

Panizza, Ugo; Borensztein, Eduardo; Eichengreen, Barry

**Working Paper**

## Debt Instruments and Policies in the New Millennium: New Markets and New Opportunities

Working Paper, No. 558

**Provided in Cooperation with:**

Inter-American Development Bank (IDB), Washington, DC

*Suggested Citation:* Panizza, Ugo; Borensztein, Eduardo; Eichengreen, Barry (2006) : Debt Instruments and Policies in the New Millennium: New Markets and New Opportunities, Working Paper, No. 558, Inter-American Development Bank, Research Department, Washington, DC

This Version is available at:

<https://hdl.handle.net/10419/88082>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



*INTER-AMERICAN DEVELOPMENT BANK  
BANCO INTERAMERICANO DE DESARROLLO (BID)  
RESEARCH DEPARTMENT  
DEPARTAMENTO DE INVESTIGACIÓN  
WORKING PAPER #558*

# **DEBT INSTRUMENTS AND POLICIES IN THE NEW MILLENNIUM: NEW MARKETS AND NEW OPPORTUNITIES**

BY

**EDUARDO BORENSZTEIN\***  
**BARRY EICHENGREEN\*\***  
**UGO PANIZZA\***

**\*INTER-AMERICAN DEVELOPMENT BANK**  
**\*\* UNIVERSITY OF CALIFORNIA, BERKELEY**

PREPARED FOR THE ANNUAL MEETINGS OF THE BOARD OF GOVERNORS,  
INTER-AMERICAN DEVELOPMENT AND INTER-AMERICAN INVESTMENT CORPORATION,  
BELO HORIZONTE, BRAZIL  
APRIL 2006

**Cataloging-in-Publication data provided by the  
Inter-American Development Bank  
Felipe Herrera Library**

Borensztein, Eduardo.

Debt instruments and policies in the new millennium : new markets and new opportunities / by Eduardo Borensztein, Barry Eichengreen, Ugo Panizza.

p. cm.

(Research Department working paper series ; 558)

Includes bibliographical references.

1. Bond market—Latin America. I. Eichengreen, Barry J. II. Panizza, Ugo. III. Inter-American Development Bank. Research Dept. IV. Title. V. Series.

332.6323 B337-----dc22

©2006

Inter-American Development Bank

1300 New York Avenue, N.W.

Washington, DC 20577

The views and interpretations in this document are those of the authors and should not be attributed to the Inter-American Development Bank, or to any individual acting on its behalf.

This paper may be freely reproduced provided credit is given to the Research Department, Inter-American Development Bank.

The Research Department (RES) produces a quarterly newsletter, *IDEA (Ideas for Development in the Americas)*, as well as working papers and books on diverse economic issues. To obtain a complete list of RES publications, and read or download them please visit our web site at: <http://www.iadb.org/res>

## **Abstract\***

Spreads on sovereign bonds are at an all-time low, at least since the current era of emerging economy bond markets began in the 1990s. This paper examines the current state of the international and domestic bond markets and asks whether the current favorable trends will constitute a durable change or a temporary fad and discusses what the IDB and other international financial institutions can do to help consolidate the positive trends and prevent new sudden stop episodes in Latin America.

---

\* This paper was prepared for the Annual Meetings of the Board of Governors of the Inter-American Development and Inter-American Investment Corporation, Belo Horizonte, Brazil, April 2006. We would like to thank Guillermo Calvo, Eloy García, Alejandro Izquierdo, and Eduardo Levy Yeyati for their input, Rita Funaro and John Dunn Smith for excellent editorial assistance, and Pato Valenzuela for superb research assistance.

## **1. Introduction**

All stars seem to be perfectly aligned for Latin America in global financial markets. Spreads on sovereign bonds are at an all-time low, at least since the current era of emerging economy bond markets began in the 1990s. With modest financing needs—thanks to strong fiscal positions—governments have an easy time finding willing investors for their new placements. Under these favorable conditions, governments have been able to begin improving the profile of their obligations and increasing the share of domestic-currency denominated instruments, which for the first time are also attracting the interest of international investors. Latin American private corporations and banks are also drawing on international debt markets in record volumes. Moreover, domestic bond markets are also making substantial progress. Their development is supported by the growth of private pension funds' assets and the increasing presence of foreign investors, as well as the creation of new structured financial instruments and improvements in market infrastructure and regulation.

Yet the recent history of emerging market debt has been punctuated by abrupt ends to periods of bonanza. Whether the current favorable trends will constitute a durable change depends on the nature of the forces that are supporting the current environment. Has there been a change towards a more stable investor base for emerging markets? Is the increase in investors' appetite for local currency instruments a reflection of a desire for portfolio diversification or merely the response to a temporary profit opportunity? Have fiscal policies and debt management policies in Latin America learned the lessons of the turbulent 1990s and reduced critical vulnerabilities?

It is perhaps in these favorable times when it is most appropriate to ask what the IDB and other international financial institutions can do to help consolidate the positive trends and prevent new sudden stop episodes in Latin America. The IDB could, for example, design the management of its own liabilities to support the development of local currency and/or indexed instruments, and, in fact, it has started to move in this direction. The IDB could also work with its member countries to help them improve their risk profile and create new instruments with better risk characteristics. On a global scale, the IDB as part of the international community could take the lead in reviving discussions to improve the international financial architecture. This is in fact an appropriate time to consider proposals including “country insurance” facilities, where countries that meet certain conditions gain automatic access to financing if their fortunes

take a turn for the worse, and market stabilization funds, which can intervene in markets if panics or widespread contagion set in. These are worthy ideas that could help prevent new crises but, during tranquil times, the international community tends to lose the sense of urgency to take action.

## **2. International Markets**

The 1990 Mexican debt restructuring under the Brady Plan ushered in a new era of international bond financing for Latin American countries. During the last period of financial globalization, which largely ended with World War I, bond finance had been extensively used by the emerging economies of the time. Most emerging market bonds defaulted in the 1930s, and when the next wave of international lending came about in the 1970s, the traditional bond instrument was replaced by syndicated loans provided by international banks. This period ended with the widespread defaults of the 1980s, and the restructuring of those obligations under the Brady Plan marked the return to bond financing.

The Mexican Brady restructuring was followed by similar operations in 20 other countries in the following years, and by the early 1990s an active market for these bonds was in full swing. Supported by strong, if sometimes fickle, investor appetite, sovereigns in Latin America and other emerging markets started to issue Eurobonds and Global bonds in the 1990s, which started to displace the original Bradies, and now dominate the markets. In fact, most countries preferred to replace the Brady bonds because they felt that their origin in the restructuring of defaulted loans was a reminder of a tainted past, and certain features—such as partial guarantees—that were introduced to facilitate an agreement with creditor banks were not attractive to the current bond investors. Of the total global volume of \$175 billion of Brady bonds that was issued, only just over \$10 billion remain in circulation now, after buybacks (including some already announced), amortizations, and some new defaults and restructurings that have occurred in the past few years. Latin American countries have been the most active in buying back or exchanging their Brady debt and their share in these instruments has fallen sharply (Table 1).

The retirement of the Bradies is in fact a sign of the strength of the emerging economies' sovereign bond market, which has gained significant proportions in global capital markets. According to BIS figures, the total outstanding international sovereign emerging debt reached

about \$450 billion in 2005, of which Latin American debt accounted for about \$240 billion. The emerging economies total represents almost 1/3 of the global supply of international government bonds (Table 2). The international debt securities of corporations and financial institutions in emerging economies are fast approaching the level of government bonds, and reached almost \$390 billion in 2005. Nonetheless, Latin America accounts for a much lower share of private borrowing than of government borrowing in international markets. The share of emerging markets among world private bonds is also lower, but still amounts to 9 percent of corporate debt. Emerging markets have a much smaller share of the market for bonds issued by financial institutions (Table 3).

The secondary market is active and liquid for most assets. EMTA (the Trade Association for the Emerging Markets) has been surveying its members and compiling data on secondary market trading since 1993. Trading was relatively light in the early years when the instruments were still new and the investor base was starting to develop. Subsequently, trading reached frantic levels during 1997-98, in the context of a series of financial crises and unsettled conditions in many financial markets (Chart 1). Turnover in Latin American issues tends to be higher, reflecting large holdings of Latin American, and in particular Mexican, paper by international investors who are members of EMTA.

In assessing the volume of emerging debt in global markets, it is noteworthy that not all bondholders are international investors. Many of the holders of emerging market debt are in fact residents of the issuing countries, who acquire the securities either in domestic exchanges or through international accounts. Although there are no reliable data to estimate a breakdown of bondholders by residence, there is broad anecdotal evidence that holdings by residents are indeed significant. For example, surveys conducted in connection with the recent Argentine debt restructuring suggested that institutional and individual residents of Argentina held as much as 75 percent of the outstanding sovereign debt in 2001-2002.<sup>1</sup>

As had been the case during the previous historical era, spreads on emerging markets' bonds display a high degree of volatility. It has been noted that even in the prosperous 1870-1913 period, the volatility of returns was still quite high (Mauro, Sussman and Yafeh, 2002). In

---

<sup>1</sup> This estimate comprises the debt restructured in "phase one" in November 2001, which had a face value of about \$24 billion and was entirely held by residents, largely banks, and "more than 50 percent" of the remaining approximately \$80 billion of face value that was estimated by the Argentine authorities to be held by Argentine

fact, a comparison of the volatility of spreads in the historical period and the modern era reveals that volatility was of the same order of magnitude relative to spreads in both periods.<sup>2</sup> High volatility may be a pervasive feature of these instruments because the fundamental economic factors that underlie the creditworthiness of sovereigns are highly volatile themselves. For example, in many emerging economies, government revenues are highly dependent on commodity export prices and economic growth, which are subject to large swings over time. If government debt is largely denominated in foreign currencies, the volatility of the exchange rate will also result in large changes in the relative value of debts and the creditworthiness of the sovereign. Moreover, the repayment capacity of a sovereign is in general harder to pin down than that of a private firm, where equity prices and debt-to-equity ratios provide precise information on the value of the debt. There is no comparable market valuation for sovereign debt. Moreover, should a default occur, the recovery value of government bonds may be harder to predict because the framework for sovereign restructuring is less well defined than is the case with private borrowers.

The new element of the 1990s has been the occurrence of frequent “sudden stop” episodes (Calvo, 1998), which were not a feature of its historical predecessor. Sudden stops may be associated with a global event or with a financial crisis breaking out in one of the emerging economies, but they have the tendency to result in virtual market closures and significant jumps in spreads for several or all emerging countries. A plot of the spreads implicit in J. P. Morgan’s Emerging Market Bond Index-Global (EMBIG) starkly highlights four major sudden stop episodes: the Tequila crisis, the Russian-LTCM crisis, the aftermath of the September 11 attacks, and the uncertainty associated with the election of President Luiz Inácio Lula da Silva in Brazil, and with the Enron and other corporate cases in the United States (Chart 2).<sup>3</sup>

Sudden stops are periods of market panic in which the valuation of bonds seems to be well below economic fundamentals. For example, a spread of 1,500 basis points would imply a probability of default of almost 66 percent within one year, and almost 90 percent within three

---

institutions and individuals. See [http://www.mecon.gov.ar/download/financiamiento/canje\\_deuda\\_nov01.pdf](http://www.mecon.gov.ar/download/financiamiento/canje_deuda_nov01.pdf), and <http://www.argentinedebtinfo.gov.ar/documentos/road-show-cwg-oct-03.pdf>, page 10.

<sup>2</sup> Although the level of the spreads (relative to British pound interest rates) was significantly lower in 1870-1913 than in the 1990s, the ratio of the standard deviation to the average spread was broadly similar in both eras (Mauro, Sussman and Yafeh, 2002).

<sup>3</sup> LTCM refers to Long-Term Capital Management, a hedge fund whose collapse led to large losses for other financial institutions and resulted in severely disruptive conditions in global financial markets, including emerging economies’ bond markets



years in a typical 10-year bond specification.<sup>4</sup> These seem to be excessively pessimistic prospects. Further, these episodes of panic have not been very long lasting, which makes them even less likely to be an actual reflection of the fundamental economic conditions in the debtor country. In fact, the EMBI tends to come back fully to previous levels within 24 months of the sudden stop. This “mean reversion” feature seems to be exclusive to the emerging bond markets, as it is largely absent from other bond markets in the United States and is much lower in equity markets. For example, US equities, as measured by the SP 500 index, have been found to display a certain degree of mean reversion, but this is 10 times smaller in magnitude than the EMBI’s mean reversion. High yield bonds in the US (“junk” bonds) show virtually zero mean reversion.

Another sign of the intense turbulence that has affected these markets is the high degree of correlation between individual assets. It is also telling that correlation has increased sharply during periods of distress (or sudden stops). This “contagion” effect was particularly strong during the Tequila and the Russian-LTCM crises and generated considerable debate over the extent to which investors were assessing the economic conditions of each country individually. It is true that the underlying risks that affect emerging economies are somewhat related, in part because economies in the same region tend to maintain close trade and investment linkages. But the degree of correlation in emerging market debt in the 1990s seems unwarranted. The correlation between individual assets in other markets is typically much lower than between emerging markets, particularly during sudden stop episodes.

The contagion phenomenon raised considerable concern within the international community because, if crises are easily transmitted within and between regions, the ability to respond by providing liquidity support diminishes significantly. But the tendency toward contagion seems to have abated recently. In particular, the Argentine default of 2001 and market concerns about the outcome of the Brazilian presidential election in 2002 did not generate widespread spillovers to other borrowers. In fact, the correlation between sovereign bonds is now broadly the same as the correlation between the high-yield borrowers from different industrial sectors of the US economy. Chart 3 calculates the average 6-month correlation between all the pairs of indices of high-yield debt corresponding to 30 economic sectors, and the average correlation between pairs of emerging market sovereigns. The chart shows that, although

---

<sup>4</sup> This assumes a recovery value of 75 percent, and a US Treasury yield of 4 percent.

correlations between emerging markets were much higher until 1999—and especially during the Tequila and the Russian-LTCM crises—they are now broadly the same.

Volatility and contagion are a reason for concern because they may become a bigger problem than temporary high spreads and liquidity shortages. It is possible for negative expectations to become “self-fulfilling,” and what started as a more or less unwarranted market run may create a dislocation in the domestic economy that seriously hurts the repayment ability of the country. This may happen because the international market “closure” may trigger high domestic interest rates and sharp exchange rate depreciations, especially if debt is short term and international reserves are not plentiful. These may have a large negative impact on the domestic economy, especially when the banking system is vulnerable to these shocks. Sometimes, the policy response may result in deeper crises, for example when the government resorts to general deposit freezes to protect the weakest institutions, with devastating effects on economic activity. The result is that the creditworthiness of the country will be severely impaired, as the recession hurts government revenues and the burden of debt soars with the cost of bank rescue operations and the effect of the exchange rate depreciation. The initially unwarranted panic has resulted in a real insolvency problem.

Currently, we are at historically low EMBI spreads, and volatility and contagion seem to have receded to normal levels for the whole asset class. Has market dysfunctionality been cured, or is this only another temporary period of calm waters before the next storm breaks?

### **3. Signs That Markets Are Changing**

Policies have strengthened in the Latin American countries, indicating that the experience of past crises has not been in vain. Against the backdrop of strong economic performance, primary surpluses have increased significantly in many countries, supporting a reduction in debt-to-GDP ratios and improving solvency positions. Countries hold much larger reserves than a decade ago, and less short-term debt, which reduces external financing needs and allows them to be better prepared to face unexpected shocks. In fact, the region is posting large current account surpluses under extremely favorable terms of trade and strong foreign demand. In line with these developments, most countries in the region have achieved higher ratings with the international credit rating agencies recently, and Chile and Mexico are already in the “investment grade” category.

There is evidence of a progressive process of learning, where investors are increasingly able to better assess risks on the basis of fundamentals and differentiate countries on a firmer basis. When information is costly to gather, and a country does not represent a large share of assets, portfolio managers will instead focus on reading a developing trend from small market fluctuations and will tend to herd together, which in turn results in higher market volatility. It should be recalled that when this bond market started in the 1990s, economic information was harder to come by and often less accurate. Some of the most important currency crises of the 1990s came as complete surprises, in part owing to the lack of information—or the presence of inaccurate information—on the level of international reserves. Today, much more economic and financial information is available about each country, and governments make an effort to disseminate it through investor relations offices and other means of communication. This helps investors assess risks better and differentiate between countries.

The increasing sophistication of investors is also reflected in their demand for local currency instruments, inflation-linked bonds, and the recently issued Argentine GDP-linked unit. Since 2003 a number of Latin American countries (Brazil, Colombia, and Uruguay) have placed domestic-currency-denominated government bonds on foreign markets for the first time. The Mexican oil company, Pemex, has been able to float bonds denominated in pesos abroad as well. These bonds are in local currency, as noted, and are reasonably long term (they mature between 2010 and 2016). These are very important first steps to create a more resilient profile of external debt. The question is whether they can be followed with further issues and at costs that do not result prohibitive. In part, governments have turned to foreign currency borrowing because of the high cost of borrowing in domestic currency. Entrenched expectations of inflation and weak creditor rights (a combination of weak contract enforcement and the presence or expectations of capital controls) have often resulted in high risk premia on domestic-currency denominated debt.

Attracting international investors to domestic currency instruments may provide the opportunity to lower their steep cost and extend their maturity. In Colombia's November 2004 issue, primary spreads were 20 to 50 basis points below those on comparable domestic bonds.<sup>5</sup> In Brazil's case, there is no clear counterpart instrument in the domestic markets. The international issue was a 10-year maturity, fixed rate instrument, and the government does not

---

<sup>5</sup> Tovar (2005). Uruguay did not benefit from lowering borrowing costs on international markets, presumably because its issue took place under the difficult conditions of a debt restructuring.

have recourse to this kind of financing in the domestic market. Domestically placed Brazilian *reais* bonds are typically floating-rate instruments that adjust with the overnight rate. The yield on the international bond was 13 percent, while the overnight interest rate has fluctuated between 16 and 20 percent in Brazil over the past two years. International investors may find *reais* bonds issued under New York governing law and settled in US dollars more attractive due to their lower risk of capital controls and other taxes.<sup>6</sup>

There are also increasing opportunities for countries to issue new types of instruments that provide a measure of insurance against various risks that affect their economies. The active market that is developing on the Argentine GDP-linked unit is one indicator of such opportunities. Small amounts of this type of instruments were issued before, most notably in many Brady deals, but generally failed to attract any trading interest. But investor interest seems to be on the rise, as shown also by some more exotic instruments. Recently, the World Food Program, a UN agency, sold futures on Ethiopian rains, effectively obtaining an insurance policy that pays the agency a sum of money in case of drought. In this way, the agency has access to liquid funds to distribute among farmers faster than going through traditional aid channels.<sup>7</sup> In another noteworthy example, pension funds in England have sold “longevity bonds,” which insure them against an increase in their liabilities arising from demographic changes.

Insuring against negative shocks to the economy has two advantages for borrowing countries. First, it helps protect fiscal solvency, because it is usually the arrival of negative shocks that makes unaffordable a level of debt that was up to that point sustainable. And second, it can improve the timing of fiscal policy because during bad times governments would have less debt servicing costs, and more “fiscal space” for supportive policies. It should be noted, however, that investor willingness is only half of the requirement to develop country insurance instruments. Political problems and the relative complexity of the operations tend to be serious obstacles. Commodity prices, for example, have a major impact on the economies of many emerging countries but although futures markets are fairly available at certain maturities, countries have made little use of them.

It is believed that the investor base in emerging market bonds has been widening since 2003 to include a broader group of dedicated investors, such as retail investors from Asia and

---

<sup>6</sup> Amato (2006).

<sup>7</sup> *The New York Times*, March 7, 2006.

Middle Eastern “petrodollars.” Investors such as pension funds and insurance companies have also been in a process of broadening their portfolios by incorporating new asset classes, and now it seems to be the turn of emerging market debt. These “strategic accounts” are believed to follow a buy-and-hold policy, and thus provide a more stable source of demand. These developments may contribute to reduce market volatility for two reasons. First, a more diverse investor base would contribute to stability because investors who follow similar strategies tend to react in the same way to news or economic shocks. Second, investors with a longer horizon are more likely to focus more squarely on the economic fundamentals in the borrowing countries rather than chasing current trends.

#### **4. Reasons Why We May Not Yet Be Safe**

There are also some reasons to be cautious about the current situation. For starters, the improvement in fundamentals, while noticeable, is quite difficult to characterize empirically. In particular, while economic fundamentals are undoubtedly stronger throughout the region, their strength is in great measure due to external factors, such as terms of trade improvement and growth in the global economy, as well as abundant liquidity and relatively high investor risk appetite. Indeed, a large fraction of the decline in spreads (and yields) can be attributed to these positively correlated global drivers rather than more robust improvements in economic fundamentals. Explaining emerging market bond spreads on the basis of economic variables that represent the strength of the domestic economy would predict spreads levels that are significantly higher than what is currently observed (Chart 4).<sup>8</sup>

In this context, some question whether the policy framework has improved to take full advantage of favorable external conditions. If the current confluence of high export prices, strong demand in the global economy and low interest rates were to change for the worse, it is not guaranteed that the Latin American economies could meet such a challenge without difficulty.

In addition to strategic investors, hedge funds, whose assets have grown exponentially in recent years, seem to be gaining in importance in emerging market debt markets. Hedge funds pursue investment strategies to take advantage of market anomalies and, in the process, contribute to make such anomalies smaller, which should be considered a positive factor for

market stability. But hedge funds usually hold highly leveraged positions. This implies that, in a downturn, they may need to liquidate their holdings immediately, which may turn a market downturn into a full-fledged crisis. Memories of the impact of LTCM's collapse in the altered markets of the post-Asian and Russian crises certainly suggest caution in regard to large hedge fund activity.

More generally, there may be doubts over whether international investors' current appetite for local currency instruments is permanent and whether corporations will follow where governments lead. Ample liquidity has made for unusually favorable conditions for emerging economies on global markets; if central banks continue to drain that liquidity and there is a flight to quality on the part of investors, it is not clear that an appetite for Latin American bonds will in fact survive.

Argentina's aggressive approach to debt restructuring (and the perhaps lower than expected recovery values on Argentina's bonds) had no immediate impact on markets, and arguably not even a discernible effect on Argentina's spreads themselves. But one may still wonder whether this traumatic episode will have any long-term effect. For example, if global conditions worsen, and a default becomes a less unlikely scenario for some Latin American countries, would this memory trigger a run?

## **5. A New Factor to Watch**

There has been huge growth in credit derivatives. Credit default swaps now amount to about 20 percent of the face value of EM sovereign debt. This could be a positive factor, by providing for a better risk distribution, but there is also the risk that some investors have taken large positions without understanding them very well, and that a shock may cause this market to unravel. The largest risk would be on the side of investors selling credit default swaps (CDSs), namely selling insurance against default on bonds of some country. If conditions turn unexpectedly for the worse in the underlying country, those investors would make large losses and if they cannot absorb them, a run may ensue that sends bond prices even lower and spreads higher.

---

<sup>8</sup> In the same vein, other empirical studies of sovereign spreads suggest that international liquidity and global risk aversion explain between one half and two thirds of the compression in the spreads (González Rosada and Levy Yeyati, 2005, Buchanan and Fuentes, 2005).

## 6. Domestic Markets

Developing bond markets would enhance the capacity of public- and private-sector borrowers to issue relatively long-dated, domestic-currency-denominated bonds in Latin America. This would entail a number of benefits. For the government, access to a stable domestic currency source of financing would help avoid public debt liquidity crises, and permit a better management of government debt. For investors, domestic bond markets would represent a meaningful broadening of their portfolio opportunities. For private firms, access to debt markets can be cost effective and reduce their exposure to the prolonged credit crunches that arise in periods of banking distress. Access to bond markets has come to be seen as a valuable “spare tire” for the financial sector in economies vulnerable to frequent banking crises.<sup>9</sup>

Domestic bond markets are still of modest size in Latin America, although they have shown rapid growth in recent years. Scaled by GDP, local bond market capitalization in Latin America lags behind that in the East Asia region and is one order of magnitude smaller than in advanced economies. The countries of Eastern Europe are far behind other regions by this measure. (See Chart 5, in which data are weighted averages that put heavier weights on larger countries.) It is also noteworthy that Latin American local markets are very heavily skewed toward government bonds. Reflecting the region’s history of budget deficits, government bonds as a share of GDP are much larger than in Emerging Asia, and they also account for a larger proportion of the market than is the case in the advanced economies, although in Emerging Europe markets are dominated by government bonds to an even larger extent.

But things look different if we instead scale bond market capitalization by the size of the domestic financial system (Domestic Credit in Chart 6). Now Latin American markets are larger than those in Emerging Asia, and are respectable when compared to advanced economies (It is, however Emerging Europe where the contrast is largest when applying this metric). In Latin America, evidently, it is financial sectors as a whole, and not merely bond markets, that are underdeveloped. This suggests that the growth of bond markets is part of the organic process of financial market development, and that countries in the region will develop deep and liquid markets in debt securities only once they have succeeded in reducing the larger obstacles to their overall financial development. Indeed, the development of banking systems and the development of bond markets have a number of prerequisites in common. In both cases,

confidence requires a reasonable level of information disclosure, under the authority of a supervisory agency or securities commission. The development of both a bond market and a sound banking system requires strong creditor rights and an effective system of corporate governance, so that small creditors can be assured of being dealt with fairly. In both cases, confidence among depositors and investors may require macroeconomic stability, so that depositors and investors do not fear that the value of their claims will be inflated away, and strong creditor rights, so that they are confident that they will get a square deal in the event of a debt or banking crisis.

In addition, the fact that bond markets grow in tandem with the rest of the financial system, which means in practice with the banking system, suggests that banks and bond markets are more accurately characterized as complements rather than substitutes. Banks provide underwriting services for prospective issuers, advising the issuer on the terms and timing of the offer. They provide bridge finance in the period when the marketing of the bonds is still underway. They additionally provide distribution channels for government bonds and form an important part of the primary dealer network. Their institutional support may also be conducive to secondary-market liquidity. Finally, banks, owing to their relatively large size, can be major issuers of domestic bonds themselves.<sup>10</sup> While some of these services can be purchased from foreign banks, the costs of doing so can be substantial. And for some functions, as with the provision of a distribution network to local retail investors, foreign banks may lack the relevant institutional capacity. All this suggests that bond market development should not be seen as an alternative to the development of an efficient banking system but rather as part of a single organic process.

Latin American local debt securities are also distinctive in characteristics such as maturity, currency denomination and type of interest rate. Compared to the aggregate of emerging market economies—and even more so when compared to the emerging economies of East Asia—there is a striking scarcity of local currency, fixed interest rate, long-term bonds in Latin American markets (Chart 7). Floating rate bonds and bonds indexed to inflation and foreign currency bonds are all more frequent in Latin America, again as a result of memory of

---

<sup>9</sup> In the words of Alan Greenspan (1999).

<sup>10</sup> In practice, this seems to be more the case in advanced economies and in East Asia than in Latin America. In addition, banks in many countries in Latin America are large holders of government bonds, well beyond what is needed to meet statutory liquidity requirements.



the inflation history in the region that is slow to recede in the minds of investors. It is perhaps revealing of the relative backwardness of these markets that in Latin America bonds have largely served as short-term instruments only.

## **7. The Future of Domestic Markets in Latin America**

What has held back the development of long-term, domestic currency bond markets in Latin America? Are these factors likely to persist or are recent developments an indication that markets are on the verge of accelerated expansion? A number of issues affect the growth of bond markets, some common to most emerging market economies, some idiosyncratic in Latin America. As we have seen, government debt dominates domestic markets in Latin America and this may have mixed effects on the vitality of markets. Latin America's history of macroeconomic and financial instability limits investors' demands to debt securities with interest rates indexed to inflation or the exchange rate. Perceptions of imperfect corporate governance and unreliable contract enforcement can render investors reluctant to hold corporate bonds at any price. The local market's lack of scale, especially in smaller countries, may be an important obstacle as well. The latter issue underscores the question of whether public and private borrowers would not be better off by resorting to international markets instead. And finally, there are the more mundane issues of a deficient market infrastructure and regulation.<sup>11</sup>

Years of budget deficits have led to large government bond issuance in many countries in the region. Government bonds have an important function for financial markets, which is to provide a benchmark yield curve spanning a range of maturities. But one has to wonder about the extent to which the overwhelming size of government debt in some country has crowded out private bond issuance, especially where private saving is fairly small by international standards. Moreover, the usefulness of a government yield curve is somewhat diminished in cases where government debt is concentrated in short maturities or is basically composed of a floating rate with an overnight reference rate. And government debt cannot be considered completely risk free in Latin America, even when it is local currency denominated and pays a fixed interest rate.

Latin America also does not fare well in studies that attempt to measure the strength of creditor rights compared, for example, with emerging economies from East Asia. For example, in one recent study, which evaluates factors such as levels of legal protection for creditors and

the reliability of law enforcement, the highest-ranked Latin American country (Chile) tends to rank below the Asian average. Other measures of the efficiency of legal systems also do not favor Latin America. For example, the number of days needed to resolve a contract dispute is higher in Mexico, Argentina and Brazil than in Korea, Malaysia and Thailand, although Chile compares favorably with Malaysia and Thailand but not with Korea on these grounds. In terms of financial systems, the principal Latin American countries again do worse than their East Asian counterparts in terms of measures of financial transparency. Brazil, Chile, Colombia and Mexico rank below Korea, Malaysia and Thailand in terms of their adherence to international accounting standards.<sup>12</sup>

In some countries, the problem is the small size of the economy, which makes it difficult to develop secondary liquidity, and the small size of potential corporate issuers, who may not be able to spread the fixed costs of placement over an adequately-sized bond placement. Some country studies have highlighted that, given large fixed costs, small- and medium-sized firms are unlikely to use bonds. As Chart 8 shows, there is a positive correlation between firm size and the size of the corporate bond market.<sup>13</sup> The correlation is particularly strong when we measure corporate bonds as a share of M2, indicating that for a given size of the financial system countries with larger firms are more likely to develop a corporate bond market. Note, however, that there are several Asian countries with a corporate bond market that is much larger than what would be predicted by firm size.

## **8. The Way Forward: New Investors and New Instruments**

Local bond markets are showing new strength and vitality in the Latin American region. The impetus is coming from the increasing importance of local institutional investors, especially pension funds, the increased appetite displayed by international investors, and the emergence of new structured instruments that allow a broader range of borrowers to reach the market.

The importance of institutional investors is not limited to Latin America, but Latin America's low saving rates arguably render institutional investors even more indispensable to the

---

<sup>11</sup> See Borensztein, Eichengreen and Panizza (2006) for a more complete discussion of these issues.

<sup>12</sup> IMF (2005b), Table 4.4. In contrast, there is little difference in adherence to the IMF's Special Data Dissemination Standard; the principal countries in both regions have both subscribed and met SDDS specification in recent years.

development of local bond markets. Pension funds, in particular, are the largest bondholders in countries like Chile, Colombia, and Mexico, where the reform of pension systems was relatively early to get under way. In Brazil, the mutual fund industry is the most important holder of government securities (along with the banking system and the state development bank, BNDES), although it focuses mainly on the short end of the market. The role of life and other insurance companies is smaller in Latin America than in other economies, with the notable exception of Chile, where insurance company assets under management approach 20 percent of GDP. In Mexico and Chile, institutional investors hold upward of 90 percent of corporate bonds; in Peru they hold more than 70 percent.<sup>14</sup> By comparison, in Asian countries with higher savings rates—in Thailand, for example—retail investors who purchase bonds directly through bank branches play a larger role in the local bond market.

Looking forward, this segment of demand is going to expand vigorously in Latin America and may permit a significant increase in the scale of bond markets. Pension funds, in particular, will see fast growth in their assets because pension reforms are relatively recent. Other institutional investors can also be expected to gain importance as financial systems develop, and they all have a natural inclination towards bonds. Pension funds and insurance companies have long-term liabilities denominated in domestic-currency terms; it therefore makes sense for them to match these with long-term domestic-currency investments. Banks demand government bonds in order to satisfy prudential requirements. Mutual funds, for their part, enable individual investors to diversify away the risk associated with individual bonds by holding claims on a broad underlying investment portfolio. The downside may be that many institutional investors—pension funds and insurance companies in particular—follow buy-and-hold strategies that would reduce liquidity in the markets, at least as measured by turnover. Less liquidity can make participation less attractive for retail investors. This would stress the importance of the entry of a new participant into the markets: foreign investors.

Participation by investors from outside the region appears to be particularly important for the development of deep and active bond markets in Latin America. Data on foreign investors' positions in local markets are incomplete, but there are clear signs of increasing positions in local

---

<sup>13</sup> The figure measures firm size by computing the assets of the largest 100 firms as a share of GDP and regressing this measure on GDP (as a way of acknowledging the fact that, by construction, this ratio is negatively correlated with country size). The residual of this regression is the measure of firm size.

<sup>14</sup> See IMF (2005a).

instruments by international investors. The survey by EMTA, for example, reveals a sharp increase in the volume of local instruments traded by international investors; in fact, in the last two years turnover of local instruments surpassed that of global instruments in the EMTA sample (Chart 9). In Mexico, foreign participants are reported to hold more than 50 percent of the government's 10-year bonds and more than 80 percent of its 20-year bonds.<sup>15</sup>

However, foreign investors are most inclined to take positions in countries with larger bond markets—Brazil, for example—where liquidity is already the greatest.<sup>16</sup> By removing some of the tax burden on foreign investors, the Brazilian authorities have sought to capitalize on this interest and retire foreign debt from the market, replacing it with domestic-currency issues. To be sure, there is also a foreign demand for “exotics,” or the less liquid bonds of smaller countries. But this phenomenon is quantitatively limited; for most investors, the limited liquidity of exotics, together with the lack of hedging instruments, the fixed costs of obtaining information about issue quality, currency risk, etc. in smaller markets, limits foreign demand. Foreign investors prefer the liquidity of bonds of larger countries and of their governments in particular.

## **9. New Instruments: Securitization**

Asset-backed securities are a fairly new family of financial instruments in Latin America, but they have been growing rapidly in the past two or three years, and show interesting potential. The instruments include mainly securities that enable firms and financial institutions to securitize their receivables, mortgage-backed securities, and commercial paper. Several countries are creating the legal framework that permits the development of this type of instruments. In Brazil, the development of mortgage-backed securities (“certificado de recebíveis imobiliários,” or CRIs) and receivables investment funds (“fundos de investimentos em direitos creditórios, or FIDCs), with impetus from the Central Bank and the securities and exchange commission, was a significant step in widening the market. Issues of these two instruments grew by 2 1/2 times in 2005, and amounted to the equivalent of \$ 4.5 billion.

Argentina is an interesting example where asset backed securities provided something of a “spare wheel” for the ailing banking sector in recent years. The securitization of receivables

---

<sup>15</sup> These estimates of foreign participation are from IMF (2005a), p.113.

(“fideicomisos financieros”), especially consumer credit and agricultural export revenues, and a form of commercial paper (“cheques de pago diferido”) grew strongly in recent years. The issue of fideicomisos, in particular, more than tripled in 2005, although the volume was still a fairly modest \$1.7 billion. The legal structure for fideicomisos had been created in 1995, and those that were in existence at the time of the financial collapse in 2001 did not go into default, which allowed this instrument to lead the reopening of financial markets.

Asset-backed securities, if successfully implemented, may address two of the issues that hold back private bonds in Latin America. First, the legal and institutional requirements to exercise creditor rights are simpler because the assets are backed by collateral—such as a property or a vehicle—and foreclosing should be less complicated than going through bankruptcy proceedings, as would be required in the case of unsecured corporate bonds. While an effective and speedy recourse to the legal system still imposes institutional requirements that may not be available everywhere, the bar is set lower for asset-backed securities. Second, the problem of small size of the firms can be circumvented by pooling a large number of firms in a structured security. Banks can use their superior expertise in selecting credits and can avoid carrying an excessive volume of correlated risk credits in their books. Especially in cases where banks have been very conservative in lending, asset-backed securities can be an effective instrument for increasing financial intermediation and investment in Latin America.

## **10. The Role of the IDB**

Efficient financial markets and stable macroeconomic conditions are fundamental building blocks for the growth and development objectives that are the mission of the Inter-American Development Bank. Today, this means searching for new markets and new instruments to improve the management of the stock of public debt and to allow increasing segments of the private sector to gain access to better and more diverse sources of finance.

Since 2003, the IDB has contributed to the expansion of domestic currency bond markets by issuing its own debt in the currencies of the member countries. In April 2004, the IDB became the first institutional issuer to launch a global bond denominated in Mexican pesos offering a new asset class for domestic and international investors. This was the first

---

<sup>16</sup> This is also a widely cited explanation for why corporate bond markets are particularly underdeveloped in Latin America—that there is a dearth of corporations large enough to issue bonds on a scale to support a significant

international bond issue made available in the domestic capital market under the new financial regulatory framework adopted by Mexico in 2003 and the first AAA bond issued in the Mexican capital market. Since this first issue, the IDB has issued 18 other bonds in the currencies of Latin American countries, raising a total of approximately 1.3 billion. While most of the issues tapped the Mexican peso market (for a total of more than US\$900 million), the bank has also issued bonds denominated in Brazilian *reais*, Chilean pesos and Colombian pesos (Table 4).

IDB issues in domestic currencies serve two purposes. First, they provide funding that could be used for local currency loans to its member countries, which is a sensible option for many projects whose revenues are not at all related to the exchange rate. Second, given its prime borrower rating, the IDB expands the range of available credit risks in local currencies, both in domestic and international markets. This can help attract more investors to local currency instruments and develop a benchmark yield curve that is valuable to price and gives liquidity to instruments issued by a range of borrowers. Nonetheless, the process should be managed carefully. Governments are typically the highest-quality borrower, particularly in domestic currency, even if they are not completely risk free. The entry of the IDB may in some circumstances crowd out access to markets by member country governments.

Another, more mundane, way in which the IDB can contribute to the development of local bond markets is through loans to support the most needed upgrades in the infrastructure in domestic securities markets, supporting, for example, building a complex bond market infrastructure—a trading platform, a clearing and settlement system, an efficient bankruptcy and insolvency code, and a speedy and even-handed judicial system

Finally, how to prevent a new sudden stop? Emerging economies in Latin America and, especially, in East Asia, have been trying to insure themselves against such a contingency by accumulating international reserves. But this “self-insurance” approach is costly and inefficient. Initiatives to pool international reserves among country groups and make them available to a member in need are a step forward. But these initiatives, basically FLAR (Fondo Latinoamericano de Reservas) which comprises five Andean countries and Costa Rica) and the more recent Chiang Mai initiative in Asia, are still quite small in magnitude and largely untested. The IDB could support the development of this type of arrangements in the region by various means. Countries could also obtain a measure of insurance by means of financial instruments

---

volume of trading and therefore to enable foreign investors to close out positions without moving prices.

such as growth-linked bonds and commodity price-linked bonds. In fact, a change in the debt composition in the direction of more domestic-currency denominated debt already goes in this direction. The question here is the cost of these instruments and what the IDB can do to support the development of these markets. A different approach is to focus on the market for emerging debt directly. The fact that asset prices fall excessively during sudden stops (as discussed above) provides an opportunity to intervene in the market to help preserve stability without expecting to make losses. This underpins ideas to create a fund that would follow a rule to acquire underpriced bonds and to sell them gradually during more normal times. These types of proposals are financially viable, although they may be politically difficult (Calvo, 2005).

## References

- Amato, J. 2006. "The International Debt Securities Market." *BIS Quarterly Review* (March): 31-42.
- Borensztein, E., B. Eichengreen and U. Panizza. 2006. "Building Bond Markets in Latin America." Berkeley and Washington, DC, United States: University of California, Berkeley and Inter-American Development Bank. Manuscript.
- Buchanan, M., and M. Fuentes. 2005. "Emerging Markets and the Global Economy—Hysteresis not Hysteria," Goldman Sachs: *Global Economics Weekly*, Issue No: 05/40, 30th. November: 1-5.
- Calvo, G. 2005. "Crises in Emerging Market Economies: A Global Perspective." Graham Lecture, Princeton University and NBER Working Paper 11305. Cambridge, United States: National Bureau of Economic Research.
- Calvo, G. 1998. "Capital Flows and Capital Market Crises: The Simple Economics of Sudden Stops." *Journal of Applied Economics* 1(1): 35-54.
- González Rozada, M., and E. Levy Yeyati. 2005. "Global Factors and Emerging Market Spreads." Buenos Aires, Argentina: Universidad Torcuato Di Tella. Manuscript.
- Greenspan, A. 1999. "Do Efficient Financial Markets Mitigate Financial Crises?" Speech at the 1999 Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia, October 19.
- International Monetary Fund. 2005a. "Development of Corporate Bond Markets in Emerging Economies." *Global Financial Stability Report* (September): 103-141.
- . (2005b). "Corporate Finance in Emerging Markets." *Global Financial Stability Report* (April): 92-132.
- Mauro, P., N. Sussman and Y. Yafeh. 2002. "Emerging Market Spreads: Then Versus Now," *Quarterly Journal of Economics* 117(2): 695-733.
- Tovar, C. 2005. "International Government Debt Denominated in Local Currency: Recent Developments in Latin America." *BIS Quarterly Review* (December), pages 109-118.



**Table 1. Brady Bonds: Original Amounts and Outstanding Balances**

Billions of US Dollars

Country	Year of Issue	<i>Issued</i>		<i>Outstanding (March 2006)</i>		Retired (percent)
		Face Value	Percent of Total	Face Value	Percent of Total	
<b>Latin America</b>		<b>143.1</b>	<b>81.8</b>	<b>3.9</b>	<b>36.4</b>	<b>97.3</b>
Argentina	1993	24.8	14.2	0.0	0.0	100.0 <sup>1</sup>
Brazil	1994	51.3	29.3	0.0	0.0	100.0 <sup>2</sup>
Costa Rica	1990	0.6	0.3	0.0	0.0	100.0
Dominican Republic	1994	0.5	0.3	0.4	3.7	20.0
Ecuador	1995	6.3	3.6	0.0	0.0	100.0
Mexico	1990	35.6	20.4	0.0	0.0	100.0
Panama	1996	2.9	1.7	0.9	8.4	69.0
Peru	1996	4.2	2.4	2.0	18.7	52.4
Uruguay	1991	1.1	0.6	0.0	0.0	100.0
Venezuela	1990	15.8	9.0	0.6	5.6	96.2
<b>Non-Latin</b>		<b>31.9</b>	<b>18.2</b>	<b>6.8</b>	<b>63.6</b>	<b>78.7</b>
Bulgaria	1994	4.6	2.6	0.0	0.0	100.0
Croatia	1996	1.5	0.9	0.0	0.0	100.0
Ivory Coast	1997	2.0	1.1	2.0	18.7	0.0
Jordan	1993	0.7	0.4	0.0	0.0	100.0
Morocco	1990	2.8	1.6	0.7	6.4	75.7
Nigeria	1992	2.1	1.2	1.4	13.1	33.3
Philippines	1990	3.9	2.2	1.0	9.3	74.4
Poland	1994	7.1	4.1	1.2	11.2	83.1
Russia	1993	6.4	3.7	0.0	0.0	100.0
Slovenia	1996	0.2	0.1	0.0	0.1	95.5
Vietnam	1997	0.5	0.3	0.5	4.7	0.0
<b>Total</b>		<b>174.9</b>	<b>100.0</b>	<b>10.7</b>	<b>100.0</b>	<b>93.9</b>

**Notes:**

1. There are still about \$300 million of defaulted Brady debt that have not been exchanged.
2. Including the announced buyback operation.

**Source:** Authors' calculation on the basis of data from JP Morgan, Bloomberg, and Global Development Finance (2003).

**Table 2. Outstanding International Government Debt Securities**  
*(In billions of US dollars) <sup>1</sup>*

<b>Country</b>	<b>1993</b>	<b>1996</b>	<b>1999</b>	<b>2002</b>	<b>2005</b>	<b>2005 <sup>2</sup></b>
<b>Advanced Economies</b>	<b>311.1</b>	<b>429.9</b>	<b>413.9</b>	<b>524.5</b>	<b>957.7</b>	<b>68.1</b>
<b>Emerging Markets</b>	<b>110.1</b>	<b>228.0</b>	<b>311.1</b>	<b>383.5</b>	<b>449.4</b>	<b>31.9</b>
<b>Latin America &amp; Caribbean</b>	<b>75.4</b>	<b>166.1</b>	<b>207.8</b>	<b>231.4</b>	<b>243.0</b>	<b>17.3</b>
Argentina	18.2	42.0	64.2	79.5	69.4	4.9
Brazil	1.0	45.8	47.0	54.0	62.9	4.5
Chile	0.3	0.0	0.5	2.0	3.5	0.2
Colombia	0.4	1.9	5.6	10.7	13.1	0.9
Costa Rica	0.6	0.6	0.9	1.6	2.1	0.1
Dominican Republic	0.0	0.5	0.5	1.0	0.4	0.0
Ecuador	0.0	6.0	6.2	4.0	4.2	0.3
Mexico	36.1	50.5	59.9	50.9	47.5	3.4
Trinidad & Tobago	0.3	0.3	0.6	0.7	0.7	0.0
Uruguay	1.1	1.5	2.3	3.9	5.1	0.4
Venezuela	17.4	17.1	15.2	14.4	20.6	1.5
<b>Africa &amp; Middle East</b>	<b>4.6</b>	<b>7.7</b>	<b>13.7</b>	<b>20.9</b>	<b>29.0</b>	<b>2.1</b>
<b>Asia &amp; Pacific</b>	<b>10.8</b>	<b>13.3</b>	<b>25.1</b>	<b>35.5</b>	<b>46.1</b>	<b>3.3</b>
<b>Europe</b>	<b>19.3</b>	<b>40.9</b>	<b>64.5</b>	<b>95.7</b>	<b>131.3</b>	<b>9.3</b>
<b>Total</b>	<b>421.2</b>	<b>657.9</b>	<b>725.0</b>	<b>908.0</b>	<b>1,407.1</b>	<b>100.0</b>

**Source:** Bank of International Settlements

1. September each year

2. In percent

**Table 3. Outstanding International Private Debt Securities**

*(In billions of US dollars) <sup>1</sup>*

<b>Country</b>	<b>1993</b>	<b>1996</b>	<b>1999</b>	<b>2002</b>	<b>2005</b>	<b>2005 <sup>2</sup></b>
<b>Corporate Issuers</b>						
<b>Advanced Economies</b>	<b>494.5</b>	<b>477.0</b>	<b>643.9</b>	<b>1,083.7</b>	<b>1,371.6</b>	<b>91.0</b>
<b>Emerging Markets</b>	<b>29.6</b>	<b>65.8</b>	<b>108.1</b>	<b>111.7</b>	<b>135.3</b>	<b>9.0</b>
<i>of which</i>						
<b>Latin America &amp; Caribbean</b>	<b>18.8</b>	<b>30.8</b>	<b>50.7</b>	<b>45.5</b>	<b>41.8</b>	<b>2.8</b>
Argentina	2.1	6.5	11.6	8.3	3.8	0.3
Brazil	3.5	7.9	12.2	11.4	9.8	0.7
Chile	0.3	2.0	3.6	5.3	7.2	0.5
Colombia	0.2	0.3	0.3	0.3	0.9	0.1
Costa Rica	0.0	0.1	0.0	0.0	0.1	0.0
Mexico	10.5	12.2	21.5	19.4	19.0	1.3
Venezuela	2.3	1.9	1.0	0.5	0.3	0.0
<b>Total</b>	<b>524.1</b>	<b>542.8</b>	<b>752.0</b>	<b>1,195.4</b>	<b>1,506.9</b>	<b>100.0</b>
<b>Financial Institutions</b>						
<b>Advanced Economies</b>	<b>843.0</b>	<b>1,509.7</b>	<b>3,298.9</b>	<b>6,081.4</b>	<b>10,364.9</b>	<b>97.6</b>
<b>Emerging Markets</b>	<b>37.3</b>	<b>81.5</b>	<b>120.9</b>	<b>130.3</b>	<b>253.0</b>	<b>2.4</b>
<i>of which</i>						
<b>Latin America &amp; Caribbean</b>	<b>15.9</b>	<b>30.2</b>	<b>39.8</b>	<b>47.2</b>	<b>63.7</b>	<b>0.6</b>
	1.3	2.9	3.6	1.6	1.6	0.0
	4.2	13.9	16.5	24.2	34.4	0.3
	0.0	0.1	0.6	0.6	0.4	0.0
	0.1	1.1	1.4	0.8	0.8	0.0
	10.3	11.5	11.6	14.5	23.6	0.2
	0.0	0.1	0.2	0.2	0.2	0.0
	0.0	0.1	0.4	0.3	0.3	0.0
	0.1	0.3	5.3	4.6	1.8	0.0
<b>Total</b>	<b>880.3</b>	<b>1,591.2</b>	<b>3,419.8</b>	<b>6,211.7</b>	<b>10,617.9</b>	<b>100.0</b>

**Source:** Bank of International Settlements

1. September each year

2. In percent

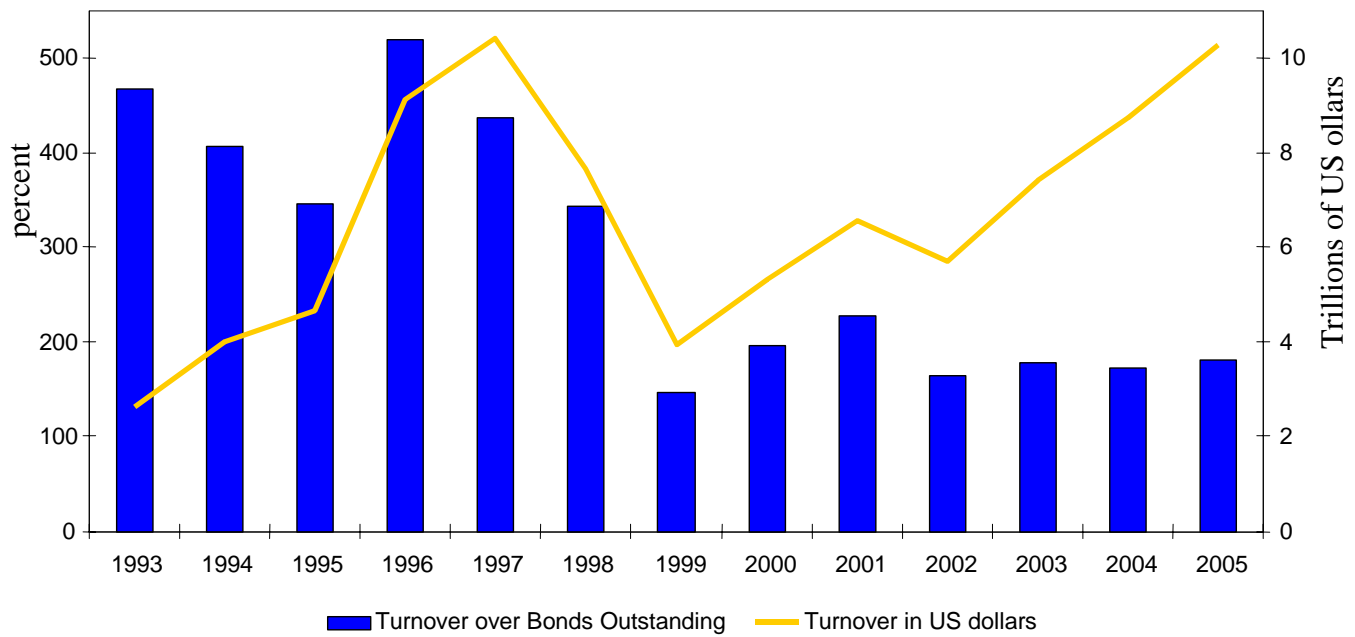
**Table 4. Local Currency International Issues by the IDB**

Issue Date	Maturity (Years)	Currency	Face Amount (million USD)	Value Coupon
Apr-04	3	MXN	269	6.59
May-04	5	BRL	189	0*
Jun-04	6.9	COP	44	Inflation+0.54*
Dec-04	5	BRL	73	Inflation+6.26
Mar-05	6.9	COP	73	Inflation+3.95
Mar-05	5	MXN	46	9.25
Jun-05	10	MXN	46	9.5
Aug-05	5	MXN	23	9.25
Aug-05	5	CLP	65	Inflation+2.15
Oct-05	5	MXN	15	7.65
Oct-05	10	MXN	93	8.67
Nov-05	5	MXN	15	7.65
Nov-05	10	MXN	94	8.67
Dec-05	5	MXN	16	7.65
Jan-06	5	MXN	11	7.65
Feb-06	7	MXN	13	7.65
Jan-06	10	MXN	237	8
Feb-06	5	MXN	29	7.6
Mar-06	7	MXN	11	7.5

\*Bonds issued at discount.

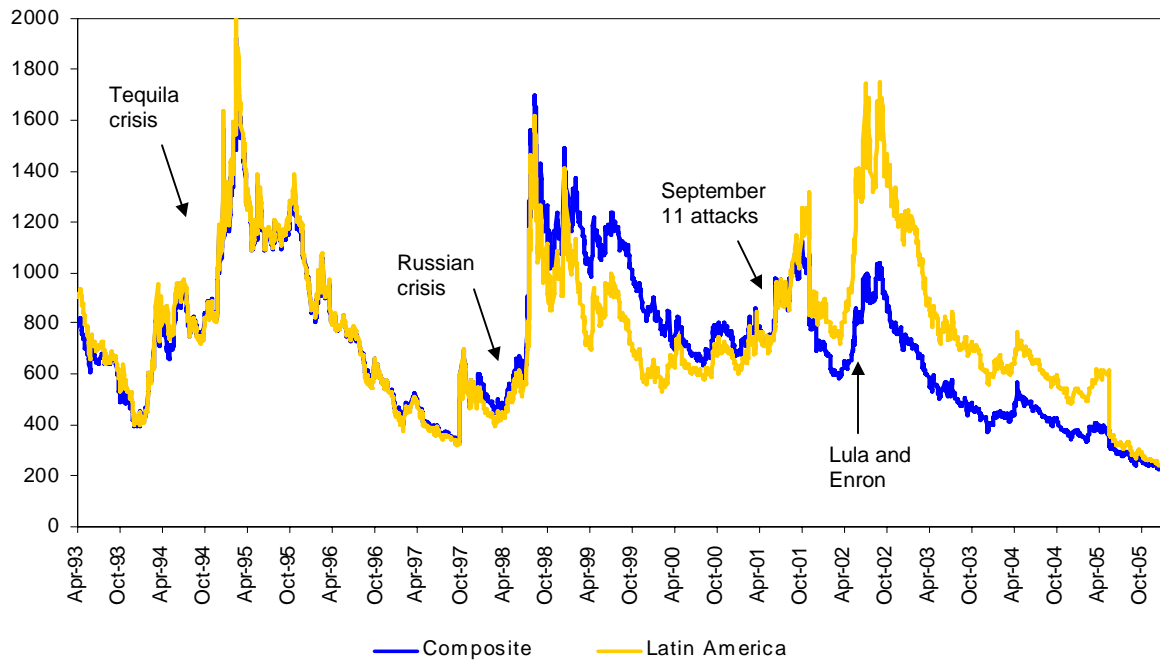
Source: IDB, Finance Department.

**Chart 1. Turnover in Emerging Market Bonds**



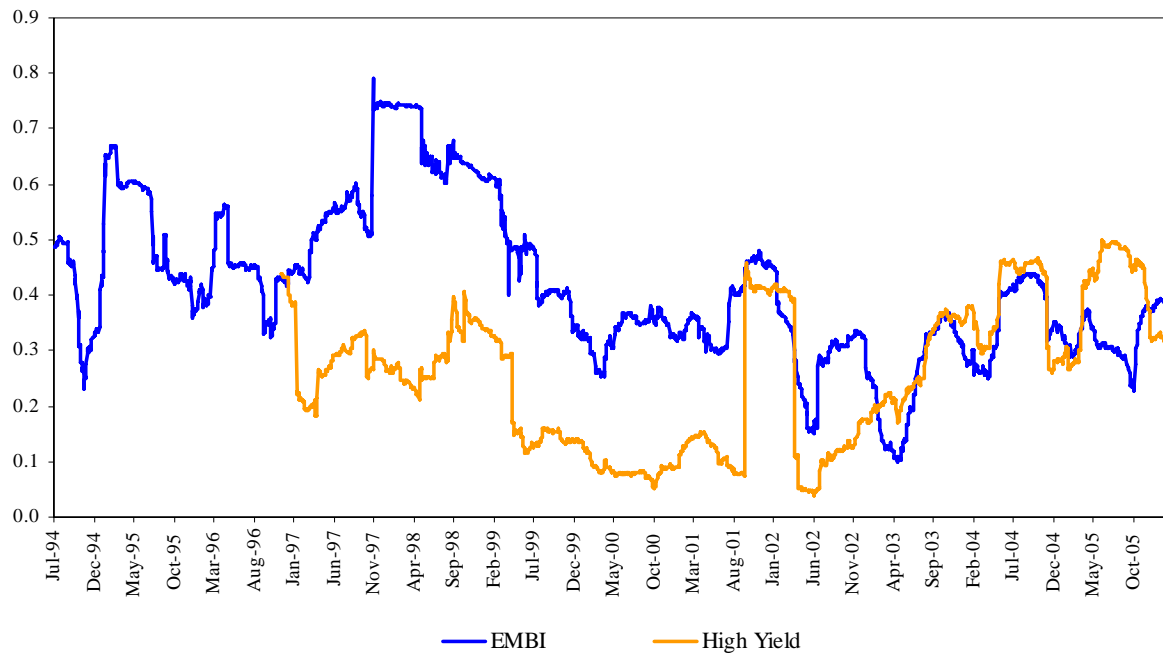
*Sources:* Turnover data from EMTA and outstanding bonds data from BIS. Country ratios are weighted by the outstanding amounts of international bonds of each country.

**Chart 2. Emerging Markets and Latin American Spreads**



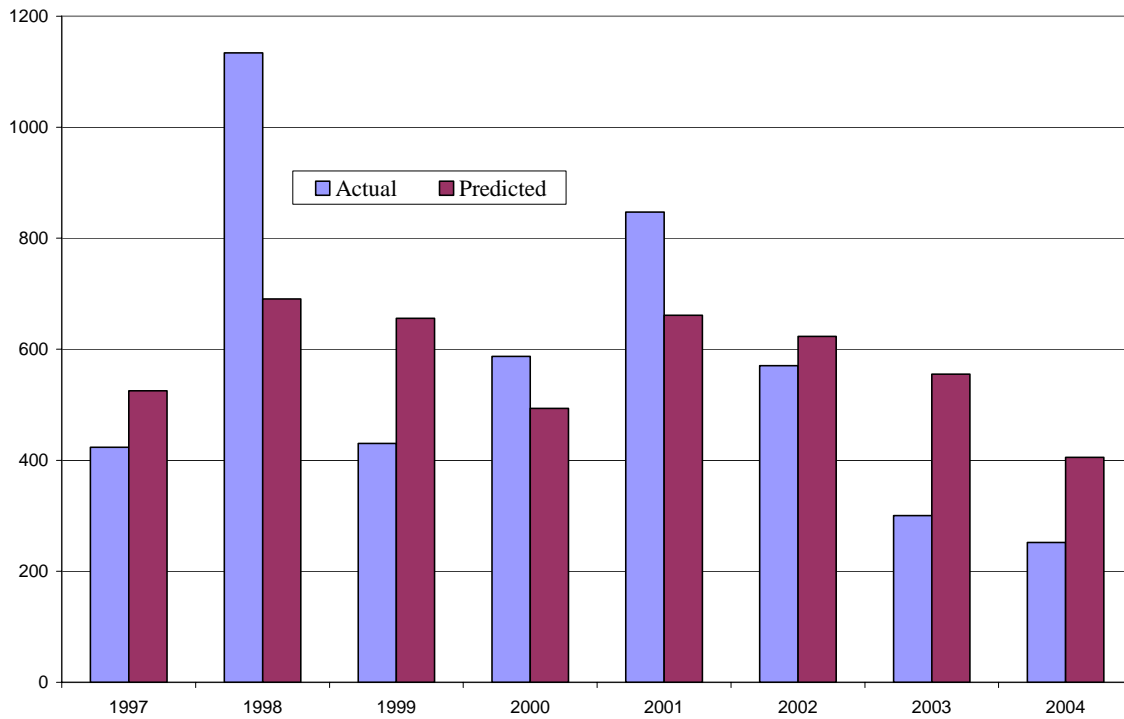
Source: Authors' calculations based on JP Morgan. Spreads are combination of EMBI and EMBI plus indices. The Latin America index comprises the four largest market debtors: Argentina, Brazil, Mexico and Venezuela. Weights are adjusted to consider the structural break due to the Argentine default.

**Chart 3. Average Correlations among Sovereign Emerging Market Bonds and Industrial Sector Indices of US High Yield Bonds**



*Notes:* The figure plots the average six-month correlation among 78 country pairs of the J.P. Morgan EMBI plus index and 465 sector pairs of the Merrill Lynch US High Yield index. The correlation coefficients are based on daily returns of the indexes.

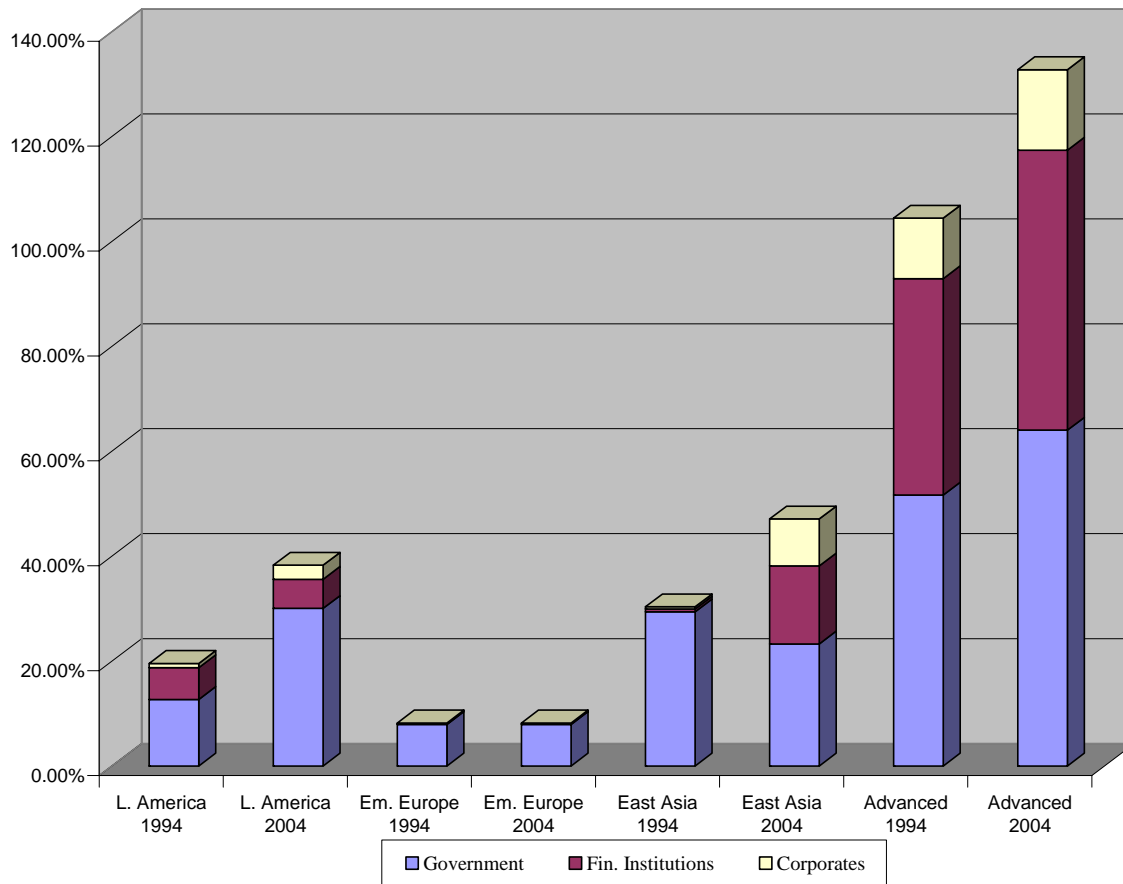
**Chart 4. Actual versus Predicted Emerging Market Spreads**



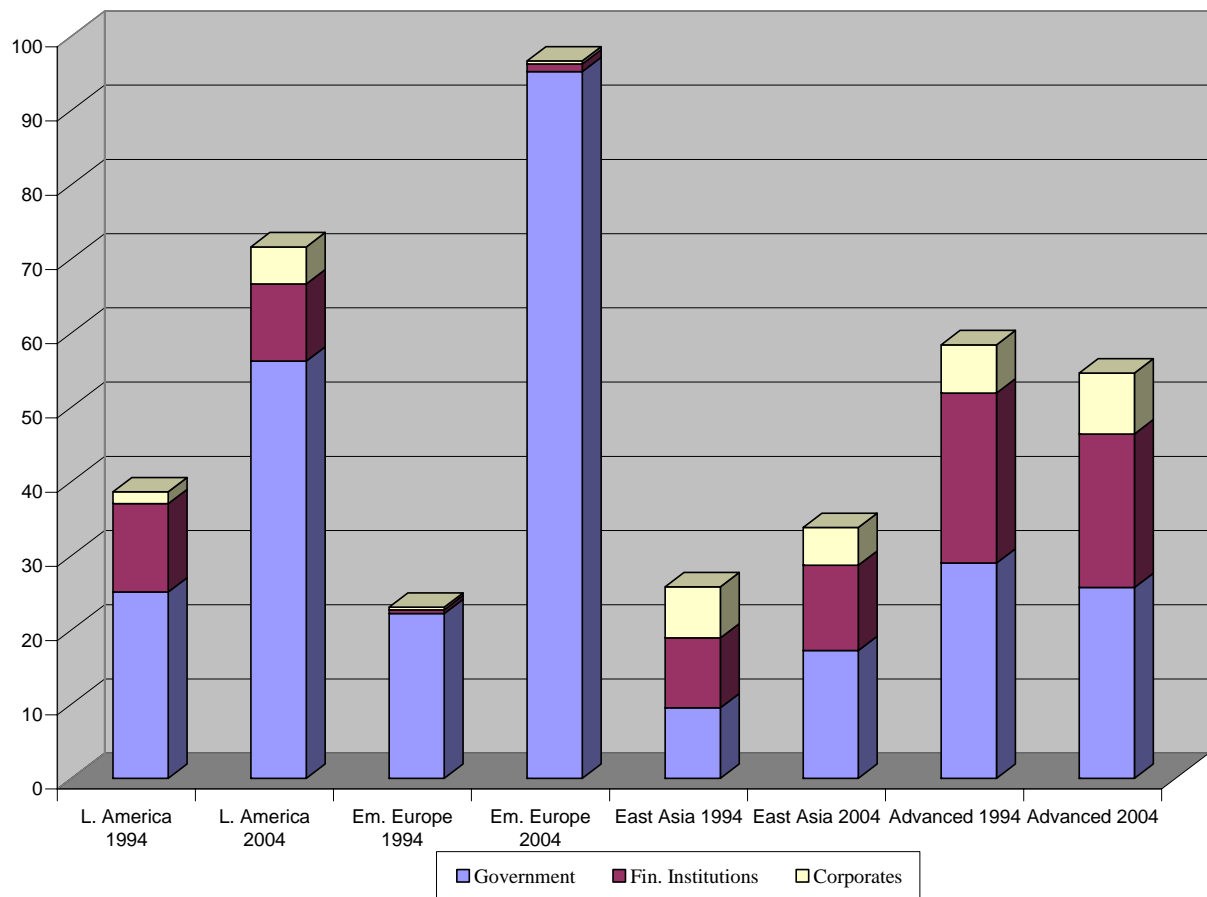
Actual spreads are the simple average of end of year EMBI spreads for Argentina, Brazil, Colombia, Indonesia, Morocco, Mexico, Panama, Peru, Philippines, Poland, Russia, Thailand, and Venezuela. The average excludes countries in default. Predicted spreads were computed by running a random effects regression controlling for Exchange rate regime, GDP Growth, Inflation, Public Debt, External Debt, and year fixed effects. Year fixed effects were subtracted from the predicted value.



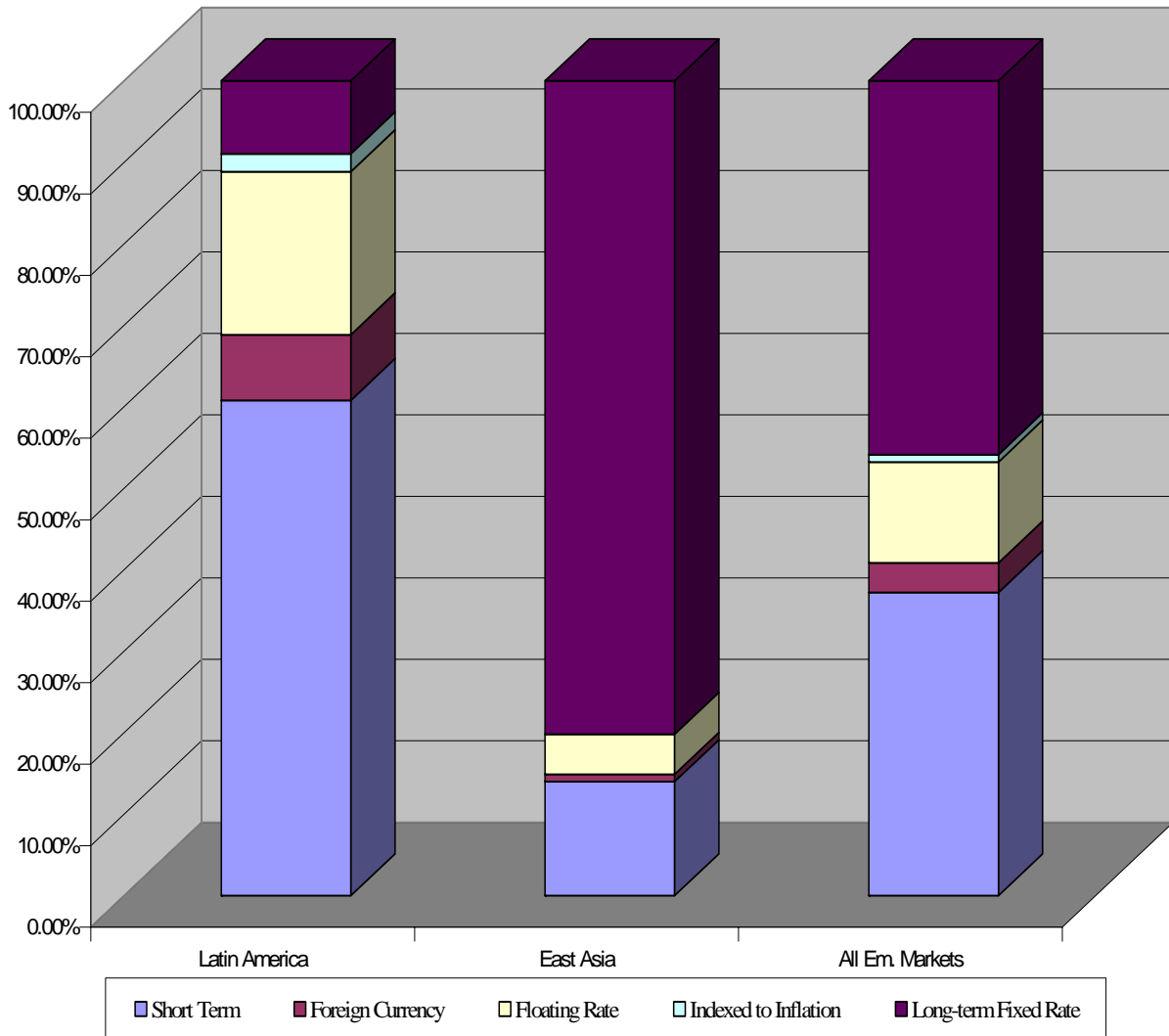
**Chart 5. Domestic Bonds as a Share of GDP, weighted average**



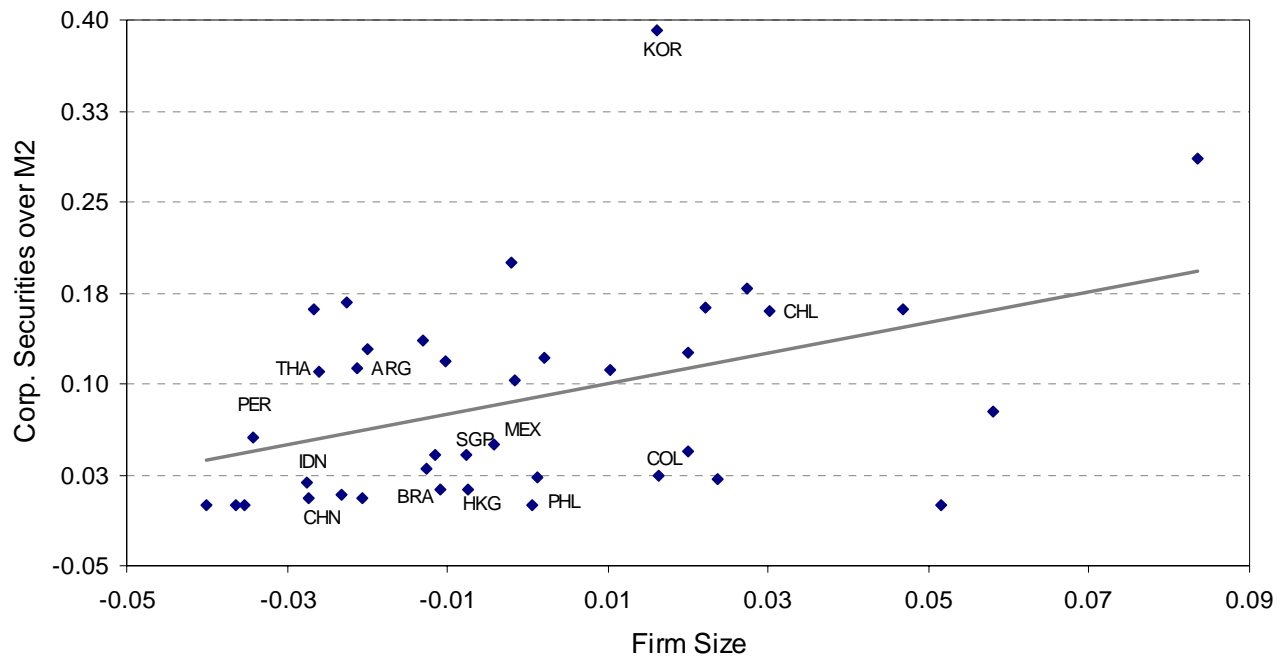
**Chart 6. Domestic Bonds as a Share of Domestic Credit, Weighted Average**



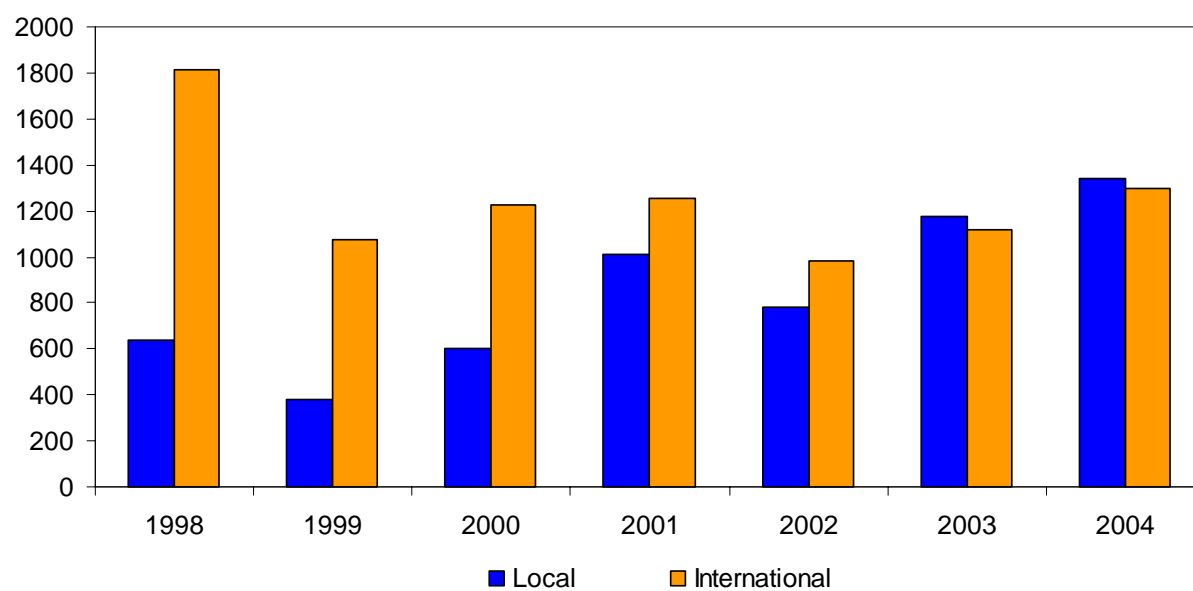
**Chart 7. Structure of Bonds Issued in 2000 to 2005**



**Chart 8. Firm Size and Corporate Bond Market Size**



**Chart 9. Turnover of Latin American Bonds: Local and International Instruments**  
Billions of US dollars



Source: EMTA (Trade Association for the Emerging Markets).