

# A Hedge, Not a Bet

**Latin American companies used new techniques to protect against currency swings. But a few used them to gamble—and lost big**

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**B**ORROWING in foreign currency can be a double-edged sword for companies in emerging markets. Foreign currency liabilities often give firms the ability to secure funding at a lower cost and at longer maturities than if they borrowed in their domestic currency. But those same liabilities can leave balance sheets vulnerable to swings in exchange rates. In the late 1990s and early this decade, sharp currency depreciations in several countries in Latin America drove up the value of firms' foreign currency debt relative to their assets and income, impairing many firms' ability to service debt. This, in turn, exacerbated the banking difficulties that many of these countries experienced.

Over the past decade, firms have faced higher day-to-day fluctuations in exchange rates as many countries sought greater exchange rate flexibility. Those more flexible rates provided for better adjustment to external shocks and allowed monetary policy more independence. Crucially, it also provided incentives for firms to better manage their currency risk because they no longer could rely on central banks to keep currency movements within a preannounced range. What had been essentially free currency risk insurance to the private sector ended.

In a recent study (International Monetary Fund, 2008) we looked at the vulnerability of the corporate sector in Latin America to exchange rate changes between 1994 and 2007. We found that firms have sharply cut their balance sheet exposure to a sudden devaluation by reducing the share of debt contracted in foreign currency. We also found that firms have been more actively using "natural" currency hedges (export proceeds and dollar assets) to offset the dollar risk arising from their debt portfolio. But after the bankruptcy of Lehman Brothers in September 2008, a new vulnerability became apparent. Some firms (especially larger, more sophisticated ones) had used financial derivative contracts to place bets on currency movements—and lost big when the currencies depreciated steeply. That not only led to financial problems for the companies, but presented authorities with difficult issues in foreign exchange markets.

## **Stronger balance sheets**

To examine corporate sector vulnerability, we drew on a new database that links corporate balance sheet and stock

market data for 1,200 publicly traded firms (financial and nonfinancial) in Argentina, Brazil, Chile, Colombia, Mexico, and Peru. We first described the evolution of firms' net foreign currency positions over a relatively long time span (1992–2007), then complemented this balance sheet analysis with an exploration of the sensitivity of firms' stock market valuations to exchange rate changes in two subperiods, 1995–98 and 2004–07. We then tested whether the response of firms' market values to currency fluctuations has changed over time.

We found that over the past decade, publicly listed firms in Latin America have in general cut their vulnerability to exchange rate risk by substantially reducing currency mismatches *on their balance sheets*. They did this by relying less on foreign currency debt and by more systematically matching the liabilities they did have to foreign currency assets or to expected flows of dollar income. Consequently, on average, firms more recently became substantially more insulated from currency risk. We also found that for a significant fraction of firms, the impact of exchange rate changes on equity prices had declined considerably since mid-2000. These results suggest that firms had become more aware of exchange rate risk and took steps to adapt their balance sheet structure and risk management practices to meet the potential challenges posed by greater exchange rate flexibility.

## **Corporate speculation proved disastrous**

But a number of large corporations in Brazil and Mexico engaged in speculative derivative transactions in foreign currencies that left them exposed to currency movements. Rather than using these financial derivatives to *hedge*, or *insulate*, their on-balance-sheet exposure from unexpected exchange rate movements, exporters and other nonfinancial firms in Brazil and Mexico took large speculative positions in derivatives with the aim of profiting from local currency appreciation and from positive differentials between local interest rates and generally lower U.S. dollar interest rates. When the Brazilian real and the Mexican peso depreciated sharply in September–November 2008, these firms incurred big losses (see table). The central banks in each country intervened heavily in their foreign exchange markets to contain the effect of these losses and meet the resulting ex-

traordinary demand for dollars. Similar derivative activities occurred in a number of emerging markets, with negative consequences, including the Republic of Korea, Poland, and India (see “Playing with Fire,” in this issue).

Currency derivative exposures often involved currency options, which give investors the right to buy or sell a currency at a specified price during a certain period of time. In Brazil and Mexico, some firms entered into complex option structures, either as an outright bet against depreciation of the domestic currency or as a source of funding that would be cheaper but also riskier than a dollar bank loan. Many of the resulting positions were structured so that losses accumulated more rapidly after local currencies depreciated past a certain price. Although these transactions were profitable when the domestic currency was appreciating, or even if exchange rates did not fluctuate too much, losses mounted after the currencies depreciated sharply following the failure of Lehman Brothers in September 2008.

How much these companies lost is difficult to ascertain, but in Brazil and Mexico the losses were large enough to prompt a significant response from the central banks. Exposure to currency risk through derivatives led to substantial accounting losses and threatened to amplify the post-September shock to foreign exchange markets—the result of firms’ increased demand for dollars to provide the additional collateral needed to cover their mark-to-market losses. For instance, in Mexico, the central bank—which had long intervened in the foreign exchange market with a regular, rules-based approach—for the first time in a decade intervened on a large, discretionary basis, with no preannounced rules. In Brazil, the central bank sold dollar futures contracts to help affected corporations hedge or unwind their positions and reduce market volatility.

The sharp drop in firms’ stock prices following their disclosure of derivative losses provides strong evidence that the exposure to derivatives was “news” to the markets. Our results for Mexico, for example, suggest that before the October crisis, share values of most of the firms that reported the biggest derivative losses tended to rise with a domestic currency depreciation.

### Policy implications

A plausible interpretation of our results is that the trend in most countries in the region to adopt flexible exchange rates over the past decade has given firms sufficient incentives to manage currency risk and be more resilient to external shocks. Yet, as the recent episodes in Brazil and Mexico suggest, as financial derivatives become more sophisticated and complex, regulatory frameworks must adapt to market developments as well as reinforce prudential supervisory practices.

Supervisors as well as the public need more detailed information on the exposures of nonfinancial corporations to derivative positions. The global crisis revealed gaps in financial data disclosure and understanding of underlying risks. Financial activities by nonfinancial corporations expanded in areas such as offshore derivative contracts with limited disclosure requirements or enforcement, leaving regulators unable to assess risk concentrations. The surprises in the exposure of Brazilian and Mexican firms to currency derivatives, and the reaction of currency markets and the central banks, illustrate the potential macroeconomic consequences of insufficient information on the financial activities of the corporate sector.

The recent episodes in Brazil and Mexico exposed problems with financial risk management at the firm level as well. Derivative losses were also caused by varying combinations of governance failures at the firm level (poor risk management) and lack of appropriate disclosure from suppliers of instruments (banks that were supposed to have advised options buyers of the embedded risk). Authorities should be aware of the skewed incentives generated by low-volatility environments and the potential for banks and their clients to overreach in tranquil times and take too many risks.

Supervisors in countries with significant over-the-counter derivatives markets could improve the transparency and disclosure of information of these operations. Financial institutions operating in these markets could report these transactions more frequently and include more detailed information on instruments and counterparties. In particular, there may be benefits to requiring nonfinancial publicly traded corporations to report their derivatives exposures undertaken in offshore markets, which in the past have not been monitored systematically by regulators. There may also be advantages to encouraging exchange-based trading of derivatives to reduce counterparty risk and enhance transparency. Such measures would help better assess any buildup of systemic risks associated with derivative transactions. It would also strengthen market discipline, helping final investors perform some of the due diligence

currently outsourced to rating agencies. Authorities in Mexico and Brazil are already moving in this direction. ■

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#### Reference:

*International Monetary Fund, 2008, “Corporate Vulnerability: Have Firms Reduced Their Exposure to Currency Risk?” Regional Economic Outlook: Western Hemisphere, Chapter 5, (Washington, October).*

### Losing a bet

Several big companies in Brazil and Mexico had major losses in the fourth quarter of 2008 as a result of using exotic foreign currency derivatives.

Firm	Loss (million dollars)	Loss (percent of total assets)
<b>Mexico</b>		
Comerci	2,200	60
Cemex	911	2
Gruma	852	27
Vitro	358	15
Alfa	194	2
GISSA	161	34
<b>Brazil</b>		
Sadia	2,400	41
Aracruz Celulose	2,100	42
Grupo Votontarin	1,000	55

Sources: Mexico—quarterly financial reports for firms. Brazil—press reports; Bloomberg LLP; and Reuters.