External Fragility or Deindustrialization: What is the Main Threat to Latin American Countries in the 2010s?[1]

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Abstract

In this paper we evaluate whether the surge of capital inflows to Latin American countries after the 2007-08 global financial crisis poses a threat for these economies. Recent IMF's documents have warned that capital inflows could lead to boom-and-bust cycles ending up in external and financial crises as in the past. We provide evidence that the external conditions of these economies are far more robust than in periods prior to crises. The evidence that Latin American countries are not showing signs of external fragility does not imply, however, that the current flow of capital does not pose a threat for them. In our view, capital inflows could harm economic development in the region by weakening the expansion of modern tradable activities. We show that capital inflows have induced an appreciation of real exchange rates and a deterioration of tradable sector profitability. Signs of deceleration of growth in manufactures and tradable services have started to emerge.

Key words: Real exchange rate, Latin America, Dutch disease, economic development

1. Introduction

This paper analyzes the challenges posed by persistent capital inflows to Latin America that started in late 2009. Several countries in the region experienced boom-and-bust cycles in the past, all of them associated with capital inflows. Based on these experiences, some analysts have recently begun to warn about the threats related to current flows of capital to the region. Although this is a valid concern, we believe that the main threat to Latin America lies not so much on the possibility of crises in some future, but on the effect of capital inflows on the real exchange rate (RER)[2]. More concretely, our concern is that capital inflows may lead to excessive RER appreciation, which could damage the profitability of manufacturing activities, reduce employment and productivity and ultimately hurt the development prospects of the region.

The paper is organized as follows. After this introduction, we analyze the external context that most Latin American countries are facing today and argue why it is likely to persist in the foreseeable future. In section 3, we review the evolution of RERs in Latin America during the last two decades and suggest that current levels are overvalued. In section 4, we show that the appreciation

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[2] We follow the definition of nominal exchange rate as the domestic price of a foreign currency. A rise (fall) in the exchange rate implies a depreciation (appreciation) of domestic currency. Similarly, a higher (lower) RER implies a real depreciation (appreciation).

of RERs have resulted in competitiveness loss in manufacture activities. We also show some evidence suggesting that the loss of competiveness is affecting the performance of manufacture and services activities. Finally, in section 5, we present a proposal for the conduct of macroeconomic policy to avoid excessive RER appreciation and its negative effects on employment and productivity in tradable activities.

2. This is just the beginning

It seems clear that the wave of capital inflows to emerging markets starting circa 2010 is influenced by the high returns that assets from these countries offer in comparison with those from advanced countries. Certainly current low GDP growth and interest rates in advanced countries are not permanent phenomena. Their real and financial yields will both probably rise in some future. However, we believe that the high rates of growth that emerging markets have been experiencing since the early 2000s will continue. This seems to us a more persistent phenomenon. Although growth rates in emerging markets and advanced countries had shown a high correlation since the 1980s, they started to diverge in the 2000s for the first time in the period of financial globalization (IMF 2010). This trend has persisted during and after the global financial crisis of 2007-08.

Figure 1: Net capital inflows to Latin America and the Caribbean (in billions dollars)
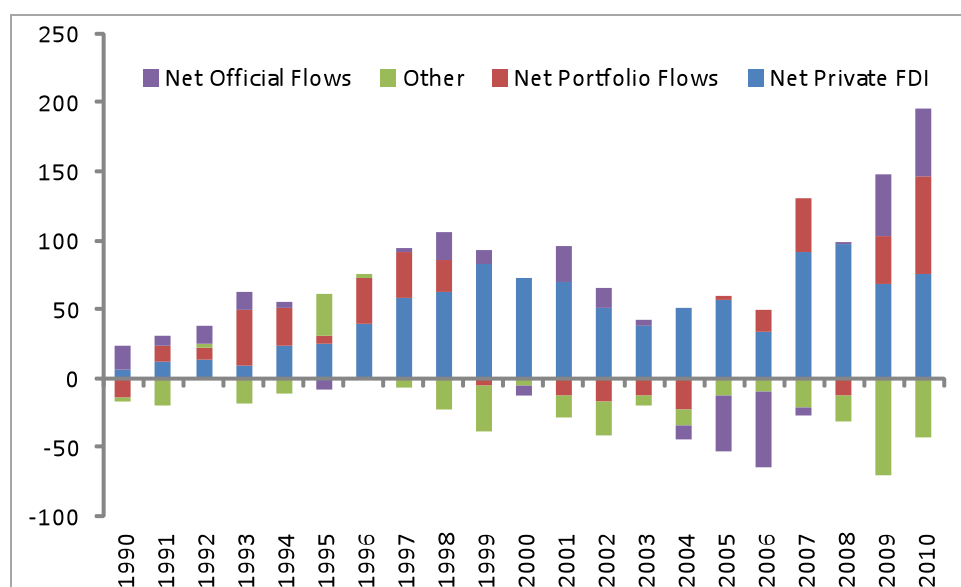

(FDI – foreign direct investment)

Source: *World Economic Outlook*, April 2011, International Monetary Fund

Besides the yield differentials, current capital inflows are determined by the reduction in the perceived risks in emerging markets. Regarding this factor, important changes have been observed in the way these economies participate in international financial markets since the Asian and Russian crises in 1997-98 (Frenkel and Rapetti 2010a). One key change was the switch from current account deficits to surpluses in their balance of payments, which also involved a change in the direction of net capital flows between advanced countries and emerging markets. Other relevant changes that reduced perceived risks are the substantial accumulation of foreign exchange reserves and the implementation of more flexible exchange rate regimes. These changes helped reduce the segmentation of emerging market assets and also the risks of contagion and herd behavior within this class of assets. As a result, the reduction in the perceived risks also spread to those emerging

market economies that kept running current account deficits or did not move towards more flexible exchange rate regimes.

Due to these factors, risk premia in emerging markets followed a falling trend since late 2002. By mid-2005 they went below the minimum levels reached before the Asian crises in 1997-98 and by early 2007 they reached historical minimum levels. This trend was reversed in mid-2007 once concerns about the US housing and financial markets became apparent. The resulting jump in emerging market risk premia during the subprime crises was, however, short-lived and since early 2009 they began to fall again. Figure 2 shows that the above description applies to sovereign risk premia in Latin America. The more accentuated reduction in Latin American countries risk premia compared to emerging markets average since the early 2000s is attributable to Argentina and Brazil's sovereign risk premia, which began the decade from very high levels.

Figure 2: Sovereign risk premia in emerging markets and Latin America, and US high-yield bonds spread (in basic points)
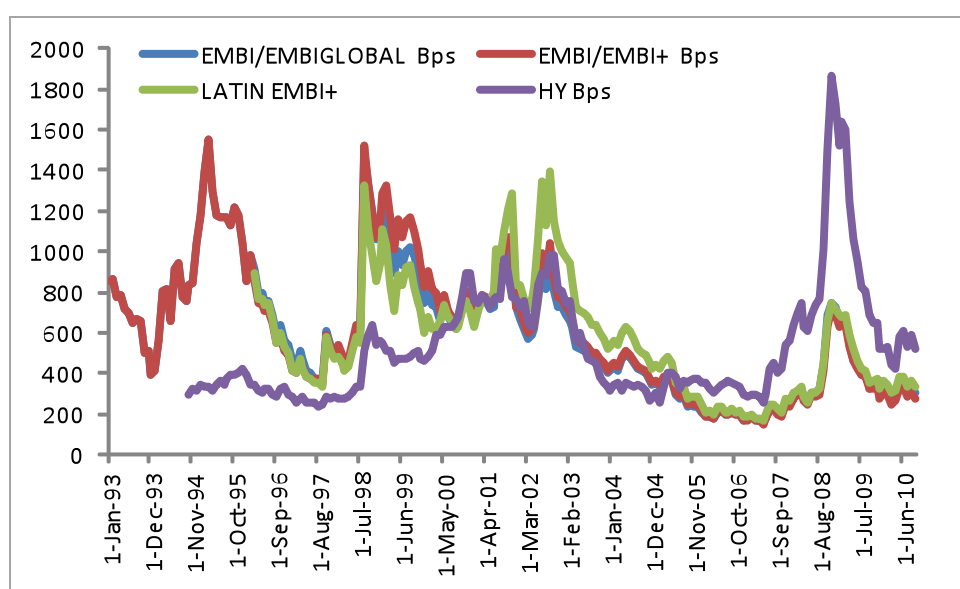
(EMBI – Emerging Markets Bond Index; EMBI+ – Emerging Markets Bond Index Plus; Bps – basis points; HY – High Yield; EMBIGLOBAL – Emerging Markets Bond Index Global)

Source: Bloomberg

The global financial crisis was a stress test for emerging markets. With the exception of a few European countries, none of them suffered external or financial crises and there was no sovereign debt default. Moreover, the same pattern of international financial integration persisted after the crisis. The increase in the IMF's financial resources and the flexibility of its assistance programs also played an important role in the prevention of crises in emerging markets. Overall, the results of the stress test and the changes in the IMF reinforced the previous perception about the profitable opportunities in emerging markets. Thus, we expect that the low risks and capital inflows to emerging markets will continue in the foreseeable future.

We now turn our analysis to Latin America. Between 2003 and 2007, the region as a whole ran a current account surplus. In 2008, it turned into a deficit that widened up until 2010, when it reached a local maximum. In fact, Mexico, Colombia and most of Central American and Caribbean countries had already been running current account deficits all along the 2000s. Thus, the dynamics described above resulted from the behavior of most South American countries. Assuming no major changes in current economic policies, forecasts – including those of the IMF (IMF 2011a) – indicate that current account deficits in these economies will tend to widen.

Do increasing current account deficits represent a threat in terms of external and financial crises as they did in the past? The experiences of capital inflow booms that ended up in crises in Latin America resulted from sustained current account deficits that led to excessive foreign debt accumulation. Rapid foreign debt accumulation and rising current account deficits in these experiences occurred in contexts of fixed exchange rate regimes and appreciated RERs (Frenkel and Rapetti 2009). The observed rise in sovereign risk premia was precisely associated with the perception that countries in those contexts would have a hard time meeting debt services. None of these features are currently observed in Latin American countries.

First, most countries in the region have adopted flexible exchange rate regimes – mostly, managed floating regimes – and have been accumulating large stocks of foreign exchange reserves. These elements give monetary authorities greater flexibility to absorb negative external shocks and to avoid sharp exchange rate corrections in contexts of low liquidity of foreign exchange.

Second, foreign debts in Latin America shrank substantially during the 2000s and reached historically low levels, as shown in Figures 3 and 4. The emergence of current account deficits in this situation is novel for the countries in the region. Since their reincorporation to the international capital markets in the late 1980s, Latin American countries have been dealing with heavy debt burdens inherited from the debt crises in the early 1980s. The new configuration suggests that most countries have substantial margins to accumulate foreign debt before reaching high debt-to-GDP ratios.
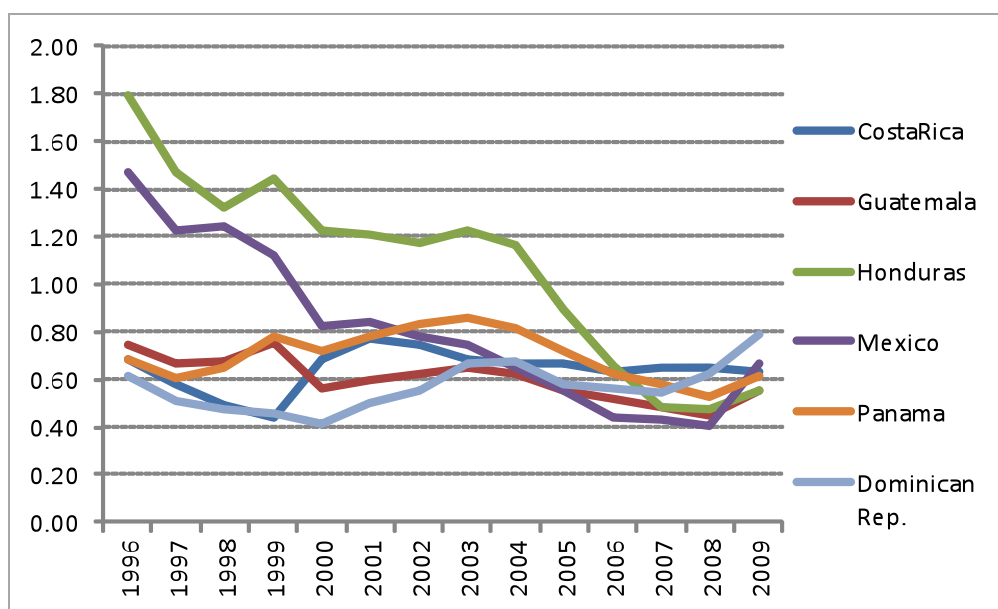
Figure 3: Foreign debt/total exports, South America
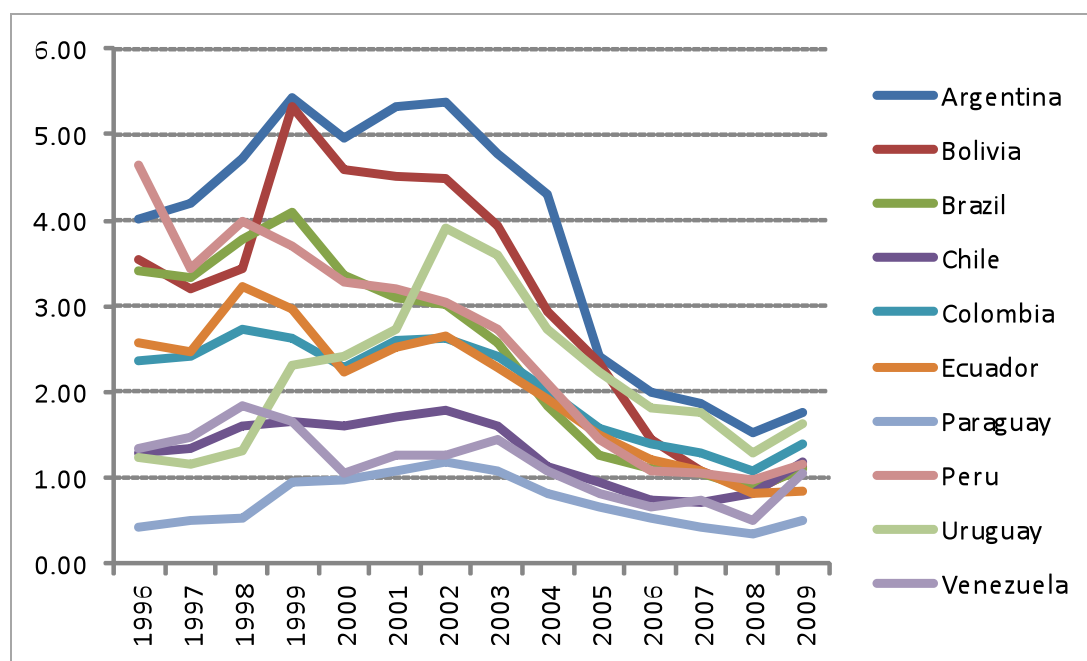
Source: CEPALSTAT, ECLAC[3]

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[3] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. The data on Brazilian exports were obtained from IPEADATA. (See Appendix.)

Figure 4: Foreign debt/total exports, Mexico and Central America

Source: CEPALSTAT, ECLAC

There is another important element making the threat of crises even less likely. Because of the reduction of foreign debts during the 2000s, the weight of interest payments in the factor income account of the balance of payments has reduced significantly. In contrast to the previous 30 years of financial globalization, current account deficits in most Latin American countries are now largely influenced by dividend payments of foreign direct investment (FDI). This represents an important change. Interest payments have to be paid in foreign currency – typically US dollars – and since they are contractual obligations, they constitute a source of foreign currency outflow that is delinked from the business cycle. On the contrary, FDI dividends are largely obtained in domestic currency – making their value in foreign currency depend on the exchange rate – and are highly correlated to the business cycle. This implies that in the case of a capital inflow deceleration or reversal, the magnitude of FDI dividend payments tends to contract due to both the depreciation of the domestic currency and the deceleration or contraction of domestic economic activity. Furthermore, a significant portion of FDI dividends are normally re-invested in the recipient economy – being registered in the balance of payments as a new inflow of capital – without even going through the foreign exchange market. This implies that part of factor income account deficits has a relatively automatic source of funding. Finally, in cases of severe scarcity of foreign exchange, authorities can impose transitory restrictions on the remittance of FDI dividends to alleviate the excess demand for foreign exchange.

Table 1 illustrates the change in the composition of current accounts in some Latin American countries. The current account deficit of Brazil was 49.5% of total exports in 1999. This deficit was almost equivalent to the gross factor income remittances (41%). 39.7% of these remittances corresponded to interest payments and the other 60.3% to FDI dividend payments. The current account deficit represented only 20.3% of total exports in 2010. Once again, gross factor income remittances were virtually of the same magnitude as the current account deficit (20%). The difference is that in 2010 virtually all of these remittances (88.6%) corresponded to FDI dividend payments.

**Table 1: Current account of the balance of payments and foreign direct investment
(as a share of total exports)**

		Current Account	Trade Balance	Transfers	Factor income (debit)	Interests (debit)	Utilities (debit)	Foreign Direct Investment
Brazil	1999	-45.9%	-14.8%	3.1%	-41.0%	-16.3%	-24.7%	51.8%
					100%	39.7%	60.3%	
	2010	-20.3%	-4.6%	1.2%	-20.0%	-2.3%	-17.8%	20.7%
					100%	11.4%	88.6%	
Chile	1999	0.5%	8.0%	3.1%	-14.7%	-6.0%	-8.7%	41.7%
					100%	40.8%	59.2%	
	2010	4.7%	18.1%	5.4%	-25.0%	-1.9%	-23.2%	18.5%
					100%	7.4%	92.6%	
Colombia	1999	4.8%	4.1%	10.4%	-16.2%	-13.4%	-2.8%	10.8%
					100%	82.8%	17.2%	
	2010	-19.4%	2.0%	10.0%	-30.7%	-8.1%	-22.7%	23.5%
					100%	26.3%	73.7%	
Mexico	1999	-9.5%	-5.6%	4.2%	-11.1%	-8.4%	-2.7%	9.4%
					100%	75.7%	24.3%	
	2010	-1.9%	-4.1%	6.9%	-6.3%	-4.0%	-2.3%	5.7%
					100%	63.8%	36.0%	
Peru	1999	-17.9%	-15.7%	12.2%	-22.9%	-21.5%	-1.4%	25.2%
					100%	93.7%	6.3%	
	2010	-5.9%	11.9%	7.7%	-28.4%	-2.7%	-25.8%	18.5%
					100%	9.3%	90.7%	

Source: CEPALSTAT, ECLAC[4]

In Chile, similar to developments in Brazil, between 1999 and 2010 the proportion of interest payments went from 40.8% to 7.4%, It went from 82.8% to 26.3% in Colombia and from 93.7% to 15.6% in Peru. The exception has been Mexico, where the proportion only shrank from 75.7% in 1999 to 63.8% in 2010. In all the countries with current account deficits in 2010 (Brazil, Colombia, Peru and Mexico), the deficits were entirely financed with FDI, a large proportion of which was re-investment of dividends.

Because of the reasons discussed above, we do not see signs of excessive external fragility in Latin America and therefore do not think that the current wave of capital inflows represents a threat in terms of immediate crises. This assessment may look more 'optimistic' than a recent evaluation carried out by the IMF (IMF 2011b), in which the institution warns about the increase in current account deficits in the region and the potential risks of capital flow reversals. This concern was a reason behind the recent change in the IMF's view about the benefits of capital inflows to developing countries. The institution now promotes a more cautious approach and it even suggests that countries should consider the possibility of adopting capital controls transitorily (IMF 2011b).

Our assessment that sudden stops and crises are not highly likely in the immediate future should not be understood as a statement that the current flow of capital is harmless and does not pose any threats to Latin American countries. Quite on the contrary, we believe that national authorities should worry about them and adopt measures to discourage them and to mitigate their effects. Our concern, however, is not so much the possibility of crises but the effects that capital inflows have on the real economy via their effects on real exchange rates (RER). More concretely, our concern is that massive capital inflows to Latin America may have pernicious effects via an excessive appreciation of the RER, which could lead to a contraction in output and employment in tradable activities with negative effects on long-run growth. Our concern, in other words, is the possibility of Dutch Disease.

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[4] Data on balance of payments, external debt, bilateral RER with the US, effective RER, wages and value added in constant prices are all from CEPALSTAT, ECLAC. The data on Brazilian exports were obtained from IPEADATA. (See Appendix)

3. The evolution of real exchange rates in Latin America

Between 1990 and 2010, the behavior of RERs in South American has been different from those in Mexico, Central America and the Caribbean. In the first group, RERs tended to appreciate between the early 1990s until the eruption of the Asian and Russian crises in 1997-98. To deal with these shocks, Brazil, Chile and Colombia adopted floating and inflation targeting regimes in 1999. Peru had been using a managed floating regime since the early 1990s and only formally adopted inflation targeting in 2002. Argentina and Uruguay maintained fixed exchange rates and overvalued RERs until the 2001-02 crises and then opted for managed floating arrangements. In all these countries, RERs reached maximum levels in 2002-03 and then followed a persistent appreciation trend, transitorily interrupted by the effect of the subprime crisis and its global contagion. Within this group, Argentina's RER has been the most volatile and Peru's the least. Figures 5 the evolution of the bilateral RERs with the US between 1990 and 2010 for South American countries.

Figure 5: Bilateral real exchange rates with the US, South America (100=2000)
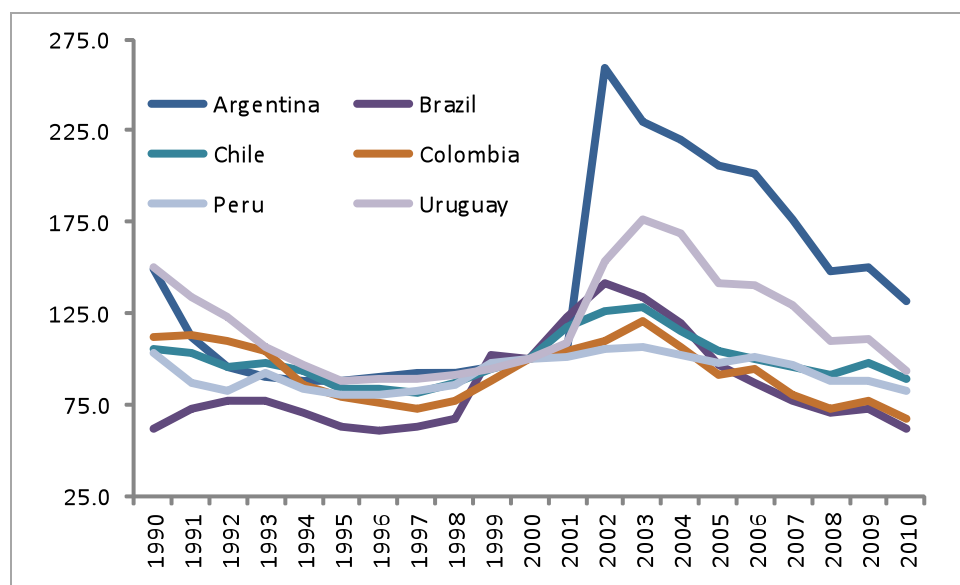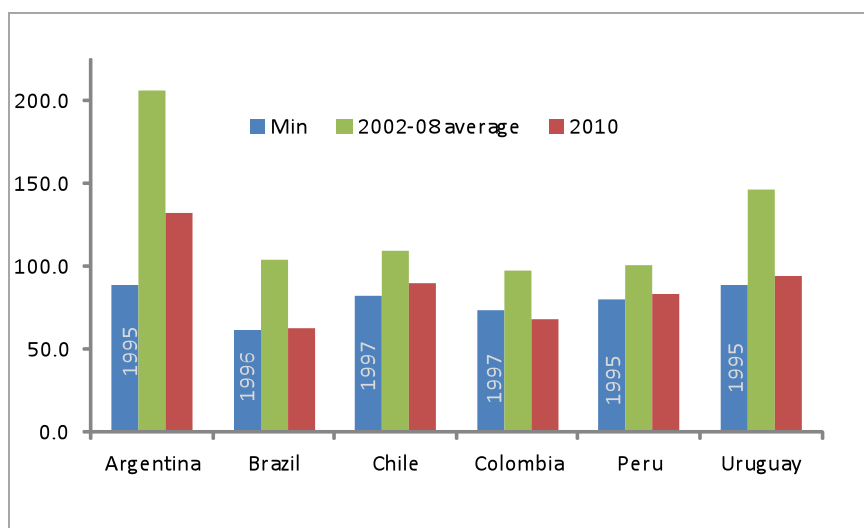

Source: CEPALSTAT, ECLAC[5]

There are some aspects worth highlighting. First, within each country, 2002-03 is the period in which RERs reached their highest levels since countries regained access to the international financial markets in 1990. Second, the rise of the RERs in the early 2000s improved current account balances before the commodities prices boom started circa 2004-05. Third, because of the high levels at which they started, during 2002-2008 RERs remained on average relatively high compared to the 1990s, despite their persistent downward trend. Fourth, the rise of RERs of 2008-09 represented only a mild and transitory detour from their downward trend.

Figure 6 helps to give a neater view of the fall of the RERs experienced in South America during the 2000s. With the exception of Argentina's, RER levels in 2010 were similar to the lowest levels in the 1990s.

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[5] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. (See Appendix.)

Figure 6: Bilateral real exchange rates with the US, South America. Minimum levels in the 1990s, 2002-08 average and 2010 (100=2000)

Source: CEPALSTAT, ECLAC[6]

The behavior of bilateral RERs with the US in Mexico, Central America and the Caribbean has been different. Figure 7 shows that they were substantially less volatile and that most of them followed a persistent downward trend all through the two decades.

Figure 7: Bilateral real exchange rates with the US, Mexico, Central America and the Caribbean (100=2000)
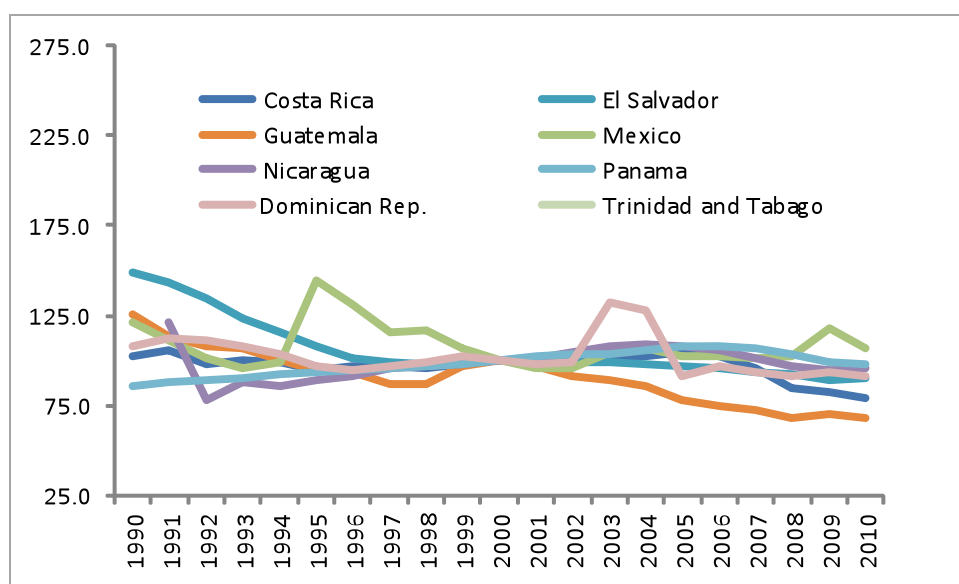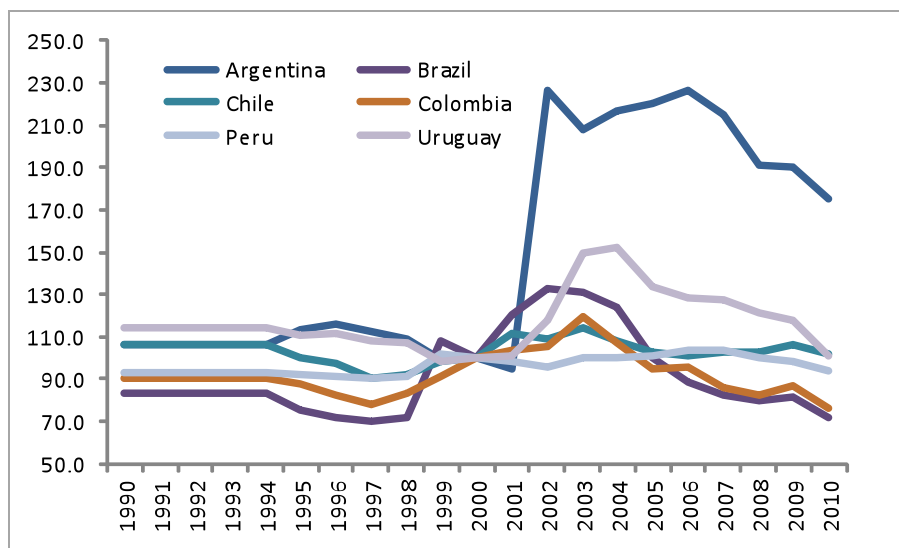

Source: CEPALSTAT, ECLAC

Figures 8 and 9 show the evolution of effective RERs in Latin American countries. In the case of Mexico, Central America and the Caribbean bilateral and effective RERs are very similar due to the

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[6] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. (See Appendix.)

high weight that the US has on these countries' international trade. Effective RERs in South American countries are less volatile than bilateral RERs. This is because trade between these countries is high and therefore the correlation of bilateral RERs observed in Figure 5 reduces the volatility of effective RERs. Despite the fact that competitiveness gains and losses against all trade partners are less pronounced than against the US exclusively, the trajectories followed by effective RERs have been similar to those of bilateral RERs. The 2010 levels of effective RERs in South America were also similar to the minimum values of the 1990s as Figure 10 illustrates.

Figure 8: Effective real exchange rates in South America
(100=2000)

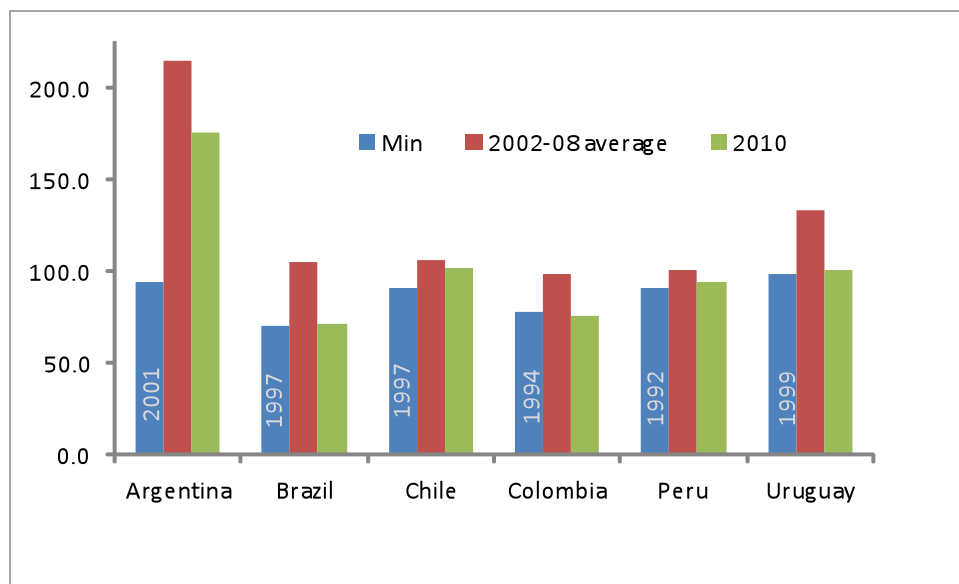Source: CEPALSTAT, ECLAC[7]

Figure 9: Effective real exchange rates, Mexico, Central America
and the Caribbean (100=2000)
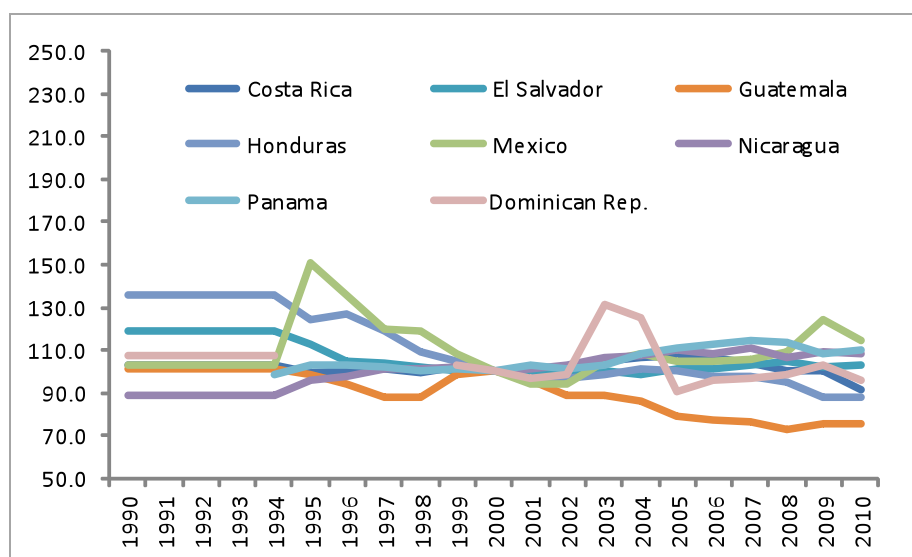
Source: CEPALSTAT, ECLAC

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[7] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. (See Appendix.)

Figure 10: Effective real exchange rates, South America.
Minimum levels in the 1990s, 2002-08 average and 2010 (100=2000)

Source: CEPALSTAT, ECLAC

4. Capital inflows, Dutch disease and economic development

The case in which massive capital inflows appreciate the RER leading to a contraction in output and employment in the manufacturing sector is commonly indicated as a variant of the Dutch Disease phenomenon. Some authors conceive Dutch Disease as an equilibrium outcome with no relevant effect on long-run economic growth.[8] Under this view, a positive shock – like the discovery of an oil field, a permanent increase in the price of an agricultural or mineral commodity or even a sustained flow of FDI – would represent an increase in national wealth. The consequent rise in the actual and expected flow of foreign currency income would lead to an equilibrium appreciation of the RER. With a more appreciated (ie. lower) RER, some other tradable activities – manufactures and services – would become uncompetitive and would perish against international competition. This outcome would not be problematic because the labor freed by these activities would be absorbed by the expanding sectors. This type of de-industrialization would be an equilibrium outcome and *a priori* would not affect long-run economic growth. Under this perspective, current capital inflows to Latin America – unless they represent a transitory phenomenon – should not be a source of concern for national authorities.

We find this view problematic for several reasons. First, it is not clear that capital inflows represent an increase of the recipient country's wealth in foreign currency, as in the standard case of Dutch Disease. Capital inflows can be a source of finance for a current account deficit – which would imply an increase in net foreign debt – or an exchange of foreign for domestic assets – without altering the net international investment position. A green field foreign investment certainly represents an increase in the capital stock of the recipient country, but it is typically made with the expectation that the discount value of future dividends will be higher than the original investment. Second, it is impossible from the viewpoint of a policy-maker to know *ex-ante* whether a wave of capital inflows represents a transitory or permanent phenomenon. Third, it is equally uncertain whether the labor displaced from the industrial and services sectors resulting from the appreciation of

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[8] This appears to be the view, for instance, of Magud and Sosa (2010) in their assessment of the empirical literature on Dutch Disease and on the RER-growth relationship.

the RER will be absorbed by other sectors. There is, on the other hand, a much higher degree of certainty regarding the effects of a transitory but sustained RER appreciation on industrial employment and output. Transitory but lasting RER appreciations have typically led to the destruction of firms and employment, human and organizational capital, vertical and horizontal linkages and access to foreign markets. These outcomes have been formalized (Krugman 1987 and, Ros and Skott 1998) and documented empirically (Sachs and Werner 2001). Moreover, there are several examples in Latin American economic history of sustained RER appreciation leading to de-industrialization. These are, for instance, the experiences of Argentina and Chile between late 1970s and early 1980s and that of Argentina during the 1990s[9].

We also find problematic the view that Dutch Disease and RER appreciations do not have effects on long-run growth. Economic development is associated with the expansion of modern tradable activities (ie. manufactures and services intensive in knowledge). The expansion of these activities generates a variety of positive externalities – learning-by-doing, network externalities and technological spillovers – that tend to accelerate economic growth. They also increase the net supply of foreign currency and thus reduce the possibility of stop-and-go dynamics or excessive foreign debt accumulation and crises that hamper long-run growth. For these reasons, a competitive RER provides an environment conductive to economic development by stimulating investment in tradable activities. A recent body of econometric research has found a robust association between growth acceleration and competitive RERs[10]. Moreover, this relationship has been observed in several episodes in the economic history of Latin America: the most successful cases of sustained growth accelerations have occurred when governments oriented their macroeconomic policy to sustain competitive and stable RERs that protected industrial activities and promoted non-traditional exports Frenkel and Rapetti 2012).

Consequently, current capital inflows to Latin America – even if they do not represent a threat in terms of external vulnerability and crisis – could excessively appreciate the RER, harm the development of the industrial sector and its employment level and negatively affect long-run growth. Given current conditions and our expectation about their continuation, we believe that RER levels that guarantee external sustainability in Latin American countries are more appreciated (ie. lower) than those required to promote economic development. Macroeconomic policy should care about not only the RER level that guarantees external sustainability, but also the one that promotes the expansion of modern tradable activities, employment and economic development[11].

It is therefore very important to evaluate whether manufacturing activities in Latin American countries are experiencing profitability problems that could constrain their long-run development. A simple way to do this is calculate the unit labor cost in foreign currency (ULC$), which measures domestic wage rates relative to foreign wage rates in common currency (US dollar), adjusted by relative productivity[12]. Changes in ULC$ over time indicate the evolution of the profitability of tradable activities intensive in labor, as manufactures and modern services. A rise (fall) in ULC$ suggests a fall (rise) in the profitability of these sectors. For its calculation, we use the simple average of the rate of variation of GDP per capita of the US, Germany, China and Brazil as a proxy of the rate of variation of foreign productivity. These countries influence the productivity trends in the dollar and

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[9] See Ffrench-Davis (2004) for the Chilean experience and Damill (2002) for that of Argentina.

[10] See, among others, Aguirre and Calderon (2005), Gala (2007), Rodrik (2008) and Rapetti et al (2012).

[11] The notion that the RER level that guarantees external sustainability may be more appreciated than the one required to stimulate the development of modern tradable activities was originally formulated by Diamand (1972). A recent elaboration of this argument can be found in Bresser-Pereira (2010).

[12] Formally, $ULC\$ = (W / EW^*)(\rho^* / \rho)$, where W represents the nominal wage rate, E the nominal exchange rate, ρ productivity and the asterisk (*) indicates foreign country. Due to the lack of homogeneous data, we calculated ULC$ using the CPI and GDP per capita as proxies of foreign nominal wages and labor productivity, respectively. Consequently, we calculated $ULC\$ = (\omega/q)(y^*/y)$, where ω is the domestic real wage rate and y GDP per capita and q, the RER. Constructed this way, the indicator implicitly assumes that foreign real wage remained constant during period of analysis.

euro areas, Asia and Latin America, respectively and thus represent a reasonable approximation of the competitive pressures that the countries in the region face.

Figure 11 shows the evolution of unit labor cost in foreign currency (ULC$) for South American countries between 1990 and 2010. It is apparent that in almost all cases ULC$ have been rising substantially and sustained since 2002-03 when there is a local minimum. In Colombia, Chile and Brazil, the 2010 levels are substantially higher than the maximum levels reached during the 1990s: +68%, +38%, and +12%, respectively. These figures suggest that tradable activities intensive in labor in these countries have been facing increasing challenges in terms of competitiveness and profitability. The trajectories of Argentina, Uruguay and Peru are similar although less accentuated. In the former two, the significant increase in ULC$ since 2002-03 has led to levels similar to the maximum levels reached before the 2001-02 crises. In Argentina, the 2010 level was still 7% lower than the 2001 level and in Uruguay 7% higher than in 1999. In Peru, ULC$ have been rising at a mild pace and its last observation (2009) was still 3% lower than the maximum level of 1994. To facilitate comparisons, Figure 12 shows the 2010 levels, the previous local maximum levels and the 2002-2008 period averages.

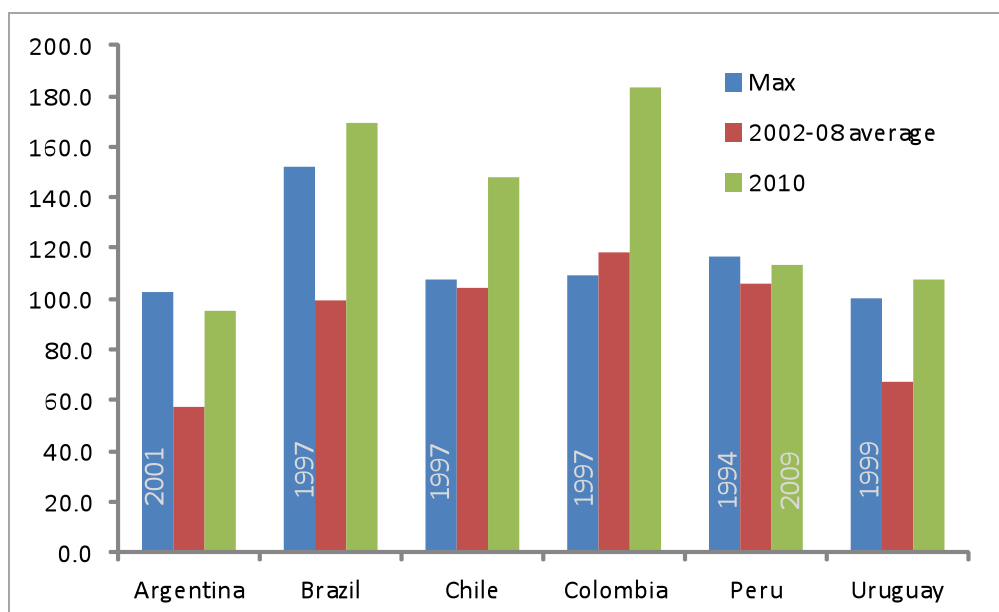**Figure 11: Unit labor costs in US dollars (ULC$), South America (100=2000)**
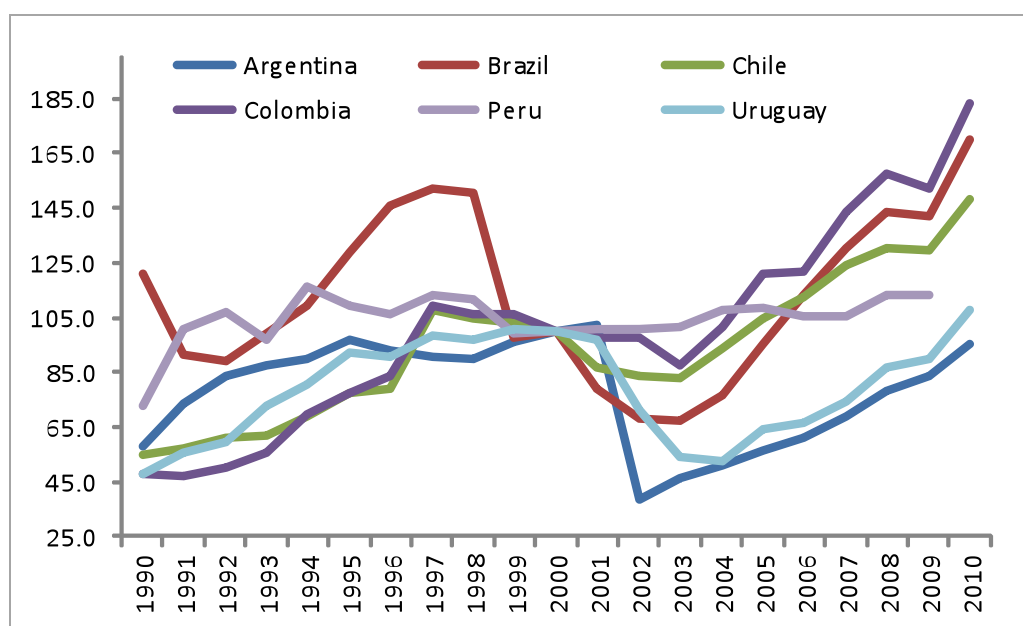
Source: CEPALSTAT, ECLAC[13]

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[13] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. (See Appendix.)

Figure 12: Unit labor costs in US dollars (ULC$), South America.
Maximum levels of the 1990s, 2002-2008 average and 2010 (100=2000)
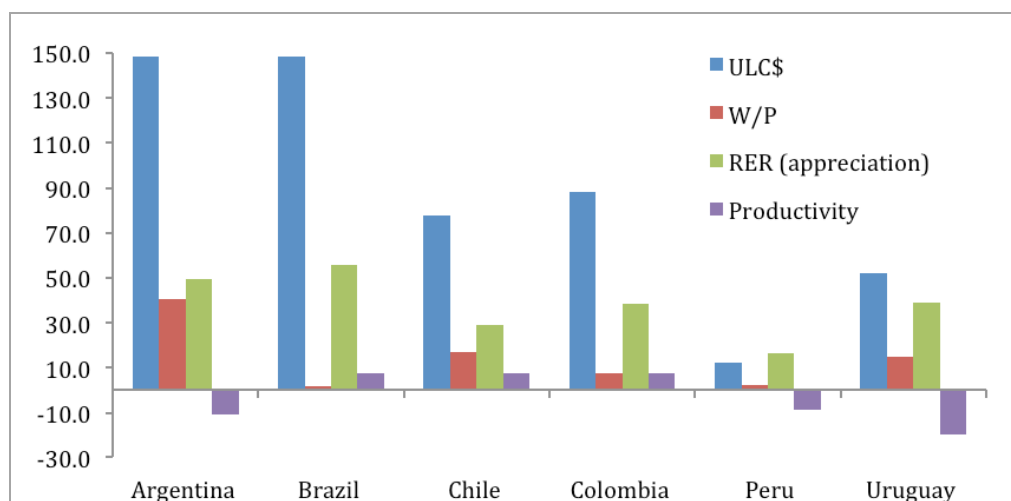

Source: CEPALSTAT, ECLAC[14]

Figure 13 decomposes the rise in ULC$ between 2002 and 2010 in three factors: real wage increases, RER appreciations and variations of relative productivity. The bars indicate the percentage variation of ULC$ and its components[15]. Some aspects are worth noting. First, RER appreciation was a key element explaining the rise in ULC$ in all cases. There is, however, an important difference (not shown in the figure) between Argentina and the rest. In Argentina, RER appreciation resulted from higher domestic inflation relative to foreign inflation whereas in the other South American countries it mainly resulted from nominal exchange rate appreciation, especially in Brazil and Colombia. Second, there are significant differences in terms of productivity growth. Whereas in Brazil, Chile and Colombia productivity grew at a slower pace than in the reference countries (the US, Germany, Brazil and China), in Argentina, Uruguay and Peru, it grew faster. Third, in Argentina real wages increased relatively more than the productivity differential; in Peru and Uruguay, they increased relatively less than the productivity differential. The different behavior of real wages in these countries is a reason why unit labor cost in foreign currency in Argentina rose more than in Peru and Uruguay.

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[14] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. (See Appendix.)

[15] The sum of all factors adds up to the total variation of ULC$ when the calculation is carried out in continuous time. Because calculations for Figure 13 were done in discrete time, the sum of the parts does not add up to the total. The reported variation of the factors, however, suggests the relative incidence of each of them on the total variation.
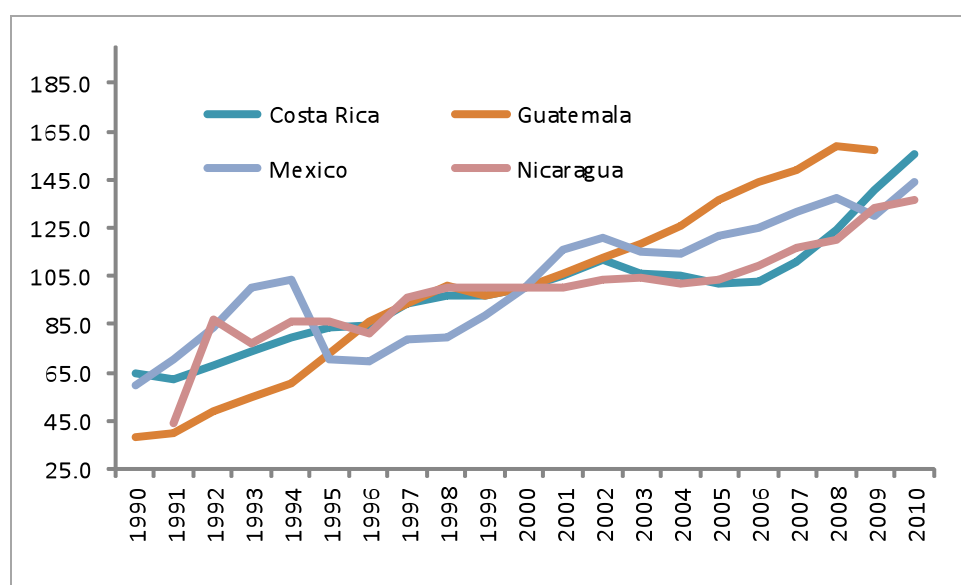
**Figure 13: Decomposition of the increase in unit labor cost ULC$ (2002-2010)
by explanatory factors, South America (in percentage)**

Source: CEPALSTAT, ECLAC[16]

Figure 14 shows the evolution of unit labor cost in foreign currency in Mexico and some Central American countries between 1990 and 2010. ULC$ have been increasing since the 1990s in all these cases. In Mexico, the ULC$ level in 2010 was 35% higher than in 1994, a year before the currency crisis. If that year is taken as a reference of low profitability in Mexican manufacturing, then current levels suggest that the current situation is even worse. The competitive loss in Mexico and the Central American countries is largely a result of the low productivity growth relative to foreign competing countries. This can be observed in Figure 14, which replicates the decomposition of Figure 13 for Mexico and Central American countries.

Figure 14: Unit labor cost in US dollars (ULC$), Central America and Mexico (100=2000)

Source: CEPALSTAT, ECLAC

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[16] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. (See Appendix.)

Figure 15: Decomposition of the increase in ULC$ (2002-2010) by explanatory factors, Central America and Mexico (in percentage)
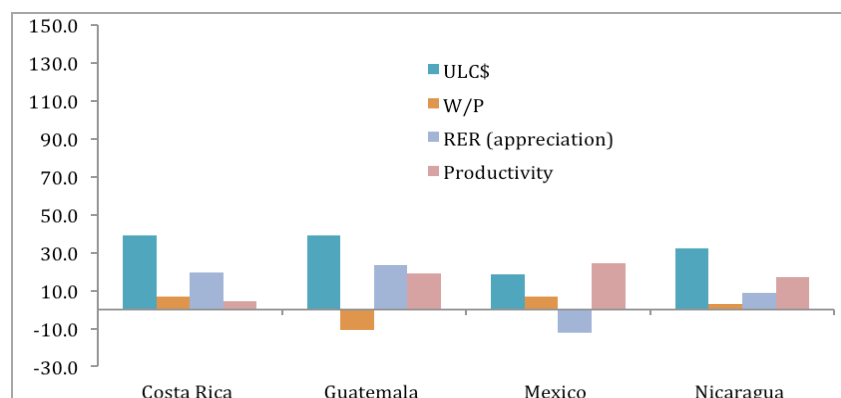
The evidence gathered so far suggests that – at least in Brazil, Chile, Colombia, Mexico and the Central American countries examined – the profitability in tradable sectors intensive in labor has shrunk substantially in the last few years. One would expect that these developments would affect the performance of these activities and their employment levels. It is, however, difficult to assess the extent to which RER appreciation hurts tradable profitability because their effects are not immediately observed. Facing a profitability squeeze, firms first absorb losses, then reduce the workday or force their workers to anticipate their vacations, then adopt defensive strategies reducing their value added and simplifying the production lines and finally go bankrupt. As a result, the adaptation to RER appreciation takes the form of a gradual contraction of value added and employment that takes time to become apparent. It is documented, for instance, that the effect of RER appreciation on employment in Latin America has operated with a 2-year lag (Frenkel and Ros 2006).

One would then expect that – if the observed RER appreciation and profit squeeze in Latin America continue – modern tradable sectors would gradually decelerate their output and employment growth and that they would eventually start contracting. There are in fact some hints indicating that tradable profit squeeze is negatively affecting the performance of manufacturing activities in Latin America. Table 2 reports the elasticity of industrial value added growth with respect to value added growth in other economic activities, both measures in constant prices for the major South American countries[18]. The analysis is made comparing two periods: 2002-05 and 2005-08. In the former period, countries experienced high GDP growth and had relatively competitive RERs. In the latter period, on the contrary, countries experienced high GDP growth with substantially more appreciated RERs[19]. Although RER levels were even more appreciated in 2010, we did not extend the period until this year because of the contraction in economic activity in 2009 introduces noises in the time series, making the interpretation of results less clear.

If the level of the RER affects positively the development of modern tradable activities (eg. industry) – as argued above – on would expect to observe a worsening in economic performance in these sectors relative to the rest of the economy. In other words, one should observe a reduction in the elasticity of modern tradable sector growth (eg. industry) with respect to other sectors' growth. Evidence in Table 2 is in line with this prediction: all the countries experienced a relative deceleration

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[17] GDP per capita data correspond to the *World Development Indicators* from the World Bank. (See Appendix.)

[18] In order to avoid cyclical noises and capture growth trends, we calculated least square growth rates of value added. Specifically, we estimated the growth rate g by regressing the following model: $ln y_t = a + gt + e_t$, where y is value added in constant prices, a is a constant, t represents quarters and e is an error term.

[19] Compared to the 2005-2008 period, in 2002-2005 the bilateral RER with the US in Argentina was 25% higher, in Brazil 48% higher, in Colombia 26% higher, in Chile 21% higher and in Peru 7% higher.

of industrial sector value added growth. In line with this evidence, there is also a positive correlation between the contraction in the elasticities and the degree of RER appreciation. For instance, Peru is the country in this sample with the least degree of RER of appreciation and also the one in which the fall in the elasticity was the smallest.

Table 2: Elasticity of industrial value added growth with respect to other sectors' value added growth (in constant prices)

	Argentina	Brazil	Colombia	Chile	Peru
2002-2005	1.48	1.78	1.33	1.14	1.28
2005-2008	0.91	1.23	0.64	0.70	1.07

Source: CEPALSTAT, ECLAC[20]

Figure 16 shows the evolution of the bilateral RER with the US and two indicators that describe the relative performance of the industrial sector in Brazil between early 2000 and early 2011. The green line indicates industrial exports relative to exports of natural resources, both in real terms. The red line does the same for industrial value added (VA_i) relative to the value added of the rest of the sectors (VA_r), also in real terms[21]. Figure 16 suggests that the performance of the Brazilian industrial sector appears to be influenced by the level of RER with a 2-year lag[22]. It is interesting to note how the relative improvement of industrial exports and value added between mid-2003 and mid-2005 was preceded by the significant RER depreciation that started in the first semester of 2001. Similarly, the RER appreciation trend beginning in mid-2004 is followed by a relative worsening in industrial exports and value added starting in late 2005 and early 2006. This relative performance continues until the end of the period of analysis in parallel with the RER appreciation trend.

Figure 16: Brazil: Bilateral real exchange rates with the US, industrial exports/natural-resource exports and industrial value added/value added (rest) (1=average 2000-2010)
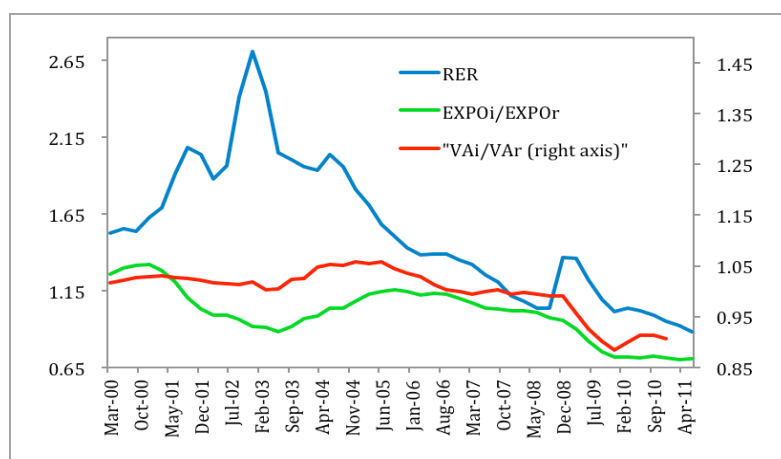
(RER – real exchange rate; EXPOi – industrial exports; EXPOr – natural resource exports; VAi – industrial value added; VAr – non- industrial value added)

Source: Banco Central do Brasil

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[20] In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. GDP per capita data correspond to the *World Development Indicators* from the World Bank. The data on Brazilian exports were obtained from IPEADATA. (See Appendix.)

[21] To avoid seasonal fluctuations, both indicators were calculated as annualized values.

[22] The correlation coefficients between the 2-year lagged RER and the export and value added indicators are 0.73 and 0.84, respectively.

The case of the Brazilian manufacturing sector illustrates what in our view is the main threat that Latin American countries are currently facing with the sustained RER appreciation caused by the ongoing wave of massive capital inflows.

5. A development-friendly macroeconomic policy framework

Most Latin American countries have made substantial progress in the conduct of their macroeconomic policies in recent decades. After experiencing high inflation during the 1970s and 1980s, countries in the region managed to stabilize prices during the 1990s. In most cases, price stability was achieved through stabilization programs that used the exchange rate as a nominal anchor. An undesired outcome of these programs was excessive RER overvaluations, which led to external crises[23]. An important lesson from these experiences was that in order to deal with volatile capital movements and to avoid external crises, macroeconomic policy not only needs sound monetary and fiscal management but also an exchange rate policy that avoids RER overvaluation and combines exchange rate flexibility and foreign exchange reserves accumulation.

Current massive capital inflows pose a threat to Latin American countries. In this article, we made the case that these economies do not show signs of external vulnerability and that there is no clear evidence that the external conditions they currently face will dramatically change in the foreseeable future. Hence, we do not see a scenario of crises very likely.

This assessment is based on our conjectures about the future; and we know the future is, by its own nature, uncertain. Conjectures about the future – all of them, including ours – necessarily have to deal with uncertainty. Will the present favorable terms of trade persist? Will current external financial conditions remain in Latin America? About these things, we cannot certainly know. Economic authorities should be especially cautious in the face of uncertainty. In this regard, the design of economic policy should follow two principles. First, it should include all the elements to assure that the proposed goal is achieved in the foreseeable scenarios. The second principle is to minimize the potential damage that an economic policy could provoke if the conjectures in which it is based are finally wrong.

Following these principles, a prudential attitude would suggest implementing measures to offset or mitigate the effects of capital inflows. These measures should be adopted not only to avoid the formation of domestic asset bubbles and control inflation but also to avoid external and financial crises, and consequently a huge damage. Thus, although we have a different perception of the risks involved, we fully agree with the position that the IMF has taken recently about taking a prudential approach about capital inflows. We might be wrong in our assessment and thus countries should take the possibility of crisis seriously. But a prudential economic policy design should broaden the consideration of potential negative effect of capital inflows and include those associated with Dutch Disease. These effects should be taken as seriously as those associated to the risks of external and financial crises because they are largely irreversible. As argued above, it is well documented both theoretically and empirically that a transitory RER appreciation can have long-lasting effects on the manufacturing sector in the form of a permanent destruction of physical, organizational and human capital. Furthermore, a prudent management of the RER is a sound strategy even in the case in which the favorable terms of trade and international financial conditions were perdurable ex-post because conjectures about the effects of the Dutch Disease on long-run growth are also uncertain. For these reasons, we think that macroeconomic policy in Latin American countries should aim to maintain a stable and competitive RER as an intermediate target for economic development. The macroeconomic policy framework we have in mind combines the following features.

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[23] One could refer to this period as the 'long' decade of the 1990s, going from the Mexican stabilization program in 1988 to the Argentine and Uruguayan crises of 2001-02.

First, given the multiplicity of policy objectives – inflation, employment and a stable and competitive RER as an intermediate target – the proposed macroeconomic policy framework requires the coordination of monetary, fiscal, exchange rate and wage policies. Exchange rate policy is oriented towards signaling a stable RER trend, which in a managed floating regime is compatible with short-run nominal exchange rate volatility. In context of capital mobility, as in the case of Latin American countries, active exchange rate policy limits the ability of monetary policy to manage the pace of aggregate demand expansion. This does not mean that monetary policy is passive, but that it is not completely independent. Because of this reason, in our proposed framework fiscal policy takes a relevant role in managing aggregate demand and achieving price stability (Frenkel 2008 and Rapetti 2011). This is a key difference with a standard inflation-targeting regime in which monetary policy carries virtually the whole burden of managing the expansion of aggregate demand.

Second, in the proposed regime both monetary and exchange rate policies are active. Their simultaneous conduct requires sterilized interventions and capital controls. Since domestic and foreign assets are imperfect substitutes, sterilized foreign exchange interventions are effective in simultaneously managing the nominal exchange rate and the interest rate in cases of excess supply of foreign currency. These interventions can be thought of as two instruments implemented sequentially. First, intervention in the foreign exchange markets is used to set the exchange rate to the desired level. Then, sterilization is used to absorb the excess of liquidity created in the first step and thus to maintain the interest rate at the desired level. A potential concern is whether these interventions are sustainable over time because they could create explosive quasi-fiscal cost dynamics. In a context in which the domestic interest rate is low enough, sterilized buying interventions are effective and sustainable[24]. The ability to simultaneously conduct monetary and exchange rate policies with sterilized interventions depends on the magnitude of capital inflows. Capital controls can be useful to facilitate the efficacy of these interventions, especially when inflows are large. Additionally, maintaining a fiscal surplus can help absorb the excess supply of foreign exchange and thus operate as a complement to capital controls to moderate the impact on domestic financial markets.

Third, given that each policy by itself is insufficient to neutralize the effects of capital inflows, it seems desirable to implement them jointly and in a coordinated way. In particular, the coordination between central banks and economic authorities – largely absent in Latin American countries – is essential to optimize the efficacy of macroeconomic policy and to neutralize the effects of capital inflows on the RER.

Some observers appear to be skeptical about the efficacy of buying interventions in the foreign exchange market. For instance, recent IMF's documents advice against 'early interventions' and suggest to intervene only when the RER has appreciated substantially to dissipate expectations of further appreciation (IMF 2011a). This view implicitly assumes that agents know the 'equilibrium' level of the RER and that market forces ultimately will take the RER to such a level. Intervention is thus thought as an instrument to avoid excessive but transitory RER misalignments. This is a curious idea. The same recent IMF documents also warn about the possibility of bubbles in domestic assets and the domestic currency is one of them. Why should we neglect the possibility that exchange rate appreciation is the result of a bubble in the foreign exchange market? The observed lack of effectiveness of recent official interventions in foreign exchange markets may be the result of the central banks' inability to change agents' expectation about the future evolution of the exchange rate. Bold interventions carried out by central banks making clear their will to manage the trend of the exchange rate could, on the contrary, influence private sector expectations and thus reduce selling positions and capital inflows. A key goal of central banks' interventions in the foreign exchange market should be to alter market expectations. Interventions should make clear central banks' power

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[24] See Frenkel (2007 and 2008) for a formal analysis of the conditions under which sterilized foreign exchange interventions are sustainable.

and their desire to orient the medium-run trend of the exchange rate. An example of this type of intervention is the one carried out by the Swiss central bank that announced in early September 2011 that it would intervene in the foreign exchange market to stop the appreciation of the Swiss franc generated by capitals running away from the euro area and looking for a safer asset to allocate wealth. The Swiss central bank managed to stop the appreciation of the franc because in such a context it has the ability to issue any amount of assets demanded by foreign investors (ie. Swiss franc). If, for instance, capital is flowing into Colombia's and Chile's financial markets looking for peso-denominated assets, what prevents the Colombian and Chilean central banks to issue those assets and stop the appreciation of their currency?

Appendix

Data on balance of payments, external debt, bilateral RER with the US, effective RER, wages and value added in constant prices are all from CEPALSTAT, ECLAC. In the case of Argentina, all calculations including the CPI were re-calculated using the IPC-7 series elaborated by CENDA. GDP per capita data correspond to the *World Development Indicators* from the World Bank. The data on Brazilian exports were obtained from IPEADATA. The quarterly data series of the Brazilian bilateral RER with the US used in Figure 16 is from Banco Central do Brasil. Data on risk premia is from Bloomberg.

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