WP/05/152

IMF Working Paper

An Anatomy of Corporate Bond Markets: Growing Pains and Knowledge Gains

Pipat Luengnaruemitchai
and Li Lian Ong

INTERNATIONAL MONETARY FUND

 WP/05/152

IMF Working Paper

International Capital Markets Department

An Anatomy of Corporate Bond Markets: Growing Pains and Knowledge Gains

Prepared by Pipat Luengnaruemitchai and Li Lian Ong[1]

Authorized for distribution by Jorge E. Roldos

July 2005

Abstract

The objective of this paper is to discuss the key issues relating to the development of local corporate bond markets. We examine the requirements for local corporate bond market development, and compare and contrast experiences across both mature and emerging markets. We suggest that core aspects such as benchmarking, corporate governance and disclosure, credit risk pricing, the availability of reliable trading systems, and the development of hedging instruments are fundamental for improving the breadth and depth of corporate debt markets. The demand and supply of corporate bonds are dependent on factors such as the investor base, both local and foreign, and government policies toward the issuance process and associated costs, as well as the taxation regime. The sequencing of reforms is key to market development.

JEL Classification Numbers: G15, G18

Keywords: Benchmark, corporate debt, credit pricing, emerging markets, governance, mature markets, regulation

Author(s) E-Mail Address: lpipat@imf.org and long@imf.org

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[1] We are very grateful to Jorge Roldos for his invaluable input. We would also like to thank Manmohan Kumar and Mark Flanagan for their detailed and constructive contributions; and counterparts at the Australian Treasury, Bank Negara Malaysia, the Deutsche Bundesbank and Federal Ministry of Finance of Germany, and the authorities of the Czech Republic and India, for their helpful comments. All mistakes remain our responsibility.

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I. INTRODUCTION

Since the mid-1990s, corporate bond markets have become an increasingly important source of financing for the private sector, especially in the emerging market countries. The authorities in these countries are becoming increasingly aware of the importance of establishing deep, liquid corporate debt markets and have placed such development high on their agenda.[2] To date, corporate bond markets in many countries remain largely underdeveloped, with a limited supply of quality issues and inadequate market infrastructure. Even in mature market countries, such as the United States and Europe, secondary markets for corporate bonds are relatively illiquid for the majority of bond issues, in the same manner that liquidity in government securities markets is usually limited to a few benchmark issues (Schinasi and Smith, 1998).

In the past, corporate borrowing had previously centered around the banking sector in many of the mature and emerging market countries (see Section II). There is no definitive evidence that either a market-based or bank-dominated financial system is better. However, it has been argued that a more diversified financial system would mitigate its vulnerability to systemic risk. For instance, the effects of the Asian crisis and the recession in Japan during the 1990s may well have been far more benign if the countries involved had had well-functioning capital markets and correspondingly less heavy reliance on their troubled banking sectors during this period (see, for example, Greenspan, 1999).

The application of the market mechanism in the allocation and pricing of credit within corporate debt markets would ensure greater efficiency in the allocation of funds to borrowers, and promote greater transparency. In terms of risk management, deep and liquid corporate debt markets would provide a natural hedge for local companies. These corporates would be able to source longer-term, domestic currency funds, and avoid the type of currency and maturity mismatches suffered by many during the Asian crisis.

This objective of this paper is to discuss the key issues relating to the development of local corporate bond markets. Specifically, we examine the requisite elements for corporate bond market development. We also compare and contrast the experiences gained and lessons learned in some of these areas, across both mature and emerging markets. The areas covered here are by no means exhaustive, nor is any one issue exclusive in its importance for market development.[3] The paper is organized as follows. Section II provides an overview of developments in the corporate debt sector, in both mature and emerging markets. Section III discusses the issues relating to regulation and infrastructure, followed by an examination of the factors affecting the demand and supply of corporate bonds. The sequencing of reforms is covered in Section IV, followed by concluding remarks in Section V.

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[2] In Asia, a regional initiative to jointly develop local bond markets has led to the establishment of the Asian Bond Funds.

[3] Ka and Neng (2002) also discuss some of the issues in the development of corporate debt markets.

II. Overview of Mature and Emerging Corporate Debt Markets

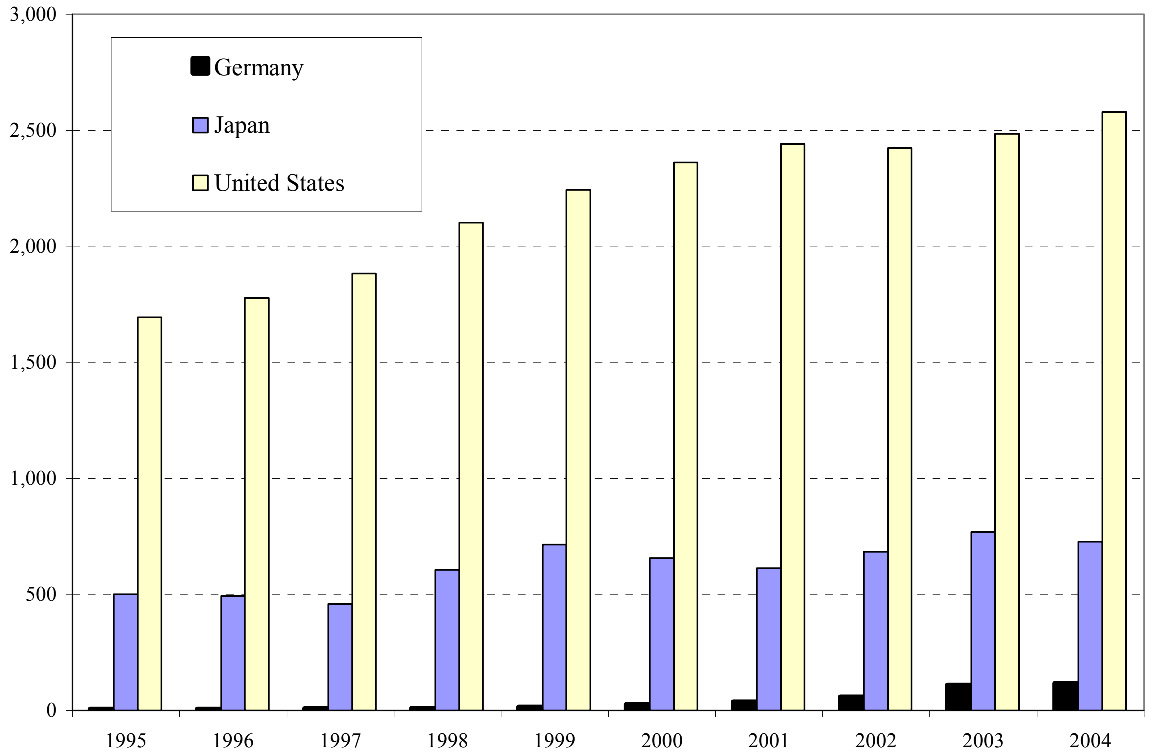
Arguably, there is no one element of reform or practice that would ensure the development of deep and liquid corporate debt markets. The experience across countries, both among mature and emerging markets, suggests that a set of key features must coexist in order for the corporate debt market to evolve and develop. In mature markets, where corporate bond markets are more developed, institutional and policy factors have played a very important role. In some emerging markets, the pickup in corporate debt issuance in recent years has resulted from necessity, for example, with bank lending drying up following the Asian financial crisis. That said, many of the necessary features for the deepening of the corporate bond markets in these emerging market countries are either still under-developed or do not exist at present. For those seeking to emulate their mature market counterparts, the implementation and sequencing of reforms are key for market development.

The pattern of development for corporate bond markets within mature market countries has been different across countries. The corporate bond market in the United States has been, for a long time, an important source of funds for the private sector, while Canada, Japan and most European countries have only seen their corporate debt markets develop in more recent decades. As a comparison, outstanding nonfinancial corporate debt securities in the U.S. market amounted to $32 billion (55 percent of GDP) in 1932, and have increased steadily to about $2 trillion (22 percent of GDP) in 2003. In contrast, corporate bond markets in most other advanced economies were virtually nonexistent in 1980. Until the late1990s, the corporate bond markets in some European countries, including Germany, remained small (see Figure 1) and were insignificant compared to other sources of corporate financing.

The institutional structure has played an important role in the different pace of corporate debt market development in these mature market countries. The relative unimportance of the corporate bond market in Europe was mirrored by the corresponding dominance of the banking sector. This is in direct contrast to the United States, where banks play a small role in the financing of large companies, and face strong competition from the corporate bond market even for medium-sized companies (Schinasi and Smith, 1998). In Canada, loan financing by nonfinancial corporations has declined since the early 1980s as bond and equity financings have increased. This change in trend coincides with the major Canadian banks' expansion into the brokerage and investment banking business in the 1980s after legislative changes (Calmès, 2004).

Importantly, much of the issuance activity in the United States has been accounted for by public issues rather than private placements, resulting in beneficial spillover effects for secondary market liquidity. This is key because private issues tend not to change hands in secondary markets nearly as often as public issues; indeed, the former are often considered fairly close substitutes for (syndicated) bank loans (Schinasi and Smith, 1998). In comparison, corporate bond issues in some of the larger, advanced economies are more focused on private placements. The result is that during the 1990s, turnover ratios of corporate bonds in the United States were about 5 times as large as those in Japan, and about 50 percent higher than in the Euromarket (Smith, 1995).

Figure 1. Corporate Bonds Outstanding in Selected Mature Market Countries
(In billions of U.S. dollars)



Source: BIS.

In Europe, policy changes were the catalyst for further corporate debt market development in the late 1990s. The introduction of the euro in 1999 saw private debt issuance more than double to $679 billion that year, from $273 billion in 1998.[4] European corporates took the opportunity to quickly set benchmarks with euro issues and diversify their liabilities away from the previous reliance on bank loans, by accessing a larger pool of investors. The spectrum of bond issues also expanded significantly—while European bond markets had previously been dominated by AAA and AA issues, almost 50 percent of all corporate bonds issued that year held an A credit rating. Further down the spectrum, there were even nascent signs of the emergence of a European junk bond market.

In emerging markets, local bond markets are gradually becoming an alternative source of funding for both sovereigns and corporates (see Appendix). The authorities' efforts to develop local bond markets, combined with the corporate sector's efforts to diversify away from refinancing and foreign exchange risks, have contributed to an expansion in local corporate bond markets (with the exception perhaps of countries in central Europe). In Asia and Latin America, the pullback in bank credit during the crisis years has also contributed to

[4] See Pagano and von Thadden (2004) for a detailed discussion on the development of the European bond markets.

the increase in corporate bond issuance. In the former, the dearth of bank financing, as well as the need to restructure balance sheets, provided an additional impetus for corporate debt issuance. In the latter, the rapid growth of local institutional investors, together with large refinancing needs of the corporate sector in a difficult external environment, have been key drivers.

While a number of countries have made substantial headway in developing their government bond markets, progress has been slower in corporate bond markets. The development of local corporate bond markets in general could be constrained by a variety of factors (see Roldos, 2004a). The lack of liquidity in secondary markets and a meaningful investor base with developed credit assessment skills, as well as high costs of local issuance, are key reasons. Low liquidity in secondary markets reflects such factors as the scale of local issuance, the characteristics of the instruments, and the nature of the investor base. In most emerging markets, only a few large corporates are able to issue bonds on sufficient scale that they create a market where investors can change their trading positions without moving the price against them. Access to local bond issuance has largely been restricted to top-tier corporates, a situation attributable to the risk aversion of investors, investment restrictions on institutional investors (such as pension funds and insurance companies), as well as the lack of tools for reliable credit pricing and risk management in these markets.

III. Development Issues in Corporate Debt Markets

Given the growing importance of local securities markets as a source of funding for both the corporate and public sectors, what policies have proven most effective in stimulating the development of these markets? This section considers the requisite characteristics for corporate bond market development, and compares the experiences in these areas across both mature and emerging markets. The discussion is divided into two parts—regulation and infrastructure—followed by an examination of the factors affecting the demand and supply of corporate bonds.

There is broad agreement that fundamental issues such as improvements in market infrastructure and benchmarking, better corporate governance and transparency, combined with the maturing of domestic institutional investors, all contribute to the development of local securities markets.[5] However, the experience among countries with respect to other aspects of the development of local securities markets—credit risk pricing, government policies toward the development of local securities markets (taxes, issuance regulations), the role of foreign investors and the sequencing of local securities market reforms—is less clear-cut (see Mathieson and Roldos, 2004). These issues are discussed in the following subsections.

[5] Surveys on some of these issues, mostly for local bond markets, include World Bank and IMF (2001), BIS (2002), and OECD (2001).

A. Infrastructure and Regulation

Market Benchmarks

Well-functioning money markets represent a critical factor in the development of deep, liquid corporate debt markets. Money markets provide an anchor for the short-end of the yield curve and thus serves as a benchmark for pricing other fixed-income securities that differ in terms of liquidity, credit quality, and maturity. Short-term fixed income markets also play a unique role in that they facilitate cash management and position financing by financial intermediaries and corporates. Consequently, these short-term markets act as a catalyst for the development of longer-term debt markets. Within emerging markets, Korea and Thailand provide examples of the difficulties of developing a secondary bond market and the associated derivatives markets without the support of a money market (see Cha, 2002; and Roldos, 2004a).[6]

The importance of the benchmark role of the money market is reflected in the fact that *corporate* money markets in the advanced economies are largely represented by the big, highly rated companies. In Canada, Japan, the United Kingdom and the United States, almost all commercial paper (CP) is rated for credit quality. Alworth and Borio (1993) observe that the bulk of CPs in advanced economies receive the highest possible credit rating, and the share of CPs rated below the top two categories is negligible. The development of the CP market is a relatively recent phenomenon. Until the mid-1980s, U.S. CPs accounted for 90 percent of all outstanding CP globally. CPs were issued in France and the United Kingdom only in 1986, and it was not until 1991 that they were first offered in Germany.

Benchmarks provided by government debt securities play a critical role in the development of domestic bond markets. Arguably, other liquid securities with relatively low default risk could also be used as the benchmark issues, as discussed above. However, the low credit risk and high liquidity features of government securities have made them natural providers of benchmark interest rates (see IMF, 2001). These have, in turn, facilitated issuance by the private sector.

Increasingly, in emerging markets such as Brazil, Chile, Malaysia and Mexico, measures are being implemented to improve the liquidity in secondary markets for government securities and enhance their credibility as benchmarks. These include various combinations of (i) extending the yield curve; (ii) setting up issuance calendars to improve transparency; (iii) increasing the disclosure of information on public debt issuance and statistics; (iv) holding regular meetings with dealers, institutional investors, and rating agencies; (v) introducing a system of primary dealers; and (vi) establishing a repurchase (repo) market in the government bond market (and in Mexico's case, the corporate bond market as well).

[6] The money market also represents an essential building block in risk measurement and management. It enables the development of sound hedging markets, wherein derivative contracts can be settled with reliable cash prices (see discussion on derivatives later in this section).

Market Infrastructure

The most common platform for trading debt securities is over the counter (OTC), even though many debt securities are listed on exchanges. This is true even in the advanced economies of Europe, Japan, the United Kingdom, and the United States. This concentration is predominantly attributable to the diversity of debt securities (maturity, duration, coupon, credit risk), which tends to limit the trading in most corporate debt issues; a dealership trading system could thus improve liquidity.

Schinasi and Smith (1998) argue that stock exchange listing may serve a useful function in the secondary bond market, even if most of the trading occurs OTC. In the United States, listing bonds on the New York Stock Exchange serves two purposes for the secondary bond market: it provides an important safeguard for small investors and facilitates information flow and the price discovery process. A number of other countries have also listed their corporate bonds on stock exchanges (see IOSCO, 2004).

In addition to advanced market infrastructure in trading, clearing and settlement systems are necessary to ensure efficiency and credibility of the trading system and to facilitate flows of information and the price discovery process.[7] For instance, problems with bond settlement systems have, in the past, affected corporate bond markets even in mature market economies (for example, the United Kingdom and Japan). To date, many countries in East Asia have adopted scriptless electronic trading and real-time gross settlement (RTGS) and delivery versus payment (DvP) clearing and settlement systems on a transaction by transaction basis.[8]

Regulation and Policy

A reliable regulatory framework is critical for instilling investor confidence. Regulations in securities markets are normally justified by one or more of the following objectives: (i) fair and equal treatment of investors (investor protection); (ii) market integrity; and (iii) containment of systemic risk. The experience from advanced economies shows that regulatory policies have played a role in the development of corporate bond markets, by either encouraging or inhibiting the development of these markets (see Schinasi and Smith, 1998). Generally, while regulations governing the issuance of securities should ensure a level playing field for all, they should not interfere with the terms of issuance.

The regulatory process must also be efficient: market timing is of the utmost importance to both issuers and investors in securities markets, since any regulatory delay would be

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[7] The standard reference for minimum standards in clearance and settlement systems is the Group of 30’s *Clearance and Settlement in the World’s Securities Markets*, which is largely focused on enhancing efficiency and appropriate for more sophisticated payments systems. More comprehensive lists of minimum standards for clearance and settlement of securities are available in IOSCO (1992) and the National Securities Clearing Corporation (1997).

[8] See EMEAP (2002) for the detail of securities clearing and settlement systems in East Asia.

tantamount to prohibitive regulation. In Germany, for instance, the legal requirements for a private sector bond issue has historically made this option more expensive than raising funds through a bank loan. The permission process was time consuming and impeded the ability of corporates to issue when market conditions were favorable.[9] Although the regulatory burden was reduced during the 1990s, much of the deutsche mark corporate bond market had already been established in London. Similar rigidities in regulatory policy in France appear to have had similar results.

In Mexico, the authorities are working on improving the regulatory framework for the repo and securities lending markets in order to make it consistent with international best practice. In August 2003, a new regulation, which requires the use of standard contracts—and enabled both corporate bonds to be traded and foreign investors to finance their positions in the repo market—was implemented. The repo regulation will soon complement the new regulation for securities lending. This progress in regulatory reform appears to have provided a much-needed boost to the corporate debt market.

Corporate Governance and Transparency

Improvements in corporate governance and transparency protect investors and encourage the development of financial markets. Better corporate governance can be implemented through several mechanisms—such as improved laws, enhanced regulation and supervision, and stronger enforcement of private contracts—and, whenever changing the law has proven difficult, other mechanisms have proven to be good substitutes to some extent.

Capulong, Edwards, Webb, and Zhuang (2000) argue that, in general, creditors have some form of control over companies and hence are important for corporate governance—they can influence major decisions of companies through a variety of controls, and discipline companies in the event of a default or when a violation of debt covenants occurs. The fact that borrowers may have to come back to creditors for more funds may also give creditors significant influence. That said, the effectiveness of creditors' controls depends on the quality of monitoring (which depends on accounting and auditing standards, financial reporting systems, and disclosure standards), how well their rights are protected legally, as well as their negotiation powers. Unlike banks, which usually have much larger stakes in companies, dispersed individual bondholders may find themselves with less bargaining power in case of default. This may explain why market debt is less common in countries with underdeveloped securities laws.

Following the crisis in 1997-98, corporate governance and financial transparency have been high on the agenda of regulators in Asia. Many countries have strengthened their accounting and auditing standards, as well as securities regulations. In Indonesia, Singapore, and Thailand, regulators now require companies to report their annual reports within two months of the fiscal year end, while Malaysia requires audited financial statements within three

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[9] Notwithstanding these authorization procedures, access to the German securities markets has always been unrestricted, in principle.

following the close of each financial year. Quarterly reporting is now mandatory in many countries. To increase financial transparency, some countries require the disclosure of stakes in companies of 5 percent or more. Many emerging markets in Asia have also improved their bankruptcy procedures to strengthen the creditors' right to protection and facilitate the process of corporate debt restructuring. For example, Thailand introduced a new Bankruptcy Act Amendment in March 1999, which aims to prevent a company from going into bankruptcy because of temporary liquidity problems and eliminate loopholes that may prolong the proceedings and disadvantage creditors. Revised bankruptcy procedures have also been introduced in Korea and Malaysia. These revisions are aimed at facilitating corporate debt restructuring, preserving viable businesses, and ensuring better representation of creditors in resolution processes (see Capulong, Edwards, Webb and Zhuang, 2000).

While these moves are clearly steps in the right direction, it is as yet unclear what benefits have directly accrued from their implementation per se. Another concern often raised by investors is that although many emerging countries have established codes of good corporate governance, which are not substantially different from the OECD Principles of Corporate Governance, practices often fall short in terms of implementation and enforcement in many countries (see IMF, 2005).

Credit Risk Analysis and Pricing

The credibility of the credit risk assessment process is important for price discovery and liquidity in corporate bond markets, given the information asymmetry between investors and bond issuers and the differing levels of reliability associated with each benchmark yield curve. Credit ratings have been widely used in many mature markets, and especially in North America, for a very long time. In the United States, the largest rating agencies, Moody's Investor Services and Standard and Poor's, have rated all taxable securities registered with the U.S. Securities and Exchange Commission (SEC), whether or not they are compensated by the issuer for the rating. Japan has utilized credit ratings since 1959 but has traditionally relied on domestic rating agencies. However, inconsistencies between the ratings assigned by Japanese rating agencies and foreign rating agencies such as Standard and Poor's and Moody's have reportedly led to wider use in Japan of the latter. Arguably, the credibility of the rating process, and thus the integrity of debt markets could be established by complementing ratings from domestic rating agencies with those from credible international rating agencies.

Many emerging local bond markets presently lack sophistication in their credit risk assessments, and this has been a major constraint to the growth of emerging corporate bond markets (Mathieson and Roldos, 2004). For instance, many investors in Asia treat quasi-government issues almost on an equal footing with sovereign issues, and they reportedly price local issues on the basis of name recognition, without a deeper analysis of credit fundamentals. Similarly, in Brazil, the full development of a credit culture is still some way off. Market participants complain that there is not enough price discrimination and that the mutual funds buy the bonds by name recognition, without pricing adequately company fundamentals or the existence of guarantees or other enhancements. Nevertheless, participants see the fact that most issuers are obtaining two ratings—rather than only one, as required by the regulations—as a sign that the market is gradually maturing. In Chile, the requirement that local pension funds invest only in rated instruments has contributed to the development of a rather sophisticated credit risk culture. Local rating agencies have achieved a relatively high degree of professionalism, alongside the important presence of the major international rating agencies. This has contributed to the expansion of the corporate debt market, in terms of the total trading volume, with the growing institutional investor base providing stable demand for the increased supply of local issuers.

It is unclear to what extent regulations are needed to force the use of credit ratings, or whether market participants themselves would find these credit assessments useful in pricing or allocation decisions. Failures of highly rated companies in some countries have caused investors to doubt the merits of the local rating and pricing process. In Asia, the lack of reliable credit rating agencies has contributed to the instability of the bond markets. For instance, LG Card and Daewoo of Korea held AA ratings when they collapsed. Moreover, this problem is not specific to the emerging market countries. In the United States, major rating agencies Standard and Poor's and Moody's did not reduce Enron's credit ratings from investment grade (above BBB-) to junk levels until four days before Enron filed for bankruptcy in the beginning of December 2001, while WorldCom held investible credit ratings up until two months before it entered the bankruptcy process.

The standardization of bond contracts could also contribute to a more accurate assessment of credit risk, and securities regulators could ensure a minimum set of guidelines for such contracts. In several emerging markets, bond contracts have a variety of features—coupons linked to different reference rates, embedded options and other enhancements, different types of collateral, covenants, and priority rules—that make it difficult to price the credit risk associated with the bond. That said, greater standardization and homogeneity could also constrain the issuer's financial flexibility (Roldos, 2004a). In Brazil, for instance, the authorities discussed with market participants the optimal degree of standardization, as some issuers fear that it could restrict company-specific financing needs. In Mexico, the introduction of the *certificados bursatiles*—bonds that provide the flexibility that is attractive to corporate issuers, while offering appropriate protection to buyers—has played a very important role in the development of the corporate bond market. The two instruments that existed prior to the *certificados bursatiles* were debentures that protected investors excessively and were costly to issue, and medium-term notes that were easy to structure but provided no investor protection. Additionally, the strong growth in credit enhancements (usually guarantees or backed by receivables) has been key for corporate debt issues moving down the credit spectrum.

Derivatives Markets

The relationship between the development of underlying cash markets and derivatives markets is a complex one. On the one hand, investors are reluctant to participate in the underlying securities markets, in the absence of sufficient instruments (such as fixed income futures contracts) to hedge against any reversal in the interest rate cycle. On the other hand, one of the main reasons for the underdevelopment of local derivatives markets is the underdevelopment of the underlying securities markets themselves (see Ilyina, 2004), as well as tight regulations that restrict their use by banks and investors. This was evidenced by events in the debt markets in Colombia and Thailand in 2003, when the accommodative interest rate environment changed but investors were unable to hedge their exposures, resulting in the sell-off of fixed income securities by investors. In other examples, restrictions on the use of derivatives by pension funds in the Central European (CE-3) and Latin American countries have limited these funds' appetite for fixed-income products, since they cannot hedge interest rate risks.

It has been argued that once the underlying securities markets reach a certain level of development, the efficiency gains from derivative products—in terms of unbundling and reallocating risks—become apparent. Barring regulatory obstacles, derivatives markets are likely to thrive, and in turn help improve the liquidity of the underlying cash market, in a "virtuous cycle" of development. In emerging markets such as Colombia and Mexico—where government debt markets already have two of the longest benchmark yield curves in the region—the authorities are now focusing on developing their respective derivatives markets as a next step, while continuing to deepen the government debt market. The caveat for emerging market countries is that the rapid growth of derivatives may outstrip the risk management expertise of users and the supervisory capabilities of regulatory authorities (Mathieson and Roldos, 2004). Thus, regulators would need to ensure a balance between the development of better risk management tools and the potential for exposing local markets to new vulnerabilities.

In most mature markets (especially the United States and some European countries), derivative products have been actively traded. These products and their related hybrids (such as interest rate futures, bond future contracts, interest rate swaps, forward rate agreements, callable bonds, puttable bonds, convertible bonds, credit derivatives and other structured products) provide investors with a wide range of investment products and instruments to manage their risks. They also enhance securities price discovery and liquidity in the underlying markets. The evolution of the derivatives markets in these countries has played an important role in deepening their respective corporate bond markets.

B. The Demand for and Supply of Corporate Bonds

The Local Institutional Investor Base

The growth in local institutional investors such as pension funds, insurance companies, and mutual funds is crucial in driving the demand for domestic securities. A diversified investor base with varied demand requirements, maturity profile, and risk preference is important to ensure high liquidity and stable demand in the market. In mature markets, the investor base for bonds is generally well-diversified, with banks, mutual funds, hedge funds, pension funds, and insurance companies providing a broad demand base for bonds. In some emerging market countries, many of these financial institutions are underdeveloped, and the growth of such an investor base has usually been slow. Increasingly, however, the authorities in these emerging market countries have realized the importance of developing the local institutional investor base to support local securities markets.

Many countries still maintain tight regulation over asset allocations by institutional investors to prevent excessive risk taking, but this may be a double-edged sword.[10] In Mexico, factors such as the restrictions and limits placed on pension funds, the lack of high-quality corporates (only about 10 local "blue chips" are considered investible), the risk aversion of local investors, and the shortage of interested players, have hindered liquidity in the secondary corporate debt market. As a result, the general portfolio composition in the pension industry currently consists of around 85 percent in federal government bonds. That said, states and municipalities, which were previously reliant on development banks for financing, have also been active in the local bond market; this has added breadth to the market and improved the transparency of their operations, thus improving the credibility of, and interest in, these securities.

In Brazil, tight regulatory requirements have prevented investors other than local buy-and-hold pension and mutual funds from participating actively in the market, thus limiting demand for corporate issues. In Chile and other markets, regulatory restrictions that prevent banks from doing repos with corporate bonds also represent an obstacle for the development of a liquid secondary market. The corporate bond market in Colombia remains very small, partly due to the lack of demand for lower-rated debt from pension funds. Although pension funds in Colombia are, in theory, able to invest in securities rated A-minus or above, in practice they tend to require a AAA rating, especially for big issues. As a result, local corporates that are not AAA-rated have been reluctant to issue new securities locally. In Malaysia, life insurance companies, which are important players in fixed-income markets, cannot invest more than 40 percent of their portfolio in unsecured bonds and loans and may invest only in highly rated corporate bonds.

In contrast, pension funds in mature market countries have substantially greater flexibility to manage their portfolios. While some developed countries apply minimum requirements on pension funds' investment on government securities, most do not have explicit ceilings on debt securities in which pension funds can invest (see OECD, 2004). Rather, pension funds in these countries are required to follow "prudent man rules"—that is, assets should be invested in a manner that would be approved by a prudent investor (Roldos, 2004b).

The Foreign Investor Base

Foreign investors are an important source of demand for local securities, and several emerging markets countries have opened up their local markets in an attempt to widen and diversify the investor base. Although there may be differences in investment strategies among different types of foreign investors, market participants generally perceive foreign investors as playing a supportive role in local markets (Roldos, 2004a). Also, foreign investors usually impose positive pressure for developing robust market infrastructure and transparent market

[10] The issues relating to the imbalance between assets under management and investment opportunities are discussed in Roldos (2004b).

practices.[11] At this stage, however, foreign participation in local debt markets in Asia and Latin America remains limited, despite efforts to open up their markets to foreign investment. As a result, the investor base for local debt instruments continues to be dominated by domestic institutional investors.

The international experience suggest market liberalization alone is an insufficient condition for increasing foreign participation. While Colombia's restrictions on shorter-term holdings by foreign investors have clearly been a barrier to the development of the local corporate bond market, the situation in Korea is less obvious. Even though foreigners are allowed to invest in all types of listed bonds in Korea's local market, they currently hold only about 0.4 percent of listed domestic bonds (compared with foreign participation of over 40 percent in the Korean stock market). The situation may partly be explained by the lack of a developed repo market and hedging instruments. In many emerging markets, the existence of withholding taxes and the threat of discretionary increases in other taxes and capital controls act as a strong deterrent to foreigners buying domestic securities. In contrast, foreign interest in Mexico's longer-term government bonds rose sharply in 2004, as the local market started to realize the benefits from ongoing reform efforts to establish a credible benchmark yield curve, improve transparency, and promote liquidity in the market. Similarly, in Malaysia, foreign investor interest in the local markets has been higher with the government taking new initiatives to make investments into local markets easier and more attractive, and to improve the market infrastructure.

In most mature markets, there are few restrictions on foreign investment in local bond markets. This openness, together with established market infrastructure and governance have seen foreign participation rates in local debt markets increase significantly in the past decade. For example, the most recent survey shows that 46 percent of long-term U.S. treasury securities and 16 percent of outstanding corporate debt securities were held by foreigners as at June 2003 (U.S. Treasury, 2004). These shares have doubled in the past 10 years. Similarly, in Australia in 2000, about 45 percent of government bonds are held by non-residents, up from about 25 percent in 1994. Non-resident holdings of private sector debt are closer to 10 percent.

Issuance Costs and Taxation

The high costs associated with corporate debt issuance, such as the costs of meeting new disclosure laws and direct issuance costs, have also been a significant deterrent to market development. Bond issuance costs vary substantially across emerging market countries. For instance, bringing an issuer to market in Brazil is relatively expensive. The costs of local issuance (encompassing fiduciary agents, lawyers, registration, rating agencies, and bank fees) make it prohibitively expensive to issue debentures in amounts lower than 50 million *reais* ($20 million). In contrast, the cost of placing debt in Chile's local market is one-seventh of that paid for a placement in international markets (see Cifuentes, Desormeaux,

[11] See Burger and Warnock (2004) for a discussion on the determinants of foreign participation in local-currency bond markets.

and Gutierrez, 2002). Bond issuance costs in each category (for example, investment banking fees, regulatory fees, legal fees, etc.) tend to be higher in Mexico than Chile; however, Mexico does not impose an issuance tax on securities.[12] In effect, the high issuance costs may be hindering the development of local corporate debt markets by discouraging the supply of bonds, since corporates then opt for bank loans, which tend to be cheaper given the high liquidity in the banking system.

In Poland, a number of regulatory and cost obstacles make private placements the only cost-efficient way to issue corporate bonds (see Roldos, 2004a). For example, a prospectus has to be issued for each bond issue, ruling out medium-term note programs, and prospective issuers must wait a long time for the approval of the authorities, in addition to paying high fees for issuances. Similarly, the cost of public issuance in Hong Kong Special Administrative Region is estimated to be four times that of a private placement. In contrast, Malaysia's Securities Commission introduced a series of measures to streamline the capital-raising process, which has minimized the time and work required in the issuance process and lowered the cost of bond issuance to below that of bank loans. Not surprisingly, bond issuance has dominated bank lending as a source of funding in Malaysia since 1997 (see Moody's, 2002).

Within mature market countries, Japan is an obvious example where high issuance costs may have played a part in slowing the development of local corporate bond markets. Fixed trustee fees earned by banks, under the "commission bank system," for securities appear to have been an important driver for the relatively high total issuance costs. These costs were estimated at 2.5 percent for 10-year corporate bonds (Karp and Koike, 1990) compared with 0.7–1.3 percent in the United States (Fabozzi, Modigliani, and Ferri, 1994).

Bond markets are also sensitive to tax incentives.[13] The formulation of a tax structure can create distortions in taxation of income from various types of investment. In principle, a system of capital income taxation should treat incomes from all types of investments and savings equally, including bank deposits, equity, as well as bonds and other debt instruments. Excessive distortions in the system of capital taxation affect the attractiveness of instruments not only for investors and savers but also the financing behavior of issuers and borrowers. For example, some countries levy stamp duties on bond transactions, making investments in the bonds less attractive compared to other investments.

Schinasi and Smith (1998) observe that transaction and witholding taxes often result in driving issuance and trading activity offshore; however, regulating to make it more difficult for domestic residents to participate in offshore securities would do little to help the development of domestic securities markets. They emphasize that transaction taxes have

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[12] See Zervos (2004) for a detailed comparison of transaction costs of primary market issuance in Latin America.

[13] A detailed cross-country comparison of taxes on bond market transactions is available in IOSCO (2002).

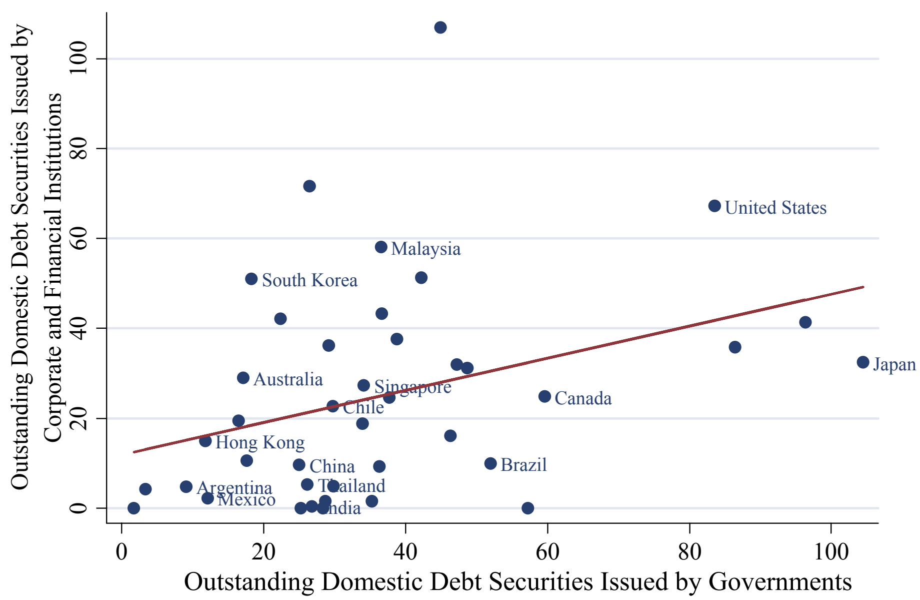
historically not been effective in terms of revenue generation for the government; rather they have been effective in restricting the development of securities markets. In Germany, turnover taxes (of 6 percent, which were not removed until December 1990) and withholding taxes are seen to have inhibited the issuance of corporate debt, especially short-maturity securities. The observed trend in mature market economies has been to eliminate such taxes altogether; if this cannot be effected either for equity or political reasons, such taxes are reduced and rebated to foreign investors as quickly and efficiently as possible.

Public versus Private Sector Bonds

A well-developed government bond market is arguably a necessary condition for the development of the corporate bond market. As we discussed earlier, the existence of a reliable and liquid government benchmark yield curve is the foundation of any bond market. In addition, the market infrastructure, institutions, as well as the investor base created with the development of the government bond market could initially contribute to the development of local corporate bond markets. Indeed, in some countries (such as Chile, Hong Kong SAR and Singapore), public sector bonds are issued primarily for the purpose of bond market development (see Mihaljek, Scatigna and Villar, 2002). A cross-crountry analysis also suggests that countries with larger outstanding government debt securities tends to have larger corporate bonds markets, as a proportion of GDP (see Figure 2).

The crowding-out by government bond issuance is potentially one of the major obstacles to the growth of corporate bonds in some mature and emerging markets. Beyond a certain point, relentless borrowing by the government could displace borrowing (the supply of corporate bonds) by the private sector and, consequently, private investment. Government securities offer domestic investors low credit risk, ample secondary market liquidity, high yield, and in many cases, protection against exchange rate, inflation and interest rate risks through indexed bonds. These characteristics make them attractive investment instruments for some classes of investors. Reszat (2003), for example, argues that government borrowing in Japan appears to be crowding out private borrowing in the local market. For instance, Figure 2 suggests that the growth in the government bond market is leading that of the private sector (as represented by the slope of the regression line). The possibility that the former has slowed the latter also cannot be rejected.

Figure 2. The Relationship Between Private and Public Domestic Debt Securities, 2001
(In percent of GDP)



$y = 11.9328 + 0.3570\,x$ R-squared: 0.12
t-stat: (1.78) (2.31)

Source: Eichengreen and Luengnaruemitchai (2004).

In Brazil, only strong local corporates—normally highly rated companies from the telecommunications, utilities, and natural resources industries—which were willing to pay rates in excess of 20 percent on three-year bonds were able to bid for domestic investors' money given the formidable competition posed by the government. In many cases, corporate bonds have had to be enhanced with guarantees to be attractive enough to investors. Aware of this problem, the authorities have undertaken a proactive role in helping corporates raise capital in the domestic bond market, notably through the *Banco de Desenvolvimiento Economico e Social* (BNDES). The BNDES has reduced direct lending support to companies and sectors, and shifted to providing guarantees, expertise, and a stamp of quality to issuers. Similarly, the abundant supply of government paper in the CE-3 countries appears to be crowding out private issuance. The inverted yield curves in Hungary and Poland have also been a hindrance to corporate bond demand in the past, since investors who were able to get risk-free returns on shorter-term government paper had little incentive to seek out credit pickup in medium-term corporate bonds.

IV. The Sequencing of Reforms

The development of local securities markets raises a number of interesting questions about the optimal sequencing of reforms. As discussed in Section III, the development of well-functioning money markets is a critical first step in developing corporate bond markets. That said, the development or reform of many of the other required elements for a deep, liquid corporate debt market is usually not exclusive of one another. Rather, many of these elements are normally developed in conjunction with one another (the Latin American markets are a case in point).

A comparison of different types of financial systems and their evolution over time is a complex and interesting issue, and there is no simple answer as to *one* optimal development strategy for all (see Allen and Gale, 2000). As a general rule, a gradual and complementary approach is beneficial, although in some cases, a given sequencing may be preferable. An example of the latter strategy is the path followed by Australia (see Eichengreen and Hausmann, 1999), which has developed a deep local bond market. In that instance, the country developed its market for long-term debt before it liberalized its financial markets. The bond market became attractive to foreign investors only after a liquid domestic market had been developed.

Roldos (2004a) argues that banking and bond markets could be developed in tandem, by building an appropriate regulatory and institutional framework to encompass both. Although local securities markets provide an alternative source of funding to the banking sector, especially during banking crises (as evidenced by the Asian financial crisis), a sound and well-regulated banking system could be a necessary and desirable complement to the development of local securities markets. As is the case in mature markets, banks in emerging market countries could play a number of supporting roles for securities markets. They could represent large investors in securities, provide underwriting and market-making services, act as issuers and guarantors, as well as arrangers of securitizations (Hawkins, 2002). That said, the large involvement of banks in the securities business requires appropriate regulations (such as "firewalls") to prevent the issuance of bonds to repay loans and subsequent sale of the bonds to an asset manager subsidiary at higher-than-market prices.

The structure and incentives of the financial industry could also limit the growth of the local corporate bond market. Smith (1998) show that that banks may impede the development of securities markets by strategically setting loan and deposit rates, while Covill (1995) suggests that banks may have direct influence over the development of securities markets (such as through distribution networks or access to payment systems), and thus may be able to dissuade corporates (or make it very costly) from funding themselves in securities markets. The large equity stakes held by banks in Japan and many European countries in nonfinancial firms may have also impeded securities market financing by these corporates (Schinasi and Smith, 1998).

In emerging markets, it has been noted that the CE-3 countries have little intermediary capacity to underwrite corporate bonds. The large, foreign-owned banks in these countries have little incentive to devote capital to such activity in the local market, while the local banks and brokerages typically lack the resources to do so. In Thailand, banks have been reluctant to underwrite bond issuances, possibly because they fear competition from the bond market. The opposite is true of banks in Hong Kong SAR, which have begun to underwrite bonds to take advantage of the attractive fees from the process.

V. CONCLUDING REMARKS

Corporate bond markets have become an increasingly important source of financing for the private sector in recent years, especially for some emerging market countries. Previously, corporate borrowing had centered around the banking sector in many countries. However, the advent of several banking crises in some of these countries has led to the realization that the sources of corporate borrowing need to be diversified. That said, the corporate debt markets in many emerging market countries remain underdeveloped. The objective of this paper has been to discuss the fundamental elements necessary to develop deep and liquid corporate debt markets. More important, we examined the lessons learned from experiences in both mature and emerging market countries. It should be emphasized, however, that the issues we have identified are by no means exhaustive, nor should they be exclusive in terms of implementation.

Clearly, core aspects such as improvements in market regulation and infrastructure are crucial for the development of local securities markets. The elements include benchmarking, corporate governance and disclosure, credit risk pricing, the availability of reliable trading, clearing and settlement systems, and the development of hedging instruments. Meanwhile, the demand and supply of corporate bonds are dependent on factors such as the investor base, both local and foreign, and government policies toward the issuance process and associated costs, as well as the taxation regime. The evidence also suggests that high levels of debt issuance by the government could potentially crowd-out the supply of bonds by the private sector.

Previous experience suggests that the time-frame required to implement the necessary reforms to fully develop corporate debt markets cannot be easily determined. In many countries, the speed and success of such reforms would, in part, require strong political will, as well as efficient coordination and cooperation among local authorities. The development of factors such as investor confidence and a stable investor base cannot be dictated by regulations. In theory, investor confidence could be fostered by providing effective market infrastructure, promoting market integrity through strong corporate governance and investor protection, and improving market credibility through adequate disclosure and transparency. In practice, the investor base has typically developed gradually with the evolution and improvement in these market characteristics.

APPENDIX: STYLIZED FACTS ON SELECTED LOCAL DEBT MARKETS

The importance of bond markets in private sector financing has grown sharply since 1997. Table 1 compares the different types and nature of private sector funding across emerging market regions, over the 1997–2003 period. Corporate issuance of local bonds has typically exceeded corporate issuance on international markets, by far. Domestic corporate bond issuance rose to 80 percent of total corporate domestic and international bond funding in 2003, from 24 percent in 1997, after peaking at 91 percent in 2002.

In Latin America, domestic bond issuance grew sharply during this period, to become the dominant source of corporate funding relative to bank loans and equities. Indeed, local bond issues exceeded the total of international issues of bonds, equities, and syndicated lending during this period, even as domestic bank lending contracted between 1999 and 2002. In emerging Asia, domestic bonds issuance rapidly increased after the crisis. They were almost nonexistent in 1998 but had risen to almost $37 billion by end-2003. That said, bank loans have remained the major source of funding for corporations in the region, even during the crisis years when the region experienced a massive retrenchment of foreign loans.[14] The trend is slightly different in the Central European countries. Corporate bond markets are still very small, and international issuances have historically exceeded raisings in the local markets, in contrast to the other regions. Bank lending remains the dominant source of financing, although it has been volatile in recent years.

Bond markets in emerging market countries are not very different from their mature market counterparts. In most countries, the bond markets are dominated by government debt securities; the size of the corporate bond market tends to vary across countries. Table 2 compares the composition and size of domestic bond markets, by issuer, in selected emerging and mature markets. Even among mature markets, the size of corporate debt markets appears relatively small, compared with the outstanding government and financial sector issues. A notable exception is Australia, where the size of the corporate debt market is about the same as its government debt market. Like Australia, Malaysia's government and corporate debt markets are about the same size, at around 43 percent of GDP.

In emerging market countries, the share of the government bonds to the total domestic bond market is as high as 90 percent in some countries (for example, India and Colombia). In some countries, however, the corporate bond markets are relatively large. In particular, the outstanding domestic debt securities in Malaysia and Korea are 43 and 25 percent of GDP, respectively. Indeed, both these countries already had large corporate bond markets before the Asian crisis in 1997, in terms of the outstanding stock of debt (at 10 and 21 percent of GDP, respectively). The corporate debt markets in Latin America are still very small, with the exception of Chile, where they represent almost 14 percent of GDP; they are close to nonexistent in most of the Central European countries.

[14] See IMF, 2005 for a discussion about corporate financing in emerging markets

Table 1. Issuance by the Private Sector, 1997–2003
(In billions of U.S. dollars)

	1997	1998	1999	2000	2001	2002	2003
Emerging markets [1/]	**321.69**	**278.06**	**252.55**	**381.65**	**252.42**	**533.30**	**714.03**
Domestic	***224.27***	***230.20***	***195.34***	***299.65***	***201.12***	***491.16***	***652.52***
Equities	33.58	45.14	53.35	33.26	30.77	21.94	46.49
Bonds	11.54	10.08	12.07	71.92	96.16	91.07	76.98
Bank loans	179.15	174.98	129.91	194.46	74.19	378.16	529.05
International	***97.41***	***47.86***	***57.21***	***82.00***	***51.30***	***42.13***	***61.50***
Equities	15.41	5.69	11.59	30.33	8.59	8.90	13.23
Bonds	36.01	18.72	17.02	15.30	16.55	9.25	19.63
Bank loans	45.99	23.46	28.59	36.37	26.16	23.99	28.64
Asia	**143.23**	**179.13**	**269.32**	**265.00**	**214.24**	**496.66**	**582.83**
Domestic	***105.82***	***170.42***	***252.95***	***233.06***	***192.61***	***480.14***	***554.18***
Equities	23.03	26.12	44.36	24.48	21.28	19.12	44.90
Bonds	0.00	0.00	0.60	19.05	33.62	44.19	36.97
Bank loans	82.79	144.30	207.99	189.53	137.72	416.83	472.31
International	***37.41***	***8.71***	***16.37***	***31.94***	***21.63***	***16.52***	***28.65***
Equities	6.99	3.44	9.70	22.07	7.19	5.31	10.59
Bonds	11.04	1.38	2.39	5.38	6.62	2.38	5.59
Bank loans	19.38	3.90	4.28	4.48	7.81	8.83	12.47
Central Europe	**42.49**	**36.09**	**30.84**	**15.97**	**-0.65**	**34.76**	**29.04**
Domestic	***29.74***	***26.98***	***21.05***	***0.23***	***-8.77***	***22.13***	***10.60***
Equities	2.70	9.61	4.45	5.22	2.18	1.84	1.31
Bonds	0.46	0.38	0.68	0.98	0.97	1.51	2.37
Bank loans	26.59	16.99	15.92	-5.96	-11.92	18.79	6.92
International	**12.75**	**9.11**	**9.78**	**15.74**	**8.12**	**12.63**	**18.44**
Equities	3.08	2.18	1.22	3.19	0.24	1.59	1.81
Bonds	4.21	3.03	2.33	1.36	2.39	3.39	5.71
Bank loans	5.46	3.90	6.23	11.18	5.49	7.65	10.91
Latin America	**135.97**	**62.84**	**-47.61**	**100.68**	**38.83**	**1.88**	**102.15**
Domestic	***88.71***	***32.80***	***-78.66***	***66.35***	***17.27***	***-11.11***	***87.74***
Equities	7.86	9.41	4.55	3.56	7.31	0.98	0.28
Bonds	11.08	9.70	10.79	51.89	61.57	45.37	37.64
Bank loans	69.77	13.69	-94.01	10.90	-51.61	-57.46	49.83
International	***47.26***	***30.04***	***31.06***	***34.33***	***21.56***	***12.98***	***14.41***
Equities	5.33	0.07	0.67	5.07	1.16	2.00	0.83
Bonds	20.77	14.31	12.30	8.55	7.54	3.47	8.33
Bank loans	21.16	15.66	18.08	20.70	12.86	7.51	5.26

Sources: Dealogic; IMF, *International Financial Statistics*; S&P EMDB; and Hong Kong SAR Monetary Authority

[1/] Emerging markets: China, India, Malaysia, South Korea, Thailand, Argentina, Brazil, Chile, Colombia, Mexico, Czech Republic, Hungary, Poland, Russia, and Turkey.

Table 2. Outstanding Domestic Debt Securities
as of 30 September 2004
(In percent of GDP)

Countries by Region	Total Outstanding Debt Securities	Governments	Corporate Issuers	Financial Institutions
Asia				
China	31.9	20.3	0.9	10.7
India	36.0	35.4	5.4	0.2
Malaysia	102.8	43.6	43.4	15.8
Korea	81.1	24.2	24.8	32.0
Thailand	42.1	24.1	12.9	5.0
Latin America				
Argentina	17.3	6.7	6.6	4.0
Brazil	65.0	52.0	0.7	12.3
Chile	57.0	29.4	13.5	14.2
Colombia	33.1	32.5	0.6	0.0
Mexico	26.9	23.5	2.6	0.8
Central Europe				
Czech Republic	63.4	55.8	4.1	3.3
Hungary	58.0	52.8	1.3	3.9
Poland	37.8	37.8	0.0	0.0
Russia	3.7	3.7	0.0	0.0
Turkey	60.9	60.9	0.0	0.0
Mature Markets				
Australia	61.8	16.4	17.8	27.6
Canada	83.2	61.0	10.5	11.7
Hong Kong SAR	28.8	10.0	3.4	15.5
Japan	189.5	145.1	16.9	27.5
Singapore	68.8	45.3	5.8	17.6
United States	169.5	49.1	23.4	97.0

Sources: BIS, IMF and JPMorgan.

Notes

1. According to the BIS, domestic debt securities are defined as those that have been issued by residents in domestic currency and targeted at resident investors.
2. The figures on outstanding debt securities are obtained from the BIS. The definition and coverage of each sector may be different from IMF methodology (see BIS, 2003 for details).
3. In case of India, the figure for outstanding corporate bonds is obtained from the JPMorgan Local Market Guide, February 2005. The BIS number for Indian public sector domestic securities excludes those of government-guaranteed bodies while the figure for Indian corporate sector issues only covers commercial paper since, according to the BIS, no data on issues of corporate bonds are available.

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