate regimes, including a currency board and the adoption of the dollar as the country's legal tender. Although such ideas have lost ground in light of the recent progress in domestic stabilization and the abandonment, mainly for fiscal reasons, of the Argentine currency board, they cannot be rejected a priori.

The long and winding road toward stabilization and the limitations

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of current monetary policy make it necessary to consider alternatives to improve the likelihood of permanent price stability. From the long list of proposals traditionally entertained by economists, two options have gained ground, namely, improving current monetary policy under a purely flexible exchange rate regime with inflation targeting, and the adoption of the dollar as legal tender, or dollarization. This second alternative could also be advanced as the natural outgrowth of the increasing integration of Mexico with the United States and Canada, particularly since the approval of the North American Free Trade Agreement (NAFTA).

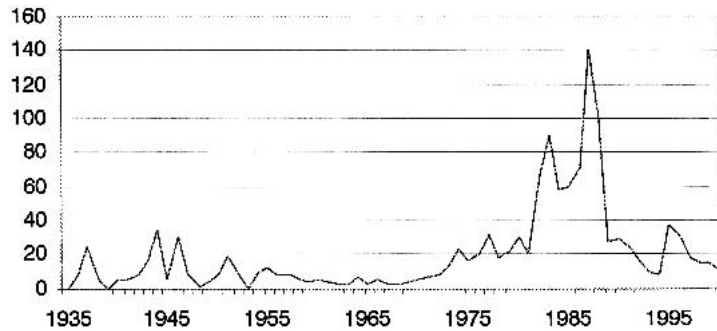
The purpose of this paper is to examine the problem of chronic inflation in Mexico and propose alternatives to permanently overcome such an obstacle. My main claim is that Mexico should not continue to be underdeveloped in terms of price stability, since the tools to attain this goal are readily available. Hence, I first describe the phenomenon of Mexico's inflation and the serious costs associated with it, and address the question of why inflation has been so persistent in the country. In the next two sections, I identify some limitations of current monetary policy under flexible exchange rates, and analyze the improvement of that policy and the alternative of dollarization. Then, I reexamine the latter regime from the vantage point of Mexico's economic integration with North America and, finally, I present some concluding remarks.

Inflation: A Chronic Malady

During most of the 20th century, the Mexican economy was persistently subject to high and variable inflation that severely damaged living standards and the country's capacity for economic growth. During that century, inflation sank deep roots in the economy, turning into an affliction that the patient has yet to overcome. Inflation stubbornly appeared in every sufficiently long period of time. Figure 1 illustrates the evolution of inflation since 1935, using the GDP Implicit Price Deflator. The chart shows that price growth tends to be high and subject to abrupt fluctuations. Average annual inflation during the 66-year period was 19.7 percent, which meant that in 2000, prices were 45,000 times higher than those of 1934. The standard deviation was 25.8 percent, with the 1940s and the period from 1973 to 2000 being particularly unstable.

Additional contrasts are worth mentioning. The lowest annual average inflation (3.6 percent) occurred during the 1960s, while the highest (66.3 percent) was posted during the 1980s. Moreover, during the latter period, the standard deviation reached 37.2 percent! How-

FIGURE 1
ANNUAL INFLATION
(GDP IMPLICIT PRICE DEFLATOR, ANNUAL % CHANGE)



SOURCE: Banco de México.

ever, even during the decade with the best performance, the 1960s, average annual inflation surpassed the concept of price stability, defined as a rate of about 2 percent. Even if we expand this notion to a 0–3 percent range, Mexico achieved price stability during only 9 out of 66 years (1935, 1939, 1948, 1953, 1962–63, 1965, and 1967–68), and if the range is narrowed to 0 to 2 percent, stability was achieved only five times. The transitory nature of these episodes indicates that inflation control has been the exception to the instability rule.

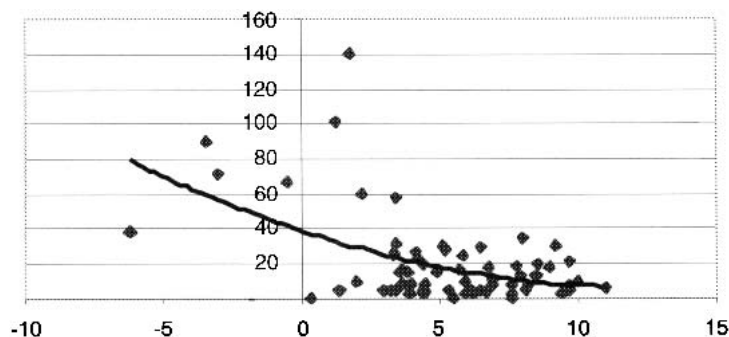
In any country, inflation generates severe costs, and Mexico has not been the exception. The reasons for this are widely known. If inflation is anticipated, economic agents will seek substitutes for money, due to its diminished usefulness, and companies will frequently change prices, which implies a waste of time and real resources. If inflation is not expected, the resulting uncertainty generates additional costs, such as the difficulty in settling rental and loan contracts, while production errors lead to instability and lower GDP growth, losses in real wages, and a deterioration in the distribution of income. The awareness of these costs explains, to a large extent, why during the last two decades of the 20th century, most economies moved toward price stability. Thus, from 1976–80 to 1996–2000, average annual inflation of the 23 most developed economies was reduced from 9.4 percent to 1.9 percent, and dropped from 20.6 percent to 10.7 percent in 121 developing countries. The defeat of inflation in many of these countries is a constant reminder that the cure for this malady is known and the technologies to overcome it are available. Yet, progress on this

front seems to depend more on the country's degree of tolerance of inflation and state of underdevelopment. Between these two 5-year periods, Mexico made very little progress, with annual inflation declining from 21.2 percent to 19.1 percent, exceeding the average reference rate during both of these periods.

The effects of Mexico's mediocre performance can be quantified. Barro (1997) estimates that after taking other factors into account, such as education, health, and the rule of law, for each rise in inflation of 10 percentage points, long-term per capita income growth drops 0.4 points. Barro's study of the determinants of economic growth is based on a sample of more than 100 countries for the 1960–90 period. Although at first glance, the negative impact of inflation might seem insignificant, its cumulative effect over time can be stunning. For example, if during the past 50 years average inflation in Mexico had been 3 percent instead of 23 percent, per capita income in 2000 would have been 49 percent higher; US\$8,532 instead of US\$5,728.

Other data are revealing. Figure 2 illustrates the negative relationship between economic growth and inflation for the 66-year period from 1935 to 2000, based on data of the above-mentioned price index and GDP. Of particular importance are eight years of high inflation, four of which coincided with the greatest contractions in GDP (1982–83, 1986, and 1995), while the rest occurred prior to and following the 1986 recession. The correlation coefficient between these two variables is -0.48 . Furthermore, it is no coincidence that the highest

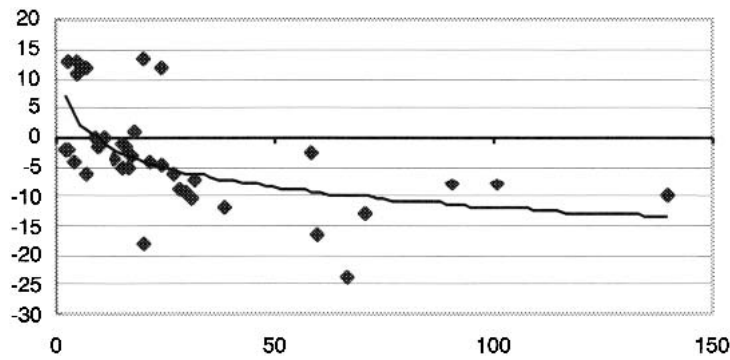
FIGURE 2
INFLATION AND ECONOMIC
(GDP IMPLICIT PRICE DEFLATOR AND GDP, ANNUAL %
CHANGE)



SOURCE: Banco de México and INEGI.

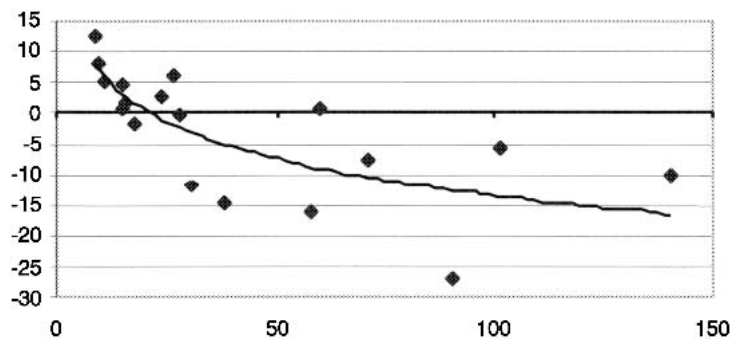
growth in average annual per capita income (2.9 percent) was posted during the 1960s, the decade of greatest price stability, and the lowest (-0.1 percent) during the 1980s, the period with the greatest instability. On the other hand, Figures 3 and 4 show a significant inverse relationship between inflation and real wages, which is hardly surprising given the natural lags of collective labor agreements, based on

FIGURE 3
REAL MINIMUM WAGE AND INFLATION
(ANNUAL % CHANGE)



SOURCE: Banco de México and INEGI.

FIGURE 4
REAL AVERAGE WAGE (IMSS) AND INFLATION
(IMSS-REGISTERED WORKERS, GDP PRICE DEFLATOR,
ANNUAL % CHANGE)



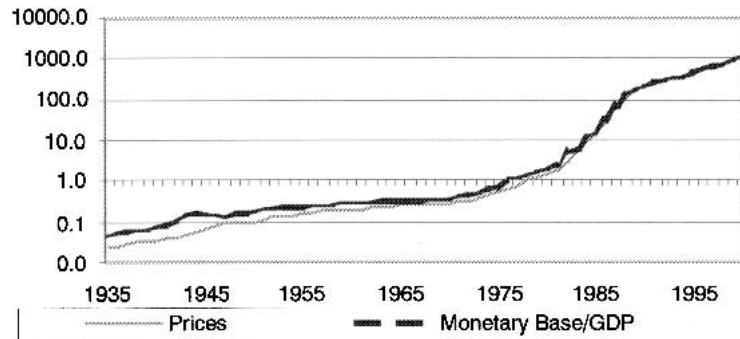
SOURCE: Banco de México and IMSS.

the minimum wage corresponding to the longest period of time for which data are available (since 1965), and the average wage for workers affiliated to the Mexican Social Security Institute (IMSS) since 1983. Finally, the share of the lowest 10 percent income bracket fell from 1.42 percent in 1970 to 1.24 percent in 1996, the period of highest inflation. In short, price instability has dramatically damaged social welfare, as reflected in the above indicators, affecting at least four generations of Mexicans.

Why Has Inflation Been So Persistent?

The persistence of inflation can be attributed to three basic but sometimes underestimated factors that confirm the central conclusions of monetary theory and international experience. The first is that, over the long run, Friedman's view (1968) that "inflation is always and everywhere a monetary phenomenon" is clearly verified. Figure 5 presents the price index and the ratio of the monetary base to GDP for the past 66 years, both expressed in a logarithmic scale. The relationship is almost perfect, since the correlation coefficient reaches 0.997. In this graph, most of the time, money growth precedes that of prices, and the inflation lag tends to diminish, disappearing around the beginning of the 1980s. With the balance of payments crisis in 1982 and in subsequent years until the stabilization program of 1988, money growth increased significantly, with an almost immediate effect on rising inflation. From 1982 to 1988, the

FIGURE 5
 MONEY AND PRICES
 (MONETARY BASE/GDP, GDP DEFLATOR, AV. = 100,
 LOG SCALE)



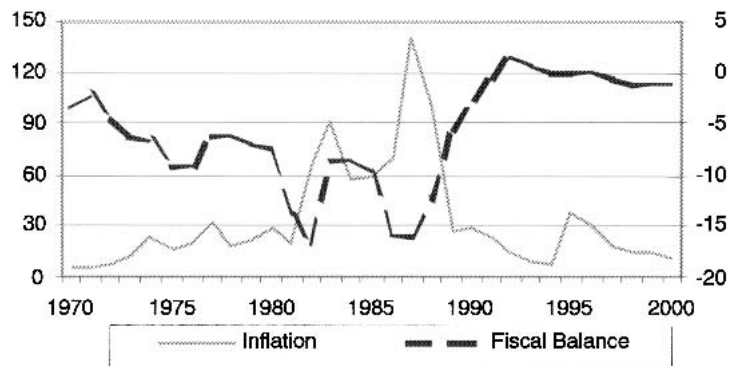
SOURCE: Banco de México.

average annual price growth was 84 percent because the average money growth was 75 percent. During the 1990s, the order between the two variables was sometimes reversed, but both maintained a strong association.

A second observation is that, for the years that relevant statistical information is available, variations in inflation are inversely related to the fiscal balance, the latter measured as a proportion of GDP. Figure 6 displays this relationship for the past 30 years, showing how the most significant upsurge in inflation during the 1980s coincided with the largest fiscal deficits in modern history. During the 1970s, this was the result of public spending, financed with the central bank's domestic credit to "spur economic growth." As always, this strategy produced short-lived results, eventually leading to the balance of payments crises of 1976 and 1982.

High public debt denominated in foreign currency and the closing of international capital markets during the 1980s led to a policy of accelerated depreciation of the peso versus the U.S. dollar to "promote exports," creating a surplus in the current account of the balance of payments to meet foreign debt obligations. In that decade, inflation tended to lag behind movements in the exchange rate, and monetary policy reacted passively to the nominal demand for money. The resulting high interest rates had a negative effect on the fiscal accounts, and the public deficit in this period reflected the foreign exchange disorder. In the 1990s, the trend toward lower inflation was

FIGURE 6
INFLATION AND FISCAL BALANCE
(ANNUAL % CHANGE, % GDP)

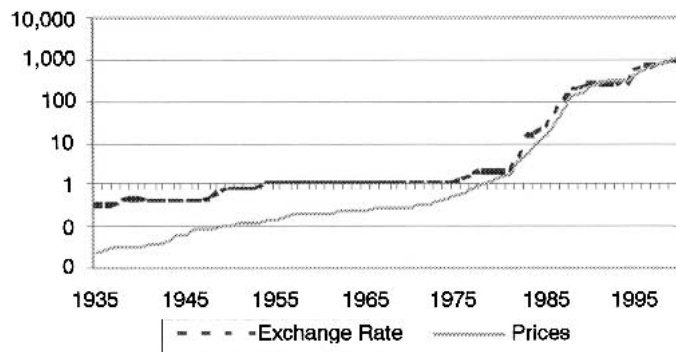


SOURCE: Banco de México and SHCP.

accompanied by an improvement of the fiscal balance, with the exception of the weakening of both indicators in 1995.

A third observation is that, independent of the period and the exchange rate regime studied, inflation has been intimately linked to variations in the exchange rate. Figure 7 illustrates this relationship over the past 66 years, with the variables expressed in a logarithmic scale. Of particular significance is the similarity of the data on this chart with those of Figure 5, exhibiting inflation and the monetary base; the corresponding correlation coefficient in this case is 0.98. This link was influenced by the recurrent interruptions in the predetermined exchange rate systems, which proved unsustainable due to the lack of fiscal discipline or to large amounts of short-term public debt denominated in foreign currency, leading to the balance of payments crises of 1976, 1982, and 1995. The strategy of a predetermined exchange rate system did not prevent the occurrence of sharp devaluations of the peso, since the key condition for the sustainable functioning of such a regime was repeatedly violated—namely, that the nominal amount of pesos is determined by demand, and not by an arbitrary objective, such as financing the fiscal deficit, promoting exports, or sustaining economic expansion. At the same time, the recent connection between variations in the exchange rate and inflation reflected a transmission of the former toward the latter, a “pass through” that, to a large extent, responded to the accommodating nature of monetary policy.

FIGURE 7
 EXCHANGE RATE AND PRICES
 (PESOS PER DOLLAR, GDP IMPLICIT PRICE DEFLATOR INDEX,
 AV. = 100, LOG SCALE)



SOURCE: Banco de México and INEGI.

Challenges of Current Monetary Policy

The flexible exchange rate system, initially adopted as a transitory measure to deal with the 1995 crisis, has been maintained with positive results. From 1995 to 2000, inflation was reduced from 52 percent to 9 percent, which meant a big step in the right direction. However, the 6 percent average inflation in 2001 was still high when compared with levels registered in Mexico in certain years, the rates prevailing in other countries, and the very definition of price stability. Fortunately, Banco de México has indicated its commitment to achieve an inflation rate not greater than 3 percent by the year 2003. That goal represents a real challenge, not because, as in the past, it could not be achieved transitorily, but because it is interpreted as a permanent goal.

One of the main challenges of current monetary policy is to put an end to the close relationship between variations in the exchange rate and inflation. Such a linkage is undesirable because, theoretically, under a flexible exchange rate system, the central bank should not aim to control the exchange rate. It is therefore necessary to understand the nature and causes of this pass-through. Since the floating exchange rate system was adopted, the decline in inflation has gone hand in hand with a lower depreciation of the peso versus the U.S. dollar. This “support” temporarily disappeared, for example, with the sharp depreciation of the peso in 1998 as a result of the financial crises in Asia, Russia, and Brazil. During that same year, inflation in Mexico rose by more than 300 basis points, reaching an annual rate of 19 percent in January 1999. Since then, however, the nominal strength of the peso has permitted a significant decline in inflation.

With a flexible exchange rate system, there are many reasons why the parity might vary, related to the public's perception of the relative advantages of different currencies as a means of payment and store of value. A greater preference for the peso could result from a sound economic policy that provides price stability and a favorable business climate. However, the value of the peso versus the dollar cannot be guaranteed, and exchange rate movements, even if abrupt, should not be interpreted as a regime failure, but rather as a reflection of the speed with which information flows in the markets. In such a system, monetary policy, not the exchange rate, is the variable in charge of attaining price stability. This has been proven in countries that for decades have maintained low inflation, despite wide fluctuations in their exchange rates. A good example is the J. P. Morgan (2001) trade-weighted U.S. dollar index, against 18 other OECD currencies. This index reveals a 33 percent accumulated depreciation of this

basket of currencies against the dollar since 1995. Despite this, inflation in these countries has remained low.

It has sometimes been said that, in contrast with developed countries, Mexico is an emerging economy whose high degree of balance of payments openness makes the peso an ideal candidate for speculative attacks. This explanation cannot be totally dismissed, since a currency's position is related to domestic factors, such as upsets in economic policy, which have been frequent in emerging economies, and from which Mexico has not been spared. However, high volatility in exchange rates is not exclusive to emerging or small economies. As shown in Table 1, in recent years the peso's volatility has been similar to, or even lower than that of currencies of countries that are very different in size and economic development. For example, during 1998, the currencies of New Zealand, Australia, South Africa, Sweden, and Japan were more seriously affected by the financial crises than the Mexican peso. Nevertheless, inflation in these economies remained under control. This underlies two facts: first, the currencies of "small" and open economies are not the only ones vulnerable to changes in the public's decisions and second, several countries dealt better with greater exchange rate pressures on inflation than Mexico.

The main problem facing Banco de México seems to be the high pass-through from exchange rates to prices, especially acute in times of deep peso depreciation. The cost has been high in terms of credibility, reflected in the mistrust stemming from the rise in inflation in 1998, and in the latent fear of a possible setback in case of significant future pressures on the exchange rate. The most reasonable explanation for the impact of the exchange rate on inflation in Mexico seems to lie in how monetary policy is conducted. A depreciation of the peso could rapidly spill over into inflation if people expect that it will be monetarily validated. In fact, this seems to have occurred in Mexico. On the one hand, Banco de México follows the rule of "not creating liquidity surpluses or shortages," which translates into the accommodation of any nominal demand for monetary base. On the other hand, variations in the exchange rate, by translating into changes in prices, raise the nominal demand for money. This explains why recent movements in the exchange rate have tended to precede changes in inflation and the latter, in turn, those of money.

The weight of the exchange rate in the evolution of inflation has been documented in a large number of econometric analyses. For example, in a recent study, Karp and I confirmed that variations in the exchange rate are, by far, the main statistical determinant of inflation (Sánchez and Karp 2002). Other variables, traditionally incorporated within a Phillips Curve framework, such as the gap between real and

TABLE 1
TRADE OPENNESS, EXCHANGE RATE VOLATILITY, AND INFLATION

	Mexico Peso/US\$	South Africa Rand/US\$	Sweden Krona/US\$	Japan Yen/US\$	New Zealand NZ dollar/US\$	Australia Aus dollar/US\$
Trade Openness						
Exports & Imports/ GDP, % 1998	57.6	41.5	63.8	17.0	46.4	32.2
Exchange Rate Volatility						
Annualized standard deviation of daily change in the exchange rate, %						
1st half 1998	6.68	5.35	9.57	12.56	12.45	11.91
2nd half 1998	10.95	23.07	12.59	20.08	14.95	14.93
CPI Inflation, %						
1997	15.7	6.2	1.6	1.9	0.8	-0.2
1998	18.6	9.0	-0.1	0.6	0.4	1.6
1999	12.3	2.2	1.3	-1.2	0.5	1.8

SOURCE: INEGI, IMF, and U.S. Federal Reserve.

potential GDP, turn out not to be statistically significant and even yield opposite results to those expected. In addition, our study reveals that econometric causality between inflation and money runs both ways. The fact that inflation precedes money can be explained as a result of Banco de México's rule of satisfying any nominal demand for monetary base, making monetary policy accommodate domestic and external shocks on prices, including those from the exchange rate.

To partly offset the accommodating tendency of monetary policy, Banco de México uses the *corto* mechanism, which is essentially a signaling tool that generates rises in market interest rates, with the purpose of slowing down aggregate demand and, eventually, prices. Briefly put, the *corto* is a procedure through which, once a month, based on the commercial banks' accumulated balances in their current accounts with the central bank, the latter meets a predetermined amount of the liquidity requirements at an interest rate twice as high as that of the market (and the rest at market rates). In practice, Banco de México increases the amount of the *corto* mainly in response to upward pressures on the exchange rate, consistent with its view that this variable is the main determinant of inflation. However, in doing so, the central bank may be afflicted with what Calvo and Reinhart (2000) have termed "fear of floating."

Despite its undeniable originality, the *corto* has several drawbacks that may restrict its capacity to control inflation. The disadvantages include the public's difficulty in understanding its operation, which continually leads to erroneous interpretations (for example, that the *corto* withdraws money from circulation, that it puts daily pressure on interest rates, etc.); the indirect and transitory effect on market interest rates—which makes it difficult to define the stance of monetary policy, since the indicators are indistinguishable from market conditions—and most important, its effect—still to be proven—on lowering inflation. Our impulse-response analysis, based on vector-autoregression estimates, reveals persistent price and exchange rate puzzles—that is, movements contrary to expectations, from an increase in the *corto*—confirming some unpleasant results found in previous studies by Banco de México (Sánchez and Karp 2002, Schwartz and Torres 2000). Although there are indications that, recently, the pass-through might have diminished, the evidence is not conclusive and could simply reflect the reduced variability in the exchange rate.

Alternatives for Monetary Reform

In light of the dismal record and the limitations of Mexico's monetary policy, a monetary reform is needed in order to improve the

likelihood of permanent price stability. Within the growing preference for “corner” exchange rate regimes,¹ two alternatives seem to be gaining ground. The first is an improvement of current monetary policy, within a regime of floating exchange rates and inflation targeting. The second is the adoption of the dollar as legal tender, as an expression of an extreme fixed exchange rate system. In this study, I am not considering other less extreme options, such as a currency board, which, although highly effective, would be unlikely to receive popular support given the recent problems in Argentina.

Improvement in Monetary Policy

This alternative should be explored because its application would be immediate and would allow the economy to take advantage of the successful experience of a growing number of economies that use inflation targeting under a flexible exchange rate system. The reform should guarantee that monetary policy put an end to the pass-through from the exchange rate to inflation, by choosing an independent anchor controlled by Banco de México, and not by the market as is the case of the exchange rate. To this end, it is imperative, first, to seriously consider the primary cause of chronic inflation in Mexico. The often-cited weak capacity of money to predict inflation in the short term does not eliminate the following reality: the average annual 25 percent growth of the monetary base registered in 1996–2000 is *inconsistent* with the goal of maintaining 2 percent or 3 percent inflation. In practice, price stability requires that the monetary base not expand, on average, at a much higher rate than that of the potential long-term growth of the economy. This prescription cannot be ignored, even though central banks face difficulties affecting money supply in the short run. Approaching this reference rate can take time, but should be done. At the same time, the existence of shocks to money velocity illustrates the need for an instrument that improves the short-term relationship, unreliable in any country, between inflation, money, and nominal interest rates.

Second, any reform proposal should be aimed at boosting the credibility of monetary policy, as this is the most valuable asset of any central bank and has been difficult to achieve in Mexico. For this reason, it is essential that, in its continuous operation, the central bank confirm that it is committed to reduce inflation in spite of

¹See Fischer (2001) for an analysis of this trend in practice and Calvo and Reinhart (2001) for an opposite view.

possible short-term costs. After all, the prolonged process of stabilization and the resulting gradual nature of this effort have reduced the importance of these possible collateral effects. It will also be necessary for monetary policy to rely on rules rather than discretion. As Kydland and Prescott (1977) have rigorously shown, discretion in economic policy easily leads to time inconsistency, which can be counterproductive and negative, in terms of reputation, once expectations of economic agents are taken into account. Rules impose discipline, which necessarily implies abandoning other objectives in exchange for renewed credibility.

To take advantage of the successful experience of other central banks around the world and reduce the exchange rate pass-through, I recommend the following specific actions:

- Confirmation that the commitment to reach international inflation levels will be maintained from 2003 onward. To this end, it would be advisable to establish a range for acceptable rates of inflation, let us say, between 0 percent and 2 percent, and define beforehand the specific conditions under which exceptions to this target would be allowed.
- Guiding and maintaining the growth of the monetary base within a reasonably narrow range, around the medium-term growth potential of the economy. This alignment can be achieved through a program of open market sales; the manner in which open market transactions are executed could be indirect, first affecting interest rates.
- To attain the above-mentioned monetary growth and handle changes in the short-term demand for money to deal with temporary inflationary pressures, I propose that the central bank use its own, possibly overnight, interest rate. This tool would replace the *corto* mechanism and strengthen the credibility of Banco de México, since it would be easier to understand and monitor its effectiveness.
- An operating rule for the interest rate, in the tradition of Taylor (1993), should be devised, based on an objective function that expresses the mandate of the central bank.² The rule should provide substantial weight to deviations of inflation from its target, and minimal, or no weight at all, to other factors such as

²Even so, it is likely that, based on the nature of the shocks to money velocity, a rule for setting monetary growth or interest rates at a constant level will be superior to a Taylor rule. For an excellent theoretical analysis of Taylor rules, consistent with the quantity theory of money, see Alvarez, Lucas, and Weber (2001).

changes in GDP and the real exchange rate relative to their equilibrium values, since Banco de México's mandate does not include these latter goals. On the other hand, monetary fine-tuning following multiple criteria could be complicated, considering the long and variable lags of monetary policy, which can easily make the central bank the cause of economic fluctuations, and Mexico's long history of instability. Even so, empirical evidence for the United States suggests that there is no systematic response of interest rates to GDP or to exchange rate variations as these movements do not adequately predict inflation (Barro 1999).

Dollarization

A second alternative is the adoption of the dollar as legal tender which, for credibility purposes, should be implemented with the support of the U.S. Federal Reserve. The main advantage of dollarization is guaranteeing that inflation in Mexico will equal that of the United States. Given the Fed's proven reputation and results, at least in recent times, these rates could be safely interpreted as price stability. Such an outcome should be seen in its proper dimension, in light of the persistence of, and the serious damage caused by inflation. Additional advantages from controlling inflation and eliminating exchange rate risk include lowering interest rates, increasing the planning horizon, developing the financial system by bolstering savings and long-term loans, and boosting domestic and foreign investment. Although most of these benefits could also obtain by means of the country's own adequate monetary policy, the advantage of this approach is the greater certainty of success.

In light of these advantages, the costs traditionally associated with dollarization, such as the loss of monetary sovereignty, the sacrifice of seignorage, the absence of an independent monetary policy to face negative external shocks, and the elimination of the lender of last resort, are substantially reduced in importance. On the one hand, these disadvantages are often exaggerated, since they are not insurmountable and, in many cases, are not so significant. On an international level, Dornbusch (2001) has dealt with these objections, providing compelling counterarguments. On the other hand, in the case of Mexico, they generally represent false exits. In particular, I would like to comment on three. In the first place, seignorage in Mexico represents a minor fraction of fiscal revenue, not higher than 0.3 percent of GDP. Considering the domestic public debt at the end of 2000, a permanent reduction of 2 percentage points in interest rates

would more than compensate for this loss. In addition, dollarization could be implemented through an agreement whereby the Fed could compensate Mexico for the lost seignorage.

Second, “sacrificing” the independence of the country’s monetary policy and its capacity to act against external shocks could become an advantage. In the past, inconsistent monetary policies that dealt with adverse situations, including lower oil prices, produced unfortunate results. On the other hand, a more effective monetary policy in the future is an assumption that remains unproven. Unfortunately, there is a frequent temptation in Mexico to misuse monetary policy, imitating other countries that have already achieved prolonged price stability and that apply an active monetary policy, especially during recessions. However, acting on this assumption can lead to serious problems.

Third, it is frequently argued that dollarization is not a panacea and that, unless other structural reforms are implemented, it cannot work. This statement is nothing but a platitude, since it can also be applied to a country’s own monetary policy. Attaining price stability eliminates a major cost that severely affects economic development but does not get rid of all problems. Several obstacles to greater economic prosperity could remain, independent of what is achieved through dollarization. Perhaps the difference between an extreme fixed exchange rate system, such as dollarization, and an independent monetary policy with flexible exchange rates is that, under the former, negative results stemming from deficient economic fundamentals tend to be used against it. However, the structural reforms usually claimed as prerequisites, such as a flexible labor market, healthy public finances, and a solid banking system are desirable in and of themselves, and their absence has a negative effect on the economy, independent of whether the economy is dollarized or not. It is true that the absence of a strong fiscal system helps explain why Panama’s country risk has been systematically higher than that of Chile, even though the former has been dollarized since 1904, while the latter has maintained its own monetary policy. However, without dollarization, Panama’s country risk would almost certainly be even higher.³

Undoubtedly, the main difficulty for dollarization in the near term is the absence of political and popular support. To a large extent, this is because Mexico has not experienced, and is not currently experiencing, hyperinflation and, therefore, the public does not perceive

³In fact, following the 1995 banking crisis, the argument was frequently raised that Mexico’s monetary policy could not be more aggressive in the fight against inflation because of the fragility of the banking system. See Edwards (2001) for an analysis of Panama.

the need to adopt such a measure. Moreover, the lower inflation, the higher the confidence in the country's monetary policy, reducing even further the endorsement of dollarization. Although the advantages of such a system clearly extend beyond emergency conditions, we cannot ignore the political factor. Fortunately, achieving price stability is possible with a credible monetary policy and recent progress in the fight against inflation provides grounds for optimism.

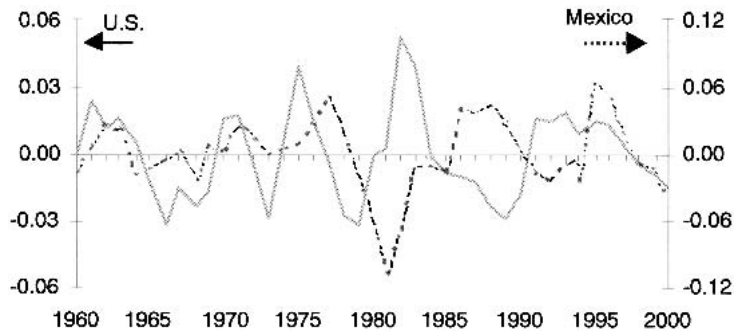
Dollarization as the Natural Outgrowth of Economic Integration

Even though, in the short term, dollarization might not be feasible, it is an attractive option in the medium term, considering Mexico's growing integration with North America. The best way to visualize the advantages of this arrangement is in light of the arguments on optimum currency areas set forth by Mundell (1961). When a relatively small economy is closely integrated with other countries, has significant trade ties, and enjoys international factor mobility, it is worthwhile for it to establish a currency union with those countries. In view of the fact that the dollar is an excellent quality currency, dollarization can be the result of the creation of a North America Monetary Union, adopting the dollar as a common currency⁴. In such a situation, the advantages would be that it facilitates transactions and the calculation of relative prices between the countries involved. Behind Mundell's argument is the consideration that money is a language and, therefore, its multiplicity only causes problems. Once again, the disadvantage is the loss of an independent monetary policy, whose importance decreases with the mobility of factors and price flexibility.

From the standpoint of optimum currency areas, Mexico is an ideal candidate for monetary integration not only because of its long history of inflation but also because of its close economic ties with the United States and Canada, after NAFTA was put in place. Two arguments support this position. The first is that, excluding the 1980s (the decade with the utmost degree of price instability), Mexico's economic cycle has not been very different from that of the United States. Furthermore, since NAFTA, synchronization of the economic cycles of the two countries has increased dramatically, as seen in Figure 8, which depicts the cyclical component of GDP in Mexico and the United States, estimated as the difference of GDP log and its

⁴Of course, the argument extends to a new common currency, instead of the dollar, soundly managed by a North America Central Bank.

FIGURE 8
 CYCLICAL COMPONENT OF MEXICO AND U.S. GDP
 (DIFFERENCE BETWEEN GDP LOG AND ITS TREND USING
 HODRICK-PRESCOTT FILTER)



SOURCE: INEGI and U.S. Department of Commerce.

trend. The pattern is of a high association, especially since 1996. Table 2 confirms that the correlations between the two cyclical products have been increasing over time; while in the 1960s this statistic was 0.52, in the five years between 1996–2000 it rose to 0.98.

The second argument is that the most frequent asymmetric external shocks have been related to the peso-dollar exchange rate, which disappears with a currency union. On the other hand, variations in the terms of trade normally reflect changes in oil prices, which are a determining factor of fiscal accounts, not of foreign trade as oil sales represent no more than 6 percent of Mexico's total exports. As long as healthy public finances are not maintained, external shocks derived

TABLE 2
 CORRELATION BETWEEN CYCLICAL GDP OF U.S. AND MEXICO

Period	Correlation
1960–1969	0.52
1970–1979	0.33
1980–1989	-0.50
1990–1995	0.17
1996–2000	0.98

NOTE: Cyclical GDP is the difference between GDP log and its trend using the Hodrick-Prescott filter.

SOURCE: INEG and U.S. Department of Commerce.

from oil prices will affect the economy, through fiscal weaknesses, independent of the exchange rate regime. On the other hand, the use of devaluation as a means of adjusting real wages downward is an illusory measure that has been misused in the past even during periods of high oil prices. Furthermore, maintaining this escape valve can lead to the postponement of structural reforms independent of the exchange rate system. Finally, even if the shocks to the terms of trade were to be large, Mexico has enjoyed substantial (including illegal) mobility of labor toward the United States, which could increase in the future.

In short, the objections commonly raised against dollarization are not insurmountable, especially if this regime is interpreted from the standpoint of an optimum currency area. The handling of monetary policy by a supranational authority should not cause Mexico problems, in light of the above-mentioned growing synchronization of the respective business cycles, the possibilities of a deal on immigrants between Mexico and the United States as a way of deepening NAFTA, and the strong reputation of the Fed. A greater integration with its two northern neighbors would benefit Mexico, since it would enjoy the combined effects of price stability and greater foreign trade. In this respect, it is worth noting that the additional gains from foreign trade could be significant. Based on a gravity model of bilateral trade for 186 countries, comparing those that use the same currency with those that do not, Rose (2001) unambiguously concluded the following: after taking many considerations into account, trade between member countries of a currency union tends to be three times greater than what it would be between these same countries with different currencies.

Finally, I do not wish to give the wrong impression that I underestimate the risk of discrediting such a promising initiative as a currency union based on the dollar ignoring complementary reforms, which tend to be politically dramatized in the case of extreme fixed exchange rate systems. Mexico needs to strengthen the rule of law, implement a solid fiscal reform, extend its public debt maturities, complete the strengthening of the banking system, define the lender of last resort which could be the U.S. Fed or the Mexican Finance Ministry, provide more flexibility to the labor market, and abolish inflation.⁵ This would help undermine possible objections regarding economic growth or other benefits lower than those set forth above.

⁵Of course, the issue of the lender of last resort raises problems of moral hazard, which have frequently transformed central banks into creators of banking crises.

If, on the other hand, by insisting on the need for certain previous conditions, a currency union were to facilitate the implementation of structural reforms, as was the case in the European Monetary Union, in which fiscal and financial targets were prerequisites for integration, this achievement would increase the merits of this regime.

Conclusion

In this study, I describe inflation in Mexico as a chronic malady of the 20th century, with serious consequences in terms of living standards. The underlying causes behind the persistence of inflation can be found in an exchange rate and monetary policy that has had little to do with the objective of general price stability. The poor results in the past and limitations of current monetary policy raise the need for a monetary reform that guarantees the elimination of the ultimate causes of inflation. I examined two alternatives that have gained ground due to the potential for improving the current situation. The first consists in modifying the way in which monetary policy has been conducted, within flexible exchange rates and an inflation-targeting approach. This option appears promising in the short term, given its success in many countries and the public credibility gained by Banco de México. The conclusion is that there is room for improvement in the way in which monetary policy is conducted, especially in the selection of a more transparent instrument and the design of rules of behavior governing such an instrument.

The second is dollarization, which generates immediate benefits in terms of price stability and foreign trade and investment, among others. Despite these advantages, I concluded that dollarization does not seem feasible in the short term. Fortunately, it is not necessary to achieve price stability if the proposed improvements in monetary policy are carried out. Finally, dollarization has been analyzed from the standpoint of Mexico's increasing integration with North America. In light of Mundell's logic of optimum currency areas, we conclude that, to a large extent, this alternative would represent a natural and advisable step in this integration, generating tangible benefits in the medium term, particularly for Mexico.

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