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Exchange Rate Policy and Inflation Targeting in Colombia

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Exchange Rate Policy and Inflation Targeting in Colombia

by

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Abstract[*]

This paper examines Colombia's experience with an inflation-targeting monetary policy following the abandonment of exchange rate bands in 1999, and two episodes in 2003 and 2004 that deviated from this general behavior. In these episodes, the Central Bank intervened in the forex market on a relatively large scale in order to affect the trend of the exchange rate (managed floating). These episodes are examined to draw lessons and highlight the main challenges facing monetary and forex policy. The rationale for central bank intervention in the forex market in Colombia is then critically discussed. Finally, the paper presents several issues that appear in the debate on Colombian monetary and forex policy and provides an idea of the political context in which monetary policy decisions are made.

[*] The opinions expressed in this document do not reflect the views of either the Banco de la República or its Board of Directors. I would like to thank Jorge Toro, José D. Uribe and Carlos Varela for their comments.

1. Introduction

Monetary policy in Colombia converged to a pure, full-fledged inflation-targeting strategy after the abandonment of exchange rate bands in 1999. Between 1999 and 2004 the exchange rate regime could be characterized most of the time as independent floating (Bofinger and Wollmerhäuser, 2003), that is, a floating regime with sporadic and relatively small interventions by the Central Bank in the forex market aimed at restoring the level of international reserves or curtailing excessive volatility. Unlike other central banks, the Central Bank of Colombia followed a rules-based forex market intervention and avoided discretionary intervention until September 2004.

Two episodes marked a deviation from this general behavior. The first occurred in 2003, after the sharp depreciation of the Colombian (henceforth Col) peso, which followed the increase in sovereign spreads due to political uncertainty in Brazil. The second has taken place since 2004, with the fast appreciation of the currency. In these episodes, the Central Bank intervened in the forex market on a relatively large scale in order to affect the trend of the exchange rate (managed floating).

The next section presents a brief account of the Colombian experience with inflation targeting and forex intervention. The paper then describes the two episodes mentioned above in some detail to draw lessons and highlight the main challenges facing monetary and forex policy. The rationale for central bank intervention in the forex market in Colombia is then critically discussed. Finally, the paper presents several issues that appear in the debate on Colombian monetary and forex policy and provides an idea of the political context in which monetary policy decisions are made.

2. The Colombian Experience with Inflation Targeting and Foreign Exchange Intervention

Background

In 1991 and 1992 the Constitution and the Central Bank Law granted goal and instrument independence to the Central Bank, and established that its main objective was to preserve the purchasing power of the currency. Colombia had experienced moderate inflation (15-30 percent annual rates) for about 20 years and a crawling-peg regime with capital controls had been in place since 1967. The new constitutional mandate led to a process of gradual disinflation starting

in 1991 and to some exchange rate flexibility, in the context of a monetary policy strategy based on the use of intermediate monetary targets. Most capital controls were removed between 1991 and 1993, and explicit crawling exchange rate bands were adopted in 1994. In the presence of large fiscal and external imbalances, the terms of trade shocks and the "sudden stop" of 1998-99 forced the abandonment of the exchange rate bands in September 1999, in the midst of a 4.2 percent decline in gross domestic product (GDP) and a financial crisis involving state-owned and mortgage banks. Thus, a floating regime was established and monetary policy converged to a full-fledged inflation-targeting framework. The initial conditions of this transition can be summarized as follows:

- The Col peso had depreciated by 22.0 percent in real terms between January 1998 and December 1999 within the band system (the bands were shifted in September 1998 and June 1999). This explains, among other reasons, the smooth transition from bands to floating (Banco de la República 1999).
- During the defense of the exchange rate bands (1998-99), international reserves declined by 18 percent, reaching a level deemed too low in September 1999.[1]
- The economy entered the deepest and one of the longest recessions since the 1930s. The fall in income, the financial crisis and the high level of indebtedness of firms and households caused a weakening of the credit channel of monetary policy.
- Inflation fell from 16.7 percent in December 1998 to 9.23 percent in December 1999, the largest decline since the beginning of the disinflation. However, it was still above the long-term inflation target (by then the international level).
- Several elements of inflation targeting were already present in Colombia by September 1999. Explicit inflation targets were introduced by the Central Bank Law in 1992 and had been announced since 1991. Forecast models had been implemented since 1995 and an Inflation Report had been published since December 1998.

[1] During that period the Central Bank sold US$2,672 million in international reserves.

In this context, monetary and foreign exchange policy had two main initial objectives. The first was to continue gradual disinflation toward its long-term target, which was later announced to be a range between 2 and 4 percent. The second was to restore international reserves to levels that would limit the external vulnerability of the economy. The gradual approach to disinflation (as opposed to an alternative opportunistic approach) considered the state of the economy and the need to bring output close to its potential level. Hence, a strategy of flexible inflation targeting was in fact adopted (Svensson, 2000).

The inflation-targeting strategy identified the Central Bank's short-term repo interest rate as the main instrument of monetary policy. The floating exchange rate regime added to the consistency and transparency of the monetary policy framework, and marked a sharp departure from the past. The policy had one main objective (inflation) and there were no explicit or implicit targets on the exchange rate. Consequently, intervention in the forex market was initially limited to two purposes. First, it was to build up the level of international reserves. Second, it aimed to prevent excessive volatility of the exchange rate. It was believed that allowing excessive volatility in the forex market could foster the generation or propagation of speculative bubbles, and that there were no market instruments to hedge extreme movements in the exchange rate.

To accumulate international reserves, a mechanism of auctions of (put) options to sell dollars to the Central Bank was adopted. These options could only be exercised if the exchange rate was below (more appreciated than) its 20-day moving average. The main criteria behind this type of intervention were that it was not aimed at changing the trend of the exchange rate, and that it would be used only when an appreciation trend was observed. To curtail excessive volatility, an automatic auction of put (call) options was established. The idea was that if the exchange rate deviated in one day by more than 5 percent (later 4 percent) from its 20-day moving average, the Central Bank would hold an auction of options for a publicly known amount.

A key feature of these mechanisms is that they are pre-announced and the results of intervention are published with no delay. This was perceived to have three advantages. First, rules-based, transparent intervention avoids legal risks for the Central Bank. Second, it is easily verifiable by the market and the public, so the coherence of the intervention with inflation targeting is checked and there are no adverse effects on inflation expectations. Third, the power

to limit excessive volatility is increased (when there are no fundamental forces behind the increased variability).[2]

In December 2001, a call-options auction facility was introduced to support monetary policy in the event of a sharp depreciation. The conditions of this facility were symmetrical to those of the put-options mechanism used to accumulate international reserves. This instrument would prove to be very useful in the first serious challenge faced by the inflation targeting, rules-based forex intervention scheme after the sovereign spreads rose due to political uncertainty in Brazil. In 2004, the Central Bank stepped up its foreign exchange intervention in the face of a rapid appreciation of the Col peso. Since the objective was to counter the exchange rate trend and the existing intervention mechanisms were judged ineffective, discretionary intervention was introduced as an additional alternative. It is the mechanism in use today.

Performance

In 2000-04 Colombia was an example of inflation targeting at work. Given the initial situation summarized in the previous section, the Central Bank reduced its nominal interest rates by 550 basis points (Figure 1) between 2000 and 2004, allowing 3-month CD rates (the benchmark interest rate) to keep real values well below the historical average for the whole period (Figure 2). This was consistent with the reduction in the output gap and increased growth rates (due also to global economic acceleration), as shown in Figures 3 and 4, while inflation continued declining and was on target in 2004 (Figure 5). Inflation expectations also fell, and the credibility of the inflation targets increased (Figures 6 and 7).

An interesting feature of this period has been the length of the recession (output has been below the estimated potential level since 1998).[3] A possible explanation has to do with the fact that the financial fragility of firms, households and some intermediaries, as well as the state of the economy after 1999, may have increased the risk perception of the financial sector and diminished the appetite for new credit. At the same time, the government issued increasing amounts of domestic bonds. These factors reduced credit supply and demand, and weakened one of the most important channels of transmission of monetary policy. Thus, the stimulus of low interest rates was not very powerful at the beginning of the period.

[2] This is the same reason why credible exchange bands are successful in limiting volatility.

A second explanation is related to the fact that disinflation policy has not been fully credible. Hence, the Central Bank has not been able to be overly expansionary because the existence of an output gap continues to be necessary to drive inflation down to the long-run target. The lags in inflation expectations with respect to the targets and the difference between real wage increases and estimates of labor productivity lend some support to this hypothesis (Table 1).

Regarding foreign exchange policy, international reserves reached comfortable levels, as reflected in several indicators of external liquidity (Table 2). The degree of exchange rate floating was not lower than in other floating regimes in the region, as measured by some ratios typically used for this purpose (Tables 3 and 4).[4]

Considering these results, it might be argued that the overall performance of inflation targeting and the intervention scheme has been successful. One of the reasons for this success is that there has not been a conflict so far between monetary policy decisions and foreign exchange interventions. Periods of accumulation of reserves correspond to periods of stable or decreasing short-term interest rates, and sales of international reserves have occurred with stable or increasing interest rates (Figure 8). The strategy faced two serious challenges in 2003 and 2004, related to large external shocks. The next sections provide descriptions of those episodes and feature the response of the Central Bank in each case.

Episode 1: June 2002 to March 2003

Uncertainty about Brazil's economic and political outlook produced a fast increase in Latin American sovereign spreads (Figure 9). The Colombian spread rose even more than that of other countries except Brazil. This shock induced a strong pressure on the Col peso, which depreciated by 30 percent between April 2002 and February 2003 (Figure 10). The crisis in Venezuela at the end of 2002 forced a reduction in the payments of Colombian exports by that country and a fall in Colombian nontraditional exports (Figure 11). This added to the pressure on the peso.

The macroeconomic situation at the moment of the shock was characterized by the following:

[3] According to some measures of the output gap, the period 1982-III–1987-I was the longest previous episode in which output was below potential.

[4] See, for example, Calvo and Reinhart (2002) and Levy-Yeyati and Sturzenegger (2002).

- A trend of appreciation since October 2001 (Figure 10).
- A negative output gap (current lower than potential). Nevertheless, the gap was closing after the widening that followed the adverse effect of the U.S. slowdown on the Colombian economy (Figure 3).
- Inflation had been on target for the past two years and has been converging toward the target since August 2002 (Figure 5). Inflation expectations have also been declining (Figure 14).

After the shock, imported goods prices increased rapidly (Figure 12). Tradable goods inflation started to increase (Figure 13), as well as total consumer price index (CPI) inflation (Figure 5). Although the pass-through was low and had fallen since the 1990s, the extent of the depreciation put at risk the accomplishment of the inflation targets. Other supply shocks (food prices) reinforced this trend.

Authorities at the Central Bank considered these shocks to be transitory, although the authorities were uncertain about the duration of the external shock. The most worrisome piece of information came from the rapid escalation of inflation expectations (Figures 6 and 14). Given the importance of expectations in price and wage setting at the beginning of the year, this was viewed as a major threat to the achievement of declining inflation not only for 2002, but especially for the future.

The Central Bank's response to these shocks can be summarized as follows:

- Initially, the Central Bank stopped the period of reduction in interest rates that had started in the first quarter of 2001.
- The fast rate of depreciation in the second half of 2002 activated the automatic volatility auctions of call options. Between July and October 2002, sales reached US$414 million through this mechanism. The depreciation of the Col peso continued even after spreads came down in November 2002.
- The rise in inflation expectations and the persistence of a highly depreciated exchange rate induced the authorities to increase interest rates by 100 basis points in December 2002. In January 2003, that was a move that may be judged aggressive, given the pace of interest rate changes in previous years.

- The exchange rate did not show any sign of a correction, so in February of 2003 the Central Bank used the call options mechanism to support monetary policy for the first time and announced its willingness to sell up to US$1 billion through July.
- In April the Central Bank raised interest rates by another 100 basis points in order to curb inflation expectations.
- Finally, the currency started to appreciate in October 2003. This appreciation was slower than in the rest of the region due probably to the fall in exports to Venezuela. Sales reached only US$345 million between February and July, out of the maximum US$1 billion announced. In December 2003 annual inflation (6.5 percent) finished close to the upper end of the target range (6 percent).

The authorities deemed the policy response to the shocks of 2002 successful overall. The main lessons drawn from this episode were the following:

- Central Bank intervention in the forex market was a useful complement to interest rate policy. It was perceived that the increases in the interest rates alone were not sufficient to correct the depreciation of the Col peso or to curb inflation expectations. In other words, the exclusive use of interest rates would have required much larger movements than those observed, probably introducing inefficient output volatility.
- The intervention announcement was useful because it was credible. It was believed that the signal effect of the announcement was strong. Its credibility stemmed from three factors: (i) it came with consistent, strong monetary policy measures (an increase in interest rates by 200 basis points); (ii) it came after a sizable depreciation had already taken place. (iii) it was not incredibly large, given the initial level of international reserves (US$11.1 billion or 1.1 times short-term debt payments).
- Sales of international reserves through the volatility mechanism were perceived as inefficient. By design, they are relatively small interventions aimed at limiting exchange rate volatility. However, volatility in the second

half of 2002 was not a sporadic event, but reflected the speed of a fundamentals-driven depreciation. Under discretion, the Central Bank would not have intervened. But the existing rules and the rate of the depreciation automatically triggered the intervention. Therefore, those sales show that the rules-based intervention had a cost.

Episode 2: 2004-05

The appreciation of the Col peso in 2003 was lower than the depreciation in other countries in the region owing to the weakness of exports to Venezuela. This situation reversed in 2004, when the recovery of those exports, the increase in exports to other destinations, improvement in the terms of trade, the rise of foreign direct investment (in the oil and coal sectors) and the presence of low spreads and external interest rates caused a rapid appreciation and the peso caught up with other currencies (Figure 15).

The initial macroeconomic situation was characterized by the presence of a negative output gap (current output below potential; Figure 3), an inflation rate declining toward the target (Figure 5) and a continued reduction of inflation expectations (Figure 6). In this context, the appreciation produced two outcomes. First, it reduced imported and tradable goods inflation (Figures 12 and 13). Second, it caused repeated complaints from exporting sectors and from the government, which regarded a competitive real exchange rate as a key element in its security strategy.

For the Central Bank, the appreciation was, to a large extent, a delayed correction of the depreciation that occurred in 2002-03. With the appreciation, the Central Bank's inflation forecasts decreased and the probability that inflation could end up below target in 2004 increased. Therefore, in February 2004 interest rates were reduced by 25 basis points. At the same time, accumulation of reserves resumed through the put-options mechanism. Stocks had fallen after the interventions of 2002-03, and there was also an agreement to sell reserves to the government in order to reduce public foreign indebtedness.

Real appreciation continued, reaching 4.3 percent in annual terms in February 2004. At that point it was not clear whether the appreciation was already excessive, especially given the balance of payments outlook, which showed that some of the factors driving exchange rate behavior were transitory. In particular, a future decline in oil export volume and a decrease in

terms of trade were expected. So, recalling its successful intervention of February 2003, the Central Bank announced its willingness to buy up to US$700 million between April and July by means of the put-option mechanism.

Unlike the 2003 episode, this time the Central Bank bought the amount announced, while the exchange rate kept appreciating. Despite the appreciation, the inflation forecast did not fall far below the targets for 2004 and 2005 to grant a further reduction of interest rates at that point. Tradable goods inflation was falling slowly with respect to the appreciation (Figure 13) and nontradable goods inflation was rising (Figure 16), suggesting that the output gap could be closing fast. Thus, foreign exchange intervention was sterilized by sales of public debt securities held by the Central Bank and by lowering the Central Bank's credit to financial intermediaries (repos).

In September appreciation accelerated and larger short-term capital inflows were observed (Table 5). It was believed that the put-options mechanism was not a very effective way to deal with a clear, strong appreciating trend.[5] Therefore, the Central Bank introduced discretionary intervention and announced its willingness to buy up to US$1 billion in three months through this mechanism. Initially, discretionary intervention was effective, but as the market learned and estimated the amount of effective intervention, the exchange rate appreciated even more, exhausting the "intervention budget" announced by the Central Bank.

In December the analysis showed that the inflation target for 2004 was going to be met. Inflation expectations kept falling, each time closer to the 2005 target, and nontradable goods inflation had stabilized and was starting to fall, indicating that the output gap was not closing too fast. Hence, the inflation forecast suggested that a looser stance of monetary policy was consistent with the achievement of the inflation target in 2005 and with a declining inflation path from 2006 onward.

Based on this analysis, the Central Bank reduced its interest rates by 25 basis points, announced further discretionary forex intervention with no fixed amount or horizon, and closed indefinitely its contraction repo facilities to reduce the interest rate arbitrage opportunities for commercial banks. Since then, the exchange rate has stabilized (Figure 10), but Central Bank intervention has been substantial (close to US$800 million in the first quarter of 2005). The

[5] If option holders have expectations of a sharper appreciation in the future, they will wait to exercise their options, thereby limiting the power of intervention to moderate the appreciation.

monetary expansion ensuing from the intervention has been partially sterilized by government deposits in the Central Bank and by cuts in credit to financial intermediaries.

Total reserve purchases in 2004 were around US$2.9 billion, of which US$1.323 billion was bought between September and December through discretionary intervention. Net international reserves increased by 24 percent, one of the highest growth rates in the world, and still the currency appreciated by 8.7 percent on average in nominal terms (Figure 17). Throughout this process there has not been a pre-announced target level for the exchange rate.

The main lessons and challenges that can be drawn from this episode are the following:

- There has been no contradiction between monetary and exchange rate policies. Purchases of international reserves have been made in the context of decreasing inflation forecasts and an expansionary monetary policy. For this reason, inflation expectations have not been adversely affected by the intervention in the forex market and the Central Bank has not imposed capital controls. The latter, if effective, would be useful only if the Central Bank tightened monetary policy and tried to avoid appreciation at the same time.
- The effectiveness of discretionary intervention varied along the episode. Initially, a maximum amount was announced for a definite time horizon. The rationale for the announcement was to make clear to the market that no monetary excesses would be accepted. This was consistent with the fact that interest rates were held constant at first. It might be argued that effectiveness was low in this period because monetary policy was credible. Later, monetary policy was relaxed and no amounts or time limits were announced for discretionary intervention. Then the exchange rate stabilized. This could be related to the larger uncertainty about fundamentals[6] or to the low levels reached by the exchange rate. It is also consistent with the shift to a looser monetary policy stance. Toro and Julio (2005) provide some evidence on this contrast.

[6] In 2005 terms of trade have kept rising and export growth to neighboring oil-exporting countries is increasing. However, U.S. growth is expected to decline and there is considerable uncertainty regarding the speed of adjustment of monetary policy in the United States and the behavior of the dollar.

- A comparison of the announced interventions in 2003 and 2004-05 shows that the signal effect of intervention is larger when the latter comes with monetary policy actions in the same direction.
- From these last two points, it may be concluded that intervention is more effective when supported by consistent monetary policy actions, and that the issues of discretionary vs. rules-based intervention or announced vs. non-announced intervention are less important. That is, the signal and portfolio balance effects of intervention are weaker than the traditional monetary policy effect. However, as illustrated by the 2002-03 episode, interest rate movements alone do not do the job efficiently. That is, the monetary policy effect is stronger when it comes with signal or portfolio balance effects.
- The current stance of unlimited, discretionary intervention faces several problems and challenges. The first one is that, if intervention is too large, the Central Bank may become a net debtor of the financial system. A net creditor position is regarded as more desirable for reasons of monetary control.
- A second challenge has to do with the fact that communicating policy has become more difficult. Before, the main policy signals were the shifts in short-term interest rates. Today it is more difficult for the public to verify and for the Central Bank to communicate the monetary policy stance. This is because the Central Bank is not only moving the interest rate, but also intervening in the forex market with substantial amounts, closing/opening repo facilities and selling government securities in the secondary market. Of course, this issue is less serious when all these instruments are changed consistently and policy is adequately communicated.
- A third problem is related to the quasi-fiscal costs of intervention. If monetary expansion is sterilized (even partially), the Central Bank will incur a cost as long as domestic assets have higher rates of return than foreign assets. This problem is more serious the more precarious the overall fiscal situation or the larger the extent of sterilized intervention.
- Evidently the scheme in place will be in trouble if there is a conflict between the inflation targets and the desired behavior of the exchange rate. In this

situation capital controls could be an option, but this has not been discussed so far.[7] The Central Bank has warned the public about this risk and has stated that, in such a case, intervention would have to be limited or eliminated, for inflation is the main target of the Central Bank's policy.

3. The Rationale for Intervention

To better understand the policy responses described in the foregoing sections, it is useful to examine the rationale for forex intervention in Colombia. Hence, this section reviews some hypotheses and discusses their merits.

Some explanations of "fear of floating" (Calvo and Reinhart, 2002) do not seem to apply to Colombia. For example, although lack of credibility in future monetary policy may be an issue in the future, especially if structural fiscal problems remain unsolved, the record shows decreasing inflation and expectations of inflation. The fact that the Colombian government is able to place fixed-rate, long-term, peso-denominated bonds in increasing amounts casts some doubt on such a hypothesis.

Foreign currency-denominated public debt makes up approximately 25 percent of GDP. Most of it is unhedged. So public liability dollarization would be a good candidate hypothesis. However, since 2002 the government has insisted on a depreciated real exchange rate as a necessary condition for higher growth and employment. However, private external debt has decreased since 1999 and hedging instruments are being used more widely. Nontradable sectors have decreased their currency mismatch, and financial system currency positions are matched by regulation. Besides, in the discussions about the policy response to the depreciation of 2002, liability dollarization is not a significant issue.

As in many countries, pass-through in Colombia has declined with the reduction of inflation and the adoption of inflation targeting (Figure 18). Pass-through is low enough to ascertain that it is not the key consideration in the policy response. In this regard, it is useful to note that after a nominal depreciation of about 30 percent in 2002, core CPI inflation rose by no more than 2.5 basis points from its lowest level in October of 2002 to its peak in 2003. In that episode the main source of concern was the size of the depreciation itself, rather than the size of the pass-through. The policy response (floating and targeting total CPI inflation instead of

[7] Deposit requirements on external loans are still in place in Colombia, but the required rate is zero.

nontradable inflation) conformed to the optimal response in an economy with a low pass-through, according to Devereux, Lane and Xu (2004).

Furthermore, none of the previous hypotheses explains the large reserves purchases that occurred in 2004-05, when the currency was appreciating. Thus, there must be other reasons for intervention. They may be divided into two groups, which are discussed below.

Rationale for Intervention as a Complement of Monetary Policy to Achieve the Inflation Targets and Smooth Output Fluctuations

One rationale for intervention corresponds to the reasons for using managed floating as an efficient monetary policy strategy (see, for example, Bofinger and Wollmerhäuser, 2003). The idea is that the relationship between the interest rate and the exchange rate (usually a version of the uncovered interest parity—UIP—condition) is not predictable and that central banks do not have a clear understanding of the variance or persistence of the shocks hitting such a relationship. In these circumstances, the use of the interest rate as the only monetary policy instrument may result in inefficiently large variances of inflation and output.

By contrast, when portfolio balance effects are relevant, the Central Bank may use the exchange rate as a second instrument to reach its ultimate goals through sterilized intervention. It may do so without incurring quasi-fiscal costs, by restricting the feasible combinations of interest rates and exchange rates so that the Central Bank's profits are not changed. With two instruments at hand, inflation and output volatility are reduced after a transitory UIP shock.

This hypothesis nicely reflects one of the lessons drawn from the 2002-03 episode: Interest rate movements alone were not deemed sufficient to curb depreciation and inflation expectations, and foreign exchange intervention turned out to be a valuable complement. The relationship between the Central Bank's interest rates and the exchange rate in Colombia is not well understood. It depends on the transmission from Central Bank rates to other interest rates (deposit, lending, public debt securities, etc.), and on the arbitrage possibilities in those markets.

The same hypothesis is useful for explaining intervention in 2004-05. Furthermore, in the case of a shock that leads to a depreciation of the currency, intervention is limited by the size of the international reserves stock. Hence, in periods of appreciation the Central Bank may choose to build up that stock in order to enhance the possibility and credibility of future intervention in

the event of a depreciating shock. This type of argument has been used in the discussions of monetary and exchange rate policy in Colombia.

However, some problems remain with this approach. The first one is related to the difficulty of communicating policy, as mentioned above and as stated by Svensson (2004). The second one has to do with the quasi-fiscal cost of sterilized intervention. Bofinger and Wollmerhäuser (2003) show that sterilized intervention is not costly if the peso valuation of the newly acquired reserves is included in the calculation of central bank profits. Nevertheless, the Central Bank's accounting procedures do not include peso-valuation effects of international reserves in the computation of profits. Thus, the result of those effects is not transferred to the government, and sterilized intervention ends up being costly from the government's point of view. As argued below, this may interfere in the relation between the Central Bank and the government.

Rationale for Intervention as an Instrument to Achieve Other Objectives in the Framework of Flexible Inflation Targeting

Sometimes the achievement of inflation targets is consistent with the pursuit of other objectives by the Central Bank. For example, international reserve accumulation was desirable after the 1998-99 crisis, and it has taken place since 2000, while inflation has declined. In this sense, the discussion of intervention in Colombia has considered three arguments in favor of accumulation of reserves, provided that the attainment of the inflation targets is not compromised.

First, it is argued that given the relatively high levels of public and external indebtedness and the volatility of international capital markets, it is advisable to hold a rather large stock of international reserves. And, of course, a period of appreciation is the best time to build up reserves. This discussion pertains to the issue of the optimal level of reserves and is a matter of frequent analysis in Colombia. At some point, holding too large a stock of reserves might prove inefficient because of its opportunity cost and the incentives it might provide for excessive, badly invested external capital flows (a third-generation crisis type of argument).

Second, owing to continued government deficits, the exposure of financial intermediaries to the sovereign has risen rapidly in recent years. For example, domestic government bonds represented 20.4 percent of the total assets of depository institutions in March 2005, and 31.8 percent of the assets of pension funds in December 2004. This trend has been reinforced by the

government's policy of reducing its foreign exchange exposure by relying more on the domestic capital market for financing. It is argued that this situation poses a risk for financial stability because a depreciation of public bonds may produce serious losses for the financial intermediaries and, eventually, a run on banks toward the dollar. Hence the need to hold a large stock of reserves.

A difficulty with this argument is that larger holdings of reserves could induce larger holdings of government paper in the portfolios of financial intermediaries since the ex-ante perceived risk of a run is lower. That is, higher levels of reserves could exacerbate moral hazard on the part of the government and the intermediaries. The root of the problem is that risk-based capital requirements on public bonds are probably undervalued. Thus, the best solution would be to set adequate capital requirements on public bond holdings by financial institutions. This would diminish financial fragility, limit the incentives to hold government bonds, correctly price market (and default) risk and reduce the need for international reserves.

Third, it is claimed that exporting firms incur sunk costs in accessing international markets. Hence, a temporary, sharp appreciation that forces those firms out of the market is undesirable. Empirical evidence supports this "hysteresis" argument for Colombia (Roberts and Tybout, 1999). The Central Bank has expressed concern about the effect of appreciation on tradable sectors and has sometimes justified intervention on these grounds. A possible drawback of this rationale is that the public may perceive that this is a major goal for the Central Bank that may eventually conflict with the inflation targets if, for example, there is a shock that permanently appreciates the currency in real terms.

4. Political Economy Issues

Political economy issues pervade the discussion and the decisions of monetary and exchange rate policies. In the case of Colombia under inflation targeting and a floating regime, four major political economy issues can be identified.

The Government and the Real Exchange Rate

The government regards the real exchange rate a**s** a key element of its security strategy, arguing that employment loss due to real appreciation strengthens the position of illegal, armed groups, especially in the countryside. In addition, some government officials believe that a currency

depreciated in real terms is a requisite for sustained economic recovery. The complaints of some tradable sectors add to this demonizing of appreciation.

These features are to be expected in a democracy and in a country fighting an internal war, like Colombia. Nevertheless, the Finance Minister presides over the Board of Directors of the Central Bank, and the President had made repeated calls to the Central Bank to keep a competitive real exchange rate, casting doubt on the Central Bank's independence in some sectors. This is potentially damaging because inflation expectations might be affected if the public perceives a conflict between the inflation targets and the real exchange rate preferences of the government. Although the evidence shows that this has not happened thus far (Figure 6), it remains a risk factor that must be taken into account.

Monetary Policy and the Domestic Public Bond Market

The outstanding stock of the domestic Treasury bonds (TES) is 23 percent of GDP. The central government deficit, which is between 5 and 6 percent of GDP, makes it likely that the TES stock will continue rising for years to come. Therefore, changes in TES rates have become a crucial issue for the government. If significant intervention in the forex market is sterilized through sales of TES in the secondary market, TES rates might be pressured upward. Here the government faces a dilemma. On the one hand, it wants the Central Bank to sustain a competitive real exchange rate, possibly by intervening in the forex market. On the other hand, it wants to keep TES rates at low levels.

This conflict disappears when monetary policy is relaxed. This is a sign of fiscal dominance and represents potential trouble for the credibility of monetary policy. Fortunately, the problem is alleviated by the correlation that exists between the exchange rate and the TES rates. When sovereign risk premia decrease, there is both an appreciation of the currency and a fall in TES rates. This allows the Central Bank to carry out sterilized intervention without pushing TES rates too high.

Central Bank Profits

Fiscal problems might lead the government to exert some pressure on the Central Bank to generate and transfer large profits every year. However, as long as the Central Bank produces positive surpluses, its political position remains strong. An important political economy

limitation to sterilized intervention comes from the possibility of incurring losses because the peso return on reserves is lower that the return on domestic assets. In such an event, the government will have to transfer capital resources to the Central Bank in order to restore its net worth. This will probably make the Central Bank more vulnerable to pressures coming from the government and the Congress.

The Use of International Reserves to Pay the External Debt

In the last quarter of 2003, the government was urged to pass a tax reform to help stabilize public finances. Part of the Congress was reluctant to approve the new taxes and asked for the Central Bank to contribute to the fiscal adjustment. In fact, the Congress implied that the passage of the tax reform could be helped by the use of excesses of international reserves to pay the external debt, with the argument that the opportunity cost of reserves was too high. It must be recalled that since the second half of 2002 reserves had been sold to support monetary policy in the face of a large depreciation. Thus, the Central Bank could not get rid of a significant amount of reserves. However, the Central Bank did not want to be blamed for a delay in fiscal adjustment.

Therefore, it answered that only a small amount of reserves (US$500 million) could be used to reduce public external indebtedness. In April 2005, in the face of an increase of 25 percent in the level of international reserves, the Central Bank decided to sell US$1.25 billion to the government to pre-pay an expensive IDB emergency loan, which can be construed as a pre-emptive move.[8] Some analyst viewed this episode as a surrender of the Central Bank's independence. Although there has been debate on this interpretation, the event illustrates the political context in which monetary and exchange rate policies are set in Colombia.

5. Conclusions

Since September 1999, monetary policy in Colombia has converged to a full-fledged, inflation-targeting strategy with an independent floating regime. The performance of the strategy has been satisfactory overall. Starting from a deep recession, the policy stance has been expansionary. Inflation has declined along decreasing targets, output has recovered and international reserves have reached levels that limit the external vulnerability of the economy.

[8] This transaction allowed the Central Bank to replenish its stock of government securities, enhancing its ability to sterilize future interventions.

The exchange rate has floated as much as in other countries in the region with similar regimes. Intervention in the forex market has been consistent with the shifts in monetary policy. As a result, the Central Bank has not used capital controls since 1999.

The system has resembled managed floating in two episodes characterized by strong shifts in the exchange rate. From these episodes, it may be learned that intervention in the forex market has been a useful complement of monetary policy actions. That is, relying only on the interest rates to deal with shocks to the capital account of the balance of payments may lead to inefficient volatility in inflation or output. At the same time, intervention without consistent movements in monetary policy has not been effective in affecting the trend of the exchange rate.

The most convincing hypothesis about the rationale for intervention in Colombia is the argument in favor of managed floating. However, a drawback of substantial intervention is the difficulty of communicating policy to the public and the market. Another rationale relates to the Central Bank's subsidiary goals, which can be accommodated as long as inflation converges to its target. Among these, the Central Bank has mentioned the build-up of international reserves and protection of tradable sectors from temporary, sharp appreciations.

Thus, fiscal imbalances pose a threat to the credibility and power of monetary policy through several political economy channels.

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Table 1. Inflation Targets vs. Inflation Expectations

	Target	Expectations*	Dif. (Exp - Targ)**
	%	%	%
2001	8.0	8.85	0.85
2002	6.0	6.95	0.95
2003	5.0-6.0	6.58	1.08
2004	5.0-6.0	6.13	0.63
2005	4.5-5.5	5.41	0.41

+ According to the Centarl Bank's Quarterly Survey of Inflation Expectations for each January

** Differences correspond to the midpoint of the target range when it applies

Source: Central Bank

Table 2. Indicators of Vulnerability, 1998 - 2004

	1998	1999	2000	2001	2002	2003	2004
STOCK OF GROSS INTERNATIONAL RESERVES (GIR) (Million dollars)	8.740	8.103	9.006	10.245	10.844	10.921	13.540
M3 / (GIR)	4,2	4,0	3,1	2,9	2,4	2,7	3,0
GIR / (Capital payments of current external debt + Current account deficit)	0,6	1,0	1,1	1,1	0,9	1,0	1,4
GIR / (Capital payments of current external debt)	1,0	0,9	1,0	1,3	1,1	1,1	1,5

Source: Banco de la República.

Table 3. Exchange Rate Volatility and Coefficient of Variation, 2000-2004

	Exchange rate volatility[1]			
	Colombia	Mexico	Brazil	Chile
2000	1,9%	1,3%	2,0%	1,5%
2001	1,1%	1,3%	3,9%	2,4%
2002	2,5%	1,0%	5,6%	2,1%
2003	1,5%	1,9%	3,4%	2,3%
2004	1,6%	1,1%	2,1%	2,5%

[1] Average of the monthly variation of the exchange rate.

For references about this index see Levy-Yeyati, Eduardo and Sturzenegger, Federico, "Classifying Exchange Rate Regimes: Deeds vs. Words" . European Economic Review, Forthcoming

	CV of monthly exchange rate changes[2]			
	Colombia	Mexico	Brazil	Chile
2000	45,7%	84,0%	62,1%	62,5%
2001	79,2%	81,8%	67,8%	74,8%
2002	76,9%	113,1%	69,4%	59,0%
2003	67,8%	67,6%	74,7%	61,9%
2004	45,5%	77,9%	82,7%	58,2%

[2] Coefficient of variation of the monthly exchange rate changes

Table 4.

	Monthly Intervention in the Foreign Market[4]			
	Colombia	Mexico	Brazil	Chile
2000	2,1%	6,3%	28,6%	6,3%
2001	4,6%	9,9%	22,9%	6,9%
2002	2,3%	6,0%	23,5%	10,9%
2003	3,5%	7,5%	10,5%	9,1%
2004	2,9%	8,0%	11,0%	8,3%

[4] Average of monthly change in r, where r is defined as $r_t = \frac{R_t - R_{t-1}}{B_{t-1}}$

R represents the International Assets and B is the Monetary base in US dollars.
For references about this index see Levy-Yeyati, Eduardo and Sturzenegger, Federico, "Classifying Exchange Rate Regimes: Deeds vs. Words" . European Economic Review, Forthcoming http://ssrn.com/abstract=214428.

	CV of international reserves[5]			
	Colombia	Mexico	Brazil	Chile
2000	3,4%	29,2%	8,5%	3,5%
2001	3,2%	39,0%	7,9%	2,3%
2002	2,0%	15,9%	19,4%	3,6%
2003	2,0%	5,7%	20,4%	2,0%
2004	4,9%	6,9%	6,8%	2,9%

[5] Coefficient of variation of international reserves

Table 5.

Balance of Payments
Capital and Financial Account
(Million dollars)

	I T	II T	III T	IV T	2003	I T	II T	III T	IV T	2004
Direct Investment Net (FDI)	**276**	**494**	**579**	**-493**	**855**	**536**	**713**	**698**	**650**	**2.597**
Foreign Direct Investment in Colombia	325	529	588	352	1.793	585	735	725	694	2.739
Direct Investment Abroad	-49	-35	-9	-845	-938	-49	-22	-27	-44	-142
Total Public Sector	**102**	**-33**	**301**	**64**	**435**	**33**	**-245**	**-280**	**625**	**136**
Financial Public Sector	-136	-113	50	-88	-287	-123	-113	-55	-127	-419
Non - Financial Public Sector	**239**	**80**	**251**	**152**	**722**	**157**	**-131**	**-225**	**753**	**555**
Long-term	617	52	395	393	1.457	-195	180	295	633	912
Disbursement	1.352	1.249	1.173	1.141	4.915	643	500	637	1.110	2.890
Amortization	735	1.197	778	748	3.459	838	320	342	477	1.977
Short-term	-379	28	-143	-240	-734	351	-311	-520	120	-358
Total Private Sector without FDI*	**61**	**-560**	**-548**	**553**	**-495**	**398**	**-14**	**-44**	**473**	**813**
Non - Financial Private Sector	**210**	**-310**	**-464**	**510**	**-54**	**375**	**-64**	**-376**	**342**	**277**
Leasing	123	-55	-381	-5	-319	-50	-69	-19	16	-122
Long-term	-363	-156	-259	53	-726	-115	-335	-489	-557	-1.496
Disbursement	134	303	222	729	1.387	434	208	245	416	1.303
Amortization	497	458	481	676	2.112	549	543	734	973	2.799
Short-term	450	-99	176	462	990	540	340	131	884	1.895
Portfolio (Assets)	3	-351	-386	-400	-1.135	-67	-327	-210	116	-488
Loans and others	447	252	562	862	2.125	608	667	341	767	2.383
Financial Private Sector	**-149**	**-251**	**-84**	**43**	**-441**	**24**	**50**	**331**	**131**	**536**
Long-term	-76	9	-10	27	-51	36	-16	-23	-12	-15
Short-term	-72	-259	-74	15	-390	-12	66	355	142	551
Other Financial Flows	**-2**	**0**	**-24**	**-4**	**-30**	**0**	**-5**	**-44**	**-2**	**-51**

*** Includes External indebtedness and net foreign assets.**

Source: Banco de la República.

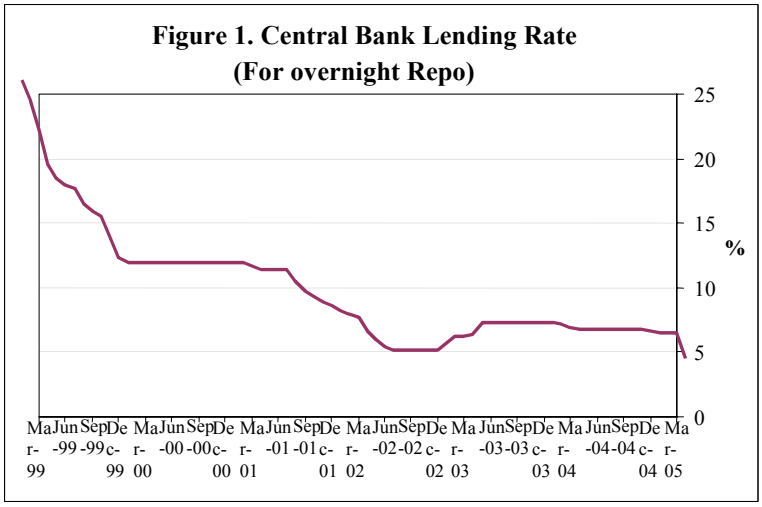


Figure 1. Central Bank Lending Rate
(For overnight Repo)
25
20
15
10
5
0
%
Mar-99
Jun-99
Sep-99
Dec-99
Mar-00
Jun-00
Sep-00
Dec-00
Mar-01
Jun-01
Sep-01
Dec-01
Mar-02
Jun-02
Sep-02
Dec-02
Mar-03
Jun-03
Sep-03
Dec-03
Mar-04
Jun-04
Sep-04
Dec-04
Mar-05

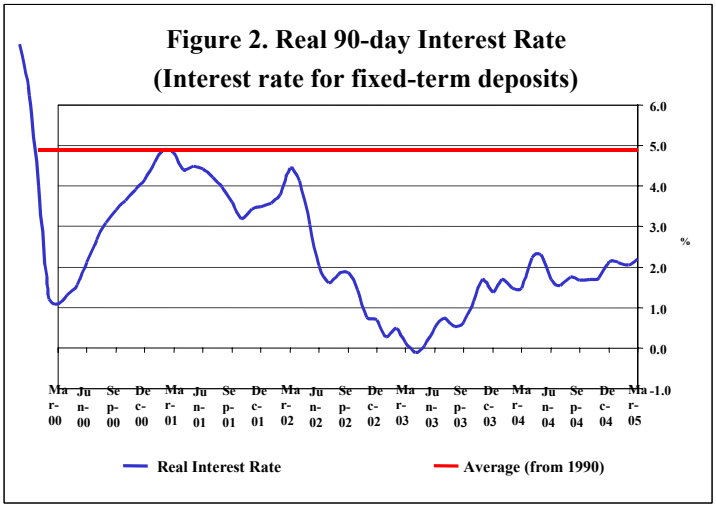


Figure 2. Real 90-day Interest Rate
(Interest rate for fixed-term deposits)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
%
Mar-00
Jun-00
Sep-00
Dec-00
Mar-01
Jun-01
Sep-01
Dec-01
Mar-02
Jun-02
Sep-02
Dec-02
Mar-03
Jun-03
Sep-03
Dec-03
Mar-04
Jun-04
Sep-04
Dec-04
Mar-05
Real Interest Rate
Average (from 1990)

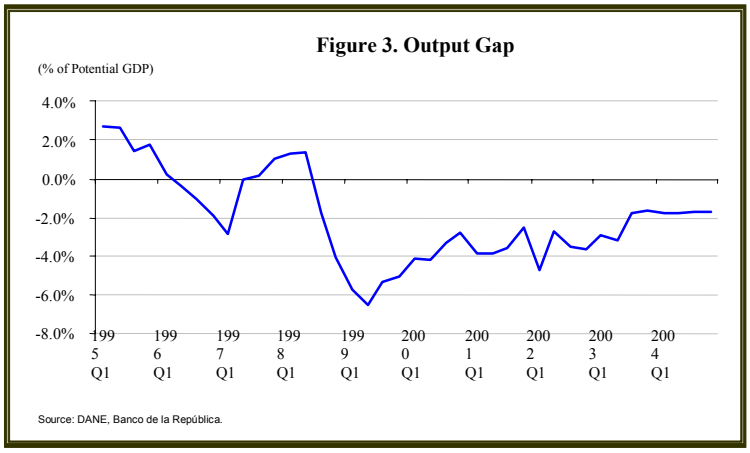
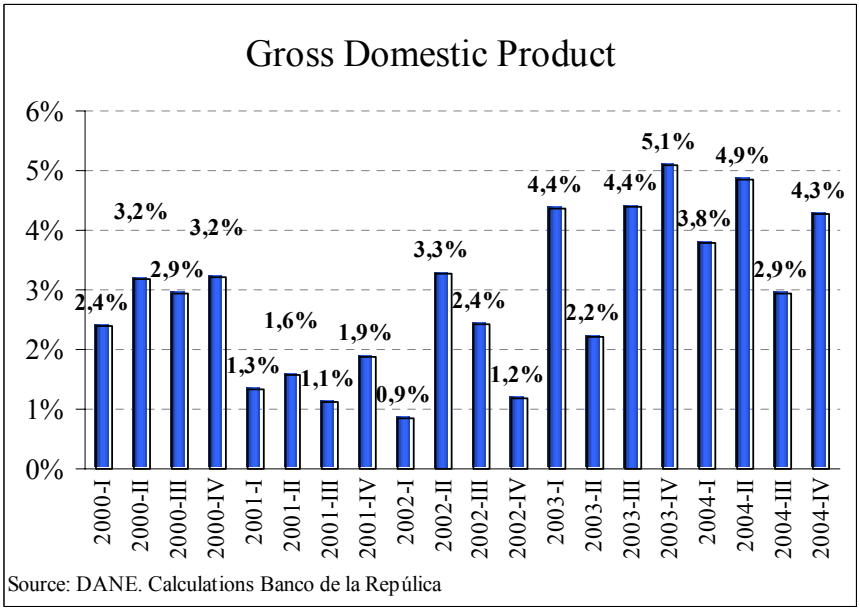
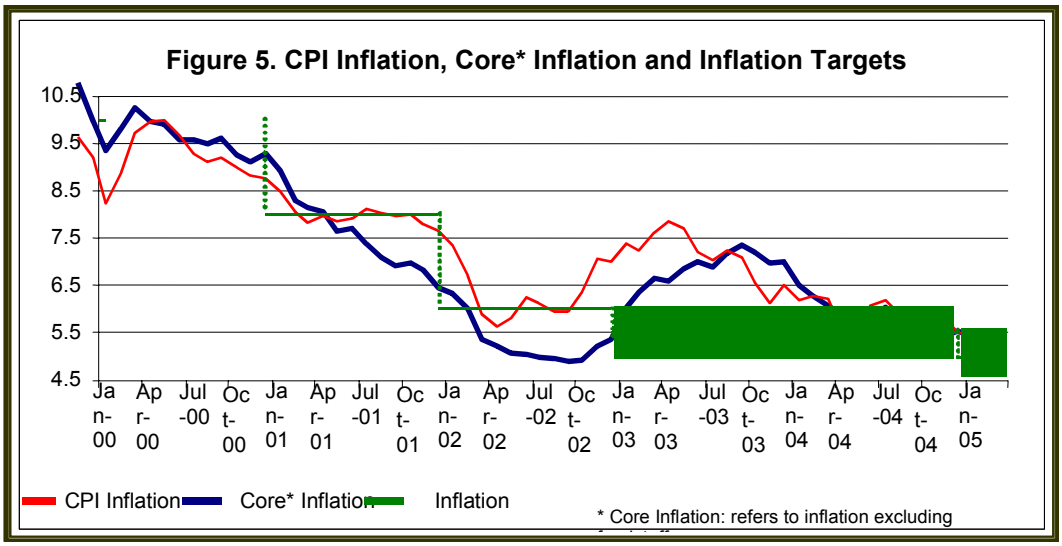
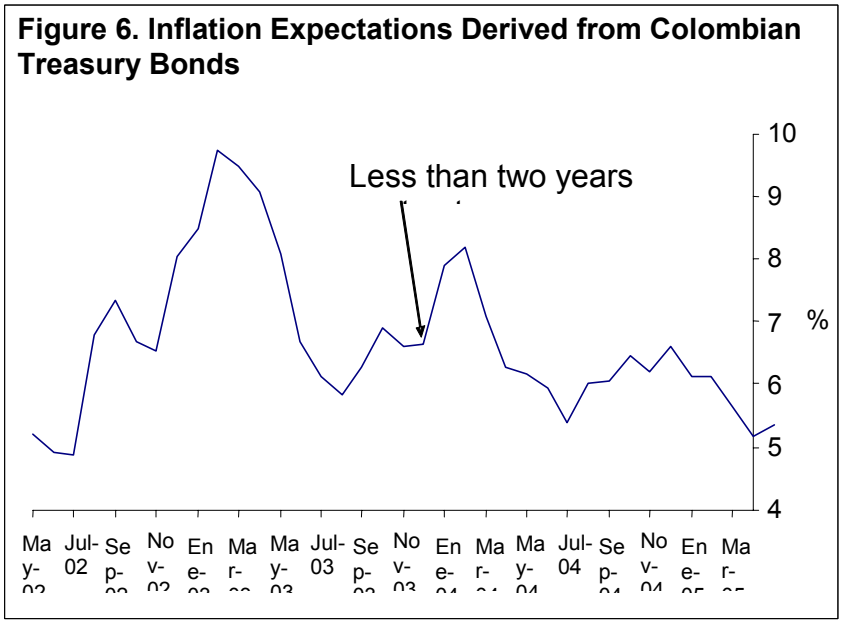


Figure 3. Output Gap
(% of Potential GDP)
4.0%
2.0%
0.0%
-2.0%
-4.0%
-6.0%
-8.0%
1995 Q1
1996 Q1
1997 Q1
1998 Q1
1999 Q1
2000 Q1
2001 Q1
2002 Q1
2003 Q1
2004 Q1
Source: DANE, Banco de la República.

Figure 4.


Gross Domestic Product
6%
5%
4%
3%
2%
1%
0%
2,4%
3,2%
2,9%
3,2%
1,3%
1,6%
1,1%
1,9%
0,9%
3,3%
2,4%
1,2%
4,4%
2,2%
4,4%
5,1%
3,8%
4,9%
2,9%
4,3%
2000-I
2000-II
2000-III
2000-IV
2001-I
2001-II
2001-III
2001-IV
2002-I
2002-II
2002-III
2002-IV
2003-I
2003-II
2003-III
2003-IV
2004-I
2004-II
2004-III
2004-IV
Source: DANE. Calculations Banco de la República





(*) Calculated from the differential of rates of TES UVR and fixed-rates TES (for contracts of under two years)

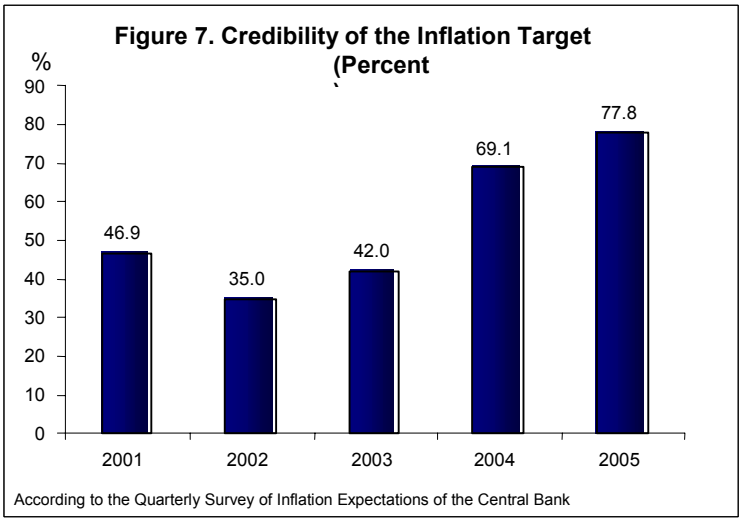


Figure 7. Credibility of the Inflation Target
(Percent
%
90
80
70
60
50
40
30
20
10
0
46.9
35.0
42.0
69.1
77.8
2001
2002
2003
2004
2005
According to the Quarterly Survey of Inflation Expectations of the Central Bank

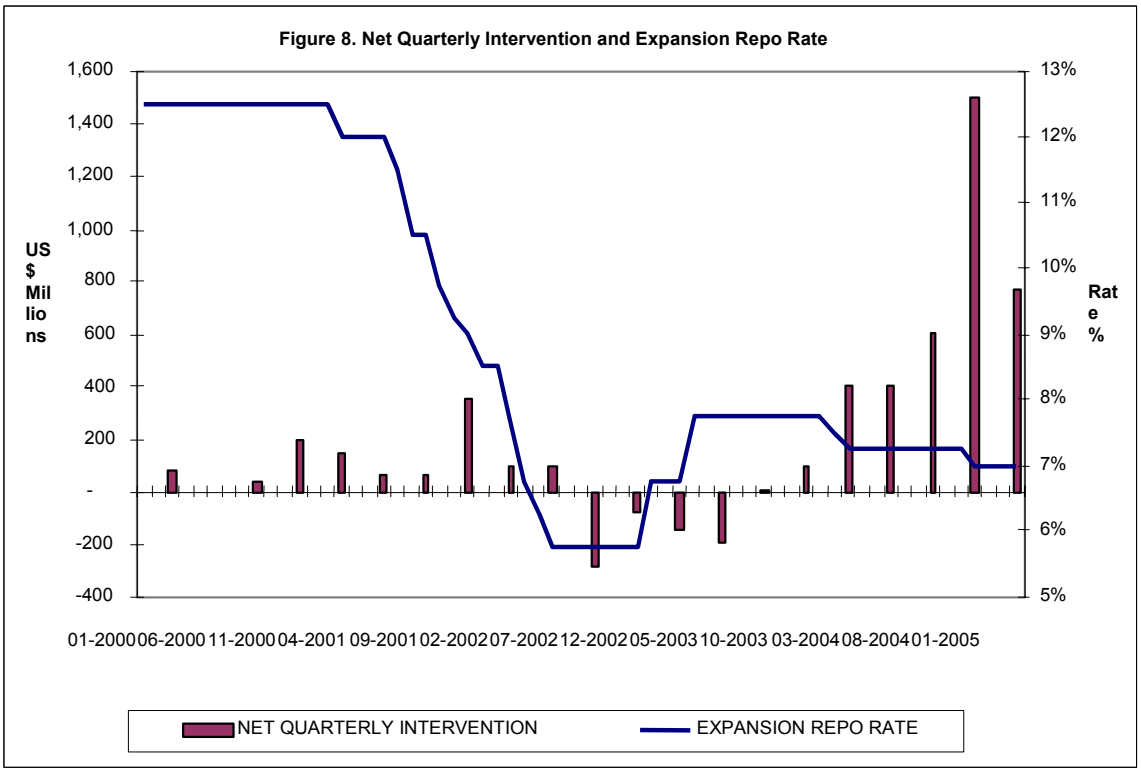


Figure 8. Net Quarterly Intervention and Expansion Repo Rate
US $ Millions
Rate %
1,600
1,400
1,200
1,000
800
600
400
200
-
-200
-400
13%
12%
11%
10%
9%
8%
7%
6%
5%
01-2000
06-2000
11-2000
04-2001
09-2001
02-2002
07-2002
12-2002
05-2003
10-2003
03-2004
08-2004
01-2005
NET QUARTERLY INTERVENTION
EXPANSION REPO RATE

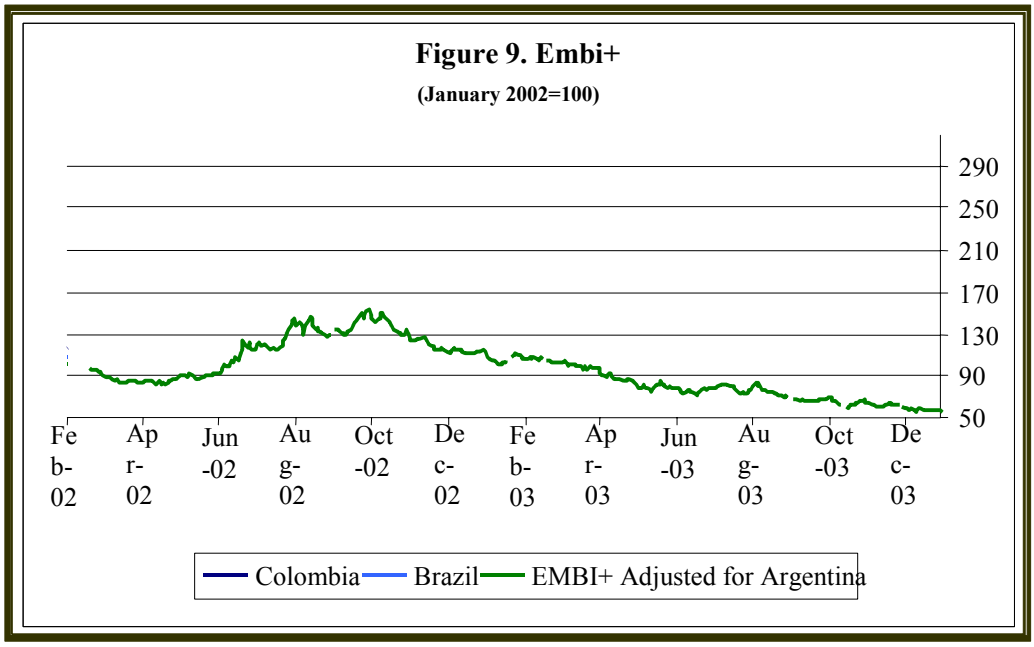


Figure 9. Embi+
(January 2002=100)
290
250
210
170
130
90
50
Feb-02
Apr-02
Jun-02
Aug-02
Oct-02
Dec-02
Feb-03
Apr-03
Jun-03
Aug-03
Oct-03
Dec-03
Colombia
Brazil
EMBI+ Adjusted for Argentina

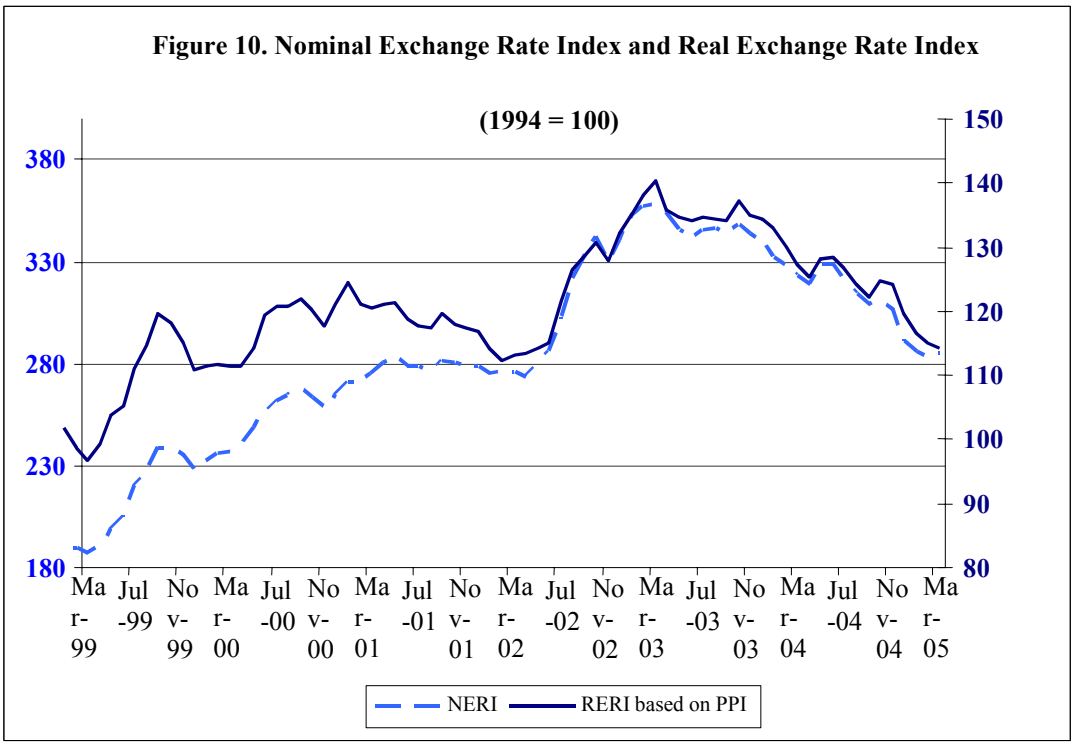


Figure 10. Nominal Exchange Rate Index and Real Exchange Rate Index
(1994 = 100)
380
330
280
230
180
150
140
130
120
110
100
90
80
Mar-99
Jul-99
Nov-99
Mar-00
Jul-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02
Mar-03
Jul-03
Nov-03
Mar-04
Jul-04
Nov-04
Mar-05
NERI
RERI based on PPI

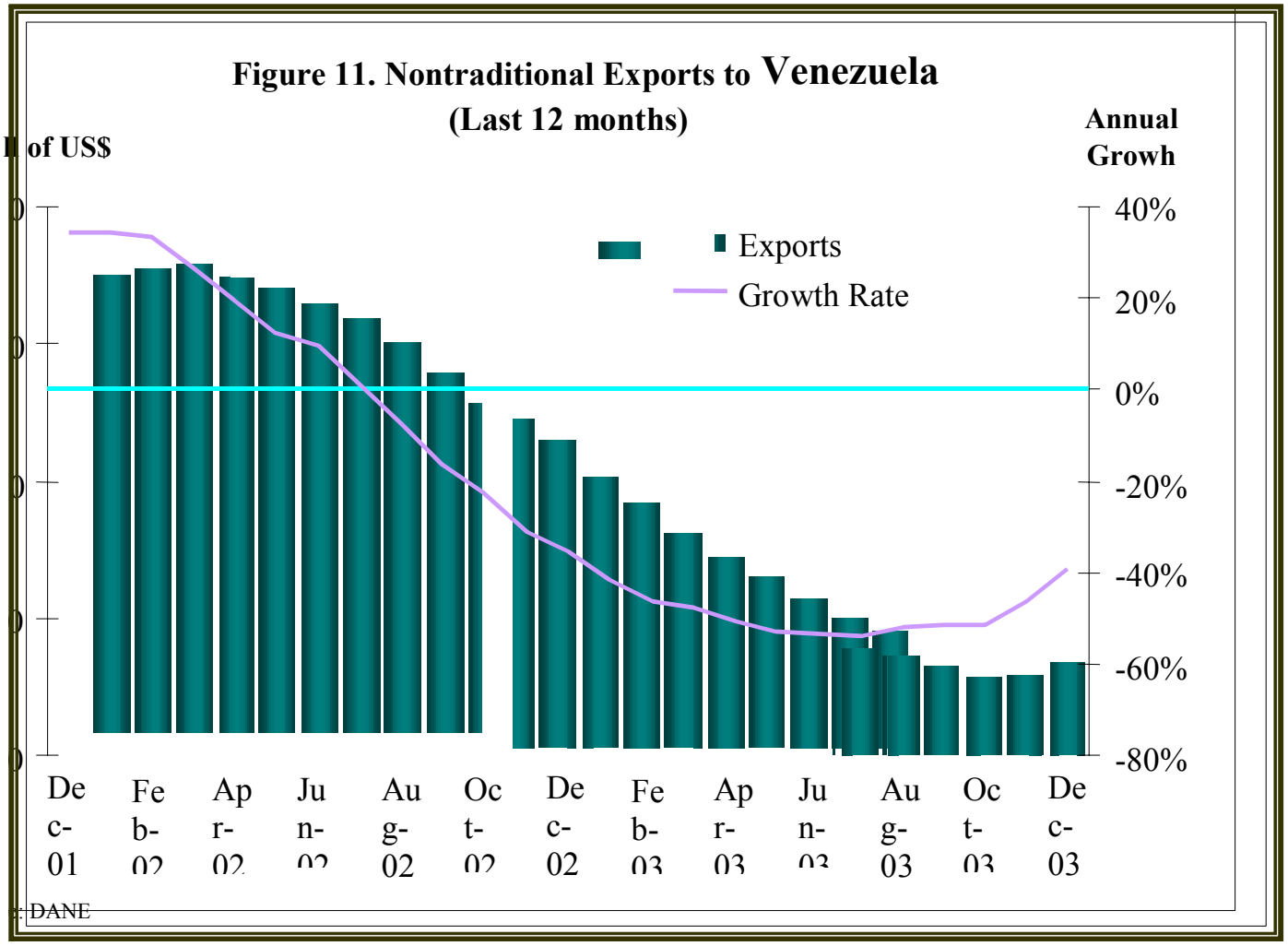


Figure 11. Nontraditional Exports to Venezuela
(Last 12 months)
Annual
Growh
Exports
Growth Rate
40%
20%
0%
-20%
-40%
-60%
-80%
Dec-01
Feb-02
Apr-02
Jun-02
Aug-02
Oct-02
Dec-02
Feb-03
Apr-03
Jun-03
Aug-03
Oct-03
Dec-03
DANE

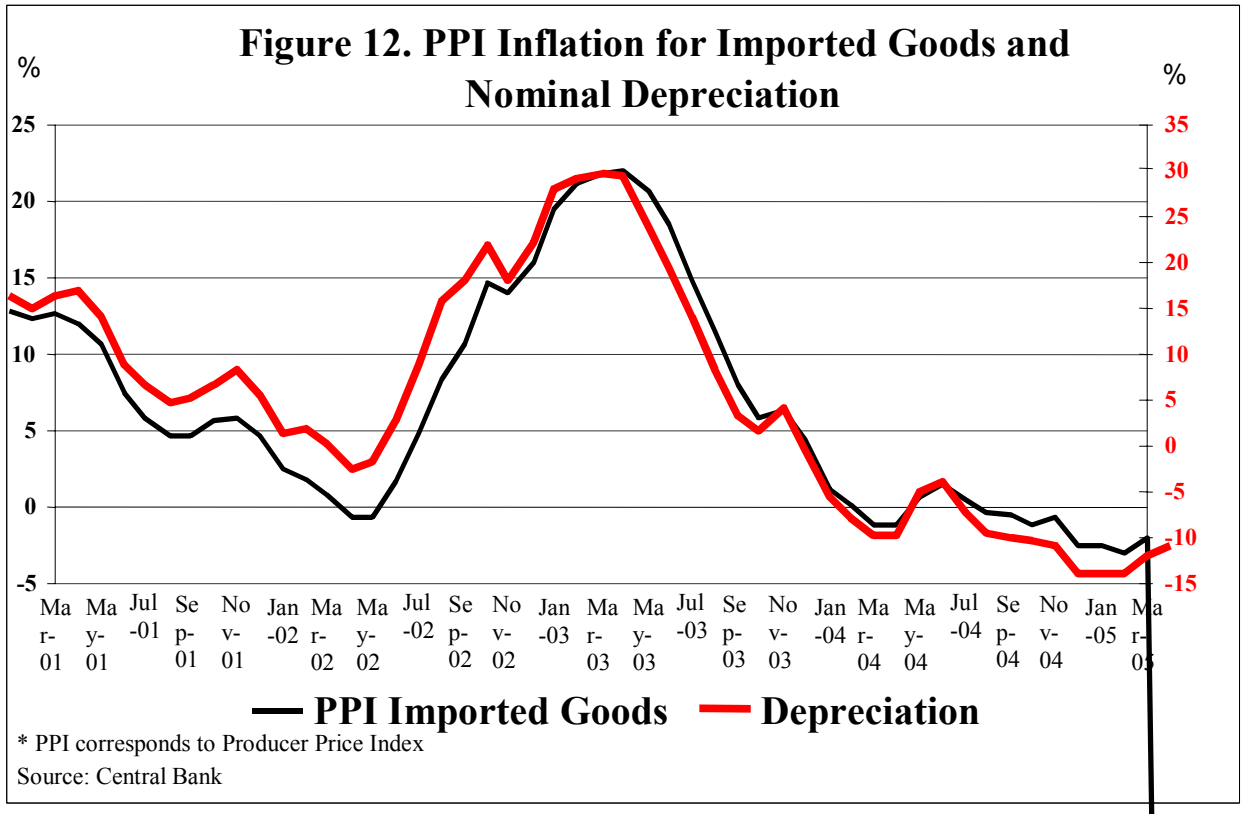


Figure 12. PPI Inflation for Imported Goods and Nominal Depreciation
%
%
25
20
15
10
5
0
-5
35
30
25
20
15
10
5
0
-5
-10
-15
Mar-01
May-01
Jul-01
Sep-01
Nov-01
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
Jul-03
Sep-03
Nov-03
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
PPI Imported Goods
Depreciation
* PPI corresponds to Producer Price Index
Source: Central Bank

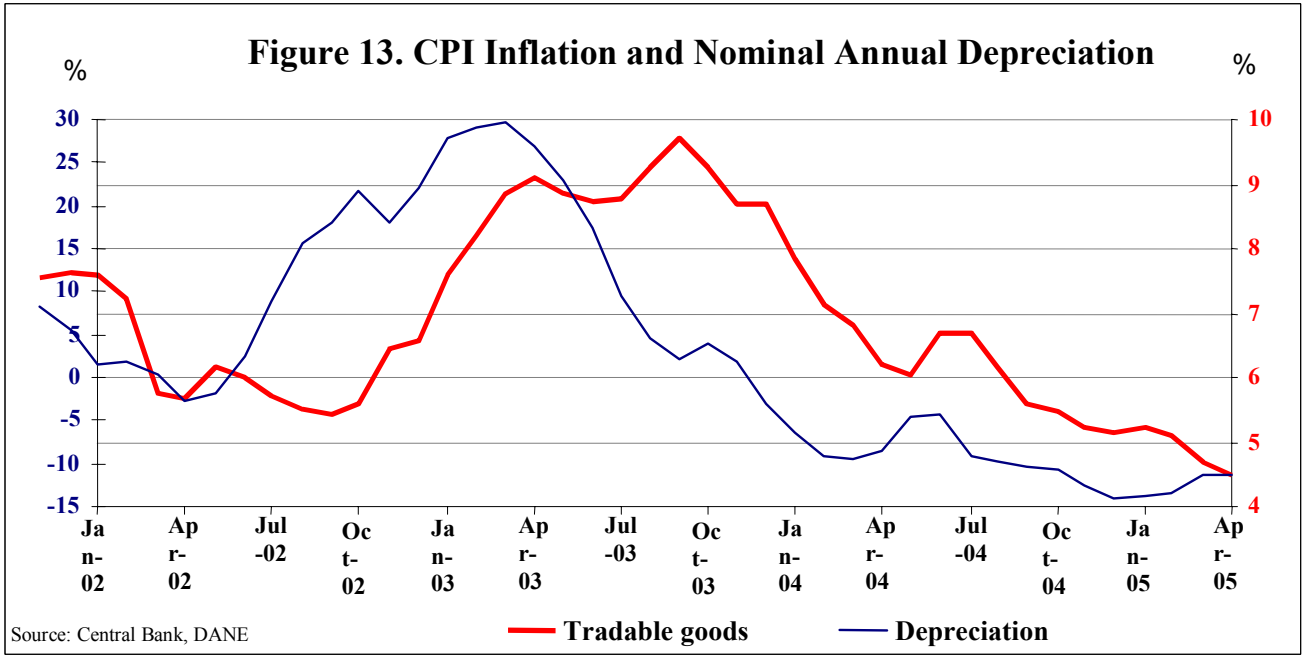


Figure 13. CPI Inflation and Nominal Annual Depreciation
%
%
30
25
20
15
10
5
0
-5
-10
-15
10
9
8
7
6
5
4
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Source: Central Bank, DANE
Tradable goods
Depreciation

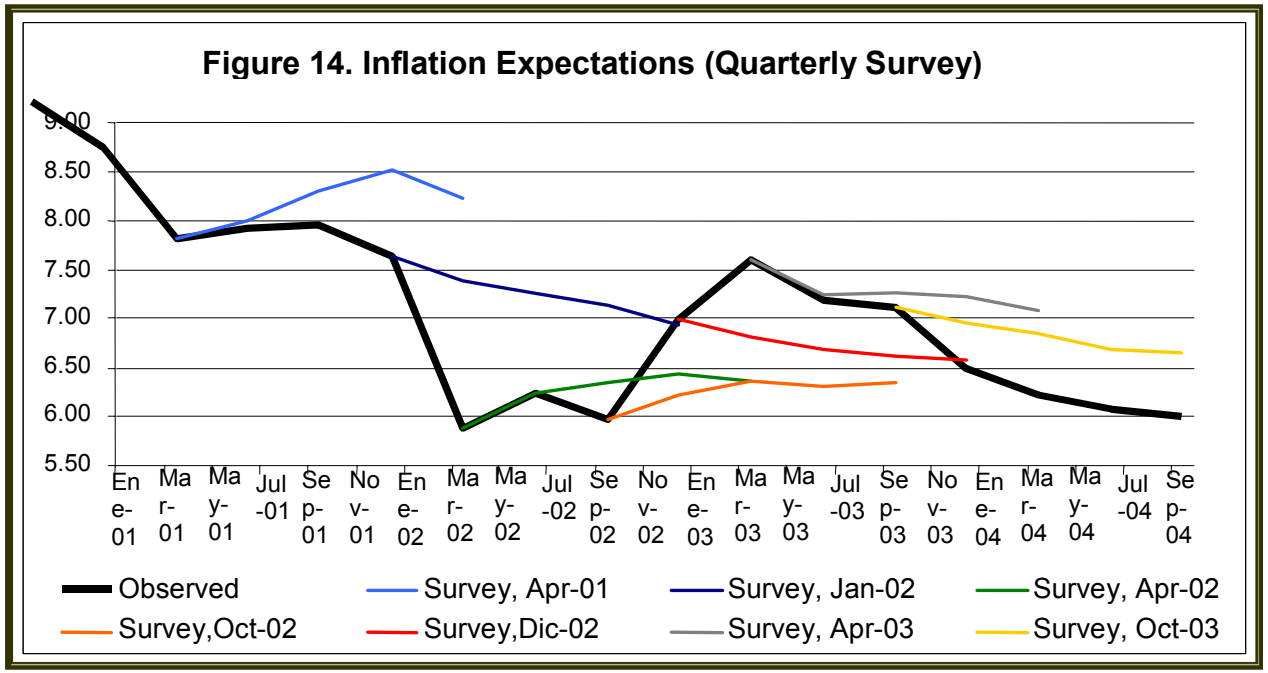
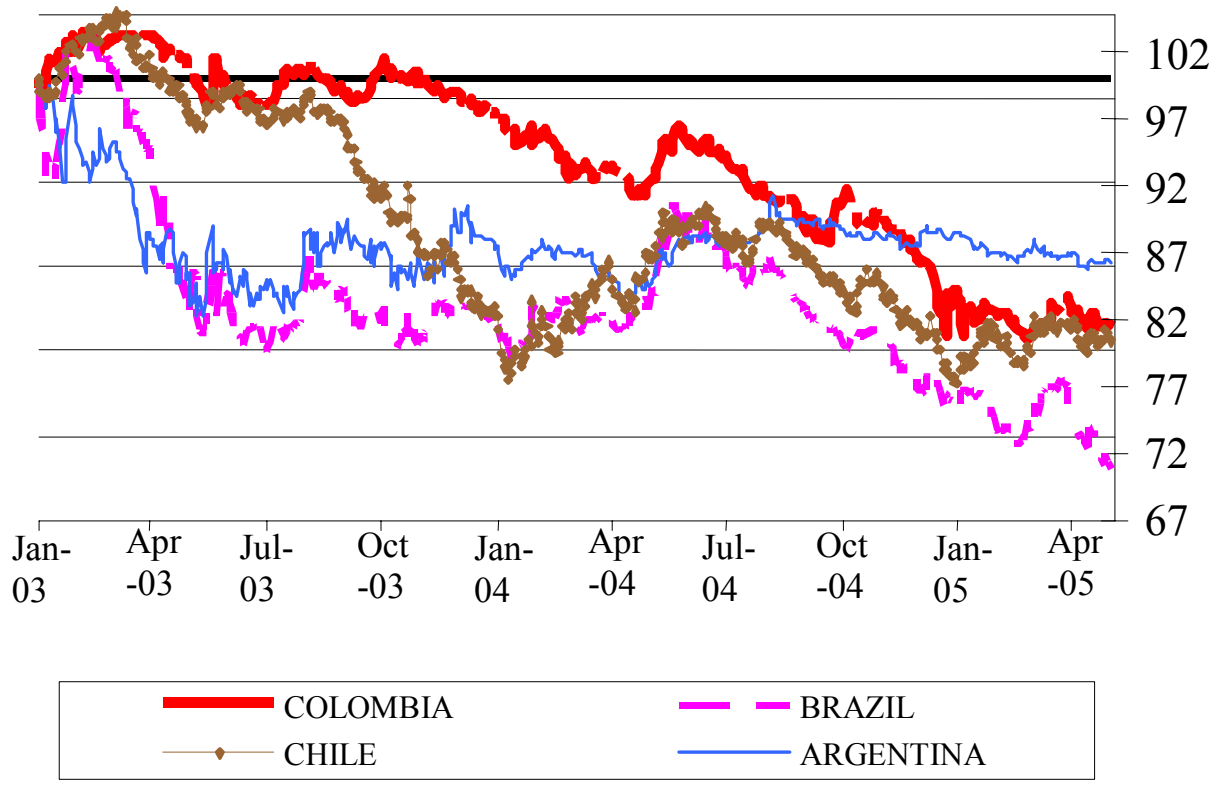


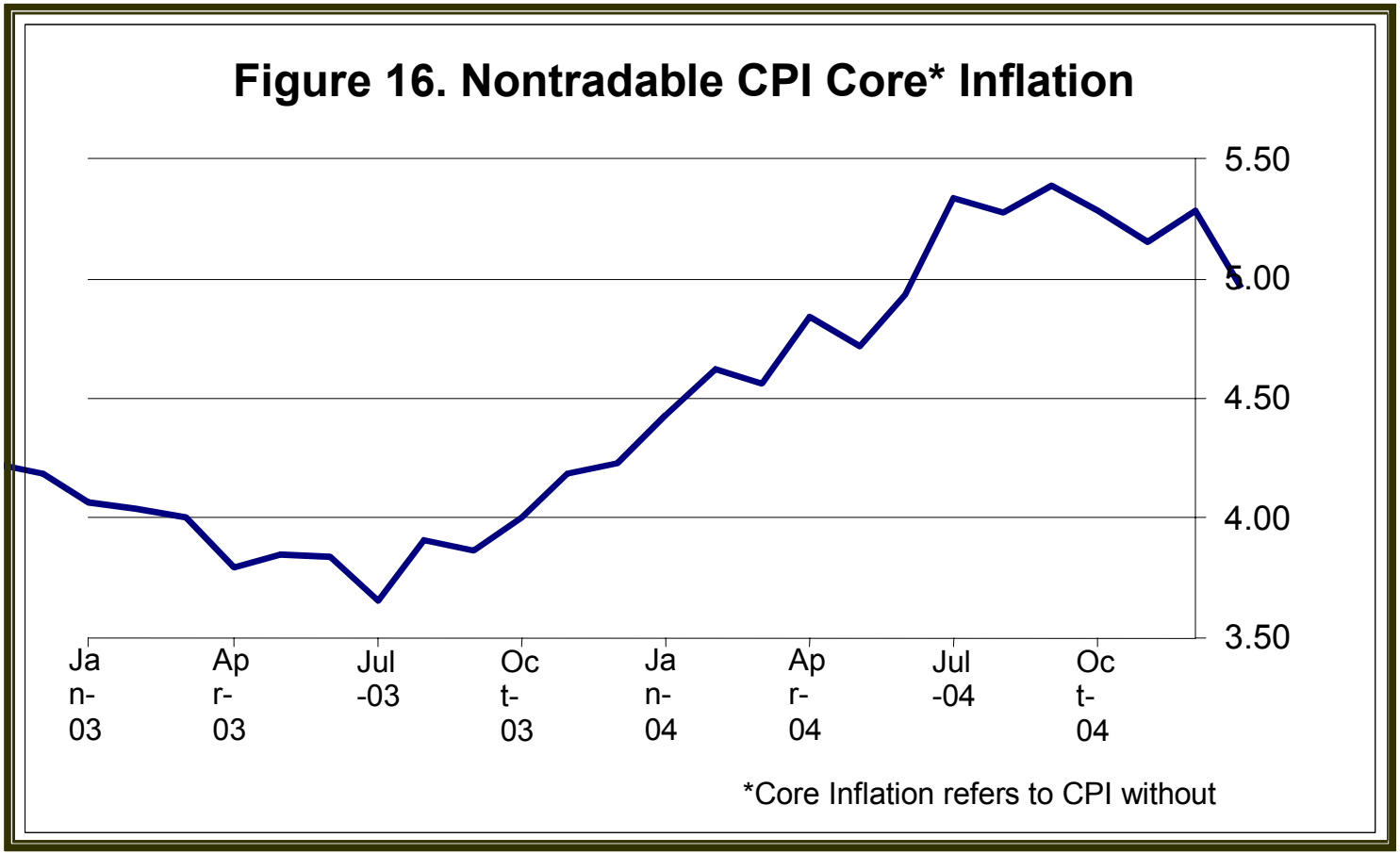
Figure 14. Inflation Expectations (Quarterly Survey)
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
Ene-01
Mar-01
May-01
Jul-01
Sep-01
Nov-01
Ene-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Ene-03
Mar-03
May-03
Jul-03
Sep-03
Nov-03
Ene-04
Mar-04
May-04
Jul-04
Sep-04
Observed
Survey, Apr-01
Survey, Jan-02
Survey, Apr-02
Survey,Oct-02
Survey,Dic-02
Survey, Apr-03
Survey, Oct-03

Figure 15. Nominal Exchange Rate Index
(January 2003=100)



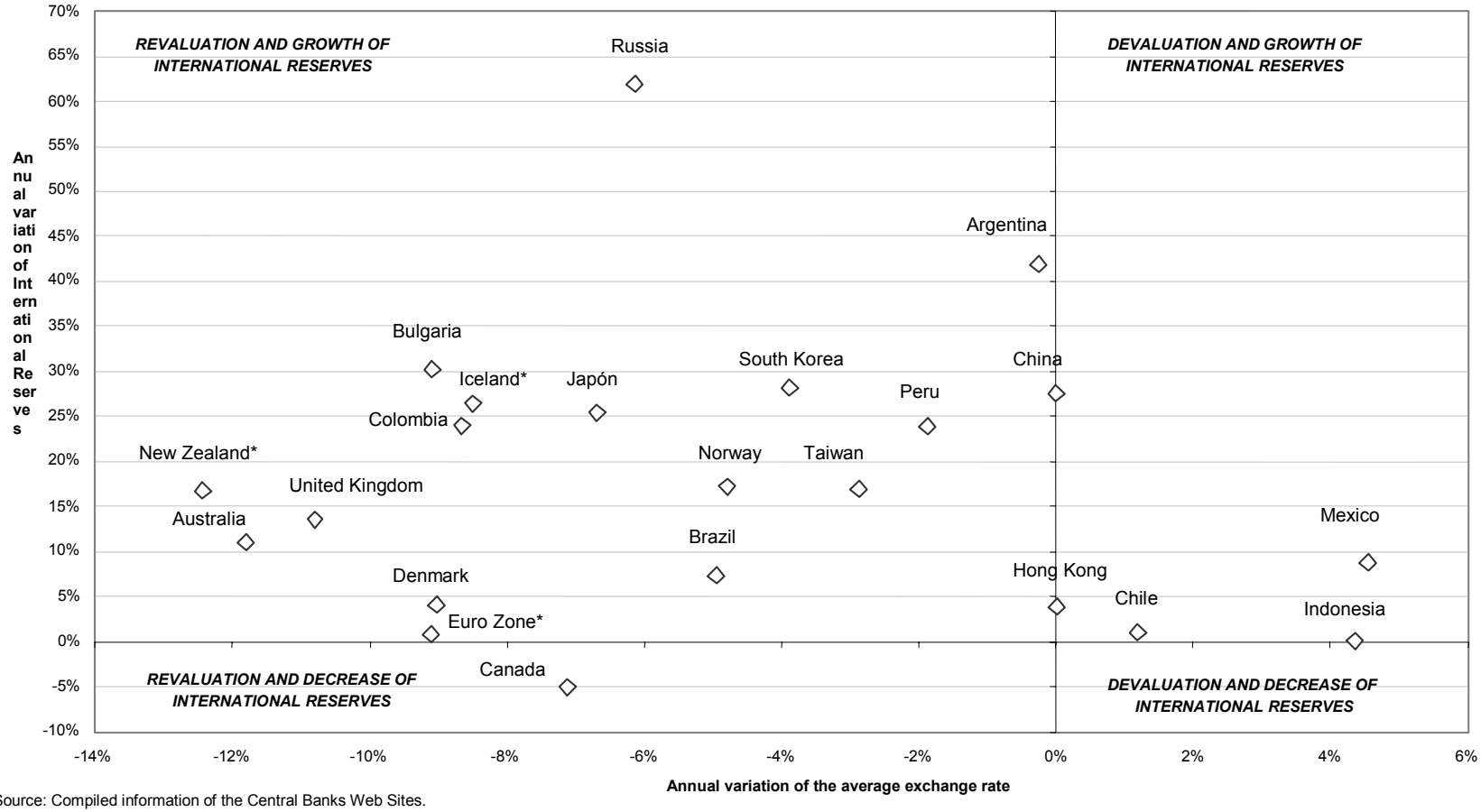
Source: Datastream

Figure 16. Nontradable CPI Core* Inflation



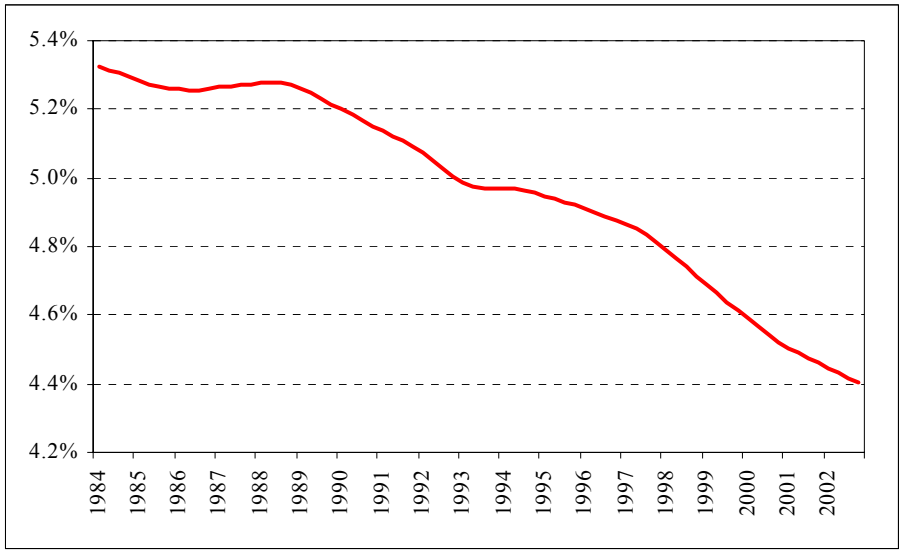
Source: Banco de la República, DANE

Figure 17. Annual Variation in the Average Exchange Rate Versus Annual Variation in International Reserves in Selected Countries, 2003 -2004



Source: Compiled information of the Central Banks Web Sites.
* Annual variation with the last data available.

Figure 18. Pass-Through Coefficient from Import Inflation to Core Inflation*



* Consumer Price Index excluding foodstuffs, public utilities and educational services.