
temas de coyuntura

Bond markets for Latin
American debt in the 1990s

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NACIONES UNIDAS



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Introduction

During the 1990s the market for Latin America's debt grew in volume, types of instruments traded and number of investors and trade houses involved. Investors were drawn by high growth potential and high yields in most Latin American countries, as well as by a general trend towards the implementation of economic and political reforms. As a result, the relative size of Latin America's market worldwide grew.

This growth, however, was affected by a series of market events that underscored Latin America's vulnerability to financial shocks. Growth in trading volumes and asset values was first interrupted in 1994, in the aftermath of Mexico's peso devaluation in mid-December. Mexico's devaluation set in motion "contagion" (the "tequila effect"), which depressed market values throughout Latin America and other emerging markets during early 1995. Investor confidence recovered by mid-1995, following the massive rescue package for Mexico organized by the International Monetary Fund with support from United States and other G-7 countries. Capital flows to Latin America and other emerging markets grew considerably for the next two years. Market conditions were favorable until the onset of financial and economic difficulties in Southeast Asia in mid-1997. Market contagion spread these difficulties to Russia by mid-1998, which in turn led to more general, and more severe, contagion throughout the emerging markets in the latter half of 1998. The resulting loss of investor confidence eventually led to Brazil's January 1999 devaluation.

An essential element of external financing in the 1990s was increasing access to the international bond market. The importance of bond financing as a source of external funding to Latin America rose substantially, with the number and value of bonds issued surging considerably over the course of the decade. Bond financing is currently one of the fastest growing sources of external development financing, being second only to foreign direct investment. On average, bond financing became the second major source of funding in Latin America in the 1990s (see Figures 1 and 2).

In order to assess the role of bonds as a source of external finance in Latin America in the 1990s, it is important to understand the behavior and evolution of bond spreads and the changes in debt composition due to liability management. This paper looks first at the role of the Brady plan, which redefined Latin America's integration into the global economy during the 1990s, as well as the role of debt buybacks and swaps. The changes in the composition of sovereign debt throughout the decade and the behavior of spreads are also analyzed, including the influence of credit ratings on Latin American bond spreads. In the 1990s the outstanding stock and volume of sovereign tradable Latin American debt showed an unprecedented increase, as it became increasingly liquid with the development of secondary markets. As liquidity increased, Latin American debt markets became more volatile. Bond flows to Latin America experienced strong volatility throughout the decade and were strongly concentrated in middle-income countries, particularly in Argentina, Brazil and Mexico. Spreads responded not only to economic fundamentals, but were subject to market sentiment as well. As a result, issues of financial volatility and contagion were particularly relevant to Latin American countries.

Figure 1
LATIN AMERICA AND THE CARIBBEAN:
COMPOSITION OF NET CAPITAL FLOWS
1990s Average

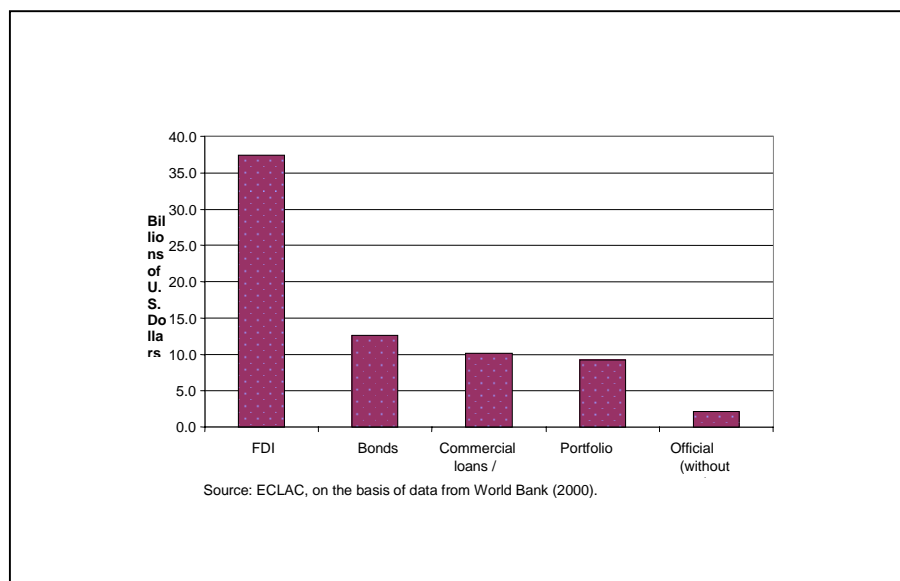
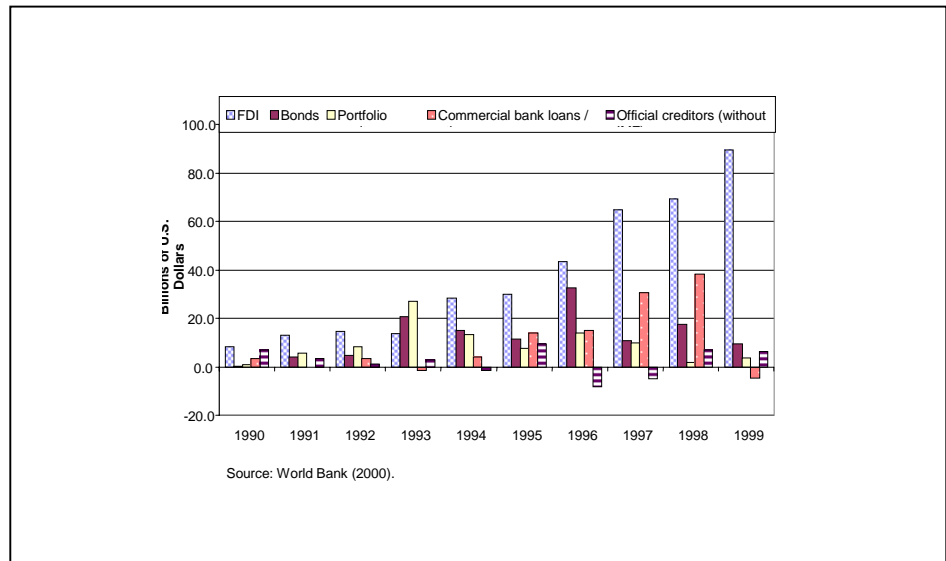


Figure 2
LATIN AMERICA AND THE CARIBBEAN:
COMPOSITION OF NET CAPITAL FLOWS, 1990-1999



I. The brady bonds' full circle: the brady plan and the buybacks and swaps

The Brady plan helped define the development and performance of Latin America's bond markets in the 1990s and to redefine its integration in the global economy. By the end of the decade, many Latin American countries came full circle, buying back Brady bonds as their economies were able to access international capital markets with uncollateralized Eurobonds.

Mexico was the first country to reach a Brady agreement in September 1989, setting the standard for subsequent Brady operations. By 1996, ten Latin American countries had implemented Brady-style debt exchanges (Table 1), and they quickly regained access to primary capital markets. As a result of the Brady restructurings, sovereign debt and the risk associated with it was diversified more widely throughout the global financial community, as new investors were attracted to the high yields available on Latin American debt instruments.

The unveiling of the Brady Plan further accelerated the growth of the developing countries' debt trading markets (see Box 1). It was shortly after the Latin American debt crisis in 1982 that an incipient secondary market for sovereign debt began to develop among commercial banks. While major banks continued to hold loan assets and to participate in debt restructuring programs, smaller commercial banks preferred to sell their non-performing loans, ending their exposure to Latin America and other developing countries. At the

same time, other banks wished to rearrange their credit portfolios by exchanging loans they had extended to a particular debtor for loans extended by other banks to different debtors. In 1983-84, a small group of traders began to intermediate the transactions between sellers and buyers of developing countries' debt. Trading activity increased significantly in 1986-87 after several debtor countries, such as Chile and Mexico, adopted debt-for-equity exchange programs as part of their restructuring packages.¹

Table 1
BRADY AGREEMENTS WITH COMMERCIAL BANKS IN LATIN AMERICA
(US\$ bn)

Country	Date of Agreement	% Debt Forgiveness
Mexico	March-90	35
Costa Rica	May-90	na
Venezuela	December-90	30
Uruguay	February-91	na
Argentina	April-93	35
Brazil	April-94	35
Dominican Republic	August-94	35
Ecuador	February-95	45
Panama	May-96	45
Peru	November-96	45

Source: Merrill Lynch (December 1999).

Each completed Brady restructuring resulted in the issuance of new debt securities (bonds), which were designed to be more easily tradable than defaulted loans. The transformation from an unsecuritized loan market to a bond market was finalized in 1998, when all major Brady restructurings had been completed. Securitization helped Latin American countries enhance their access to international financial markets.

The majority of Brady debt was issued by Latin America, with Brazil, Mexico, Argentina, and Venezuela accounting for three-fourths of the original outstanding amounts in the market (Table 2). Almost all countries with defaulted commercial bank debt from the 1980s have exchanged that debt for Brady bonds or restructured loans. Since then, most countries have improved their financing budgets and have subsequently raised funds in the Eurobond market.

In the second half of the 1990s some countries came full circle, voluntarily entering the market to retire collateralized Brady bonds through buybacks and swaps for uncollateralized instruments (See Box 2). The attractiveness of debt swaps for debtor countries is twofold. First, collateral associated with the Brady bonds (low-yield U.S. Treasuries) is released and can be used by the country to meet other obligations. Second, the level of debt outstanding is reduced, since the exchange takes place at a discount based on secondary market prices. For the original holder of the bond the advantage lies in higher yields on the uncollateralized bonds.

The cycle of debt buybacks and swaps started with Mexico in 1996, which undertook two operations to retire US\$3.6 billion of Brady bonds. In 1997, Argentina, Brazil, Ecuador, Panama and Venezuela followed suit, retiring US\$10.4 billion of collateralized Brady bonds through debt buybacks and discounted swaps for unsecured bonds. In 1998, Argentina undertook two straight buyback operations, retiring US\$1.5 billion of Brady bonds. In 1999, Argentina, Brazil, Mexico and

¹ These programs allowed debt holders to exchange their debt claims for equity in state-owned or other companies, or for other local assets.

Uruguay retired US\$6 billion. Argentina, Mexico and Venezuela were the largest buyers of their own Brady bonds in Latin America in the second half of the 1990s, having retired over 30% of their original issue amount of Brady debt. However, despite all these operations, Latin America still dominates the Brady market, with Argentina, Brazil, Mexico and Venezuela accounting for 71% of the amount outstanding as of April 2000 (Table 3).

Table 2
ORIGINAL BRADY/EXCHANGE ISSUE AMOUNTS
(US\$ bn)

Country	Pars	Discounts	Other Brady Debt	Total Brady Debt Issued	% of All Bradys
Latin America	55.77	27.03	65.17	147.96	87.10
Argentina	12.67	4.32	8.47	25.45	14.98
Brazil	10.49	7.29	32.88	50.66	29.82
Costa rica	na	na	0.59	0.59	0.35
Dominican Republic	na	0.33	0.19	0.52	0.31
Ecuador	1.91	1.44	2.78	6.13	3.61
Mexico	22.40	11.77	2.73	36.90	21.72
Panama	0.26	0.04	2.92	3.22	1.90
Peru	0.18	0.57	4.12	4.87	2.87
Uruguay	0.53	na	0.54	1.07	0.63
Venezuela	7.33	1.27	9.95	18.55	10.92
Non-Latin	5.57	5.09	11.26	21.91	12.90
Total	61.34	32.12	76.43	169.87	100.00
%	36.11	18.91	44.99	100.00	

Source: Merrill Lynch (December 1999).

Table 3
PERCENTAGE OF ORIGINAL BRADY BONDS ISSUED IN LATIN AMERICA THAT HAVE BEEN RETIRED OR AMORTIZED

Country	Total Brady Debt		
	Issued (US\$bn)	Outstanding (US\$bn)	Retired/Amortized (%)
Latin America	147.96	92.76	37
Argentina	25.45	15.22	40
Brazil	50.66	35.57	30
Costa rica	0.59	0.59	0
Dominican Republic	0.52	0.51	2
Ecuador	6.13	6.05	1
Mexico	36.90	16.80	54
Panama	3.22	2.00	38
Peru	4.87	4.46	8
Uruguay	1.07	0.73	31
Venezuela	18.55	10.83	42
Non-Latin	21.92	16.98	23
Emerging Markets Total	169.88	109.74	35

Source: Merrill Lynch (April 2000).

Box 1
THE BRADY PLAN

The Brady Plan was introduced in 1989. Then U.S. Treasury Secretary Nicholas F. Brady articulated new principles for addressing the debt crisis that had afflicted Latin America for most of the 1980s. The plan combined U.S. government and official multilateral support in obtaining debt and debt-service relief from foreign commercial bank creditors for those countries that successfully implemented comprehensive structural reforms supported by the International Monetary Fund and the World Bank. By restructuring its debt, a country could obtain partial debt forgiveness while simultaneously deferring a portion of the principal and interest payments for a few years, allowing time for reforms to ripple through the economy and improve its cash flow and balance of payments. Largely, banks were given the choice to accept a reduction in debt (face value) and/or debt-service (interest rates).

The Mexican Brady agreement, the first to be reached, covered close to US\$48 billion of the country's foreign debt to commercial banks and took nearly a year to develop. The banks were given three choices of instruments in exchange for their defaulted loans, with two of them including an exchange for collateralized bonds. The first option was an exchange for Discount bonds, or principal reduction bonds, a 35% reduction in the face value of defaulted loans, thereby providing Mexico with debt relief in terms of lower principal payments. Discount bonds, however, had a "market" coupon rate. The second option, Par bonds, or interest rate reduction bonds, had no face value debt reduction, and included a below-market coupon rate. Both types of bonds included full principal collateral in the form of special purpose U.S Treasury zero-coupon bonds. They also included a rolling interest guarantee covering 18 months worth of interest payments. The third option, New Money, involved no reduction in the face value of the defaulted loans but required that commercial banks provided additional new lending of at least 25% of their exposure over a three-year period. Other agreements soon followed the Mexican Brady exchange. Over time Brady exchanges became more complex, offering a broader array of possibilities for debt and debt service reduction. In exchange for their loans, lenders received bonds with terms prescribed by a variety of options, carefully developed on a case-by-case basis.

Box 2
RETIRING BRADY BONDS

Sovereign issuers of Brady bonds have been able to retire Brady debt through five main approaches:

1. Exercising the call option on the bond.
2. Quietly buying back Brady bonds in the secondary market.
3. Initiating a formal Brady to Eurobond exchange program, in which the exchange price is preset and bids are solicited, as did Mexico in 1996, followed by subsequent formal exchanges by Argentina, Brazil, Panama, Uruguay and Venezuela.
4. Private exchange agreements.
5. Using Brady bonds as payment in several privatizations, particularly in Brazil.

II. Emerging market sovereign tradable debt

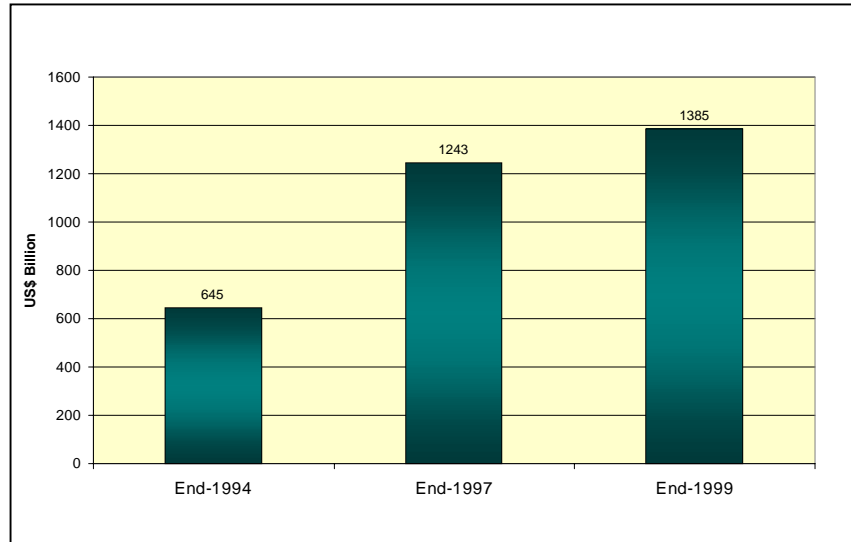
Following the implementation of the Brady agreements, the total stock of tradable sovereign debt of emerging markets grew significantly. Most of this growth occurred in 1995-97, the boom years for emerging markets debt; tradable emerging markets debt nearly doubled from US\$645 billion to US\$1.2 trillion (Figure 3). From 1997 to the end of 1999, the total emerging markets sovereign debt universe increased more modestly, reaching a total of US\$1.4 trillion.

Latin America accounted for the largest share of emerging market tradable debt throughout the 1990s. At the end of 1999 Latin America's tradable sovereign debt stood at US\$575.5 billion. Of this amount, domestic debt accounted for the largest share, US\$329.4 billion, or 57% of the total, while external debt accounted for the remaining. Nearly all domestic debt was denominated in local currency, with only a small fraction (US\$27.4 billion) of hard currency-denominated domestic debt. Eurobonds and global bonds represented the largest share of the total external debt, US\$153.3 billion or 27% of the total, followed by US\$92.8 billion in Brady bonds and securitized restructured debt (Figure 4).

Throughout most of the decade the stock of Brady bonds and tradable loans exceeded that of Eurobonds and global bonds, but by the end of 1999, as emerging market countries continued to tap international capital markets, Eurobonds and global bonds replaced Brady bonds as market benchmarks. The stock of Eurobonds and global bonds in emerging markets stood at US\$272 billion at end-1999, up from only US\$87 billion in 1994. As mentioned above,

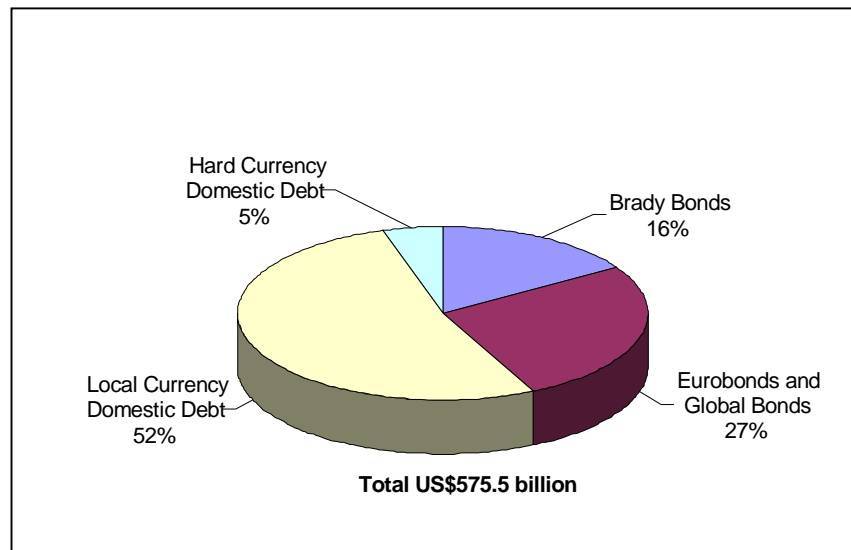
emerging market countries, in particular Latin American countries, bought back or swapped about one-third of the total Brady bonds originally issued. The stock of Brady bonds and securitized restructured debt fell to US\$121 billion at end-1999 from US\$143 billion at end-1997.

Figure 3
EMERGING MARKETS TRADABLE SOVEREIGN DEBT UNIVERSE
US\$ Billion



Source: Merrill Lynch (May 2000).

Figure 4
LATIN AMERICA AND THE CARIBBEAN:
TRADABLE SOVEREIGN DEBT UNIVERSE
END-1999

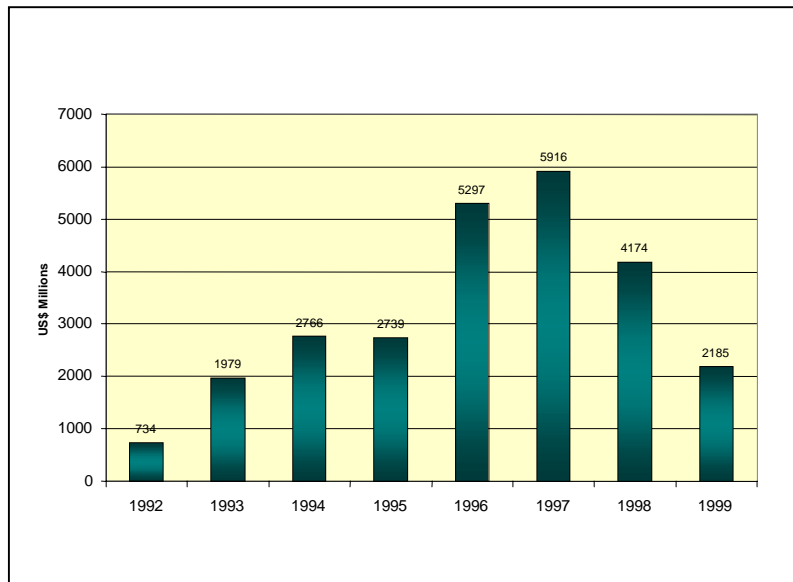


Source: Merrill Lynch (May 2000).

Emerging market debt trading volume stood at US\$2.2 trillion in 1999 according to the Emerging Markets Traders Association (EMTA), down 48% from the US\$4.2 trillion reported for 1998 (Figure 5). The 1999 volume represented the lowest annual turnover in emerging markets debt since 1993 (Figure 6). Several investors that responded to the EMTA Survey indicated that the limited turnover reflected continuing repercussions of the Russian default, as well as Y2K concerns throughout the second half of 1999.

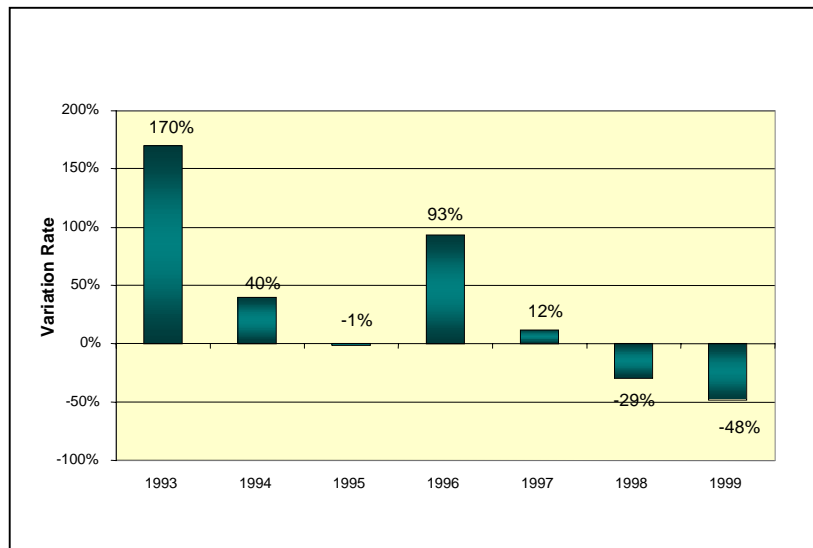
In 1999, continuing a pattern that was characteristic of the 1990s, Latin America and the Caribbean were responsible for the largest share of the total volume of emerging markets debt trading (75%) and, by country, Argentina, Brazil and Mexico were the most active (Figure 7).

Figure 5
EMERGING MARKETS DEBT TRADING VOLUME 1992-1999



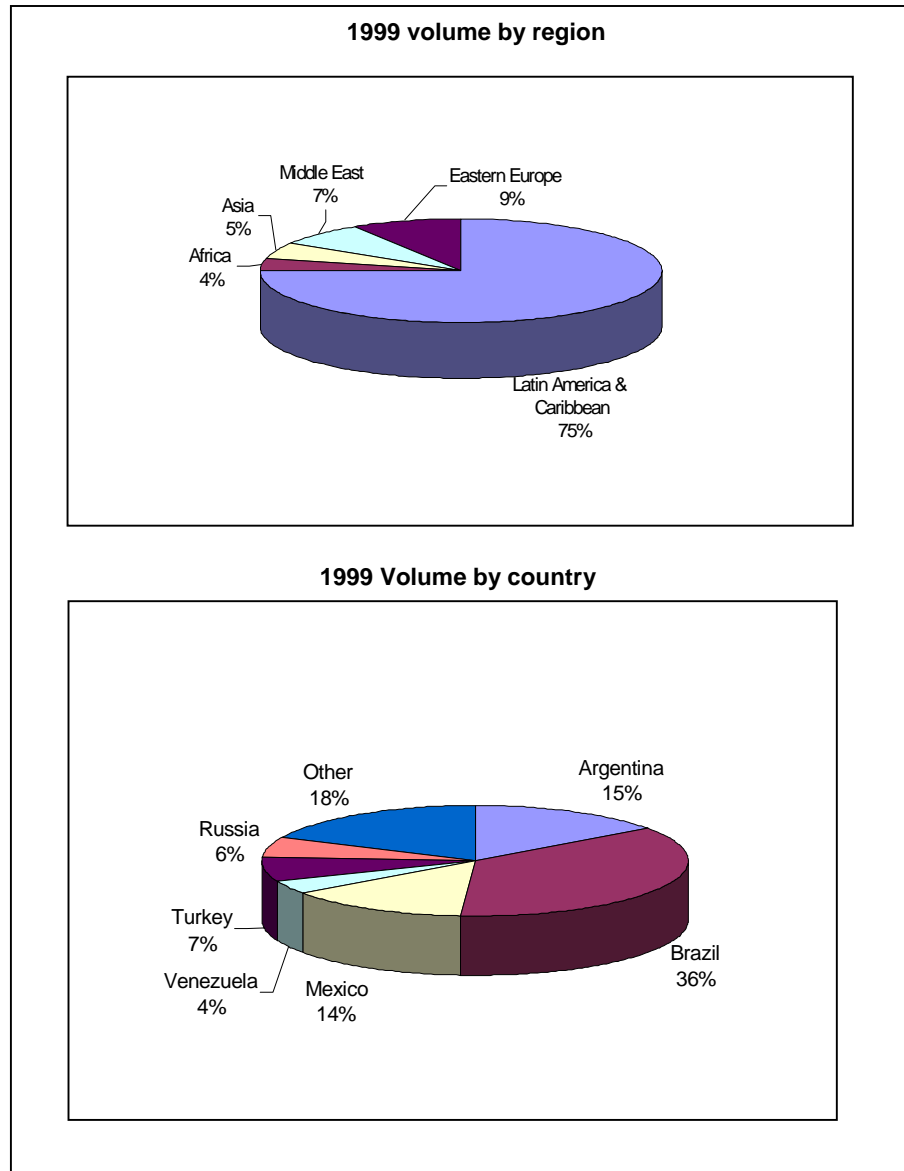
Source: Emerging Markets Traders Association.

Figure 6
EMERGING MARKETS DEBT TRADING VOLUME: ANNUAL VARIATION 1993-1999



Source: ECLAC, on the basis of data from the Emerging Markets Traders Association.

Figure 7
1999 EMERGING MARKETS DEBT TRADING VOLUME



Source: Emerging Markets Trade Association.

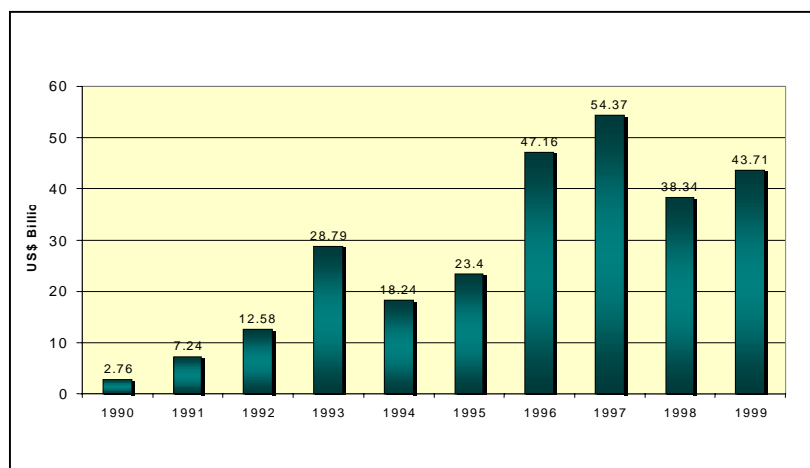
III. Debt issuance and terms of borrowing

Before 1989, Latin America and the Caribbean had only limited access to the international bond market. During the 1990s, however, the region enjoyed increased access to this market, and the importance of bond financing as a source of external finance rose significantly. The volume of international bond issues in Latin America and the Caribbean rose from US\$2.8 billion in 1990 to a peak of US\$54.4 billion in 1997, before falling in 1998 and 1999. Issuance fell during the peso crisis in 1994 and 1995, rapidly rising again to record levels in 1996 and 1997, but falling in 1998 and 1999 (Figure 8). Mexico, Argentina and Brazil were the top three issuers in the 1990s, followed by Venezuela, Chile and Colombia. In 1999, Argentina issued bonds amounting to US\$15 billion, Mexico and Brazil issued US\$11 billion each, while Chile, Venezuela and Colombia issued an amount of close to US\$5 billion (Table 4).

As in the case of debt issuance, the terms of borrowing in international capital markets also deteriorated after 1997. After reaching a peak in 1997, the improvement in the average maturities of Latin American bond issues was reversed (Figure 9). Average maturities remained steady around three to four years from 1989 until 1995, increasing to eight years in 1996, and to fifteen years in 1997. The longer maturities reduced the potential volatility of bond flows, and marked a very positive change. However, maturities fell to less than eight years in the last quarter of 1997, and did not recover after that. In the last quarter of 1999 maturity fell to six years, the lowest level since 1995. The borrowing costs for Latin American countries, as measured by the behavior of spreads, showed a similar pattern. While spreads tightened after the peso crisis, they rose after the Asian crisis and the Russian default.

Figure 8

LATIN AMERICA: INTERNATIONAL BOND ISSUES, 1990-1999



Source: ECLAC, on the basis of official, IMF and Merrill Lynch figures.

Table 4

LATIN AMERICAN ISSUANCE BY SECTOR, 1999

(US\$ millions)

	Sovereign	Corporate*	Total
Argentina	12,689	2,211	14,900
Mexico	7,571	3,870	11,441
Brazil	8,085	3,094	11,179
Chile	500	1,265	1,765
Venezuela	1,215		1,215
Colombia	1,676		1,676
Panama	500		500
Uruguay	250	100	350
Costa Rica	300		300
Trinidad & Tobago	230		230
El Salvador	150		150
Total	33,166	10,540	43,706

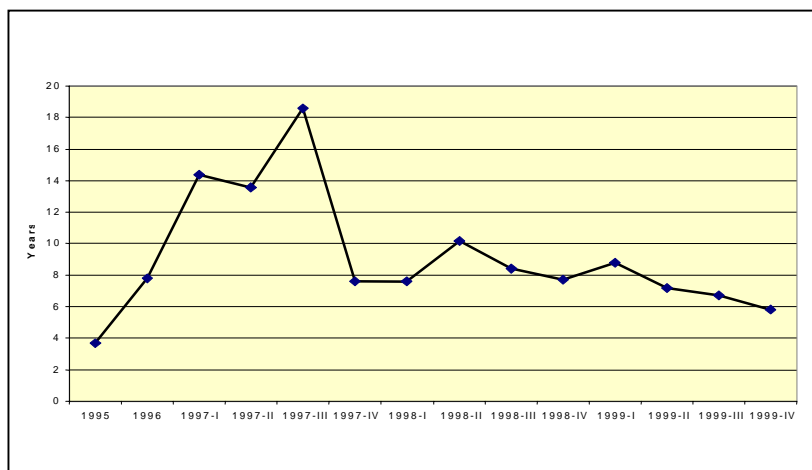
Source: Merrill Lynch, "Emerging Markets Daily".

* Also includes bank issuance.

Spreads on Brady bonds for Argentina, Brazil and Mexico widened during Mexico's peso crisis in 1994 and 1995, as well as during the Asian crisis, the Russian default, and Brazil's devaluation. Spreads measured by the JP Morgan's Emerging Markets Bond Index Plus (EMBI+)² and its Latin component, also widened during the Asian crisis, the Russian default, and Brazil's devaluation. However, the Asian crisis and Brazil's exchange rate regime switch in January of 1999 had a more modest impact on Latin American bond spreads than did the Russian crisis (Figure 10).

² The EMBI+ spread over U.S. treasuries is a proxy indicator of emerging market risk appetite. The index tracks external currency debt markets, covering bonds of emerging markets that meet minimum liquidity criteria. Latin American bonds represent the largest part of the index, which is weighted by market capitalization.

Figure 9
LATIN AMERICA AND THE CARIBBEAN: AVERAGE MATURITY OF NEW ISSUES, 1995-1999



Source: ECLAC, on the basis of official and World Bank figures.

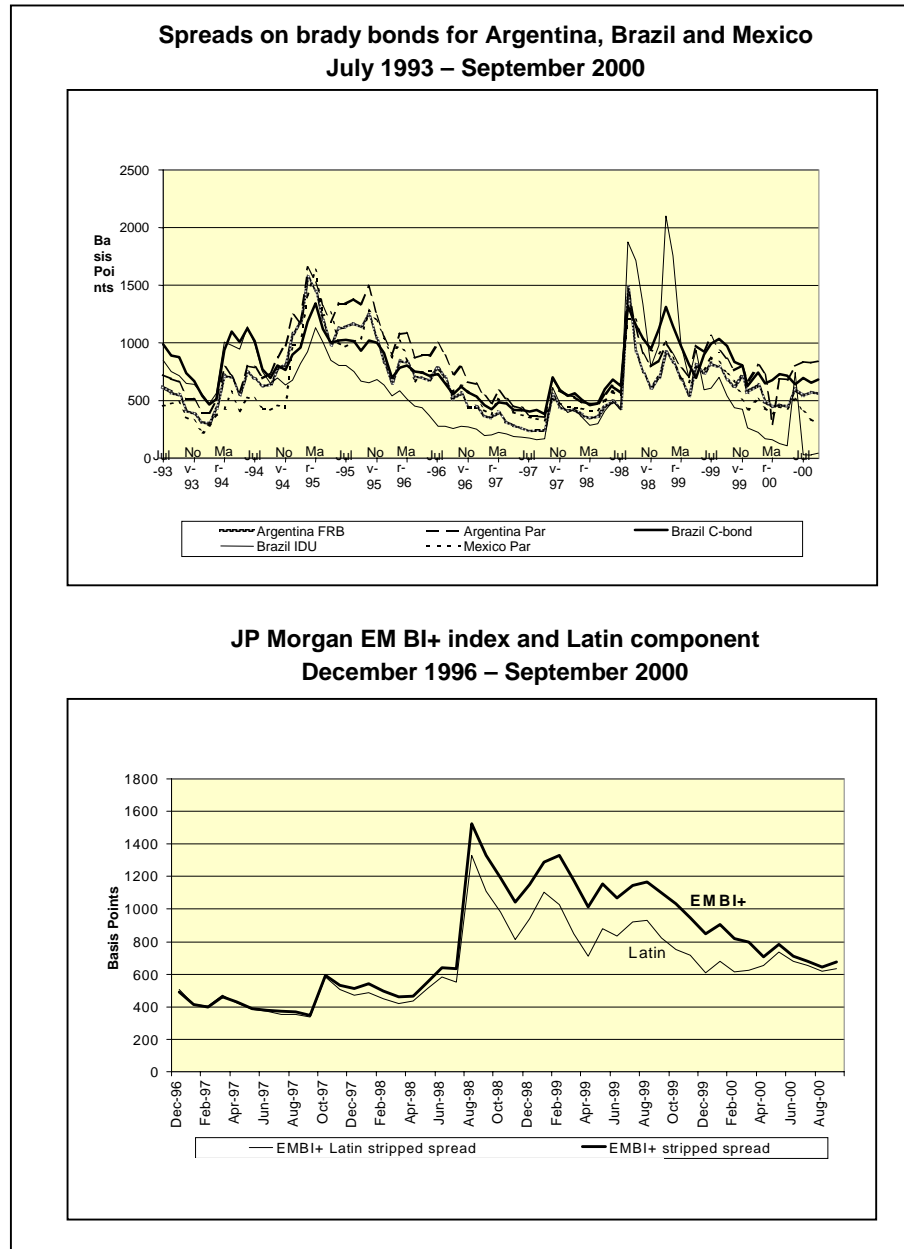
Although Latin American bonds exhibited similar pattern over time (as absolute spreads are basically associated to contagion effects), spreads between countries diverged somewhat, indicating that relative spreads are associated to policies and fundamentals (Figure 11). Spreads also diverged between Brady bonds on one side, and Eurobonds and global bonds on the other, with the latter, in general, showing tighter spreads for most countries in Latin America.

The level of Brady bonds and Eurobonds spreads in Latin American countries has differed significantly, as shown in figure 12. The Latin American countries that initially issued Brady bonds, later in the decade began to issue non-collateralized debt at spreads that were frequently lower than those on outstanding Brady bonds, reflecting a lower demand for the security provided by collateralization. Investors became less willing to pay for the higher transaction costs associated with the security of a collateral.

The comparison of spreads on Brady bonds and Eurobonds of 30-year maturity show Brady bonds with substantially wider spreads than Eurobonds. This differential increased during the Russian crisis and again after Ecuador's default. Many Latin American countries took advantage of the spread differential ignited by Ecuador's default, moving to reorganize their debt through Brady bond buybacks and exchanges. Argentina, Brazil, Mexico and Uruguay retired Brady bonds to reduce their debt service costs, to free up the U.S. Treasury collateral that secures these bonds, and to extend the maturity of their respective sovereign yield curves with Global bonds and Eurobonds³.

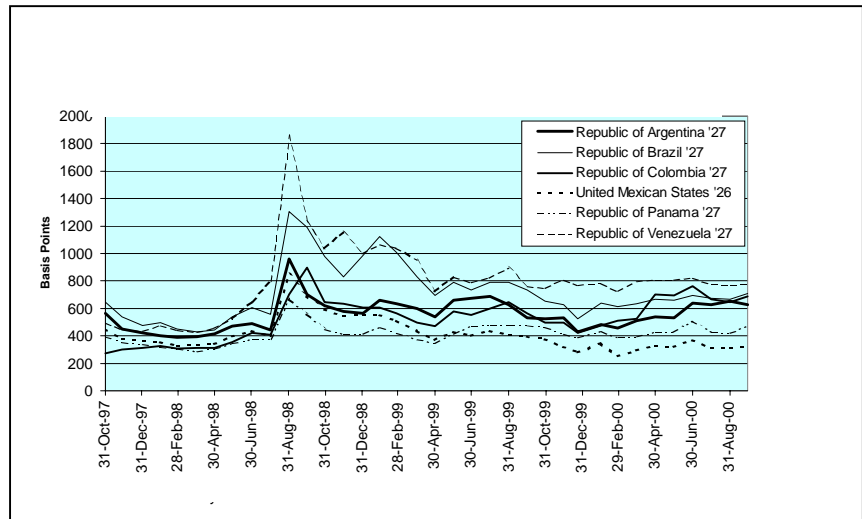
³ The sovereign yield curve is the graphical relationship between interest rates on securities of different maturities. Yield curves usually slope upwards, because investors demand a risk premium on bonds of longer maturities to compensate for the extra uncertainty associated with lending for a longer period.

Figure 10
SPREADS BEHAVIOR IN THE 1990s



Sources: ECLAC on the basis of data from Merrill Lynch for the first chart and ECLAC, on the basis of data from Reuters and JP Morgan, "Emerging Markets Bond Index" for the second chart.

Figure 11
MONTHLY SPREADS ON 30 YEARS BENCHMARK LATIN EUROBONDS
OCTOBER 1997 TO SEPTEMBER 2000



Source: Merrill Lynch.

Figure 12
SPREADS ON BRADY BONDS AND EUROBONDS COMPARED

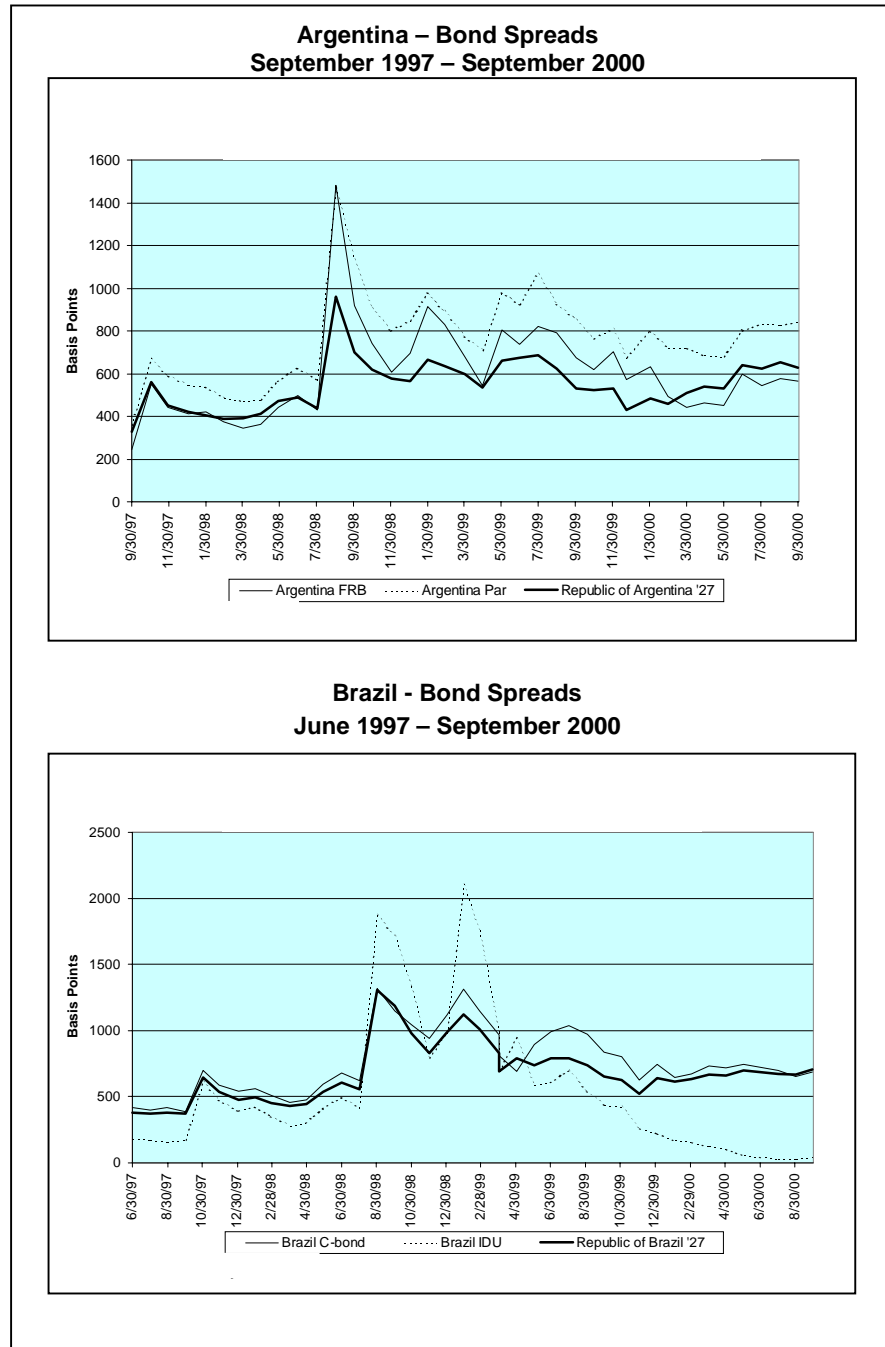
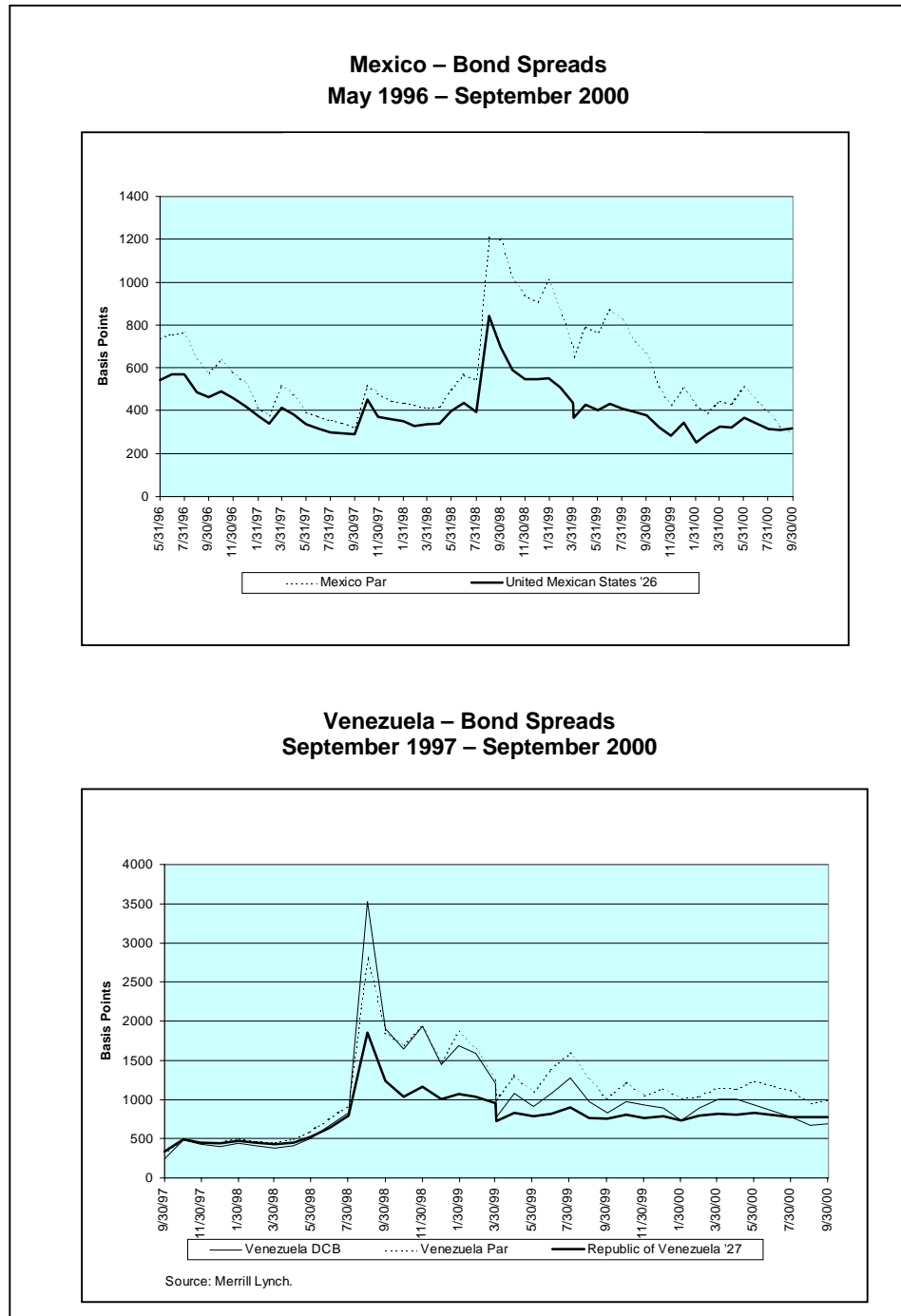


Figure 12 (concluded)
SPREADS ON BRADY BONDS AND EUROBONDS COMPARED



Source: ECLAC, on the basis of data from Merrill Lynch.

IV. The driving force behind spreads evolution in the 1990s

A. Market sentiment or fundamentals?

Spreads on Brady bonds and Eurobonds differed significantly during the 1990s and were subject to abrupt changes in moments of crisis, what raises the question whether spreads are actually at the value explained by countries' actual risk of default, determined by macroeconomic performance and market conditions (availability and terms of financing). The information relevant for forecasting returns in emerging markets can be costly to acquire and process. Investors, under these circumstances, may price bonds on the basis of incomplete knowledge of countries' macroeconomic and financial indicators. On the other hand, investors also have incentives to be informed, and the differential that exists between yields on bonds issued by countries with different credit ratings may be evidence that investors can differentiate among borrowers on the basis of economic policies and fundamentals.

What influences bond spreads in emerging market economies has been subject to extensive debate. Some subscribe to the view that improvements in economic fundamentals lower the risk to investors, leading to tighter spreads. Others attribute the changes in spreads to external factors such as investor sentiment or international interest rates.

Most agree that fundamentals do have some impact on bond spreads in emerging market economies. Kamin and von Kleist (1997), after analyzing launch spreads on 304 bonds issued in the 1990s that were drawn from Euromoney's Bondware, conclude that spreads on emerging markets instruments have strong and well-defined relationships to credit rating, maturity and currency denomination. Credit ratings on sovereign bonds, in this analysis, are to be based on a country's adherence to financial fundamentals. In the 1990s, higher rated bonds from countries that had better financial prospects were rewarded with tighter spreads than lower rated bonds from countries that were less strict in their adherence to fundamentals. The authors do admit, however, that investors require higher spreads from borrowers in Latin America and Eastern Europe than borrowers in Asia and the Middle East. Although they do not elaborate as to the reason for this discrepancy, it is likely that market sentiment plays a role in the determination of the level of spreads.

Eichengreen and Mody (1998) analyze data on about 1,000 developing country bonds issued during 1991-96, considering both the issue decisions of debtors and underwriters and the pricing decisions of investors. Their results suggest that adherence to economic fundamentals leads to a higher probability of bond issuance as well initially lower spreads. However, the authors believe that changes in fundamentals only partially explain the spread compression leading up to the Mexican crisis in 1994.

Min (1998) stresses the importance of economic fundamentals in the determination of bond spreads. He finds that strong macroeconomic fundamentals in a country, such as low domestic inflation rates, improved terms of trade, and increased foreign assets (as measured by the cumulative current account, the terms of trade, and the real exchange rate), are associated with lower yield spreads. Specifically, in Latin America the volatility of bond spreads is highly correlated with the domestic inflation rate, the debt-to-GDP ratio, and the international reserves-to-GDP ratios.

Goldman Sachs (2000) developed a framework to assess whether spreads are at their fair value, the "Goldman Sachs Equilibrium Sovereign Spread"(GS-ESS)⁴. A country's fair value spread is a function of the probability that it will default on its external obligations. This probability is a function of variables related to the country's solvency, liquidity, debt-service track record, and also the global financial conditions. The valuation framework is based on a theoretical model that views emerging market economies as small borrowers in imperfect international capital markets. To generate the GS-ESS estimates monthly data from 1996 onwards for 15 emerging market economies was assembled. For each country one benchmark bond was selected, typically between 10 and 20 years of maturity. The results of the model, which were robust to a variety of diagnostic and statistical tests, indicate that all Latin American countries in the sample, with the exception of Mexico, were undervalued, with prices below, and spreads higher, than the long-term equilibrium level (Table 5).

If the previous analysis holds, other factors must be influencing the determination of bond spreads in emerging markets, what may explain the volatility of bond flows in the 1990s.

Some studies hold the view that external factors, such as international interest rates and market sentiment, are the main determinant of bond spreads. Cline and Barnes (1997) suggest that a global capital surplus led to the decline in bond spreads before the Asian crisis. Their study finds that emerging markets spreads fell systematically from 1995 to mid-1997 by more than could be explained on a basis of improving borrower fundamentals. They believe that the crisis was a correction and that spreads were too low to be sustainable.

⁴ Alberto Ades, Frederico Kaune, Paulo Leme, Rumi Masih, and Daniel Tenengauzer, Global Economic Paper No. 45, Goldman Sachs, June 2000.

Table 5

EQUILIBRIUM SOVEREIGN SPREADS FOR LATIN AMERICA COUNTRIES

Country	Name of Bond	10/6/00 Spread	Oct-00 GS-ESS	Oct-00	
				Under (-) or Over (+) Valuation	Oct-00 Valuation
Argentina	Republic 17	667	423	-244	Cheap
Brazil	Republic 27	681	370	-311	Cheap
Colombia	Republic 07	706	314	-392	Cheap
Mexico	UMS 16	328	324	-4	Fair
Peru	PEPDI 17	613	491	-122	Cheap
Venezuela	Republic 27	763	388	-375	Cheap

Source: Goldman Sachs.

Notes: All spreads are monthly averages.

Eichengreen and Mody also suggest that global interest rates affect bond spreads in the emerging market. Their study shows that the slow compression of spreads before the Mexican and Asian crisis was caused by liberal credit conditions in the major money centers of the world. For instance, when interest rates in the U.S. rise, there are fewer issuances and lower spreads for bonds in the emerging market due to the increased competition. On the other hand, Kamin and von Kleist find no relationship between industrial country interest rates and emerging market bond spreads, while Min also finds that external shocks such as oil prices and the international interest rate are insignificant in determining bond spreads.

The more striking finding of Eichengreen and Mody, however, is that changes in market sentiment not obviously related to fundamentals have moved the market by large amounts over short periods. Although their results support the presumption that the market discriminates among issuers according to risk, confirming that higher quality credit leads to higher probability of issue and to lower spreads, changes in spreads over time seemed to be explained mainly by shifts in market sentiment, rather than by shifts in fundamentals.

B. Some estimates

To assess whether market sentiment was significant in the determination of bond spreads in Latin America in the 1990s, we estimated the elasticity of the Latin component of the JP Morgan's EMBI+ with respect to its non-Latin component using monthly data for December 1996 to September 2000. The period covers the Asian crisis, the Russian default, and Brazil's devaluation. An elasticity higher than zero would imply that the cost of borrowing in Latin American markets is correlated with the cost of borrowing in non-Latin countries, regardless of whether or not Latin American fundamentals justified any change. Interestingly, we found a significant elasticity of 0.5 (see Table 6). Thus an increase of one percent in spreads in non-Latin countries during this period, lead to spreads in Latin American countries increasing by 1/2 percent. This seems to give support to the notion that shifts in market sentiment influence the behavior of bond spreads, given that part of the change in Latin American spreads is explained by events in other emerging markets, which may be influencing investors' perception of Latin American risk.

We also proceeded to calculate the elasticity coefficient of individual Latin American country spreads relative to the spread for Latin American countries altogether, to evaluate the effect of

changes within the region on individual countries⁵. The results are shown in Table 7. The spreads for all individual Latin American countries in the sample, with the exception of Colombia, were responsive to changes within the region in the period analyzed (December 1997 to September 2000). In the case of Colombia, which was added to the EMBI+ only in May 1999, the elasticity is negative during the period from its inclusion in the EMBI+, May 1999, to September 2000, but the coefficient is not significant, as shown by its very low t-statistic.

Table 6
ELASTICITY COEFFICIENT LATIN VS NON-LATIN
DECEMBER 1996 – SEPTEMBER 2000

Elasticity Coefficient	
Latin vs Non-latin	t-Statistic
0.52	15.7

Source: ECLAC, on the basis of monthly J.P Morgan EMBI+ Spreads

Table 7
ELASTICITY COEFFICIENTS FOR INDIVIDUAL COUNTRIES
IN AMERICA WITH RESPECT TO LATIN AMERICA'S TOTAL
DECEMBER 1997 - SEPTEMBER 2000

Country	Elasticity	t-Statistic
Argentina	0.59	8.6
Brazil	0.90	15.9
Colombia*	-0.23	-0.9
Ecuador	0.96	3.5
Mexico	0.73	7.8
Panama	0.51	10.1
Peru	0.40	3.6
Venezuela	1.07	9.8

Source: ECLAC, on the basis of monthly J.P Morgan EMBI+ Spreads.

*Colombia was added to the EMBI+ in May 1999.

In all cases, except for Colombia, the null hypothesis (elasticity=0) can be rejected at significance levels smaller than 1%.

In addition, correlation coefficients between the Latin American countries in the sample, for the period between December 1997 and September 2000, indicate that although markets have some capacity to differentiate amongst Latin American countries on the basis of policies and fundamentals, they also perceive Latin American countries as a group when assigning risk. This practice is conducive to market volatility, and indicates that market sentiment is an important component in the determination of spreads (Table 8)⁶.

⁵ In order to avoid bias, the elasticity coefficient of the spread of an individual country relative to the spread for Latin American countries altogether is calculated after this country is excluded from the total according to its weight in the EMBI+.

⁶ Colombia is not included in table 8 because, as mentioned earlier, it was added to the EMBI+ only in May 1999. In the case of Ecuador, the results show that the country was largely isolated from events within the region, pointing to the fact that Ecuador's economic crisis towards the end of the period analyzed was restricted to Ecuador, and had not spread to other countries in the region.

As global bond markets became an increasingly important source of funding for emerging markets, the credit ratings assigned to sovereign and private sector issues had an important influence on bond spreads, as they would provide investors with information on countries' macroeconomic fundamentals, counterbalancing the influence of market sentiment. However, the sharp adjustments of sovereign credit ratings for many emerging markets after 1997 raised concerns about the accuracy and stability of the rating process.

Table 8
CORRELATION COEFFICIENTS DECEMBER 1997 - SEPTEMBER 2000

	Argentina	Brazil	Ecuador	Mexico	Panama	Peru	Venezuela	EMBI+	Latin
Argentina	1.00								
Brazil	0.86	1.00							
Ecuador	0.27	0.21	1.00						
Mexico	0.78	0.91	-0.02	1.00					
Panama	0.90	0.85	0.42	0.73	1.00				
Peru	0.76	0.64	0.15	0.69	0.59	1.00			
Venezuela	0.90	0.85	0.19	0.83	0.83	0.72	1.00		
EMBI+	0.86	0.96	0.31	0.89	0.86	0.63	0.85	1.00	
Latin	0.94	0.98	0.26	0.91	0.90	0.73	0.92	0.96	1.00

Source: ECLAC, on the basis of J.P. Morgan EMBI+ Spreads

V. Credit ratings evolution

The role of credit rating agencies is to provide investors with assessments on borrowers' present and future willingness to pay. This task involves the gathering of information about what may happen in the future, which is naturally dominated by expectations. Therefore, even well informed agents, such as rating agencies and institutional investors, are subject to expectations. Under certain circumstances, this may generate additional instability in financial markets⁷. Whether credit rating agencies can contribute to the dynamics of a financial crisis by either accentuating or attenuating it has been subject to extensive debate, and a number of studies look into the issue of causality from ratings to spreads⁸.

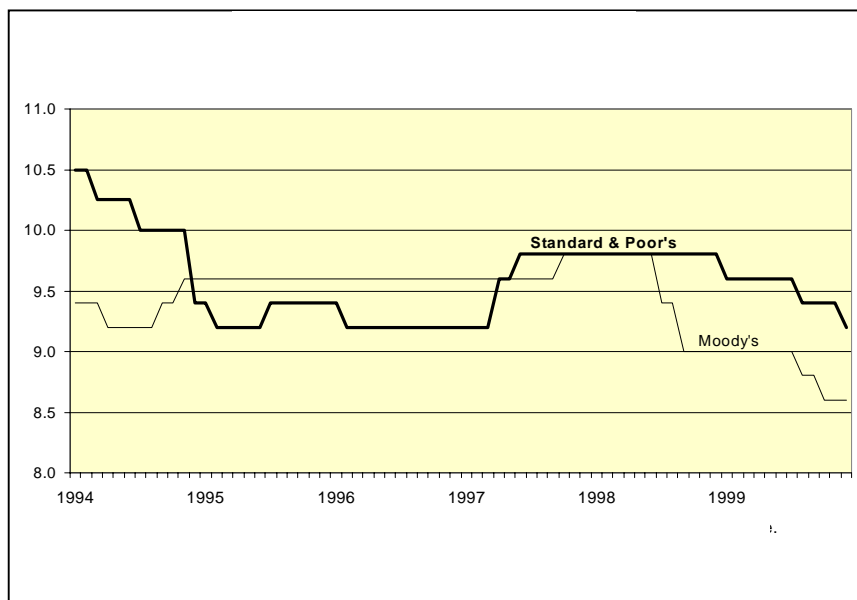
The 1990s have witnessed a sharp increase in the number of rated Latin American and Caribbean sovereigns. For both Moody's and Standard & Poor's, the two large credit ratings agencies, there was a sharp increase in the number of Latin American and Caribbean sovereigns that received a rating on their debt issuance after 1992 (Table 9). The most rapid increase in the number of ratings occurred in the period 1993-97, as a growing number of emerging markets sovereigns began to tap global bond markets. By the end of the decade, twenty Latin American and Caribbean countries were rated, as opposed to one (Venezuela) in 1990.

⁷ See Ocampo (2000).

⁸ Among others, Larraín, Reisen, and von Maltzan (1997) found econometric evidence that changes in credit ratings have a significant impact on spreads. The authors conducted a study, using ratings assigned by Moody's and S&P's for sovereign foreign-currency debt for the period of 1987 to mid 1996. Cantor and Packer (1996) showed that rating announcements might cause a change in the market's assessment of risk and affect spreads. Their study was based on 79 announcements by Moody's and S&P's for 18 countries made between 1987 and 1994.

Trends in Latin American credit ratings have roughly matched the region's business cycle during the 1990s, falling during the Mexican Peso's crisis, moving up during the 1995-97 period, and falling sharply in 1998 and 1999 (Figure 13).

Figure 13
LATIN AMERICAN CREDIT RATINGS
*Average, 5 countries**



Source: ECLAC, on the basis of information from Table 9.

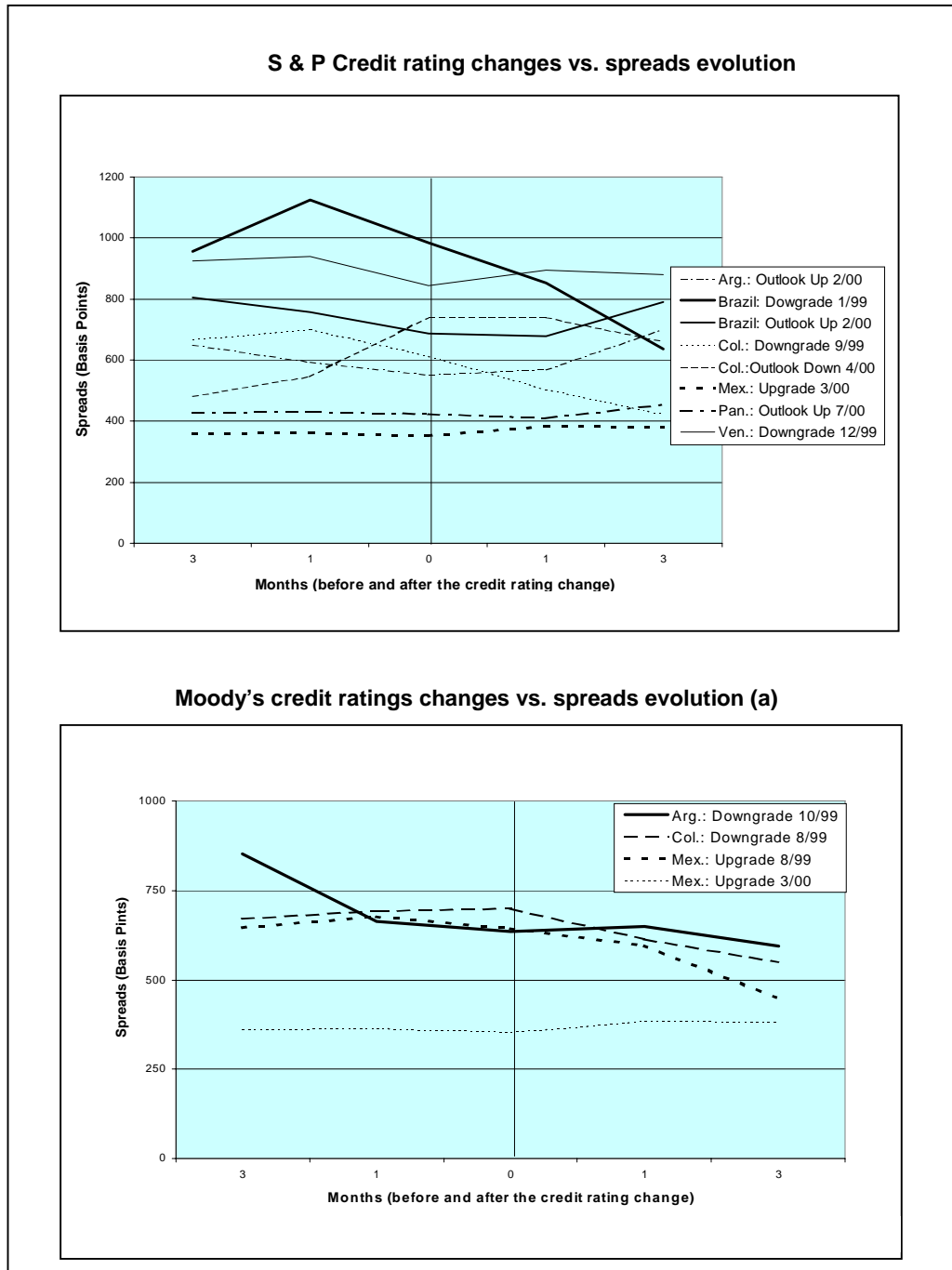
Letter ratings are scaled from 1 (C, C) to 21 (AAA or Aaa). Investment Grade: 12 and above.

*Argentina, Brazil, Colombia, Mexico, Venezuela.

Both Moody's and Standard & Poor's cut their average Latin American ratings significantly during periods of crisis. S&P's took a dim view of the region during the Tequila crisis, and its actions during the period introduced a procyclical element into global capital flows. The agencies left their credit rating averages mostly unchanged for the period between 1995 and 1997, with S&P's raising its average rating early in 1997, while Moody's raised it towards the end of 1997. In the 1998-99 it was Moody's who took a bleak view of the Latin American region, keeping its average ratings well below S&P's ratings during this period, and also introducing a procyclical element into global capital flows to Latin America.

Figure 14 summarizes the behavior of JP Morgan EMBI+ spreads during seventeen actions taken by Moody's and Standard & Poor's in the period of July 1998 and September 2000. During most of this period the agencies took negative action, by either downgrading the sovereigns or issuing a negative outlook. However, towards the end of 1999 and beginning of 2000, this negative trend reversed, and the rating agencies took positive actions.

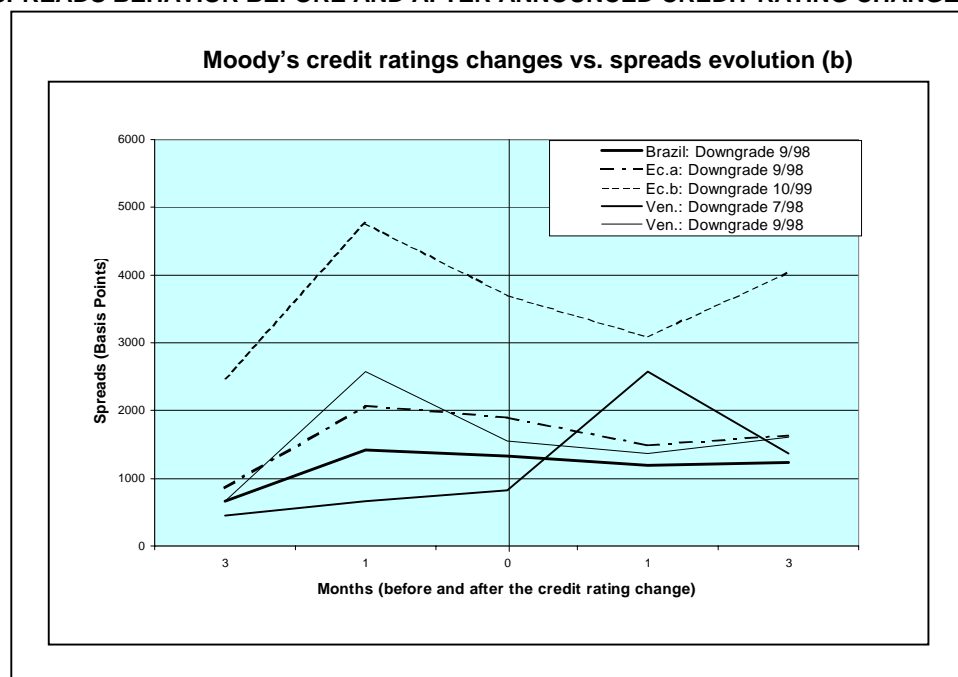
Figure 14
SPREADS BEHAVIOR BEFORE AND AFTER ANNOUNCED CREDIT RATING CHANGES



Source: ECLAC, on the basis of data from: Spreads: JP Morgan; Credit Ratings Changes: Table 9.

Figure 14 (concluded)

SPREADS BEHAVIOR BEFORE AND AFTER ANNOUNCED CREDIT RATING CHANGES



Source: ECLAC, on the basis of data from: Spreads: JP Morgan; Credit ratings changes: Table 9.

In twelve of the seventeen actions taken by Moody's and S&P's during the period analyzed, the market was already moving in the direction of the changes three months before they were announced by the agencies (Table 10). With respect to downgrades and negative changes in outlook, in particular, which account for eleven of the seventeen actions that took place in the period, in ten cases the market was already moving in the direction of the change three months before, indicating that credit rating agencies lagged the market in response.

However, in most cases it seems that the credit rating agencies did not lead the market in pricing risk. In only six or five cases of the seventeen we analyzed, spreads moved in the direction of the change after it was announced, either when we look at one month or three months after the agency acted.

The only really striking example of the agencies leading the market is the case of Mexico's upgrade by Moody's in August of 1999. Mexican spreads, which start to fall one month before the upgrade (as investors anticipated its announcement), kept falling within a month and three months after that. In the other cases, when the market moved in the direction of the change, either spreads change direction within a month and were already going in the opposite direction of the change three months later, or they did not respond within the first month of the change, but only after a lag of time, making it hard to precise if the cause of the change was really the announcement by the credit rating agency or some other factor. In the case of the downgrade of Argentina by Moody's in October of 1999, for example, the agency seemed to act in the opposite direction of that of the market, and although Argentine spreads increased slightly after the downgrade, they returned to their declining trend within a month.

Credit rating agencies generally did not seem to add more information than the market actually had prior to the change in ratings. In more than 70% of the cases spreads were already moving in the direction that the change in rating would have suggested, prior to its announcement. Also in more than 70% of the cases spreads actually moved in the opposite direction after the announcement.

Table 9

SOVEREIGN RATING HISTORY IN LATIN AMERICA AND THE CARIBBEAN

Standard & Poor's				Moody's				
Country	Action	Rating	Date	Country	Action	Rating	Date	
Argentina	Assign	BB-	Aug-93	Argentina	Assign	Ba3	Nov-86	
	Upgrade	BB/Stable	Apr-97		Downgrade	B2	Dec-87	
	Outlook up	BB/Stable	Feb-00		Downgrade	B3	May-89	
					Upgrade	B1/Stable	Jul-92	
					Upgrade	Ba3	Oct-97	
					Downgrade	B1/Stable	Oct-99	
Bahamas	Not rated			Bahamas	Assign	A3/Stable	Jan-97	
Barbados	Assign	A-/Stable	Dec-99	Barbados	Assign	Ba2	Dec-94	
					Upgrade	Ba1	Apr-97	
					Upgrade	Baa2/Stable	Feb-00	
Bolivia	Assign	BB-/Stable	Jul-98	Bolivia	Assign	B1/Stable	May-98	
Brazil	Assign	B	Dec-94		Assign	Ba1	Nov-86	
	Upgrade	B+	Jul-95		Downgrade	B1	Dec-87	
	Upgrade	BB-	Apr-97		Downgrade	B2	Mar-89	
	Downgrade	B+	Jan-99		Upgrade	B1	Nov-94	
	Outlook up	B+/Positive	Feb-00	Brazil	Downgrade	B2/Stable	Sep-98	
Chile	Assign	BBB	Aug-92	Chile	Assign	Baa2	Feb-94	
	Upgrade	BBB+	Dec-93		Upgrade	Baa1/Stable	Jun-95	
	Upgrade	A-/Stable	Jul-95					
Colombia	Assign	BBB-	Jun-93	Colombia	Assign	Ba1	Aug-93	
	Downgrade	BB+	Sep-99		Upgrade	Baa3	Sep-95	
	Outlook down	BB+/Negative	Apr-00		Downgrade	Ba2/Stable	Aug-99	
Costa Rica	Assign	BB/Stable	Jul-97	Costa Rica	Assign	BA1	May-97	
					Outlook up	Ba1/Positive	Mar-00	
Dominican Republic	Assign	B+	Feb-97	Dominican Republic	Assign	B1/Stable	Jun-97	
	Outlook up	B+/Stable from CW Neg	Apr-99					
Ecuador	Not rated			Ecuador	Assign	B1	Jul-97	
					Downgrade	B3	Sep-98	
					Downgrade	Caa2/Stable	Oct-99	
El Salvador	Assign	BB	Aug-96	El Salvador	Assign	Baa3/Stable	Jul-97	
	Upgrade	BBB-/Stable	Apr-99					
Guatemala	Not rated			Guatemala	Assign	Ba2/Stable	Jul-97	
Honduras	Not rated			Honduras	Assign	B2/Stable	Sep-98	
Jamaica	Assign	B/Stable	Nov-99	Jamaica	Assign	Ba3	Mar-98	
Mexico	Assign	BB+	Jul-92	Mexico	Assign	Ba3	Dec-90	
	Downgrade	BB+	Feb-95		Upgrade	Ba2	Feb-91	
	Upgrade	BB+/positive	Mar-00		Upgrade	Ba1	Aug-99	
			Upgrade		Baa3/Stable	Mar-00		
Nicaragua	Not rated			Nicaragua	Assign	B2/Stable	Mar-98	
Panama	Assign	BB+	Jan-97	Panama	Assign	Ba1/Stable	Jan-97	
	Outlook up	BB+/Stable	Jul-00					
Paraguay	Assign	BB-	Nov-95	Paraguay	Assign	B2/Stable	Jul-98	
	Downgrade	B+	Feb-99					
	Downgrade	B/Negative	Jun-99					
Peru	Assign	BB/Stable	Dec-97	Peru	Assign	B2	Feb-96	
					Upgrade	Ba3/Stable	Mar-98	
Trinidad & Tobago	Assign	BB+	Mar-96	Trinidad & Tobago	Assign	Ba2	Feb-93	
	Upgrade	BBB-/Stable	Sep-99		Upgrade	Ba1	Oct-95	
					Upgrade	Baa3/Stable	Apr-00	
Uruguay	Assign	BB+	Feb-94	Uruguay	Assign	Ba1	Oct-93	
	Upgrade	BBB-/Stable	Jun-97		Upgrade	Baa3/Stable	Jun-97	
Venezuela	Assign	AAA	1977	Venezuela	Assign	Aaa	Dec-76	
	Downgrade	AAA	Aug-82		Downgrade	Aaa	Feb-83	
	Downgrade	A-	Feb-83		Downgrade	Ba2	Jun-87	
	Downgrade	BB	Mar-83		Downgrade	Ba3	Dec-87	
	Downgrade	B+	Jan-89		Upgrade	Ba1	Aug-91	
	Upgrade	BB	Jul-91		Downgrade	Ba2	Apr-94	
	Downgrade	BB-	Mar-94		Downgrade	B1	Jul-98	
	Downgrade	B+	Jul-94		Downgrade	B2/Stable	Sep-98	
	Downgrade	B	Feb-96					
	Upgrade	B+	Jun-97					
	Downgrade	B/Stable	Dec-99					

Source: Brankovic, Azra, "Emerging Markets Debt Quarterly", Merrill Lynch, October 2000.

Table 10
ACTIONS BY S&P'S AND MOODY'S
JULY 1998- SEPTEMBER 2000

Summary of 17 Actions

A) Was the market already moving in the direction suggested by the Agency's action before it was announced?

	Y	N	Not conclusive
3 months	12	5	-

B) Did the market move in the expected direction after the Agency's announcement?

	Y	N	Not conclusive
1 month	6	10	1
3 months	5	12	-

Source: ECLAC, on the basis of data from Table 8.

VI. Conclusion

During the 1990s, Latin America's unsecuritized loan market was gradually replaced by a securitized bond market. Securitization, pushed forward by the Brady plan, helped Latin American countries enhance their access to international financial markets and redefine their integration into the global economy. Although throughout most of the decade the stock of Brady bonds exceeded that of Eurobonds and global bonds, at the end of 1999, the latter replaced the former as market benchmarks.

Bond spreads widened during the Mexico crisis in 1994-95, as well as during the Asian, Russian and Brazilian crisis. Spreads responded not only to economic fundamentals in particular countries but were subject to market sentiment as well. The significant elasticity of the Latin component of JP Morgan's EMBI+ with respect to its non-Latin component indicates that Latin American spreads were influenced by events in other emerging markets, and vice-versa. The elasticity of individual Latin American country spreads relative to the spread for Latin American countries altogether suggest that changes within the region affected individual countries, regardless of economic fundamentals. This is also shown by the correlation coefficients between Latin American countries during the 1990s. Although markets showed some capacity to differentiate amongst Latin American countries on the basis of fundamentals, they also perceived Latin American countries as a group when assigning risk.

Issues of volatility and contagion were particularly relevant to Latin American countries in the 1990s, and the role of credit ratings in this context became increasingly important. Twenty Latin American countries were rated by Moody's and S&P's by the end of the decade, compared to only one in 1990. Credit rating announcements did not seem to have a strong effect on the behavior of spreads in the period. In most cases, credit rating agencies seemed to confirm the market's trend, and thus were unable to stabilize markets during periods of crisis.

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