

# EXCHANGE RATE POLICIES IN LATIN AMERICA AND ASIA, A COMPARATIVE STUDY<sup>1</sup>

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## Introduction

Some authors argue in favor of a real exchange rate targeting strategy for developing countries (Bresser-Pereira 2004a, Frenkel 2004). Relatively undervalued exchange rates would have been a key factor in the East Asian successful growth strategies (Bresser-Pereira 2004a). Williamson (2003) calls for a development strategy approach to exchange rates. According to Rodrik (2000), it would be important to investigate the possible benefic consequences of a competitive exchange rate for long-term growth. After mentioning the successful cases of Chile (middle of the 80s), Turkey (beginning of the 80s), India (beginning of the 80s and since 1994), Uganda (since 1986), and Mauritius (middle of the 80s), he concludes that the real exchange rate was a fundamental policy tool for the beginning of the growth process. Dornbusch et al (1995) call for policies that keep the real exchange rate competitive in order to promote exports and output growth. When discussing the events that led to the Mexican crisis in 1995, they argue that avoiding real exchange rate appreciations may be one of the most important policy goals in a financially integrated world economy.

Following the traditional macroeconomic channel, an expansionary devaluation boosts exports, income and employment (Frenkel 2004). Exchange rate management may have strong impacts in capital accumulation as it determines paths of consumption, savings and investment via real wage determination. An excessively overvalued currency could cause savings displacement (Bresser-Pereira 2004a). By stimulating the export sector, a relatively undervalued currency can avoid financial crises and put the economy in a more sustained developmental path. It is an important tool to promote the development of the tradeable sector of an economy, which is usually very dynamic and contributes to innovations and productivity increases (Cavallo 1990 and Dollar 1992). Exchange rate policy may also be important in stimulating the tradeable sector as a means of avoiding Dutch Disease problems (Williamson 2003) and efficiently taking advantage of external savings (Sachs et al 1996, 1986). Numerous studies have argued that most cases of balance of payments crises are related to overvalued or misaligned currencies (Fajnzylber et al 2002, Goldfajn and Valdes 1998, Sachs et al 1996, Sachs 1986, Dornbusch et al 1995, Dollar 1992, Cavallo et al 1990).

There is today a growing empirical literature that relates per capita growth rates with exchange rate management and misalignment. Cavallo et al (1990), Dollar (1992) and Razin and Collins (1997) find negative correlations between exchange rate misalignment

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and growth for a long series of developing countries since the 70s; the more undervalued the currencies, the greater the per capita growth rates. Benaroya and Janci (1999) show evidence for developing countries in the 90s that confirm Dollar's (1990) results. Acemoglu et al (2002) find similar evidence on the subject. In a work about institutions, macro policies and growth within 96 countries from 1970 to 1997 they are not able to reject the effect of levels of real exchange rates on per capita income growth for the countries in the time span. Fajnzylber et al (2002) get similar results when comparing growth in Latin America with other parts of the world for the period 1960-99. As Acemoglu et al (2002), they use the overvaluation index constructed by Easterly (2001), which is based on the work of Dollar (1992), and conclude that an overvalued currency can exert negative influence on growth. After analyzing a total of 80 transitions from low to high growth in developing countries since the 60s, Hausman et al (2004) find evidence that undervalued exchange rates were an important factor for the beginning of the process. Polterovich and Popov (2004) find that exchange rate undervaluation and foreign reserves accumulation are positively related to per capita growth rates.

A recurrent issue in this empirical literature is the relatively undervalued level of the Asian currencies when compared to Latin American and African ones for the period 1970 to 1999. In most works, a lower currency level for Asian countries emerges, in which appears to be a regional pattern. For the Latin American and African cases, the pattern seems to be the opposite. Appreciation cycles are constantly showing up, and various studies for Latin America point in this direction. Accordingly, a central issue to understand the East and Southeast Asian success, as compared to the Latin American and African failures, could be found in the way they managed their exchange rate policies and on the evolution of their real exchange rate levels. Following the discussion, the objective of this paper is to compare the evolution of real exchange rate levels in Asia and Latin America from 1970 to 1999. The work reviews some aspects of exchange rate management for some of the countries of these regions based on a survey of case studies. It also presents an evolution of real exchange rate levels against the US dollar for a set of 20 countries based on the World Bank data set (Easterly 2001) and on an exchange rate distortion index.

The text is divided in 4 sections and an introduction. Section 2 discusses cycles of appreciations in Latin America in the 70s, 80s and 90s, concentrating itself on the well known cases of economic populism in the 70s and 80s and on the aspects of the exchange rate policies of the most important stabilization plans of the 90s in Latin America: Mexico, Argentina and Brasil. Section 3 deals with the East Asian experiences and the export-led growth strategy followed by Taiwan, South Korea, Hong Kong and Singapore since the 70s, Malaysia, Indonesia and Thailand since the 80s and, more recently, China. Section 4 presents some tendencies for real exchange rate behavior for countries of both regions and section 5 offers some conclusions. The main focus of the paper will be on exchange rate levels, meaning a departure from most of the literature in the area, which is worried with the regime choice discussion.

## **Appreciation cycles in Latin America**

After the debt crisis in the beginning of the 80s, Latin America's growth record became very disappointing, especially when compared to the post-war period. Countries such as Brazil and Mexico that used to show very high and stable per capita growth rates went through a stop and go process that lasts until today. With the possible exception of Chile, the performance of Latin American countries in the 80s and 90s fell short of the historical record. Debt defaults, balance of payment crises and chronic inflationary processes were rather common for almost all of the countries in the region, especially in the last 20 years. Exchange rate overvaluations and fiscal indiscipline were basic ingredients in their recent economic history, especially when compared to East Asian countries' history. Latin American countries became well known for a tradition of economic populism and inflation stabilization plans.

The concept of economic populism differs from its correlate in political science, which usually refers to the case of charismatic leaders, ruling close to the masses without political parties' intermediation. Governments that promote massive fiscal deficits as a consequence of salaries being paid above productivity levels or that use real exchange rate overvaluation as a means of raising real wages would be incurring in economic populism. Welfare of the workers is raised in the short run with political objectives in sight, without taking into account the possible negative outcomes that this strategy may bring in the long run. Balance of payments crises, fiscal insolvency and accelerating inflation rates eventually take place. The welfare loss of the workers as a consequence of populist cycles usually overcomes the transitory benefits of the beginning of the episodes, in a process also known in the literature as "naive distributivism". The artificial increases of real wages render strong internal and external imbalances that worsen the already problematic situation of the workers (Bresser-Pereira and Nakano 2003, pg.16).

Some authors have studied populism episodes in Latin America. Sachs (1991) analyses 3 cycles for the period 1970-1990: Chile from 1970 to 1973, Brazil from 1985 to 1987 and Peru from 1985-1987. In all of these episodes the traditional populist elements can be observed: large fiscal deficits, exchange rate overvaluation, balance of payments crises and raising inflation. In all cases, GDP growth accelerates in the first moment followed by strong recessive adjustments. The exchange rate appreciates, increasing the probability of an external crisis. Salvador Allende in the period 1971-1973, José Sarney from 1985-1988 and Alan Garcia from 1985-1988 have all practiced in their own ways this kind of economic policy. Sachs goes further and argues that this kind of populism is one of the factors behind the chronic inflation processes of Latin America, "economic populism helps explaining the fact that in 1987 there was no less than 5 countries in Latin America with inflation rates above three digit levels (Argentina, Brasil, México, Nicaragua and Peru)" (Sachs 1991, pg.126).

Exchange rate overvaluation was also largely used in Latin America's ISI past to promote industrialization, working as an indirect tax on exported commodities. Although fruitful in

the beginning, after the process was consolidated, especially within manufactures, the strategy became counterproductive. By hurting competitiveness, it made it harder for Latin American countries to gain market shares in international markets. The more recent appreciation cycles of the Southern Cone stabilization programs, Chile, Uruguay and Argentina, have also had very negative consequences for the development of a dynamic tradeables sector in the region (Fishlow 2004[1985], pg.228, see also Díaz-Alejandro 1991[1981], pg.92).

In fact, the regional experiences of stabilization in the end of the 70s in Latin America would anticipate the events of the 90s. “The so-called ‘Southern Cone liberalization experiments’ combined financial and trade reforms with macroeconomic systems involving pre-set exchange rates and a passive monetary policy. The reforms included liberalization and deregulation of capital flows, liberalization of the local financial market and open trade. The pre-set exchange rates (called “tablitas”) were intended to bring down inflation. These policy experiments led to financial and trade liberalization and deregulation in the context of a fixed, appreciated exchange rate. [Fanelli and Frenkel (1993) and Frenkel (2002)]. The experiments had the same confluence of local conditions and booms in capital flows that can be seen in the critical cases in the 1990s” (Damill and Frenkel 2003, pg.4). The crises of the Southern Cone experiments were very similar to the developments that were later observed in the crises in Mexico, Brazil and Argentina in 90s.

Mexico is a good example of patterns of exchange rate policies in Latin America. Two cases of significant real exchange rate appreciations in the last 20 years, 1978-1982 and 1990-1994 resulted in balance of payments crises in 1982 and 1994 that looked very much the same. Dornbusch et al (1995), for example, compares the Mexican case with the Chilean one after the debt crisis and put great emphasis on the exchange rate policy followed in Chile as being responsible for its success as compared to Mexico’s failure in the 90s (see Dornbusch et al 1995, pgs.257-258). He also analyses the cases of Brazil and Argentina in the 90s, alerting by that time that a currency crisis was probable in both countries, recommending Brazil to devalue and Argentina to stick to its currency board until a price deflation would be able to bring about a real exchange rate correction (Dornbusch et al 1995, pgs.262-263). He also highlights two previous appreciation cycles in both countries that were corrected without a major currency crisis: Brasil 1987-1990 in the pre Collor period with an appreciation of the order of 54% and Argentina with Martínez de Hoz between 1979-1980 with an appreciation of approximately 60% (see also Frenkel 2003).

Chile is an interesting case. After the 1982 crisis, the authorities seem to have learned from the problems of overvaluation. French-Davis (2004) discusses the evolution of exchange rate policy in Chile during the last 30 years. After analyzing the influence of the reforms of the 70s and 80s in Chilean exports, he highlights the importance of the changing stance of exchange rate policy after the debt crisis. In the 70s and 80s, Chile went through two long cycles of appreciation because of populism and stabilization that hindered export growth. In spite of trade openness and of policies aiming at export promotion, the exchange rate levels

inhibited the growth of external sales. After the second reform in the 80s, the devaluation of the currency contributed significantly to an export boom. Since then until the middle of the 90s, the Central Bank of Chile adopted a more interventionist stance in the exchange rate market, trying to avoid strong appreciations against the most important trade partners (Ffrench-Davis 2004, pg.205). Montiel (2003, pg.427) draws attention to the superiority of the Chilean strategy as compared, for example, to the episodes of crises in Mexico and Thailand in the 90s. Cardoso (2003) argues that the exchange rate policy style in Chile for the recent years is much more close to the South Korean strategy, which maybe helping its growth record.

Argentina is the paradigmatic case of currency appreciation and crisis in the nineties. After the successful implementation of the currency board and the stabilization program in the beginning of the 90s, the real exchange rate level became increasingly appreciated, as the dollar got stronger. After the Brazilian devaluation in 1999, the peso appreciated even more. Indeed, the most significant cases of appreciation in Latin America in the 90s are to be found within three stabilization programs: Mexico 1987, Argentina 1991 and Brazil 1994 (see Mussa 2000, pg.44 for a discussion). An exchange rate anchor, amongst other policies, caused severe appreciations, especially in Mexico and Argentina, that brought about three external crises: Mexico in 1994, Brazil in 1999 and Argentina in 2001 (Frenkel 2002 and Frenkel et al 1996).

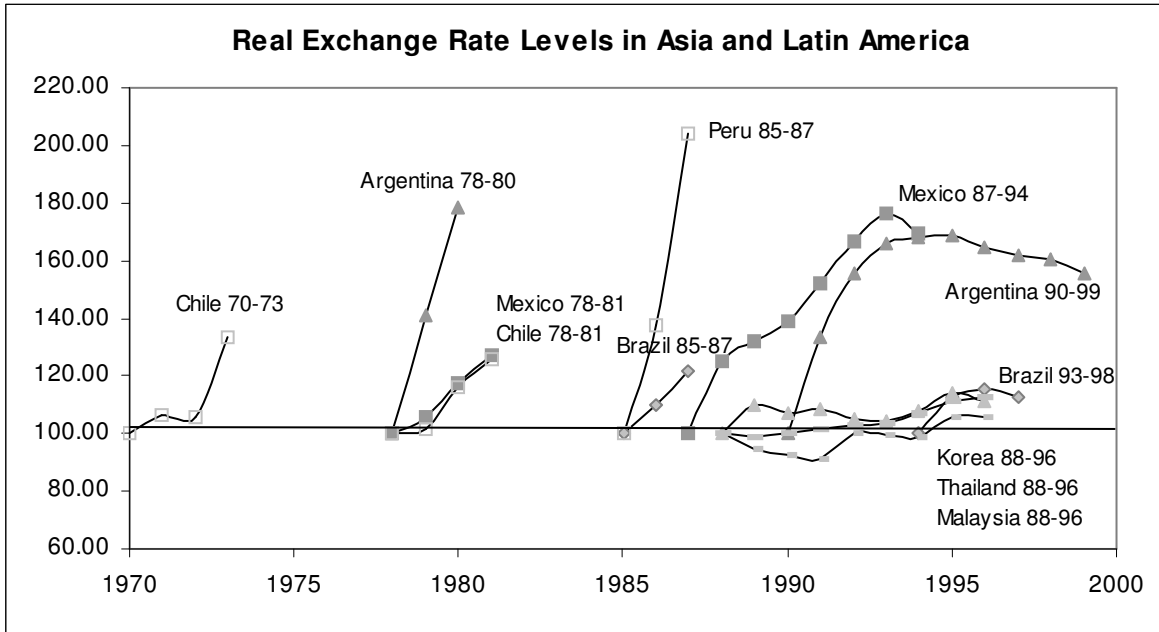
The Chilean stabilization plan at the end of the 70s shows a very similar pattern when compared to these cases. After its implementation, a massive appreciation of the Chilean peso took place, leading, together with other factors, to external crisis in the beginning of the 80s. The four episodes looked very much like the populist cycles mentioned above, except for the fact that Mexico and Chile had fiscal policy under control. There was initially strong GDP growth and real wages, consumption and imports increased. External debt built up until a balance of payments crisis brought about a big nominal devaluation. Calvo and Vegh (1994) identify 7 stabilization plans with exchange rate anchors and real appreciations in Latin America for the period 1970-1993. The cases of appreciation show up in very distinct exchange rate regimes, i.e. in the tablita systems of the late 70s and the currency board in Argentina in the early 90s.

Episode	Period	Real Appreciation
Argentine tablita	1979.1-1980.4	46.3%
Chilean tablita	1978.1-1982.1	28.8%
Uruguayan tablita	1978.4-1982.3	48.2%
Argentine Austral	1985.3-1986.3	4.6%
Brazilian Cruzado	1986.2-1986.4	9.3%
Mexico 1987	1988.1-1992.4	36.6%
Argentine Convertibility	1991.2-1992.4	20.2%

All financial crises of the 90s in Latin America and Asia seem to have been related to overvaluation problems. Palma (2003), for example, analyses three routes to financial crisis in developing countries since the debt crisis of the 80s. In the first, represented by the financial liberalization and stabilization processes of Chile in 1975-1982, Mexico 1987-1994 and Argentina 1990-2000, there was an important increase of private sector credit, bubbles in asset markets, a boom of imports and exchange rate appreciation. In the second route, followed by Brazil, the attempt to avoid the errors of route 1, created a new path for a crisis. The sterilization of capital inflows together with high interest rates to avoid a consumption boom and a loose fiscal policy stance took the public debt dynamics out of control. In the third route, mainly taken by South Korea, in the period 1988-1996, the fall of electronic components' prices in the international markets and the competition with emerging China caused a collapse on Korean companies' profit margins. In search for new sources of finance, they started to contract short-term external debt that eventually led the country to a crisis.

Malaysia and Thailand took a combination of routes 1 and 3 in the period 1988-1996. They also went through losses of profits as a consequence of the conditions in the international markets for electronics and booms in the asset markets, but they didn't go through increases in consumption imports and strong appreciation cycles. In the case of Brazil, one can also observe signs of route 1 in the real exchange rate appreciation and the increase in imports and consumption. In all of the routes, high current account deficits together with the sudden stops of capital inflows led the countries to a crisis. In the Asian cases, the deficits were largely related to investment financing, as opposed to the Latin American cases where the deficits were related to consumption financing with strong real exchange rate appreciations. Except for the case of Brazil, with a strong component of public debt financing, all other routes led to a crisis because of private consumers', banks' and companies' indebtedness.

Easterly (2001) builds an index of levels of real exchange rates against the US dollar based on consumer prices differentials and nominal exchange rates for developed and developing countries from 1960 to 1999 (World Bank Macroeconomic database). The graph below shows the behavior of real exchange rate levels based on Easterly (2001) calculations for some of the principal cycles of appreciation in Latin America: the populist episodes analyzed by Sachs (1991), the cases of financial liberalization analyzed by Palma (2003), and the cases discussed by Dornbusch et al (1995). When comparing the evolution of East and Southeast Asian and Latin American currency levels in the 90s, one can see that cycles of appreciations were much stronger for the latter. South Korea, Thailand and Malaysia had some currency appreciation in 1995 and 1996, but to a lesser extent than in the Argentinean and Mexican cases.



Goldfajn and Valdes (1996) analyze several appreciation episodes for developed and developing countries from 1960 to 1994. A cycle is characterized as a departure from some notion of PPP equilibrium exchange rate, based on a basket of trade partners' currencies. The authors find some interesting results. The appreciation cycles usually take more time to develop, as compared to the abrupt nominal devaluations that follow them. Fixed regimes are much more prone to appreciation and most of the episodes found by the authors happened after the beginning of the 80s. They conclude that, in most cases, the appreciations were corrected by nominal devaluations, which brought about high costs in terms of employment and income loss. For cases where the real exchange rate went further than 25% from the measured equilibrium, there were almost no cases of corrections without nominal devaluations. There were no cases at all where currencies went over 35% of appreciation and were corrected towards the equilibrium position by changes in prices and wages.

From Easterly's (2001) database it is possible to build a simple routine to detect appreciations cycles in Latin America and Asia against the US dollar from 1970 until 1999. The routine enables us to compare aspects of exchange rate management in both regions. If we define a cycle as an episode of an average real exchange rate  $x\%$  higher than the preceding  $n$  years and search the database, we can find important differences between Latin America and Asia. For 3 years with an average appreciation of 30% as compared to the base year, we find 16 years in which seems to be 9 cycles for Latin America and 4 base years for probably 2 cycles in Asia for a set of 10 countries in each region. If we extend the cycle in 1 year, still with a 30% cut off, we find 24 base years in what seems to be 11 cycles for Latin America and 5 base years with still 2 cycles for Asia. When relaxing the restrictions of the cycle to 15% of appreciation over a 3 years average, we find 59 cases for Latin America and 25 for Asia.

## **Export-led growth in East and Southeast Asia**

The eight most dynamic economies of Asia, Japan, South Korea, Taiwan, Singapore, Hong Kong, Indonesia, Malaysia and Thailand, grew in per capita terms at a 5,5% rate from 1965 until 1990. In the 90s, despite the Asian crisis, their average growth rate was still higher than that of Latin American countries. More recently, China and India have been showing an Asian growth style. There are still today some controversies regarding the causes of the so-called East Asian miracle. The debate is mainly related to the role of the State in the development of these economies. The World Bank and its affiliates highlight the importance of “market friendly policies” in the successful strategy of those countries and point to, in a somewhat contradictory manner, the problem of “crony capitalism” as one of the principal causes of the recent Asian financial crisis. The critics, namely Amsden (1989), Wade (1990), Rodrik (1994) and Chang (2003) see a well managed developmental state at the base of their success and focus on financial liberalization as the main cause of the crisis in the 90s.

There seems to be some convergence among the authors regarding one aspect of macro management that resulted in higher stability and growth for these economies: competitive exchange rates. Rodrik (1994), for example, criticizes what he calls the export fetishism present in the World Bank (1993) report that analyzes the East Asian Miracle, but recognizes the importance of competitive exchange rates in the development of these countries (Rodrik 1994, pg.37). According to Williamson (1999), the East Asian economies have managed their currencies far better than Latin American and African countries. “They have not crucified their economies by misconceived attempts to use the exchange rate as a nominal anchor. They have not allowed their currencies to become so overvalued, either by keeping their exchanges rates fixed in the face of differential inflation or by allowing them to float up too much, as to jeopardize export growth” (Williamson 1999, pg.331).

The World Bank has dedicated lots of space in his famous 1993 report to understand the role of exchange rate policies in the East Asian development. An undervalued real exchange rate, it is supposed, had a most important role in developing a dynamic tradeable sector in the region, which contributed to the accumulation of capital and technological innovation. This was one of the pillars of the so-called export-led growth model of the East Asian miracle. “Several high performing Asian economies government used exchange rate policies to offset the adverse impact of trade liberalizations on producers of import substitutes. A few went beyond this objective, however, and used deliberately undervalued exchange rates to assist exporters. In these instances, exchange rate policy and the fiscal and monetary goals to carry it out became a part of an overall export-push strategy. Taiwan, China, is the most notable example of this, but Korea and Indonesia also deliberately undervalued their currencies to boost exports” (World Bank 1993, pg.125).

The report analyses three cases of heavy intervention with an eye on external competitiveness. The high current account surpluses in Taiwan from 1984 until 1987 (on the average 16% of GDP with a peak of 20% in 1986) resulted in part from strong efforts



by the Taiwanese Government to keep the currency depreciated. An appreciation would have canceled out the surpluses, hindering the export-led growth strategy. South Korea also made heavy interventions in their currency market in the middle of the 80s avoiding appreciations, accumulating reserves and keeping the won competitive. The Indonesian rupiah devaluation in 1978 was clearly a protective measure while done in a time of no balance of payments restrictions. The worsening of external accounts in 1982 had a much smaller impact in the Indonesian economic performance in part as a result from the strategy of the late 70s (World Bank 1993, pg.127). About the High Performing Asian Economies (HPAEs) and their development strategies contrasted to the African and Latin American experiences, the Bank highlights the formers' changing of focus to external markets already in the 70s. This would have helped them to increase competitiveness and productivity (World Bank 1993, pg.22).

Indonesia is one of the most successful examples of avoiding Dutch Diseases. In spite of being very rich in oil reserves, the country was able to develop a meaningful tradeable sector, based on the competitive production of manufactures. The real devaluations of 1978, 1983 and 1986 proved to be very efficient in stimulating the non-oil export-based sector (Hill 2000, pg.16). Although not following an export led growth strategy strictu sensu (exports were always around 30% of GDP), the development of a non-traditional tradeable sector was very important to Indonesian growth track record. Gelb (1988) compares the impacts of the two oil shocks on oil rich economies and argues that the exchange rate policy followed by Indonesia was one of the main causes of its notable achievement in the 80s. Nigeria, Algeria, Trinidad and Ecuador are amongst the cases of strong real appreciations followed by the shocks. By destroying the non-traditional tradeable sector of these economies, the appreciated currency levels were one of the main causes of the stagnation of technological development.

Other studies also highlight the pro-competitive strategy of exchange rate policy in Asia. Dornbusch and Park (1999) point out to some Asian countries that would have followed a real exchange rate targeting strategy to promote exports in the 80s and 90s. In the case of Singapore, the monetary authority besides targeting price stability "is also watchful of the impact of the exchange rate on the country export competitiveness. This targeting renders interest rate policy subordinate to exchange rate policy" (Dornbusch and Park 1999, pg.27). In the case of Malaysia, "Bank Negara manages the ringgit to support the nation's export competitiveness and maintain monetary stability. Occasionally it administers exchange controls on behalf of the Malaysian government" (Dornbusch and Park 1999, pg.28). In South Korea, "the Bank of Korea often intervenes in the interbank market through the sale or purchase of the US dollar. It is conjectured that the main purpose of the intervention in the foreign exchange market is to stabilize the real effective exchange rate of the won in order to maintain the price competitiveness of South Korean exports. The central bank intervention has been effective due to the thinness of the domestic foreign exchange market, where the average volume of daily turnover in 1995 was only \$2 billion" (Dornbusch and Park 1999, pg.32).

Rhee and Song (1999, pg.80) also acknowledge this fact when discussing the strategy of the monetary authorities in South Korea regarding exchange rate policy in the last 20 years. In the middle of the 80s, the country went through an appreciation cycle of its real exchange rate due to good results in the export sector. The intervention of the Central Bank was asymmetric, being more aggressive to avoid appreciations than depreciations in order to promote exports (Rhee and Song 1999, pg.80). In the beginning of the 90s, the monetary authorities were at pains to avoid appreciation of the won because of strong capital inflows. The central bank intervened heavily. In 1993 it bought more than 1.8 billion dollars only in one day (Rhee and Song 1999, pg.80). When analysing Asian countries, Barrell et al (1999) also identify a pro-competitiveness exchange rate policy in South Korea, Taiwan and Thailand (Barrell et al 1999, pg.271).

China is today a very good example of the Asian style of exchange rate management. In its 1993 report, the World Bank highlights a deliberate policy of exchange rate undervaluation in the Chinese growth strategy since the end of the 70s. "China's export push has included currency devaluations and such export incentives as tax breaks, foreign exchange retention privileges, and duty-free imports, all utilized by the HPAEs" (World Bank 1993, pg.59). China's stock of capital in the tradeable sector is growing steadily due to its strategy of maintaining an undervalued real exchange rate level, following the steps of South Korea and Japan. An undervalued exchange rate boosts exports, inhibits consumption and thus favors the accumulation of a world-class capital stock in the production of tradeables. A free floating regime, with heavy capital inflows, would balance the Chinese trade and current accounts with the appreciation of their currency. This appreciation would stimulate consumption and hinder investment in the tradeable sector because of the change in relative prices. It is important to acknowledge here that this kind of intervention in the exchange rate market creates a favorable distortion to growth. A revaluation of the Chinese currency would stop this process. It is not clear if a free floating regime would be the best option for China today.

Dooley et al (2003) identify three distinct regions in today's global markets in terms of economic policy. The center of the system, the US economy, doesn't have much of a worry with the level of its currency as it can issue the reserve currency for the global economy. Their huge current account deficits, meaning an excess of absorption over income, are financed with savings from the so-called current account region, basically the East and Southeast Asian countries. Among them, especially China today, the strategy is to export savings to the US economy by means of a level of production greater than their needs of absorption. These countries grow with negative foreign savings. The capital account regions, mostly Europe and Latin America, opted for financial instead of trade integration to the world economy. In their strategy, a permanent surplus in the current and trade accounts is not a priority.

As surpluses in the current and trade accounts are goals for the current account region, their basic policy is to maintain a relatively depreciated currency with heavy interventions in the

foreign exchange markets. In some cases, as in India, China and Malaysia, capital controls are also employed for the task. The difficulty is to avoid appreciations because of speculative pressures on the nominal exchange rate or excessive monetary expansion due to heavy capital inflows. In the most controlled cases, the access to external funds is prohibited for domestic investors and the government intervenes strongly in the foreign exchange market acquiring reserves and investing them in US assets, especially government bonds. For countries in the capital account regions, the current account surpluses eventually turn into currency appreciation, reducing or canceling out the export stimulus. The return on international financial assets for domestic and international investors is a priority and, usually, these countries have no capital controls and a floating exchange rate regime.

In historical terms, this financial arrangement reproduces the post-war international system. In the original Bretton Woods scheme, the center of the system was the US economy and Japan and Europe the periphery. The arrangement for the reconstruction of the economies destroyed in the war followed the pattern observed today. Following an export-led growth strategy, the countries destroyed in the war could rebuild their capital stock. Fixed exchange rates and capital controls were very important at that time, and it is interesting to note the capital controls were mandatory, not optional. Along with economic development, there came a lobby against capital controls that was eventually successful in the beginning of the 70s. Industrial development led to financial development that finally dismantled the Bretton Woods arrangement. According to Dooley et al (2003), more recently, the periphery has been reloaded by the Asian countries and we observe today something very close to what happened from the 50s until the 70s. An open issue here is for how long the US deficits will be sustained. The common vision represented by the so-called Washington consensus fears an abrupt adjustment that would bring severe consequences for the US and the world economy. In the revived Bretton Woods analyses, this adjustment would be gradual and could last for long.

This global arrangement is functional for the development of East and Southeast Asia, which have been growing permanently, incorporating labor force into their formal economies. China would still have at least 200 million workers ready to go into the labor market. The growth strategy of the current account region meets the needs of the American growth cum debt strategy. Following this logic, the appreciated dollar against the Asian currencies means that the US economy continues to finance its growth and consumption with foreign savings from Asia. The Asian Central Banks can pursue this kind of policy in two ways: either by buying reserves in free floating regimes or using capital controls as China does.

## **Trends for the evolution of real exchange rate levels in Asia and Latin America**

Dollar (1992) builds an index of exchange rate distortion or “outward orientation” for 95 developing countries from 1976 until 1985. Based on Summers and Heston (1985) data, the author compares relative price levels between more than 90 countries and the United States. He makes an adjustment for income per capita levels in order to correct for the Harrod-Balassa-Samuelson effect, which relates per capita income increases with appreciations of real exchange rates. In his index of outward orientation, a high price level means a more appreciated exchange rate level when compared to the US economy and more protectionism with higher tariff levels; a lower price level means a lower exchange rate level or less protectionism. Rodrik (1994) criticizes Dollar’s (1992) work, arguing that his index is not an appropriated measure of protectionism levels, being much more adequate as an exchange rate distortion index. The results of Dollar (1992) point to a relatively undervalued level for East and Southeast Asian currencies when compared to the Latin American and African ones (Dollar 1992, pg.539, for an analysis of overvaluation of African currencies see Ghura and Greenes 1993).

Benaroya and Janci (1999) compare levels of real exchange rates for 61 countries for the years of 1993 and 1998 based on PPP deviations. Their results are in line with Dollar’s (1992), including the case of China, and show that, on the average, Asian currencies were more depreciated than the others in the set. “Most Asian countries’ exchange rates also appear undervalued, but much less than in previous studies like Lafay (1996). This is particularly the case for Taiwan, Thailand, Hong Kong and (up to 40 percent) Malaysia. Exceptions are the Phillipines and South Korea. The results are close to those of Barrell et al (1998) for the four countries they have studied. If one considers that Asian currencies are informally pegged to the dollar (see Bénassy 1996), their “own” undervaluation should be measured relative to the US dollar and is, in general, less than 20%” (Benaroya and Janci 1999, pg.237).

Li Lian Ong (1997) works with the Big Mac index to measure exchange rate positions for 34 countries. She calculates under and overvaluations against the US dollar based on the prices of the Big Mac, “the perfect universal commodity”, for all of these countries. She finds that currencies of the Association of South-East Asian Nations (ASEAN) countries were generally undervalued against the US dollar. The Malaysian ringgit, Singaporean dollar and Thai baht were undervalued by about 45, 15 and 30 percent in April 1997. The Indonesian rupiah was undervalued by 24 percent and the Philippine peso by 39 percent (Ong 1998, pg.89). This finding goes against common wisdom that the Asian currencies were somewhat appreciated right before the crisis in 1997. Surprisingly enough, still in the first semester of 1997 McDonald’s announced a decrease in the price of the Big Mac that put the Asian currencies in a somewhat overvalued position measured by the index. Besides the usual comparisons based on PPP Big Mac prices, the author builds an index to adjust for the so-called productivity bias resulting from the Harrod-Balassa-Samuelson hypothesis. She deflates exchange rate variations by a productivity increase component,

measured with real GDP levels for each country as a proxy. The results show again relative undervaluation for the East Asian countries, especially for the ASEAN. Ong (1997) shows that on the average, from 1986 to 1994, the Malaysian ringgit, the Singaporean dollar and the Thai baht were respectively undervalued by 53%, 26% and 19% against the US dollar.

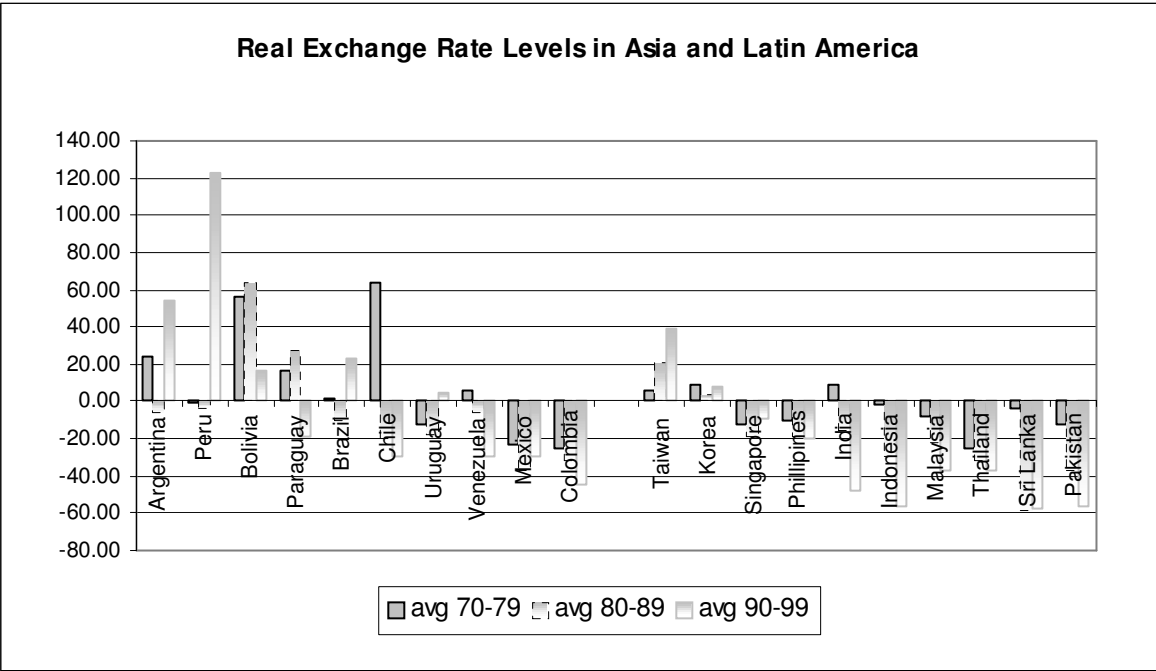
Rajapatirana and Athukorala (2003) analyze the impact of capital inflows on real exchange rates levels for 8 countries in Asia and Latin America for the period 1985-2000. They show that the appreciation of the Asian currencies, especially in the cases of China and India (for a discussion of real exchange rate targeting in India, see Patel 1997), against their trade partners were much lower than the ones observed in Latin America. For these latter countries, they find a range of variation from 14,7% to 43,5% in currency appreciation. Meanwhile, the Asian currency appreciations range from 2,3% to 11,2%, the latter value observed in Philippines with the highest appreciation in the region (Rajapatirana and Athukorala 2003, pg.625). According to the authors, for each percentage point of capital flow increase, except for foreign direct investment (FDI), ones observes a 1.7 percentage point increase in the appreciation of Latin American currencies as compared to only 0.56 in the Asian cases. Interestingly enough, they find a negative correlation between FDI and currency appreciation. The higher the FDI, the more undervalued the currency. This result could be explained by what the authors call the tradeable bias present in FDI. These kind of investments are usually located in the tradeable sector of the economies, which demands a more competitive exchange rate.

Sachs et al (1996) analyzes the causes of the Mexican crisis in 1995 and its effects on 20 emerging economies. They find 3 relevant factors that help explaining the shortcomings of the crisis in these countries: real exchange rate overvaluation, low reserves level and a weak financial sector. Economies that showed these 3 characteristics, other than Mexico, suffered much more strongly the Tequila effect: Argentina and Philippines. When comparing exchange rate levels against a basket of currencies for these countries for the period 1990-1994 based on the preceding years of 1986-1989, they find again relatively appreciated currencies in Latin America as compared to Asia, with the exception of Chile and Colombia. In Asia, the exception is again the Philippines, “a striking fact in the data is that the Latin American countries experienced sharper real appreciations than did East Asian economies” (Sachs et al 1996, pg.4). When analyzing the debt crisis in the beginning of the 80s, Sachs (1986, pg.541) also finds a relative appreciation of the Latin American currencies as compared to East and Southeast Asian ones for the period 1979-81 against 1976-1978, with the exception of Brasil and Peru.

The World Bank macro database is based on Easterly's (2001) work as we mentioned before. The author builds a series of real exchange rate levels for developed and developing countries against the US dollar from 1960 until 1999. Using the traditional methodology, he calculates  $(\text{Domestic CPI})/(\text{Exchange Rate Domestic Currency per Dollar} * \text{US CPI})$ . To make the series fairly comparable, he benchmarks them for each country by adjusting their level such that the average for 1976-85 equals Dollar's (1992) calculation (Easterly 2001,

pg.9). The methodology tries to transform the data so that a rough PPP comparison between countries can be made based on Dollar's (1992) work. A value of 100 in Easterly's series means a PPP equilibrium position adjusted for the real per capita level of the country between the years 1976-1985 as measured by Dollar (1992). A real exchange rate that is higher than 100 means that some overvaluation is observed.

Comparing the series for 10 countries from Latin America and Asia, together with our own calculation of the Brazilian series for the period 1970-1985, we can observe the trends in exchange rates for both regions in the last 30 years. The average for the 10 Latin American currency levels in the period is 104.5, which means 4,5% above the equilibrium PPP level against the US dollar. For the countries in Asia, the average real exchange rate level is 82.7, meaning 17,7 percentage points below PPP equilibrium. The graph below based on (Easterly 2001) data shows that the levels of Latin American currencies looked rather overvalued when compared to the Asian ones from 1970 until 1999. Argentina, Peru, Brasil, Uruguay and Mexico showed a trend of depreciation in the 80s and appreciation in the 90s, Bolivia and Paraguay showed appreciation in the 80s and depreciation in the 90s and finally Chile, Venezuela and Colombia currencies showed a persistent trend of depreciation along the years. In Asia, Taiwan, South Korea and Singapore went through some appreciation in the last years. All other countries of the set, India, Thailand, Malaysia, Philippines, Indonesia, Sri Lanka and Pakistan showed a depreciating trend.



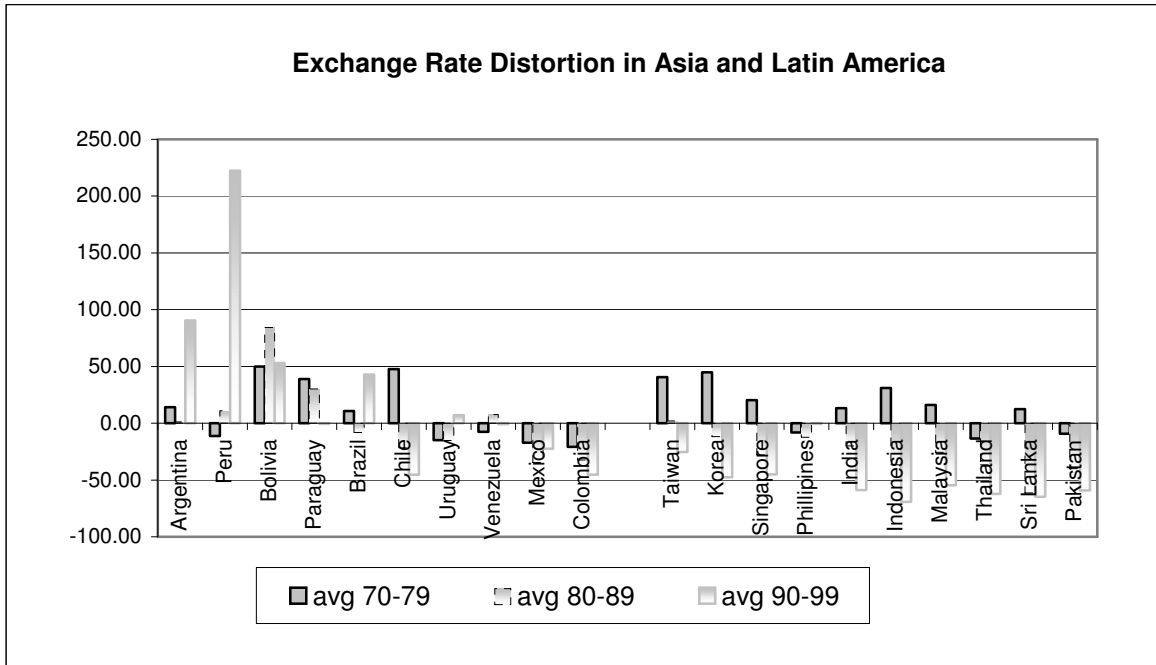
It is important to note that the appreciations in Latin America are much more a case of ill driven populist and stabilization policies than a good result of trade surpluses. Appreciations in Taiwan, South Korea and Singapore are usually related to their successful export strategy and repeated current accounts surpluses that put pressure on the nominal

exchange rate. In this sense, they can be seen as a good sign, reflecting increases in productivity and a good performance in the export sector. Taiwan, South Korea and Singapore increased their relative per capita income to the US economy from 10% in the end of the 60s to more than 60% at the end of the 90s. Singapore achieved a level of 80% of relative income per capita of the US economy in 1999. In 1995 the current account surplus in Singapore peaked at 14% of GDP and was almost totally used to buy reserves that, at the time, stood at 67 US\$ billions for a population of 3 million people.

Easterly (2001) doesn't take into account variations in per capita income levels amongst countries from 1970-1999 when building his index. One possible way of correcting for this problem is to deflate Easterly (2001) real exchange rate levels by the variation of the relative per capita income of each country and the United States, which works as a benchmark for the whole series. In a first approximation, we could consider that the relative increase in the real per capita income of a country as compared to the US economy should be reflected in the appreciation of its currency (Harrod-Balassa-Samuelson effect). If the real exchange rate calculated by Easterly doesn't show much of an appreciation, we can conclude that the exchange rate level of this economy is undervalued as compared to the relative productivity increase observed. Following this procedure, we can build a new index of overvaluation (for similar works see Dollar 1992, Ong 1997 and Benaroya 1999).

$$RER^* = S_{t+s} / [(GDP_i/GDP_{US})_{t+s} / (GDP_i/GDP_{US})_t]$$

Using an index that assumes a 100% percent conversion of relative per capita income levels into the real exchange rate, we find even broader differences between Latin America and Asia. The graph below shows these comparisons using our index as a measure of deviations from a Harrod-Balassa-Samuelson rule; the higher the per capita income of a country the higher its real exchange rate level against its trading partners should be.



The average distortion index for the period 1970-1999 is 79.67 for the Asian countries and 113.79 for the Latin American countries. In the group of Asian currencies, with the exception of the Phillipines, all countries show a clear tendency of undervaluation in the 80s and 90s. For the Latin American economies, the distortion index basically repeats the behavior of Easterly measures presented above. Peru and Uruguay show a permanent tendency of appreciation. Argentina, Brazil, and Mexico show a depreciation trend in the 80s and a appreciation trend in the 90s, Bolivia and Venezuela show appreciations in the 80s and depreciation in the 90s, and finally, Paraguay, Colombia and Chile show a permanent trend of depreciation in the last 20 years.

## Conclusions

When discussing the impacts of the debt crisis in Latin America and Asia in the beginning of the 80s, Sachs (1986) concludes that the superior adjustment of the Asian countries took place mainly because of their better exchange rate and trade regimes. Except for the case of Phillipines, none of the Asian high performing economies (HPAEs) has defaulted on external debt, a very different situation as compared to Latin America. Sachs argues that these two regions had 3 common characteristics and 1 distinct, which was responsible for their rather smooth transition in the debt crisis. In terms of external debt, the Asian countries had practically the Latin American level. South Korea, for example, had a total external debt over GDP coefficient of 27,6% in 1981, higher than the Brazilian level of 26,1% for the same year. When it comes to terms of trade, the author argues that some of the Asian countries have had even worst shocks than the Latin American countries.



Regarding state intervention, Sachs argues that both regions went through a process of some form of State led development.

The great difference between these two macro regions is then to be found on “trade regime and exchange rate management”. While Latin America focused on an inward-looking industrialization strategy with a strong bias for currency appreciations, East Asian countries pursued an export led growth strategy, with heavy stimulus for the export sector through subsidies and competitive exchange rates. The reason for the superior adjustment of East and Southeast Asia in the debt crisis would then be in the existence of an ample and dynamic tradeable sector, capable of producing the so needed hard currency when the day of the reckoning came. This difference can be seen, according to Sachs (1986), when we compare the exports over external debt ratio for both regions in the beginning of the 80s. Indonesia, South Korea, Malaysia and Thailand had on average an index of 0,821 in 1981 as compared to an average index of 2,715 for Argentina, Brazil, Chile, Mexico, Peru and Venezuela in the same year.

In conclusion, the story presented here could be summarized as a recurrent trend of appreciation cycles in Latin American currencies and stable and depreciated levels of real exchange rates in East and Southeast Asia, especially after the end of 70s. While Latin American countries went through their well-known populist and stabilization episodes, East and Southeast Asian countries focused on their export-led growth strategy with a permanent stimulus for the export sector, avoiding episodes of strong appreciations. While the former have used exchange rates prominently as a populist or stabilization tool, the latter have used exchange rates in search for external demand, following their development strategy. By focusing on balanced fiscal policies and export promotion rather than import substitution, the East Asian countries “escaped important contradictions that afflicted many countries in Africa, South Asia and Latin America. In particular, they avoided reliance on high rates of inflation and the resulting overvalued currencies and balance-of-payments difficulties” (Fishlow and Gwin 1994, pg.7). In this sense, the export promoting industrialization process (EPI) of East and Southeast Asia proved to be a much better strategy than Latin American import substitution industrialization (ISI).

The evidence presented here points out to a recurrent undervaluation of Asian currencies when compared to Latin Americans, especially if we take into account a measure of distortion that adjusts the exchange rates for levels of income and productivity. These results are in line with the empirical literature. As discussed at the beginning of the paper, competitive exchange rates seem to have been an important factor behind East and Southeast Asian success, notably when compared to African and Latin American failures in the last 20 years. We can of course find exceptions to the rule in both regions. In Latin America, the most important one is Chile that seems to have changed to an Asian stance of exchange rate management from the mid 80s to the mid 90s. In Asia, the exception is with the Phillipines, also known as the most Latin American of the Asian economies. As far as real exchange rate targeting is concerned, it is also important to acknowledge the fact that

Latin American countries would have had much more difficulties than the Asian countries in targeting, even if they tried, because of their long tradition of high inflation and inertia.

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