The recession in the LAC region was large but short lived and the fact that it came out of the crisis with no systemic damage raised the relative attractiveness of many LAC countries as destinations for investment. As engines of growth re-ignited across the world, LAC growth was second only to emerging Asia in the pace and
Globalized,
Resilient,
Dynamic

The New Face
of Latin America and the Caribbean

October 6, 2010
Foreword

This semiannual report—a product of the Office of the Chief Economist for the Latin America and the Caribbean Region of the World Bank—examines the resilience of the Latin America and the Caribbean (LAC) region to the current global financial crisis in its different dimensions: first, the ability to withstand the initial external shocks; second, the ability to engineer a fast and strong recovery; and, third, the ability to conduct counter-cyclical policies (which in turn reflect the ability to conduct prudent policies during good times).

The report is accompanied by an Annex that focuses on the rising interdependence among emerging market economies and investigates the strength of real and financial linkages between emerging markets and industrial countries.

The preparation of this report was led by Augusto de la Torre, Regional Chief Economist, in close collaboration with César Calderón, Tatiana Didier, Eduardo Levy Yeyati, and Sergio Schmukler. Paula Pedro, Maria Virginia Poggio, and Manuel Fernández Sierra provided outstanding research assistance. We would like to thank Makhtar Diop, Tito Cordella and Jose R. Lopez Calix for their invaluable comments.
**Executive Summary**

The Latin America and Caribbean (LAC) region has shown a high degree of resilience during this global crisis, compared to its own past and to other (financially globalized) emerging regions. To be sure, LAC’s average growth rate fell steeply, by about 6.7 percentage points from 2007 to 2009. But this was a decline in growth comparable to that in the East Asian Tigers and much smaller than the growth collapse of 13 percentage points experienced by Eastern Europe. Furthermore, the region began to recover alongside middle income countries and ahead of the rich nations, and is having recovery that, again, compares well with that of the East Asian Tigers. Both regions are expected to basically recover by 2011 the level of economic activity that would have been reached if the crisis had not happen. Brazil is clearly ahead of the pack within the LAC region.

This newfound resilience reflects the steady progress made by many LAC countries in strengthening their macro-financial immune system over the past two decades or so. Most noticeable improvements can be observed in the quality and credibility of monetary policy. Fiscal and debt management practices have also registered significant improvements. Resilience was further buttressed by two additional factors. First, a clear shift of the region during this new millennium towards a safer form of international financial integration—whereby LAC became a net creditor to the rest of the world with regard to debt contracts while increasing significantly its net debtor position as regards equity contracts (particularly via FDI). Second, a growing connection to Emerging Asia, and to China in particular, specially for countries in South America but also Costa Rica and Panama. China matters much more for LAC not just because of its direct links (through its demand for agricultural and mineral commodities) but also indirectly, through the impact that China has on the international markets for commodities (for which LAC is abundant) and on third-country markets (to which LAC exports).

Going forward, however, there is no room for complacency. Although LAC’s improved immune systems passed the test this time, the continued resilience of countries in the region is not a foregone conclusion. At present, monetary policy in most of LAC is overburdened—it is expected to deal with the multifaceted complexity associated with surging capital inflows and commodity price buoyancy single-handedly, without help from fiscal policy and without suitable macro-prudential tools. The region therefore needs to start addressing the issue of resiliency in good times in earnest, significantly rebalancing the policy mix. The stimulus implemented during the crisis should be withdrawn and fiscal and financial buffers should be rebuilt. A more pro-active stance should be taken in LAC by increasing public savings, particularly in commodity exporting countries. Moreover, it is has become even more urgent for LAC countries (in comparison to advanced economies) to develop a suitable menu of macro-prudential instruments that can complement monetary policy, helping ensure that the current surge in capital inflows does not mutate into domestic financial excesses.
Many countries in the Latin America and the Caribbean (LAC) region, especially in South America, fared well during the global crisis and are now on a strong growth path. The region’s recession in 2009 was relatively short lived and, with the notable exception of Mexico, remarkably mild. The current pace of economic recovery is exceeding expectations, with GDP projected to grow in the 5-6 percent range in 2010. This is most welcome and rather surprising, as LAC was traditionally known for being the one generating crises and, when crises were external, for its lack of adequate domestic buffers to cushion the shocks and a tendency to be at the mercy of abrupt changes of sentiment in international financial markets. Traditionally, therefore, LAC tended to be more crisis-prone and perform worse than other regions when turbulence emerged.

Why this apparent break with history? This report argues that it has much to do with a greater macro-financial resilience (or, according to our Report for the 2010 Spring Meetings of the IMF and World Bank, “From Global Collapse to Recovery: Economic Adjustment and Growth Prospects in LAC,” a “strengthened immune system”) that the region built up persistently, especially over the past 10 years. As a result, LAC is doing well this time around, despite being highly integrated to international financial markets. This report discusses LAC’s newfound resilience in the midst of financial globalization, examining key features of the cyclical behavior of LAC economies in comparison to other emerging economies and to its own past.1 Resilience is defined throughout this report in a broad sense—to denote the ability of an economy to navigate with minimum disturbances through shocks, cushioning their negative spillovers in bad times, and recovering fast after a downturn.

The report is structured as follows. First, it evaluates the relative performance of LAC countries during the contractionary (peak-to-trough) period generated by the recent global crisis, to shed light on LAC’s ability to shield its economies or soften the blow of a large external shock. Second, a similar exercise is conducted for the recovery phase of the cycle, when in the aftermath of an external shock more resilient countries would be expected to have a faster and more robust recovery. Third, it takes a deeper look at the different driving forces behind the recovery, including the role of domestic demand, commodity prices, and the connection to emerging Asia. Fourth, it provides evidence of the ability of different countries in LAC to conduct counter-cyclical policies in response to the global financial crisis. Lastly, a concluding section warns about the main macro-financial tensions and challenges lying ahead for the region.

**Breaking with History and Building up Resilience during the 2002-7 Expansion**

Historically, downturns in economic activity and financial crises in Latin America and the Caribbean (LAC) have been to a large extent self-inflicted. In the 1990s, moreover, as the region rapidly integrated into international financial markets, the “punishment” (economic pain) tended to be disproportionate to the “sin” (extent of bad policies), an amplification effect presciently detected by

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1 This chapter draws heavily from Didier, Hevia, and Schmukler (2010). It also parallels a note (“How Resilient Have Developing Countries Been during the Global Crisis?”) jointly prepared by the IMF and World Bank for the September 2010 Meeting of the Development Committee.
Guillermo Calvo in 1996, in his analysis of the “Tequila Effect.” Thus, even when the initial disturbance was completely exogenous—as was, for instance, the 1998 Russian crisis or the debacle of the giant hedge fund Long-Term Capital Management (LTCM) in the same year—LAC’s macroeconomic and financial vulnerabilities were such that the domestic ripple effects of the external disturbance were substantially amplified. Recurrent experiences in this regard gave credence to the popular saying in the region that “when the U.S. gets a cold, Latin America catches pneumonia.”

The amplification phenomenon was the result of at least three traditional weaknesses in LAC’s policy frameworks—weak currencies, weak banking systems, and a weak fiscal stance. These were in turn associated with a number of symptoms that became LAC trademarks, including high and volatile inflation, dollarized financial contracts, chronic fiscal and current account deficits, burdensome public debts, shallow financial systems, and a proneness to sudden stops in capital flows. The latter in fact tended to react pro-cyclically, pouring in during good times and abandoning the country abruptly when most needed.

The scope for macro policy maneuvering in these circumstances was heavily constrained and policy responses tended to be pro-cyclical themselves. For instance, the fear of letting the exchange rate float reflected the constraints imposed by the widespread dollarization of debts, and consequently, the resulting lack of exchange rate flexibility implied that central bankers had to raise interest rates in bad times in an effort to arrest capital flight. Similarly, the sudden curtailment of access to international capital markets compelled ministers of finance to raise taxes and/or cut expenditures even as the economy was contracting. The amplification phenomenon was thus a sort of trap: domestic weaknesses magnified external shocks and capital flows tended to react pro-cyclically in the face of such weaknesses; the interplay of these factors further induced macroeconomic policies to respond pro-cyclically, which in turn exacerbated the initial magnification effects.

The larger exposure to external shocks and the mentioned magnification effects during crisis episodes led to a heated debate on the merits of financial globalization. Critics argued that international financial integration heightens the vulnerability of countries to pro-cyclical capital flows, thus augmenting the likelihood of instability in the domestic economy. The resulting increased volatility in output, in turn, implied lower trend growth. Many thus believed that financial globalization in LAC had taken place too fast and too soon, thereby accentuating systemic vulnerability. The key arguments were two. First, if a minimum threshold of regulatory and institutional strength is not met, banking systems would be ill-prepared to operate prudently in freer globalized financial markets and would not properly intermediate the surges in capital inflows, becoming prone to credit bubbles followed by credit busts (Bhagwati, 1998; Tobin, 2000; Stiglitz, 2000 and 2002; Ocampo, 2003). Second, a minimum level of development of the domestic market for local-currency debt should be in place before completely opening the capital account; otherwise,

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2 See, for example, Kaminsky, Reinhart, and Vegh (2004), and Reinhart and Reinhart (2008).
4 For instance, Calderon, Loayza, and Schmidt-Hebbel (2008) present empirical evidence that rising vulnerability to external shocks leads to higher macroeconomic volatility. Evidence on the adverse effects of volatility on growth can be found in Ramey and Ramey (1995), Hnatkovska and Loayza (2005), Mobarak (2005), and Edwards and Ginn (2010).
5 The financial liberalization index developed by Kaminsky and Schmukler (2008) shows that it took only the first half of the 1990s for LAC to bring relatively closed and repressed financial systems to a level of liberalization and openness comparable to that of developed countries.
6 Later on, in a similar vein, Kose, Prasad, and Terrones (2009) show that the positive effects of financial globalization are seized only after minimum set of complementary reforms is in place.
financial globalization would exacerbate currency mismatches, accentuating the problems of weak currencies and the likelihood of sudden stops in capital flows (Eichengreen, Hausmann and Panizza, 2005; Calvo, Izquierdo and Mejia, 2004).

The recent global financial crisis invites a revisiting of the financial globalization debate. Something was obviously at work this time around that prevented the materialization of the concerns raised in the debate mentioned in the previous paragraph. This report argues that the answer can be largely found in the combination of sounder macroeconomic and financial policy frameworks and a shift of the region during this new millennium towards a safer form of international financial integration—whereby LAC became a net creditor to the rest of the world as regards debt contracts while increasing significantly its net debtor position as regards equity contracts (particularly via FDI). With respect to the salutary role played by the better macro-financial immune systems, the discussion in this report is consistent with the findings of a recent paper by Corbo and Schmidt-Hebbel (2010), which shows that, while the external shock was exceptionally large, counter-cyclical fiscal and monetary policies played a cushioning role. This stands in contrast with the Asian crisis, where the decline in GDP was mostly explained by domestic macroeconomic weaknesses, including rigid exchange rates that induced a pro-cyclical monetary policy response [Figure 1.1].

We contend, however, that the migration of the region from a net debtor to a net creditor position vis-à-vis the rest of the world in terms of debt contracts played a key contributing role in avoiding the downside risks of financial globalization. This migration reflected in large part the building of international reserve buffers which was, of course, an important feature of the improved macro immune system, albeit not a necessary one. The key message being that the performance of LAC during the recent global crisis illustrates that international financial integration is not, of itself, a fountainhead of domestic financial and economic instability.

**FIGURE 1.1 Decomposing the Factors Behind LAC’s Recessions**

Contribution of Different Factors to GDP Growth

<table>
<thead>
<tr>
<th>Factor Type</th>
<th>Asian Crisis</th>
<th>Global Financial Crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-Term Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structural Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign Cyclical Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Policy Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unexplained Variation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: The figure shows the contribution of the different drivers of growth classified in long-term variables (education, private credit, fiscal balance, inflation, and political certainty), structural variables (financial openness, trade openness), foreign cyclical variables (terms of trade, external growth, world export growth, sovereign spreads, and capital inflows to LAC), and domestic policy variables (government consumption and real interest rate) to the decline in GDP growth during the Asian crisis (98q2-99q3) and the global financial crisis (08q4-09q2). Sources: Corbo and Schmidt-Hebbel (2010).

The authors estimate a short-run growth model with quarterly data for LAC-7 countries to explain the amplitude of the recessions experienced by the region in 1998 and 2008. The external shock is captured by foreign cyclical variables, such as the deterioration of terms of trade, growth collapse of main trading partners, the reduction of capital flows to the LAC region, and the surge in sovereign spreads. The macroeconomic policy responses are proxied by the change in government consumption and the change in real interest rates.

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7 The authors estimate a short-run growth model with quarterly data for LAC-7 countries to explain the amplitude of the recessions experienced by the region in 1998 and 2008. The external shock is captured by foreign cyclical variables, such as the deterioration of terms of trade, growth collapse of main trading partners, the reduction of capital flows to the LAC region, and the surge in sovereign spreads. The macroeconomic policy responses are proxied by the change in government consumption and the change in real interest rates.
In fact, financially globalized LAC countries avoided the amplification of the external shock into a domestic financial crisis, as had been often the case in the past. This is shown in Table 1.1, which displays the high frequency of banking, debt, and currency crises in LAC during the 1990s in contrast with a conspicuous absence of these crises during the recent global crisis. As a result, most LAC countries are coming out of the crisis with strong “balance sheets,” which are contributing to a speedy recovery. This stands in sharp contrast with high income economies, where domestic financial crises became a common feature that accompanied the most recent global turmoil. Rich countries are thus seeing their recovery hampered by impaired balance sheets in financial intermediaries, households and, especially, the public sector. This is illustrated, for example, by the jump in (gross) public sector debt to almost 100 percent of GDP in the U.S. and to around 90 percent of GDP in the U.K., whereas government debt remains well under 40 percent of GDP for the LAC region as a whole.

### Table 1.1 Financial Crises Around the World

<table>
<thead>
<tr>
<th>No. Of Crises-Hit Countries</th>
<th>Systemic Banking Crises</th>
<th>Foreign Currency Debt</th>
<th>Currency Crises</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Income Countries</td>
<td>19</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>OECD only</td>
<td>18</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Middle East &amp; N. Africa</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>South Asia</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>0</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>East Asia &amp; Pacific</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Europe &amp; Central Asia</td>
<td>3</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>0</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>42</td>
<td>1</td>
</tr>
</tbody>
</table>

As a Percentage of All Crises Countries

<table>
<thead>
<tr>
<th>No. Of Crises-Hit Countries</th>
<th>Systemic Banking Crises</th>
<th>Foreign Currency Debt</th>
<th>Currency Crises</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Income Countries</td>
<td>83%</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>Developing Countries</td>
<td>17%</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td>Middle Income</td>
<td>17%</td>
<td>67%</td>
<td>100%</td>
</tr>
<tr>
<td>Low Income</td>
<td>0%</td>
<td>19%</td>
<td>0%</td>
</tr>
</tbody>
</table>

LAC Countries

<table>
<thead>
<tr>
<th>Systemic Banking Crises</th>
<th>Foreign Currency Debt</th>
<th>Currency Crises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina (95)</td>
<td>Haiti (94)</td>
<td>Ant. &amp; Barb. (96)</td>
</tr>
<tr>
<td>Bolivia (94)</td>
<td>Jamaica (96)</td>
<td>Suriname (94)</td>
</tr>
<tr>
<td>Brazil (94)</td>
<td>Mexico (94)</td>
<td>Venezuela (94)</td>
</tr>
<tr>
<td>Colombia (98)</td>
<td>Paraguay (95)</td>
<td></td>
</tr>
<tr>
<td>Costa Rica (94)</td>
<td>Venezuela (94)</td>
<td></td>
</tr>
<tr>
<td>Ecuador (98)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** According to the definition of currency crisis in Broner et al. (2010), which is adopted here, Brazil suffered a currency crisis in 2008. However, in our understanding, such a classification is misleading to the extent that 2008 reflects the role of flexible exchange rates as a shock absorber. Ecuador’s external debt was officially downgraded to default levels by rating agencies in 2008, hence qualifying it to be classified as a crisis-country. However, this was a strategic default based on unwillingness to pay the “debt” rather than on capacity-to-pay problems, and for this reason it is not included here. Sources: LCRCE Staff calculations based on data from Broner et al. (2010).

The rest of this report further explores the **resiliency** of LAC countries to the global financial crisis in terms of their ability to cushion external shocks as well as their ability to recover strongly and speedily. It should be noted that this report tries to gauge LAC’s resilience to external shocks by
analyzing the behavior of outcomes—more specifically, growth collapses and recoveries. However, these outcomes do not only reflect resilience, they are in fact the result of the combination of: the size of the shock, the degree of exposure to the shock, and the extent of resilience per se. Thus, a precise estimation of the resilience of countries to external shocks needs to control for the size of the shock and the extent of exposure to it. However, isolating these factors is not an easy task. This report attempts to control for the mentioned factors to the extent possible, often qualitatively and by choosing appropriate comparators, and documents: (a) the larger size of the external shock associated with the current global financial crisis vis-à-vis previous crisis episodes in the post World War II period, (b) the larger—and, at the same time, safer—extent of integration of LAC countries to international markets of goods and assets, and (c) the greater resilience of LAC countries as illustrated by improved macro-financial policy frameworks and reduced currency vulnerabilities that allowed them to implement counter-cyclical policies in the midst of the turbulence. In sum, reasonably taking into account the size of the shock as well as the extent of exposure, the report concludes that the relatively good performance of LAC in this crisis reflects to a significant extent its improved resilience to external shocks.

The Subprime Crisis Turned into a Disaster That Struck World Economic Activity

Before addressing countries’ resilience, one needs to assess the size of the shock to which they were exposed. There is no simple way to capture directly the size of the shock, but it can be indirectly gauged by its global consequences. Well-known are its origins in the relatively small U.S. subprime housing finance market, which represented about 15 percent of U.S. total residential mortgages in 2006. The Lehman Brothers’ collapse in September 2008, however, dramatically accelerated the spread of the crisis across institutions, markets, and borders. There were massive failures of financial institutions and a staggering collapse in stocks and other asset values, including currencies in developed and developing economies alike. For example, on average, stock markets around the world fell over 30 percent between September and December 2008, with about US$18 trillion in G-7 stock market capitalization vanishing relative to pre-crisis levels. The downward spiral was driven by generalized and massive runs on all sorts of private assets and intermediaries, which exposed the catastrophic systemic consequences of the excessive leverage and over-reliance on short-term wholesale funding that had characterized the pre-crisis years of the more advanced financial centers but also of some emerging markets (mostly, in Eastern Europe).

The global financial crisis marked the end to the boom years of the mid-2000s and the world economy was thrown into a deeply recessionary phase. Global growth fell by almost 6 percentage points from its pre-crisis peak to its trough in 2009, the largest decline in the post-war era [Figure 1.2]. According to Reinhart and Reinhart (2010), the recessions following the current global financial crisis have been deeper and more persistent and widespread than previous recessions since World War II. In the second half of 2008, world trade had the largest contraction since then as well. Nominal world trade (in U.S. dollar terms) fell around 30 percent year-on-year during the first quarter of 2009, while trade volume fell by over 15 percent. These declines were widespread across countries and products. Accompanying the collapse in world trade was a sharp decline in commodity prices—e.g. oil fell from US$147 at its peak in July 2007 to less than US$40 per barrel at the worst point of the turbulence.

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8 The Panel A in this figure reflects the decline in the growth rate of the global economy from its pre-crisis peak (5.2 percent in 2007) to its trough (-0.6 percent in 2009).
9 See, for example, Freund (2009).
FIGURE 1.2 World Output and World Trade

PANEL A World Output
Growth Rate

PANEL B: Value of Trade Flows
Exports and Imports as a % of World GDP

Notes: The period from 1940 to 1950 in Panel A covers a sample of countries representing around 80% of World GDP. These data are similar to the World aggregate data shown from 1950 onwards with differences smaller than 0.1 percentage point on average. Sources: IMF’s IFS and IMF’s WEO (April 2010).

This global crisis was the largest and deepest one afflicting the world since the Great Depression of the 1930s (Almunia et al. 2009). While its full consequences are still unfolding, it seems to have accelerated the process of re-shaping of the international economic and financial landscape, including the traditional dividing lines between center and periphery. Given the size of the shock, it comes as no surprise that LAC countries were not immune to it. However, the region has fared much better compared to its own past and relatively well in many aspects when compared to other regions. These issues are explored in the next sections. To keep our comparative analysis meaningful, in several of the comparisons, only countries and regions that are significantly integrated into international financial markets were included. This is because we want to highlight the analysis of resilience given financial openness.

The Collapse of Growth in the LAC Region Resembled That of the East Asian Tigers

Resilience during the peak-to-trough phase of the cycle in economic activity reflects the ability of countries to absorb external shocks. That is, given a particular negative shock, one may consider countries as resilient if their macroeconomic and financial frameworks help to significantly mitigate the impact of the shock on the domestic economy.

Recent research suggests that developing countries fared substantially better than high income economies during the downturn phase of this global financial crisis (see, for example, Eichengreen 2009). In general, the evidence shows, countries with higher GDP per capita tended to experience a worse performance. This is especially true when changes in GDP levels are compared across country groups in 2009: on average, GDP actually expanded by 4.7 percent for low income countries (LICs) and by 1 percent for middle income countries (MICs), and shrunk visibly by 3.4 percent for high income countries (HICs). LAC’s performance was consistent with that of the MICs’ average. Its

10 See, for example, Claessens, Dell’Arriccia, Igan, and Laeven (2010), Frankel and Saravelos (2010), Lane and Milesi-Ferretti (2010), and Rose and Spiegel (2010a, 2010b, and 2010c)
GDP contracted in 2009 by 2 percent overall, and by a mere 0.3 percent if Mexico is excluded as it was an outlier that year, registering by far the deepest recession (-6.5 percent) among LAC countries. LAC’s recession (excluding Mexico) was thus comparable to that of the East Asian Tigers (-0.1 percent) but much milder than that of Eastern Europe (-5.4 percent).

As noted, the better growth performance of LICs compared to MICs in 2009 does not necessarily imply a greater resilience; it may rather reflect LICs’ lower exposure to the shock. Econometric work by Didier, Hevia, and Schmukler (2010) suggests that this was in fact the case, as the degree of trade and financial openness is shown to have played a large and significant role in determining the impact of the global shock on domestic economic activity. Therefore, to better assess relative resilience of LAC, the region is compared only to middle income regions and countries that are significantly integrated to world financial markets. Moreover, looking at changes in real GDP is insufficient, for it tells of itself nothing about the extent of growth deceleration during the crisis relative to the growth performance achieved pre-crisis. Thus, in what follows, we assess the comparative impact of the global crisis on (financially globalized) emerging countries by considering the changes in growth rates, or *growth collapses* defined as the percentage point difference in real GDP growth rates between 2007 and 2009.

When cross-country performance is measured by a comparison of growth collapses, the picture is somewhat different and points to greater degree of cross-country similarities. Growth collapses were in fact of about the same magnitude for MICs and HICs—that is, 6.6 and 7 percentage points, respectively.11 A geographical parsing of the data reinforces this pattern, showing that no financially integrated emerging region was immune to the global crisis. A highly synchronized deceleration in growth was observed across the board in 2009 and almost no country in the world did better in 2009 compared to 2007 [Figure 1.3]. Eastern Europe and Central Asia (ECA) still displays the greatest collapse (13 percentage points). But the growth collapses in LAC, the East Asian Tigers, and South Africa were remarkably similar, hovering around 7 percentage points in the three cases [Panel A of Figure 1.4].12 China and India stand out as having experienced much milder growth collapses, of around 4 and 2 percent, respectively.

While no country in LAC averted a growth collapse of a significant magnitude, there was considerable heterogeneity within the region [Panel B of Figure 1.4]. South American countries experienced a growth collapse of nearly 6 percentage points, whereas Central American and the Caribbean countries (excluding Mexico) faced greater declines (6.7 and 7.7 percentage points respectively). Among the larger countries, Brazil and Chile experienced declines in GDP growth rates of around 6 percentage points, while Mexico and Venezuela faced a more severe collapse, of 9.8 and 11.5 percentage points, respectively. The smallest growth collapse was experienced by Bolivia (about 1 percentage point). As expected, therefore, the size of the collapse tended to be greater for LAC countries with a greater degree of trade and financial openness.13

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11 The consequences of a deceleration in growth might be not be linear and may depend on the initial growth rate. These issues are not explored in this section that implicitly assumes that the comparison of *absolute* changes in growth rates across financial globalized emerging countries gives a good measure of relative resilience.

12 Simple cross-country averages are used to obtain these numbers as they capture better the central tendency of heterogeneous and different-sized countries within regions than weighted averages.

13 As noted before, it is essential to assess the relative resilience of countries controlling for the degree of exposure and the size of the shock. Cleanly isolating these factors is not an easy empirical work. However, available econometric evidence suggests that, once these factors are controlled for, the availability of macro and financial buffers (including the liquidity protection afforded by high levels of international reserves, the fiscal space afforded by strong fiscal positions and low debt levels, and the flexibility of the exchange rate regime) played a major role in determining resilience. See, for instance, our
FIGURE 1.3 Real GDP Growth: 2009 vs. 2007
Growth Rates around the World

Notes: This figure includes only high and middle income countries. Sources: IMF’s WEO (April 2010).

FIGURE 1.4 GDP Growth Collapses

Notes: Growth collapses are defined as growth in 2009 minus growth in 2007. Sources: IMF’s WEO (April 2010).

In terms of the duration of the recession, measured in terms of industrial production indices, MICs have clearly outperformed HICs [Figure 1.5].14 The pre-crisis peak in industrial production took place around April 2008 for both high income and developing economies. But a sustained recovery started around January 2009 for developing economies while high income countries started to rebound 4 months later, in May 2009. In other words, the recessionary phase of the business cycle lasted on average 9 months for developing countries and 13 months for high income economies. As report to the 2010 Spring Meetings of the IMF and World Bank, as well as the more recent work by Corbo and Schmidt-Hebbel (2010) and Didier, Hevia, and Schmukler (2010).

14 Industrial production data are used to analyze the timing of the recovery because data are available not only at a higher frequency than GDP (quarterly at best), but also it is available for a broader sample of economies. Notice also that the decline in industrial production in high income economies is significantly larger than that of middle income countries. GDP however is a much broader measure of economic activity.
expected though, there is some regional heterogeneity. The downturn lasted on average 5 months for economies in East Asia and the Pacific (EAP) and about 8 months in South Asia. Still recovering earlier than high income economies on average, economies in the ECA and LAC regions observed slightly longer recessionary phases of about 9 and 11 months, respectively.

**FIGURE 1.5 Length of Recessionary Phase**

<table>
<thead>
<tr>
<th>PANEL A Industrial Production in High Income and Middle Income Countries</th>
<th>PANEL B Length of Downturn in Industrial Production Indexes across Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Sources: World Bank's Global Economic Monitor (GEM).</td>
<td></td>
</tr>
</tbody>
</table>

In sum, the systemic and global dimension of the downturn phase (peak-to-through) dominated country-specific strengths—no open nation in Latin America or elsewhere could escape the adverse effects of the external shock, which were transmitted across the globe and in a highly synchronized manner. Among financially integrated emerging regions, ECA experienced the greatest growth collapse, while the collapses in LAC, the East Asian Tigers and South Africa were comparable among themselves and to those in rich countries. LAC nevertheless did much better than in the past. MICs in general (including LAC) experienced a downturn phase that was of a much shorter duration that that of the rich countries. LAC appears as laggard among MICs in this regard: when industrial production indices are used, the duration of its downturn was longer than that of the East Asian Tigers and even of the ECA region. Notice however that if a broader measure of economic activity is considered, namely GDP, as is done later on in this report, LAC appears to have recovered earlier than the MIC average.

**Unemployment in the Downturn**

Unemployment figures confirm the picture drawn so far. Unemployment rose virtually everywhere, reflecting the global scope of the crisis. However, middle income countries faced milder effects on average compared to rich countries and, within financially integrated emerging regions, LAC fared much better than ECA. In particular, unemployment rates in LAC increased on average 0.6 percentage points while ECA countries and HICs suffered larger increases of 1.9 and 2.4 percentage points, respectively [Figure B.1].

Furthermore, as discussed in detail in our previous report for the 2010 Spring Meetings of the IMF and World Bank, “From Global Collapse to Recovery: Economic Adjustment and Growth Prospects
in LAC,” the LAC region experienced significantly milder labor market adjustments than in previous crises. Unemployment did increase but its elasticity to the decline in GDP was much lower than in the recessions of the late 1990s. Moreover, the share of informal employment—a commonly used indicator of deterioration of the quality of employment—did not rise in most countries for which data are available, with the notable exception of Colombia. While the milder quantity adjustments in the labor market can be in part attributed to the fact that, this time around, LAC avoided banking crises at home, they remain puzzling considering that average real wages did not decline during the 2009 recession, reflecting the combination of low inflation and downward rigidity in nominal wages.

**FIGURE B.1 Changes in Unemployment**

**PANEL A Across Regions**

**PANEL B Across LAC Countries**

Notes: Changes in unemployment rates between 2009 and 2007 are reported. Sources: EIU and ILO.

Khanna, Newhouse, and Paci (2010) argue that the labor market impact in MICs appears to have fallen disproportionately on hours worked and the composition of labor, rather than on the number of jobs. In a study of 28 countries, including the LAC-7 countries (Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela) and Ecuador, the authors show that the wage bill fell by an average of 8 percentage points between December 2007 and September 2009, mostly due to reduced working hours and a sectoral shift away from high-paying sectors, rather than a decline in the number of jobs. Nevertheless, the sectoral pattern of job losses depended on the relative size of sectors and how the macroeconomic impacts were felt in a country. For instance, while manufacturing faced the largest output shock in most middle income countries, the services sector seems to account for the highest share of employment losses in Mexico and the Philippines.¹⁵

**Citius, Altius, Fortius (Faster, Higher, Stronger): Tracking the Post-Crisis Recovery**

Sizable shocks like the one experienced by the region during the global financial crisis inevitably hurt growth, certainly cyclical growth and, for some countries, perhaps even trend growth. However, during the recovery phase, resilient economies are those that are able to restore growth to a high and robust level at a fast pace. For a given degree of exposure to the shock, factors determining this aspect of resilience would of course include the policy buffers built-in during the pre-crisis period,

¹⁵ See Habib et al. (2010).
the effectiveness of counter-cyclical policy responses, and the quality of integration into international capital markets. This section examines the features of the recovery phase for LAC, in comparison to (financially globalized) emerging regions and to previous crisis episodes.

A first point to highlight is that engines of global growth have reigned at different paces and with different intensities. In other words, the degree of cross-region and cross-country heterogeneity observed in the recovery has been greater than that of the downturn. This is not surprising given that the relative strengths of individual countries or regions played a greater role as the effect of the global systemic shock faded. Heterogeneity in the rebound is clear not just between developed and developing countries, but also across emerging regions. Perhaps the most striking feature in this regard is that this global recovery is not being led by the rich countries of the center, as was the case in all previous global crises, and this signals an ongoing tectonic shift in the geographic distribution of growth poles. Indeed, the current recovery has established a group of emerging markets (chiefly Brazil, China, India, Korea, Malaysia, Philippines, and Thailand) as increasingly important players in world growth dynamics.

Panel A of Figure 1.6 shows GDP growth forecasts for 2010 and 2011. MICs have not only started to recover earlier than HICs but also much more strongly. Current GDP forecasts predict an average growth rate of more than 6.4 percent (5.5 percent) in 2010 (2011) for MICs versus only 2.3 percent (2 percent) for HICs. The range of growth rates predicted for emerging economies is, however, wide. For instance, while China, India, and Brazil are expected to grow in the 7-10 percent range in 2010, economic activity among ECA countries is predicted to grow around 4 percent. Projections for LAC countries, shown in Panel B of Figure 1.6, stand in line with the MICs’ average. The region as a whole will likely deliver a GDP growth rate in the 5-6 percent range for 2010. And the consensus growth projection for LAC in 2011 hovers around 4 percent at present, although such forecast is subject to the considerable uncertainty that surrounds growth forecasts for rich countries.

**FIGURE 1.6 GDP Growth Forecasts for 2010 and 2011**

The average growth projection for LAC hides a great deal of cross-country variation within the region. This variance is partly related to the size and quality of pre-crisis macroeconomic policy and liquidity buffers. The best performers this year are Argentina, Brazil, and Peru, where growth is expected to be at 7.5 percent. Also with growth rates above the regional average are Paraguay and
Uruguay (growth rates of 6.1 percent). Chile, Colombia, Dominican Republic, Mexico, and Panama are expected to grow robustly in the 4-5 percent range, fairly close to the regional average. By contrast, many of the countries in Central America and the Caribbean, including for instance Nicaragua, Honduras, Guatemala, El Salvador, and Trinidad and Tobago, are expected to have a relatively weaker recovery (with growth rates in the 1-3 percent range). Negative growth rates are projected for very few countries in the region, notably Jamaica (-0.3 percent), Venezuela (-3.1 percent), and Haiti (-8.5 percent), the latter reflecting the devastating effects of the recent earthquake.16

The cross-country heterogeneity in the recovery can also be captured by assessing whether and when countries have or will have recovered to a reference level of economic activity. To this end, two reference levels are considered: first, the GDP level that was reached in 2008, i.e., the pre-crisis annual peak; and second, the level that would have been reached in 2010-2011 had countries maintained the average growth rates that they had registered in the 2000-2007 period. The latter reference level of GDP is a proxy measure of potential output, itself based on a proxy measure of trend growth.

Consider first, the expected levels of GDP in 2010-2011 relative to that in 2008 [Panel A of Figure 1.7]. The GDP of all regions in the world are expected to exceed their corresponding 2008 levels by 2011. In 2010, however, the average levels of real economic activity in HICs and in the countries in the ECA region are estimated to still remain below their 2008 levels, by -0.2 and -1.7 percent, respectively. In contrast, the GDP of the remaining developing regions will comfortably exceed that of 2008 by 2010. LAC taken as a whole, however, is somewhat of a laggard relative to MIC in this regard. While LAC’s 2010 GDP will be 2.3 percent above that of 2008, that of the East Asian Tigers, India, and China are estimated to register excesses of 6.9, 14.5, and 19.5, respectively. Heterogeneity within LAC under this measure is considerable, with South America’s recovery by 2011 (at 9.4 percent above that of 2008) comparing well to that of the East Asian Tigers and being well ahead of the recoveries in Central America the Caribbean (4.8 and 0.5 percent, respectively). Among LAC countries, Argentina, Brazil, Dominican Republic, Panama, Peru, and Uruguay are the leaders, with their GDP in 2010 estimated to exceed the 2008 levels by 7 percent or more.

A similar cross-country pattern emerges if the comparison is made against potential GDP, as proxied by the GDP level that would have been achieved had the crisis not taken place and had countries continued to grow at the average rates achieved in the 2000-2007 period. Panel B of Figure 1.7 shows that, according to this rough measure of the output cost of the global crisis, the worst performers are, again, HICs and countries in the ECA region. LAC’s GDP is projected to be around 5 percent below potential by 2011, which compares well with the East Asian Tigers that are expected to be about 6.1 percent below potential in 2011. Economic activity in China and India in 2011, by contrast, is expected to be only 3 and 1 percent below potential. Brazil, however, compares favorably with these latter countries, as its GDP is expected to be 2.5 percent above potential in 2011.

A similar pattern of variation within LAC emerges when the recovery is assessed using this proxy measure of potential output [Panel C of Figure 1.7]. In effect, real economic activity in South America is predicted to be at only 0.6 percent above its potential in 2011, while Central America and

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16 Country forecasts presented in this report correspond to Latin America Consensus Forecasts as of September 2010. However, official and private projections might differ from the forecasts used here. Stronger growth may be expected in some LAC countries.
the Caribbean are projected to be 8.2 and 11.2 percent below, respectively. At the country-specific level, even larger disparities can be observed. Among Caribbean nations, the 2011 projected output in Trinidad and Tobago is expected to be 25 percent below its potential whereas the shortfall for the Dominican Republic would only be 3 percent. Similarly, within Central America, Panama and Guatemala are among the best performers, while Honduras and Belize are among the worst. In South America, by contrast, many countries will reach potential output levels by 2011, with Argentina, Brazil, and Uruguay ahead of the pack. A notable exception is Venezuela, which is projected to be 16 percent below potential output in 2011.

**FIGURE 1.7 Estimated Costs of the Crisis**

**PANEL A** Expected GDP Levels in 2010 and 2011 Relative to GDP in 2008

**PANEL B** Expected GDP Levels Relative to Trend GDP

**PANEL C** Expected GDP Levels Relative to Trend GDP - LAC Countries

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Notes: Trend GDP, used in Panels B and C, is defined as the GDP that each country would have attained if it had grown between 2008 and 2010 at the same pace as in between 2000 and 2007. Sources: Didier, Hevia, and Schmukler (2010) and Consensus Forecasts (September 2010).

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17 The large shortfalls relative to potential GDP for Trinidad and Tobago and Venezuela—two large oil exporters—are unduly magnified to the extent that potential GDP in 2011 is estimated using the average growth rates achieved in the 2000-2007 period, where growth was enhanced by large terms of trade gains that are unlikely to be observed again in the near future.
It is important to note that the relative strength of the recovery may overestimate resiliency to the external shock to the extent that it reflects differences in a purely “bounce back” effect. That is, economies that experienced greater growth collapses between 2007 and 2009 are also expected to register stronger GDP expansions during 2010 in percentage terms, simply because they grow from a lower base and are aided by automatic adjustment factors such as inventory rebuilding. Figure 1.8 shows this correlation more clearly across countries.18

**FIGURE 1.8 Changes in GDP Growth Rates**

Real GDP Growth Rates in 2010-2009 vs. Real GDP Growth Rates in 2009-2007

As the recovery phase is still ongoing, data are not yet available to isolate the pure rebound effect from true resiliency effect, i.e., the part of the recovery associated to more robust macro-financial policy frameworks, including the mentioned policy-induced shift to greater diversification in export structures and destinations as well as to a safer form of international financial integration. This clarification, however, does not invalidate the finding above that LAC’s resilience in the recovery, while averaging out significant variation within the region, has been relatively strong and comparable to other middle income countries, especially in terms of its ability to recover potential output levels.

**Different Drivers and Different Speeds: Dynamics of the Recovery**

This section illustrates the dynamics of the recovery in LAC compared to HICs and MICs, by examining the evolution of macroeconomic indicators during recessions and expansions using quarterly data for 1970-2010.19 In particular, this section examines the behavior of GDP, its demand components (private consumption and investment), and policy variables around peaks of real GDP, comparing the current cycle vis-à-vis the historic average around previous peaks. This analysis highlights the drivers of the recovery so far and deepens the understanding of the dynamics of

18 Our characterization of “bounce back” effects does not distinguish countries according to their initial GDP growth rates nor how far they have been from potential output. Nevertheless, there could be important non-linearities in the relationship between growth collapse and growth recovery related to these two factors that are not being considered here.

19 Specifically, quarterly data on real output, investment, private and public consumption and nominal interest rates for the period 1970q1-2010q1 is used. Our sample comprises of 24 HICs and 36 MICs, of which 9 countries belong to the LAC region, namely: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, and Venezuela.
economic activity during the 2008-2009 global recession in comparison to the observed average pattern characteristic of past (post-1970) recoveries.

Figure 1.9 displays the evolution of GDP, private consumption, and investment during the current economic cycle (2007-2010) vis-à-vis 1970-2006 historical averages, over windows of 8 quarters around the peak in real GDP. LAC countries have by and large outperformed this time around if compared to their history. Moreover, the exercise shows that the decline in real GDP this time around was of shorter duration. In the current cycle, real GDP began to grow at faster rates than the

**FIGURE 1.9 Real Output, Real Private Consumption, and Real Investment around Peaks in Business Cycles**
8-Quarter Windows around Peaks of Real GDP

<table>
<thead>
<tr>
<th>PANEL A Latin America &amp; the Caribbean</th>
<th>PANEL B Middle Income Countries</th>
<th>PANEL C High Income Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP</td>
<td>Real GDP</td>
<td>Real GDP</td>
</tr>
<tr>
<td>Real Private Consumption</td>
<td>Real Private Consumption</td>
<td>Real Private Consumption</td>
</tr>
<tr>
<td>Real Investment</td>
<td>Real Investment</td>
<td>Real Investment</td>
</tr>
</tbody>
</table>

Notes: In the figures, period T stands for the Peak year in GDP business cycles. The sample of LAC countries includes: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, and Venezuela. Sources: Calderón and Servén (2010), EIU, Haver Analytics, LAC Central Banks and Statistical Offices.
historical (sample) average 6 quarters after reaching the peak.\textsuperscript{20} In the past, it took LAC two more quarters to reach faster-than-average growth rates. The shorter duration and slight smaller amplitude of the decline in real output growth was driven by the robustness of private consumption, as real investment has a similar behavior when compared to past cycles.

LAC not only performed better relative to its own past; it also outperformed the HICs’ and MICs’ averages in this cycle. In particular, LAC’s decline in growth (relative to the historical average) was less than that of the MICs’ average. As for the HICs, the recovery of historical growth rates has remained elusive even after eight quarters since the peak. Interestingly, in sharp contrast with LAC, the downturn seems to be of a greater magnitude and longer duration for the HICs and MICs also when compared to their own past. The weakness of the recovery in both consumption and investment is behind the subpar performance of the latter two country groups.

LAC’s history of frequent and devastating financial crises is well-known. As noted earlier, in previous crises episodes, LAC countries were usually caught with substantial home-grown macroeconomic and financial vulnerabilities that sapped LAC’s ability to undertake counter-cyclical policies. LAC was instead compelled to respond pro-cyclically, raising interest rates, deeply cutting fiscal spending, or raising taxes in order to contain and cope with capital outflows, currency pressures, and low international reserve levels. Moreover, in many cases, these desperate measures were unable to prevent financial meltdowns.

In sharp contrast with the past, the global financial crisis found many LAC countries with the required credibility and space to conduct counter-cyclical monetary and fiscal policies, which allowed them to partially offset the global shock. Figure 1.10 shows that some countries in the region were able not only to reduce nominal rates (this was especially the case of the inflation-targeting countries—Brazil, Chile, Colombia, Mexico, and Peru) but also to increase public expenditures in real terms, much of which was oriented to social and infrastructure programs and investments. As shown in Panel A of Figure 1.11, Chile and Colombia, for example, lowered their policy interest rates by 7 percentage points or more (between December 2008 July 2009). Peru and Brazil also aggressively reduced their rates by 5.3 percentage points and by 4.25 percentage points, respectively. In addition to cutting policy rates, some countries in the region were able to engineer policies to keep credit flowing in the face of heightened risk aversion among private creditors. Brazil was arguably the most aggressive in LAC in the credit front, with very proactive responses—implemented largely through the central bank and development banks—to guarantee liquidity in both domestic and foreign currency, support trade finance, and ensure credit availability to the corporate sector. For example, the Treasury lent BNDES approximately R$ 100 billion (3.2 percent of GDP) in 2009 and R$ 80 billion in 2010 to sustain credit flows to the private sector.

\textsuperscript{20} The “historic averages” are computed as the simple averages across all peak dates for the sample of 66 countries over the period 1970q1-2010q1. The peaks are detected using the modified Bry-Boschan algorithm applied for quarterly data (Harding and Pagan, 2002; Engel, Haugh, and Pagan, 2005).
In the fiscal front, LAC countries with built-in policy buffers (i.e., public savings) and liquidity buffers (which, in some cases, included resources from IFIs) undertook several measures ranging from tax cuts to subsidies to increases in government expenditures. Panel B of Figure 1.11 shows the magnitude of discretionary fiscal policy measures that Argentina, Brazil and Mexico undertook in 2009, compared to those of other G-20 countries. Panel C of Figure 1.11 highlights the counter-cyclicality nature of these measures, which stand in sharp contrast to the conduct of fiscal policy around previous crises episodes.

FIGURE 1.10 Policy Reactions around Peaks in Business Cycles
8-Quarter Windows around Peaks of Real GDP

PANEL A Latin America & the Caribbean

PANEL B Middle Income Countries

PANEL C High Income Countries

Notes: In the figures, period T stands for the Peak year in GDP business cycles. The sample of LAC countries includes: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, and Venezuela. The analysis of the interest rates excludes periods of high inflation, that is, country-quarter observations where annual CPI inflation rate exceeds 50 percent. Sources: Calderón and Servén (2010), EIU, Haver Analytics, LAC Central Banks and Statistical Offices, IMF’s International Financial Statistics.

Improved Immune Systems Were Tested and Have Silently Paid-Off

The performance of LAC countries and other emerging markets, especially those in Asia, in the aftermath of the subprime-originated global crisis is unprecedented. The consolidation of sound macro-financial policy frameworks and the associated build-up of buffers, including a safer integration to international capital markets, have been the main factors in reducing external

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21 The estimated costs of fiscal discretionary measures presented in Figure 1.11 is only indicative of the actual cost of counter-cyclicality of fiscal policy as the mix of policies vary by country. For instance, some measures implemented might not be included in the government budget.
vulnerabilities in the region. Clearly Latin America has, on average, strengthened its immune system against adverse external shocks.

**FIGURE 1.11 Changes in Policies during the Global Financial Crisis**

**PANEL A** Monetary Policy - Changes in Monetary Policy Rates  
**PANEL B** Fiscal Policy - Estimated Costs of Fiscal Discretionary Measures in 2009  
**PANEL C** Variation in the Cyclically-Adjusted Primary Surplus across LAC Countries

Notes: Panel C reports the average quarterly variation (in percentage points of GDP) of the cyclically-adjusted primary balance of LAC-6 countries during the global downturn associated to the 2008 - 2009 financial crisis and during previous crisis. Negative (positive) values indicate an expansion (contraction) in discretionary fiscal policy. Sources: IMF’s “Fiscal Monitor: Navigating the Fiscal Challenges Ahead” (May 2010), ECLAC, and Bloomberg for Panels A and B, and LCRCE staff calculations based on Haver Analytics, Datastream in Panel C.

As discussed in the previous section, countercyclical capacity is a new and certainly notable feature in LAC’s macroeconomic policymaking. This was the result of a diligent and steady process of institution building undertaken over the past 25 years by several LAC countries, partly in response to the painful lessons learned through the recurrent crises suffered since the 1980s. This process involved a virtuous combination of improvements. More robust monetary policy frameworks grounded on credible and professionally managed central banks were an essential to soften the blow on the domestic economy when the world economy came to a halt. Inflation-targeting countries (Brazil, Chile, Colombia, Mexico, and Peru) are notable examples in this regard. Another key factor
that contributed to the ability to lower interest rates was the exchange rate regime. With the exception of Eastern Europe, most (financially globalized) emerging countries, including many LAC countries, have moved towards more flexible exchange rate regimes. This movement was feasible because of the improved credibility and institutional capacity of central banks as well as the reduction in currency mismatches in the government and private sector’s balance sheets resulting from the steady lowering of inflation and its volatility. Moreover, the effectiveness of more flexible exchange rate regimes has risen in line with the deepening of local currency debt markets, implying that exchange rate movements now generate much less adverse balance sheet effects. As a result, many central bankers in LAC allowed exchange rates to depreciate significantly in late 2008, thereby cushioning the global shock and, at the same time, helping mitigate the deterioration of the external balance [Figure 1.12].

**FIGURE 1.12 Nominal Exchange Rate Fluctuations around Crises**

**PANEL A Latin America**

**PANEL B East Asia & Pacific**

Notes: This figure depicts the behavior of the nominal exchange rate around crises episodes of external origin to the region in question. Sources: Didier, Hevia, and Schmukler (2010).

In the area of public finances, enhanced debt management systems and greater discipline in fiscal policy contributed to reductions in government debt burdens and improvements in the currency, interest rate, and term structure of such debts, with salutary collateral effects on the deepening of local currency debt markets. Brazil’s steady and systematic improvement in the management of
public finances stands as a salient example in this regard (Gooptu and Primo Braga, 2010). Brazil’s Fiscal Responsibility Law of 2000, which applies to all levels of government, consolidated the fiscal legislation passed since 1997 and transformed the sub-national debt market, which accounts for about 30 percent of total public sector net debt. The unifying framework specified that borrowing was allowed only for long-term public capital investment, and set limits on fiscal variables such as fiscal and primary deficits as well as debt-service ratios. This, together with major reforms to debt management, enabled Brazil to reduce its foreign debt and retire dollar-denominated domestic debt, acquiring a negative dollar-exposure in its accounts in the years prior to the crisis (Canuto, 2008). Colombia is another example where the Fiscal Transparency and Responsibility Law of 2003 sought to limit sub-national debt to payment capacity. It also tightened the regulation on financial institutions’ lending to sub-national entities (Liu, Prasad, Rowe, and Zeikate, 2009). The result of this type of policy innovations in the region was that of more viable fiscal processes, even if, with the notable exception of Chile, these processes tended to remain pro-cyclical in most of LAC (Calderón and Fajnzylber, 2009).

The soundness of domestic financial sectors also improved in several LAC countries due to better regulation and supervision, more prudent practices by financial intermediaries, and abundant local liquidity. These factors contributed to a virtuous combination of financial deepening and a rising share of loans funded by local currency deposits [Figure 1.13]. Perhaps for the first time in recent decades, domestic financial systems in LAC at least did not amplify the shock emanating from the international financial system.22 In particular, most of LAC financial systems stayed away from relying on short-term wholesale funding for their credit operations. This was of especial importance because, as shown in Raddatz (2010), when the international wholesale interbank market dried up in the last quarter of 2008, banks across the world that relied more on this short-term wholesale market were hit harder and suffered serious rollover problems. Thus, even as the external environment deteriorated sharply, local financial systems in LAC remained on sound footing and depositors did not flee the domestic banking system (unlike during previous crises).

**FIGURE 1.13 Leverage in Pre-Crisis Periods in Emerging Economies**

<table>
<thead>
<tr>
<th>Loan to Deposit Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
</tr>
<tr>
<td>MENA</td>
</tr>
<tr>
<td>SSA</td>
</tr>
<tr>
<td>SA</td>
</tr>
<tr>
<td>LAC</td>
</tr>
<tr>
<td>HIC</td>
</tr>
<tr>
<td>EAP</td>
</tr>
<tr>
<td>ECA</td>
</tr>
</tbody>
</table>

*Sources: Beck and Demirguc-Kunt (2009).*

22 Although total bank credit declined during the crisis, foreign banks operating in LAC countries did not act as a particularly destabilizing force during the crisis; by and large, they behaved similarly to local private banks. This claim, however, does not imply that foreign banks did not play a role in the transmission of the crisis (Cetorelli and Goldberg 2010).
On the external front, a safer integration to world markets was well underway in LAC during the six years or so prior to the crisis. Two key developments in this connection have enabled LAC countries to reduce the vulnerabilities that can arise from international financial integration. First, many LAC countries improved their current account positions, partly because of major terms-of-trade improvements among other factors, thereby becoming less dependent on foreign financing. Second, and perhaps more importantly, many countries have steadily changed the structure of their external assets and liabilities, making the balance sheet effects work in their favor this time around. On average, there was a switch of foreign liabilities from debt to equity while debt assets in foreign currency were accumulated to levels that exceed foreign debt liabilities [Panel A of Figure 1.14]. As currencies depreciated in LAC countries, the local currency value of their external assets increased, while that of their debt liabilities shrunk. And with the collapse in growth and in equity markets, the local currency value of LAC’s equity liabilities also contracted. In contrast, developed countries increased their debt liabilities vis-à-vis emerging countries, in part reflecting the large debt flows used to finance the U.S. current account deficit.23

FIGURE 1.14 A Safer Integration in LAC

The other side of the coin of this safer form of international financial integration was the accumulation of foreign reserves, which picked up dramatically in the emerging world since the Asian currency crises of the late 1990s [Figure 1.15]. Reserve accumulation served as a self-insurance mechanism during the crisis, deterring currency and banking panics. In fact, when the global crisis erupted, many emerging market economies (including several LAC countries) held international reserves in excess of their stock of short-term foreign liabilities. This eliminated concerns about debt rollover difficulties, giving investors less incentives to attack domestic currencies. At the same time, the high levels of international reserves also gave central banks significant room to contain the depreciation of their currencies during the crisis period.

Another factor that helps explain the resiliency of LAC countries, especially the South American ones, is the steady diversification of external trading partners undergone in the last 20 years, which took place in the midst of the rising world demand for natural resources (where LAC is relatively

23 See for example Gourinchas and Rey (2007) and Lane and Milesi-Ferretti (2007).
abundant) that was driven mainly by the rapid pace of growth in China. The historically tight synchronization of economic upturns and downturns between the U.S. and Latin America has as a result been loosened. In particular, LAC’s trade, which was traditionally linked mostly to the U.S. and, to a lesser extent, Europe, has notably shifted in favor of China and other emerging economies in Asia [Panel B of Figure 1.14]. Clearly, China matters much more for LAC now, not just directly (through the agricultural and mineral commodities that the region exports to China) but also indirectly, for the impact that China has on the international markets for commodities (for which LAC is abundant) and on third-country markets (to which LAC exports).

As a result, the output co-movement between China and LAC countries has been frankly rising, especially for South American countries, but also for Costa Rica and Panama. As documented in the Annex of this report, there is evidence of a declining output co-movement between rich countries and emerging market economies, including LAC countries. In fact, growth in LAC countries seems to be more tied to developments in China than in advanced countries. As the region diversifies its trade linkages to the rest of the world, the sources and nature of external shocks will also diversify. In particular, shocks coming from other emerging countries may become increasingly more relevant for LAC in the future. This is important to keep in mind, as the volatility of such shocks may be in the future higher than those coming from rich countries.

**FIGURE 1.15 International Reserves**

**PANEL A Total Amount of International Reserves**

<table>
<thead>
<tr>
<th>Percentage of GDP</th>
<th>South Africa</th>
<th>India</th>
<th>ECA</th>
<th>LAC</th>
<th>China</th>
<th>East Asian Tigers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous Crisis</td>
<td>30%</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>2008 - 2009</td>
<td>45%</td>
<td>40%</td>
<td>35%</td>
<td>30%</td>
<td>25%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**PANEL B Variation in International Reserves and Average Exchange Rates – LAC**

Average Exchange Rate (RHS)

Notes: Previous crisis in Panel A was defined as the Asian crisis (1997) for all regions with the exception of LAC, for which the simple average between the Asian and the Tequila (1995) crises was used. The average exchange rate expressed in Panel B is the simple average of LAC-7 exchange rate indexes. Sources: World Bank's WDI.

The greater trade linkages to Emerging Asia, and China in particular, suggest that part of the resiliency in the recovery phase should also be attributed to external pull factors. The external demand from Emerging Asia quickened economic activity by boosting the exports and terms of trade of LAC’s net commodity exporters—which, as noted, are mainly located in South America and account for over 90 percent of the region’s population and GDP. The strength of commodity prices, which rebounded quickly along with other asset prices in the first half of 2009, has indeed made the recovery in LAC commodity exporters stronger than otherwise.
Globalized, Resilient, Dynamic: The New Face of LAC

One of the main lessons of the crisis is that despite the fact that LAC has come out of the crisis with a “bruised income statement,” the amplitude of its 2009 economic downturn was not as large as that of other (financially globalized) emerging regions. Moreover, the crisis hardly deteriorated the region’s “balance sheets.” The factors that typically used to amplify external shocks—i.e. weak currencies, unsustainable fiscal processes, and fragile banking systems—were turned around and thus helped to cushion the blow. For the first time in decades, several countries in the region were able to conduct strong countercyclical policy, particularly in the monetary front. The growing connection to China and a safer form of integration into international financial markets contributed to LAC’s resilience throughout the cycle. In a remarkable accomplishment, LAC countries avoided financial crises at home and are coming out of this crisis with generally sound fiscal and debt positions. In fact, the preponderance of the evidence discussed in the previous sections suggests a remarkable stylized fact—namely, that LAC resilience through the most recent crisis cycle has been comparable to that of the East Asian Tigers and much greater than that of Eastern Europe.

But it is wise not to declare victory too early. Although LAC’s improved immune systems were tested and passed the test this time, the continued resilience of countries in the region is not a foregone conclusion. In a recent paper, Qian, Reinhart and Rogoff (2010) show that although 20 years without external default or without banking and inflation crises constitutes an important hallmark for a country, it is not a guarantee. The risk of reversals may be reduced but is never fully eliminated. While the region faced an admittedly large external shock, it was a single shock nevertheless and one of not too long a duration. The newfound resilience of LAC remains untested to a streak of consecutive shocks. Therefore, the long-run resilience of the region’s macro-financial policy framework cannot be established conclusively without further testing. The freedom of LAC countries from “serial crises” status is in effect the result of a long process that has only begun, although admittedly in an impressive manner. Moreover, the positive prospects for LAC’s growth in the near future notwithstanding, the region is not isolated from the world economy and a significant fraction of the downside risks lies with developments in high income countries, which look uninspiring for some time to come.

As documented in the Annex, the robust growth observed in LAC in particular, and in emerging markets more generally, is not tied to the low growth in G-7 countries, but rather to the high growth in China, India and other countries in Emerging Asia. It seems also to be tied to the major easing of financial conditions that has taken place in the major international financial centers to which emerging markets are increasingly integrated. Such easing of financial conditions reflects a major swing towards lower risk aversion and is a key driver behind the capital inflow bonanza that the most dynamic emerging markets, including several countries in LAC, are currently experiencing. It is also an important part of the explanation of why we can expect robust growth in emerging markets to coexist with sluggish growth in industrial countries, for a few years at least. In other words, even if global consumption growth is weak, the easing of financial conditions coupled with capacity building needs in fast-growing emerging markets can keep fast growth alive for many LAC countries, particularly for those with greater connections to China.

This scenario is, however, not free of complex tensions and risks that may come to haunt the region down the line. It is a scenario where progress towards global rebalancing may stall. To see this, consider the following circularity. The U.S. is trying to stimulate its economies out of the recession by keeping interest rates low (and thus allowing the dollar to depreciate to stimulate exports) while
emerging economies are increasing interest rates to pre-empt inflation. This, together with the mentioned easing of financial conditions and optimism on emerging market prospects, is fueling a massive movement of capital from rich countries to emerging markets, particularly the larger and most dynamic ones. As a consequence, the currencies of the latter are under strong appreciation pressures, which virtually all emerging countries are resisting aggressively. But this is tantamount to preventing the U.S. dollar from depreciating, precisely at a moment when such depreciation is called for by economic fundamentals and global rebalancing needs. As a result, interest rates in the U.S. have to be lower than otherwise, which further reinforces the flow of capital to emerging markets, thereby exacerbating the risks of overheating there. This, in turn, induces central bankers in emerging markets to keep interest rates higher than otherwise. Thus, the circular process begins again and can become self-reinforcing in the absence of coordinated global action (or unless a critical mass of emerging markets unilaterally allow their currencies to strengthen significantly vis-à-vis the dollar).

The lack of coordinated macro policies around the world is leading to individual actions that are not consistent with global rebalancing and, thus, are leading to a bad equilibrium—i.e., an equilibrium where the U.S. dollar does not depreciate and U.S. consumption continues growing (relative to income and wealth). Exchange rate policies in emerging markets have thus become an important part of the global imbalance conundrum. If persistent, this situation can raise important risks for emerging markets in general and LAC in particular. First, it may accentuate trade tensions between the U.S. and emerging markets, especially China. Second, and arguably more relevant to LAC, it may promote fiscal profligacy and foster financial excesses in emerging markets. Let us consider this second risk more closely.

At present, monetary policy in most of LAC is overburdened—it is expected to deal with the multifaceted complexity associated surging capital inflows and commodity price buoyancy single-handedly, without help from fiscal policy and without suitable macro-prudential tools. The resulting imbalance in the policy mix is in part fostered by the combination of easy financial conditions, the associated the search for yields, and the fact that generally low debts create room to borrow. This combination reduces incentives for LAC countries to tighten fiscal policies counter-cyclically during the current expansion. In addition, the avalanche of capital inflows to LAC threatens to be imprudently intermediated by the local financial systems, which can incubate a sort of irrational exuberance that can end up badly in the medium term. It is simply too much to ask of monetary policy to deal with a single instrument—the interest rate—with all of these risks and pressures while keeping inflation low.

The region therefore needs to start addressing the issue of resiliency in good times in earnest, significantly rebalancing the policy mix. A shift of gears is needed to unburden monetary policy, especially in the countries that are enjoying marked buoyancy. The stimulus implemented during the crisis should be withdrawn and fiscal and financial buffers should be rebuilt. So far, very little is being done, especially in the fiscal front but also in the macro-prudential front. A much more substantial role should be played in LAC by fiscal adjustment and increased public savings. Savings command an even higher premium for commodity exporting countries—to mitigate the adverse effects on export diversification and growth of excessively volatile and strong currencies and to distribute equitably the benefits of the commodity windfall across generations.24 Moreover, it is has become even more urgent for LAC (than for advanced economies) to develop a suitable menu of

24 The challenges posed by commodity wealth are thoroughly discussed in Sinnott, Nash, and de la Torre (2010).
macro-prudential instruments that can complement monetary policy, helping ensure that the current surge in capital inflows does not mutate into financial excesses (runaway credit booms, asset price bubbles, etc.).
ANNEX
THE DECOUPLING HYPOTHESIS

Abstract
The present Annex tests the hypothesis of “decoupling” across emerging markets (EMs) in light of
the recent global crisis. It addresses the different dimensions of the decoupling hypothesis, namely
the (asset-price based) decoupling in financial markets and decoupling in economic activity. The
analysis yields two stylized facts: (a) recoupling in financial markets is observed as EM asset returns
become more sensitive to global asset returns over time, and (b) EM economic activity appears to
have decoupled from rich countries (real decoupling) but recoupled with China —thus, highlighting
the role of the Asian economy as global growth driver. Trade and financial shocks will continue to
be transmitted as the world becomes increasingly inter-connected, and EM growth will likely be
affected by both. Nevertheless, the newly gained resilience of EM to external shocks, reflected in the
short-lived output reaction to the global financial crisis and the ability to policy-engineer a swift
recovery, suggests that EMs are better able to cope with these shocks.

The conventional wisdom that prevailed before the crisis was that emerging markets (EMs) had a
growth engine of their own and were “decoupling” from advanced countries (e.g. Helbling et al.
2007). Critics have attributed the better macroeconomic outcomes to favorable terms of trade and the
Great Moderation —that is, the combination of stable global growth, low inflation, and low
international rates, as well as a heightened appetite for risk. In this light, the global crisis was the
ultimate test of the hypothesis of “decoupling” across EMs. This Annex goes further into the issue
and evaluates the decoupling hypothesis from a broader perspective that goes beyond the simple
analysis of output comovement (or lack thereof) across countries. It sheds light, particularly on two
alternative varieties of decoupling: (a) reduced co-movement of EM asset returns to global asset
returns (asset-price-based financial decoupling); and (b) reduced output co-movement to the world
economy (real decoupling).

Two stylized facts emerge from the analysis undertaken. First, the sensitivity of EM asset returns vis-
à-vis global asset returns has increased over time, even before the global financial crisis and the
subsequent bust and recovery after the Lehman Brothers’ collapse. In other words, there has been a
financial recoupling across emerging economies. The second stylized fact is related to the nature of
the real decoupling: despite the increased asset price comovement with core economies, the share of
output performance explained by G-7 growth has decreased over time for EMs. Importantly, this is
not because EMs have become more autonomous: they have actually increased their comovement
with global output over time. However, such increased correlation is explained by China. The
Chinese economy has replaced the traditional role of advanced countries (particularly, the U.S. and
Europe) in driving growth in EMs. In other words, emerging economies appeared to have decoupled
from G-7 by coupling with China. At any rate, this financial recoupling – real decoupling pattern has
important implications for the ongoing macro-prudential debate in the emerging world.

In our current context, the newly gained resilience of EMs to global shocks, reflected in the short-
lived output reaction to the global contraction and the ability to policy-engineer a swift recovery

25 This chapter is based on Levy Yeyati (2010).
documented in this report, provides additional support for these stylized facts. Growth in financially globalized emerging markets, and particularly LAC countries, is being fueled by real shocks associated to increasing external demand from fast-growing advanced emerging markets (e.g. China) as well as rising trade among EMs themselves. As discussed in the main report, growth in these countries has also been related to the easing of world financial conditions in the aftermath of the global financial crisis, which has been associated with a surge in capital flows (mostly from advanced nations) to EMs. In other words, growth in EMs is being leveraged by a new composition of real and financial shocks in the world economy.

Financial Recoupling

While improved macroeconomic fundamentals have made EMs more resilient to external shocks, a common misperception among some economists and practitioners is the idea that this newly gained resilience has raised the importance of a country’s fundamentals as drivers of asset performance—a view that, as shown here, is hardly validated in the data. To illustrate this point, a principal component analysis is used reduce the dimensionality of the data and extract orthogonal common factors. These common factors are the principal components, and the first principal component (PC1) captures as much of the variability of the data as possible. Hence, a common factor (captured by the first principal component PC1) in the country-level returns of different assets—namely, equity, foreign exchange spot contracts, and credit-default swap (CDS) spreads—is obtained by using monthly data from January 2000 to April 2009. The degree of EM asset return comovement is then calculated by estimating the share of time variability explained by this common factor PC1 in the performance of the different EM assets. The estimated PC1 suggests the strong presence of a common factor driving EM asset returns, although this result does not tell us anything about the nature of this common component, including whether corresponds to global or regional factors.

**FIGURE A.1 Emerging Market Asset Returns and Common Factors**

*Average R-squared from Country Regressions*

![Chart showing average R-squared for equity, foreign exchange, and CDS spreads across different periods: Early Period (2000-2005), Late Period (Jan-05 to Jul-08), and Crisis (Aug-08 to Apr-09).]*

**Notes:** A principal component is estimated for returns on equities, on foreign exchange spot contracts, and on CDS sovereign spreads. Then, country-specific returns for each asset class are regressed on its associated PC1 in order to get an R-squared. The average R-squared is being reported for countries within each region. See Levy Yeyati (2010) for more details. Sources: Bloomberg.

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26 Bordo and Murshid (2002) and Bordo and Helbling (2003) have estimated the global factors associated with asset prices and growth rates using principal component analysis.
As can be seen in Figure A.1, the variance of EM asset returns explained by this common factor is considerable in all cases. More specifically, the common factor explains, on average, more than 80 percent of the variance in EM equity returns and CDS spreads and nearly 60 percent of the variability in EM spot exchange rates during the crisis period. Furthermore, the importance of this common factor has been increasing over time, even before the 2008-2009 sell-off that took place in the second half of 2008. For instance, the variability over time of equity returns explained by the first principal component increases from approximately 40 percent in the period 2000-2005 to more than 50 percent during the pre-crisis period.

To shed some light on the factors possibly associated with this common component, the comovement between the first principal component for each asset class and global factors is computed. Table A.1 shows that global influences or globally synchronized shocks are at least in part behind the significant comovement displayed across EM asset returns. The correlations between PC1s and the proxies for global shocks, such as the S&P stock index, the MSCI for developed countries, and the U.S. high yield corporate spread (a proxy for investors’ risk appetite), range from 0.52 to 0.96. Hence, the evidence so far does not seem to support the decoupling hypothesis in financial markets.

### TABLE A.1 Correlations between Common Factors and Global Indexes

<table>
<thead>
<tr>
<th>1st. Principal Component in:</th>
<th>S&amp;P</th>
<th>MSCI Developed</th>
<th>HY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Component in Equity Returns 2000-2009</td>
<td>0.841*</td>
<td>0.941*</td>
<td>-0.684*</td>
</tr>
<tr>
<td>2000-2004</td>
<td>0.821*</td>
<td>0.924*</td>
<td>-0.615*</td>
</tr>
<tr>
<td>2005-2009</td>
<td>0.872*</td>
<td>0.953*</td>
<td>-0.725*</td>
</tr>
<tr>
<td>EM Equity Returns 2000-2009</td>
<td>0.810*</td>
<td>0.890*</td>
<td>-0.640*</td>
</tr>
<tr>
<td>2000-2004</td>
<td>0.777*</td>
<td>0.819*</td>
<td>-0.639*</td>
</tr>
<tr>
<td>2005-2009</td>
<td>0.850*</td>
<td>0.933*</td>
<td>-0.662*</td>
</tr>
<tr>
<td>EM CDS Spreads 2000-2009</td>
<td>-0.626*</td>
<td>-0.669*</td>
<td>0.752*</td>
</tr>
<tr>
<td>2000-2004</td>
<td>-0.527*</td>
<td>-0.565*</td>
<td>0.520*</td>
</tr>
<tr>
<td>2005-2009</td>
<td>-0.775*</td>
<td>-0.770*</td>
<td>0.815*</td>
</tr>
<tr>
<td>LAC Equity Returns 2000-2009</td>
<td>0.728*</td>
<td>0.816*</td>
<td>-0.626*</td>
</tr>
<tr>
<td>2000-2004</td>
<td>0.664*</td>
<td>0.727*</td>
<td>-0.585*</td>
</tr>
<tr>
<td>2005-2009</td>
<td>0.790*</td>
<td>0.872*</td>
<td>-0.672*</td>
</tr>
<tr>
<td>LAC CDS Spreads 2000-2009</td>
<td>-0.594*</td>
<td>-0.635*</td>
<td>0.713*</td>
</tr>
<tr>
<td>2000-2004</td>
<td>-0.423*</td>
<td>-0.471*</td>
<td>0.430*</td>
</tr>
<tr>
<td>2005-2009</td>
<td>-0.756*</td>
<td>-0.743*</td>
<td>0.783*</td>
</tr>
</tbody>
</table>

Notes: The first principal component was computed by taking a weighted average of the changes in the country-specific equity and foreign exchange returns and CDS sovereign spreads, where the weight for country i equals the i-the principal component weight divided by the sum of all the principal component weights. See Levy Yeyati (2010) for more details. Sources: Bloomberg.

For robustness, the next step is to estimate the sensitivity of EM asset returns to global asset returns – that is, the EM asset “betas” to the relevant global risk factors. The decoupling hypothesis is, once, contradicted by these measures: equity and CDS betas have remained stable or increased in the
second half of the 2000s [Figure A.2]. In other words, the evidence shown here suggests that instead of the much advocated decoupling story in financial markets, there has actually been financial recoupling across emerging economies, and between them and advanced markets.

**FIGURE A.2 Median Betas across Emerging Economies**

**PANEL A Equity Betas to the S&P 500**

**PANEL B Foreign Currency Betas to the DXY**

**PANEL C Sovereign Credit Spreads Betas to HY Corporate Spreads**

*Sources: Bloomberg.*

**Real Recoupling**

Economic theory has given us several explanations for the linkages between greater financial integration and increased business cycle synchronization. For instance, increased financial coupling, as reflected by tighter linkages in asset trading or higher comovement of stock markets, can generate higher business cycle synchronization through larger demand-side effects (Kose, Prasad, and Terrones, 2003). If consumers from different countries have a significant share of their investment in a particular stock market, a collapse in equity prices in that particular market could lead to a

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27 Betas are estimated based on country-by-country regressions of monthly log changes in MSCI country equity indexes on log changes in the S&P 500, and log credit spreads on U.S. HY corporate spreads, respectively. Results are similar (or even stronger) when quarterly and annual data are used instead.
simultaneous decline in the demand for consumption and investment goods in these countries. Financial contagion effects could also result in greater cross-country spillovers of macroeconomic fluctuations. Furthermore, financial linkages can also have indirect effects on business cycle synchronization through trade linkages and output specialization. Tighter financial linkages might lead to a reallocation of capital according to comparative advantage patterns of diversification. This would increase opportunities to trade and lead to more asynchronous cycles (Kalemli-Ozcan et al. 2003, 2009; García-Herrero and Ruiz, 2008). In this light, has the financial recoupling in emerging market been reflected in a similar recoupling of business cycles with those of the developed world? This Annex however does not attempt to identify any causal relation between the different versions of the decoupling hypothesis, i.e. between financial comovement and real comovement.

As this report argues, emerging market economies, and some LAC countries in particular, have become less vulnerable to exogenous shocks from core economies because of the diversification in the sources of economic growth. While in the nineties, whenever the world caught a cold, emerging economies got pneumonia, these past financial crises seem to have immunized emerging economies so that, if anything, when in 2008 the G-7 got pneumonia, EM just got a cold. However, this decoupling argument is not as straightforward and it is somewhat more controversial than this narrative would suggest.

At first sight, this standard view does not seem to hold. Principal component analysis is once more used to compute the common factor for the (seasonally adjusted) quarterly GDP growth in emerging markets and advanced countries (G-7 and non-Euro advanced countries). The share of the growth variability explained by the first principal component for a group of developed and EMs has increased sharply in the 2000s [Figure A.3]. This evidence is in line with similar (albeit smaller) increases that have been found in cross-country correlations (Rose, 2009).

**FIGURE A.3 Growth Variability and a Common Factor**

This figure reports the average R-squared of the following regressions: growth variability for country i on a common factor. The common factor is the first principal component computed by taking a weighted average of growth variability, where the weight for country i equals the i-the principal component weight divided by the sum of all the principal component weights. Non-Euro Advanced Economies includes: Australia, Canada, New Zealand, Norway, and Sweden. LAC-7 countries are: Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela. Sources: Bloomberg.

Analogous to the caveat made in the previous section, what lies behind this common factor remains an open question. Moreover, the correlation of business cycles, the measure most often used in the economic literature, is also hard to interpret as it is influenced by the amplitude of the growth cycle as
much as by its sensitivity to global factors. That is, the correlation between EM and G-7 output, $\rho_{\text{EM,G-7}} = \beta_{\text{EM,G-7}} (\sigma_{\text{EM}} / \sigma_{\text{G-7}})$ can increase due to changes in relative volatilities even if the sensitivity (captured by the growth “beta”) remains the same.28

In our view, a more natural way to examine the real decoupling hypothesis is to test whether EM output sensitivity to (arguably exogenous) growth in advanced economies has declined over the years. To do so, EM growth is regressed on G-7 growth with an assessment of how these coefficients (to use a financial analogy, the emerging economies growth “betas”) have evolved since the inception of the EM asset class in the early 1990s. More specifically, the sample is split in an early period (1993-99) and a late one (2000-09). In particular, cyclical growth (relative to a log-linear GDP trend) is regressed on the G-7 cycle based on quarterly, seasonally adjusted GDP data (identifying the late period with an interacting dummy) for a panel data of countries.29 The results are shown in column 1 of Table A.2. In this traditional specification, emerging markets (EM) appear to have become more correlated with external global factors over time.

### TABLE A.2 Real Decoupling
Growth as a Function of G-7 Growth, Chinese Growth, and Commodity Prices

<table>
<thead>
<tr>
<th>Independent Variables:</th>
<th>Panel Estimations</th>
<th>Panel Estimations</th>
<th>Panel Estimations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Emerging Markets</td>
<td>LAC-7</td>
<td>CRB</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>G-7</td>
<td>0.432***</td>
<td>1.636***</td>
<td>0.982***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>G-7, Late</td>
<td>0.146**</td>
<td>-1.299***</td>
<td>-0.763***</td>
</tr>
<tr>
<td></td>
<td>(0.043)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>China</td>
<td>0.850***</td>
<td>0.577***</td>
<td>0.450***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>China, Late</td>
<td>0.420***</td>
<td>0.147***</td>
<td>0.535***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>CRB</td>
<td>0.0491***</td>
<td>0.060*</td>
<td>-0.023**</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>WTI</td>
<td>0.013***</td>
<td>-0.023**</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>α</td>
<td>0.028***</td>
<td>-0.086***</td>
<td>-0.101***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Observations</td>
<td>1357</td>
<td>1357</td>
<td>63</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.12</td>
<td>0.26</td>
<td>0.27</td>
</tr>
<tr>
<td>G-7 + G-7, Late</td>
<td>0.578***</td>
<td>0.347***</td>
<td>0.397***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>China + China, Late</td>
<td>1.270***</td>
<td>0.731***</td>
<td>1.382***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
</tbody>
</table>

Notes: The late period goes from 2000 to 2009. Median sample estimations report the median values from country-by-country regressions. G-7 growth was computed as the average of individual growth rates weighed by the dollar GDP in the previous year. Non-Euro Advanced Economies include Australia, New Zealand, Norway, and Sweden. For panel regressions, ***, ** and * denotes significance at a 1%, 5% and 10% respectively. P-values are reported in parentheses. Sources: IMF’s IFS.

Surprisingly however is that the inclusion of China as an independent control rather than an EM member reverts this finding. When China is included as a separate control, the explanatory power of the G-7 virtually disappears in the latest period at the hands of the Chinese influence column 2 of Table A.2. Due to its size and growth dynamics, China represents a global factor in itself and a key ingredient in

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28 The same caveat applies to a comparison of the incidence of global factors based on the $R^2$ (as in Kose et al., 2007) since $R^2_{\text{EM,G-7}} = \rho_{\text{EM,G-7}}^2$.

29 De-trending output using the standard Hodrick-Prescott filter and estimating betas on the growth rate of the cycle yields roughly the same conclusion. Also, the evidence presented in Table A.2 is robust to implementing the regression analysis on a country-by-country basis.
the real decoupling analysis. Reassuringly, the explanatory power of the new specification is significantly larger than in the previous one.

As the evidence suggests, a “coupling” with the world continues to be there, but the composition seems to have changed due to the emergence of a new partner. Predictably, an important share of this Chinese effect is explained by its positive effect on the commodity boom that, in turn, fuelled growth in many emerging economies [columns 3 and 5 of Table A.2]. LAC is no exception. All these findings hold if LAC countries are analyzed separately from other emerging economies, as in column 4 of the table. Importantly, these results are unlikely to represent the influence of G-7 through their influence on Chinese growth, since the latter has been muted in the past decade [column 6 of Table A.2].

This increasing role of China as an independent influence on open emerging economies is less trivial once a comparison is made with a sample of non-Euro advanced economies. The estimations show a weak “China effect,” if any at all, in the latest period from 2000 to 2009. Moreover, a global influence from G-7 countries appears to have actually strengthened over time [columns 7 and 8 of Table A.2].

Another way to illustrate the fact that China has been going its own way is to compute common factors (through principal components once more) of growth for a G-8 group of countries comprised of the G-7 economies plus China, a crude but effective method to isolate common factors driving growth in each of these countries. As the weights of the first two principal components suggest, Chinese growth is entirely captured by a second component, orthogonal by construction to the first component that explains growth across G-7 countries—with Japan sitting between China and other advanced economies [Figure A.4]. This is further confirmed by country regressions of growth on these first two principal components [Table A.3]: growth in G-7 countries is largely associated with the first component, whereas growth in China is explained by the second one. Therefore, for the period under study here, China has represented an independent (and, based on Table A.2, quite influential) new engine of emerging market growth.

**FIGURE A.4 Common Factors in Growth**

First and Second Principal Components

<table>
<thead>
<tr>
<th>Country</th>
<th>Weight on the First Principal Component</th>
<th>Weight on the Second Principal Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>France</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Germany</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Italy</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>UK</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>US</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Japan</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>China</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Notes:** The common factors in growth are the principal components (first and second) of growth for a group of countries comprised of the G-7 and China. Sources: Bloomberg.

30 Country-by-country regressions yield similar conclusions.
TABLE A.3 Engines of World Growth

<table>
<thead>
<tr>
<th>Dependent Variables:</th>
<th>Independent Variables:</th>
<th>Second Principal Component</th>
<th>R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Principal Component</td>
<td>0.008*** (0.000)</td>
<td>0.000 (0.375)</td>
</tr>
<tr>
<td>Average Growth in G-7 Countries</td>
<td></td>
<td>0.000 (0.199)</td>
<td>0.018*** (0.000)</td>
</tr>
<tr>
<td>Growth in China</td>
<td></td>
<td>0.94</td>
<td>0.82</td>
</tr>
</tbody>
</table>

Notes: P-values are shown in parentheses. Sources: IMF’s IFS.

**Concluding Remarks**

In a nutshell, two stylized facts emerge from a quick examination of the decoupling hypotheses for emerging markets (EM), excluding China, and advanced economies. First, there is a growing comovement between EM and global assets, a phenomenon that cannot be attributed to the bust and recovery cycle triggered by the post-Lehman panic and the synchronized monetary and fiscal stimulus post-London summit. This finding highlights at least one important policy implication. In the 1990s, the sovereign spread was seen as the thermometer of country-specific fundamental disorders. Financial contagion to even solvent countries was rooted in the presumption that a run on economies highly dependent on external finance would lead to balance sheet effects, economic losses and, ultimately, insolvency: the canonical case of a sudden stop. In the late 2000s, however, with currency mismatches virtually eliminated in many EMs, the dynamics behind financial contagion became less straightforward and harder to link to country-specific problems. True, financially dependent Eastern European countries that resembled the emerging prototype of the 1990s were hit harder than the rest. But the (arguably short-lived) sell-offs in solid, fast growing economies like Korea or Brazil, were probably less related to the slump in global demand than they were to the unwinding of carry trades or a massive flight to quality that favored a few reserve issuers (the U.S., Japan) at the expense of all other assets. While this technical variety of contagion is still to be tested more extensively (although it happens, quite possibly, very infrequently), it warns about the perils of financial globalization (particularly, the exposure to external shocks and excessive asset volatility) that might not be simply contained by a resilient economy.

The second stylized fact regards real decoupling of EMs from rich countries. While EM growth still reflects global developments closely (and even more so than in the nineties), China has appeared as a key new engine behind economic activity in emerging economies –one that, crucially, has so far correlated only partially with the G-7 countries. This is perhaps the most relevant example of the economic aspects of the “so-called” multi-polarity. As such, it helps explain both the smaller-than-expected slump in economic activity in the emerging world in the aftermath of the global financial crisis and the diverging recovery path of these economies.

The real decoupling along with the “China effect” poses some interesting implications for the EMs in moving forward. To the extent that the current divergence is likely to hold for the medium term (as Chinese growth still has wings, and G-7 performance seems dragged by the need of fundamental adjustments), it redraws the economic map, benefiting Chinese suppliers (in the LAC region, commodity producers) and potentially hurting Chinese competitors (for example, Central America and Caribbean maquila exporters to the U.S. and Europe).
Some caveats to the above conclusion are in order, however. The divergence in trend growth between emerging markets and advanced countries however does not necessarily imply that the former group is enjoying autarkic and self-reliant growth. First, it can also be related to the phenomenon of “convergence in levels” predicted by neoclassical growth theory. Second, it is true that South-South trade has increased significantly over the last 10 years. However, North-South trade has also intensified and still represents a significant fraction of world trade. In addition, the participation of periphery countries in the global production chain links a significant part of South-South trade to the production of final goods that are consumed by advanced nations. Third, while emerging markets have raised their contribution to world growth in the last decade, their relative size pales in comparison with that of advanced countries (in particular, U.S., Euro Zone and Japan). Advanced nations still dominate the global consumption demand.
REFERENCES


The recession in the LAC region was large but short lived and the fact that it came out of the crisis with no systemic damage raised the relative attractiveness of many LAC countries as destinations for investment. As engines of growth re-ignited across the world, LAC growth was second only to emerging Asia in the pace and...