An Evaluation of Monetary Regime Options for Latin America. Andrew Berg, Eduardo Borensztein, and Paolo Mauro. A Comment

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This is a very interesting paper on a very important and practical topic: the choice of exchange rate regime and monetary policy in emerging markets. The purpose of the paper by Berg et. al. is to evaluate the relative merits of the two exchange rate regimes to which most Latin American countries are converging today: hard pegs (dollarization or currency board) and floating exchange rate regimes. They also assess if the countries that float are able to use monetary policy to pursue domestic ends.

Factors to Consider in Choosing between hard pegs and floating rates Regimes

They start by analyzing if Latin American countries fulfill the standard Mundell-McKinnon conditions for a common currency area and then they move on to discuss the costs and benefits of unilateral dollarization and finally they go on to analyze the cost and benefits of floating regimes. These first three sections cover well-known material. It is well-known by now that for countries that can make a choice, today's consensus view holds that the potential benefits from monetary union or dollarization (or a 100% credible currency board) stem from low(er) inflation, elimination of currency risk and its associated premium, elimination of currency transaction costs, and elimination of currency mismatch in foreign assets and liabilities. These benefits could be particularly important in countries without much room to run an independent monetary policy. At the other extreme, maintaining a domestic currency under a free float offers potential benefits derived from allowing for nominal (and hence more real) exchange-rate flexibility, an independent monetary policy employed for stabilization purposes, direct access to seigniorage revenue, and direct central bank exercise in providing lender-of-last-resort services on a temporary basis.

A host of structural and policy conditions determines the extent of the previous gains and losses associated to each regime choice. Traditional OCA factors to be considered comprise: the degree of international factor mobility and correlations of factor prices, the extent of domestic price and wage flexibility, the degree of foreign trade openness and integration, the degree of symmetry of domestic and external shocks and business cycles, and the extent of domestic output, export, and portfolio diversification. Other important factors, mostly in the realm of policies and financial markets, have been added recently: completeness and depth of domestic financial markets and their integration into world markets (particularly in their ability to hedge exchange risk and to accept domestic-currency denominated issues of foreign debt) and coordination of monetary union or dollarization with overall economic and political union, transfer payments, and adoption of similar regulatory and tax codes.

It is far easier to list the latter costs, benefits, and determining factors in choosing exchange regimes than putting numbers to such choices. In fact, an overall evaluation of the relation between regime choice and welfare is hampered by three serious limitations: there is no well-established encompassing framework that takes account of the various

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dimensions and variables that determine regime choice, there is not much agreement on the empirical weight of different costs and benefits that entail such a decision, and the costs and benefits may change over time in response to regime changes. Hence, regional or country specific evaluations of exchange regimes tend to be partial, emphasizing each factor separately.

The section on floating exchange rate goes further to analyze if countries that float are really able to follow an independent monetary policy geared towards domestic objectives. Here they start with the by now well known argument of Calvo and Reinhart that countries that declare to be floaters do not allow much freedom to the exchange rate to move. Thus at the end they do not really float. Not making use of exchange rate flexibility could be due to the central bank's fear of large pass-through effects from devaluation to inflation or large risks of exchange rate adjustment when private agents exhibit a currency mismatch of their assets and liabilities.[1] Following Calvo and Reinhart (2000), one can analyze how close to real floating these regimes are, by comparing the volatility of exchange rates and international reserves before and after the formal announcement of a free float. They carry out some country specific studies of the behavior of real interest rates, real exchange rate and economic activity in a set of countries that includes Mexico, Chile, Peru, Hong Kong and Singapore. From the observations of the time series they concluded that Mexico's real interest rates were not necessarily higher with a flexible rate, that Chile went from a fear of floating to letting the exchange rate to adjust helping out to bring the country out of the recession and that Peru, in spite of the high dollarization and thus a prime candidate for fear of floating due to balance sheet effects, was able to get some real depreciation that helped to adjust. Here also there is a nice section where they review further evidence on the response of macroeconomic variables (output, inflation, real exchange rate, domestic interest rates) to terms of trade and foreign interest rate shocks under alternative exchange rate regimes. Although they summarize other studies, a common feature of these studies is that they do not control for other factors. They also review evidence on pass-through effects of depreciations.

Corbo and Schmidt-Hebbel (2001) also carry out a comparison of performance under alternative exchange rate regimes. In their study, the degree of volatility is approximated by the probability that the monthly changes in exchange rates and foreign reserves fall within ranges of 1.0% and 2.5%, respectively. When carrying out this exercise, they do not control for the fundamentals or shocks that could affect the exchange rate and foreign-reserve trajectories, so their conclusions are conditional on this assumption.[2]

If the exchange regime has not changed much, then the probabilities that the percentage changes in the two variables fall within the given ranges should not change. However, if official adoption of a float is for real, then the probabilities should be lower (higher) in the floating period for the variation in the exchange rate (foreign reserves). In Brazil and Mexico they found that this is indeed the case for the nominal exchange rate

[1] However, recent analytical and empirical work shows convincingly that pass-through effects are much weaker than initially thought (Obstfeld and Rogoff 2000; Goldfajn and Werlang 2000).

[2] The use of monthly frequency was determined by data availability for foreign reserves, for which daily data are not available.

but not for foreign reserves. In the case of Brazil, this result could be due to the deliberate decision to use foreign reserves to pay its foreign debt after the start of floating.[3] For Mexico, there was a deliberate policy to avoid large jumps in the nominal exchange rate through explicit exchange rate market interventions through the use of foreign reserves.[4] In particular, the central bank sells put option rights to buy dollars. Every day the central bank auctions 200 million dollars at a minimum exchange rate that is 2% above the preceding day market level.

In the case of Chile, although the two measures of volatility changed in the right direction, the differences are not large. Although there was no intervention in the foreign exchange market from February 1999 to September 2001, the exchange rate volatility increased only marginally. This can be attributed that much volatility was already observed under the preceding regime of a wide exchange rate band. Levy-Yeyati and Sturzenegger (2000), who found that the Chilean exchange rate regime was de facto flexible during most of the 1990s, confirm this. In Peru, exchange rate volatility is similar to the floating period of Chile but the volatility of foreign reserves is larger. The latter result indicates that Chile got more stability with less intervention.

Interestingly enough, Corbo and Schmidt-Hebbel also compare measures of volatility for Latin American countries with industrial country floaters. They found that the measures of volatility for the two industrial countries with free floats (Canada and New Zealand) show that they are not really free floaters in the limited sense of their unconditional tests: they exhibit significant volatility in foreign reserves and not much in the exchange rate. By contrast, the two industrial countries that were pegging their currencies to the deutschmark (Austria and The Netherlands) exhibit very low volatility in their exchange rates and high volatility in their foreign reserves. When comparing the volatility of the LA declared free floaters with that of New Zealand, they concluded that Chile and Colombia exhibit similar exchange-rate volatility but lower foreign-reserve volatility. In contrast, Brazil has larger exchange-rate volatility.

From the anecdotal evidence of Berg et. al and of the most systematic evidence provided in Corbo and Schmidt-Hebbel (2001), one can conclude that countries that declare to be floaters have indeed allowed the exchange rate to adjust to changes in fundamentals. The countries that have been less afraid of the fear of floating are the countries that have progressed the most in establishing a full-fledged inflation-targeting regime. Indeed, in the case of Latin America there has been a clear movement towards floating and, as a result, countries have been forced to put in place an alternative

[3] More generally, one observes many changes in central bank holdings of foreign reserves in countries that float freely, for reasons that are unrelated to foreign exchange intervention purposes. Two of the main reasons are deliberate portfolio swaps by central banks and changes in cross-currency valuations that affect the value of foreign reserve holdings. Moreover, after adopting a free float, some countries reduce over time their initial levels of foreign reserves that are excessive under a float. However, in the absence of detailed information of portfolio shifts and valuation changes, we are not able to adjust our volatility measures for these factors. Hence our measures of reserve volatility under floats exhibit generally an upward bias.

[4] We divide the second period into two sub samples (1994:12-1997:12 and 1998:1-2000:9) to test if the high volatility of foreign reserves was observed during the full floating period. Our results confirm that from 1998:1 onwards, foreign reserves were more stable than in the previous period (61.7% of probability that the percentage change falls within the 2.5% band). So it appears that Mexico is really floating today.

monetary anchor. The monetary regime that has been emerging in the region is of the inflation targeting variety where the interest rate is used as the main monetary instrument to try to achieve the inflation target. Adjustments in interest rates are governed by Taylor type rules.

The Recent Shift toward Inflation Targeting (IT) in Latin America

A set of Latin American country has established explicit inflation targeting regimes in recent years. Indeed, different varieties of IT are applied today in five Latin American countries: Brazil, Chile, Colombia, Mexico, and Peru. What did prompt their central banks to adopt this particular monetary regime? As in other regions, early IT adopters in the region started this new regime in an evolutionary way, by announcing public inflation objectives and learning only over time – from other countries' and their own experience – about the necessary prerequisites and components of what now is viewed as a full-fledged IT regime (see Bernanke et al. 1999 and Schaechter et al. 2000).

As elsewhere in the world, four main factors have prompted Latin American countries to adopt IT. First, public announcement of central bank inflation targets makes targets the economy's nominal anchor and the main policy objective of monetary policy. Second, forward-looking numerical inflation targets complement public information about monetary policy objectives and implementation to make monetary policy more effective in a world of forward-looking rational private agents. Third, publicly announced inflation targets are an easy way to make central banks accountable to society at large and their political representatives – a major prerequisite imposed on newly independent central banks. The latter factor can explain IT adoption in countries with long democratic tradition that have recently granted operational independence to central banks (like many industrial-country inflation targeters) and others that have embraced democracy only recently (like the Latin Americans in the 1990s). Finally, disappointment of alternative monetary and exchange rate regimes – ranging from true disappointment with money growth targets to abandonment of fixed exchange rate regimes after full-fledged balance-of-payments crises – led many countries to adopt IT as the only remaining alternative.

Monetary Policy under Inflation Targeting in Latin America

In the last part of the paper Berg et. al. discuss how is monetary policy carried out by a central bank that follows an IT regime. A floater that chooses an IT regime should adjust the interest rate or a monetary aggregate to keep inflation close to the target. They review evidence for Chile presented in Corbo (2002) and for Peru presented in Morón and Castro (2000). Corbo (2002) studies Taylor-type reaction functions for a set of countries in Latin America (Chile, Colombia, Costa Rica, El Salvador and Peru) drawing on the work of Clarida, Galí, and Gertler (1998). Corbo finds that in two of the five cases studied (Chile and Colombia) since their central banks became independents, monetary policy has been clearly geared to get inflation closer to its target value. From the other three cases: Costa Rica, El Salvador and Peru, in El Salvador there is some evidence that monetary policy is at least neutral. That is, shocks to the inflation rate do not result in a change in the real interest rate, while in the other two countries, a higher real interest rate is not the mechanism utilized to bring inflation close to its target.

In general, it is found that when setting monetary policy central banks look beyond just inflation, taking into account other variables that many times are spelled out

in their charter. This other variables are not considered because of their predicted power for future expected inflation but as separate objectives of monetary policy. Thus, in the case of Chile it was found that the size of the current account deficit, as a share of GDP, is also a variable taken into account when deciding the stance of monetary policy. In contrast, the output gap was significant only in the second half of the 80s, but not in the 90s when the Central Bank became independent. A similar type of result is found for Colombia, where the unemployment rate is significant only in the 80s but not in the 90s.

In the case of Costa Rica both the output gap and the real exchange rate are statistically significant, while in El Salvador, the output gap is statistically significant and in Peru both the output gap and the real exchange rate are statistically significant.

In the specific case of Chile, referred to in Berg et. al., the Chilean Central Bank does indeed raises the real interest rate when the inflation forecast is above the target. However, Berg et. al. misinterpreted Corbo's results as in Chile monetary policy during the period studied was carried out using CPI-indexed central bank instruments and, therefore, the dependent variable in Corbo's monetary reaction function is the real interest rate and not the nominal interest rates as assumed in the paper. In this case, a positive coefficient for the inflation gap indicates that monetary policy is geared to keep inflation close to the target.

Some specific points:

1. The authors claimed that not much theoretical work has been done on optimal monetary policy in an open economy. I think that this claim is not correct, as Svenson and Ball have done much work in this area.

2. When looking at trade patterns I think there are two very important facts that are not mentioned. First, more than the importance of trade or the concentration of trade with one trade partner, an important issue is the high concentration on primary products, which raises the volatility of export revenues. For a given size of external trade, the more diversified the external sector the lower the volatility of external revenues. Second, the structure of trade, in what is referred to main products, is very different, ranging from countries that are very dependent on oil exports (Ecuador and Mexico) to others that are completely dependent on oil imports (Chile). These striking differences mean that shocks to international prices of specific primary products can have very different effects, and a common currency will put a lot of pressure on real wages or fiscal policy to facilitate the adjustment.

3. The apparent irrelevance of country specific factors in the determination of capital flows has been put under scrutiny in recent months. In particular, as Argentina has suffered a major shortage of external financing now that it is suffering a severe crisis, countries like Chile and Brazil have been able to obtain foreign financing at a reduced cost. This shows that even if there is a perception of Latin America as a bloc, there still exists al role for individual country fundamentals. If this is the case, the existence of common financial shocks in terms of reduced capital shocks is not so strong. After an initial period of common effects, external investors are able to differentiate between countries. Of course, it is very soon to extract a sound conclusion, but evidence is at least not so clear as it is put on the paper.

4. Two points about looking at the CBI index. First, does it make sense to measure the CBI index of a dollarized country and relate it to inflation? Second, a central bank can be very independent but other question is if the objectives are well designed in order to put the right incentives for a responsible use of monetary policy.

5. When analyzing the option of unilateral dollarization, the authors forget the importance of inflows from residents in the United States for small countries in the Caribbean and Central America. Other point that it is not considered is the importance of a sound financial system. Under a weak and poorly supervised and regulated financial system the possible disciplinary effects of dollarization are not so clear. Even more, when dollarization is spontaneous, a weak regulation and supervision tie the hands of the central bank because the banking system will probably take a high exposure to currency risk making the real costs of a nominal depreciation very high.

6. The reaction of central banks by raising interest rates after an abrupt depreciation of the domestic currency can be part of the normal procedures for a central bank that uses and inflation targeting monetary framework. This seems to have been part of the justification given by the Chilean Central Bank during the turmoil of the Asian and the Russian crises. In Brazil also the path of adjustment in domestic interest has been linked to the potential inflationary effects of currency depreciation.

7. About inflation pass-through, credibility is a main point. As Taylor (2000) emphasizes, more than the exchange rate today, what affects the decision of producers about the price is the expected trajectory of the exchange rate, including the current value, but also next periods ones. The case of Brazil is very important, as there was no record of a previous responsible management, and following the sharp depreciation of early 1999; the inflation rate experienced a transitory surge, returning slowly to low levels without any important long run effect. Also the experience of Chile goes in the same direction, after the abandonment of the exchange rate band, there have been some important ups and downs in the exchange rate, but the effects on inflation have been quite modest.

8. Also, contrary to what is claimed in Berg et. al. (page 14) Corbo indeed has in its set of instruments foreign inflation and lag values of the nominal rate of depreciation. Furthermore, he also used the foreign interest rates as a separate argument in the right hand side of its reaction function but its coefficient was never statistically different from zero.

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