



Policy Trade-offs for Unprecedented Times

*Confronting
the Global Crisis
in Latin America
and the Caribbean*

Coordinators

Alejandro Izquierdo
and Ernesto Talvi

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Inter-American Development Bank



Foreword

This report was prepared for the Annual Meeting of the Board of Governors of the Inter-American Development Bank held in Medellín, Colombia, in March, 2009. A complementary report, *Social and Labor Market Policies for Tumultuous Times: Confronting the Global Crisis in Latin America and the Caribbean*, was also prepared by the staff of the Inter-American Development Bank for the same event. Together, these two reports seek to contribute to an understanding of the macroeconomic and social implications of the current crisis on the Latin American and Caribbean region (henceforth “the region”), and the options and risks faced by policymakers in these two critical and inter-related areas.

This report focuses on the region’s macroeconomic performance in the context of an unusually sharp and rapid deterioration in external conditions. To assess policy options, the report develops a framework to identify the critical trade-offs faced by countries in the region in this particular crisis, and evaluates these trade-offs under alternative plausible scenarios on the dynamics of the global economy. The report identifies some of the macroeconomic challenges and risks that policymakers face in the road ahead. No individual country suggestions are made. Instead, the report indicates some general policy principles that can hopefully be of use to policymakers, including the international financial institutions engaged in the region.

The report was coordinated by Alejandro Izquierdo and Ernesto Talvi, with contributions from Luis Catao, Eduardo Cavallo, Eduardo Fernández-Arias, Arturo Galindo, Pablo Ottonello, Diego Pérez, and Alessandro Rebusci.¹ The numbers presented here are not forecasts of macroeconomic events by the Inter-American Development Bank; they are simulations of alternative scenarios that illustrate the orders of magnitude of the issues under discussion. The views expressed here do not necessarily coincide with those of the management of the Inter-American Development Bank, its Board of Directors, or its Board of Governors.

Santiago Levy

Vice-President for Sectors and Knowledge

¹ Contributors to this report are staff members of the IADB’s Research Department, except for Ernesto Talvi who is Director of CERES (Uruguay), and Pablo Ottonello and Diego Pérez, also at CERES. The authors wish to thank Fidel Jaramillo, Andrew Powell and Ernesto Stein for their valuable comments, and very especially IADB research assistants Francisco Arizala and Cesar Tamayo and CERES research assistants Pía Zanetti, Federico Bermúdez and Carlos Díaz for their excellent work



Introduction

After an Indian summer that lasted well over a year into the financial crisis that started in the United States, by mid 2008, and especially after the collapse of Lehman Brothers, the global crisis caught up with Latin America and the Caribbean, putting an end to one of the most buoyant periods in its recent history. Since then, currencies have depreciated sharply, stock prices have experienced severe falls, and growth forecasts have been revised dramatically downward, with the region now expected to display negative rates of growth in 2009.

However, something appears to be different this time. After all, although the region was hit hard, it has so far withstood the crisis without major financial turbulences. Generally speaking, the region has to date avoided currency and debt crises and bank runs, so typical of previous episodes of global financial turbulence (1982, 1998, and 2001). The ability of the region to resist an extremely severe external shock without major crises appears to suggest that it has now graduated from being exceptional and has earned the “privilege of normality”.²

Why the “privilege of normality”? Because, in contrast to past episodes of global financial turbulence, the region entered the current global crisis with much stronger fundamentals: low inflation, twin external and fiscal surpluses, a sound banking system, a large stock of international liquidity and more flexible exchange rate regimes. Stronger fundamentals have allowed governments to respond with “standard” countercyclical monetary and fiscal policies to mitigate the impact of adverse external shocks, in sharp contrast with past episodes of financial turbulence, when countries in the region reacted procyclically, raising interest rates and tightening fiscal policy in response to a worsening global scenario.

This time, as a result of the combination of fundamental strength and the associated ability to pursue countercyclical policies, the region is expected to withstand the

² See Ruiz (2009).

global storm better than in the past, and than other emerging economies. In fact, the case could be made that the impact of the global crisis will be short lived, a relatively deep recession expected in 2009 followed by a return to positive growth in 2010. Equally importantly, the case could be made that this time the impact will be mostly limited to the real sector, and liquidity crises and economic collapses will be largely prevented.

So far events appear to be validating this view. Or do they? This report will argue that this view is essentially correct only under the assumption that the recession in the United States bottoms out in the first half of 2009 and the economy starts a relatively strong recovery thereafter—the so called V-shaped recovery. A recovery like this in the US will in turn improve the outlook for industrial country growth, commodity prices and global financial conditions, key external drivers of Latin America and the Caribbean's economic fluctuations.³ In such a scenario, the region will be out of the woods relatively unscathed.

This might well be the case. However, the evidence available from previous severe financial crises suggests that they tend to be deeper and last longer than run-of-the-mill recessions. On average, during these episodes it takes about four years for output to return to pre-crisis levels.⁴

As this report will illustrate, a moderate perturbation from the V-shaped scenario, i.e., a more protracted L-shaped recovery although not a deeper recession, consistent with the evidence on financial crises, may deteriorate significantly key macro fundamentals in the region—fiscal, banking and liquidity indicators. Importantly, a key feature of this alternative scenario is that the deterioration in fundamentals is gradual and therefore problems may not become evident until it is too late.

The aim in this report is to not to be pessimistic or raise unnecessary alarms. Rather, the purpose is to heighten awareness of how perfectly feasible alternative scenarios can dramatically change outcomes, and to call attention to the risks faced in such a case. Thus, the challenge for the region's countries—and for the international financial institutions engaged in the region—is to anticipate potential problems early on so as to act in a timely fashion; and if so needed, to design policies to prevent countries from entering into financially hazardous territory where they can be exposed to a financial crisis and a major economic collapse. Given the region's past history, complacency is a luxury that policymakers and multilateral institutions cannot afford. It is not a question of optimism or pessimism, but of caution and prudence in assessing options and risks during unprecedented times. The analysis presented here should be useful to that task.

³ See Izquierdo, Romero and Talvi (2008).

⁴ See Calvo, Izquierdo and Talvi (2006), Aiolfi, Catao and Timmermann (2006) and Reinhart and Rogoff (forthcoming).

The analysis is carried out from a regional perspective. Given data limitations, in what follows the “region” consists of the seven largest countries, namely, Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela (henceforth LAC-7), which together account for 91 percent of the region’s GDP.⁵ Carrying out the analysis from a regional perspective proves to be a useful abstraction since it permits identification of common risks, challenges and policy trade-offs. However, it must be stressed that heterogeneity is a key element accounting for the dynamics of each country’s performance. Although performance will depend crucially on external factors common to all countries, such as the duration and deepness of the global crisis, it will also depend critically on idiosyncratic country characteristics, i.e., the strength of their fundamentals and the appropriateness of their policy responses.

The rest of this report proceeds as follows. Section 2 reviews the region’s economic performance and the evolution of key macro fundamentals in the five-year period preceding the Lehman collapse. Section 3 describes the immediate impact on the region of the post-Lehman world and what may be called the predominant view as to how the region will withstand this more virulent phase of the global crisis. Sections 4 and 5 develop an analytical framework that highlights the importance of liquidity issues—key under precarious access to credit markets and often neglected in policy analysis. This framework is used to evaluate the predominant views on the region. To do this, two alternative scenarios are constructed for the global economy. A key result is that that under a moderately less favorable global scenario than the one currently being discounted by the markets, the region’s outlook may change very significantly. Section 6 concludes with an analysis of the relevant policy trade-offs for the region and some policy principles that emerge from the framework of this report.

⁵ LAC-7 is constructed as the simple average of the seven major countries in the region except where otherwise noted. This group of countries counts with detailed information to pursue the type of analysis presented in this report.





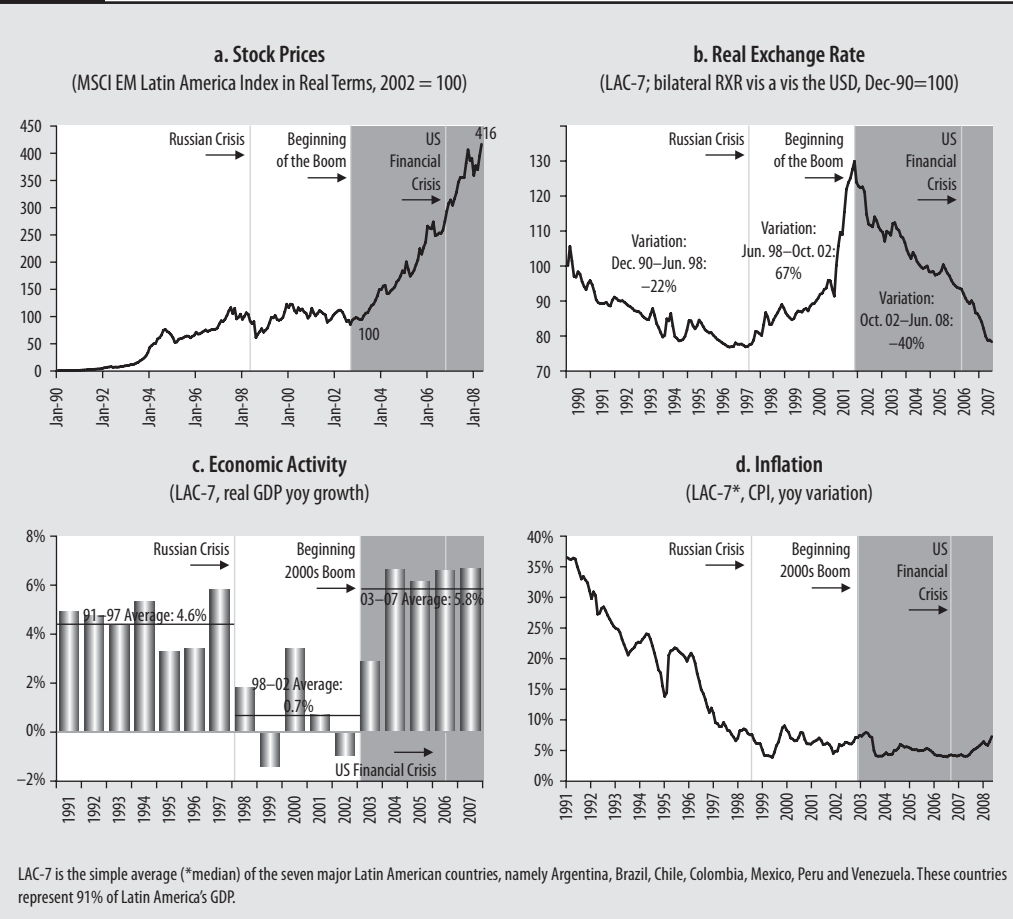
The Panglossian Period (2003–2008:02)

Starting in 2003, Latin America and the Caribbean (LAC) experienced one of the most buoyant periods in its recent history. Pushed by extremely favorable tailwinds blowing from abroad—historically low bond spreads, sharply higher terms of trade and strong world growth—the region enjoyed a period of exceptional economic and financial performance. Average stock market prices in LAC-7 countries jumped four-fold by the end of this period, real exchange rates appreciated by almost 40 percent and GDP growth for the 2003–2007 period hovered around 6 percent, well above the historical average of 3 percent. Moreover, this extraordinary performance occurred in a context of low inflation relative to historical averages (see Figure 1).

This exceptional boom was associated with an equally impressive improvement in fundamentals. In 2007 the region exhibited an overall fiscal surplus of 1.9 percent of GDP compared to a deficit of 0.9 percent of GDP in 1997, at the onset of the Asian/Russian crisis. Public debt-to-GDP ratios plummeted from an average of 52 percent in 2003—the end result of a period of financial crises—to 35 percent by end-2007 (see Figure 2, Panel a and b).

The banking sector also showed significant signs of improvement as non-performing loans (NPLs) declined sharply, sliding all the way from close to 10 percent of total loans in 2002 to 2.5 percent by end-2007. Moreover, increased supervision led to a substantial improvement in loan-loss provisions (LLPs) relative to NPLs. As a result, LLPs, which were only 1.2 times NPLs by 2002, were more than two times larger than NPLs by end-2007 (see Figure 2, Panel c and d).

International liquidity also improved importantly during this period. International reserves, at around US\$ 140 billion in 2002, more than tripled to US\$ 447 billion by June 2008. More importantly, these reserves, which just about covered maturing external debt and central bank short-term liabilities by 2002, represented almost twice the financing required to cover this type of obligations by 2008 (see Figure 2, Panel e and f).

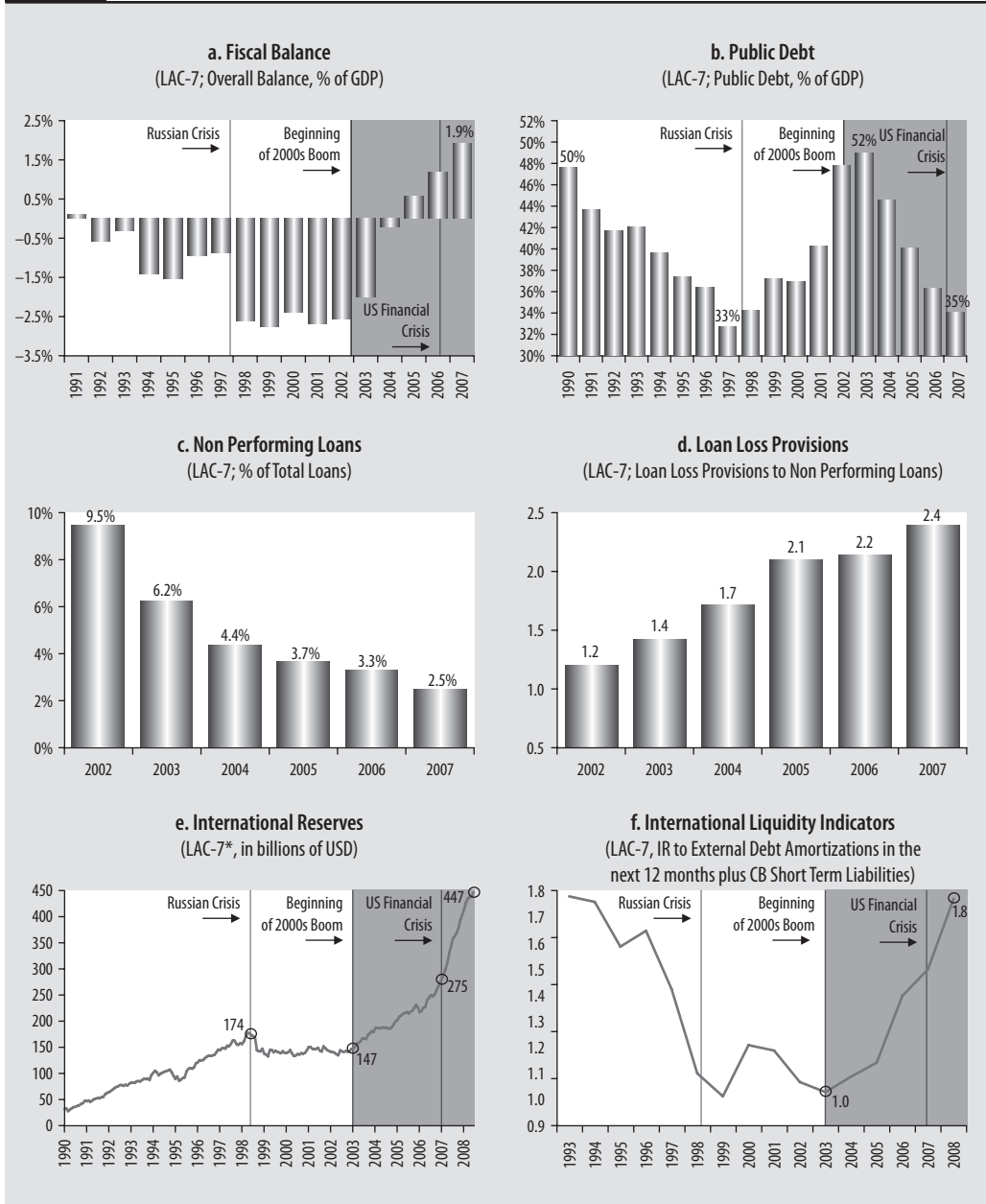
FIGURE 1 The Panglossian Period: Economic and Financial Performance in Latin America

Additionally, the region underwent a drastic de-dollarization process as both the share of foreign-currency denominated debt in total public debt stocks and liability dollarization in the domestic banking systems fell (see Figure 2, Panel g and h). This de-dollarization process allowed LAC-7 central banks more flexibility in exchange rate management by reducing “fear of floating” and reintroducing independent monetary policy, mostly via inflation targeting regimes. As a matter of fact, central banks now put much less weight on exchange rate movements in monetary policy decisions. “Fear of floating” coefficients of central bank policy reaction functions in LAC-7 were four times higher at the onset of the Asian/Russian crisis than they are now. Moreover, current levels are much closer to those of developed countries.⁶

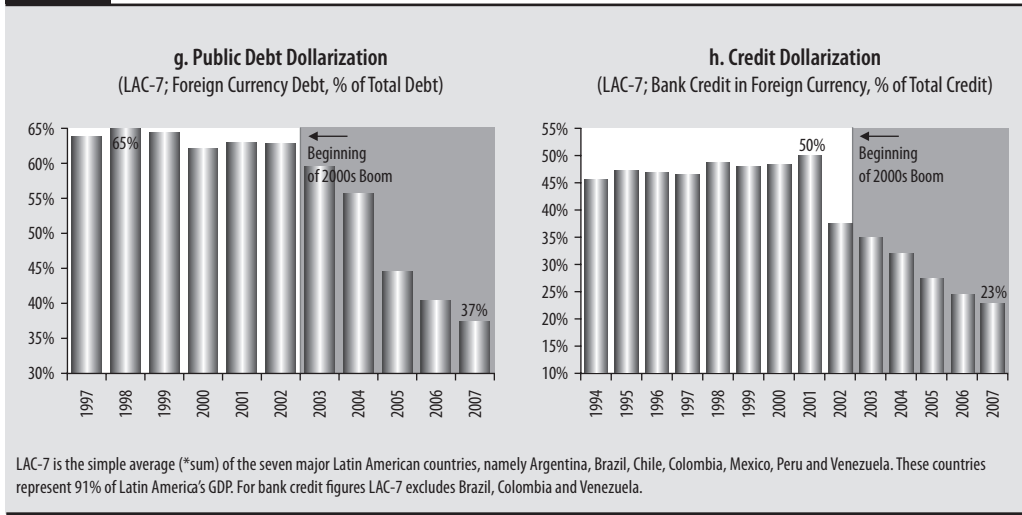
⁶ See Sturzenegger and Talvi (2008) and IADB (2009a).

By the time the US sub-prime crisis hit in July of 2007, the predominant view was that the region was strong and well positioned to withstand the upcoming financial blow. This perception seemed to be confirmed by initial “decoupling” of the region from developments in the US throughout the Q3 2007–Q2 2008 period. LAC was finally

FIGURE 2 The Panglossian Period: Macroeconomic Fundamentals in Latin America



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FIGURE 2 The Panglossian Period: *Macroeconomic Fundamentals in Latin America* (continued)

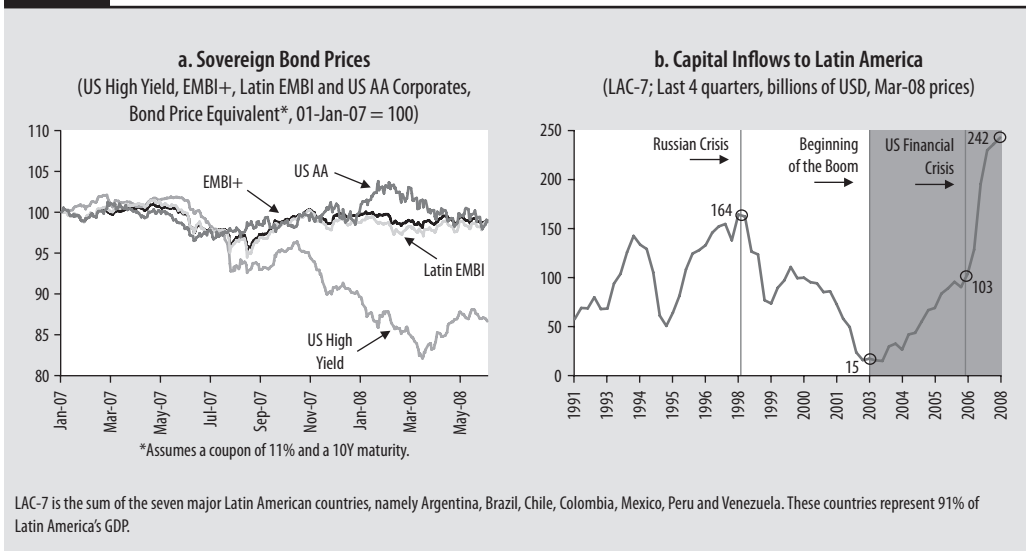
out of the woods in terms of vulnerability to external conditions, pointing indeed to the region's newfound strength.⁷

Indeed, during the first phase of the US crisis, defined as the period between July 2007 and May 2008, regional dynamics for LAC bond spreads and capital inflows seemed to confirm this view. While high yield bond prices in the US—a comparator frequently used to track developments in the Emerging Market (EMs) asset class—fell by more than 15 percent between June 2007 and March 2008, Latin EMBI bond prices remained intact throughout that period. In this respect, sovereign bond price behavior in LAC was on a par with that of AA US bonds.⁸ This fact, coupled with differentials between LAC and US interest rates originated in expansionary policy by the Federal Reserve, led to a dramatic increase in capital inflows. Capital inflows jumped from US\$ 195 billion in the 12 months to June 2007 to US\$ 242 billion in the 12 months to March 2008 (see Figure 3, Panel a and b).

If anything, the initial stages of the US financial crisis reinforced rather than dampened the expansionary cycle in LAC, and countered any arguments that the region was vulnerable to changes in international conditions. In fact, the region displayed all the symptoms of overheating: booming asset prices, currency appreciation, strong growth in aggregate demand and output and inflationary pressures. This was the pinnacle of

⁷ However, the view on the improvement in underlying fundamentals was challenged in IADB's 2008 report "All That Glitters May Not Be Gold."

⁸ EMBI stands for JP Morgan's Emerging Market Bond Index.

FIGURE 3 The Panglossian Period: *International Financial Conditions in Latin America*

the decoupling era. The view that the region would be insulated from the US financial crisis appeared to be validated by the facts, arguably with a vengeance.⁹

Decoupling nourished the view that the crisis would remain a problem largely confined to the North, and not necessarily a setback for EMs. As such, EMs could indeed become a source of expansion in aggregate demand that would counter-balance the impact of the US financial crisis, thus cushioning global output effects and contributing to a smooth global rebalancing process in which gradual reduction of the current account deficit in the US would be compensated by a reduction in current account surpluses in EMs. In retrospect, this turned out to be a Panglossian view of the world.¹⁰

⁹ However, IADB (2008) cautioned that the boom in the first stages of the US financial crisis was shared by EMs with strong and weak fundamentals alike, casting doubts on the view that the boom was associated with the idiosyncratic strength of Latin America's fundamentals.

¹⁰ The term "Panglossian" makes reference to the eternally optimistic character, Dr. Pangloss, in Voltaire's novel *Candide*.



The Impact of the US Financial Crisis on Latin America: The End of the Panglossian Period

The developments of Fannie Mae and Freddie Mac—the two major mortgage corporations sponsored by the US government—by May 2008 signaled the US financial crisis would enter into a new and uglier phase. A new consensus started to emerge that crisis resolution in the US would entail large consolidation, recapitalization and deleveraging of the financial system, requiring the use of large amounts of public money, a factor that would invariably lead to complex political negotiation. Thus, a credit crunch was now in the cards and a deeper and longer recession was to be expected. The deterioration of the financial environment peaked in September 2008 with the fall of Lehman Brothers, a major investment bank. This event triggered a sharp increase in perceptions of risk and sharp deterioration in the external environment for EMs.

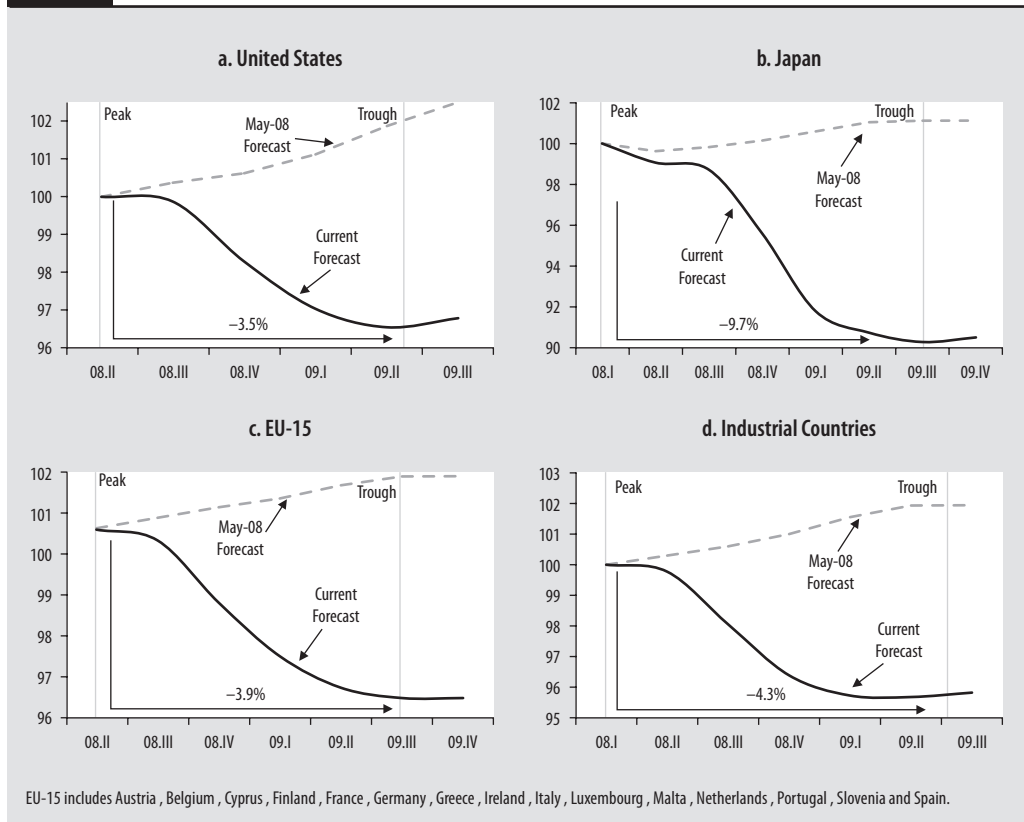
Forecasts that previously anticipated only a deceleration in industrial countries were now expecting a sharp recession in the US, Europe and Japan, indicating that industrial country growth was in for a severe decline (see Figure 4, Panel a, b, c and d). Reflecting expectations of an upcoming fall in aggregate demand, commodity prices melted down with the same speed at which they had increased in 2007 and early 2008. Oil, food and metal prices fell by 69, 31 and 50 percent, respectively. As a consequence, terms of trade deteriorated sharply for the LAC-7 group—about 25 percent between their peak of July 2008 and December 2008 (see Figure 5, Panel a, b, c and d).

To add insult to injury, financial conditions deteriorated significantly for EMs. EM corporate bond prices fell by 21 percent between September 2008 and mid-March 2009. Corporate bond spreads currently stand above 800bps, a signal that access to international credit markets has in essence shut down (see Figure 6, Panel a and b).

This signal is corroborated by data on corporate issuance.¹¹ Data for the LAC-7 group shows that issuance levels collapsed in Q4 2008 to US\$ 2.1 billion from a maximum

¹¹ This data does not include issuance by publicly owned enterprises. Data comes from Bloomberg.

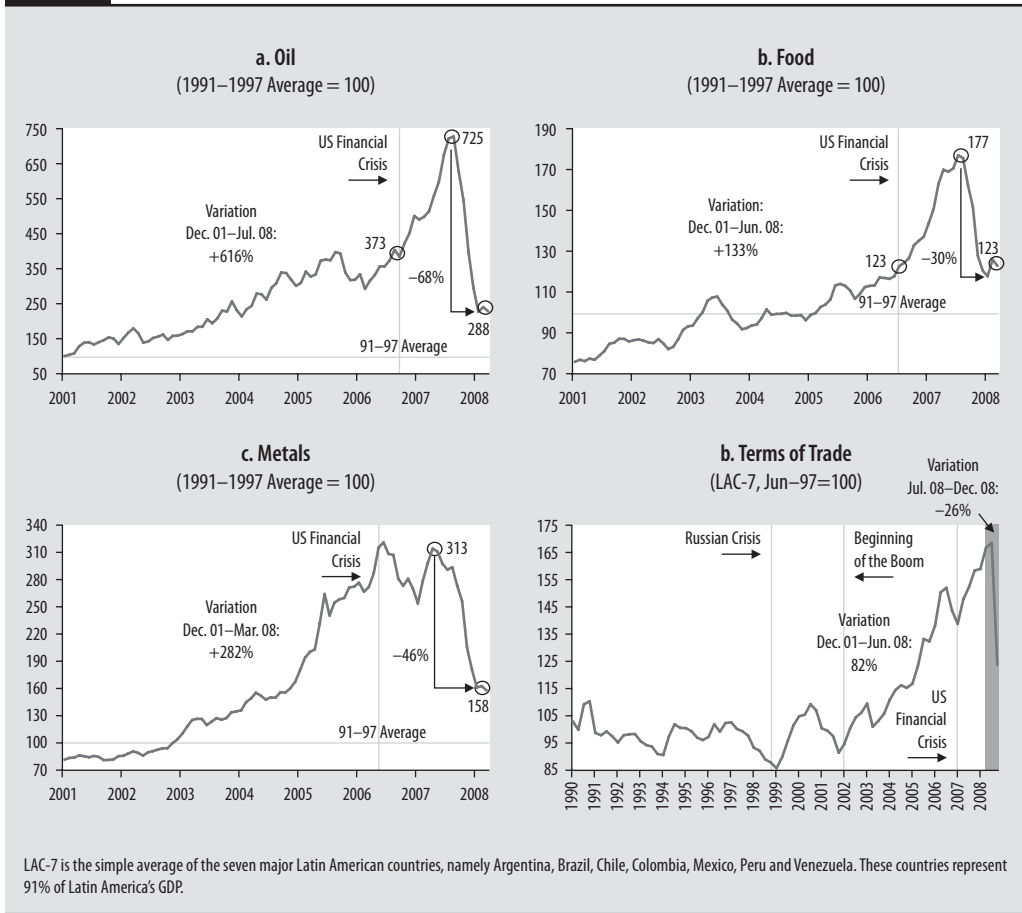
FIGURE 4 The End of the Panglossian Period: *World Growth*
(GCP, real terms, Peak = 100)



of US\$ 21.2 billion in Q4 2007. Moreover, bonds could only be placed at significantly shorter maturities. Short-term bond issuance—less than one year maturity—represented only 1 percent of total issuance in the quarter ending in June 2008 compared to 40 percent of total issuance by the quarter ending in March 2009 (see Figure 6, Panel c and d).¹² For all intents and purposes, EM corporates are in “Sudden Stop (SS) mode”, i.e., a complete loss of access to credit markets, and according to market forecasts they will remain so until at least late 2009.

The picture seems to be somewhat different for sovereigns. LAC sovereign bond prices have fallen by close to 16 percent, and spreads currently stand at 650bps. (see Figure 7, Panel a and b). However, issuance data suggests that access to international capital markets remains open. Sovereigns were able to place new debt for about US\$ 57 billion during the Q1 of 2009, relative to US\$ 70 billion during the Q2 2008 (see

¹² Data is as of March 1, 2009.

FIGURE 5 The End of the Panglossian Period: *Commodity Prices and Terms of Trade*

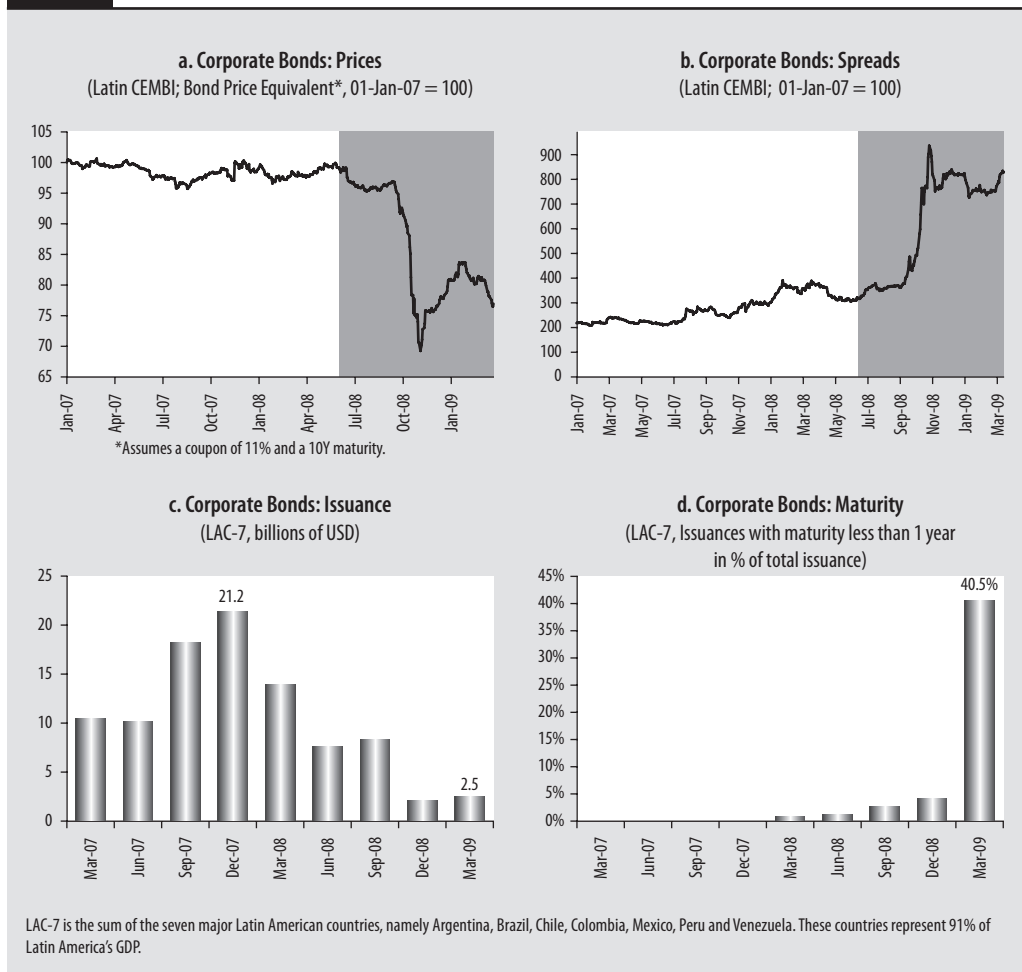
LAC-7 is the simple average of the seven major Latin American countries, namely Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. These countries represent 91% of Latin America's GDP.

Figure 7, Panel c). Nevertheless, even though markets are open, market conditions have taken a significant turn for the worse in terms of maturity. Figure 7 (Panel d) shows the increase in short-term debt issuance as a share of total issuance from 29 percent in Q2 of 2007 to 63 percent in Q4 2008 for LAC sovereigns.

This context in which access to capital markets is not closed but available at substantially higher spreads and shorter maturities, is a context characterized as financial precarization—or FP for short.¹³ The contrast between SS and FP is a key distinction that will have far reaching implications for the macro dynamics and the challenges facing the region.

¹³ For evidence on how financial precarization can vary dramatically with international liquidity conditions, see for example, IADB (2008) and Broner, Lorenzoni and Schmukler (2007).

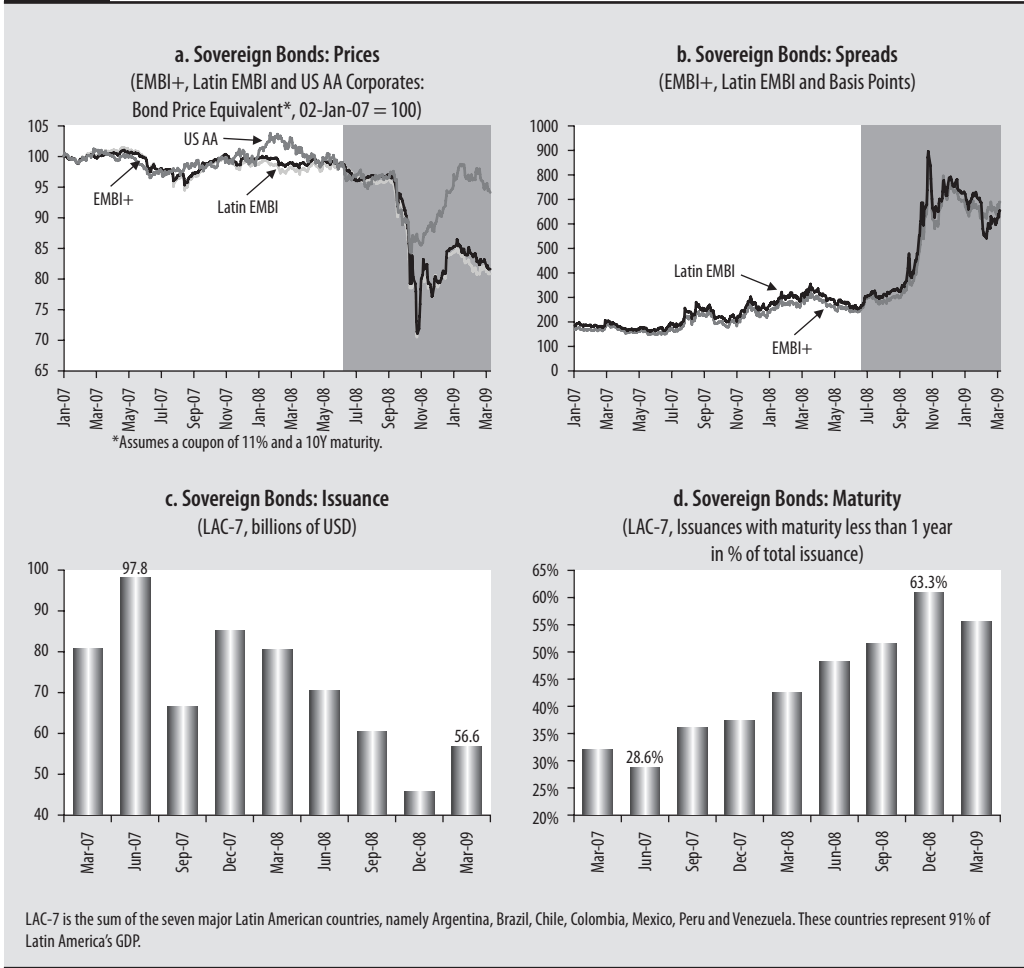
FIGURE 6 The End of the Panglossian Period: *International Financial Conditions – Corporates*



This context differs from that of the Russian crisis of 1998, when just one month into the crisis EM spreads reached almost 1700bps and EMs fell like dominoes one after another. Current spread levels for sovereign borrowers at around 650 bps are well below those prevailing at the time of the Russian debacle.

Several elements may lie behind this contrasting behavior. On the one hand, the fact that EMs were not part of the epicenter of the crisis but, instead, were by-and-large bystanders constitutes a relevant ingredient in the explanatory mix backing access to markets. On the other hand, the sub-prime crisis found in the US Federal Reserve a strong lender of last resort that provided massive liquidity, indeed a function that was largely absent at the time of the Russian crisis. The fact that the current crisis has a global dimension introduces incentives for industrial countries to provide financial support to EMs.

FIGURE 7 The End of the Panglossian Period: *International Financial Conditions – Sovereigns*



Furthermore, LAC appears stronger vis-à-vis the late 1990s in some relevant dimensions. In particular, as it was previously mentioned, liability dollarization levels are currently much smaller on average than in the late 1990s, and current account deficits are much less significant than at the time of the Russian crisis. These two factors have been identified as key ingredients behind the probability of a SS in capital flows given their balance-sheet effect implications.^{14,15}

¹⁴ See Calvo, Izquierdo and Mejia (2004) and (2008) for a formal empirical exploration and Calvo, Izquierdo and Talvi (2003) and Calvo and Talvi (2005) for case studies on the propagation channels and the economic relevance of liability dollarization and current account deficits as triggers of Sudden Stops.

¹⁵ This fact stands in stark contrast with Eastern Europe, where dollarization is rampant and current account deficits are much larger.

Regardless of the relative weight of each of these possible explanations, the fact remains that the door to market access for sovereigns has remained open so far but in a context of FP, i.e., at higher rates and much shorter maturities. Importantly for the arguments that follow, FP implies quite a different ballgame for the region relative to that of a SS. In a SS, due to the complete loss of access to credit markets, stock considerations pose an immediate threat to international liquidity as countries find it difficult to roll-over outstanding stocks of debt coming due, leaving little room for policy maneuver. In contrast, under FP access to markets is not closed but credit is obtained under more precarious terms. This will be a crucial element in the analysis that will be introduced in section 5 when assessing liquidity issues.

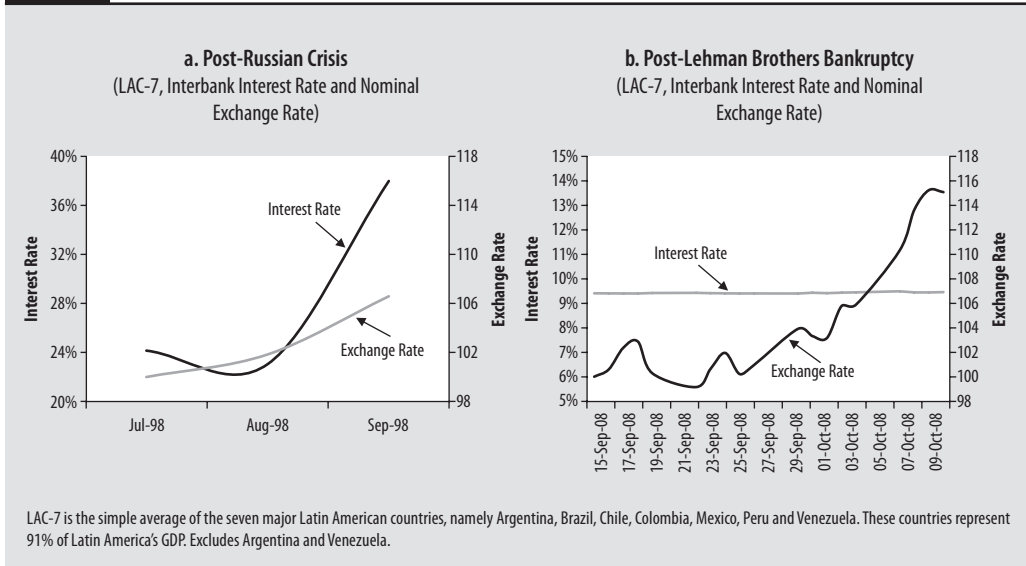
The triple shock in external drivers—industrial country recession, a severe drop in commodity prices and terms of trade, and FP as described above—has had stark implications for LAC's growth forecasts. Market growth forecasts for LAC-7 in 2009 were revised downward from 2.5 percent as late as October 2008 to -0.9 percent as of March 2009, consistent with the deterioration in global conditions. However, the region is expected to return to positive growth territory of around 3 percent in 2010 in tandem with the expectation that the US economy will hit a trough in the first semester of 2009 and then recover.

The reaction of governments tilted toward expansionary monetary and fiscal policies to compensate for the deterioration in external conditions, in many cases with both the intellectual and financial support of the international community. In accordance with greater exchange rate flexibility and independent monetary policy, the LAC-7 group has devalued its currency by almost 30 percent while at the same time gradually reducing policy interest rates. This policy reaction stands in stark contrast with the one enacted in the aftermath of the Russian crisis of 1998, when exchange rate intervention ruled and interest rates shot up in response to the crisis (see Figure 8).

Fiscal policy has also tilted towards expansion. Several countries have announced additional expenditure programs and/or tax cuts in order to sustain growth that imply a fiscal expansion that could range from 1.5 percent of GDP in Mexico to 6.4 percent of GDP in Argentina. Again, these policy announcements contrast sharply with the policy reaction following the Russian crisis of 1998 when the LAC-7 countries displayed a negative fiscal impulse equivalent to 2 percent of GDP.¹⁶

To conclude this section, let us summarize the current predominant view of the region in light of this new and uglier phase of the global crisis. The salient features are the following:

¹⁶ See Ortiz, Ottonello, Sturzenegger and Talvi (2007).

FIGURE 8 Monetary Policy Response: *Russian Crisis vs. Current Crisis*

- LAC has very strong fundamentals to withstand the worsening global conditions.
- The region is better equipped to pursue countercyclical monetary and fiscal policies to mitigate the impact of adverse external shocks.
- Multilaterals stand ready to support LAC, and for that matter other EMs, given the global nature of the crisis.
- The recession in 2009 will be relatively deep but short-lived and the region will return to positive growth in 2010.
- As a result, the impact of the global crisis will be limited to the real sector, but liquidity crises and economic collapses, so prevalent in the past, will be largely prevented.

As argued below, the predominant view would seem justified were the global crisis to bottom out in the first half of 2009 and start a relatively strong recovery thereafter, as markets may be currently expecting. This might well be the case. However, the recession could turn out to be longer and deeper than expected, or even if it does not, global recovery may proceed at a slower pace than anticipated by the market.

In the following sections a framework is developed to critically evaluate the predominant views on LAC's position. These views will be challenged and, as it will become clear, the analysis will have major implications for policy prescriptions and multilateral support programs to confront the global crisis in the region. The point is that, perhaps

without fully being aware yet, LAC may be facing formidable odds if global recovery does not materialize in the way markets are expecting. In this case, global developments and policy choices may have much influence on final outcomes given the nature of the financial crisis, in which liquidity issues become front and center.



Global Crisis Scenarios and Macroeconomic Dynamics in LAC: How Vast is the Desert?

The next two sections assess the predominant views of the region. To that end, the first step is to trace the macro dynamics of a key set of variables under alternative hypotheses of how the global economy unfolds. This exercise will show where the region is heading, if it remains in safe territory or is potentially up for a turbulent ride. In other words, the objective is to go beyond a snapshot of the region and, so-to-speak, see the motion picture right to the end. The second step is to develop a simple framework that emphasizes liquidity issues as a key element in evaluating the region's risks and the policy trade-offs confronting policymakers. Policy evaluation and suggestions are discussed in Section 6.

4.1 Global scenarios

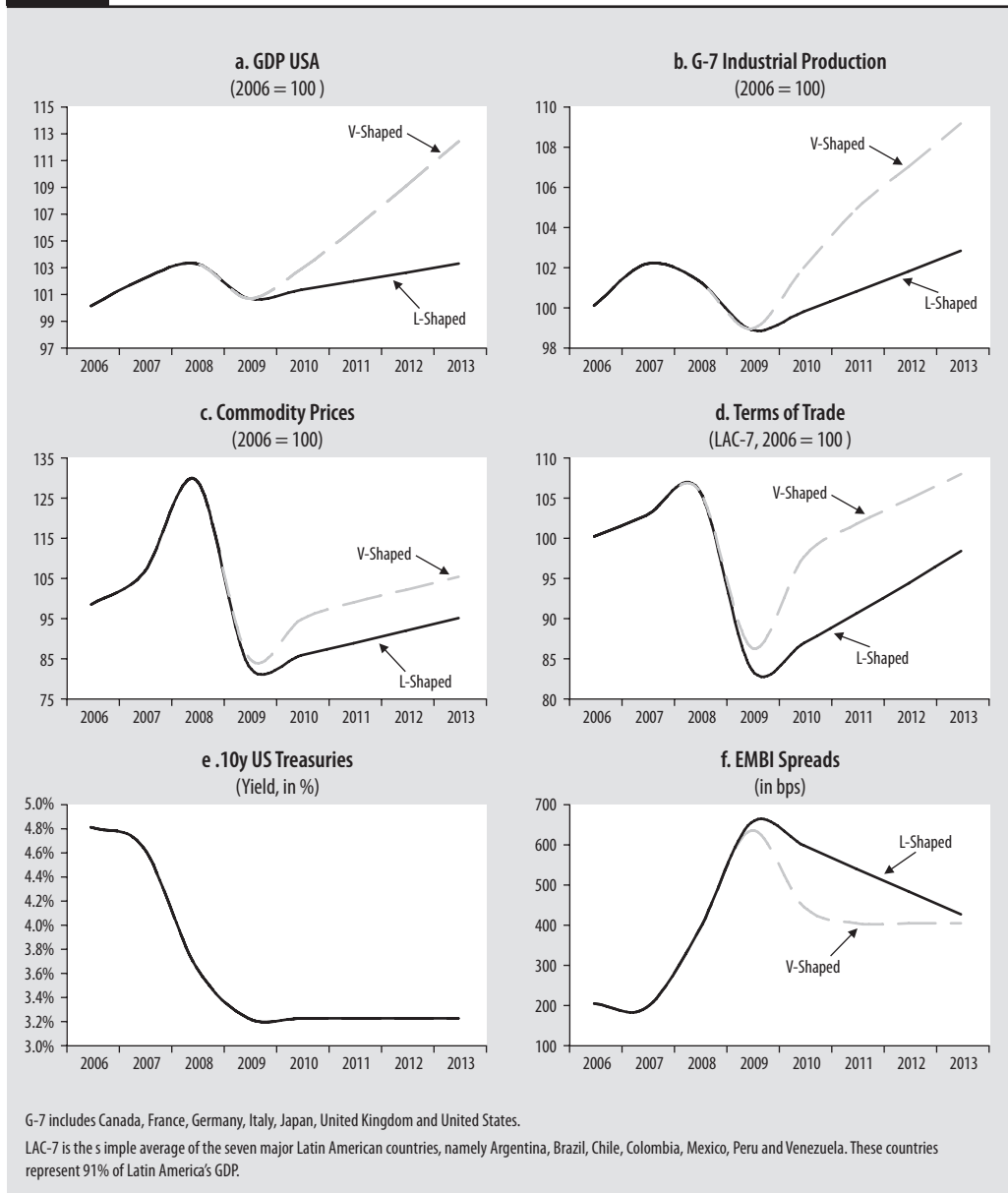
To date there is still substantial uncertainty surrounding the resolution of the US banking crisis and its impact on US output dynamics. Thus, policymakers are faced with uncertainty about alternative scenarios they may confront regarding the global economy. Will recovery be a quick V-shaped type or will it be a more protracted L-shaped type? In other words, how vast is the desert that will have to be crossed? This question is key because its answer will largely determine the appropriate set of matching policies. Crossing a narrow desert strip may allow water in the canteen to be used lavishly. But what if the desert is more expansive and the caravan runs out of water before the end of the journey?

Two scenarios are constructed to reflect uncertainty about future global developments. The first relates to a V-shaped recovery, in line with current market forecasts. The second is an L-shaped recovery that basically depicts a more prolonged recovery period but deliberately avoids any catastrophic developments in the US or in the global economy that would *per se* cause a severe deterioration of LAC-7 fundamentals. A catastrophic scenario cannot be ruled out, but it is less interesting from an analytical

perspective. By contrast, it is much more interesting and in fact important to analyze whether relatively moderate perturbations from the V-shaped scenario can produce a serious deterioration in the region’s fundamentals.

V-shaped Recovery Scenario. The V-shaped recovery hypothesis is described in Figure 9. US GDP growth is taken from the current market forecast, which assumes

FIGURE 9 Two Alternative Global Scenarios



a trough in economic activity by June 2009, and implies a peak-to-trough contraction of 3.5 percent and a recovery to pre-crisis levels of output by September 2010. From then onwards, it is assumed that the economy grows at about 3 percent—the pre-crisis average for the period including the 1990s and up to 2006. Since country-specific growth models to be used later on rely on G-7 industrial production as one of their inputs, a path for this variable is also set, tracking the course of US GDP until its recovery to pre-crisis levels based on their historical correlation. From then on, G-7 industrial production is assumed to grow at its average pre-crisis rate, which implies reaching pre-crisis levels by September 2010.

Commodity prices are assumed to remain at their December 2008 levels until the US trough in economic activity is reached, and to recover to pre-crisis levels (December 2006) precisely when US GDP recovers its pre-crisis level. From then onwards they grow at their historical rate of growth (1990–2006) of 2.9 percent. LAC-7 terms of trade mimic the behavior of commodity prices based on historical correlations.

Finally, US T-bond yields are assumed to remain at current levels (slightly above 3 percent) for the span of the analysis, while EMBI spreads are assumed to peak in the first half of 2009 at current levels (660bps) and continuously decrease to 400bps when US GDP recovers to pre-crisis levels. The choice for the new EMBI floor represents the expectation that spreads will remain higher than at the end of the Panglossian period—a historical minimum—but closer to levels prevailing before the materialization of the Asian/Russian crisis of 1997/98.

L-shaped Scenario. The so-called L-shaped scenario describes a more burdensome external environment (see Figure 9). However, as will become apparent, it is not a catastrophic scenario or a major departure from the V-shaped scenario: US GDP and G-7 industrial production reach their trough at the same time as in the V-shaped scenario, the peak-to-trough contraction in US GDP and G-7 industrial production is identical in both scenarios, but in the L-shaped scenario US GDP and G-7 industrial production attain their pre-crisis levels by December 2013. As already noted, this scenario is in fact more in line with the evidence of severe financial crises, which suggests that they tend to be deeper and last longer than run-of-the-mill recessions. On average, during these episodes it takes about four years for output to return to pre-crisis levels.¹⁷

Just as in the V-shaped hypothesis, commodity prices, and terms of trade are assumed to remain at December 2008 levels until the G-7 industrial production trough is reached, but this time recovery to pre-crisis (December 2006) levels occurs when G-7 industrial production touches pre-crisis levels. Regarding EMBI spreads, they are

¹⁷ For evidence on financial crises and output collapses see for example, Calvo, Izquierdo, and Talvi (2006), Aiolfi, Catao and Timmermann (2006) and Reinhart and Rogoff (forthcoming).

assumed to decrease at a slower pace, reaching the 400bps floor on the same date G-7 industrial production recovers to pre-crisis levels.

4.2 Dynamics of Key Macroeconomic Variables under V-shaped and L-shaped Scenarios

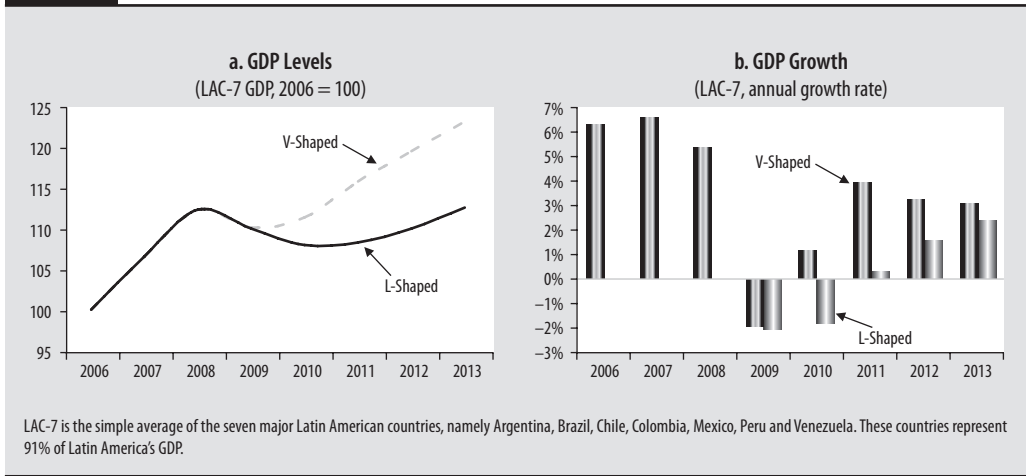
GDP performance. Given the external assumptions of the previous section, the next task is to relate external performance to domestic economic activity. Following Izquierdo, Romero and Talvi (2008), growth models were fitted for each of the LAC-7 countries to incorporate the impact of G-7 industrial production, terms of trade, US T-bonds and EMBI spreads on domestic GDP performance.¹⁸ Results are summarized for the regional average in Figure 10 for GDP levels and growth rates under the V-shaped scenario. Simulations yield a GDP reduction of 1.9 percent for LAC-7 in 2009, positive growth of 1.1 percent for 2010, and 3.9 percent for 2011. These dynamics imply a trough in September 2009, a peak-to trough contraction of about 4 percent, and recovery to pre-crisis levels by March of 2011.

LAC-7 recession is more severe and prolonged under the L-shaped scenario. The region faces two years of declining GDP, 2.1 percent in 2009 and 1.8 percent in 2010, only to post a very weak recovery of 0.3 percent in 2011. These dynamics imply a trough in March 2010, a peak-to-trough contraction of about 5 percent and a slow recovery to pre-crisis levels by December of 2013. Slower world growth, a fainter recovery in terms of trade and high lingering EMBI spreads lie behind these results.

Differences between the V-shaped and L-shaped recoveries can be summarized as follows: whereas in the V-shaped scenario output growth returns to its historical average of 3 percent relatively quickly, the L-shaped scenario implies a persistent underperformance relative to the historical average in the horizon under analysis (see Figure 10, Panel b). In any case, output performance for the next five years will be mediocre at best, and substantially below the 6 percent average growth rates of the Panglossian period. Moreover, in the L-shaped scenario average growth will be close to zero in the next five years, indicating that the collateral damage of the global crisis will be felt for years to come, and that Latin America should be prepared to be in this for the medium haul.

Fiscal Position. The fiscal position of the region will suffer on three fronts: declining revenues as GDP growth falters, relatively low commodity prices, and rising costs of

¹⁸ More specifically, domestic GDP for each country is modeled as a restricted vector error-correction specification linking domestic GDP to the abovementioned list of external factors. Models may vary slightly in terms of the external variables used for estimation (for example, the Mexican case has a better fit when using US GDP instead of G-7 industrial production). For a detailed description of the type of estimations at hand, see Izquierdo, Romero and Talvi (2008).

FIGURE 10 Latin America Economic Activity under Two Alternative Global Scenarios

financing. With the information on domestic GDP and commodity prices at hand, it was possible to simulate public revenue performance considering that these two factors are its two major determinants.¹⁹ The two paths consistent with the V-shaped and L-shaped hypotheses are depicted in Figure 11 (Panel a). Under the V-shaped scenario, revenues are expected to fall on average by about 5.2 percent in real terms in 2009, and a further 2.2 percent in 2010. Contrasts with the L-shaped scenario are not important in 2009—with revenues falling by 5.7 percent—but they are quite relevant for 2010, as revenues now fall by 6.4 percent.

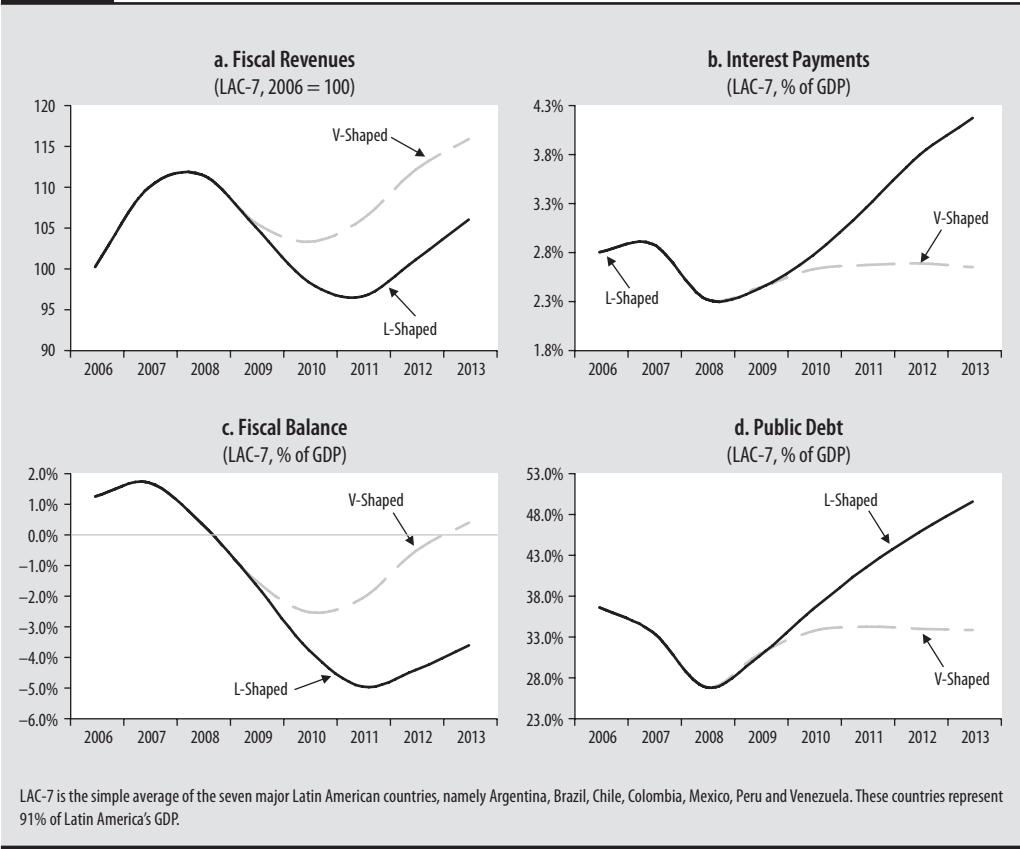
In order to simulate dynamics for the fiscal balance, assumptions must be made regarding primary expenditure and interest payments. First, regarding primary expenditures, a passive scenario in which primary expenditures are kept constant in real terms at 2008 levels is assumed. This assumption might prove unrealistic since it is a politically complex proposition to freeze expenditures, but again the goal was not to bias the analysis towards obtaining excessively negative results by construction.²⁰ Despite being passive in that expenditures are constant, this scenario is countercyclical in that there is initially no adjustment in expenditure, while revenues are falling.

The final element to consider before constructing measures of the public deficit is the treatment of interest payments. For simplicity, it is assumed that up-

¹⁹ For each country, public revenues were estimated using a restricted vector error-correction model linking revenues to domestic GDP and commodity prices (alternatively, terms of trade).

²⁰ In Section 6 when we discuss policy alternatives, the assumption of constant real primary expenditures will be relaxed.

FIGURE 11 Latin America Fiscal Position under Two Alternative Global Scenarios



coming financing needs are placed at market rates, whereas previously acquired non-maturing debt keeps on being serviced at average, previous period rates (see Figure 11, Panel b).²¹

With these elements in place it is possible to construct two measures of the public sector balance corresponding to the V-shaped and L-shaped scenarios. Results are shown in Figure 11 (Panel c). The first thing to point out is that even in the mildest V-shaped scenario with passive fiscal policy, the fiscal balance quickly deteriorates to -1.5 percent of GDP in 2009, and -2.6 percent in 2010. The deterioration of the fiscal balance becomes more remarkable under the L-shaped scenario, where it reaches a

²¹ The path of market rates was constructed based on the evolution of US T-Bond yields and EMBI spreads. For simplicity, it is assumed that each country's EMBI spread differs from the average EMBI spread (which is part of the set of external variables) along the analyzed horizon by the prevailing pre-crisis difference between that country's spread and the average spread.

trough of –5 percent of GDP by 2011.²² These results quickly unveil the underlying vulnerability of fiscal accounts to adverse global conditions, in light of the procyclical behavior of public expenditure during the Panglossian period.²³ Perhaps more telling is the path of public debt. Under the V-shaped, passive policy scenario, public debt increases from 27 percent of GDP in 2008 to 34 percent of GDP in 2012 and stabilizes at that point. However, it doubles to 49 percent of GDP under the L-shaped scenario (see Figure 11, Panel d).

To conclude, although the region starts from a strong fiscal position (a surplus of 2 percent of GDP in 2007) the combination of declining economic activity, collapsing commodity prices and rising financial costs leads to a gradual, persistent and potentially severe deterioration in the overall fiscal position of the region. This deterioration occurs in spite of the assumption that real primary expenditures remain constant. Fiscal deterioration results in potentially exponential dynamics of public debt under the L-shaped scenario, which, in turn, could at some point undermine credibility in the sustainability of fiscal policies.

It is against this backdrop of a potentially fragile fiscal scenario evolving through time that proposals to pursue active countercyclical fiscal policies must be evaluated. In fact, LAC-7 structural public debt levels as of end-2007 stood at almost 50 percent of GDP and the structural fiscal balance was –3.7 percent of GDP, suggesting that fiscal sustainability problems may limit the ability to pursue countercyclical policies.²⁴ This is, of course, an average statement and it is essential to recall that there is enough heterogeneity across countries in the region that, although some may be severely constrained, others such as Chile, who saved rather than spent most of the revenue bonanza during the Panglossian period, may indeed have room to implement counter-cyclical policies without eliciting sustainability concerns.

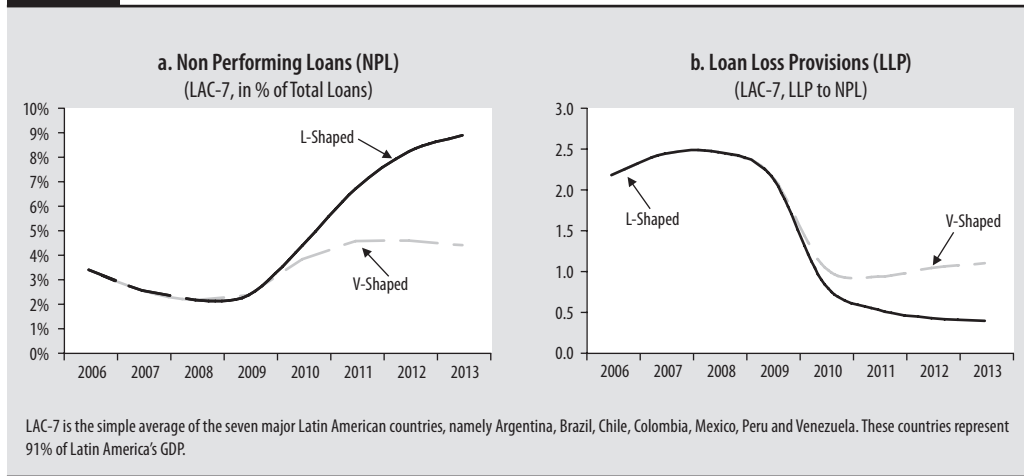
The Banking Sector. The banking sector of LAC-7 enters this juncture in a relatively solid position. In 2007, non-performing loans (NPLs) were relatively low (less than 3 percent of total loans) and loan-loss provisions (LLPs) largely exceeded non-performing loans by a ratio of 2.4 to one.²⁵ However, NPLs are expected to increase as the region slips into recession. To quantify the potential deterioration in delinquency rates,

²² Interestingly, this last value is even larger than the structural balance figures that were obtained for 2007 in IADB's 2008 report "All that Glitters May Not Be Gold".

²³ See IADB (2008).

²⁴ For the methodology used to compute structural levels of public debt and fiscal deficits see IADB (2008) and Ortiz, Ottonello, Sturzenegger and Talvi (2007).

²⁵ Bankscope data covering more than 260 banks that account on average for 54 percent of loans in LAC-7 is used for this analysis.

FIGURE 12 Latin America Banking Indicator under Two Alternative Global Scenarios

empirical estimates relating NPLs to GDP performance were constructed.²⁶ Feeding domestic GDP performance simulations into these estimates provides an idea of the potential deterioration of the loan portfolio. These results are presented in Figure 12 (Panel a). They show that the share of NPLs in total loans could rise substantially in the coming years under the L-shaped scenario—becoming as large as 8.8 percent of total loans by 2013—although their deterioration would be more subdued under the V-shaped scenario.

More relevant is a comparison of the difference between NPLs and LLPs as a share of bank capital. It is particularly useful to evaluate this ratio when NPLs exceed LLPs and start denting bank capital. Figure 12 (Panel b) shows the time path of this indicator along the V-shaped and L-shaped scenarios, under the assumption that bank loans and LLPs remain constant at their 2007 levels. According to these simulations, in the V-shaped scenario, NPLs would be sufficiently large to exceed LLPs by 2011 and the difference between NPLs and LLPs as a share of bank capital would be in the 6 percent range. However, under the L-shaped scenario, this difference could become a large share of bank capital—as high as 32 percent.

To conclude, although the initial conditions of banks in LAC-7 are sound, the decline in economic activity in the L-shaped scenario could lead to a gradual and relatively large deterioration in banks' loan portfolios resulting in equally large capital losses. Although capital losses remain manageable under both scenarios, if quick and decisive

²⁶ Dynamic panel estimates of the ratio of NPLs to total loans against lags of this variable and the cyclical component of GDP were obtained for a panel of banks in all LAC-7 countries, including time fixed effects and bank fixed effects.

action to recapitalize institutions is not taken in a timely fashion, depositors may start to feel uneasy with their holdings in undercapitalized banks, at some point increasing the likelihood of deposit withdrawals.

Once again, it is against this backdrop of a potentially weakening banking situation evolving over time that proposals to pursue active countercyclical fiscal policies must be evaluated, since the public sector may eventually be required to support the financial system. As a matter of fact, contingent liabilities were not factored into the fiscal deficit and public debt dynamics simulations.





The Relevance of Credit Market Precarization and Liquidity

Having traced the challenges that both V and L-shaped global scenarios may pose to fiscs and to banking systems in the region, it is now time to introduce the liquidity dimension into the analysis.

Section 3 showed clearly that market access is currently virtually closed for most corporates in LAC, and that it has become much more precarious for sovereigns, meaning that although access is not closed, new issuance has taken place at higher costs and much shorter maturities. In this context of very tight credit conditions, the evolution over time of the liquidity position of a country becomes a primary concern as it affects the likelihood of a liquidity crisis.

This section will first present a simple framework for analyzing the liquidity position of a country by defining a small set of international liquidity ratios (ILRs), the determinants of the dynamics of ILRs, as well as their implications for assessing risk and for policy evaluation. Next, how ILRs perform in the context of the macroeconomic scenarios described in the previous section is computed.

A Simple Liquidity Framework. To fix ideas, this report will analyze liquidity in the context of a well-known rule of thumb, namely, the Guidotti-Greenspan (GG) rule, by which countries should hold at least enough international reserves to cover short-term (less than one year maturity) obligations coming due.²⁷ This rule, which changes the emphasis of reserve-holding precautionary motives from a real perspective—as exemplified by traditional measures of reserve-to-imports ratios—to a financial perspective, gained acceptance in policy circles in the aftermath of the East Asian-Russian crises, and it is closely watched today as a measure of financial vulnerability.²⁸ Empirical work by Velasco and Rodrik (1999) suggests that the reserves-to-short-term-debt

²⁷ See, Greenspan (1999).

²⁸ See, for example, Becker, Jeanne, Mauro, Ostry, and Ranciere (2007).

ratio is a robust predictor of financial crises, and that greater short-term exposure is associated with more severe crises when capital flows reverse. This view, together with the fact that SS can be very costly in terms of output loss led several researchers to work on the determination of an optimal level of reserves, an issue that until recently was widely debated, particularly in light of the large reserve hoarding policies of several EMs.^{29,30}

Throughout this report, reserve-to-short-term-debt ratios akin to the GG rule will be used as a “liquidity thermometer” summarizing the joint impact of global conditions and FP, as well as country and multilateral policy responses on the likelihood of a liquidity crisis. This report uses two measures of international liquidity ratios, ILRs. The first is a modified version of the GG rule (ILR₁) that includes under short-term debt obligations all public sector maturing debt—both domestic and external—coming due within one year and the stock of Central Bank sterilization instruments.³¹

Alternatively, this international liquidity ratio could have been defined as many authors have suggested, using a concept of net reserves in the numerator by subtracting Central Bank sterilization instruments. In fact, this is not a minor issue. These instruments were used extensively to purchase reserves during the Panglossian period and currently represent a large fraction of international reserves. While total reserves for the LAC-7 group amounted to about US\$ 470 billion by end-2008, a net reserve concept excluding sterilization instruments brings that figure down to about US\$ 270 billion. This figure could more accurately depict the availability of international liquidity for alternative uses. However, using this net concept is akin to granting seniority to sterilization instruments relative to other financial claims. For that reason sterilization instruments were included in the denominator of the liquidity ratio and treated on equal footing with other financial obligations of the public sector.

The second international liquidity indicator expands the first to include short-term foreign liabilities of the corporate sector (ILR₂). Given the loss of access of corporates to international credit markets described in section 3, and the initiatives of key Central Banks to support corporates with their own international reserves, this alternative liquidity indicator will be used to analyze how the coverage of the liquidity needs of this other key player in the economy affects the likelihood of a liquidity crisis.

²⁹ See, for example, Calvo, Izquierdo and Talvi (2006) for evidence on the output costs of SS.

³⁰ See, for example, Jeanne and Ranciere (2006) for a framework on optimal reserve policy.

³¹ The original Guidotti-Greenspan rule emphasizes coverage of all foreign-currency debt obligations coming due within one year. Domestic currency obligations are also included in the liquidity ratios analyzed here, under the assumption that countries will keep current commitments to implicit or explicit inflation targeting policies, thus avoiding financing of domestic obligations through monetary expansion that could quickly trigger inflationary pressures and a potential run on reserves.

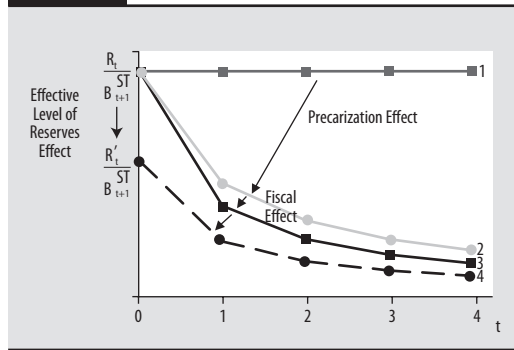
Dynamic Determinants of ILRs. ILR dynamics have four key determinants: 1) initial levels of public debt, 2) the “effective” level of reserves, 3) time profile of debt amortizations, and 4) the dynamics of fiscal deficits and public debt.

Access to markets in a context of FP can quickly affect ILRs by changing the profile of debt amortizations. For example, consider the impact on the debt amortization profile of a situation in which access to markets is suddenly limited to short-term debt issuance for a sufficiently long period. Under these conditions, total obligations coming due every year could easily pile up, as any obligation maturing today would add fully to next year’s short-term obligations, thus affecting ILRs—the more frontloaded the amortization profile, the greater the effect. Figure 13, depicts two contrasting cases, one in which constant maturing debt can be refinanced in the same terms in which it was initially contracted, and another one in which maturing debt can only be refinanced on a short-term basis. In the first case, ILR remains constant (line 1), while under FP it falls continuously in subsequent periods (line 2). This phenomenon is called the “FP effect” on ILRs. A polar case would be that of a SS, a situation in which no access to capital markets implies that only reserves can be used to finance maturing obligations, yielding an accelerated deterioration of ILRs.

The dynamics of ILRs are also affected by fiscal deficit dynamics. Any deficit to be financed on top of amortizations coming due adds to borrowing requirements and deteriorates ILRs further, over and above the impact of FP. This phenomenon is called the “fiscal deficit effect” on ILRs (see Figure 13, line 3).

Yet another factor to consider is the “effective” level of reserves available for liquidity provision that constitutes the numerator of ILRs. Countries with “fear of floating”, perhaps due to the existence of liability dollarization, may engage in exchange rate intervention policies that may subtract from initial reserve levels. Alternatively, governments may be subject to contingent claims on international reserves, as would be the case of policies to provide liquidity in support of corporates or in support of banks, which would also subtract from initial reserve levels.³² Still another element to take into account is that markets could have priors about the willingness

FIGURE 13 International Liquidity Ratio (ILR) Dynamics: A Simple Analytics Framework



³² For the sake of simplicity, it is assumed that these policies subtract from the initial stock of reserves, although partial subtractions every period could also be incorporated into the liquidity profile.

of a country to use reserves to honor debt repayments. Under the perception of less than full willingness to pay, this would be equivalent to a fall in “effective” reserves. In terms of the framework described above, any of these policies and/or market perceptions would be equivalent to a downward shift in the ILR schedule, as shown in Figure 13 by line 4. It is important to stress at this point that observed levels of international reserves are thus an upper bound, since “effective” reserves may be lower than what actual figures indicate.³³

Each step down the liquidity line implies a higher probability of a liquidity crisis, i.e., a run against short-run liabilities. A simple way to rationalize this hazard would be to consider the existence of a liquidity threshold beyond which a country would enter into SS mode, i.e., a complete loss of access to credit markets.

The usefulness of this approach relies on the simplicity of the framework, which has very straightforward implications: first, the likelihood of a liquidity crisis as determined by ILRs will depend on the interaction between external factors (i.e., the duration of the global crisis) and idiosyncratic factors (such as initial conditions and policy responses). For example, FP will have very different implications for countries that are heavily indebted, have a frontloaded schedule of debt amortizations, and depart from a weak fiscal position, than for countries with better conditions. Moreover, low reserve levels can also pose a dangerous threat in a context of FP. Policies may also have a strong impact on delaying or accelerating the time of reckoning. In this respect, and as will be discussed in section 6, apparently helpful expansionary policies could have unintended detrimental consequences on ILRs, thereby increasing the probability of a liquidity crisis.

Second, not every country may reach the time of reckoning in the relevant period of the global crisis and, for those prone to be affected, their time of reckoning would be different, i.e., liquidity crises, if they occur, will be sequential rather than simultaneous. In other words, heterogeneity will be a key element in accounting for each country’s outcome.

Third, under FP, liquidity problems evolve gradually and may not be evident until it is too late. The fact that the likelihood of a liquidity crisis appears to be low from today’s perspective when considering current ILRs, together with the fact that sovereigns in general have maintained access to credit markets, does not necessarily mean that a country is strong enough to resist FP through time without entering into a danger zone. It is a characteristic of FP—as opposed to the wrath of a SS—that liquidity will persistently deteriorate as time goes by and, therefore, the time of reckoning may come only gradually instead of suddenly.

³³ At this point, the report abstracts from the possibility of enhancing the reserve position through lines of credit by multilaterals or other international agents. This topic will be taken over in Section 6.

Liquidity Indicators under Alternative Global Scenarios. With this simple framework in mind, it is now time to judge the liquidity implications for each of the global scenarios analyzed in section 4. To this end, it is first necessary to make assumptions about the level of precarization in the terms of access to credit markets as it was done in section 4 with other external factors.

Ideally, one would like to formally estimate how the maturity structure of public debt issuance changes with international financial conditions. In the absence of such information for a sufficiently long period of time that would allow for the estimation of an empirical relationship, a shortcut is needed. One option is simply to analyze how the ratio of reserves to short-term debt obligations changes with international financial conditions. Given previous assumptions on EMBI performance, simple estimates linking liquidity ratios to the former implicitly determine a profile of short-term debt issuance.³⁴ Under the assumption that international reserves remain constant, short-term debt obligations are then determined by simulated liquidity ratios.

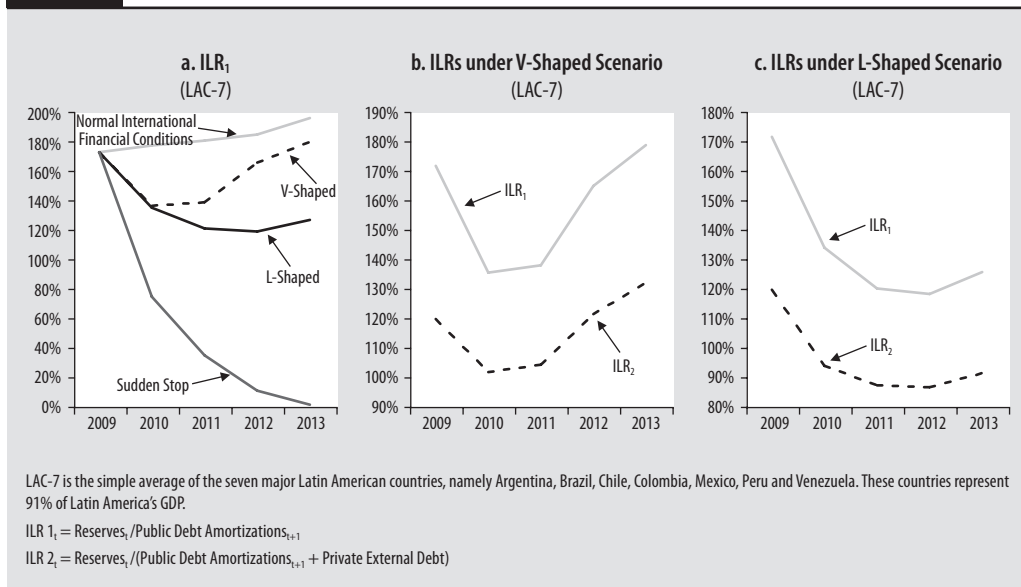
Alternatively, and in line with assumptions made on the dynamics of EMBI spreads, it can be assumed that the share of issuance at short maturities (less than one year) peaks in 2009 at end-2008 levels (63 percent). Short-term issuance is then assumed to gradually decrease as financial conditions return to normal levels—i.e., September 2010 for the V-shaped scenario, and December 2013 for the L-shaped one. In both scenarios, convergence to normal issuance levels is assumed to evolve linearly, departing from end-2008 levels towards normal levels (29 percent). The latter is the lowest level of short-term issuance relative to total issuance prevailing before the beginning of the sub-prime crisis, and it is used as an indicator of access to credit markets under normal conditions. Both methodologies yield very similar dynamics for ILRs and, for simplicity of exposition, liquidity ratios below are shown using only the second measure of FP.

Putting together public sector refinancing needs each period with the short-term issuance profile defined above, it is possible to construct ILRs across time. Two benchmark cases are constructed, one with no FP and one under SS. In the benchmark case with no FP, new debt is issued with the same maturity structure as that of previous-period debt stocks.³⁵ Under these conditions, the LAC-7 average liquidity ratio (ILR_t) would hover around initial levels of 171 percent by end-2008 (see Figure 14, Panel a).³⁶ This

³⁴ More precisely, liquidity ratios of reserves to short-term obligations were regressed against an index of EMBI bond prices in a panel estimation for LAC-7 countries. For the simulation period, EMBI yield trajectories defined in global scenarios were translated into their bond price equivalent, which was used in turn for the determination of liquidity ratios.

³⁵ For the purposes of facilitating comparison, the fiscal deficits that emerge under the V-shaped scenario and passive fiscal policy are imputed to the benchmark scenario.

³⁶ That is, international reserves were 1.71 times maturing public obligations by end-2008.

FIGURE 14 Latin America International Liquidity Ratios (ILR) under Two Alternative Global Scenarios

path clearly indicates that passive fiscal policy in the context of a relatively mild crisis in the US, coupled with market access conditions that do not change the maturity profile of public debt, poses no threat for the region as a whole.

In contrast, in the benchmark (and extreme) case of a SS (i.e., a complete loss of access to credit markets), ILR₁ falls dramatically, eventually exhausting the stock of international reserves (see Figure 14, Panel a).

Once FP is introduced, the dynamics of liquidity ratios fall in between these two benchmarks.³⁷ Under the V-shaped hypothesis, ILR₁ falls to about 135 percent in 2009. However, this indicator quickly bounces back, reaching 2008 levels by 2012 (see Figure 14, Panel a). The difference between this scenario and the no-precarization scenario highlights the role played by market access conditions. As shown above, if debt could be renewed at pre-crisis maturities, there would be no deterioration in liquidity ratios.

A switch to the L-shaped scenario brings down the liquidity ratios further. ILR₁ reaches a minimum of 118 percent by 2011. However, under this scenario, liquidity does not begin to recover until 2012 (see Figure 14, Panel a) and lingers at lower, riskier levels.

So far, only public sector related liquidity ratios have been analyzed. However, there is reason to believe that private sector financing needs may have to be added to the equation. Given the dynamics described in section 3 indicating a halt in issuance,

³⁷ Under FP, international liquidity ratios deteriorate less than in the case of SS whenever the ratio of international reserves to short-term debt amortizations is less than 2.

the private sector is currently closer to SS mode, and according to market forecasts on their cost of lending, spreads are likely to remain at about 900 bps for this year. Thus, it is not implausible that the public sector may end up using international liquidity to cover private sector maturing obligations. Indeed, some countries are already engaging in this type of policy.

For simplicity, it is assumed that under the V-shaped scenario only private sector obligations maturing in 2009 are covered. However, under the L-shaped scenario, both 2009 and 2010 obligations are financed with international reserves. Liquidity indicators change drastically when corporate external financial obligations are introduced in the computation of ILRs. Under the V-shaped scenario, the liquidity ratio falls to riskier levels in 2009, but still recovers rapidly in 2010 and onwards (see ILR_2 , in Figure 14, Panel b). Under the L-shaped scenario, it falls below the 100 percent level and basically does not recover, entering and remaining in a potentially dangerous zone in which systematically reserves would not be enough to fully cover maturing obligations (see ILR_2 , in Figure 14, Panel c).³⁸

A general implication that emerges from these scenarios is that in the absence of policies, in some cases liquidity ratios could arguably reach dangerous thresholds that could lead to a crisis. This is particularly so were the L-shaped scenario to materialize. It should be stressed again that the L-shaped scenario does not assume a catastrophe—it merely reflects a slower recovery in the US compared to market forecasts—and it does not rely on a deeper recession than that expected by the market.

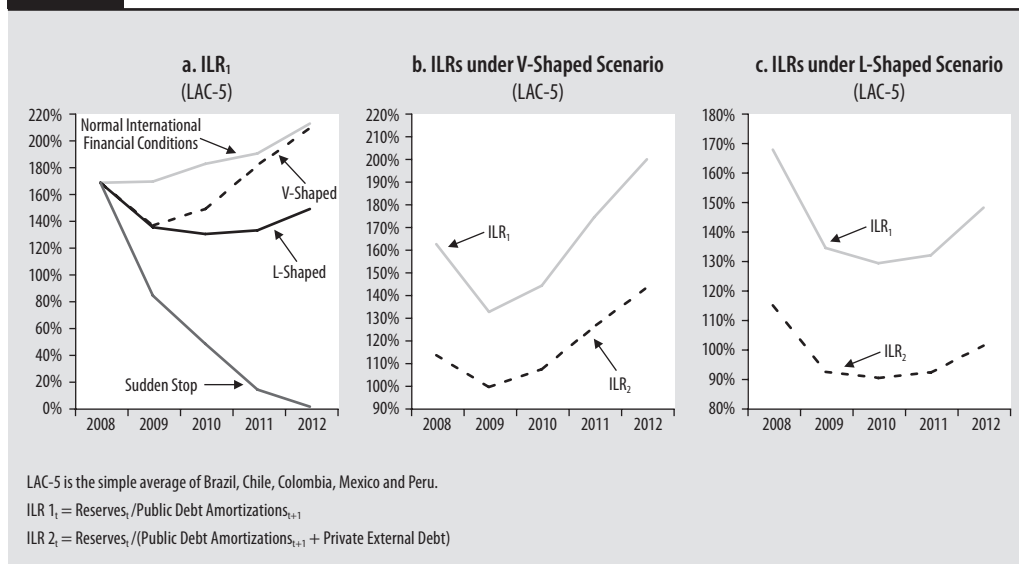
It is worth stressing once again that the analysis of the dynamics of liquidity conditions for the average LAC-7 economy by no means implies that any individual country is prone to hit a crisis threshold. Additionally, those countries that could eventually hit such a threshold will not necessarily do so at the same time. Clearly, their paths will depend on global market conditions, initial conditions and individual country responses. This said, it is important to highlight that the liquidity exercises shown above do not change significantly when only lower spread, inflation-targeting countries are considered, as illustrated in Figure 15.³⁹ This points to the fact that although heterogeneity is a key element to take into account, liquidity issues remain a relevant dimension to incorporate into the analysis for many countries in the LAC-7 group.⁴⁰

³⁸ Things would deteriorate further if there were deposit withdrawals that would require Central Bank liquidity assistance to banks. This contingency could be particularly relevant in the L-shaped scenario where non-performing loans deteriorate significantly and bank capital losses could be substantial. This highlights the need to avoid such a scenario by prompt and decisive action.

³⁹ These countries include Brazil, Chile, Colombia, Mexico and Peru.

⁴⁰ However, as argued previously, it is not only observed liquidity ratios but “effective” liquidity ratios that matter. This may explain why spreads are very high in some countries with high-observed liquidity ratios.

FIGURE 15 International Liquidity Ratios (ILR) under Two Alternative Global Scenarios for Inflation Targeting Countries in Latin America



To summarize, having analyzed the likely evolution of the region's key macro-economic fundamentals—fiscal, financial and liquidity indicators—under alternative global scenarios, it is fair to say that the predominant view appears essentially correct only under the assumption that the US recession bottoms out in the first half of 2009 and the economy starts a relatively strong recovery thereafter—the so called V-shaped recovery—as the US government and markets are currently expecting. A V-shaped recovery in the US will in turn improve the outlook for industrial country growth, commodity prices and global financial conditions, key external drivers of LAC's economic fluctuations. In such a scenario, LAC will be out of the woods relatively unscathed. However, under a moderately less favorable but short of catastrophic scenario for the US, i.e., a more protracted L-shaped recovery consistent with the evidence on the aftermath of financial crises, there is a gradual, persistent and large deterioration in the region's fundamentals.

In other words, the challenge is to anticipate gathering problems early on to act in a timely fashion, and to design a set of policies that will prevent countries from entering into financially fragile territory that might expose them to a liquidity crisis and a major economic collapse. The next section will focus on the policy trade-offs confronting the countries in the region and some concrete policy proposals in a framework in which liquidity considerations play a key role.



Policy Trade-offs for Unprecedented Times: A Liquidity Approach

Analyzing the macroeconomic dynamics that follow from alternative assumptions about the global economy was important to assess the orders of magnitude of their impact on fiscal deficits and public debts, banking indicators and a set of key ILRs. The next step is to proceed to evaluate policies. The analysis in this section is preformed in two steps. First, the relevant policy-trade offs that emerge when liquidity considerations play a central role is illustrated on a conceptual level. Second, certain principles based on these policy trade-offs to guide the policy agenda of both countries and multilateral institutions are elaborated upon. Finally, a broad estimate of the financial cost of suggested policy interventions is provided.

6.1 Policy Trade-Offs

As discussed in the previous section, in a context where corporates are being rationed out of the credit market and sovereigns can only access those markets under precarious conditions, the evolution through time of the international liquidity position of a country becomes a key concern, as it affects the likelihood of a liquidity crisis. For that reason, the liquidity position of a country also becomes a central piece of the analysis when evaluating alternative policies. Countries will inevitably face trade-offs between the potential benefits of pursuing expansionary macro policies, on the one hand; and the costs of these policies in terms of their liquidity positions—and, thus, the likelihood of a liquidity crisis—on the other.

Therefore, the benefits of alternative policies should not be weighed against their costs based solely on inter-temporal considerations, but also weighed against their immediate impact on the liquidity position. Moreover, the increased likelihood of liquidity risk stemming from a deterioration of ILRs may potentially crowd out the expansionary effects of policies. As perceptions of liquidity risk and the probability of a liquidity crisis

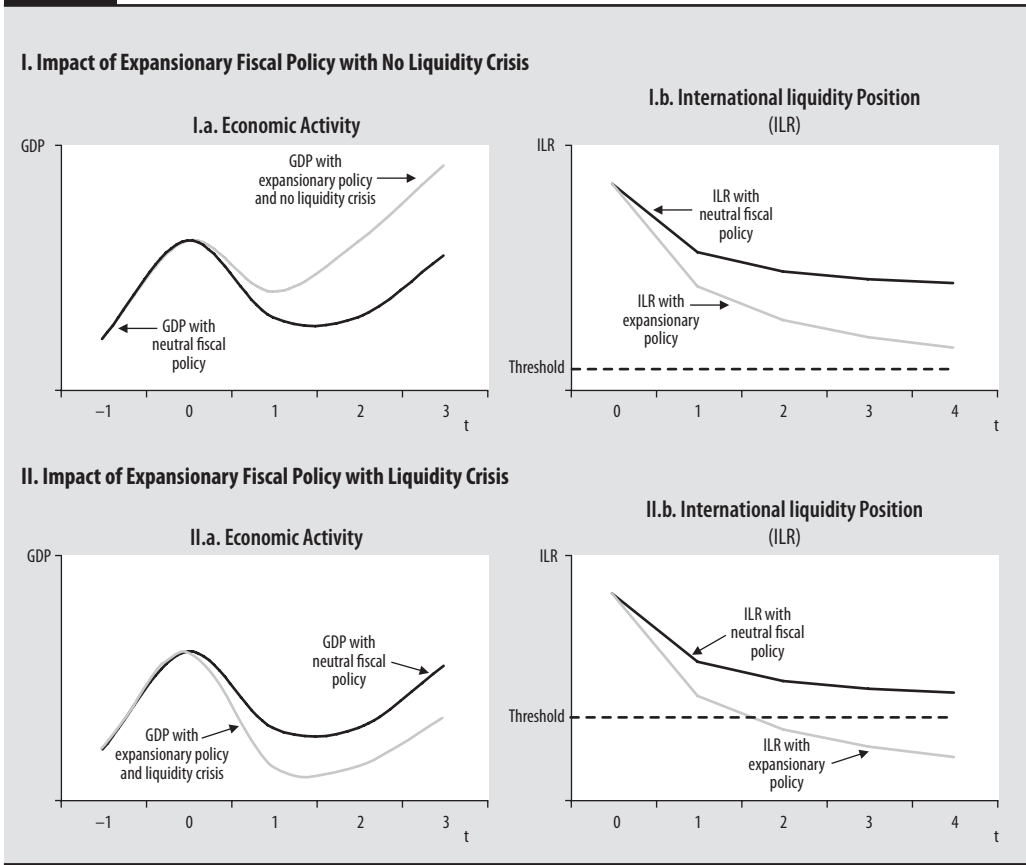
increase, they could trigger a fall in private investment and consumption that could very well counterbalance the expansionary impact of policies.

Fiscal Policy. A few countries in the region may be strong enough both from a fiscal sustainability and international liquidity perspective to pursue expansionary fiscal policies without risking a loss of credibility. However, even countries with sustainable fiscal policies might still face a relevant trade-off between expansionary policies and liquidity considerations.

To fix ideas, consider the potential impact of two alternative fiscal policies in a country with no fiscal sustainability problems: one neutral towards the business cycle (i.e., no changes in either government expenditures or tax rates in response to recessionary pressures), and the other one countercyclical (i.e. a rise in government expenditures and/or a reduction in tax rates). Since active fiscal policy will in principle imply a larger deterioration of the fiscal deficit, in the absence of explicit multilateral financing (a topic discussed in the next section), this deficit will need to be financed under precarious credit market conditions, i.e., short term and at high rates. Therefore, a countercyclical fiscal policy will imply a larger deterioration of ILRs relative to the neutral fiscal policy stance.

Figure 16 schematizes the trade-offs in terms of the impact on output vis-à-vis the impact on ILRs of both policies. Panel I shows the case in which expansionary fiscal policy does not trigger a liquidity crisis. In this case, ILRs do not reach a crisis threshold (Panel I.b) and the impact of expansionary fiscal policies would in principle have a positive effect on output (Panel I.a). Therefore, *prima facie*, countercyclical fiscal policies would dominate in terms of output over neutral policies. However, if as shown in Panel II, the deterioration in ILRs induced by countercyclical policies is large enough, the country might enter the danger zone and conceivably reach the liquidity threshold (Panel II.b) beyond which it would enter into SS mode, i.e., a complete loss of access to credit markets. In the latter case, a liquidity crisis associated with a severe output contraction would follow and countercyclical fiscal policies would turn out, ex-post, to have been counterproductive (Panel II.a).

Other countries in the region may not afford the luxury to consider these trade-offs, or only do so at substantially higher downside risks. In fact, given the highly procyclical fiscal policies pursued by most LAC-7 countries during the expansionary phase of the 2000s (on average LAC-7 countries increased public expenditures by 80 cents out of every additional dollar of revenue between 2003 and 2007), pursuing a counter-cyclical policy during the downturn, which implies raising expenditures even further, may imply exponential debt dynamics (as shown in Section 4), creating fiscal sustainability problems and at some point seriously undermining credibility. In these cases countercyclical fiscal policies would simply not be an option, or could ex-post turn out to be a very costly option.

FIGURE 16 Policy Trade-Offs: *Expansionary Fiscal Policy*

Debt Management Policy. Another observed policy that some governments have pursued in response to the deterioration in international financial conditions is to buyback outstanding public debt—especially long-run debt—under the assumption that yields on that type of paper are currently too high, and therefore gains can be made by purchasing them “cheaply”. Although this type of operation is aimed as a positive signal towards investors and could in principle reduce financial costs and improve fiscal positions, the trade-off is that it directly deteriorates ILRs, thus potentially undermining—or even undoing—the original intent of the debt buyback operation.

Monetary Policy. The region has been very effective in absorbing the financial shock by permitting large currency depreciations while keeping interest rates low—at least relative to those rates that would have prevailed had they intervened. This constitutes a major feat that was unthinkable for many countries at the time of the Russian crisis of 1998. However, further expansionary policy should be considered with care. To begin

with, it is not obvious that in a context in which the banking system may be piling up cash reserves to reduce liquidity exposure, expansionary monetary policy, through a reduction in either interest rates or reserve requirements, will work as effectively through the credit channel. Moreover, reductions in interest rates or reserve requirements may result in international reserve losses, adversely impacting ILRs and undermining the expansionary effect of looser monetary policy.

Once again, it is important to stress that the region is quite heterogeneous in this respect. While some countries have well-established inflation targeting regimes that may have additional room for further lowering interest rates without severe risk of losing credibility, other countries may still face credibility issues, so the leeway for loosening monetary policy in those cases will be more limited.

Liquidity Assistance to Corporates. Many Central Banks in the region have also used their international reserve position to protect trade credit lines that dried-up as a result of the global crisis, and to ensure an orderly refinancing of foreign obligations of corporates that could not easily rollover their debts in current market conditions. Although the intent of these policies is clear (i.e., to avoid a trade credit crunch and/or costly restructurings that could depress output), the trade-off is that these policies directly weaken ILRs and increase the probability of a liquidity crisis. Again, a more vulnerable liquidity position can undermine any expansionary effect of the initial policy action.

6.2 Policy Principles

Many of the policy trade-offs highlighted previously do not apply to developed countries like the US. Even in the worst crisis in almost 80 years, when credit markets among private sector agents essentially ceased to function at various points in time, the US government has enjoyed preferential access to international credit markets at very low cost—around 3 percent in nominal terms—despite the US being at the epicenter of the financial crisis (see Figure 17, Panel a). This ability allows the US government to *de facto* act as an intermediary for private agents unwilling to lend to each other and to pursue expansionary fiscal policies.

In contrast, and particularly after the fall of Lehman Brothers, which triggered a sharp increase in perceptions of risk, when EM corporates lost access to credit markets, financial conditions for EM governments in general, and LAC governments in particular, deteriorated significantly as shown in section 3 (see also Figure 17, Panel b). Thus, the ability of EM governments to act as intermediaries for private agents and to finance expansionary fiscal policies without recourse to their international reserve stock is very limited, and such intervention would entail a deterioration of ILRs and an increase in the likelihood of facing a liquidity crisis.

FIGURE 17 International Financial Conditions: *The US vs. EMs*

Clearly, the precarious access to credit markets by many EM governments calls for multilaterals to step in and play for EMs the role that fully credible governments, such as the US government, play domestically. The action by multilaterals would allow EM countries to access credit in terms and conditions not currently available in financial markets. Thus, the question is not so much whether multilaterals should play a key role in the current crisis, but rather, which is the most effective way to channel their intervention and at what financial cost.

The dynamics of liquidity indicators under the global scenarios depicted in section 5 and the analysis of the relevant policy trade-offs discussed in section 6.1 have important policy implications. Any policy intervention should consider avoiding hazardous territory for ILRs as a major goal, thus reducing the likelihood of a liquidity crisis and economic collapse. This suggests a set of policy principles that differ in some respects from current views:⁴¹

- Multilateral support is vital under FP, the more so the more pronounced is the global downturn and the more precarious is access to credit markets.
- Multilaterals should avoid short-term emergency financing and consider medium and long-term financing in order to partially “complete” markets in terms of maturities, ensuring that FP does not put countries on a liquidity collision course.⁴²

⁴¹ Many of these principles would apply more generally to EMs but are referred to here specifically for Latin America.

⁴² The replacement of the IMF’s Short-term Liquidity Facility (with a 9 month repayment period) by the Flexible Credit Line facility in March 2009 (with up to a 5 year repayment period) is a step in the right direction that is consistent with the framework of analysis presented in this report. The

- Multilaterals should not only provide for medium and long-term financing of fiscal deficits—when fiscal sustainability is not at stake—to support expansionary policies that contribute to sustaining global demand, but, more importantly, they should provide for long-term refinancing of maturing obligations.
- Multilateral assistance should be complemented by incentive-compatible conditionality, ensuring a gradual convergence to sustainable structural fiscal positions.

The first two principles need no further explanation. To illustrate the relevance of the third, assume that multilaterals were to finance countercyclical fiscal policy in LAC-7 countries. For the sake of concreteness, assume that this policy is carried out in the context of the L-shaped scenario. In order to enrich the analysis, also consider the recent suggestion for stimulative fiscal policies made by the US Treasury Secretary for G20 countries, which calls for an increase in public sector expenditure of two percent of GDP in 2009 and 2010. This would mean financing the passive fiscal deficits that emerge from the L-shaped scenario described in section 4, plus an additional 2 percent of GDP in 2009 and 2010. It is important to recall that under the L-shaped passive scenario fiscal deficits reach 4 percent of GDP in 2010. In the most optimistic hypothesis on the impact of a fiscal expansion of 2 percent of GDP on output and revenues, the deficit would deteriorate by about 1 percent of GDP relative to the passive scenario under the US Treasury proposal.⁴³ The cumulative fiscal deficits to be financed in 2009 and 2010 add up to approximately US\$ 240 billion.

Consider now the impact of multilateral financial support for expansionary fiscal policies on ILRs. ILR_2^A in Figure 18 illustrates the benchmark (and hypothetical) case

Liquidity Program for Growth Sustainability put in place by the IADB in October of 2008 works similarly, providing countries with loans with a five year replacement period.

⁴³ Simple calculations using estimates linking output to revenue collection described in Section IV indicate that, on average the elasticity of public expenditure to output should be around 0.9 in order for the US Treasury proposal to be deficit neutral. This result must be weighted against some benchmark elasticity. Consider the optimistic case in which output is demand determined, so that the Keynesian multiplier of government expenditure is:

$$\frac{\Delta y}{\Delta g} = \frac{1}{1 - b_c(1 - b_t) + b_m}, \quad (1)$$

where y is output, g is government expenditure, b_c is the marginal propensity to consume, b_t is the tax rate, and b_m is the marginal propensity to import. Plausible values for b_c , b_t , and b_m yield a value of the multiplier of 1.8. Assuming that the average government size is 30 percent of GDP, the elasticity of public expenditure to output would be 0.6. This shows that the required elasticity for deficit neutrality would have to be 60 percent higher than that of the optimistic case of the multiplier effect. This fact indicates that the most likely outcome of a US Treasury-type stimulus package would result in deterioration of 0.8 percent of GDP in the fiscal position of LAC-7 countries.

in which both expansionary fiscal policies *and* public debt amortizations are financed in the market but in absence of FP, i.e., at the pre-crisis maturity structure. In this case liquidity ratios decline only very gradually and remain safely away from hazardous levels, minimizing the likelihood of a liquidity crisis. In contrast, ILR_2^B illustrates the opposite benchmark case where countries have to finance expansionary fiscal policies *and* public debt amortizations under FP with no multilateral support. In this case liquidity ratios fall rapidly to dangerous levels and do not quickly recover.

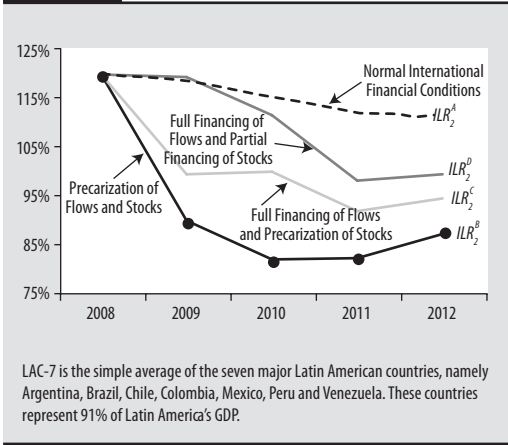
In turn, ILR_2^C illustrates the case when expansionary fiscal policies in 2009 and 2010 are financed long-term by multilaterals. In this case, the deterioration of liquidity ratios is not as marked. However, given the fact that countries still have to rollover maturing stocks of public debt under FP, liquidity ratios still deteriorate substantially and may venture into potentially dangerous territory. Thus, in a context of precarious access to markets and from a regional perspective, plain deficit financing may be insufficient to prevent the possibility of a liquidity crisis.

To avoid the deterioration and stabilize ILRs, multilaterals would be required to provide long-term financing for both counter-cyclical policies *and* rollover of maturing public debt obligations. However, by relaxing the constraints on liquidity ratios, governments may be tempted to follow laxer policies that could eventually lead to sustainability problems. This is where policy principle 4, incentive-compatible conditionality, kicks in. To ensure the implementation of a consistent fiscal policy, gradual convergence to sustainable structural fiscal positions should be required, even if in some cases this criterion implies fiscal tightening into the recession. The introduction of structural fiscal rules à la Chile could be an appropriate instrument to set specific fiscal targets.

However, structural fiscal rules are not enough. A critical concern to the region not discussed here but elaborated on in the parallel IDB report *Social and Labor Market Policies for Tumultuous Times*, is that the crisis may have potentially very negative implications for employment and various social indicators, including poverty. As a result, given an increasingly complex fiscal scenario, governments may need to engage in expenditure-switching policies to protect and in some cases enhance social programs.

Differently put, the challenge facing LAC in this global crisis has two equally relevant and interrelated dimensions: protecting macroeconomic stability and protecting

FIGURE 18 ILR Dynamic under Alternative Policies (LAC-7, L-Shaped Scenario, ILR_2)



key social indicators; not one at the expense of the other, but both. And because two objectives need two instruments, a complementary two-pronged approach between the IMF and Multilateral Development Banks (MDBs) regarding financial support and incentive-compatible conditionality is required. While setting targets to achieve a consistent macroeconomic framework should be primarily the role of the IMF, MDBs should work on the design of optimal expenditure composition policies—or expenditure increasing policies when feasible—that maximize the impact on long-term development and poverty alleviation.⁴⁴

Following these general policy principles would bring about large beneficial effects to LAC, allowing the region to simultaneously pursue prudent countercyclical fiscal policies that may contribute to minimize the impact on growth of the global crisis without risking a traumatic liquidity crisis (and thus avoiding large associated social costs and economic collapse), and at the same time insulating households, particularly low income ones, from the negative effects of what may turn out to be a prolonged downturn.

What would the financial costs of such a strategy be? The costs for 2009 and 2010 are shown in Table I. They would amount to around US\$ 640 billion, roughly US\$ 400 billion corresponding to public debt amortizations coming due in those two years, US\$ 200 billion to finance the fiscal deficits that emerge under the L-shaped passive scenario, and an extra US\$ 40 billion to finance the two percent of GDP additional stimulus package. Moreover, these figures do not include Central Bank short-term liabilities, which amount to US\$ 200 billion. This is not a minor element, considering that in many cases part of the international reserve build-up was made through sterilized intervention.

The sheer size of this package just to support LAC-7 countries points to the relevance of liquidity needs. It also signals the political obstacles that such a strategy might encounter since full support of multilaterals would be close in size to a LAC TARP.⁴⁵

Having said this, there are reasons to believe that this amount is an upper bound. First, it may not be necessary to finance this envelope fully to the extent that some countries may still remain strong in terms of liquidity ratios even after espousing expansionary fiscal policies. Second, and on the other extreme, not all countries will be

⁴⁴ As elaborated on in *Social and Labor Market Policies for Tumultuous Times: Confronting the Global Crisis in Latin America and the Caribbean*, protecting social indicators is not only a question of channeling fiscal resources to various social programs. An important but at times overlooked determinant of the appropriate social response is the expected length of the crisis, as some measures that may be useful in the context of a short crisis (or V-shaped scenario) may not be so in the context of a longer crisis (or L-shaped scenario). In addition, it is essential to consider the impact of social measures on the incentives of households, workers and firms, as some measures may have negative impacts on fundamental determinants of productivity and medium term growth.

⁴⁵ Troubled Assets Relief Program.

TABLE 1 Full Financial Support by Multilaterals: Financial Costs
(LAC-7, in millions of dollars)

	2009	2010	2009–2010
<i>Public Debt Amortizations</i>	227,903	173,857	401,760
Domestic	194,084	155,458	349,542
External	33,818	18,399	52,218
<i>Fiscal Deficit Financing</i>	97,319	138,926	236,245
Passive Fiscal Deficit	79,515	118,127	197,642
US Treasury Proposal*	17,804	20,799	38,603
Total Borrowing Requirements	325,222	312,783	638,005

Source: Own calculations based on National Sources

* Assuming full impact of Keynesian multiplier on output and revenues

LAC-7 is the sum of the seven major Latin American countries, namely Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. These countries represent 91% of Latin America's GDP.

eligible for this kind of financing due to fiscal sustainability considerations. Third, it could be argued that part of the domestic debt could be automatically refinanced long-term via pension funds or other domestic institutional investors, under non-coercive terms.⁴⁶ Fourth, the private sector might have international liquid resources available which are not included in Figure 18 due to lack of data.

In the more realistic scenario in which the full financial support by multilaterals for both refinancing stocks of debt and stimulative fiscal programs is not feasible, a second best strategy needs to be adopted. For example, one could devise a strategy that would require financing expansionary fiscal policies and a minimum amount of debt rollovers to ensure that international reserves are enough to cover short-term public debt liabilities throughout the relevant period of the global crisis. This strategy is illustrated by ILR_2^D in Figure 18, and would require refinancing long-term approximately US\$ 230 billion of public debt amortizations. In addition, it would require financing approximately US\$ 240 billion for expansionary fiscal policies.

Coincidentally, this figure is very similar to external public and private debt amortizations coming due in 2009 and 2010 (see Table 2), a figure closely watched by the markets. In other words, an alternative way to interpret the proposed second best policy strategy would be for multilaterals to ensure that total external debt amortizations coming due in 2009 and 2010 will be refinanced long-term rather than at precarious market conditions.

⁴⁶ However, to the extent that domestic obligations are held by foreigners, this financing option may not be available.

TABLE 2 A Second Best Strategy of Financial Support by Multilaterals: Financial Costs
(LAC-7, in millions of dollars)

	2009	2010	2009–2010
<i>External Debt Amortizations</i>	144,392	72,179	216,571
Public	33,818	18,399	52,218
Private	110,573	53,780	164,353
<i>Fiscal Deficit Financing</i>	97,319	138,926	236,245
Passive Fiscal Deficit	79,515	118,127	197,642
US Treasury Proposal*	17,804	20,799	38,603
Total Borrowing Requirements	241,711	211,105	452,816

Source: Own calculations based on National Sources

* Assuming full impact of Keynesian multiplier on output and revenues

LAC-7 is the sum of the seven major Latin American countries, namely Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. These countries represent 91% of Latin America's GDP

Of course, other combinations are possible, and depend very much on the total resources available to multilateral institutions and on specific country circumstances. What the analysis shows—and this is one of the central points of this report—is that a strategy by the IMF and multilaterals that only pays attention to financing counter-cyclical fiscal policies is flawed, and that ignoring the impact of any fiscal expansion on liquidity ratios can be a costly mistake.

To conclude, if LAC—and, arguably, other EMs—are to engage in stimulative fiscal policies to minimize the impact of the global crisis on domestic growth, it is necessary that borrower-of-last-resort functions similar to those that governments perform in developed economies be recreated for LAC by multilateral institutions, so that liquidity concerns are kept at bay. This is a strategy that will ensure that well designed stimulus packages, consistent with development goals, do not compromise financial stability. This strategy has three basic requirements: (i) a strengthening of the resources of multilateral institutions to allow them to act with a scale commensurate to the tasks at hand, (ii) an appropriate division of labor between multilaterals and the IMF, and (iii) a careful country-by-country analysis that determines in each case fiscally sustainable combinations of expenditure increasing and expenditure switching policies. The joint work of countries and international financial institutions can hopefully help LAC transit successfully through these uncertain and unprecedented times.

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