

# MACROECONOMIC POLICIES AND PERFORMANCES IN LATIN AMERICA 1990-2010

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This paper assesses the macroeconomic policies and outcomes experienced by Latin American economies in the period 1990-2010. Macroeconomic policies refer to the exchange rate, monetary and aggregate fiscal policies. Macroeconomic outcomes, on the other hand, refer to the performances of growth, inflation, employment, investment, balance of payments and the evolution of external and public debts and international reserves. The assessment includes the discussion of the effects of macroeconomic outcomes on poverty rates. With regard policies, the analysis emphasizes the changes that took place from 1997-1998 on. As result of these changes a new macroeconomic configuration was established as from 2002-2003, which favored the acceleration of output growth and employment creation and contributed to reduce poverty rates.

**Keywords:** Latin American economies, macroeconomic policies, economic growth, employment creation, poverty rates, inequality.

## POLÍTICAS E DESEMPENHOS MACROECONÔMICOS NA AMÉRICA LATINA ENTRE 1990 E 2010

Este artigo avalia as políticas macroeconômicas e os resultados experimentados pelas economias latino-americanas entre 1990 e 2010. As políticas macroeconômicas compreendem a política cambial, a política monetária, e a política fiscal agregada. Os resultados macroeconômicos, por sua vez, se referem ao desempenho em relação a crescimento, inflação, emprego, investimento, balanço de pagamentos, bem como a evolução das dívidas externa e pública e das reservas internacionais. A avaliação inclui a discussão dos efeitos dos resultados macroeconômicos nas taxas de pobreza. Com relação às políticas, as análises enfatizam as mudanças que ocorreram a partir de 1997 e 1998. Como resultado destas transformações, uma nova configuração macroeconômica foi estabelecida a partir de 2002-2003, a qual favoreceu a aceleração do crescimento da produção e da geração de empregos e contribuiu para reduzir as taxas de pobreza.

**Palavras-chave:** economias da América Latina; políticas macroeconômicas; crescimento econômico; emprego; taxas de pobreza; desigualdade.

JEL: E65, I32, N16, O54.

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### 1 INTRODUCTION

The macroeconomic evolution of developing countries during the 2000s, including their remarkable performance during the global crisis triggered in 2007, shows important contrasts with the previous three decades of financial globalization.

The most important lesson that can be obtained from this contrast concerns the crucial role of macroeconomic policies to boost economic growth, employment,

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financial stability and a robust performance facing external shocks, financial and real. It is possible to distill a set of macroeconomic policy orientations that may contribute to the simultaneous fulfillment of the four mentioned objectives. Additionally, growth, the generation of jobs and other factors such as a widening of the space for fiscal policy, create favorable conditions to promote improvements in income distribution and the reduction of the incidence of poverty and extreme poverty.

The contrast to which we referred above is also observed in the economies of Latin America (LA) and particularly in South America, a region where the changes in the orientation of prevailing macroeconomic policies were very marked between the nineties and the 2000s.

Many developing countries adopted novel macroeconomic policies in the 2000s. This prompted the acceleration of growth and changed their insertion in the global economy. These changes not only favored the economies that have adopted new policies but also benefited all developing countries, through two channels. On the real side, it counts the drag effect that the accelerated growth of the economies that have adopted new policies had on the rest of the developing countries; this includes the improved terms of trade experienced by many of these economies. On the financial side, it counts the beneficial effect that the changes in policies and their results had on the relationship between the international financial system and the set of developing countries.

These beneficial effects operated in the period before the start of the global financial crisis, and during its first phase, between mid-2007 and the collapse following the bankruptcy of Lehman Brothers. In the subsequent phase, when the crisis hit squarely on developing economies, the effects were mixed. Those economies that had adopted the new macroeconomic settings were less hit by the financial shock and enjoyed greater room to implement anti-cyclical policies. In contrast, economies that kept a style of international financial integration framed in macroeconomic policy settings similar to those that prevailed in Latin America during the 1990s (for example, economies in Central and Eastern Europe) suffered the worst consequences of the crisis.

In comparison with the behavior shown in the previous three decades, three notable positive changes in the behavior of developing economies stand out in the early 2000s. They are primarily associated with changes in the modalities of integration into the international financial system, in the macroeconomic policy regimes and in the regulation of national financial systems. We focus here on the former two aspects.

The first of those changes is a reduced financial vulnerability, in contrast to the previous history of frequent and intense financial crises. The second change that we highlight is the dissipation of the segmentation of emerging market economies in the international financial system set up under the globalization process.

Finally, an acceleration of growth over the previous three decades was observed in the 2000s and, as already noted, many developing economies showed a greater resistance to the external shocks caused by the recent crisis.

These changes, which were also evident in many countries of Latin America, are associated with the new macroeconomic policy orientations followed by a significant number of developing economies, including the adoption of managed floating exchange rate regimes and exchange rate policy practices aimed at either preserving competitive real exchange rates or avoiding large appreciations, and voluminous accumulation of international reserves, as well as the reversal of the results of the current account in an important set of these economies, which went from deficits to surpluses, with the resulting aggregate effect of reversing the direction of net capital flows compared to what had been observed in the first three decades of globalization.

In the rest of this section we discuss the main changes in the global scenario observed in the decade of the 2000s. Then, section 2 is devoted to present the stylized facts of the evolution of macroeconomic policies and outcomes in the Latin American region since the beginning of the nineties. Section 3 focuses in the first place on the evolution of unemployment and poverty rates and presents econometric tests on the relationships between growth, real exchange rates, unemployment, inflation and poverty rates. Conclusions are presented in section 4, which includes the stylized formulation of a set of macroeconomic policy guidelines intended to foster growth and employment creation in a sustainable manner.

### **1.1 Favorable changes in the global scenario in the decade of the 2000's**

In the first thirty years of the financial globalization, since the early seventies until the beginning of the present century, the financial and currency crises in emerging market economies were becoming more frequent and intense.

In contrast, strikingly, the global crisis triggered initially in the U.S. in 2007, did not cause a financial crisis in any emerging market economy. The importance of this stands out if we take into consideration the fact that the real and financial negative shocks received by the developing economies at this time were similar to the impacts suffered as a consequence of the Asian and Russian crises of 1997-98. In both cases the external shocks were the largest and more widely distributed geographically since the beginning of the financial globalization.

We associate the novel experience of developing countries in the global crisis with two factors. One is the renewed role played by the IMF. Innovations in the IMF bring the institution closer to a role of lender of last resort, largely along the lines previously demanded by developing countries. It is plausible that the action of the IMF has helped to avoid crises in a series of small economies that wielded great financial and external fragilities by mid-2008.

More important in our opinion is the fact that no crisis occurred in other developing economies, which did not had to ask the IMF for support. The second factor of this stronger financial resilience has to be found in the changes experienced by many developing economies in the 2000s.

Emerging market countries were integrated into the international financial system in a segmented manner and several of them tended to fall into financial traps that usually resulted in crisis (Frenkel, 2008a). International contagion and herd behavior of investors are characteristic aspects of this segmentation. The segmentation tended to dissipate in the 2000s.

Financial traps are the result of two key links between the economy and the international financial market. The first link is determined by a large volume of financing needs. The refinancing of debt maturities and the funding of high current account deficits constitute the main connection between the country and the international financial market. This situation is very prone to contagion or any other sources of volatility. It is also more prone to self-fulfilling prophecies. The market assesses this situation by imposing higher risk premiums, and the country loses, to a large extent, the degrees of freedom of its economic policy, because the urgency imposed by the need for international funding gives priority to the issuing of signals that can look favorable in the eyes of the market.

The second link is the effect on interest rates. A high country risk premium makes more expensive the external financing, further contributing to worsening the debt ratios. On the other hand, the sum of the international interest rate plus the country risk premium determines the floor of local real interest rates. The integration of emerging market with the international financial market is thus a segmented integration, in which the international interest rate facing the country and the local interest rates are significantly higher than rates in developed countries. High interest rates have negative effects on growth and internal and external financial fragilities.

In the nineties, at the end of the decade, the phenomenon of segmented integration was evident in the highly indebted countries like Argentina and Brazil. However, other developing countries, whose policies were able to avoid the accumulation of heavy foreign debts, also experienced a segmented integration. After participating in the process of financial globalization for a long period (almost three decades in the case of Latin America), financial assets of these economies were a “class” whose returns included a considerable country risk premium. These risk premiums had touched bottom in 1997, just before the Thai devaluation. But after the Asian and Russian crises, the premiums rose and remained high until the early 2000’s.

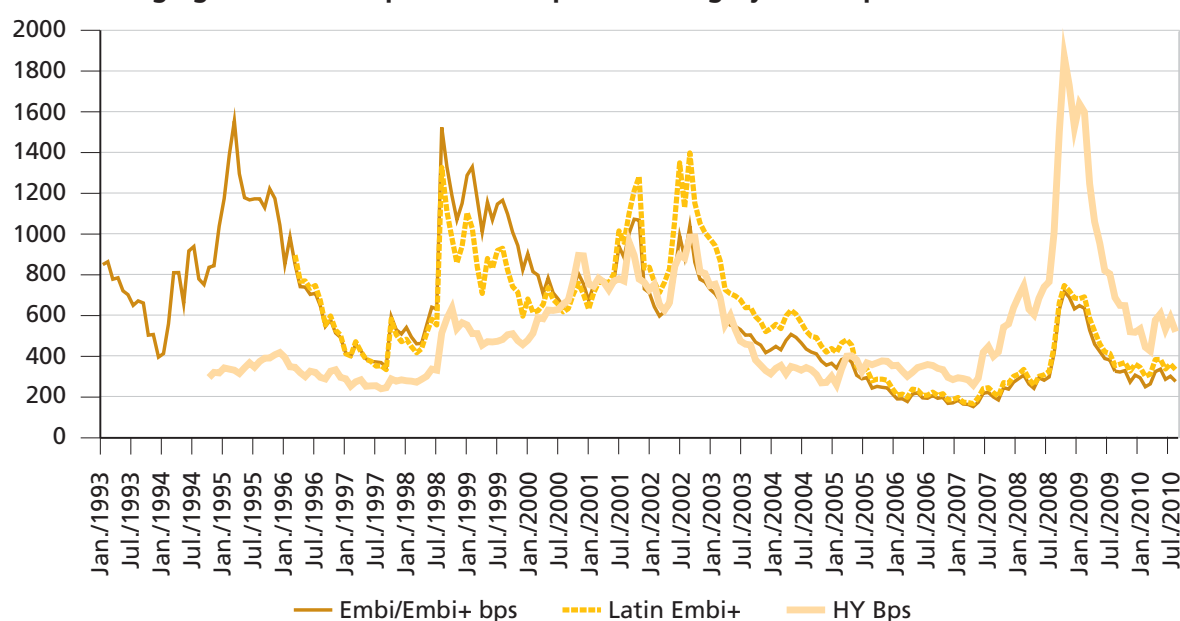
Persistently high country risk premiums were an unexpected result of financial globalization. From its first steps, financial globalization defenders presented the full integration between the local financial systems and the international system as the ideal to which the process would converge. Full integration implies a global brokerage system in which the returns on financial assets on the one hand, and the cost of capital for

borrowers, on the other, are equal for economically equivalent transactions, regardless of the geographical location of savers and investors. The convergence of globalization toward full integration would mean a continued reduction in country risk premiums.

Things had not happened that way until the early 2000s. However, in this decade a reduction of the perceived risk associated with those assets would be experienced. Actually, the average country risk premium in developing economies followed a downward trend since late 2002, and in mid 2005 it fell below the minimum recorded in the period before the Asian crises of 1997-98. In early 2007, the average risk premium reached its record low at a level that was significantly lower than that observed before 1997 and significantly below the spread of high yield bonds in the United States. Country risk premiums tended to rise since mid-2007, but still before the bankruptcy of Lehman Brothers, they were similar, in the emerging market economies, to the levels that prevailed in the period before the crises in Asia. On the other hand, the contagion effect following the bankruptcy of Lehman Brothers was short and in 2009 many developing countries regained access to international credit at relatively low interest rates. Risk premiums continued to decline during 2009 and 2010 to settle again at levels lower than the most favorable of the nineties.

It can be seen in graph 1 that the average risk premium for LA countries accompanied the described performance of the average of emerging economies, although the reduction observed in the first half of the 2000s in Latin America was more pronounced, mainly due to the high spreads that Argentina and Brazil displayed at the beginning of the decade.

GRAPH 1  
Emerging markets risk premia and spreads of high-yield US private bonds



Source: for the high-yield US private bonds, data from the Merrill Lynch index of US High-Yield Master II (H0A0); for sovereign bonds of emerging market economies and of LA emergent markets, the EMBI+ JP Morgan index (EMBI to November 1997 and EMBI+ from December 1997 on).

The reduction of perceived risks can be associated with significant changes in the modalities of international financial integration of the emerging market countries (EMCs) in the 2000s, with respect to key features in the thirty years prior. The changes began to occur after the Asian and Russian crises of 1997-98 (Frenkel and Rapetti, 2010a). Below we describe briefly the most significant among the novel features.

Firstly, many EMCs started to generate current account surpluses or reduced previous deficits, implying a reversal of the direction of net capital flows between EMCs and advanced countries that characterized the prior thirty years. This new configuration persisted after the global crisis. Secondly, it counts the accumulation of substantial reserves in many developing economies. This feature also persisted after the global crisis. Finally, many economies adopted flexible exchange rate regimes (with different degrees of administration).

We briefly assess the effects of these changes on the perceived risks. Current account surpluses and foreign reserves are external indicators of robustness. In the 2000s, the “class” of assets of EMCs became more heterogeneous and many of these assets are issued by robust economies. This helped to dissipate the segmentation of emerging market assets and significantly reduced the risks of contagion and herd behavior on this “class” of assets, so that the reduction of perceived risk was also extended to the EMCs that continued showing deficits or less flexible exchange rate regimes.

The managed floating exchange rate regime allows the monetary authority to intervene and accumulate reserves, to prevent or mitigate the appreciation trend, when the conditions of the current account or capital inflows lead to selling pressures in the foreign currency market. This happened in many EMCs in the period 2002-2008. The availability of reserves, under any exchange rate regime, reduces the risk of default on public and private debts due to insufficient international liquidity, for example when facing a sudden stop in capital inflows. But the combination of abundant reserves and managed floating tends to reduce the risk by other means. Faced with a negative external shock, exchange rate flexibility leads to exchange rate depreciation, and this contributes to the adjustment of the economy to the new external conditions. In this case, the availability of reserves allows the intervention in the FX market to control the devaluation and avoid overshooting and bubbles. This limits the negative effect on the balance sheets of banks and companies, particularly strong in economies with partially dollarized financial systems. In this context, the exhibition of large reserves gives greater strength to the central bank’s ability to guide the foreign exchange market and thus large-scale selling interventions may not be required.

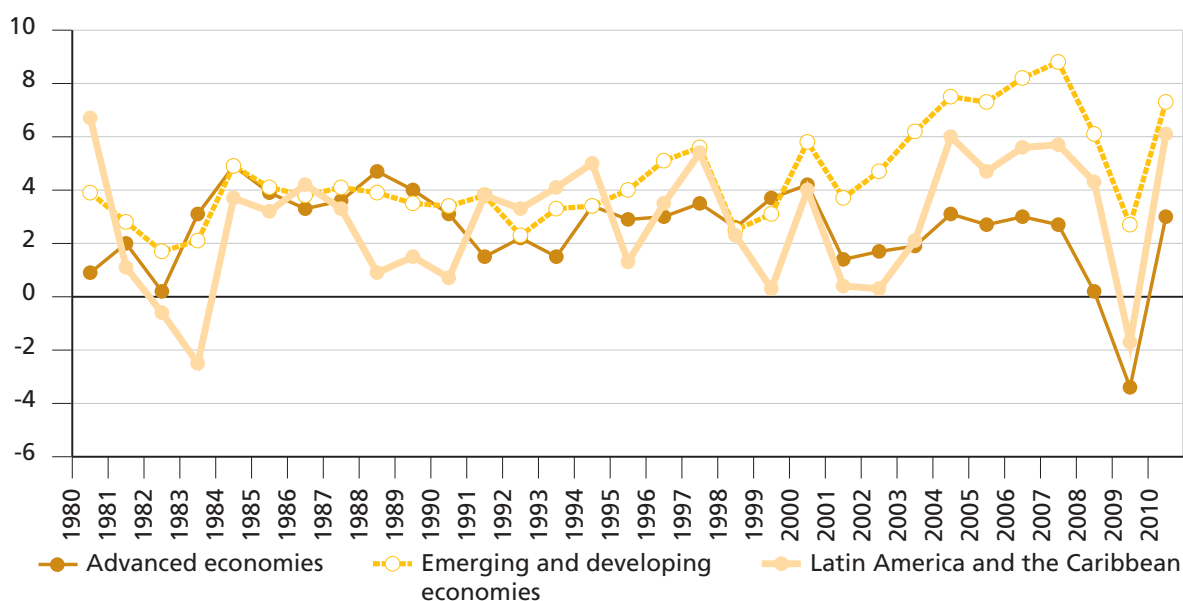
The virtues of the combination of robust external accounts, the availability of large reserves and exchange rate flexibility were tested on the occasion of the global crisis. Indeed, the global crisis was a stress-test for EMCs. With the exception of a small number of European economies, none emerging market economy suffered a financial or external crisis or a debt default. On the other hand, the increase in both the IMF resources and the flexibility of the institution in implementing their programs also played a role in preventing crises and defaults in the EMCs; and the renewed role of the IMF is durable. In summary, the results of the stress-test of the crisis reinforced the prior perceptions of lower risks of EMCs.

Another notable change in the 2000s was the noticeable acceleration of economic growth in developing countries. In the eighties and nineties, the cycles in advanced countries and developing countries were highly correlated and the average growth rates of both groups were broadly similar. For example, in the 1992-2001 period, advanced countries grew at an annual rate of 2.8% while developing countries did so with an average annual rate of 3.8%. As shown in graph 2, the difference in favor of developing countries in this period is mainly explained by a relatively faster growth of these economies between the Mexican crisis and the Asian and Russian crises, but the crises of 1997-98 had a relatively greater contractionary effect on developing economies, so that rates of both groups of countries tended to equalize again in the final years of that decade.

Latin America presented on average a growth rate slightly higher than that of advanced countries in the same period (3% annually), but with wider fluctuations. It also presented a much greater fall than the set of developing countries by the end of the decade.

In the 2000s the cyclical correlation between the two groups of countries persisted, but during this period, for the first time since the beginning of financial globalization, developing countries (including the subset of economies in Latin America and the Caribbean) grew at consistently higher rates than the advanced economies. In the period 2003-2008 the average annual rate of growth in developing countries was 7.4%, while the advanced economies grew on average 2.3% per year. While lower than those of all developing economies, growth rates in Latin America doubled the observed rates in the advanced economies, reaching 4.7% on average. In short, in the 2000s there was a substantial acceleration of growth in developing economies compared to previous decades and also a significant departure of their rates relative to growth in advanced economies.

GRAPH 2  
**GDP growth rates for emerging and developing economies, advanced economies and Latin-American economies**



Source: IMF World Economic Outlook database.

Furthermore, it is also remarkable the resilience shown by the developing economies to the impacts of the global crisis. We will discuss this issue below, considering the main determinants of this increased resilience and presenting an econometric assessment of the impact of the global crisis on growth rates.

In what follows we look in more detail to the macroeconomic developments in the countries of Latin America in the last two decades.

## 2 LATIN AMERICA IN THE PERIOD 1990-2010: STYLIZED FACTS OF THE MACROECONOMIC EVOLUTION

In this section we will take a closer look to the evolution of LA economies from 1990 to 2010, paying special attention to the macroeconomic performances regarding growth and indicators of growth sustainability (like debt ratios and aggregate financial deficits).

Three major episodes in the international scenario establish the main turning points for LA economies in the period. They are: the crisis of 1997-98 in five Southeast (SE) Asian economies and Russia, and the contagion effects that followed; the change in the global scenario around 2003, reflected in a huge increase in commodity prices; and the global crisis that started in 2007 in the USA.

We interpret the observed macro evolution of LA economies as the result of the interaction between the changes in the international context, the particular



structural configuration of the local economies (regarding for instance their specific insertion in international trade flows) and the main characteristics of national macro policy regimes.

The main stylized facts of LA economies in the period are the following.

## 2.1 GDP growth

For most examined variables, the general patterns observed in LA economies are quite similar within every subregion (SA and CA),<sup>1</sup> but with clear dissimilarities between subregions. This is also true of the behavior of GDP.

The evolution of per capita GDP (graphs 3, 4A and 4B) illustrate the periods referred above. We firstly consider the performance of per capita GDP (pcGDP) in SA economies. Two expansions are observed: 1991-1997 and 2003-2008. In the expansionary period of the nineties, SA pcGDP growth averaged 2.5% (graph 3). The impact of SE Asian crisis is evident in the figures of 1998-99; the recessionary stance lasted until 2002, with a second bottom in 2002 led by the impact of the crisis in Argentina.

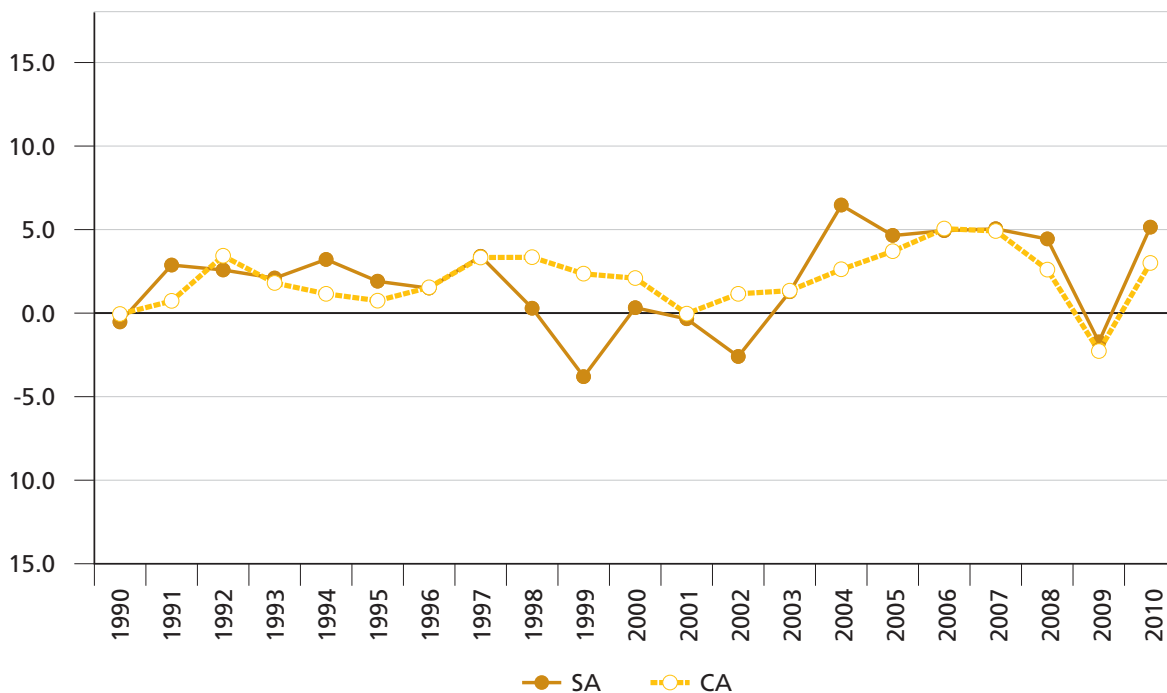
In the economic expansion of 2003-2008 the SA pcGDP growth accelerated considerably, reaching a 4.5% annual average, close to twice the rhythm of the early nineties, to fall in 2009 with the impact of the global crisis.

The performance of CA pcGDP shows several significant differences. Whether its average rate was a bit lower in the nineties, the expansionary phase lasted longer, until 2001, not showing an impact of the SE Asian and Russian crises. However, closely linked by the export channel to the USA, the region was hit by the negative developments in the USA economy in the early 2000s. Thus, CA pcGDP stopped increasing in 2001, to recover from them on. The average 2003-2008 growth rate was 3.4%, higher than the 1990-2000 average (2.8%) but lower than the SA figures for the same period.

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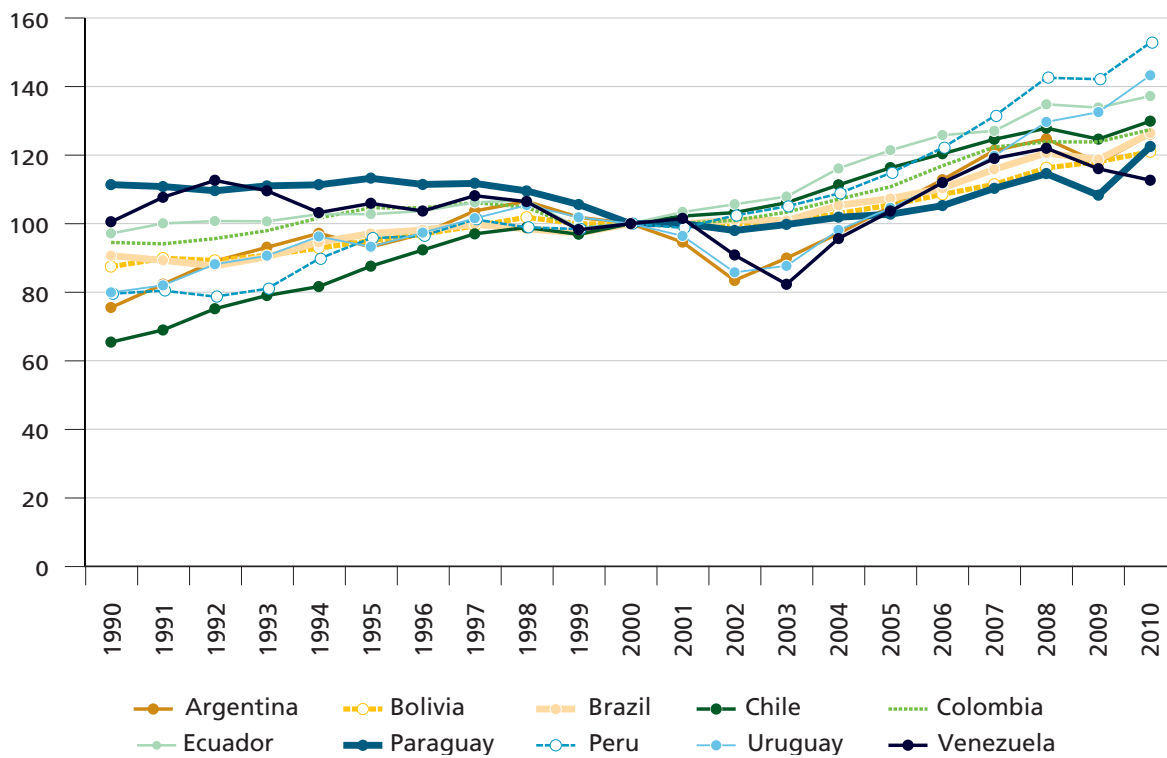
1. SA refers to South American economies (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela), and CA refers to Central American economies and Mexico (Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama).

GRAPH 3  
Average rate of growth of per capita GDP (SA and CA)

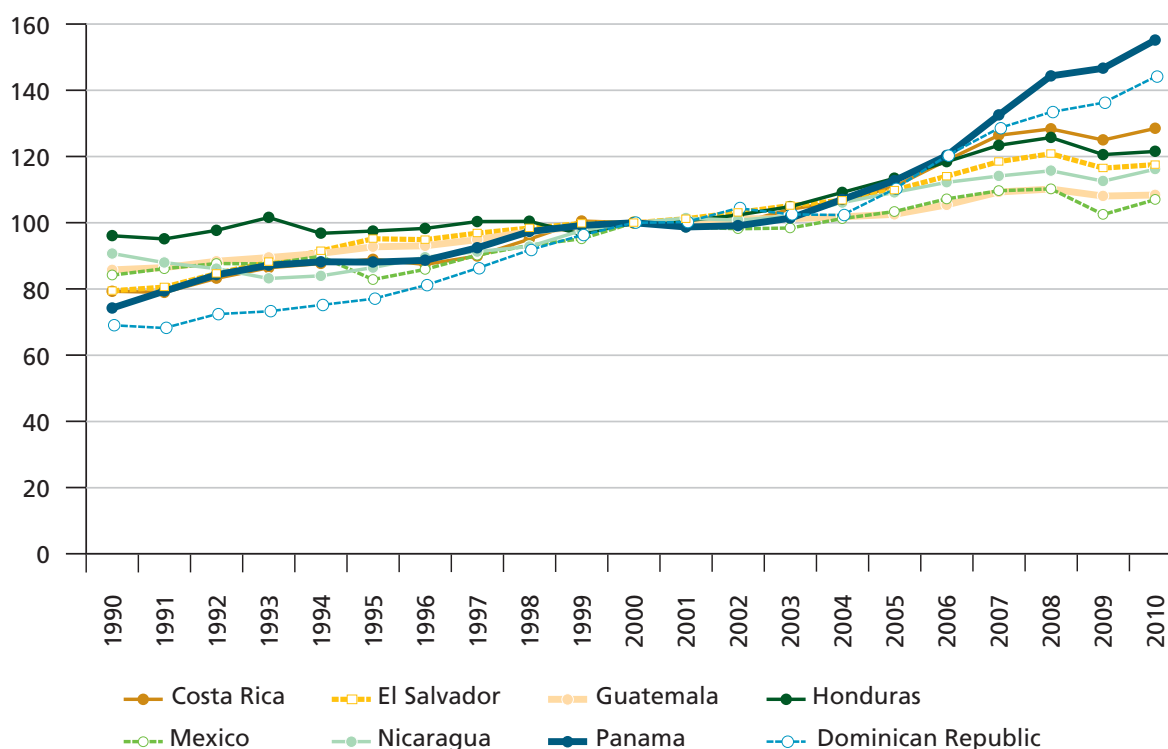


Source: Cepalstat.

GRAPH 4  
4A – Per capita GDP (SA countries, 2000=100)



Source: Cepalstat.

**4B – Per capita GDP (CA countries, 2000=100)**

Source: Cepalstat.

## 2.2 Econometric assessment of the impact of the global crisis

A synthetic way of measuring the new resilience of emerging market economies is by focusing on the growth performance in 2009, the calendar year in which the recessionary effects of the global crisis concentrate. In 2009 the advanced countries GDP fell 3.4% while developing countries GDP grew 2.7%. However, the performances of developing countries were heterogeneous. On the one side there is the catastrophic performance of Center and Eastern Europe, where almost all economies suffered recession and the region average GDP rate was – 3.6%. On the other hand, only a few developing Asian economies suffered recession and the regional average GDP rate of growth was 6.9%. National performances were more heterogeneous in Africa and LA. In LA, the recessionary impact was greater than in the group of developing economies as a whole. Decisively weighed in this result the effects of the US recession over Mexico and Central America. While the GDP of South America (SA) contracted by only 0.3% on average, Mexico's decline was much stronger: 6.1% in the year.

We are interested in the factors that could explain the national differences in the 2009 GDP rates of growth. Obviously, what come out in the first place are the recessionary effects of the contraction of international trade led by the recession in the advanced economies. No country could isolate itself from the recessive effect of its exports contraction. The international trade contraction

was the main transmission mechanism of the recessive effects to the developing countries. These effects are country-specific because they depend on the specific trade insertion of the country. Another real transmission channel was the fall in the migrant workers remittances, particularly important in Central America and Mexico. These effects are also country-specific.

The other transmission mechanism of recessive effects is the financial channel. This channel played a secondary role in many developing countries. Besides the relatively short impact of the collapse that followed Lehman Brothers bankruptcy, there was in many developing economies a decoupling from the financial contagion effects. As we have mentioned above, the phenomenon vividly contrasts with the important financial contagion effects of the Asian and Russian crises on LA and other emerging market economies.

Based on the above considerations, our hypothesis about the resilience of emerging market economies in the global crisis is the following: given the country-specific recessive effects throughout the real transmission channels, the resilience of a country is related to the policies implemented in previous years and their consequences on the country's fragility vis-à-vis external shocks. These policies and their results were the determinant factors of both the decoupling from the financial effects and the possibility of implementing countercyclical policies.

To test the hypothesis we worked with a sample of 48 developing countries and 30 advanced countries. The sample includes 16 LA countries (the 18 countries considered in this paper with the exception of Bolivia and Venezuela). The depended variable is the 2009 GDP (at constant prices) growth rate ( $y_{09}$ ).

The independent variables are the following. In the first place we include the 2009 rate of growth of the dollar value of exports ( $expo_{09}$ ), as a proxy of the real effects of the contraction of international trade led by the recession in the advanced economies. Another set of independent variables points to the external fragility indicators that the countries showed at the end of 2007 or in the three previous years (2005-2007). These variables are: the short term debt/GDP ratio at the end of 2007: ( $stermdebtgdp_{07}$ ), the average current account/GDP ratio in the period 2005-2007 ( $caccountgdp_{0507}$ ) and the international reserves/GDP ratio at the end of 2007 ( $reservgdp_{07}$ ). Lastly, we also include as explanatory variable the average rate of growth of GDP in the period 2005-2007 ( $y_{0507}$ ). We comment on the explanatory variables below, while discussing the interpretation of the obtained results.

In the developing countries sample (48 countries) the 2009 average contraction in GDP was 1.9% and the average contraction in the value of exports was 21.3%. The sample includes 12 countries which have signed stand-by agreements with the IMF between July 2008 and November 2009 ( $dumimf$  is a dummy

variable that equals 1 in those cases and 0 in the rest of countries). In this group, the 2009 average GDP contraction was 5.6%, while the value of exports fell 24.1%. In the rest of the sample (36 countries) the average GDP contraction was 0.7% and exports fell 20.4%. In the estimation showed below, the international reserves/GDP ratio is made zero in the 12 cases of countries with stand-by agreements.

The following table shows the results of the estimation. The 2009 GDP rate and the independent variables are measured in percentages and so, the estimated coefficients have a direct interpretation.

As can be seen in the table, the current account coefficient is significant at the 8% level, the rest of coefficients are significant at the 4% level at most and the constant is not significant.

The exports coefficient is positive. It indicates a recessive effect of 0.23% of GDP for each percentage point of contraction in the dollar value of exports. With an average sample fall of 21.3%, the contraction of the exports value would imply an average 4.9% fall in GDP.

The short-term external debt/GDP ratio coefficient is negative and its magnitude is important (- 0.18). The current account/GDP ratio coefficient is positive (0.23), with a magnitude similar to the coefficient of the fall in exports. The coefficient of the 2005-2007 average rate of growth is positive and its magnitude is important. We comment on these results below.

TABLE 1

Variable	Coefficient	t-Statistic	Prob.
expo09	0.231	3.545	0.001
stermdebtgdp07	-0.180	-2.337	0.024
caccountgdp0507	0.227	1.804	0.078
reservgdp07*(1- dumimf)	0.102	2.416	0.020
y0507	0.527	2.240	0.030
C	-0.276	-0.154	0.878

Source: Cepalstat.

Obs.: dependent variable: y09.

Rsquare= 0.48.

Method: OLS.

Included observations: 48.

White Heteroskedasticity-Consistent Standard Errors & Covariance.

Lastly, the international reserves/GDP ratio coefficient is positive (0.10). As was indicated above, we made zero this ratio in the cases of countries with Stand-by agreements. The underlying hypothesis is that those countries had to ask for the IMF support because of their insufficient international liquidity.

It was already mentioned that the set of developing countries that subscribed stand-by agreements with the IMF experienced an average GDP contraction much higher than the rest of the countries in the sample. So, the significance of the international reserves coefficient in the estimation could result from their higher contraction rate, explained by factors different from the availability of international reserves. In fact, the reserves coefficient loses significance if agreements with the IMF are not taken into account and the coefficient is also not significant if the equation is estimated on the sub sample of countries without agreement with the IMF. On the other hand, if the reserves variable is excluded from the equation and the dummy variable for the countries with IMF agreements is included, the coefficient of the dummy variable is -3 (significant at the 8% level). It implies that, controlling by the rest of the independent variables, the countries with IMF agreements contracted 3 percentage points more than the rest of the sample. We comment on these results below.

When the above equation is estimated on the advanced countries sample, only the value of the exports variable shows a significant coefficient. In contrast, in the developing countries sample all the included variables affected the 2009 activity level, together with the fall in the value of exports. The results of the estimation show that, controlling by the fall in exports, in 2009 grew more (or contracted less severely) the countries that before the crisis: were experiencing higher rates of growth; had lower short-term debt ratios; showed higher current account results in the previous years; had higher international reserves (or have not had to ask for the IMF support).

In order to interpret the obtained results it seems reasonable to conjecture that the differential effects of the external financial shocks generated by the global crisis are correlated with the degree of dependence of the previous working of the economy on capital inflows. Indicators of this degree of dependence are the situation of the current account, the magnitude of the financial needs of the public and private sectors, the proportion of foreign capital in the financing of banks, firms and the public sector, and the magnitude of international reserves. These data indicate not only the degree of robustness of the economy vis-à-vis a sudden-stop, but also the degrees of freedom of domestic policy to implement countercyclical measures.

The external short-term debt/GDP ratio coefficient has a direct interpretation based on the above criteria. A lower ratio implies a lower power of the sudden-stop to generate liquidity problems with recessive effects. It should be mentioned that the long-term debt/GDP ratio is less significant than the short-term debt ratio.

The results clearly show that the countries that had to ask for IMF stand-by support experienced deeper recessions than the rest. Beyond that result, one should ask why we do not identify effects of the amount of international reserves

on the activity levels. One possible reason is that many countries held voluminous international reserves and so, their different magnitudes did not show differential effects on the activity levels throughout the multiple functions they perform. In fact, one function of the international reserves in a sudden-stop is avoiding defaults of public and private debts and no default in emerging market economies occurred in the global crisis (it could be conjectured that, without the supports of the IMF, default events could have taken place in the economies that had to ask for those supports).

The availability of international reserves allows the provision of liquidity in international currency to private or public debtors that are forced to cancel their external debts in a sudden stop, but do not avoid the recessive effects of those cancellations if the external debts are not fully refinanced in domestic currency by the domestic financial system or the government. This could explain the significance of the short-term debt coefficient, in spite of the availability of voluminous reserves.

On the other hand, a number of countries in the sample have flexible exchange rate regimes and gave room to the devaluation of their currencies when the external shocks hit their economies. A function of the international reserves in these cases is to allowing the official intervention in the exchange market in order to control the magnitude of the devaluation and avoid overshooting and the formation of bubbles. As the other mentioned functions, this function of the international reserves does not depend on their different national magnitudes, when a sufficient amount to perform the function is available in many countries.

In order to interpret the average 2005-2007 current account/GDP ratio coefficient it is useful to express the current account result with the following identity:

$$(SP - IP) + (SG - IG) = CC,$$

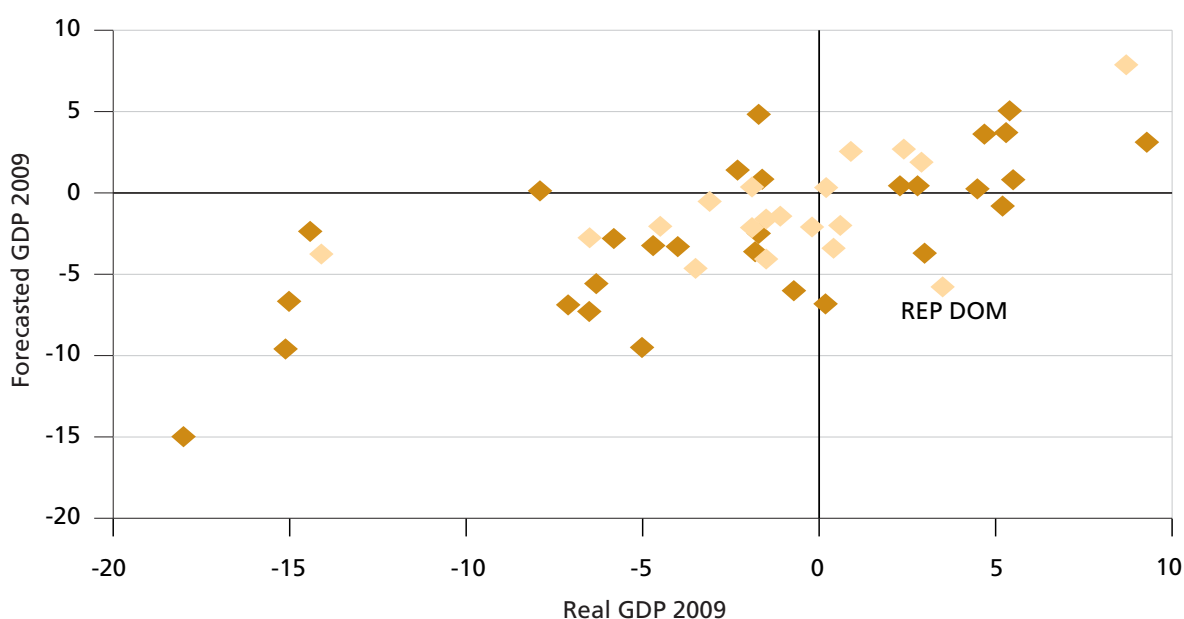
where SP and IP indicate respectively private savings and investment and SG and IG indicate respectively government savings and investment. The two terms in the first member of the identity are the financial surpluses of the private and government sectors, respectively. A positive current account result implies an increase in the amount of external assets owned by the resident agents (or a decrease in net external debt). Consequently, it indicates a lower dependence on external financing to provide for the international currency resources needed for the normal working of the economy. On the other hand, as expressed in the above identity, a positive current account result is an indicator of financial surplus positions of the government, the private sector or both. Consequently, a current account surplus indicates a lower power of the sudden-stop to generate illiquid situations with recessive effects.

By the same reasons, a positive current account result indicates greater domestic financial space for the government to finance the implementation of expansionary policies.

### 2.2.1 The LA countries

As was mentioned above, the developing countries sample includes 16 LA economies (the 18 countries considered in this paper with the exception of Bolivia and Venezuela). We want to evaluate the quality of the estimation fit in the LA countries case. In order to do so we calculate the 2009 GDP rates forecasted by the estimated equation. The actual and forecasted 2009 GDP rates of growth for the 48 countries in the sample are presented in the following graph, where LA countries are identified with a different color.

GRAPH 5  
Actual and forecasted 2009 GDP rates of growth  
(In %)



Elaborated by the authors.  
Obs.: LA countries are indicated by the lighter tags.

For the whole sample, the standard deviation (SD) of the residuals is 4.4%, the maximum of the residuals is 9.3% and the minimum is -12%. In the set of the LA countries, the mean of the residuals is 0.6%; the SD is 3.1%, with a maximum of 9.3% and a minimum of -3.7%. So, in the case of LA countries the forecast shows a small underestimation bias of 0.6%, but the fit is similar or better than in the whole sample.

The correlation coefficient between the actual and forecasted GDP rates of growth is 0.69 in the whole sample and 0.28 in the LA countries sub sample. The difference is mainly explained by the Dominican Republic case. As can be



seen in the graph, this country is an outlier in both the whole sample and in the LA countries sub sample. If the Dominican Republic is excluded both from the whole sample and from the LA sub sample, the correlation coefficient is 0.72 for the whole sample and 0.60 for the LA sub sample. The conclusion is that in the sub sample of 16 LA countries the model shows a quality fit similar than in the whole sample.

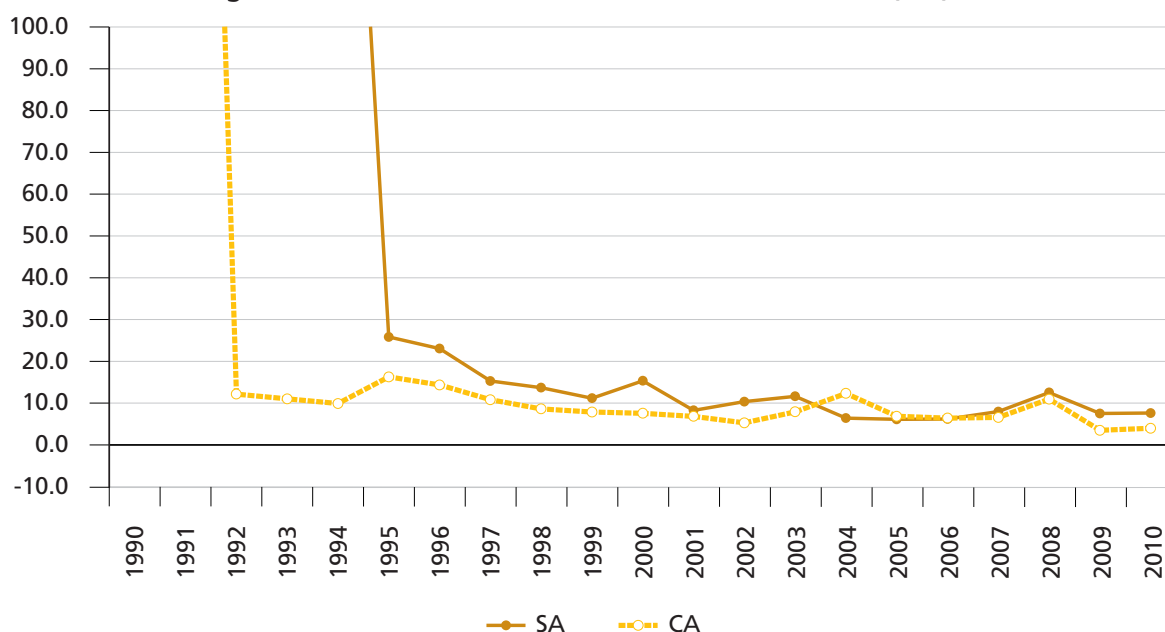
### 2.2.2 Inflation

Disinflation was a major achievement of LA economies in the nineties, consolidated in the 2000s. It should also be stressed that the main anti inflationary achievements took place during the expansionary phase of the nineties. This was possible under stabilization programs that, in most cases, employed the fixation of the exchange rate as the main anti inflationary tool, thus having real exchange rate (RER) appreciation trends as secondary effects, as we discuss below.

Graphs 6A, 6B and 6C show that average inflation rates were very high in the early nineties (averages for the period really fall out of the charts), with several economies experiencing four digit yearly rates (Argentina, Brazil and Peru in SA; Nicaragua in CA). Most economies managed to cut inflation rates and the regional averages fell below 10% yearly, in 1998 in CA, and in 2004 in SA economies. It is also worth mentioning that the considerable exchange rate depreciations observed in several SA countries in the 1998-2003 period were absorbed with a limited impact on inflationary trends. At the end of the period under study, only Argentina and Venezuela had returned to two digit annual inflation rates.

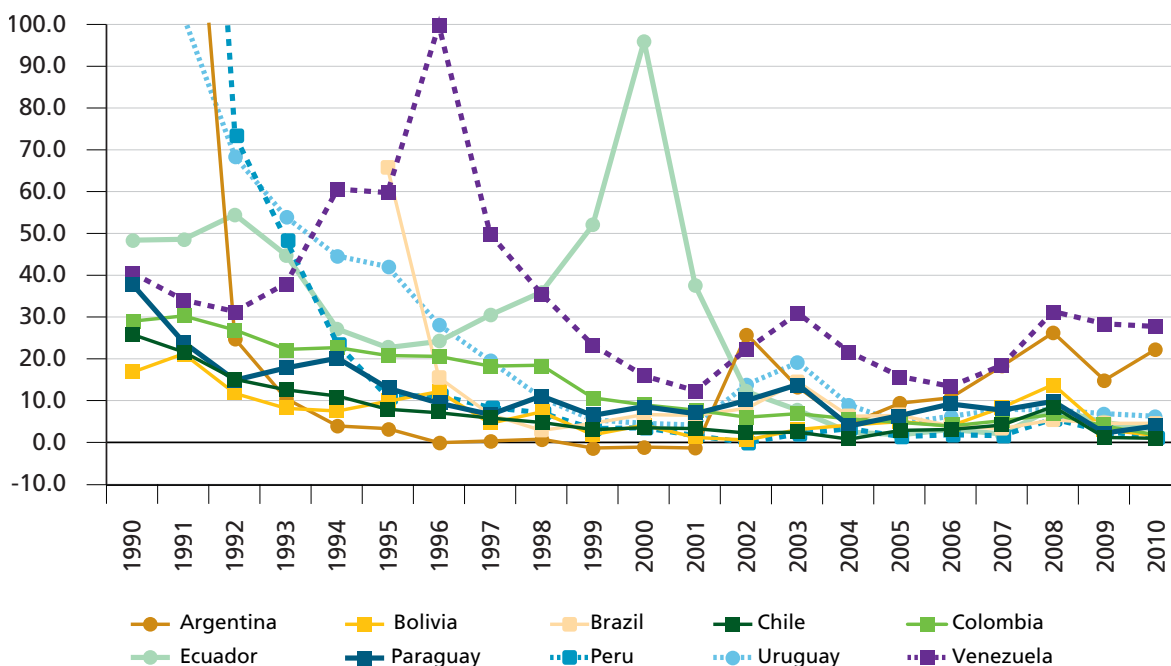
GRAPH 6

#### 6A – Average annual rates of inflation in SA and CA countries (CPI)



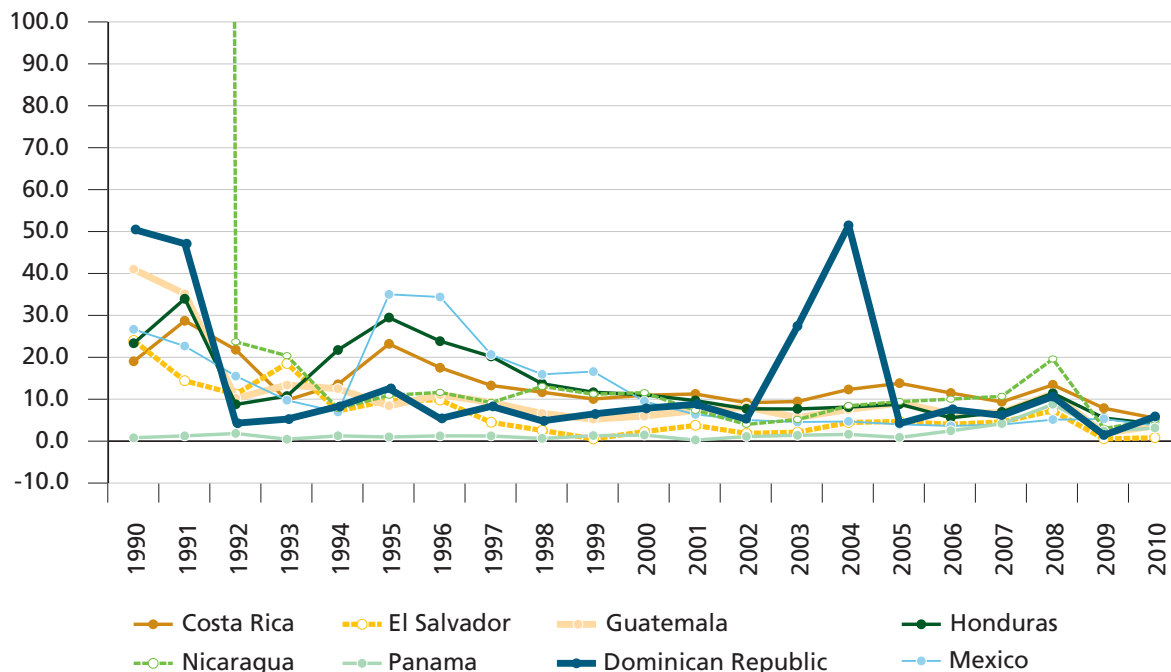
Source: Cepalstat.

### 6B – Annual rates of inflation in SA countries (CPI)



Source: Cepalstat.  
 Obs.: the Argentine rate of CPI inflation is the official one until 2006, and the CPI rate of inflation for 7 provinces published by CENDA from then on.

### 6C – Annual rates of inflation in CA countries (CPI)

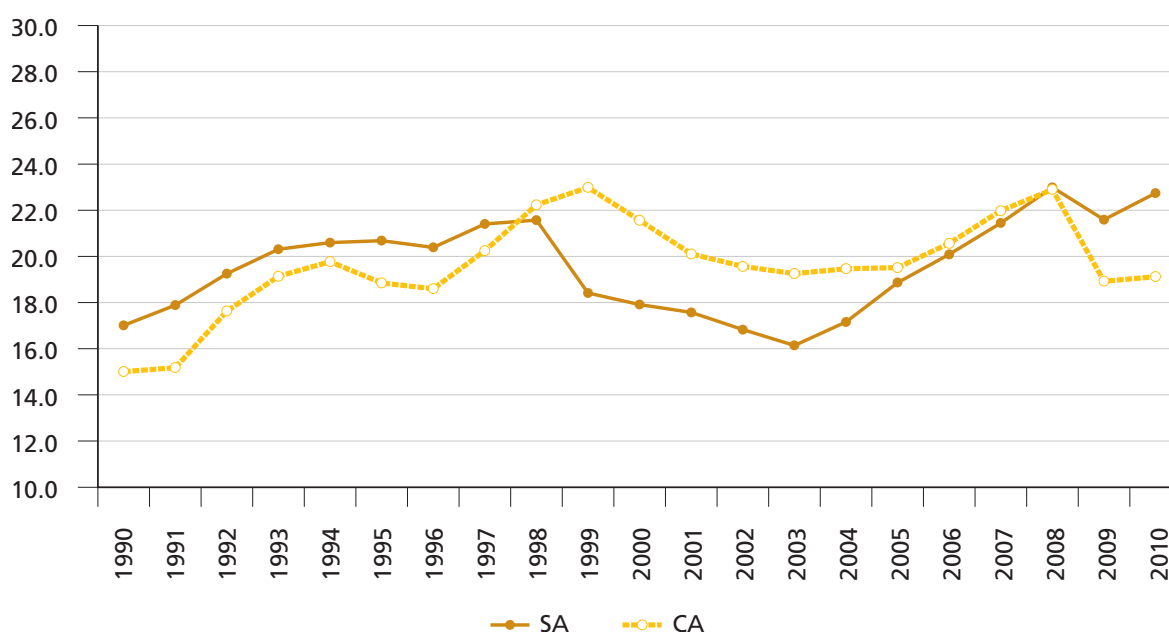


Source: Cepalstat.

### 2.2.3 Investment rates

The behavior of investment rates was clearly pro-cyclical (graph 7). They grew in CA and SA during the expansion of the nineties. As it was the case with pcGDP, the rising trend lasted longer for CA economies, which also suffered from a less intense decline than the SA area in the intermediate period. But investment rates recovered faster in SA in the 2000s expansion; thus, both subregions reached similar peaks of about 23% of GDP on average in 2008, to fall afterwards with the global crisis.

GRAPH 7  
Average investment rates in SA and CA countries  
(In % of GDP)

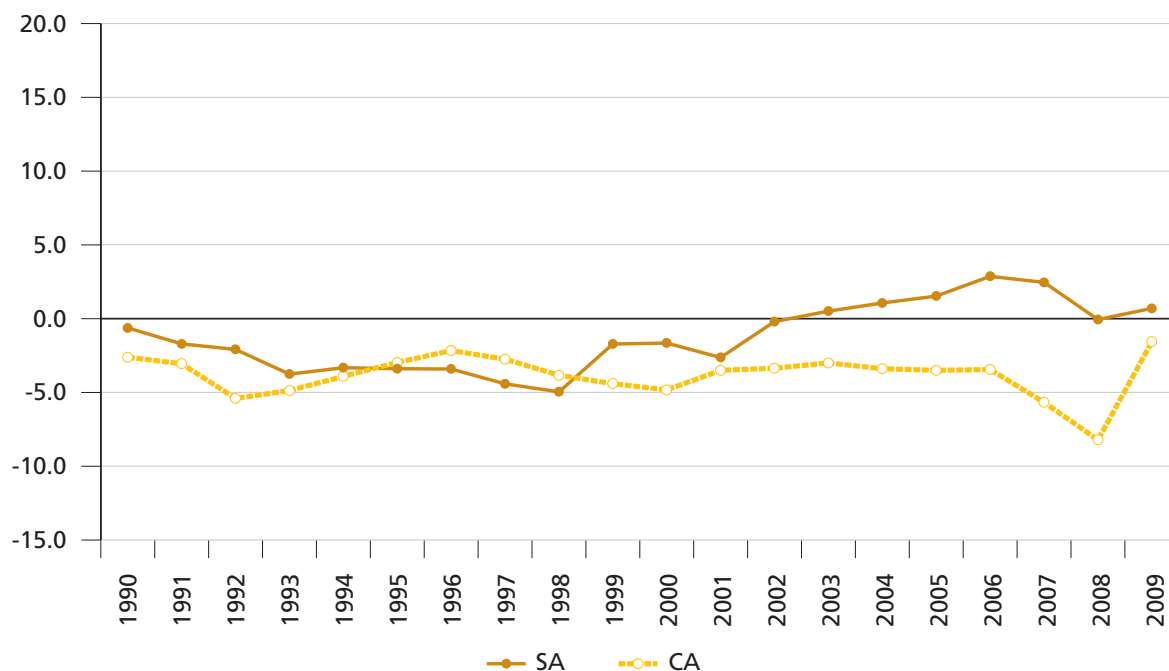


Source: Cepalstat.

### 2.2.4 The current accounts

One of the most remarkable stylized facts of the evolution of SA economies in the period was that, in contrast with the events in the nineties, the recovery of investment rates in the 2000s was independent of foreign savings. This fact, an important factor regarding growth sustainability, can be seen in the change in the average current account result of the subregion (graph 8). More precisely, foreign savings turned to be negative in most SA countries: In 1997, at the end of the expansion of the nineties, only Venezuela had a current account surplus among the 10 SA economies considered here. The same happened in 2001. But in 2003 half of the economies in the group showed current account surpluses, and in 2005 the only current account deficit was registered in Colombia. The performance of this country differed from the rest of the SA region because its current account continued to be in deficit in the 2000s. But several of the economies that had reached surpluses from 2003 turned to deficits from 2008 on, as we show below.

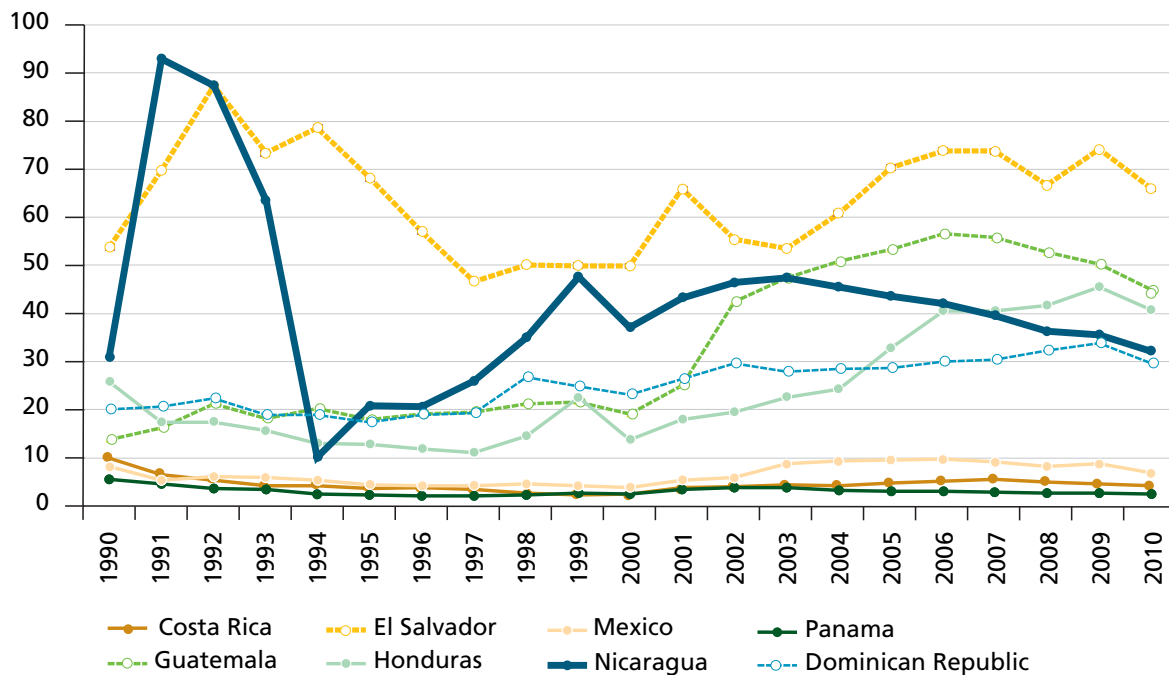
**GRAPH 8**  
**Current account result, average by subregion**  
 (In % of GDP)



Source: Cepalstat.

Once again, the contrast between the SA expansions of 2003-2008 and 1990-1997 has to be stressed. Unlike the latter, the economic expansion of the 2000s was not dependent on foreign savings, as we have already mentioned.

**GRAPH 9**  
**CA current accounts: unilateral current transfers credit**  
 (% of total exports)



Source: Cepalstat.

There is also a clear contrast between the evolution of current accounts in SA and CA. Like SA economies, the CA ones were dependent of foreign savings during the 1990-1997 period, but they didn't had to adjust to the sudden stop of 1997-1998, neither showed an improvement in the 2000s. This can be seen in the average current account result of the subregion (graph 8), but it was also true for every individual country in the group.

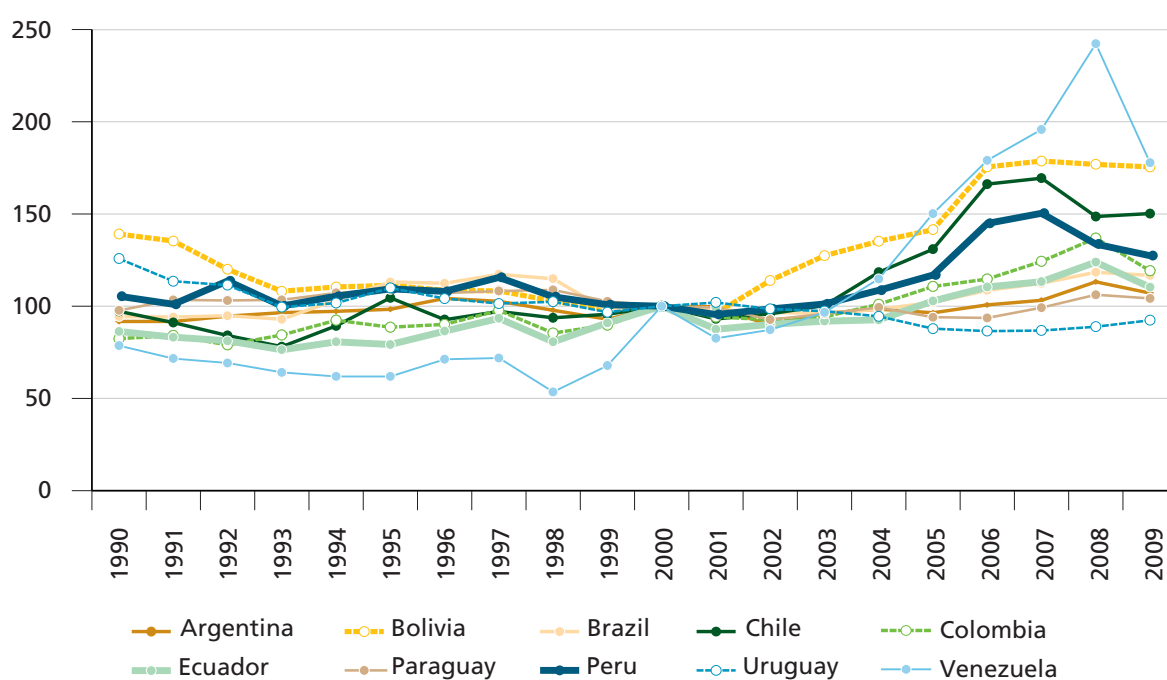
A remarkable aspect of the current account performances of CA economies is that they were systematically in deficit in spite of sometimes huge flows of unilateral transfers from abroad, as a consequence of labor emigration (see graph 9). These transfers were particularly high in El Salvador, Panama, Honduras, Nicaragua and the Dominican Republic, and were also very significant in Mexico, whether they look less so when measured as a percentage of total exports.

### 2.2.5 Terms of trade

The most remarkable fact regarding the evolution of the ToTs in the 1990-2010 period has been the important increase in the indicator for most SA economies, that was particularly steep for minerals exporting countries (graph 10A), and naturally has a bearing in the explanation of the improvements observed in the current accounts results. The rise was particularly strong from 2003 on. Comparatively, the negative evolution observed in several countries after the 1997 unfavorable change in the international context looks quit mild.

GRAPH 10

#### 10A – Terms of trade indexes for SA countries (2000=100)

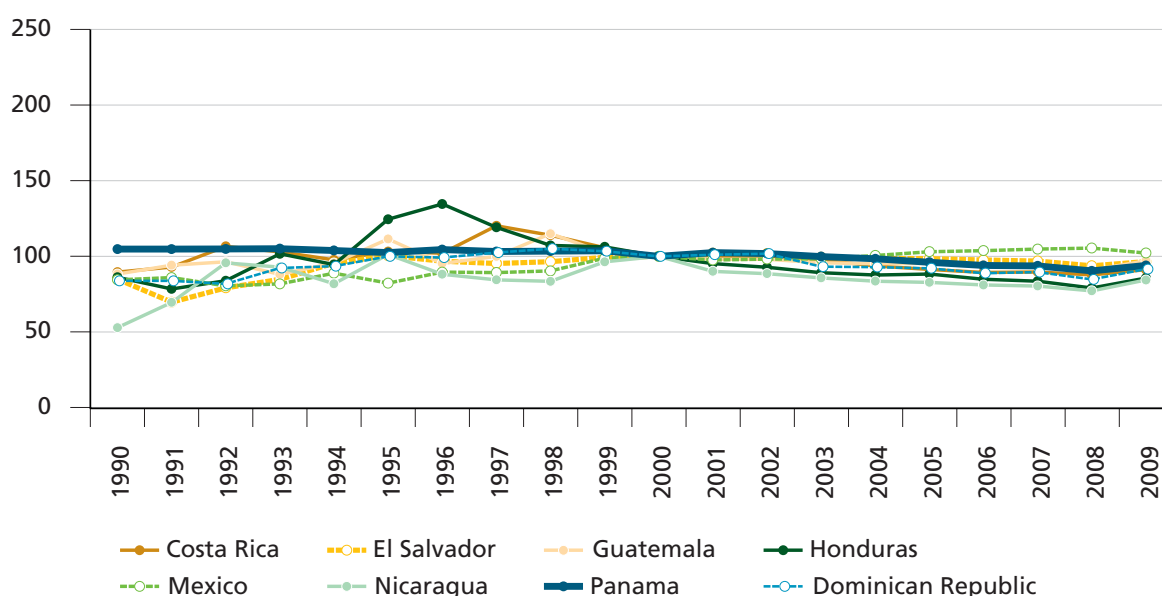


Source: Cepalstat.

But the observed performance of the indicator was completely different in CA countries. The main difference is that, in this case, the ToTs did not improve in the 2000s. On the contrary, the indicator kept falling with the only exception of Mexico, mainly as a consequence of the fact that these economies are oil and food importers, thus receiving a predominantly negative impact of the increases in commodity prices.

The fluctuation of the ToTs during the global crisis was more intense in SA than in CA. However, in both subregions the ToTs were, on average, in 2009, close to the 2006 levels. In SA this was the consequence of a strong rise in 2007-2008 (during the first phase of the global crisis) followed by a fall in 2009, while in CA the fluctuations were mild and mostly negative between 2006-2008, to recover slightly in 2009 in most cases.

**10B – Terms of trade indexes for CA countries (2000=100)**



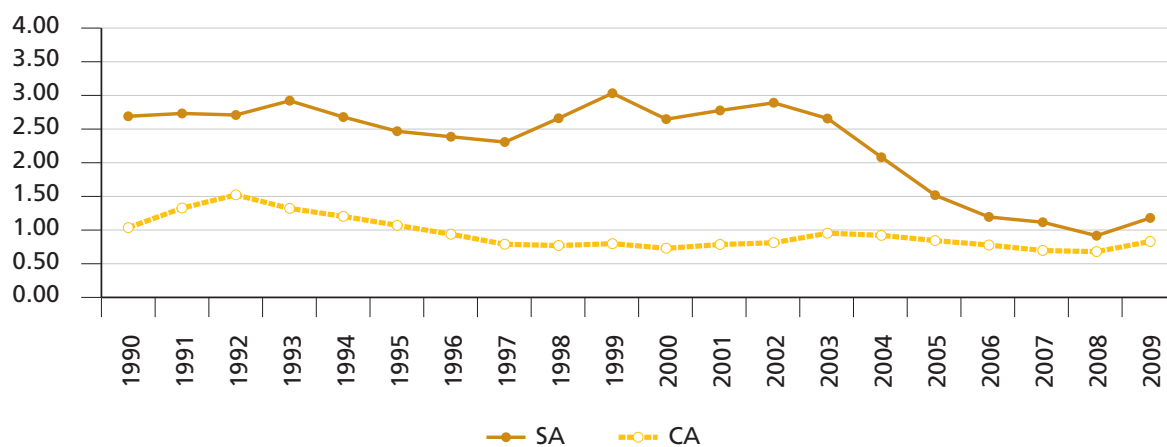
Source: Cepalstat.

### 2.2.6 Foreign debt and reserves accumulation

The change in the current account results of SA in the 2000s contributed to a reduced financial vulnerability of the economies of the area. The evolution of the foreign debt and the stocks of foreign reserves reinforce this perception.

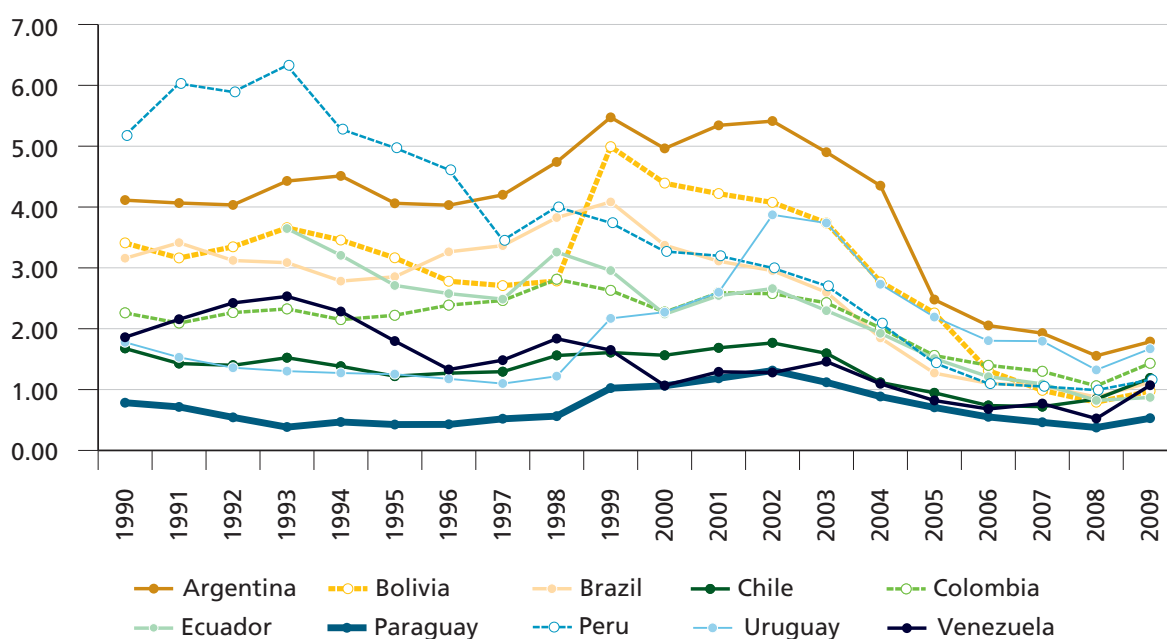
Actually, the performance of the SA current accounts made possible a substantial reduction in the outstanding foreign debt from 2003 on, as showed in graphs 11A and 11B. The average ratio of foreign debt to yearly exports fell from almost 3 in 2002 to less than 1 in 2008. This is another stylized fact regarding which the expansion of the 2000s looks quite dissimilar from what had been observed in the nineties.

GRAPH 11  
11A – Ratio of foreign debt to total exports – average by subregion



Source: Cepalstat.

11B – Ratio of foreign debt to total exports for SA countries



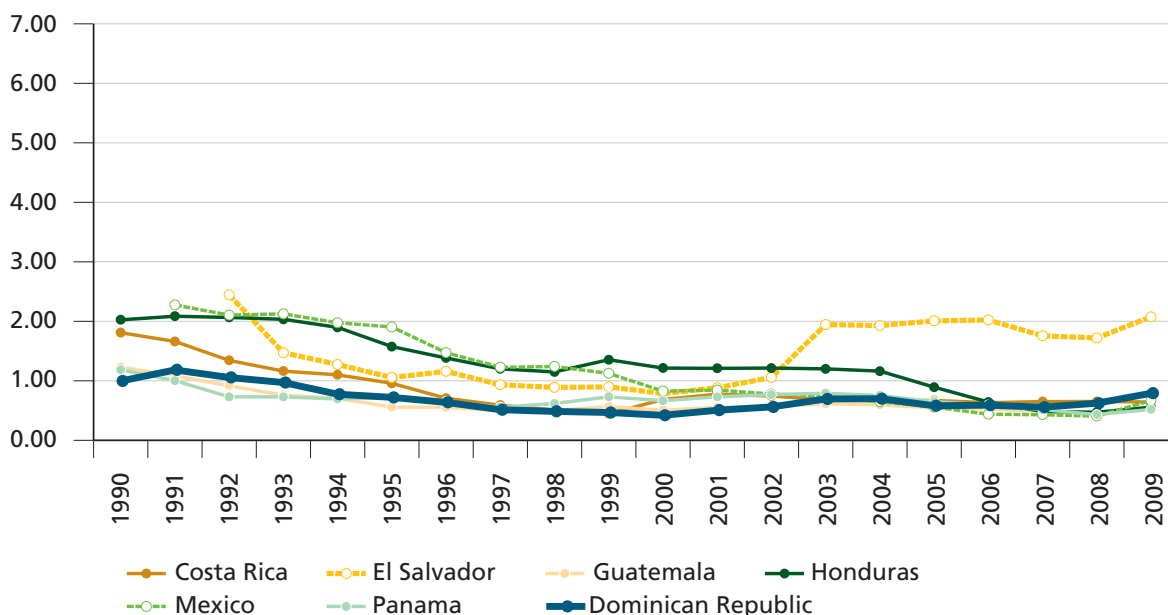
Source: Cepalstat.

The performance of CA economies, however, looks very different from SA ones. The average ratio of foreign debt to exports has always been considerably lower, mainly as a reflection of the fact that these economies are much more open than the SA ones on average (an opening ratio of 85% for the whole period on average, against a 47% opening ratio for SA economies, calculated as the ratio of the sum of exports and imports to GDP, all measured in constant US dollars).

In spite of having a permanent deficit in their current accounts, CA economies have been experiencing a soft and sustained decline in their foreign debt ratio since the early nineties, with the exception of the period 2000-2003 (graphs 11A and 11C).

Moreover, unlike most SA economies, a major part of these obligations belongs to credit lines obtained from multilateral agencies like the IMF, the IDB and the WB, or from governments of advanced countries.

### 11C – Ratio of foreign debt to total exports for CA countries



Source: Cepalstat.

The reduction of the foreign debt burden is of course an indicator of a reduced financial vulnerability. This can be also observed in the fact that, different from the thirty prior years of financial globalization, the interest payments came to have a much lower weight in the returns to foreign investment. On the other hand, the returns to investment have also a lower weight in the current account results, and are explained in great part by the profits and dividends obtained by foreign direct investments.

The interests of external obligations debts in international currency have necessarily to be served in this currency and are an inertial variable in the current account debit. In contrast, the FDI profits are predominantly obtained in local currency and their amount, measured in international currency, falls when the RER depreciates, for instance when a sudden stop takes place. Moreover, the authorities may establish temporary limits or restrictions to the transfer of profits abroad. On the other hand, under normal conditions, an important part of FDI profits is use by the firms to finance new investments (and these flows are registered in the balance of payments as new FDI inflows). Therefore, a significant fraction of the current account debit in concept of FDI profits has a more or less automatic financing. In this case, neither the reinvested fraction of FDI profits nor the new capital inflow goes through the foreign exchange market channel. As a consequence of this, given a certain current account deficit, the external vulnerability associated to this result is now considerably lower than it was before.



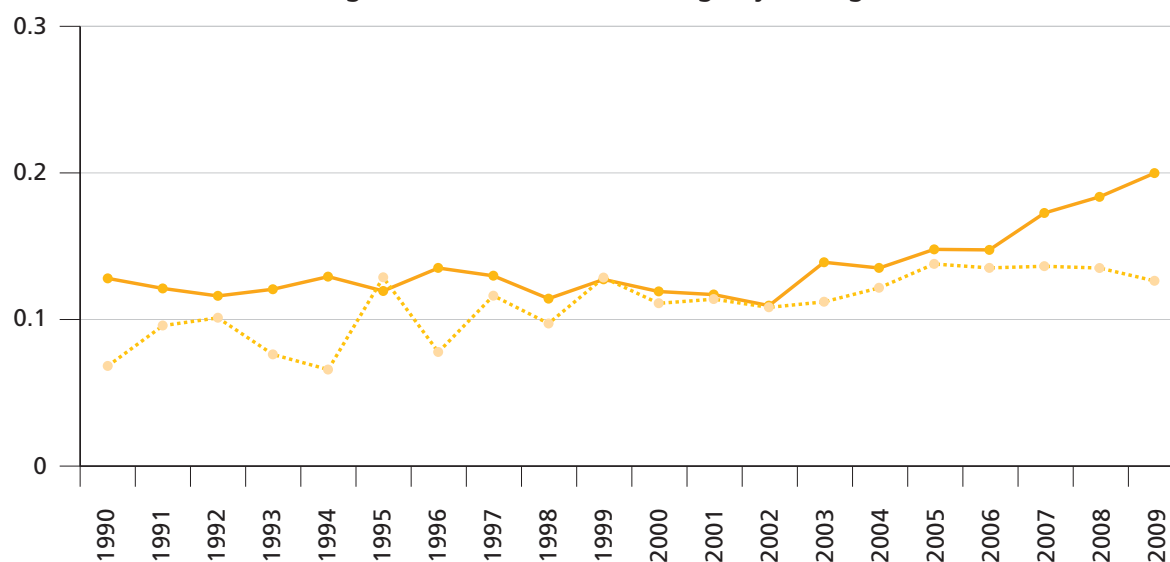
Between 1999 and 2010 the weight of interest payments in the total outflows in concept of returns to foreign investment fell from 39.7% to 11.4% in Brazil, from 40.8% to 7.4% in Chile; from 82.8% to 26.3% in Colombia and from 93.7% to 9.3% in Peru. It also fell in the other SA economies under consideration (with the exception of Argentina, where the interests weight increased slightly but in the context of a considerably lower total outflow of returns to foreign investment, measured as a proportion of total exports, in 2010, in comparison with 1999). Mexico shows a somehow different situation, because the weight of the interests outflows declined much less than in the other referred countries, falling from 75.7% in 1999 to 63.8% in 2010. Something similar to this can be said of most CA economies under consideration, the most important exception being Honduras, where interests payments fell from representing 81.5% of the total outflows of returns to foreign investment in 1999 to only 13.8% in 2010, followed by Nicaragua (from 72.6% to 37.9%).

Another remarkable fact is that, among the 12 LA countries that showed current account deficits in 2010 (or in 2009, according to data availability), nine of them (Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Paraguay and Peru) were able to finance the entire deficit with FDI inflows, with an important component of profits reinvestment. The exceptions were Ecuador, Nicaragua and the Dominican Republic.

Another indicator of lower financial vulnerability of the LA economies in the 2000s is the accumulation of foreign reserves. As can be seen in graph 12A, this was particularly intense in SA, from 2002 on.

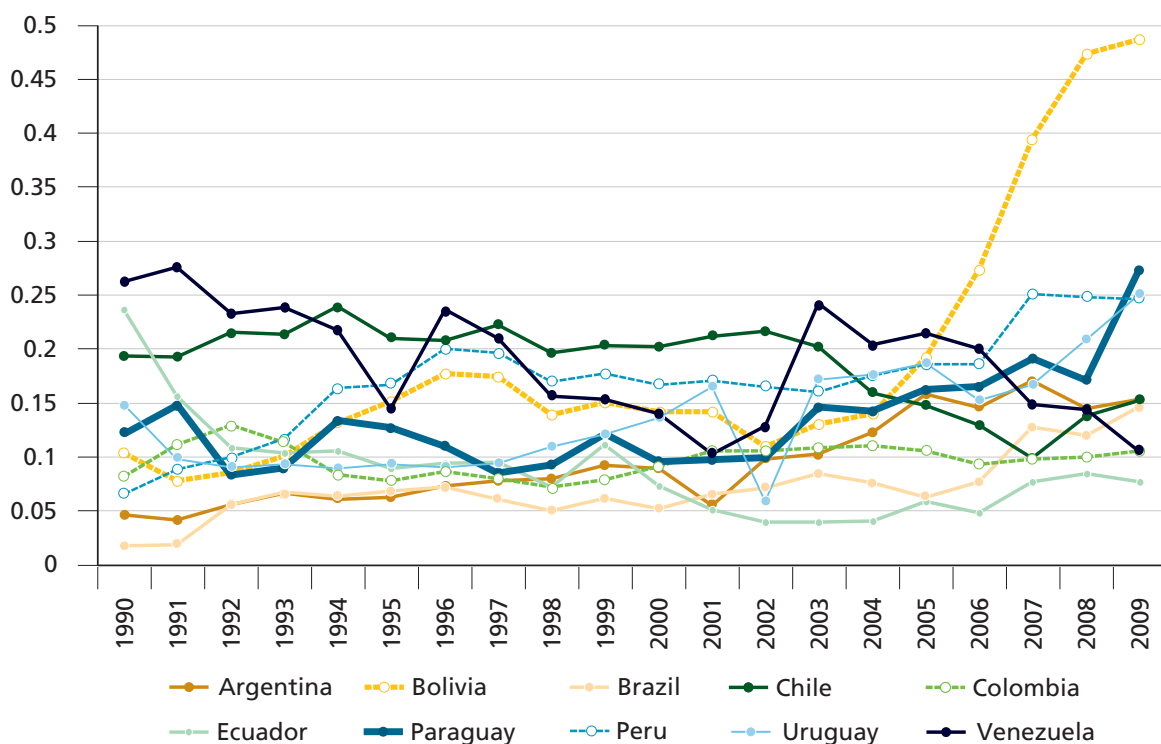
In the CA region, the increase in foreign reserves was less intense on average. Additionally, unlike SA economies, five CA countries reached stand-by agreements with the IMF between April 2008 and December 2009 (Honduras, Costa Rica, Dominican Republic, El Salvador and Guatemala).

GRAPH 12

**12A – Ratio of foreign reserves to GDP – average by subregion**

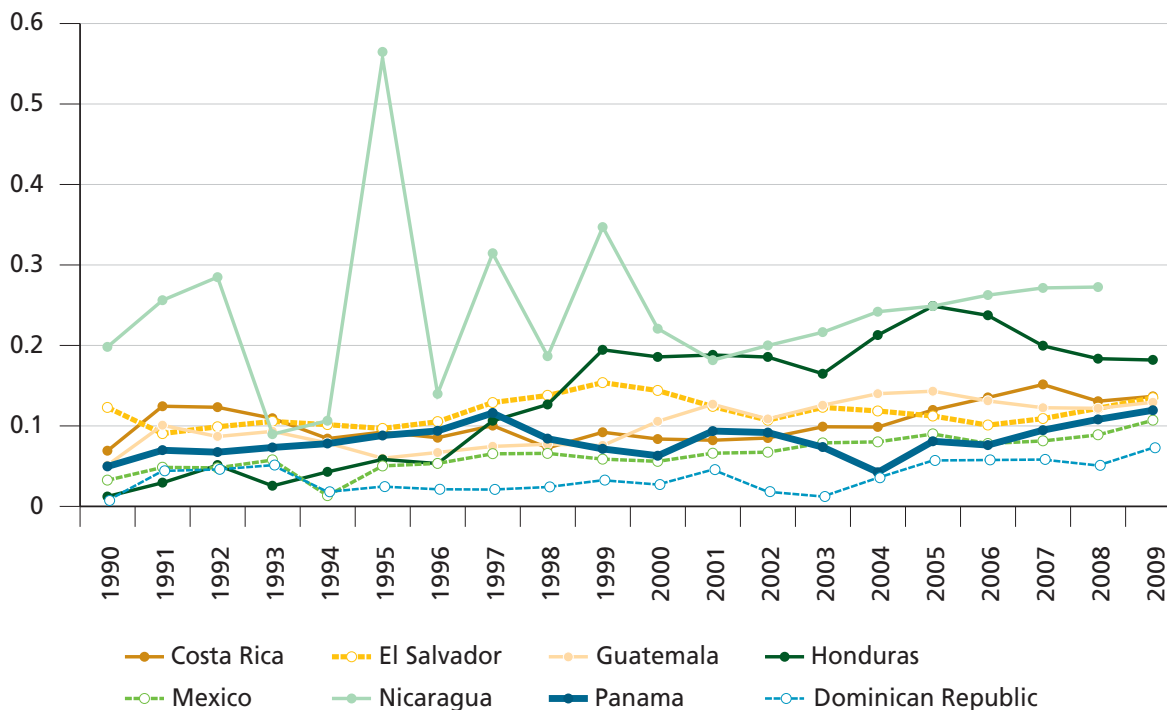
Source: Cepalstat.

**12B – Foreign reserves in SA countries**  
(In % of GDP)



Source: Cepalstat.

**12C – Ratio of foreign reserves to GDP in CA countries**



Source: Cepalstat.

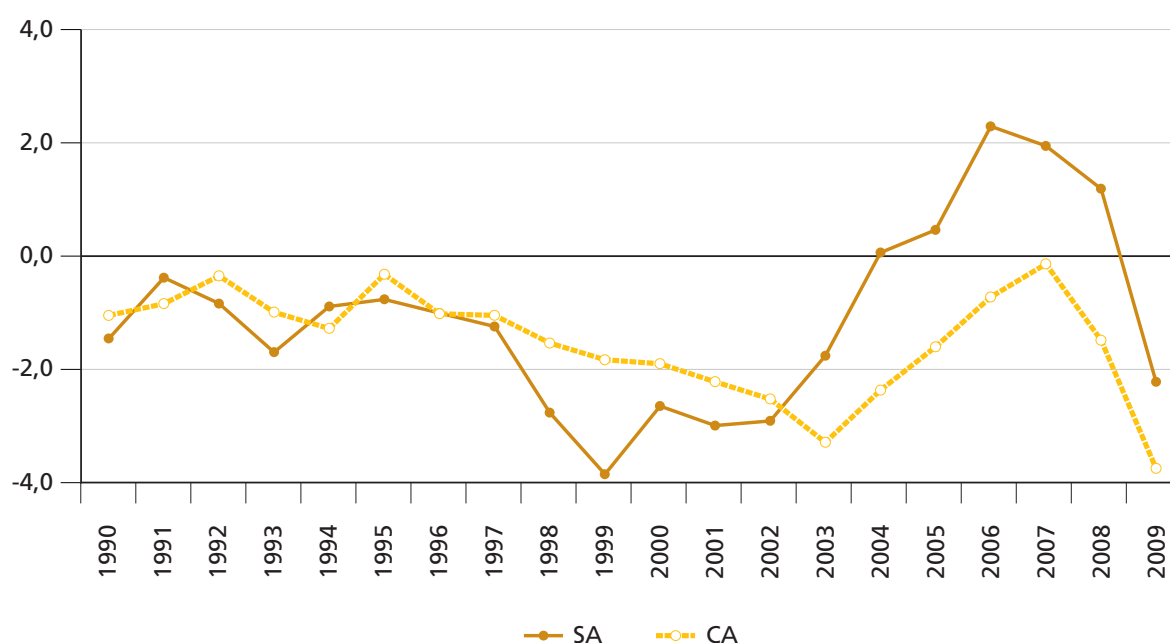
### 2.2.7 The fiscal front

A long run trend to better fiscal performances was, in LA countries, in part the result of the already mentioned adoption of fiscal measures oriented to correct the pro-deficit bias characteristic of previous periods. The evolution of the aggregate fiscal accounts looks very different in the expansion of the 2000s, when compared with the previous history (graphs 13A and 13B). Actually, both subregions showed primary surpluses ranging between 1% and 2% of GDP in the nineties, until 1997, and moderate fiscal deficits in the same period. For several LA economies, this fiscal performance in the nineties meant a significant improvement in comparison with previous decades. But from 1997 on, hit by the spillover effects of the SE Asian and Russian crises, the SA economies showed on average, until 2002, an important increase in the fiscal deficit, with a sharp impairment in 1997-1999. However, a positive trend in the primary results can be observed in 1998-2002 in SA economies, in spite of the recessionary stance, thus revealing a pro cyclical bias of fiscal policies in the period.

The average primary result of the public accounts of CA economies turned also to be negative in 2001, when they received the impact of the recession in the USA.

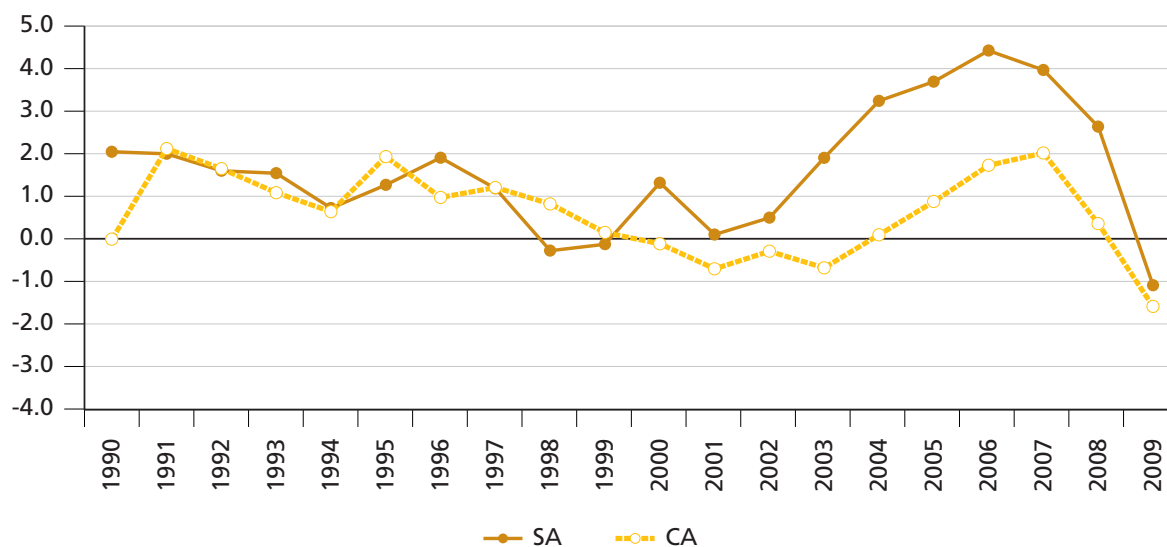
GRAPH 13

#### 13A – Fiscal results: non-financial public sector – average by subregion (% of GDP)



Source: Cepalstat.

### 13B – Primary fiscal results: non-financial public sector – average by subregion (% of GDP)



Source: Cepalstat.

Both subregions showed significant improvements in the fiscal results from 2003 on, until 2007, but this change was considerably more intense for the SA economies. Later on, since 2007, the fiscal figures worsened as a consequence of the impact of the global crisis.

#### *From twin deficits to twin surpluses*

The significant reduction in the financial vulnerability of SA economies in the 2000s can be evaluated more clearly by considering together the evolution of the current accounts and the fiscal results we have already commented on. As can be seen in graph 14, most SA countries showed twin deficits in the late nineties and early 2000s, but this changed impressively from 2002 on. In 2006 and 2007, seven out of the ten SA countries showed twin surpluses. Later on, the situation deteriorated with the global crisis in 2008-2009.

GRAPH 14  
From twin deficits to twin surpluses

	1998	2001	2003	2004	2005	2006	2007	2008	2009
Argentina	Twin deficits	Twin deficits							Twin surpluses
Bolivia	Twin deficits	Twin deficits	Current account deficit + fiscal deficit	Current account deficit + fiscal deficit	Current account deficit + fiscal deficit				
Brazil	Twin deficits	Twin deficits				Current account deficit + fiscal surplus	Current account deficit + fiscal surplus		Twin surpluses
Chile	Twin deficits	Twin deficits							Twin surpluses
Colombia	Twin deficits	Twin deficits				Current account deficit + fiscal surplus	Current account deficit + fiscal surplus		Twin surpluses
Ecuador	Twin deficits	Current account deficit + fiscal surplus	Current account deficit + fiscal surplus	Current account deficit + fiscal surplus				Current account deficit + fiscal deficit	Twin surpluses
Paraguay	Current account deficit + fiscal surplus	Twin deficits						Current account deficit + fiscal surplus	Current account deficit + fiscal surplus
Peru	Twin deficits	Twin deficits	Twin deficits	Current account deficit + fiscal surplus	Current account deficit + fiscal surplus			Current account deficit + fiscal surplus	Twin surpluses
Uruguay	Twin deficits	Twin deficits	Twin deficits	Current account deficit + fiscal surplus	Current account deficit + fiscal surplus	Current account deficit + fiscal surplus	Current account deficit + fiscal surplus		Twin surpluses
Venezuela	Twin deficits	Current account deficit + fiscal deficit						Current account deficit + fiscal deficit	Twin surpluses

■ Twin deficits

■ Current account deficit + fiscal surplus

■ Current account deficit + fiscal deficit

□ Twin surpluses

Source: Cepalstat.

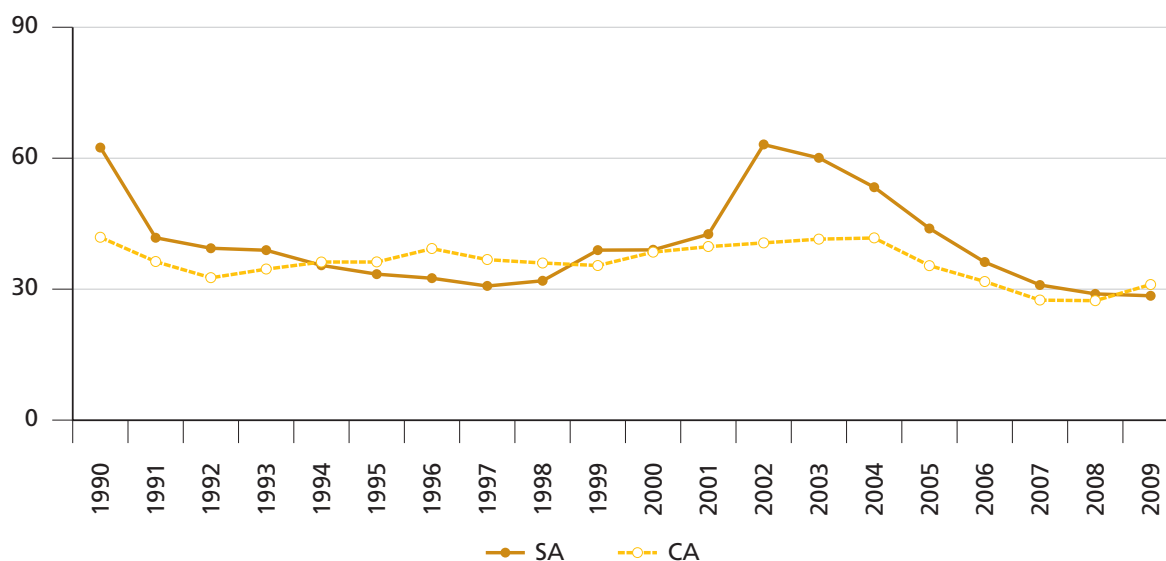
### 2.2.8 Public debt

As it happened with the foreign debt, the average public debt ratio to GDP of SA economies evidenced a quite significant declining trend from 2002 on. This decline was general, even if it was led by Argentina particularly as a consequence of the 2005 debt restructuring.

Therefore, it can be said that the macroeconomic policy regimes that ruled in SA in the 2000s allowed these countries to produce a significant change in some stock-flow ratios that are crucial to define the degree of financial vulnerability. In clear contrast with the recent trends in the developed countries, the SA economies have to support, at present, an alleviated public and foreign debt burden.

The CA economies also showed a decline in this indicator, but much slighter. As graph 15 shows, both regions had reached in 2008 the lower ratio of the public debt to GDP of the whole series.

GRAPH 15  
Ratio of the public debt to GDP – average by subregion  
(In %)



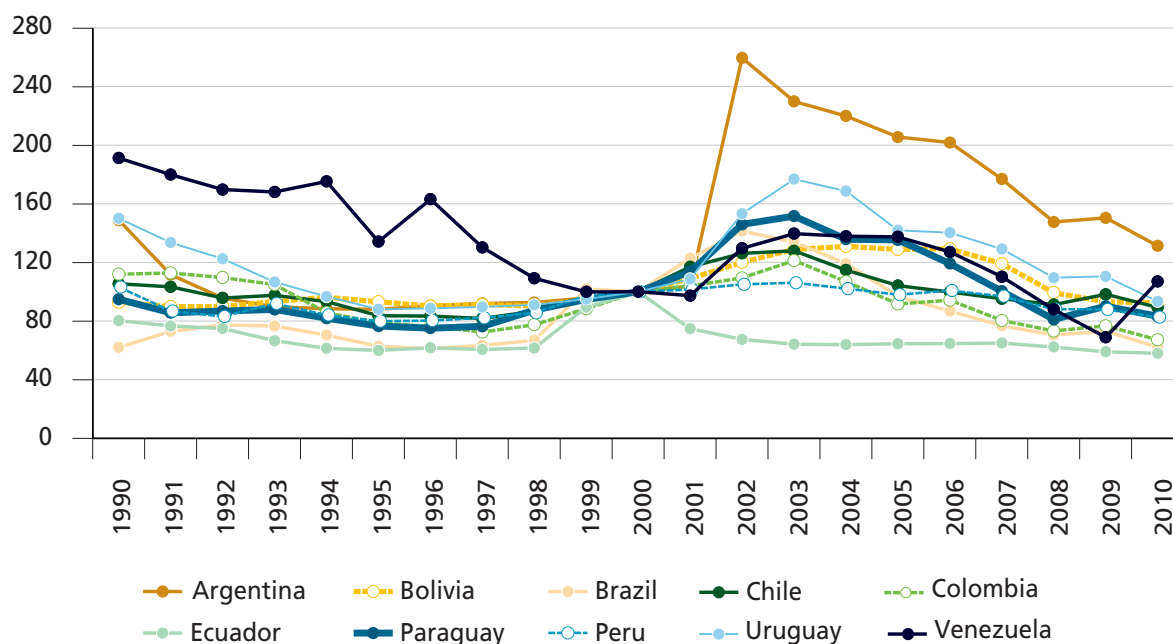
Source: Cepalstat.

### 2.2.9 Exchange rate policies and the evolution of real exchange rates

We present in graphs 16A and 16B the evolution of the real bilateral exchange rates of SA and CA economies against the US dollar, from 1990 to 2010.

GRAPH 16

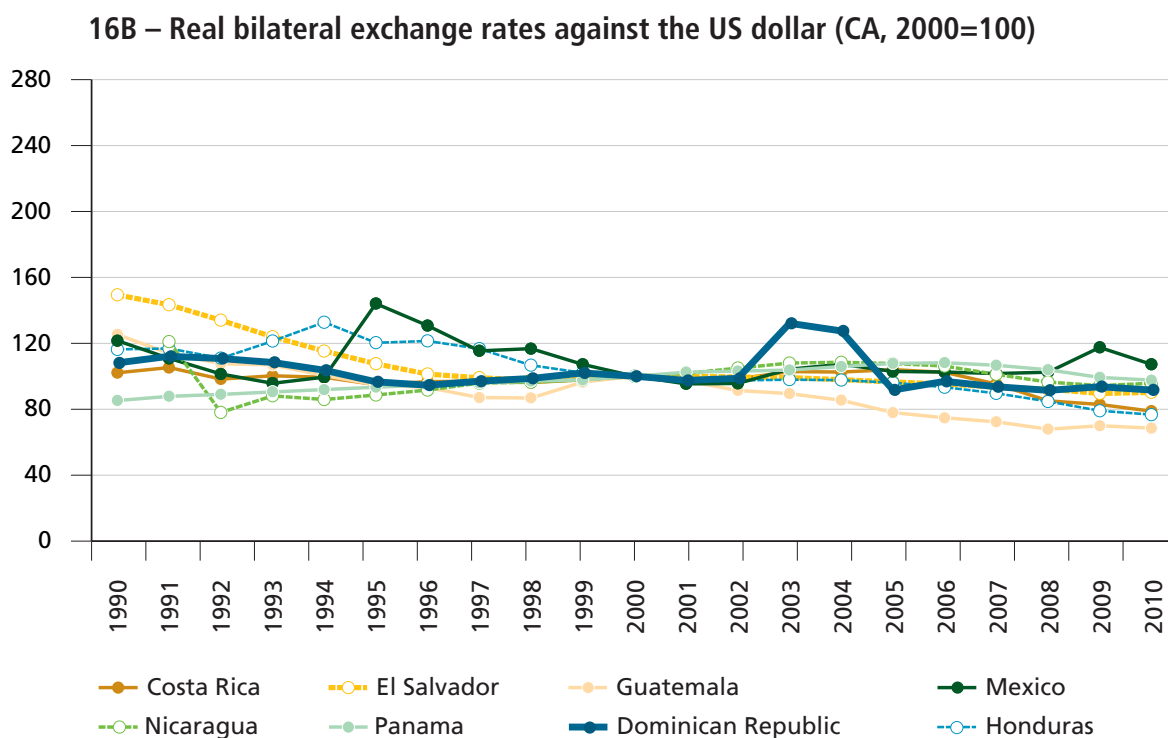
## 16A – Real bilateral exchange rates against the US dollar (SA, 2000=100)



Source: Cepalstat.

The typical SA pattern shows real appreciations in the early nineties, until 1995, mainly due to the utilization of the exchange rate as a nominal anchor to fight inflation, in several countries. Then a relative stability is observed till 1998, generally followed by real depreciations in 1998-2003 and sustained real appreciations from them on, with a brief pause in a number of countries in 2009.

To face the real and financial negative impacts of the contagion of the Asian and Russian crises of 1997 and 1998, Brazil, Colombia and Chile adopted floating regimes and inflation targeting schemes in 1999. Peru had already adopted a managed floating regime since the beginning of the nineties and also formally adopted an inflation targeting policy in 2002. Argentina and Uruguay kept fixed exchange rates and appreciated RERs until the 2001-2002 crises, when both countries moved to floating regimes. Peru shares with the other SA countries the dynamic pattern of evolution of the RER but with lower volatility. Paraguay, that kept an exchange rate regime of managed floating, and Bolivia, that managed the exchange rate following a crawling peg, experienced RER trends similar to the other SA economies. Only two cases in SA escape the common pattern already described: Ecuador, which dollarized in 2000, and Venezuela, with an erratic exchange rate policy and strong fluctuations in the RER in the period.



Source: Cepalstat.

Most countries in CA maintained exchange rate regimes of crawling peg or managed floating with high degrees of intervention, thus preventing strong swings in the nominal and real exchange rates. Costa Rica, Nicaragua, Honduras and Guatemala belong to this group, as well as the Dominican Republic, but in the latter there was an episode of strong depreciation followed by a swift reversion in the period 2003-2005. Mexico is a different case, in which the 1995 depreciation stands out, followed by a lasting appreciation period, and real depreciations again in 2003-2004 and 2009. The other two cases among the CA economies considered here refer to the dollarized economies of Panama and El Salvador. This last country fixed the nominal exchange rate in 1994-95 with free convertibility of the currency, to finally dollarize at the beginning of 2001.

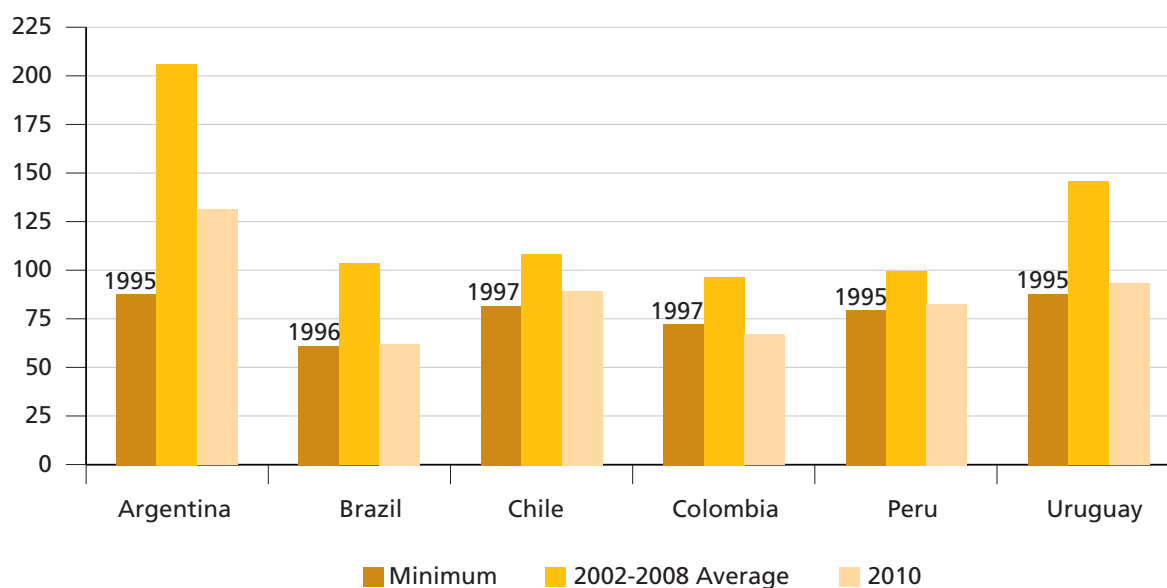
In CA, the bilateral exchange rates followed a much more stable evolution than in SA. They did not experience a generalized trend to appreciation in the early nineties (the exceptions were El Salvador and Mexico); neither an impact of the SE Asian crisis of 1997 could be observed. They went through soft real depreciations in 2001-2003 and through mild appreciations from then on. There were, however, more important real appreciation processes in a few cases: El Salvador between 1991 and 1997, Guatemala between 2000 and 2010 and Honduras between 1994 and 2010.

No important variations of the real exchange rates were observed in CA in 2008-2009, with the exception of a significant depreciation in Mexico in 2009. In contrast, SA economies experienced a generalized trend to appreciation in 2008, interrupted in some countries in 2009, but all of them tended to appreciate again in 2010. Thus, in 2010 the RERs in SA were 35% below the 2003 level, on average. In every one of the SA economies under consideration the RER against the US dollar appreciated between these years, and in some cases considerably (with a 53% in Brazil at the top of the record). In CA the average appreciation was 15% between 2003 and 2010.

Some points deserve to be stressed. Firstly, the RERs reached, in 2002-2003, in every SA country, the most depreciated levels since the region recovered, around 1990, access to the voluntary flows of international financing (see graph 17). Secondly, the real depreciations had a significant impact on the current account results before the occurrence of the increases in commodity prices observed in the 2000s. Thirdly, as a consequence of the high RERs of 2002-2003, the average RERs of the period 2002-2008 were considerably more depreciated than in the nineties, in spite of a clear and generalized trend to real appreciation. Fourthly, the 2008-2009 depreciations were only a transitory interruption of the appreciation trend, which was resumed in 2010.

GRAPH 17

**Real bilateral exchange rates with the US of SA countries – minima of the 90s, 2002-2008 averages, and 2010 (2000=100)**



Source: Cepalstat.

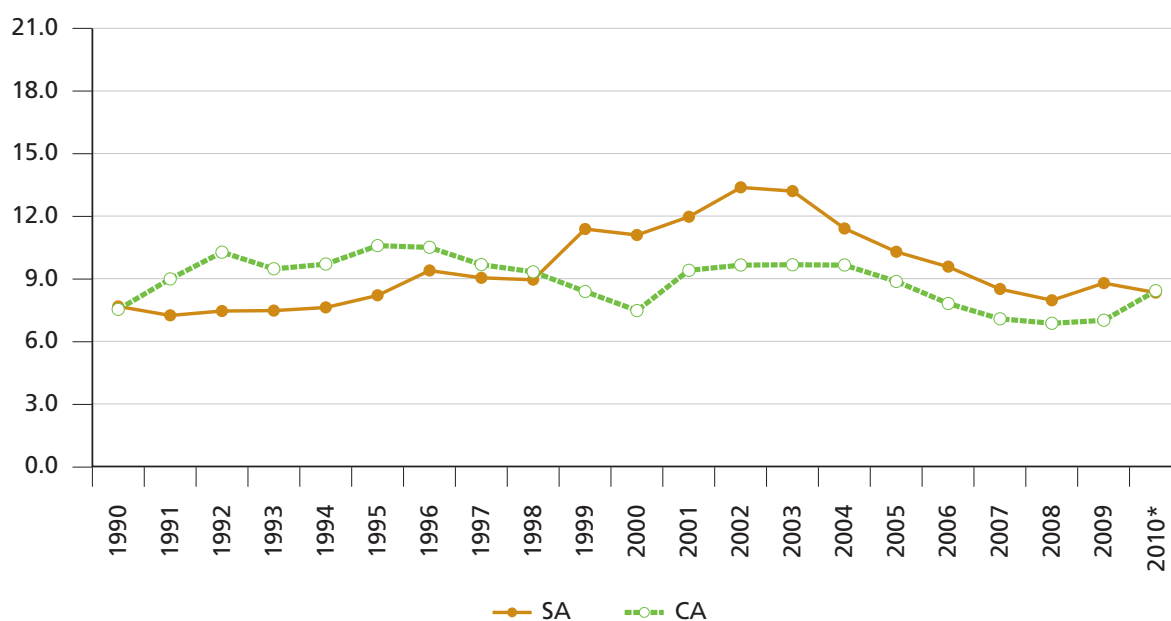


With the exception of Argentina, the RERs reached in 2010 similar levels to the most appreciated RERs of the nineties. But to the purpose of characterizing the connection between RERs and unemployment, that we will resume later, it is important to point out the fact that the average RERs in the phase of fast economic growth prior to the global crisis were, in all cases, considerably higher than the minimum observed levels of the nineties.

### 3 EMPLOYMENT, UNEMPLOYMENT AND POVERTY INCIDENCE

The average rates of unemployment in the SA and CA regions are presented in graph 18. As employment has normally a positive correlation with the economic cycle, the expected relation between the unemployment rate and GDP growth is negative. Quite remarkably, this has not always been the case in the region, particularly in the SA subregion, where average unemployment rates showed an increasing trend during the expansion of the nineties (a rising trajectory that become steeper in the 1998-2002 period). In contrast, the 2003-2008 expansion showed a sharp decline in unemployment, but the deterioration observed in this variable in the nineties, and particularly during the 1997-2002 period, had been so strong that the improvements of the 2000s, quite intense prior to the global crisis of 2008, were insufficient to reverse, on average, in SA, all the previous impairment.

GRAPH 18  
Average unemployment rates in SA and CA countries  
(In % of the active population)



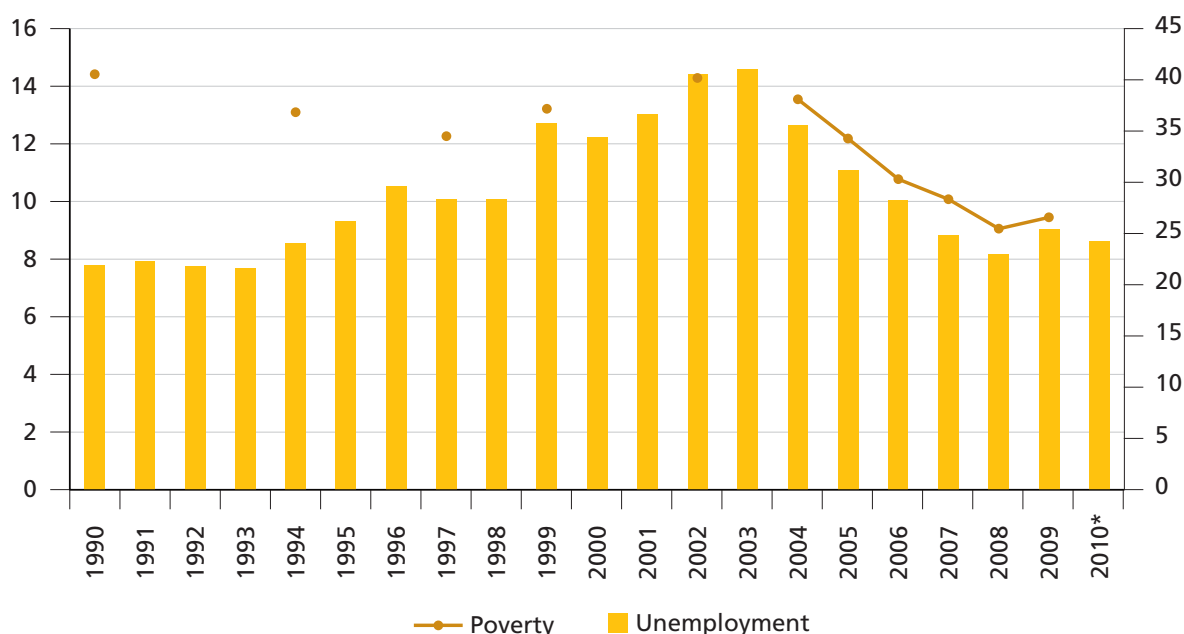
Source: Cepalstat.

Given that unemployment is closely connected to social conditions and have significant gravitation on the incidence of poverty and income distribution, we pay special attention to its behavior and explanation. The real exchange rates have a bearing in the determination of the behavior of aggregate employment and, hence, on unemployment rates, and particularly on the explanation of the noteworthy difference in employment creation that stands out in the comparison between the 1990-1997 and the 2003-2008 expansions in SA economies.

Probably as a consequence of the relative stability of RERs in CA economies (when compared with SA, as we have already shown), the evolution of unemployment rates in the CA subregion are less correlated with RERs, being substantially explained by the behavior of GDP.

Unemployment has a close connection with poverty incidence. This is very clear in the figures of the SA countries presented in graph 19. Both variables rose after the 1997 contagion of SE Asian crises, to fall from 2003 on, with the expansion of the 2000s, increasing again, transitorily, in 2009. During the expansion of 1990-1997, however, poverty decreased, on average, in spite of an increasing trend of unemployment. In this period, hence, the favorable effects of GDP growth and disinflation or real incomes of the employed people were predominant. The available data regarding poverty incidence are quite incomplete to allow for a similar analysis for the CA region as a whole.

GRAPH 19  
Average unemployment rates (% of the active population) and poverty incidence (% of the population) in SA countries



Source: Cepalstat.

Obs.: in these calculations, the group of SA countries does not include Bolivia, Paraguay and Peru because of compatibility limitations of the available data. For the same reason we do not present here data on poverty incidence for every year in the period of the graph.

### **3.1 Econometric testing of the relationships between growth, the real exchange rates, inflation, unemployment and poverty**

In this section we present econometric tests of the effects of macroeconomic variables, such as the growth performance, the real exchange rate evolution and the inflation rates on the behavior of unemployment and poverty rates. We use annual data corresponding to the 18 countries considered in the paper in the 1990-2010 period. The main objective of the section is to provide some econometric evidence to the more qualitative analysis presented above. Our hypothesis is that faster growth and depreciated real exchange rates both favor employment and reduce unemployment. Besides, lower unemployment rates contribute to the reduction of the poverty rates. On the other hand, higher inflation rates tend to increase the poverty rates. We do not attempt in this section to test the effects of the RER on growth. With regard this issue our hypothesis about the positive effect of depreciated RERs on growth rests on numerous empirical studies pointing out to this conclusion. In this section we consider the GDP rates and the real exchange rates as exogenous variables.

Our first purpose is to assess the effects of the GDP growth rates and the real exchange rates on the performance of unemployment. The estimated equation is a variant of the Okun's law that takes into account the influence of the RER on the employment-output ratio. Our hypothesis is that a depreciated RER has positive effects on the employment-output ratio.

In the second place we estimate poverty rates as function of unemployment and inflation rates. The unemployment equation and the poverty equation compose a model whose reduced form expresses the poverty rate as function of the rate of growth, the real exchange rate and the inflation rate. Complete annual series of the poverty rates in the 18 countries are not available. In the estimations presented in this section we use poverty rates data from the ECLAC database, which collects poverty rates from national sources. Data are available in different years in different countries. We have adapted the estimation procedure to the availability of data. For instance, we estimate the unemployment equation in rates of variation with annual consecutive rates, but we could not do so with the poverty equation because consecutive annual data are not available for all the countries in the whole period. So, we have to estimate the poverty equation using poverty rates data in the years in which this information is available. The corresponding annual unemployment rates which are needed to estimate the poverty equation are calculated by a procedure that helps to avoiding endogeneity problems, as we explain below.

The estimation method is panel OLS with yearly data of the period 1990-2010 of the 18 LA countries considered in this paper. The estimations include fixed country effects to control for the permanent different levels in the national unemployment

and poverty rates associated to differences in the definitions and measurement as well as in the structure of the labor markets. The estimations also include fixed time effects intended to control for the external shocks experienced by the region.

The estimated model is:

$$u(t) = g y(t) + e r(t-i) + k + \varepsilon u(t) \quad (1)$$

$$V(t) = f U(t) + h p(t) + j + \varepsilon V(t) \quad (2)$$

$U$  is the unemployment rate,  $Y$  represents the GDP and  $R$  is the bilateral real exchange rate with USA ( $u$ ,  $y$  and  $r$  represent respectively the annual rates of variation of  $U$ ,  $Y$  and  $R$ ),  $V$  is the poverty rate, and  $p$  is the inflation rate. The coefficients to be determined are  $g$ ,  $e$ ,  $k$ ,  $f$ ,  $h$ ;  $i$  is a time lag to be determined and  $\varepsilon u$  and  $\varepsilon V$  are stochastic shocks.

We also use the equation

$$y(t) = a r(t-i) + b + \varepsilon y(t) \quad (3)$$

only to obtain estimations of  $\varepsilon y(t)$  to be used in replacement of  $y(t)$  in the estimation of equation (1).

### 3.1.1 Estimations

The time lag  $i = 2$  (years) provides the best fit in panel estimations of both equations (3) and (1). The same 2 years lag provides the best fit in estimations with time series of individual countries (not shown in this section).

In the first place we estimate the equation (3). The only purpose of this estimation is to use its residuals in replacement of the series  $y(t)$  to avoid colinearity problems in the estimation of equation (1). The results are the following:

$$\hat{y}(t) = 0.034 r(t-2) + 0.036 \quad (4)$$

$$(2.061)^{**} \quad (21.945)^{*}$$

$$R\text{-squared} = 0.40$$

(t-statistics). \*, \*\*, \*\*\*: significant at 1%, 5% and 10% respectively.

Total panel (unbalanced) observations: 323. White diagonal standard errors & covariance.

We calculate then the residuals of the estimation:

$$\text{reseq4}(t) = y(t) - \hat{y}(t),$$

which are estimations of  $\varepsilon y(t)$ , and use them in replacement of the original series  $y(t)$  in the estimation of equation (1). From the estimation of equation (1) we obtain the following results:

$$\bar{u}(t) = -1.616 \text{ reseq}^4(t) - 0.299 r(t-2) - 0.002 \quad (5)$$

(-5.092)\*            (-3.495)\*    (- 0.205)

R-squared = 0.34

(t-statistics). \*, \*\*, \*\*\*: significant at 1%, 5% and 10% respectively.

Total panel (unbalanced) observations: 299. White diagonal standard errors & covariance.

The coefficients are both negative and highly significant. Faster growth and more depreciated RERs both tend to reduce unemployment. A 5% growth rate of GDP reduces the unemployment rate in 8%. A 10% depreciation of the RER reduces 3% the unemployment rate with a time lag of two years.

We focus now on the estimation of the poverty equation (2). As we mentioned above, we have to adapt the estimation procedure to the availability of data and avoid endogeneity problems. In the first place we use equation (5) to calculate the series  $\bar{u}(t)$  of the forecasted rates of variation of the unemployment rates. Then, we use the series  $\bar{u}(t)$  to calculate the variable  $\bar{U}(t)$ :

$$\bar{U}(t) = U(t-1) [1 + \bar{u}(t)] \quad (6)$$

The new  $\bar{U}(t)$  variable is the product of a predetermined variable  $U(t-1)$  by the (1+ the rate of variation) of the unemployment rate forecasted with the macro variables GDP and RER. We use the series  $\bar{U}(t)$  in replacement of the original series  $U(t)$  in the estimation of equation (2). The results of the estimation are the following:

$$V(t) = 0.689 \bar{U}(t) + 0.237 p(t) + 28.032$$

(2.364)\*\*    (3.359)\*    (8.326)\*

R-squared = 0.96

(t-statistics). \*, \*\*, \*\*\*: significant at 1%, 5% and 10% respectively.

Total panel (unbalanced) observations: 143. White diagonal standard errors and covariance.

Both the coefficients of the unemployment rate and the inflation rate are positive and significant. A 1 percentage point (pp) increase in the unemployment rate tends to increase the poverty rate in 0.7 pp. A 1 pp increase in the inflation rate tends to increase the poverty rate in 0.24 pp.

The obtained results are mostly driven by the SA subregion, which comprises ten countries. The estimation procedure utilized above, implemented on a panel of the ten SA countries, generates results similar to those obtained with the whole sample.

### 3.1.2 Comparison of the shocks experienced by the SA and the CA subregions

The analysis presented along this paper points out to important differences between the SA and the CA subregions, both in macroeconomic policies and outcomes. The econometric analysis just presented provides additional evidence on this regard.

We have run the regression of the unemployment equation (1) separately on a panel conformed by the ten SA countries and on a panel conformed by the eight CA countries, in both cases with annual data of the period 1990-2010. In both cases time fixed effects were included in the regressions. The results obtained with these exercises are the following.

In the estimation with the panel of the CA countries none of the coefficients is significant. One probable reason for the lack of significance of the RER elasticity coefficient in the separate CA countries estimation is the low variance experienced by the RER in these countries. In fact, the standard deviation (SD) of the RER in the whole sample is 26.1, while the SD of the RER in the SA countries is 32.9 and the SD of the CA countries is 13.2. So, the lack of significance of the RER elasticity in the case of the CA countries could be attributed to the inexistence, in the CA countries in the period, of a RER variance high enough to generate statistically significant effects on unemployment. This conjecture is indirectly reinforced by the results obtained in individual countries time series estimations, in which significant RER elasticity coefficients are obtained in the cases where the RER experienced high variance (for instance, Argentina and Colombia).

More intriguing is the lack of significance of the GDP elasticity coefficient. One possible cause of that result could be a high correlation of the GDP rates of growth with the time fixed effects included in estimation. In fact, the correlation between the estimated time effects and the GDP rates of growth is - 0.45. So, we estimated the panel of the CA countries without including time fixed effects. The results show an unemployment/GDP elasticity of -2.65 significant at 1%. Consequently, it seems clear that the lack of significance of the elasticity obtained in the first CA panel estimation resulted from the close colinearity between the time fixed effects and the countries' output performances. What would be the source of so important sub regional time effects?

To explore more in depth the characteristics of the common time effects in the CA countries we take into account that the subregion countries are closely related to the USA economy. Then, we hypothesize that the CA countries experienced time common external shocks originated in the performance of the USA economy. To test the hypothesis we estimated the model with a panel of the CA countries in which the time fixed effects are replaced by the USA rates of growth.

The following table shows the results – the variable  $y_{USA}(t)$  is the annual rate of growth of the USA GDP:

$$u(t) = -2.073 y(t) - 0.124 r(t-2) - 2.249 y_{USA}(t) + 0.135$$

$$(-3.087)^* \quad (-0.643) \quad (-2.602)^* \quad (5.333)^*$$

$$R\text{-squared} = 0.29$$

(t-statistics). \*, \*\*, \*\*\*: significant at 1%, 5% and 10% respectively.

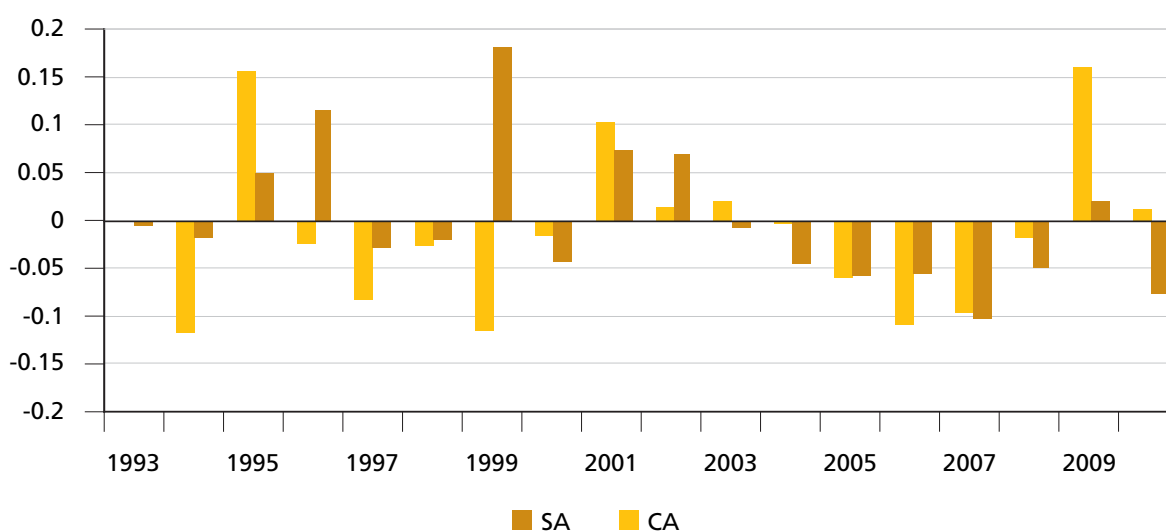
Total panel (unbalanced) observations: 120. White diagonal standard errors and covariance. No time effects.

The estimation shows a negative elasticity of unemployment to the USA GDP coefficient significant at the 1% level, with a high absolute value. In a similar estimation with the SA countries panel, the USA GDP coefficient lacks of significance while the value and significance of the GDP and RER coefficients are similar to the estimation with time fixed effects shown in (5) above. These results suggest that the performance of the labor market in the CA countries is strongly influenced by the evolution of the USA economy, in addition to the indirect effect exerted by the USA economy throughout its influence on the countries' GDP. The results also underline that CA and SA subregions experience different external shocks.

The difference between the shocks experienced by the CA and SA countries can be clearly seen in the following graph 20. The graph presents the series of the time fixed effects estimated separately with the SA countries panel and the CA countries panel.

GRAPH 20

**Differences between the shocks experienced by the CA and SA countries**



Elaborated by the authors.

Because the dependent variable is the (rate of variation of) the unemployment rate, positive bars represent an increase in unemployment, i.e. a deterioration of labor market conditions, and vice versa. The history and differences of the shocks experienced by the SA and CA subregions can be followed with the graph. For instance, 1995 was the year when the effects of the Mexican crisis took place. Both subregions suffered negative effects, but the CA subregion (which includes Mexico) shows a much higher effect than the SA region (more than 15% in the CA subregion vs. 5% in the SA subregion). In 1999, the Asian and Russian crises are associated with a high negative effect in the SA subregion, while the CA subregion continued to show increasing positive effects associated with the then high rates of growth of the USA economy. In 2001-2002 both subregions show negative effects, associated in the CA subregion with the contraction of the USA economy and in the SA subregion with the Argentine and Uruguayan crises and the difficult situation of the Brazilian economy. In 2003-2008 both subregions experienced positive effects, associated with the good performance of the USA economy in the CA subregion and the terms of trade and financial conditions improvement in the SA subregion. The year 2009 shows the effects associated with the global crisis. It is negative in both subregions, but much higher in CA than in SA. Lastly, in 2010 the SA subregion shows a positive effect associated with the fast improvement of the trade and international financial conditions, while the CA subregion continued showing negative effects, associated performance of the USA economy.

#### 4 CONCLUSIONS

If one asks macroeconomists about the best macroeconomic policies to increase the welfare of a developing country, a large proportion of respondents (including the authors of this paper) would indicate that are those that induce high rates of growth of output, employment and productivity in a sustainable manner.

Of course, the rapid growth of productivity and employment does not ensure that inequality tends naturally to decrease. China's economy is the most recent case where a process with these characteristics has been accompanied by worsening inequality indicators. However, it is not common to find negative judgments about China's macroeconomic policies based on that evidence. The main reason is that, while rapid productivity and income growth takes place together with the rapid increase in employment, lower incomes also tend to rise and consequently the incidence of poverty tends to decrease. More generally, the rapid growth of productivity and employment, though not ensure reduction of inequality, creates conditions that facilitate a better distribution of income, because resources are growing and because the improvement in their distribution seems more viable and less confrontational in that context.



At the opposite pole, a developing country stuck in a situation of low employment and low productivity could eventually show an improvement trend in inequality, but it would be limited in magnitude and in its extension in time by the low productivity growth. In this case, the macroeconomist would probably criticize existing policies for their inability to contribute to the promotion of development and would focus on a reformulation effort aimed at promoting productivity growth and employment.

The sustainability of the process of rapid growth of productivity and employment is a crucial component of the macroeconomist view. The sustainability criterion involves two matters. First, inflation should be under control. Considered broadly, this should not mean limiting the choices to a conventionally low inflation rate. The criterion points to the fact that a persistent rise in inflation inevitably ends up extinguishing the rapid growth through different mechanisms of which there are many examples in the LA experience. On the other hand, beyond the negative feedback on growth, it is well known that inflation disproportionately affects the real income of wage earners and lower-income sectors, so it has negative effects on distribution and welfare.

The second issue involved in the sustainability criterion is that the design of macroeconomic policies should also include measures to prevent the occurrence of financial and external crises. Macroeconomic policies have an important role in crisis prevention. In fact, stability – in the real economy, finance and the balance of payments – is the main objective of macroeconomic policies in their traditional conception. Development macroeconomists strive to widen the traditional objectives to include among them the promotion of development, but this does not mean forgetting or putting in a secondary role the prevention of crisis. Contrarily, crisis prevention is a priority because crises have permanent negative effects on the trajectory of growth and persistent negative effects on income distribution.

The analysis of the macroeconomic policies implemented in LA in the nineties shows several important cases (i.e. Argentina, Brazil and Mexico) of growth processes in contexts of controlled inflation that could not be sustained because they led to external and financial crisis. Even in the case that such policies had produced an increase in welfare this would not make them advisable, because the hypothetical increase was transient and also because, as a result of the crisis, the conditions of employment and income distribution ended up being worse than those prevailing at the beginning of the nineties. In addition, these policies led to rising unemployment or slow growth of employment, which in both cases were important factors in the worsening of income distribution even before the outbreak of the crisis.

We show in the paper the changes in the macroeconomic policies that were generally held between 1997 and 2002 in several economies in the region, particularly in SA. The new configurations resulting from these changes and their effects on relative prices, external accounts and public finances – to which the improvement in the terms of trade was added in SA – framed faster growth processes than in the past that avoid ending up in crisis. Overall inflation remained under control (for example in Chile, Peru, Colombia and Brazil). On the other hand, Argentina is an exemplary case in which the acceleration of inflation put a brake on the trends in employment growth, the reduction in poverty and the improving in income distribution that had been achieved in the period 2002-2007.

The analysis developed in the paper attempts to identify the elements of the macroeconomic policies implemented in AL that contributed to induce rapid growth in productivity and employment in a sustainable manner. We also show the effects of such processes on the poverty reduction verified in many countries. Our analysis emphasizes the role of real exchange rates at a competitive level in the generation of these processes.

As a way of conclusion we suggest in this section the guidelines of a macroeconomic policy regime capable of simultaneously attaining several targets, including the promotion of growth and employment, the control of inflation and the prevention of external and financial crises. The guidelines are based on both the negative and positive experiences of developing countries along the process of financial liberalization. LA is the region with the longest experience because its insertion into the process dates from the late seventies. The contributions of the LA experience mostly come from the negative cases. Deep real exchange rate appreciation episodes with devastating effects on employment and balance of payments and financial crises were frequent in the region from the late seventies up to the early 2000s. The post 2002 regional performance, particularly the performance of the SA subregion, vividly contrasts with the previous thirty years, although no LA country could be taken as a role model of the implementation of the guidelines. Argentina in the period 2002-2007 is the case in which the implemented policies followed the guidelines more closely, but other economies in the SA subregion implemented in different degrees similar orientations.

The most general lesson that can be learnt by contrasting the developing countries experience in the 2000s, including their performance during the global crisis, with the previous three decades of financial globalization, is the crucial importance of macroeconomic policies in promoting growth, employment, financial stability and robustness vis-à-vis real and financial external shocks. Our main claim in this regard is that there is a set of viable and consistent macroeconomic policies – such as those stylized by the suggested guidelines – that contribute to the simultaneous

accomplishment of the mentioned objectives. This idea contends with the notion that postulates the existence of a trilemma of policy options that would make inconsistent the simultaneous pursuing of competitive RERs and active monetary policies. In contexts like those experienced by the SA countries in the 2000s – i.e. excess supply of foreign currency at the exchange rate targeted by the monetary authority – the trilemma does not hold and it is possible to simultaneously control the exchange rate and the domestic interest rate.

The first subset of guidelines focuses on the promotion of growth and employment, the robustness of external accounts and the prevention of crises against negative external shocks. It comprises: *i*) a managed floating exchange rate regime, combining exchange rate flexibility with discretionary interventions by the central bank in the foreign exchange (FX) market; *ii*) a competitive level trend in the real exchange rate (RER), avoiding strong appreciations in the short run; *iii*) a surplus trend in the current account of the balance of payments and moderate current account deficits in the short run; *iv*) the accumulation of sizeable international reserves.

Relatively high rates of growth and employment are fostered by the competitive trend in the RER. The current account surplus trend plus the accumulation of reserves warrant the sustainability of the growth process by helping to avoid external crisis and cushioning negative real and financial external shocks.

The policies involving the RER, the external accounts and the reserves management should be accompanied by consistent fiscal and monetary policies focused on the control of aggregate demand and inflation. An important point in this regard is that in a context of managed floating exchange rate, competitive RER level and surplus trend in the current account, generally exists a considerable degree of monetary autonomy that allows the implementation of active monetary policies. So, with regard to monetary policy, the suggested guideline is: *v*) an active monetary policy, facilitated by the sterilization of the interventions in the FX market and the inexistence of fiscal dominance.

As we comment below, coordination between the three macroeconomic policies, exchange rate, monetary and fiscal, is essential in this regime. In particular, monetary policy should be implemented in coordination with short run fiscal policy. Depending on the pressures in the foreign exchange market, capital controls might be necessary to simultaneously attain the preservation of competitive RERs (or avoid appreciations) and the preservation of monetary autonomy.

As in any macroeconomic policy regime, short run fiscal policy can be either expansionary or contractionary. Although we point out below that in this regime monetary and fiscal policies should normally play a braking role on the aggregate demand dynamics, our last guideline refers to the orientation in the fiscal accounts:

iv) an equilibrium trend in the fiscal accounts and moderate fiscal deficits in the short run. The orientation focuses on allowing counter-cyclical policies in the short run (aggregate demand and inflation control in the booming phases and expansionary stimuli in the recessionary phases) and on avoiding the accumulation of significant public debts.

In what follows we discuss how these elements need to be coordinated in the proposed macroeconomic policy regime.

#### **4.1 The coordination of macroeconomic policies**

A competitive RER provides a conducive environment for growth and development. This view has long been stressed by development economists and recently documented in many econometric studies. The growth-enhancing attributes of a competitive RER operate through the enhancement of tradable sector profitability. As this sector expands, it relaxes the balance-of-payment constraint to growth and generates positive externalities to the rest of the economy in the form of learning-by-doing externalities and technological spillovers.

The adoption of a RER target is a singularity of the proposed macroeconomic policy regime, which we call the Stable and Competitive Real Exchange Rate (SCRER) regime. In addition to the standard policy objectives of any macroeconomic regime; namely, inflation and employment and activity levels, the SCRER regime also pursues economic development as an objective. The trend of the RER is the intermediate target for such an objective, in the same way a reference interest rate or a given fiscal budget operate as intermediate targets for monetary and fiscal policies focusing on inflation and employment. Once a determined trend for the RER is adopted, exchange rate policy focuses exclusively on both granting short-term volatility of the nominal exchange rate (NER) and preserving the long term stability of the RER. Thus, in normal times the NER cannot be oriented towards any other macroeconomic objective such as inflation or inflation expectations. The control of aggregate demand, inflation and inflation expectations rests on monetary and fiscal policy (and also on other policies not discussed here, such as wage and incomes policies). The role of these policies in a SCRER regime is crucial at moderating the pace of aggregate demand and inflation pressures, because the SCRER – by enhancing employment growth and capital accumulation in the tradable sector – has by itself an expansionary bias on aggregate demand. So, in the SCRER regime the three macroeconomic policies are active.

In the SCRER regime the coordination of macroeconomic policy is essential. In the first place, the intermediate targets of fiscal and monetary policies and their design should be consistent with the stability of the RER trend target.

For instance, it is difficult to preserve the stability of the RER trend in a context of accelerating inflationary expectations. This is the problem that the Argentine authorities could not resolve as from 2007 and led to a significant RER appreciation. On the other hand, as was already mentioned, a SCRER has a permanent expansionary effect on aggregate demand. Monetary and fiscal policies must take into account that effect and must be consistently designed and implemented in order to attain the multiple real and inflation objectives.

#### 4.2 The SCRER and the inflation pressure

As we discussed above, in the proposed macroeconomic regime, because exchange rate policy is committed to the preservation of a SCRER target and because of its expansionary bias, aggregate demand management rests on monetary and fiscal policies. In normal times, these policies have to largely play braking roles on the aggregate demand and inflationary pressures.

The management of policies in the SCRER regime is not simple. On the one hand, there is a tension between the preservation of the SCRER target and the aggregate demand and inflation control. On the other hand, the braking role that monetary and fiscal policies should normally play in this context demands a sophisticated political leadership. Both observations stress the importance of macroeconomic policies coordination at the highest level of the economic policy administration.

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