Another Look at Exchange Rate and Monetary Regime Options for Latin America.

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The purpose of this paper is to comment on the paper by Berg et. al. on exchange rate and monetary regime options for Latin America. The purpose of Berg et. al. paper is to evaluate the relative merits of the two exchange rate regimes to which most Latin American countries are converging today: hard pegs (dollarization and 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. 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.

1. An Overview of Berg et al. Paper.

The paper by Berg et al. starts by analyzing if Latin American countries fulfill the standard Mundell-McKinnon conditions for a common currency area and then it moves on to discuss the costs and benefits of unilateral dollarization and finally it analyzes 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

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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 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 (2002), 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

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[1] However, recent analytical and empirical work shows convincingly that pass-through effects are much weaker than initially thought (Obstfeld and Rogoff 2001; Goldfajn and Werlang 2000).

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. In my comments I will cover five main topics: (1) the cost and benefits of alternative regimes, (2) the elements to consider when choosing a rigid exchange rate regime (dollarization, currency union or currency board), (3) the choice of monetary framework for the countries that decide to float, and (4) the experience with inflation-targeting in Latin America. Finally, I end up with some concluding remarks.

2. Alternative Exchange Rate Regimes: Costs and Benefits[2]

In general, exchange rate regimes can be grouped into three broad categories: hard peg regimes (dollarization, currency unions and currency boards), intermediate regimes (fixed-but-adjustable pegs, flexible pegs, crawling pegs, target zones) and floating regimes (managed floats with occasional interventions and free floats).[3] Hard peg regimes have many benefits. First, they eliminate (and intermediate regimes reduce) the volatility in the nominal and real exchange rate and, when accompanied by supporting macro policies, are less prone to generate misalignments that are unrelated to change in fundamentals[4]. Second, hard pegs, as well as fixed-but-adjustable pegs with infrequent

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[2] This section and the next draw on Corbo (2002b).

[3] Corden (2002) distinguishes nine regimes that go all the way from absolutely fixed regime (dollarization and monetary unions) to the pure floating regime.

[4] Empirical work on Latin America shows that the variability of the real exchange rate has a detrimental effect on export growth and on investment and output growth (Caballero and Corbo, 1989, Corbo and Rojas, 1993, and Reinhart and Reinhart, 2001). Furthermore, Baxter and Stockman (1989) compare the variability of a set of real variables across different exchange rate regimes, finding that, controlling for

adjustments (FBAR) also provide a nominal anchor for the evolution of the price level and allow for more efficient adjustments when shocks are of a nominal nature. The anchor is stronger for hard pegs than for FBARs. Also, a commitment to an exchange rate anchor is easier to understand and monitor than a commitment to a monetary anchor. Third, an additional advantage for countries with a poor track record on the use of monetary policy is that it also reduces the scope for an independent monetary policy.

However, hard-peg regimes (and to a lesser extend, FBARs) also have some important costs. First, in the presence of nominal downward price and wage rigidities, they make a real depreciation difficult to achieve when a change in fundamentals requires one, resulting in important costs in terms of output and unemployment. Thus, it has also been found that adjustment to real shocks under fixed exchange rate regimes (hard pegs and FBARs) are more costly than under more flexible regimes (Broda, 2000). Second, when agents underestimate the risk of an exchange rate change, they facilitate over-expansion of foreign indebtedness, exposing agents to high costs when an exchange rate adjustment does take place. These costs could be high in economies with weak financial systems. Furthermore, an additional difficulty for hard pegs and especially for FBARs, which has been much stressed in the recent literature (Fischer, 2001 and Mussa et. al., 2000), is that they are prone to costly speculative attacks in countries that are increasingly integrated into world markets through trade, direct foreign investment, and other types of capital flows[5]. The costs here are multidimensional: the central bank losses associated with the exchange rate intervention, the macroeconomic and financial effects of the high interest rates needed to defend the peg, the balance-sheet and relative price effects of an abrupt change in the exchange rate, and the political and economic costs usually associated with the abandonment of a peg. Balance-sheet effects can emerge when there is a severe currency mismatch between assets and liabilities in the real economy and the financial system. That is, in systems in which the liabilities of private agents are dollarized while their assets or income-generating capacity are in local currency. In this type of situation, a drastic exchange rate adjustment could unleash generalized

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fundamentals, there were no mayor differences except for the real exchange rate, which was more volatile for flexible regimes. Furthermore, there was a tendency for long-lasting misalignments.

[5] The experience of Hong Kong currency board illustrates this point. Thus, in the heyday of the Asian crises doubts about the survival of the system resulted in high interest rates and a substantial slowdown of growth.

bankruptcy. Third, a fixed exchange rate regime -both of the hard-peg and FBAR varieties- also requires giving up on the use of monetary policy to help control demand to stabilize output. This is not a minor cost, as with a flexible exchange rate monetary policy is the most effective stabilization tool in the presence of nominal price rigidities. Some of these benefits of having a less rigid system should not be underestimated. Indeed, there is an emerging consensus that the countries which suffered least from the Great Depression were the ones that abandoned earlier on the rigid gold standard comparatively early[6].

Floating regimes reduce most of the costs of the fixed regimes enumerated in the previous paragraphs. However, floating regimes also have their costs. First, they usually deliver higher inflation than fixed-rate regimes. Thus, an explicit nominal anchor, most likely in the form of an inflation target regime, must complement any flexible exchange rate regime. Second, flexible exchange rate regimes show more volatility in nominal and real exchange rates and sometimes lasting misalignments in the real exchange rate. This could be an important cost of flexible regimes, as volatility and misalignments have real costs in terms of reduced trade and capital flows and, ultimately, on growth and welfare. How high volatility may rise is well illustrated by the exchange rate between the yen and the dollar, which went from 147 yen per dollar in August 1998 to 115 in October of that same year. If these sharp movements occur for the currencies of the two largest countries in the world, with deep markets to cover exchange rate risks, anything could happen for the currencies of smaller countries. The exchange rate volatility costs of a flexible exchange rate system in the form of balance-sheet effects could be important. Calvo (2000) has made this point forcefully while advocating a hard peg (currency board or dollarization). However, a balance-sheet effects could be ameliorated through appropriate regulation and supervision of the financial system and the aggressive development of instruments and markets to cover exchange rate risks as well as the development of deeper capital markets in domestic currency (Caballero, 2002, and Goldstein, 2002). Thus, a flexible exchange rate system must be accompanied by appropriate supervision

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[6] See Eichengreen and Sachs (1995), Eichengreen (1992), and Bernanke (1995) for industrial countries and Díaz-Alejandro (1982), Corbo (1988), and Campa (1990) for Latin America.

and regulation of banks and by the promotion of instruments to hedge exchange rate risks, including encouraging issuance of local currency denominated debt.

It is sometimes claimed that countries have a fear of floating and therefore, although they claim to have a flexible exchange rate system, they do not use the flexibility that it entails[7]. Fear of floating could be due to a high pass-through effect of devaluation to inflation or to the commercial risks associated with an abrupt exchange rate adjustment in an economy where agents have a mismatch between the currency composition of their assets and liabilities. However, recent analytical and empirical work shows convincingly that pass-through effects –from depreciation to CPI inflation- are much weaker than initially thought (Obstfeld and Rogoff, 2001 and Goldfajn and Werlang, 2000). This is especially so for those countries with a well-established and credible monetary framework of the inflation-targeting type. Under these circumstances, agents trust that the central bank will avoid an acceleration of inflation above the set target, in the process reducing the pass-through from depreciation to inflation[8]. In a formal model where monetary policy follows a Taylor rule, fear of floating could be merely the result of the normal reaction of a monetary authority that is concerned about inflation, especially if it also has a separate target for the real exchange rate (or for the current deficit) as an independent objective of monetary policy. However, a hidden cost of having a separate exchange rate objective –for fear of bankruptcies or its potential effects on trade flows- is that the IT framework would become less transparent, reducing its credibility. In a recent study of monetary policy in Latin America, Corbo (2002a) finds that the Central Bank of Chile in the 1990s had a separate current account target objective and the central banks of Colombia in the 1980s and of Peru in the 1990s had real exchange rate objectives. However, Corbo and Schmidt-Hebbel (2001) show that countries in Latin America that are listed as floaters were indeed floating.

But one should always keep in mind that in the ideal case of absence of any market friction there is no gain from exchange rate flexibility or from having an independent monetary policy. At the same time, in this particular case, not much is

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[7] Calvo and Reinhart (2002) present evidence on fear of floating.
[8] However, still the pass-through from depreciation to a rise in import prices could be high, as shown by Campa and Goldberg (2002).

gained by giving up the domestic currency, as currency transaction costs are nil and perfect financial markets hedge the currency risk premiums and currency mismatch. The only residual issue would be a minor one, related to the international distribution of seigniorage revenue.

Is it possible to combine a fixed exchange rate regime and a flexible one? In their heyday a decade ago, the intermediate regimes of adjustable pegs and exchange rate bands seemed to provide a perfect combination of credibility (with the nominal anchor provided by the exchange rate peg or band) and flexibility (through the limited and gradual adjustment of the nominal and real exchange rate in response to shocks). However, in a world with large capital movements and high levels of workers' remittances, these exchange rate regimes have become very vulnerable to highly costly speculative attacks (Mexico in 1994, Asia in 1997, Russia in 1998, Brazil in 1999, and Turkey in 2001). As a result, after a decade of growing disappointment with intermediate regimes (including FBARs), the current consensus has shifted in favor of the two pure cases: credible fixed or fully flexible (Eichengreen, 1994, Obstfeld, 1995, Summers, 2000, Mussa et al., 2000, and Fischer, 2001). A minority view in favor the intermediate option is presented in Frankel (1999) and Williamson (2000).

As for countries well integrated into world capital markets, intermediate regimes are prone to crises; there has emerged a strong policy interest in finding less costly options. The main options are to establish a credible hard-peg exchange rate system (dollarization, currency unions, or a currency board) or to employ a more flexible exchange rate system where there is no explicit commitment to a given exchange rate value, developing, at the same time, instruments to cover exchange rate risks and building in parallel a monetary framework capable of delivering low inflation. An increasingly popular framework of this sort that is the inflation targeting one[9].

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[9] A third option, generated in certain cases to avoid exchange rate crises, is to introduce controls on capital flows. However, it must be kept in mind that, given the increasing integration of world trade and direct foreign investment and the lower communication and information costs and advances in information technology, the world is an ever more integrated market, so that capital controls are very difficult to implement and, at best, are only temporarily effective (until the private sector finds ways to avoid them). For a recent review of the effectiveness of capital controls, see Edwards (1999).

3. Hard Pegs: Dollarization, Currency Unions, and Currency Boards.

Hard pegs are extreme cases of fixed pegs and, as such, they share the costs and benefits of such systems already discussed in the previous section. A successful hard peg has some prerequisites. First, it must be credible and therefore the central bank must have sufficient foreign reserves to buy back the monetary base or back it up. The fiscal and financial situation must also be strong enough to facilitate the normal development of the private economy. Otherwise, unacceptable economic outcomes (high interest rates, low growth, and high unemployment) would reduce the credibility of the system, making it vulnerable to attack. Second, as they rule out the use of the nominal exchange rate to adjust to negative real shocks that require a rise in the real exchange rate, they must be accompanied by sufficient downward flexibility in nominal prices and wages to reduce adjustment costs to these types of shocks. In the specific case where the hard peg is part of a currency union, adjustment is also facilitated by the possibility of labor and capital mobility within the union. Third, the financial system must be solid enough to survive without a lender of last resort. However, in the event of a financial crisis, provision must be made for emergency loans from foreign commercial banks or from a monetary authority of industrial country, presumably the Federal Reserve Board or the European Central Bank, and/or the fiscal situation must be robust enough to obtain financing in case of a financial emergency. Fourth, any successful hard peg requires a solvent government, in which country-risk-augmented interest rates do not crowd out private demand. Furthermore, the government must have the capacity to carry out counter-cyclical fiscal policy in situations when the country faces shocks that result in a reduction in aggregate demand. This is the functional fiscal policy of Corden (2002). Nevertheless, the discipline inherent in a hard peg means that a government must be ready to endure, and have the political support to weather, the temporal high real interest rates (and high unemployment) that are an integral part of an adjustment to a drop in foreign reserves. Changing reserve requirements, impeding market-determined increases in the interest rate, or reducing the backing of the monetary base in a currency board scheme may backfire, resulting in reserve losses and/or higher interest rates, as the credibility of the system starts to be questioned.

Hard pegs of the weaker currency board type are not fully protected from the effect of financial contagion. Indeed, financial turmoil and contagion in open economies that have adopted currency boards (e.g., Argentina and Hong Kong), and protracted high exchange rate risk premiums after nine years of Argentina's currency board (reflected both directly and indirectly through large country-risk premiums, as described by Powell and Sturzenegger, 2000) mark some recent disillusion with currency boards. Thus, some believe that, to reduce the cost associated with distrust of the authorities' ability to maintain a currency board, it is necessary to renounce one's domestic currency and adopt that of a larger country with a history of monetary discipline, such as the dollar. Indeed, this option was openly discussed in Argentina at the end of the Menem administration as a way of reducing the growing currency risk despite having a currency board system. However, if fiscal solvency and a sound financial system are not established in advance, the market default risks will still be in place, with high economic costs in terms of unemployment and output losses.

There is a related question of the most appropriate exchange rate regime to provide a nominal anchor to reduce high inflation for a country that starts from high inflation and it is prepared to carry out a fiscal adjustment compatible with low inflation. Here, a hard peg has the advantage in that it provides a clear and transparent signal of the course of policy as well as a direct anchor for the price of imports and exports. However, early on and once inflation has been reduced to low levels, it could become advantageous to move toward a flexible regime –accompanied by inflation targeting with strong institutional backing- to facilitate adjustment to external shocks. The longer it takes to exit the fixed peg, the higher the cost of the transition, as agents will gradually adjust to the fixed peg. Here there is a clear trade-off between credibility and flexibility. Again, this could be a major advantage for countries where there are many prices that are rigid in a downward direction. Otherwise, the high unemployment costs that usually accompany the adjustment to a negative shock could become too costly to endure.

4. A Monetary Policy Framework for the Floaters: The Case for Inflation Targeting.[10]

The free floaters by definition have dispensed with the use of the exchange rate as a nominal anchor and thus must select a monetary regime capable of delivering low inflation. Two fundamental options can be considered: a money anchor and an inflation target anchor.[11] A monetary anchor relies on a pre-committed path for the money supply to anchor inflation. In the case of inflation targeting, the anchor for inflation is the publicly announced inflation target itself. The credibility of this policy relies on the power given to the central bank to orient monetary policy chiefly toward achieving the target and its willingness to use its power and policy instruments at its disposal for this purpose.

The effectiveness of the use of a monetary aggregate as a nominal anchor for inflation depends, first of all, just as in the case with an inflation target, on the authority and capacity of the central bank to carry out an independent monetary policy aimed at achieving and maintaining low inflation (including that induced by exchange rate depreciations). But in this case, the effectiveness of the policy depends also on the stability of the demand for the monetary aggregate that is used as the anchor. That stability provides a link between the monetary anchor and the inflation rate. The stability of the demand for money presents a problem in cases where there is considerable financial innovation or a sudden change in the level of inflation.

In particular, in an economy that has experienced a period of high and variable inflation, the demand for money becomes very unstable, as economic agents develop ways to economize in the use of domestic money balances. Therefore, when the rate of inflation is reduced, hysteresis effects emerge, generating a breakdown in the former relationship governing the demand for money. That is, when the inflation rate returns to previously observed lower values, the quantity of money demanded is lower than what was expected before the outburst of inflation. In cases like these, one would

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[10] This section draws, in part, on Corbo and Schmidt-Hebbel (2001).
[11] On monetary anchors, see Calvo and Végh (1999); Bernanke and Mishkin (1997), and Bernanke et al. (1999).

overestimate the quantity of money demanded, and the use of a money target could be very ineffective in achieving a given inflation objective. Thus, it is not surprising that as countries have moved toward more flexible exchange rate arrangements, they have searched for a new monetary anchor regime.[12] In recent years, the anchor that has become increasingly popular is inflation targeting. An additional advantage of the inflation target over a monetary aggregate is that as the credibility of the policy increases, the central bank can engage in short-term stabilization policy.

In the case of the Americas, five of the seven floaters (Brazil, Canada, Chile, Colombia, and Mexico) have gradually established an inflation-targeting framework (ITF). Meanwhile another floater, the United States, uses the high credibility of its central bank, the Federal Reserve Board, as a monetary anchor, but recently there have been suggestions to move toward an explicit ITF framework (Meyer 2001).

An ITF was initially introduced in Canada (February 1991), and Chile (1991), and was later extended to Colombia (1999), Brazil (June 1999), and Mexico (1999). Under the ITF, the target rate of inflation provides a monetary anchor and monetary and fiscal policies are geared toward achieving the inflation target. The advantages of this framework are that it does not rely on a stable relationship between a monetary aggregate and inflation for its effectiveness, and at the same time, it avoids the problems associated with pegging the exchange rate. An additional advantage for emerging countries is that the trajectory of the market exchange rate provides important information on the market evaluation of present and future monetary policy, such as the information provided by nominal and real yields on long-term government bonds in industrial countries (Bernanke et al. 1999).

A well-defined ITF has to satisfy a set of conditions (Svensson 2000, and King 2000). First, it must include a public announcement of the strategy of medium-term price stability, and an intermediate target level for inflation for the relevant period in the future in which monetary policy affects inflation. Second, an institutional commitment to price

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[12] One should be careful not to oversell to much this argument. Inflation targeting also benefits from a stable demand for money although all that it is required is a stable relation between inflation and its determinants, including among the latter the policy interest rate. However, for this relation to be stable, the money demand must also exhibit some stability.

stability must be in place, in the form of rules of operation for the monetary authority. Third, operational procedures must be transparent and there must be a clear strategy concerning how monetary policy will operate to bring inflation close to the announced target. The strategy, in practice, usually starts from a conditional forecast of inflation for the period for which the target is set. It also establishes specific operational procedures for the central bank to adopt when the inflation forecast differs from the target. The procedures should be transparent and the monetary authority should be accountable for attaining the objective that has been established. Central bank autonomy is an important institutional development that reinforces the credibility of an ITF.

Given the lags in the operation of monetary policy, the inflation target must be set for a period far enough into the future to ensure that monetary policy can have a role in determining future inflation. In practice, central banks announce a target for the next eighteen to twenty-four months. They then develop a conditional forecast of inflation for this timeframe –based on the existing monetary policy stance and a forecast of the relevant exogenous variables– and provide a strategy and communicate to the public the policy actions they will adopt in response to deviations of inflation from target levels. When the conditional inflation forecast is above the inflation target, the level of the intervention interest rate is raised to bring inflation closer to the target. One advantage of ITF is that inflation itself is made the target, committing monetary policy to achieve an explicit inflation objective and thus helping to shape inflation expectations. However, herein also resides its main disadvantage. As inflation is not directly under the control of the central bank, it becomes difficult to evaluate the monetary stance on the basis of the observed path of inflation. Furthermore, as monetary policy operates with substantial lags, it could be costly to pre-commit to an unconditional inflation target – independently of changes in external factors that affect inflation – and change monetary policy to bring inflation back to the target. Aiming at the inflation target when a shock causes a temporary rise in inflation could be very costly in terms of a severe growth slowdown and increased output volatility (Cecchetti 1998).

To address some of these problems, several options have been proposed. First, the inflation target can be set in terms of a range rather than a point. Second, a target can be

set for core inflation rather than observed inflation. Third, changes in indirect taxes, interest payments, and energy prices can be excluded from the targeted inflation measure. Fourth, the target can be set for sufficient long periods so that short-term shocks to inflation do not require a monetary response.[13]

Emerging markets that adopted an ITF at a time when inflation levels were well above their long-run objectives have had to deal with the problem of inflation convergence. Usually, these countries have started reducing inflation without a full-fledged ITF in place. Once they had made sufficient progress in reducing inflation, they announced annual targets and gradually put in place the components of a full-fledged ITF, as they moved toward low and stationary inflation (Australia, Chile, Canada, Israel, New Zealand, and the United Kingdom are good examples here).

5. Monetary Policy under Inflation Targeting in Latin America

In the last part of their paper Berg et. al. discuss how is monetary policy carried out by a central bank that follows an ITF. A floater that chooses an ITF should adjust the interest rate or a monetary aggregate to keep inflation close to the target. They review evidence for Chile presented in Corbo (2002a) and for Peru presented in Morón and Castro (2000). Corbo (2002a) 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

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[13] For a review of the costs and benefits of these alternative options, see Bernanke et al. (1999), chapter 3.

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.

Before presenting some concluding remarks let me rise some specific points on the paper:

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 (up to now) and Brazil(until early this year) 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 a 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.

6. Concluding Remarks

For countries with a poor record on macroeconomic stability, that is countries that have not been able to run an independent monetary policy capable of delivering low inflation, it could be beneficial to become dollarized. However, they have to be able to provide the fiscal underpinning for the stabilization. The benefits of dollarization are derived from: lower interest rates resulting from the elimination of currency risk and its associated premium, elimination of currency transaction costs, lower variability in relative prices of tradable goods, and elimination of currency mismatches in foreign assets and liabilities. The reduction of all these microeconomic costs and market friction should result in an improved integration to the world economy, a higher income level and higher growth rates. The benefits of dollarization would be higher yet if labor markets are flexible and they have developed the appropriate institutions to support the financial system in case of a sudden crisis. Of course if all these conditions are fulfilled one could ask then Why to dollarize?

In contrast, for open economies with a good record of financial stability and a large tradable sector, in which exports are highly diversified by commodities and country of destination and where downward nominal rigidities are widespread, dollarization could be a major hindrance to the adjustment to a negative real shock that requires a real depreciation. For this type of country, a more flexible exchange rate regime would be preferable. Indeed, the combination of prudent monetary policy and exchange rate flexibility has facilitated adjustment in most countries in the region. With capital mobility, exchange rate flexibility also leaves the door open for the use of discretionary monetary policy in response to unexpected domestic and external shocks.

In the Americas we have today a very wide range of different exchange rate arrangements. While few countries are willing to go the avenue of dollarization (Ecuador, El Salvador and other Central American countries), a larger number is moving towards the use of more flexible systems. However, more flexible systems must be accompanied by the development of forward and future exchange rate markets, to enable market participants to hedge against exchange rate volatility. Otherwise, the real costs of real exchange rate variability could be high. As countries move towards the use of more flexible exchange rate arrangements, they will need to make the selection of the monetary anchor more explicit. Here, much progress has been made in the region in implementing quite successful full-fledge inflation targeting regimes. Thus, for countries that have built strong macro fundamentals, and that have a safe and sound financial system, the alternative of keeping its own currency, combining a floating exchange rate system with inflation targeting may be a better choice.

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