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Latin America During the Crisis: The Role of Fundamentals

Abstract

Could Latin America's economy have recovered as fast from the global crisis if it was not for China's performance? Did domestic fundamentals help the recovery along? In this article, we offer some evidence that better fundamentals indeed mattered, as Latin American countries were less vulnerable to external shocks than in the past. Buffers built up in previous years allowed countries to implement countercyclical policies in the aftermath of the Lehman Brothers bankruptcy. But what conditions allowed a sizable monetary stimulus to be implemented? Why the fiscal targets adopted by most countries were not a constraint on fiscal stimulus? In this article, we address these questions and other, more idiosyncratic questions as well (including: why the Mexican peso has underperformed its peers; whether partial dollarization in Peru was a constraint on monetary easing; and what factors allowed Chile to implement a monetary response similar to that of developed economies).

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Resumen

¿La economía de América Latina se habría podido recuperar tan rápidamente de la crisis global si no hubiera sido por el desempeño de China? ¿Los fundamentos internos ayudaron a su vez a lo largo de la recuperación? En este documento, ofrecemos alguna evidencia de que mejores fundamentos de hecho resultaron de importancia. La generación de mecanismos de contención en los años previos permitió a los países ejecutar políticas anticíclicas tras la bancarrota de Lehman Brothers. Pero, ¿qué condiciones permitieron que se ejecutara un estímulo monetario considerable? ¿Por qué las metas fiscales adoptadas por la mayor parte de los países no resultaron una restricción al estímulo fiscal? Adicionalmente, abordamos estas preguntas y otras, más idiosincrásicas (incluidas: ¿por qué el peso mexicano ha mostrado un desempeño por debajo de sus pares?; si la dolarización en Perú resultó en una restricción para el relajamiento monetario; y ¿qué factores le permitieron a Chile llevar a cabo una respuesta monetaria similar a la de economías desarrolladas?).

1. INTRODUCTION

Before the global crisis hit emerging markets in late 2008, Latin American economies were enjoying the benefits of the strong global growth. In fact, central banks in the region were concerned with overheating and inflation, raising policy rates and at the same time intervening in the FX market to curb exchange-rate appreciation. The Lehman Brothers bankruptcy changed this picture abruptly. Global deleveraging began: capital flows reversed and commodity prices fell, leading to exchange rate depreciation and growth contraction.

Nevertheless, the Latin American countries emerged out from the crisis relatively quickly. Most economies in the region were growing at an above-trend pace by 2009Q3. The rapid recovery of activity in the region suggests that better

fundamentals made Latin American countries less vulnerable to external shocks than in the past.

Latin American countries had built up important buffers in the years before the global meltdown. External positions were healthy, public debt was low and central banks run credible inflation-targeting regimes. Unlike in previous crises, policy-makers were able to implement countercyclical stimulus.

Fiscal policy helped beyond automatic stabilizers. Governments lowered taxes and discretionary spending accelerated. In Brazil, quasi-fiscal stimulus –provided through the expansion of public banks' balance sheets– was significant. Central banks brought policy rates to record-low levels and injected a significant amount of liquidity in both local and foreign currencies, without causing international reserve depletion.

But the rebound in Latin America also coincided with a fast recovery of China's economy, a drop in global volatility and increases in commodity prices. In other words, external conditions for Latin America started to improve quickly.

The developments in Latin American economies during the crisis raise a number of interesting policy questions. Could Latin America have recovered as fast if it was not for China's performance? Did domestic fundamentals really help the recovery along? Why was monetary stimulus not implemented immediately after the crisis started, and what allowed a sizable monetary stimulus to be implemented thereafter? Why the fiscal targets adopted by most countries were not a constraint for fiscal stimulus? Why did lower external indebtedness fail to avoid currency-mismatch risks in some countries?

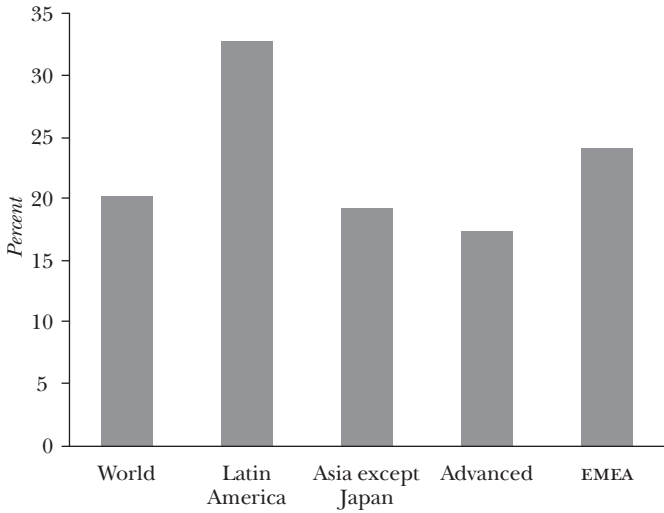
The crisis raises some more idiosyncratic questions as well. Why Mexican peso underperformed its peers? Was partial dollarization in Peru a constraint for monetary easing? What factors allowed Chile to implement a monetary response similar to developed economies?

This article addresses these issues by mapping both the exact macroeconomic policies that Latin American countries implemented during the crisis and the buffers that these countries had built up prior to it. We perform two econometric exercises

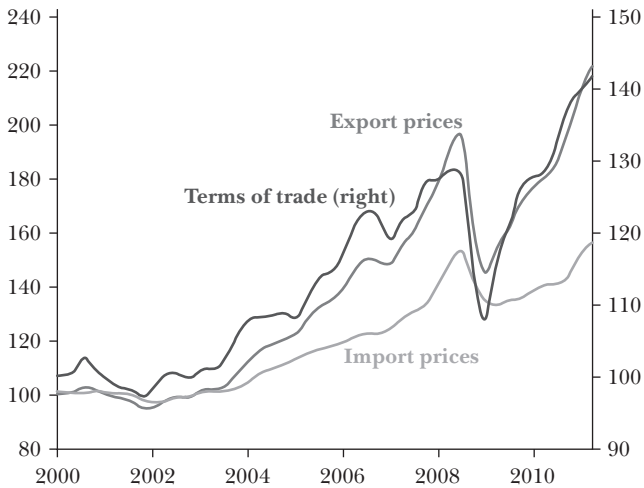
Figure 1

EXPORTS TO CHINA AND TERMS OF TRADE

A. EXPORTS TO CHINA: ANNUAL GROWTH (LAST TEN YEARS)



B. LATIN AMERICAN TERMS OF TRADE



Source: Itaú, IMF, and Haver Analytics.

Note: EMEA stands for Europe, the Middle East, and Africa.

to analyze whether growth in Latin America is, in fact, less vulnerable to external shocks than in the past.

2. LATIN AMERICA BEFORE THE CRISIS: THE BUILDUP OF BUFFERS

The combination of past reforms and economic growth in China can explain most of Latin America's recent growth performance.

The rise of China's economy has resulted in a large increase in demand for raw materials over the last decade. As Latin America is rich in commodities, the region has benefited greatly from this surge in demand. China's imports from Latin America grew more than from any other group of countries. When the global crisis hit in 2008Q3, the region's export prices (in US dollars, USD) were two times higher than at the beginning of the decade, and its terms of trade were about 30% higher (see Figure 1, panels A and B).

The importance of China's economy to Latin America and to the rest of the world was not restricted to trade. Because of its large savings, China produced enormous current account surpluses. Thus, China became an important capital exporter, providing liquidity to global economy. China's ascension into this key position created favorable conditions for Latin America that had not been seen in a long time.

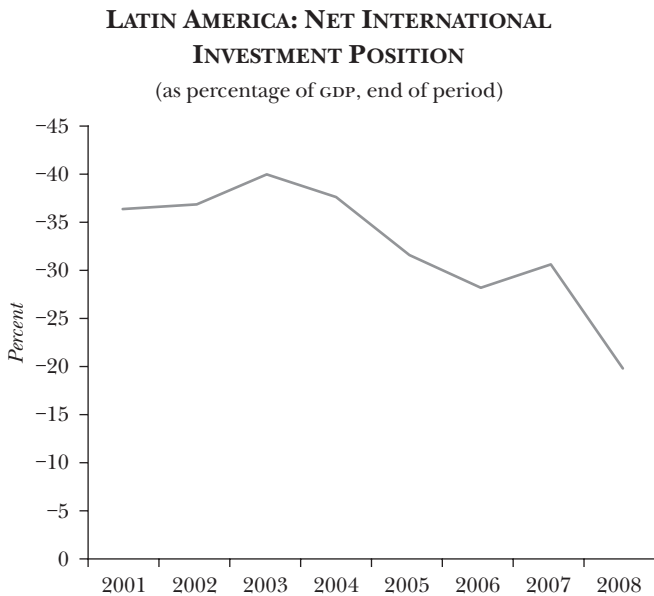
The macroeconomic reforms implemented in the region following the crisis of the late 1990s and early 2000s also provided an environment conducive for enjoying the bonanza. As the economies of Latin America grew at a strong pace and domestic fundamentals improved, the countries of the region developed three important buffers. First, balances of payments became much more resilient. Second, central banks moved from fixed exchange-rate regimes to inflation-targeting regimes, reducing the importance of exchange rates in anchoring prices. Third, governments reduced public debt and improved the debt profile.

Table 1

SHARE OF EQUITY IN GROSS EXTERNAL LIABILITIES AT YEAR-END							
(percentages)							
<i>Year</i>	<i>Weighted-Average</i>	<i>Argentina</i>	<i>Brazil</i>	<i>Chile</i>	<i>Colombia</i>	<i>Mexico</i>	<i>Peru</i>
2001	44	35	43	58	29	49	34
2002	43	17	37	55	33	52	36
2003	47	19	46	59	35	55	36
2004	52	20	53	61	39	59	36
2005	60	29	64	65	49	64	44
2006	63	34	68	65	53	68	51
2007	66	34	73	66	56	68	58
2008	61	32	63	63	59	68	56

Source: Itaú, Haver Analytics.

Figure 2



Source: Itaú and Haver Analytics.

2.1 Improvements in the External Position

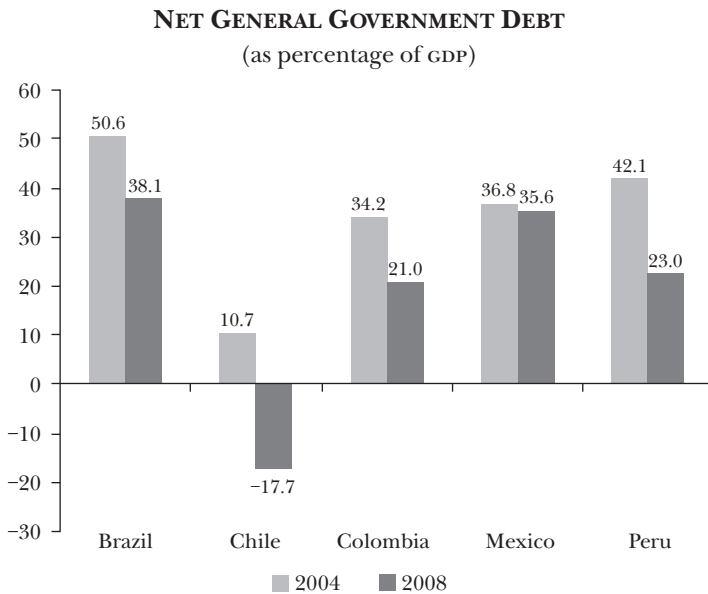
During the previous decade, Latin American countries reduced their current account deficits and, in some cases, even registered high surpluses. Foreign capital flows were pouring in, and yet two factors reduced net external debt: first, international reserves were increasing fast; second, the capital flows were predominantly composed of equity investment –mainly direct investment, but also portfolio investment in countries with developed capital markets, such as Brazil– which reduced the proportion of more rigid debt flows on the countries' balance sheets. In fact, immediately before the crisis, equity's share in the stock of foreign liabilities was around 65%, almost 20 percentage points higher than at the beginning of the decade (Table 1). In addition, a notable portion of debt investment flowed to local-currency-denominated bonds.

This new capital structure meant that currency devaluations associated with economic crisis no longer increased the ratio of liabilities to GDP. Rather, foreign liabilities would fall during a crisis, because the market value of equity would decrease. This meant that balances of payments became much more resilient to shocks (see Figure 2).

2.2 Credible Inflation-Targeting

Over the last 10 to 15 years, most central banks in Latin America abandoned fixed exchange-rate regimes and switched to inflation-targeting policies (with greater exchange-rate flexibility). Also, the central banks were given more independence, either *de facto* or *de jure*, enhancing their credibility. These factors were key to reducing the significance of exchange rates in the price-formation process –that is, the exchange rate pass-through to inflation diminished (see Table 2). Inflation targets set by society started to positively influence inflation expectations.

Figure 3



Source: Itaú and IMF.

Table 2

PASS-THROUGH OF EXCHANGE-RATE DEPRECIATION TO INFLATION		
<i>Countries</i>	<i>1990-2000</i>	<i>1994-2006</i>
Mexico ^a	0.94	0.30
Brazil	0.84	0.05
Peru	0.11	0.09
Chile	0.07	0.03

Source: Mihaljek and Klau (2008).

^a According to Mexico's central bank estimations, the pass-through after 2001 fell to below three percent.

2.3 Reducing Public-Sector Debt

In the years before the global crisis, Latin American governments reduced public-sector debt (see Figure 3). Fiscal rules

limited public deficits, while at the same time high growth and lower interest rates contributed to favorable debt dynamics.

In addition, the public debt profile improved. The average maturity of public debt lengthened (see Table 3) and governments reduced foreign-currency exposure. Actually, some governments in the region built net-long USD positions, meaning that a stronger USD would reduce public indebtedness.

Table 3

GENERAL GOVERNMENT DEBT-AVERAGE MATURITY (years)	
<i>Countries</i>	<i>2010</i>
Brazil	5.0
Chile	7.4
Colombia	6.6
Mexico	5.7
Peru	15.9
G7	6.5

Source: Itaú, IMF.

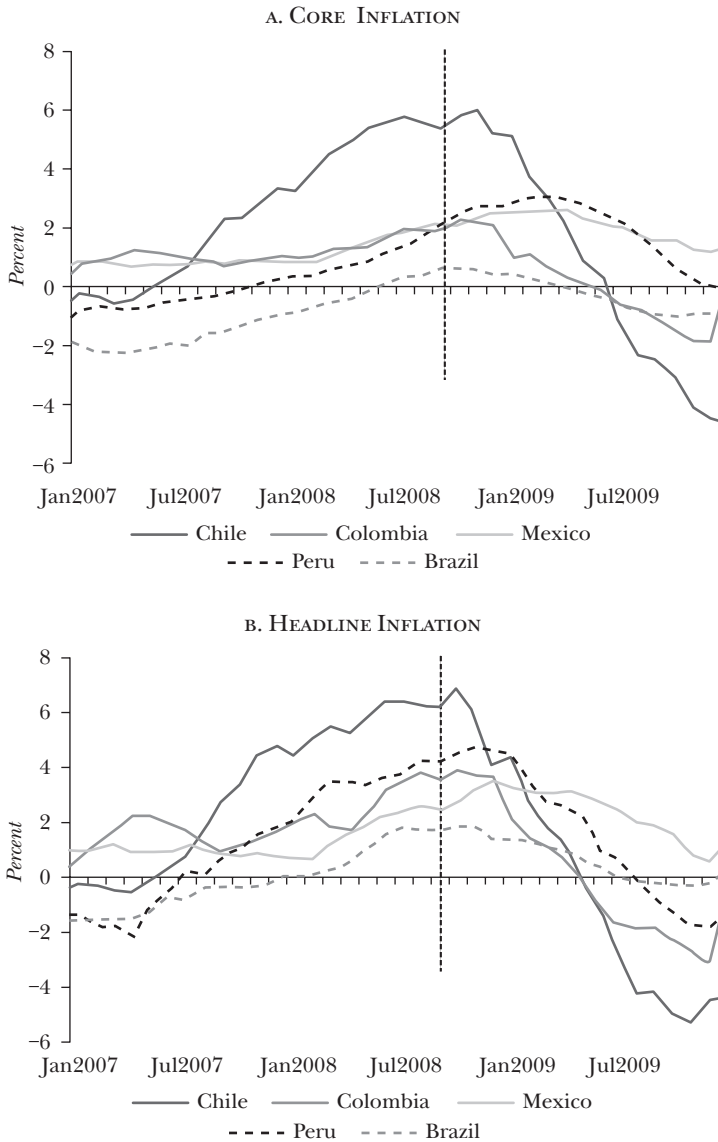
3. POLICY RESPONSES TO THE GLOBAL CRISIS

The economic buffers built up by Latin American countries in prior years allowed them to implement countercyclical policies when the crisis hit. Central banks were able to deliver stimulus, cutting interest rates to record-low levels and injecting a significant amount of liquidity into the financial markets. They also provided liquidity in foreign currency without causing reserve depletion.

Furthermore, fiscal policy helped much beyond automatic stabilizers. Discretionary spending accelerated and taxes were lowered. In Brazil, the government implemented strong quasi-fiscal stimulus through state-owned banks.

Figure 4

**LATIN AMERICAN INFLATION:
DEVIATION FROM THE TARGET**



Source: Itaú, IMF, and Haver Analytics.

3.1 Policy Rate Cuts

Central banks did not reduce interest rates in the immediate aftermath of the crisis, mainly for three reasons: *i*) at the outset of the crisis, inflation was high; *ii*) exchange rates were very volatile; and *iii*) there was uncertainty regarding the magnitude of the crisis's impact on activity.

The first factor was important. When Lehman Brothers filed for bankruptcy, the economies of Latin America were overheated. In every country of the region, inflation was not only above the center of the target range but also –except in Brazil– above the upper bound of the range. Some of this high inflation could be attributed to external shocks, namely higher commodity prices. Nevertheless, tight output gaps were adding to the inflationary pressure, as underscored by the high levels of core inflation (see Figure 4 panels A and B).

Therefore, when the crisis hit, central banks were still in a tightening mode. In Chile, Brazil and Peru the monetary policy rate was raised in September 2008, the precise month of the Lehman bankruptcy. In Colombia the last rate hike before the crisis was in August, while in Mexico, it was in July. This was not an environment conducive to an immediate reversal of policy toward cutting rates.

The second factor behind the delay in cutting rates was exchange-rate volatility. In spite of a lower pass-through, the substantial exchange-rate depreciation in the aftermath of the Lehman bankruptcy threatened both inflation goals and private-sector balance sheets.

In the years preceding the crisis, an appreciation trend in exchange rates, low volatility in the FX market and a high interest-rate differential relative to the US encouraged the corporate sector in Mexico and Brazil to build short-USD positions through derivative contracts. These positions fueled further depreciation pressure when the crisis began. Exchange-rate volatility was also a significant risk for economies that were partially dollarized, like Peru was.

Thus, even though external indebtedness in Latin America had decreased substantially, currency mismatches on private-sector balance sheets were for a brief period a source of concern for policymakers in many countries.

A third factor behind the delay in rate-cutting was uncertainty regarding the magnitude of the impact that the global crisis would have on domestic activity. Central banks could not forecast how disinflationary the output gap would become.

However, as the weeks went by, activity data started to point to sharp contractions both domestically and abroad. Growth forecasts started to fall. In addition, commodity prices were significantly lower than their precrisis levels, even when converted to local currencies, which turned into a significant disinflationary force. Inflation expectations started to fall, and local interest rates were pricing in cuts—in market participants' view, the disinflationary effects of the crisis (lower activity and lower commodity prices) were more than enough to offset the exchange-rate depreciation. Meanwhile, central banks dealt with the problems related to private-sector FX exposure with liquidity measures (discussed below).

Eventually, it became clear that there was room for monetary easing. The central bank of Colombia was the first to deliver a rate cut, in December 2008. The central banks of Brazil, Chile and Mexico started to lower their monetary policy rates in January 2009, while Peru initiated an easing cycle one month later.

While the Latin American countries started easing policies almost simultaneously, the size and length of the easing cycle differed substantially from country to country (see Table 4). It is also important to note that although rate cuts took a few months to arrive, the monetary stimulus actually arrived earlier, as yield curves fell in advance of the actual cuts.

Chile's central bank reacted the most aggressively. In January 2009, the central bank cut its reference rate by 100 basis points (bp), to 7.25%. Six months later, the interest rate had reached 0.5%, and the central bank was stating that the policy rate would be kept at this low level for a prolonged period. To reinforce this commitment, the central bank established a

term liquidity facility (FLAP, in Spanish) for banks whereby they were granted liquidity at 0.5% for 90 days and 180 days. Thus, Chile was one of the few emerging economies –and the only one in Latin America– to adopt a quantitative easing program.

Table 4

MONETARY POLICY DURING THE CRISIS			
<i>Countries</i>	<i>First Cut (month)</i>	<i>Length of Cycle (months)</i>	<i>Total Cut (basis points)</i>
Brazil	Jan-09	7	400
Chile	Jan-09	7	675
Colombia	Dec-08	18	650
Mexico	Jan-09	7	325
Peru	Feb-09	7	500

Source: Haver Analytics.

Besides the credibility that the central bank of Chile had built up over the previous years, two other factors allowed for such an aggressive monetary response. First, energy prices are more flexible in Chile, making the consumer price index more sensitive to commodity prices than in other countries in the region. Furthermore, many indexation mechanisms are still present in Chile's economy, so the pass-through from lower commodity prices to other prices is fast. When global crisis hit, inflation in Chile was almost 10% (year over year), the highest in the region. One year later, Chile was experiencing deflation, and inflation excluding food and energy had also fallen to negative levels.

In Mexico, in early 2009 the balance of risks deteriorated more in terms of economic activity than in terms of inflation. In this scenario, the central bank started a monetary policy loosening cycle reducing the policy rate from 8.25% in January to 4.5% in July.

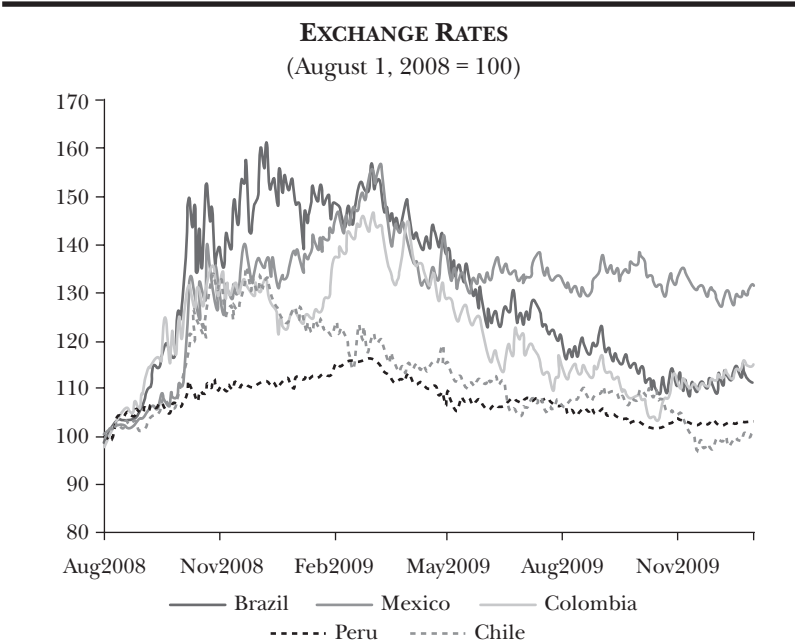
The greatest constraint on further policy loosening in Mexico was the exchange rate. Although in the first months of the

crisis the Mexican peso depreciated as much as the Colombian peso and the Chilean peso and less than Brazilian real, it soon began to underperform all these currencies (see Figure 5). Markets reassessed the Mexican economy’s key vulnerabilities: its overreliance on manufacturing exports to the US and its heavy dependence on the oil sector for fiscal revenue.

Another reason for the size of monetary stimulus in Mexico was the stickiness of energy prices. For fiscal reasons, the government could not reduce gasoline prices, so Mexico did not import international energy deflation.

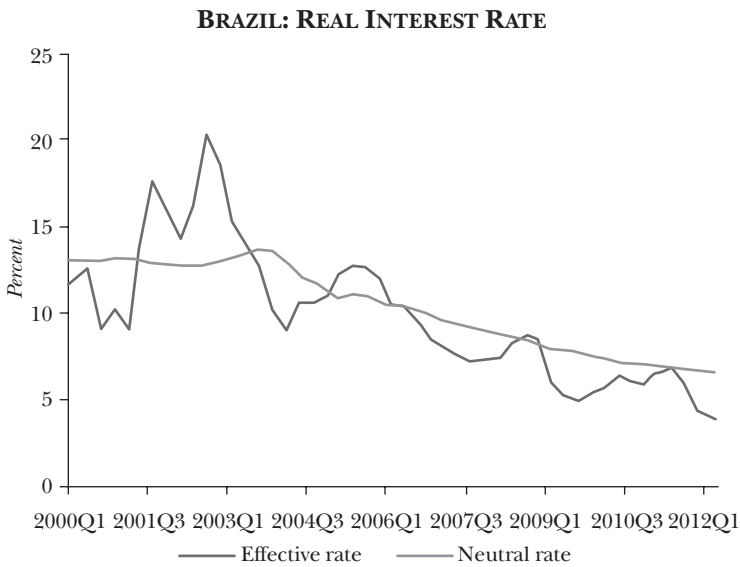
Therefore, headline inflation in Mexico remained above the upper limit of the target range until October of 2009. Core inflation –which is much less volatile– accelerated in the first months following the Lehman bankruptcy and remained above the target range until June of 2010.

Figure 5



Source: Itaú and Bloomberg.

Figure 6



Source: Itaú, Banco Central do Brasil, and Bicalho and Goldfajn (2011).

In Peru, although the policy rate was reduced substantially (to 1.25% from 6.5%) early on, the bulk of cuts came during the second quarter of 2009, as global volatility retreated, reducing currency-mismatch risks. Thus, partial dollarization in Peru delayed a deep easing cycle but did not prevent it.

In Colombia the dynamics of growth during the crisis led to a gradual easing cycle intercalated with pauses. Colombia's GDP fell by 0.8% quarter over quarter in 2008Q4—a very modest contraction compared with the other Latin American countries—and started to grow again in the following quarter. However, growth was below trend in every quarter of 2009.

Finally, in Brazil the central bank lowered the reference rate by 500 basis points, bringing it to 8.75%. The real interest rate (i.e., the one-year swap rate deflated by inflation expectations 12 months ahead) reached 4.8%. This was very high relative to other countries in the region, but the neutral real interest rate in Brazil was much higher (see Figure 6) than elsewhere.

So the stimulus provided by the central bank of Brazil was also substantial.

3.2 Liquidity Measures and Foreign Exchange Intervention

Although for the reasons mentioned above interest rate cuts did not come immediately after the crisis started, central banks in the region were quick to ensure adequate liquidity in both domestic currency and foreign currency. Hence, the central banks made a distinction between tools that could stimulate domestic demand (interest rates) and instruments that could ensure an adequate transmission of the monetary policy rate to the economy.

3.2.1 Macroprudential and other Domestic-Currency Liquidity Measures

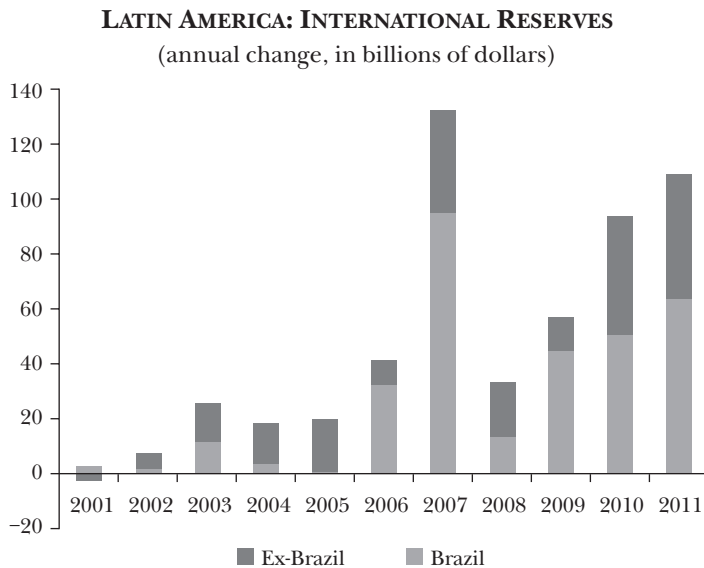
The crisis led to disruptions in domestic financial markets. Factors such as perceptions of counterparty risk, the reversal of capital inflows and increased margin requirements (induced by higher volatility in asset prices) created a liquidity squeeze. In response, central banks injected liquidity through a number of facilities.

Liquidity measures meant not only increasing liquidity but also channeling it to where it was needed. In Brazil, for example, small and medium-sized banks were particularly hurt, as their funding structures were overly concentrated on a few wholesale investors.¹

Brazil's central bank reacted by reducing reserve requirements, releasing around BRL 116 billion (or 4% of GDP) to financial institutions. Furthermore, to spread the liquidity to smaller banks –and so the central bank would not have to expand its own balance sheet to help these institutions– the central bank

¹ Mesquita and Torós (2010).

Figure 7



Source: Haver Analytics and Itaú.

Note: Ex-Brazil stands for Argentina, Chile, Colombia, Mexico and Peru.

allowed deductions on certain types of reserve requirements if the extra liquidity was to be used to buy assets of small banks.

Finally, the Brazilian authorities introduced Guaranteed Time Deposits (DPGE, in Portuguese), backed by the Deposit Guarantee Fund (FGC, in Portuguese). Those deposits were limited to BRL 20 million per account per bank and were successful in reviving funding for smaller institutions. According to the central bank of Brazil, these measures combined brought BRL 42 billion in extra liquidity to small banks.

In Chile, the central bank introduced a domestic currency repo facility, collateralized by bank term deposits. In addition, the tenors of liquidity facilities were extended.

Colombia's central bank also provided liquidity through longer-tenor (14-day and 30-day) repo operations and lowered reserve requirements.

In Peru, a number of liquidity measures were adopted, such as lowering reserve requirements, creating repo facilities with

tenors of up to one year and repurchasing the central bank's certificates of deposit.

Finally, Mexico's central bank broadened the range of collateralized assets in its liquidity facilities. In addition, the central bank auctioned interest rate swaps, and the government—through its development bank—provided guarantees for corporate issuance.

3.2.2 Foreign Currency Liquidity and Exchange-Rate Stabilization Measures

Before the crisis, a boom in capital flows and record-high terms of trade had allowed Latin America's central banks and governments to accumulate sizable international reserves (see Figure 7).

The situation abruptly reversed with the deepening of the banking crisis in the United States. Commodity prices collapsed, and capital flows reversed. Exchange rates depreciated sharply. In Mexico and Brazil, the corporate sector's FX exposure through exotic derivatives fuelled further depreciation pressure. Central banks halted reserve accumulation programs and reversed administrative measures taken to contain the strengthening of their currencies.

In this new context, central banks provided foreign-currency liquidity to the private sector, aiming to lower the cost of foreign currency borrowing, to ensure that foreign-currency financing would be channeled to where it was needed and to reduce the volatility of exchange rates.

Central banks intervened in both the spot and FX swap markets. In addition, they established foreign currency lending facilities (including trade financing) and lowered reserve requirements for foreign currency borrowing (see Table 5). Colombia's central bank also sold USD call options (so market participants had the option to buy foreign currency from the central bank). Thus central banks sought to avoid reserve depletion while providing foreign-currency liquidity at the same time.

In Brazil, the central bank sold USD 14.5 billion in the spot market (or 7% of total reserves) and lent USD 24.5 billion (including trade financing). In addition, the central bank announced that it would sell up to USD 50 billion through exchange-rate swaps; as financial market conditions improved, the amount actually sold reached USD 33 billion (gross). The government helped by making zero the tax over financial operations (IOF as in Portuguese) for portfolio investment and external borrowing.

Table 5

FOREIGN EXCHANGE TOOLS USED BY LATIN AMERICAN CENTRAL BANKS DURING THE CRISIS	
Brazil	Sold USD 14.5 billion in the spot market and USD 33 billion through swap contracts. Lent USD 24.5 billion
Chile	Sold USD 7 billion the spot market (on behalf of the treasury) and USD 3.6 billion through swap contracts. Treasury deposited USD 1.1 billion in local banks
Colombia	Auctioned USD call options and zeroed reserve requirement for external borrowing
Mexico	Sold USD 31.5 billion in the spot market
Peru	Sold USD 6.8 billion in the spot market. Lowered reserve requirement in foreign currency and implemented FX repo and swap facilities

Source: Itaú.

Chile's central bank also provided liquidity through FX swap auctions. The actual placement of such instruments had reached USD 3.6 billion by the end of 2009, although the amount auctioned was much higher. The Chilean treasury also contributed, as the government shifted USD 1.1 billion of its FX deposits to local banks. More importantly, the government financed USD 7 billion of the large fiscal deficit that Chile incurred in 2009 with foreign-currency resources from its stabilization fund—to bring money in, the central bank auctioned USD 50 million every day in the spot market for a few months, before reducing the size of auctions to USD 40 million per day.

Thus the countercyclical fiscal policy in Chile worked not only as a buffer for activity, but also as a buffer for the exchange rate.

In Colombia, besides auctioning USD call options, the central bank equals to zero the reserve requirement for external borrowing.

Peru's central bank acted through a wide-ranging set of tools. It sold USD 6.8 billion in the spot market, lowered reserve requirements in foreign currency and established foreign-currency repo and swap facilities. The Peruvian sol was the top-performing currency in the region during the most acute period of the crisis.

Mexico's central bank announced that it would auction USD 400 million in the spot market every day that the peso depreciated by 2% or more. The auctions had a minimum price, set at 1.02 times the average price of the previous day. In addition, on days of high volatility the central bank sold dollars directly to the market (i.e., without conducting an auction). Later, the central bank started to auction USD 100 million per day with no minimum price and lowered the volume auctioned with a minimum price to USD 300 million. As global volatility diminished, the volumes auctioned through both mechanisms were gradually reduced. In sum, Mexico's central bank sold USD 31.5 billion from the last quarter of 2008 to the end of 2009.

3.2.3 The Role of Multilateral Organizations

During the crisis, a few countries resorted to credit lines offered by multilateral organizations.

Mexico was a case in point. Investor sentiment towards Mexico deteriorated substantially during the crisis. Mexico's sovereign credit default swap widened more than those of its peers and its exchange rate depreciated more sharply than elsewhere in the region.

Because Mexico entered the crisis with a relatively small level of reserves (USD 83 billion, or around 7% of GDP), market confidence deteriorated. To restore confidence, Mexico countered with two important precautionary stand-by arrangements: a

USD 30 billion swap line with the Federal Reserve and a USD 47 billion IMF flexible credit line (FCL). According to the IMF, “the FCL was designed to meet the increased demand for crisis-prevention and crisis-mitigation lending from countries with robust policy frameworks and very strong track records in economic performance.” Contrary to *traditional* IMF arrangements, countries with FCL agreements were not required “to adjust [their] economic policies.”

Mexico was not the only country in the region that established arrangements like these. The central bank of Brazil also obtained a USD 30 billion swap line with the FED, and Colombia made a USD 10.5 billion FCL arrangement. However, Mexico was certainly the country that needed this help the most. Although Mexico never drew on the FCL resources and used only a small portion of the FED swap line, the availability of these resources was undoubtedly important in bolstering confidence.

3.3 Fiscal Policy

Over the last decade, Latin American countries have strengthened their fiscal policy frameworks, mainly through the adoption of fiscal rules. In most countries, the rules consisted in targeting a specific level of budget balance or imposing a cap on public deficits. While these mechanisms were successful in increasing fiscal sustainability, they created an incentive for fiscal procyclicality. Only Chile has implemented a countercyclical fiscal rule through structural balance targeting.

At first, fiscal targets could have limited these countries’ ability to stimulate their economies through fiscal policy. Nevertheless, there were escape clauses, and in some cases legislatures could modify rules. Therefore, fiscal rules contributed to significant debt reduction prior to the crisis, creating room for countercyclical fiscal policies to be adopted when needed. Accordingly, Latin American countries generally increased discretionary spending and lowered taxes (see Table 6).

Fiscal deficits increased substantially in Latin American countries in 2009. In Chile and Peru, fiscal savings played an

important role in financing these deficits. In other countries, governments met their financing needs through domestic and external capital markets, an important sign of market confidence.

In Brazil, the government lowered the tax on industrial products (IPI, in Portuguese) for cars and white goods (major appliances), while fiscal transfers and primary spending increased. Even so, the fiscal impulse of the general government was small compared with other countries.

Table 6

STRUCTURAL FISCAL BALANCE CHANGE (FISCAL IMPULSE) (as percentage of GDP)					
<i>Countries</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>Cumulative 2009-2010</i>
Brazil	0.3	1.0	-0.3	0.5	0.2
Chile	0.3	-1.4	-2.8	-0.8	-3.6
Colombia	-0.8	0.9	-0.5	-1.6	-2.1
Mexico	-0.4	-0.2	-1.7	-0.1	-1.8
Peru	1.6	-0.9	-1.9	-0.1	-2.0

Source: Itaú, IMF.

On the other hand, the quasi-fiscal stimuli implemented in Brazil were sizable. The government capitalized the development bank (Banco Nacional do Desenvolvimento, BNDES) with BRL 100 billion. In addition, bank lending through state-owned commercial banks also grew rapidly. As a result, public banks gained market share during the crisis.

In Chile, countercyclical fiscal rules led to savings of about 11% of GDP prior to the crisis. After the crisis hit, the fiscal stimulus was sizable.

Colombia also managed to stimulate its economy through fiscal policy. Colombia's government succeeded in issuing USD six billion (about 2.5% of GDP) in global bonds during 2009, underscoring the market's confidence in the country.

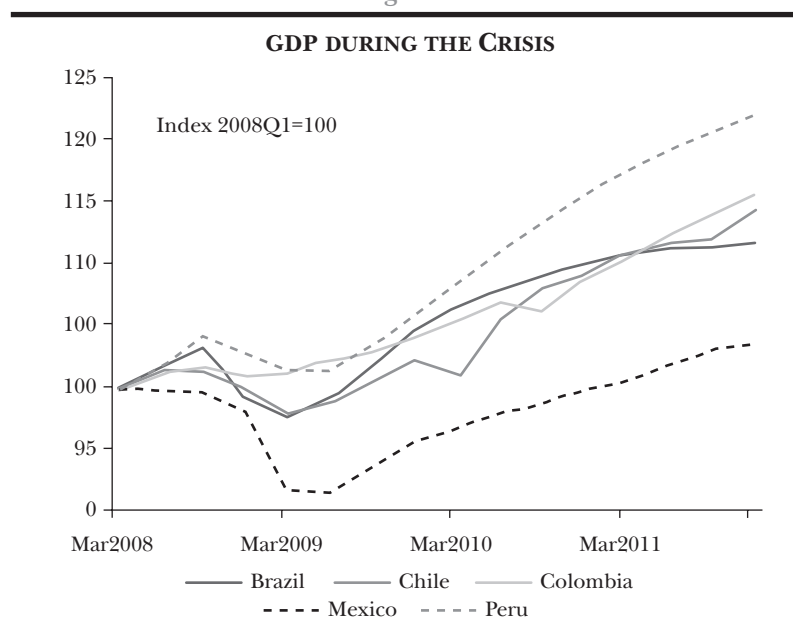
In Peru, the fiscal impulse was largely financed with fiscal savings accumulated during the good times.

Fiscal stimulus in Mexico, on the other hand, was constrained by a sharp drop in revenue that was due not only to contracting economic activity but also to lower energy prices, as around one-third of public-sector revenues in Mexico come from the oil sector. The government was able to stimulate the economy in 2009, and in order to structurally strengthen public finances, the government implemented a fiscal consolidation reform in 2010, which was decisive in improving investor's confidence.

4. ASSESSING LATIN AMERICA'S VULNERABILITY TO EXTERNAL SHOCKS

Most Latin American economies started to recover quickly from the global crisis. Following a cumulative output drop of 6% during the last quarter of 2008 and the first quarter of 2009,

Figure 8



Source: Haver Analytics, Itaú.

the Brazilian economy started to grow above potential in the second quarter of 2009. In the next quarter, Mexico and Peru (countries that, like Brazil, suffered large output losses in the aftermath of the crisis) also started to post above-trend growth rates. Unlike these countries, Colombia grew slowly throughout 2009, but it had experienced a relatively mild GDP contraction in the last quarter of 2008 (see Figure 8).

Except in Mexico, GDP returned to precrisis levels relatively quickly, suggesting that the region was less vulnerable to external shocks than in the past. However, the rebound coincided with a fast recovery of China's economy, a drop in global volatility and a rebound in commodity prices (see Figure 9, panels *a* and *b*). Thus, external conditions for Latin America started to improve relatively quickly. This raises the question of whether better domestic fundamentals –specifically, these countries' ability to implement countercyclical policies during a crisis– really played a significant role in protecting these economies from the external shock.

We would argue that Latin America's economies are, in fact, less exposed to external shocks than they used to be. To find support for this argument, we used two different econometric methodologies.

First, we built a linear regression where the explained variable is Latin American growth (more precisely, the aggregate quarter-over-quarter growth of Argentina, Brazil, Chile, Colombia, Mexico and Peru) and the explainable variables are global growth (contemporaneous and lagged) and the first principal component (that is, the common series that best explains the joint dynamics of two or more series) of a set of market prices relevant to the region: VIX, LIBOR and a group of commodities.²

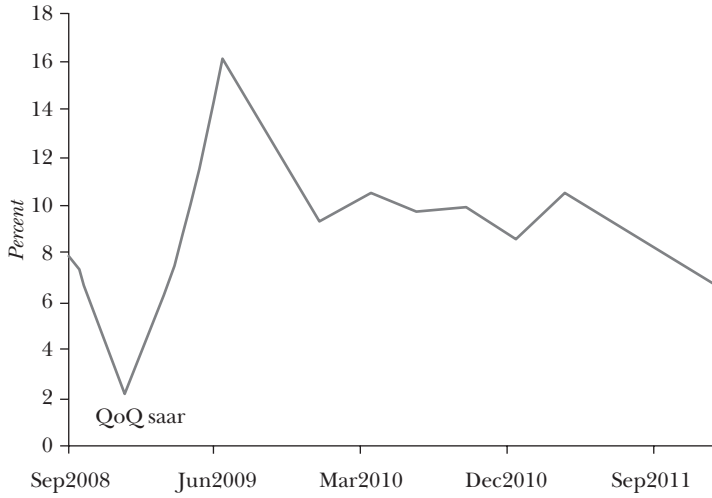
To extract the first principal component, we used the levels of VIX and LIBOR and the quarter-over-quarter growth rates of commodity prices deflated by the us producer price index (PPI),

² The methodology is similar to the one used in Levy-Yeyati and Cohan (2011).

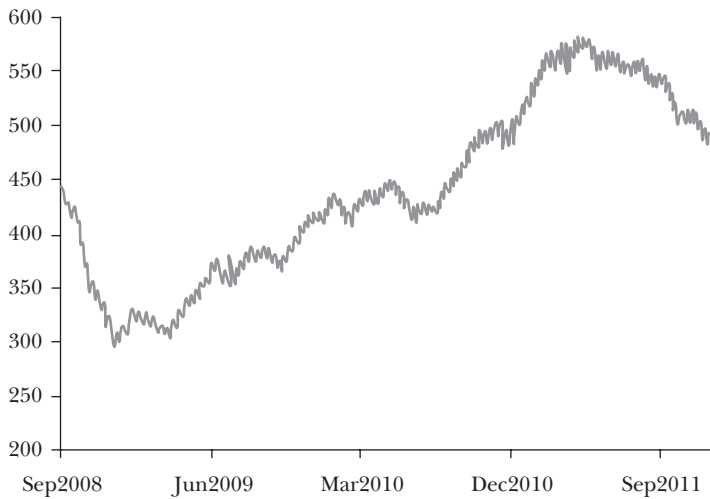
Figure 9

CHINA: GDP AND CRB INDEX

A. CHINA GDP



B. CRB INDEX
1967=100



Source: Itaú, Bloomberg, Haver Analytics.

excluding food and energy. The first principal component explains a large part of the variability of most market prices; it is correlated positively with commodity prices and negatively with VIX and LIBOR. Intuitively, the larger the value of the first principal component, the better it is for growth.

We estimated this regression for two samples: one ranging from 1996 to 2003 and another ranging from 2001 to 2011. These regressions showed that the elasticity of Latin American growth to both global growth and the first principal component fell in the more recent sample (see Table 7).

Table 7

REGRESSION RESULTS		
<i>Long Run Elasticities</i>		
	<i>Sample: 1996Q3-2004Q4</i>	<i>Sample: 2001Q1-2011Q3</i>
World GDP growth (QoQ), percentage	2.06	1.02
Principal component	0.0050	0.0013

Source: Itaú, Haver Analytics

Table 8

VaR ANALYSIS		
<i>Cumulative response of Latin American growth to one unit shock</i>		
	<i>Sample: 1996Q3-2004Q4</i>	<i>Sample: 2001Q1-2011Q3</i>
CMDI (% of change)	0.04	0.02
World GDP growth (QoQ), percentage	4.32	2.62
VIX	- 0.0018	-0.0011
R-squared	0.65	0.81

Source: Itaú, Haver Analytics

In our second methodology, we estimated a VAR where the explained variable was again Latin American growth and the

explainable variables were an index of commodity prices (CMDI), global growth and VIX. We also made our estimations based on two samples, the same periods used in the previous exercise. The results of our second set of estimations (see Table 8) are consistent with the results we obtained in the linear regressions. We find that a shock in each of the explainable variables affected Latin American output less in the more recent sample.

5. CONCLUSION: LESSONS FROM THE CRISIS AND ROOM FOR IMPROVEMENT

Latin American countries fared well during the global crisis. Positive exogenous factors help explain this performance. But as we argue in this article, better fundamentals mattered too: the countries of the region were less vulnerable to external shocks than in the past.

Following the crisis of the late 1990s and early 2000s, Latin American countries reformed their macroeconomic frameworks. Governments introduced fiscal rules, and central banks switched from exchange-rate targeting to inflation targeting. In addition, between the two crises Latin American countries enjoyed a boom in capital flows and commodity prices, which helped them to improve both their external positions and their public debt profiles. Thus, when global crisis hit again, the region had accumulated buffers and policymakers were able to deliver effective monetary and fiscal stimulus.

The good performance of Latin American economies was also related to exogenous factors, of course. China –the region’s key trading partner– was able to stimulate its economy and found its way out of the crisis relatively quickly. Simultaneously, global volatility fell and commodity prices increased. It was not only Latin American countries that benefited: emerging economies in Asia that had close trade ties with China also fared well. Mexico, which is not classified as a commodity exporter, recovered more slowly.

But the key lesson from the crisis is that, over and above the importance of exogenous factors, good macroeconomic

management during the bonanza paid off. In fact, the countries in the region which are rich in commodities but lacked sound policies—like Argentina and Venezuela—are underperforming (although in Argentina these consequences have only started to appear recently).

The developments in Latin American economies during the crisis raise some other interesting policy questions that we have addressed here.

- In spite of lower external indebtedness, the corporate sector in some countries built up sizable short-FX positions through over-the-counter derivative contracts.
- Because of high inflation, currency-mismatch risks and uncertainty regarding the magnitude of the crisis's impact on activity, central banks did not cut policy rates immediately after the crisis started. But a sizable monetary stimulus came shortly thereafter: as the weeks went by, activity contracted rapidly, commodity prices fell sharply, inflation expectations dropped and central banks dealt with the problems related to private-sector FX exposure using liquidity measures.
- International organizations helped many countries, but only for Mexico were they very important, because of Mexico's low level of international reserves.
- Fiscal targets were not a constraint on fiscal policy, because fiscal rules usually had escape clauses and, in some cases, legislatures could modify them. Fiscal rules contributed to significant debt reduction prior to the crisis, creating room for countercyclical fiscal policies when needed.

We have also addressed some of the more idiosyncratic questions that the crisis raised.

- The Mexican peso underperformed the other currencies in the region as markets reassessed the Mexican economy's two key vulnerabilities: its overreliance on

manufacturing exports to the us and its heavy dependence on the oil sector for fiscal revenues. The weaker exchange rate and its impact on inflation limited the ability of the central bank to deliver further monetary stimulus. In addition, lower energy prices coupled with the sharp contraction in economic activity curbed the effectiveness of fiscal stimulus.

- In Peru, partial dollarization delayed, but did not limit, the effectiveness of monetary policy. As global volatility decreased, the central bank cut interest rates to record-low levels.
- In Chile, the monetary policy response was similar to those of developed economies. The reference rate was lowered to 0.5% and the central bank implemented a quantitative easing program. Besides the credibility that Chile's central bank had gained over the previous years, two other factors allowed for such a response: first, energy prices are more flexible in Chile; second, indexation mechanisms speed the pass-through of lower commodity prices to other prices. When global crisis hit, inflation in Chile was almost at 10%. One year later, Chile was experiencing deflation.

Evidently, macroeconomic policy frameworks still have a lot of room for improvement. Countries need to strengthen their banking supervision frameworks to avoid large FX exposure through derivative contracts. Countries like Peru need to further dedollarize their economies, also to reduce currency-mismatch risks. Mexico should diversify its tax base to gain fiscal flexibility.

Importantly, countries must increase their savings during good times to allow for stronger fiscal responses during crises. Brazil should implement structural fiscal targets.³ Chile and (more recently) Colombia already have countercyclical fiscal

³ Oreng (2012).

frameworks. But even there, structural fiscal deficits must be reduced faster and rules regarding fiscal savings could be more transparent.

Appendix

Table A.1

UNIVARIATE REGRESSION		
<i>Independent Variable: First Principal Component</i>		
	<i>Coefficient</i>	<i>R²</i>
LIBOR	−0.05	0.00
VIX	−2.35	0.24
Corn (% change)	0.07	0.70
Cooper (% change)	0.05	0.28
Soybean (% change)	0.06	0.68
Wheat (% change)	0.05	0.53

Source: Itaú, Haver Analytics

Table A.2

OLS RESULTS			
<i>Dependent Variable: Latin American growth (QoQ)</i>			
<i>Sample: 1996Q3–2003Q4</i>			
<i>Variable</i>	<i>Coefficient</i>	<i>t-Statistic</i>	<i>Prob.</i>
Constant	–0.01	–2.36	0.03
World GDP growth ^a – %	1.14	2.99	0.01
World GDP growth ^a (t–2) – %	0.92	2.04	0.05
Principal component (t–1)	0.00	1.95	0.06
Principal component (t–5)	0.00	1.96	0.06
R ²	0.54		
Adjusted R ²	0.47		
<i>Dependent Variable: Latin American growth (QoQ)</i>			
<i>Sample: 2001Q1–2011Q3</i>			
<i>Variable</i>	<i>Coefficient</i>	<i>t-Statistic</i>	<i>Prob.</i>
World GDP growth ^a – %	0.98	5.61	0.00
World GDP growth ^a (t–1) – %	0.54	2.27	0.03
World GDP growth ^a (t–2) – %	–0.49	–3.18	0.00
Principal component (t–2)	0.00	2.45	0.02
R ²	0.79		
Adjusted R ²	0.77		

Source: Itaú, Haver Analytics

^a QoQ

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