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India's Bond Market—
Developments and Challenges
Ahead

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Abstract

While India boasts a world-class equity market and increasingly important bank assets, its bond market has not kept up. The government bond market remains illiquid. The corporate bond market, in addition, remains restrictive to participants and largely arbitrage-driven. Securitization, which once had the jump on other Asian markets, has failed to take off.

To meet the needs of its firms and investors, the bond market must therefore evolve. This will mean creating new market sectors such as exchange-traded interest rate and foreign exchange derivatives contracts. It will mean relaxing exchange restrictions, easing investment mandates on contractual savings institutions, reforming the stamp duty tax, and revamping disclosure requirements for corporate public offers. This paper reviews the development and outlook of the Indian bond market. It looks at the market participants—including life insurance, pension funds, mutual funds and foreign investors—and it discusses the importance to development of learning from the innovations and experiences of others.

Keywords: India, emerging East Asia, bond market, securitization, collateralized borrowing and lending obligations (CBLO)

JEL Classification: F3, G2, K2, O5

I. Introduction

The Indian financial system is changing fast, marked by strong economic growth, more robust markets, and considerably greater efficiency. But to add to its world-class equity markets, and growing banking sector, the country needs to improve its bond markets. While the government and corporate bond markets have grown in size, they remain illiquid. The corporate market, in addition, restricts participants and is largely arbitrage-driven.

To meet the needs of its firms and investors, the bond market must therefore evolve. This will mean creating new market sectors such as exchange traded interest rate and foreign exchange derivatives contracts. It will need a relaxation of exchange restrictions and an easing of investment mandates on contractual savings institutions to attract a greater variety of investors (including foreign) and to boost liquidity. Tax reforms, particularly stamp duties, and a revamping of disclosure requirements for corporate public offers, could help develop the corporate bond market. And streamlining the regulatory and supervisory structure of the local currency bond market could substantially increase efficiency, spurring innovation, economies of scale, liquidity and competition. Such reforms will help level the playing field for investors.

In deciding the course for reform, however, the innovations and experiences of markets in the region are also important. Developing markets often mimic more advanced European and North American markets. But complex structures designed for diverse developed markets are sometimes ill-suited to less-developed economies. Instead, looking to neighboring, emerging markets at similar stages of development can be more useful. For example, India's unique collateralized borrowing and lending obligations (CBLO) system and its successful electronic trading platform could usefully be studied by its neighbors, many of which suffer from limited repo markets or which have (like India) tried unsuccessfully to move bonds on to electronic platforms. India could benefit, by contrast, from the lessons of its neighbors in developing its corporate bond market.

This paper reviews these issues and discusses policies that can help further develop India's debt market. Section II highlights and compares market development and outlook to emerging East Asian economies. Sections III and IV summarize salient characteristics, reforms and obstacles. Section V discusses the development and prospects for India's securitization market. Section VI looks at the main market participants and the depth of the pool of available investors, arguably the most significant factor in market development. Section VII tackles policy issues. And Section VIII concludes with a look at the importance of the lessons and innovations of other countries.

II. Development and Outlook: Illiquid and Lagging, but Growing

India's economy has expanded an average of about 8.5% annually for the past 4 years, driven by rising productivity and investment. After rising sharply in early 2007, inflation has ebbed, and the current account deficit has moderated. India's bright prospects have attracted record capital inflows, even amid heightened global uncertainty and slowing growth in the United States (US).

The Indian financial system is now in a process of rapid transformation marked by strong economic growth, increased market robustness, and a considerable increase in efficiency.¹

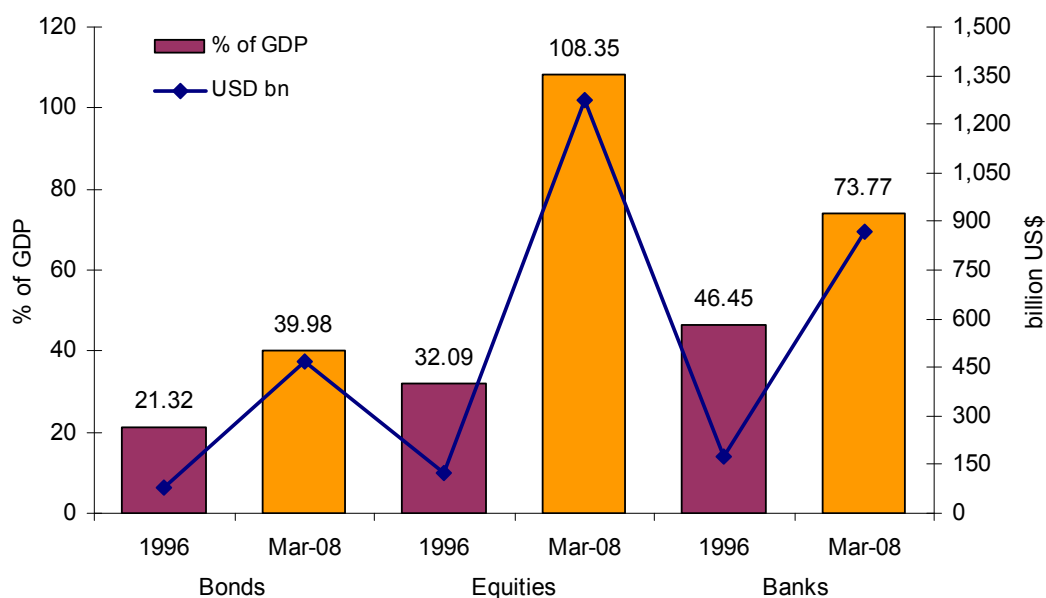
¹ ADB has disbursed loans and technical assistance to develop India's capital market in areas that include regulation and supervision of derivative instruments, development of secondary debt market, and development and reform of mutual fund industry, among others.

Bank and financial intermediation, however, remain undeveloped with respect to lending and deposits, and most banks remain largely controlled by public sector institutions, limiting the development of a true credit culture, the skills to assess credit risks, and a willingness to accommodate any but the lowest risk borrowers.

Overseas investors bought a net USD19.5 billion of stocks and bonds during 2007, compared with the previous record of USD8.9 billion in 2006. The current year has seen net outflows in the first 9 months totaling USD6.9 billion. The bank rate is currently 6% (July 2008) and longer-term deposit rates have risen around 50 basis points (bp) to 9.55% in recent months. Real estate markets have been buoyant, although they have cooled recently, and the banking system remains sound and well capitalized. In March 2008, the capital adequacy ratio stood at 13.1%, well above the 8% minimum prescribed under the Basel I accord. Amid strong credit growth, the ratio of scheduled commercial banks' gross nonperforming loans (NPLs) to advances has fallen to 2.4% in March 2008 from 10.4% in March 2002.²

India has developed a world-class equities market from relatively unpromising beginnings. Since 1996, the ratio of equity market capitalization to gross domestic product (GDP) has more than trebled to 108% (down from 130% in September 2007), from 32.1% in 1996 (**Figure 1**). During the same period the banking sector expanded to 74% of GDP from 46.5%. In contrast, the development of government and corporate bond markets has not been so fast: the bond market grew to a more modest 40.0% of GDP, from 21.3%. In March 2008, the government bond market represented 36.1% of GDP, compared with the corporate bond market, which amounted to just 3.9% of GDP (**Table 1**).

Figure 1: Financial Sector Development in India



Sources: Data for bonds sourced from Bank for International Settlements; equities from World Federation of Exchanges; and bank credit from CEIC.

² Source: Banking statistics—*RBI Monthly Bulletin*: December 2007.

Table 1: India and EEA Bond Markets (% of GDP), March 2008

	Government	Corporate	Total
China, People's Rep. of	46.1	4.7	50.8
Hong Kong, China	8.7	35.3	44.0
Indonesia	17.1	2.0	19.1
Korea, Rep. of	48.8	61.8	110.6
Malaysia	48.1	37.5	85.6
Philippines	33.3	3.5	36.8
Singapore	41.2	30.7	72.0
Thailand	40.7	15.9	56.6
Viet Nam	14.6	2.1	16.7
India	36.1	3.9	40.0

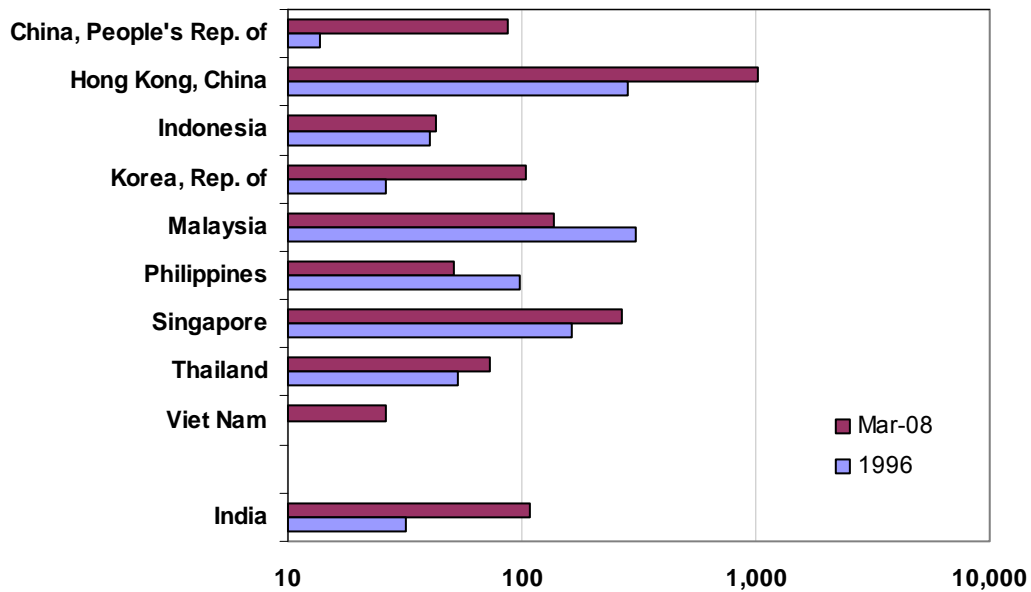
Sources: AsianBondsOnline, Bank for International Settlements, and Reserve Bank of India.

Trading in derivatives started in 2000 and the Indian market is now the tenth largest in the world for futures contracts on single stocks and indexes and the largest for futures on single stocks. Commodity markets have also developed. Three new markets were created in 2000, based on National Stock Exchange (NSE) architecture. However, of the 94 commodities traded, gold and silver account for half of turnover: by 2006 India had become home to the world's third largest derivative market for gold.

With the strong growth in equity markets, at a time when India's GDP has itself been increasing more rapidly, it is similar in terms of % of GDP to Korea and relatively larger than other emerging East Asia equity markets, with the exception of Hong Kong, China; Singapore; and Malaysia (**Figure 2**). Equity trading languished in the early 2000s, when world equity markets were falling and Indian government debt was rising strongly, but has risen since.

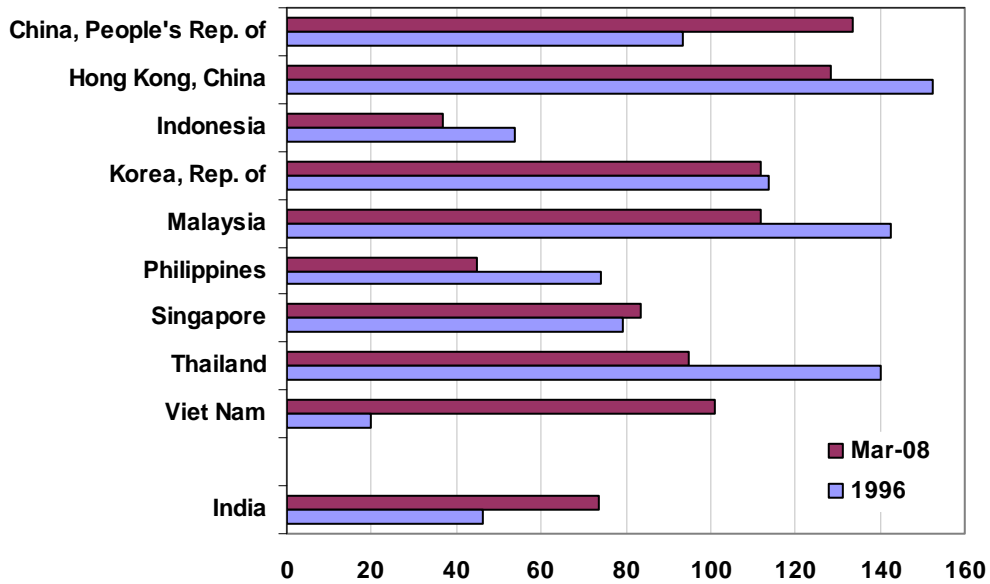
As is common in the region, India is a bank-dominated market (**Figure 3**), and the relative importance of bank assets as a percentage of GDP has continued to grow—partly as banking penetration has deepened with financial liberalization, and partly as a result of the ongoing need for deficit financing. However, the ratio of bank assets to GDP is still low by comparison with other emerging East Asian economies, indicating that India still has some way to go before its banking sector is fully developed. The same pattern is also seen in the People's Republic of China (PRC), which like India has a largely state-owned/controlled financial sector. Other emerging East Asia markets have seen a decline in banking assets as a percentage of GDP since 1996, reflecting greater diversification into other forms of finance, especially for corporate borrowers.

Figure 2: Equity Market Capitalization (% of GDP)



Sources: AsianBondsOnline and World Federation of Exchanges.

Figure 3: Bank Assets (% of GDP)



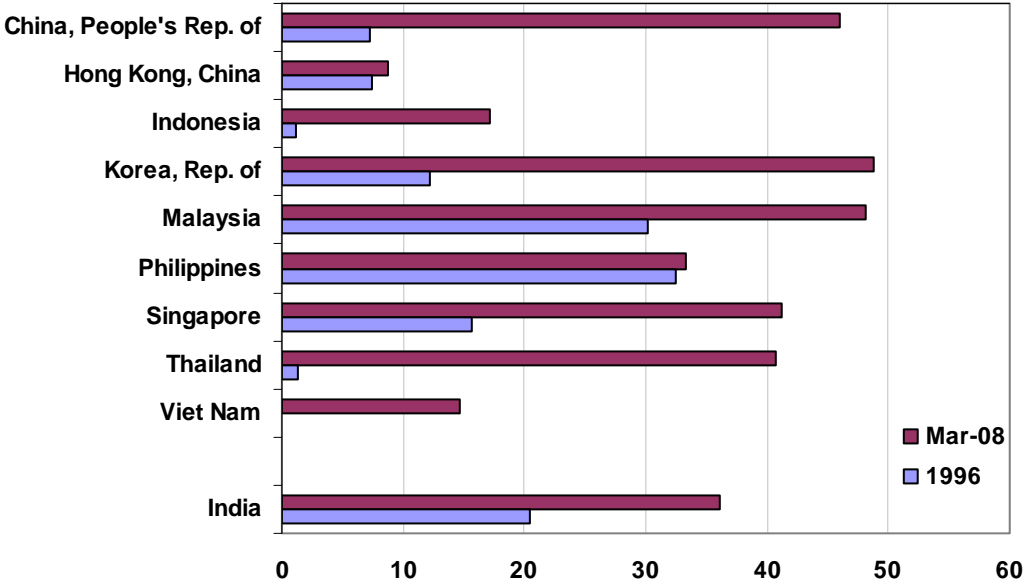
Sources: AsianBondsOnline; Reserve Bank of India; *International Financial Statistics*, International Monetary Fund; and CEIC.

The Indian bond market is, however, less well-developed. While having seen rapid development and growth in size, the government bond market remains largely illiquid. Its corporate bond market remains restricted in regards to participants, largely arbitrage-driven (as opposed to driven by strategic needs of issuers) and also highly illiquid. The lack of development is anomalous for two reasons: First, India has developed world-class markets for equities and for equity derivatives supported by high-quality infrastructure. And second, the infrastructure for the bond market, particularly the government bond market, is similarly of high quality.

Relatively weak development of bond markets is not unusual in the region, indeed in many ways the Indian market shows stronger progress—for example in the use of sophisticated and innovative tools such as collateralized lending and borrowing agreements—but it is the rapid development of its other markets which is in such stark contrast to its bond markets.

India’s government bond market has grown steadily—largely due to the need to finance the fiscal deficit—and is comparable to many government bond markets in emerging East Asia. At 36% of GDP, the Indian government debt market compares well with the markets of its neighbors (**Figure 4**). In absolute terms, however, given India’s greater overall size, the Indian government bond market is considerably larger than most other emerging East Asian markets (**Table 2**). The need to finance a large fiscal deficit has stimulated issuance and growth of the government bond market. Since 1992, deficit finance has relied increasingly on borrowing from the market rather than the previous policy of monetizing the deficit. The government market comprises approximately 104 issues with a total nominal value of about USD364 billion.

Figure 4: Government Bonds (% of GDP)



Sources: AsianBondsOnline, Bank for International Settlements, and Reserve Bank of India.

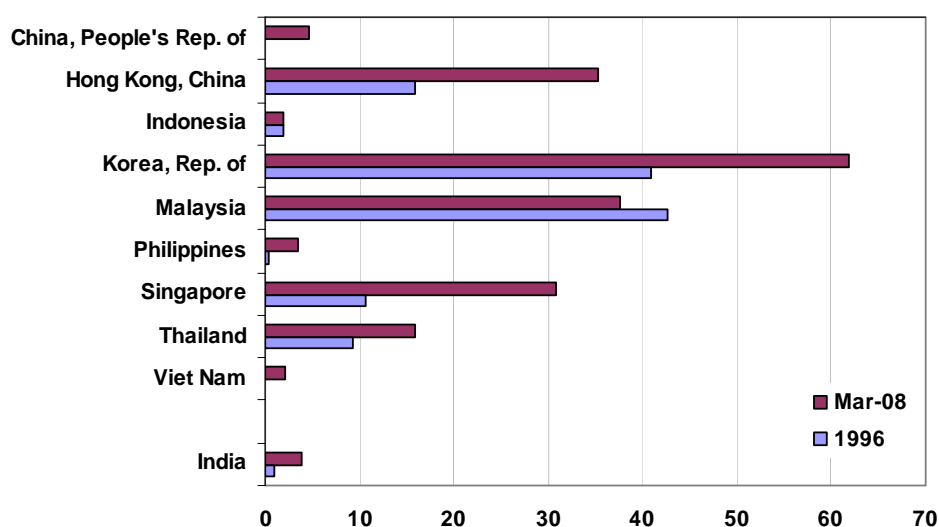
Table 2: India and EEA Bond Markets (in US\$ billion), March 2008

	Government	Corporate	Total
China, People's Rep. of	1,712.93	175.16	1,888.10
Hong Kong, China	18.41	74.96	93.37
Indonesia	77.23	9.13	86.36
Korea, Rep. of	450.49	570.48	1,020.97
Malaysia	101.30	79.00	180.30
Philippines	54.50	5.68	60.17
Singapore	74.93	55.87	130.80
Thailand	112.31	44.00	156.31
Viet Nam	10.76	1.56	12.32
India	423.97	45.79	469.76

Sources: AsianBondsOnline, Bank for International Settlements, and Reserve Bank of India.

The corporate bond market is less developed than most in emerging East Asia, with private placements dominating. At 3.9% of GDP, corporate bonds are comparable to levels in the Philippines and Indonesia, where corporate finance is less well-developed, as well as with the People's Republic of China (PRC) and Viet Nam, where state-ownership remains dominant (**Figure 5**). That said, corporate bond markets remain small in much of the region with the exception of the Republic of Korea (Korea) and Hong Kong, China. Even in absolute terms India's corporate bond market is minuscule in relation to its economic size. The role of various sources of corporate finance demonstrates that there is no single model for corporate finance—some economies rely more heavily on equity finance, while others more on bank finance. However, few rely so little on corporate bonds as India does.

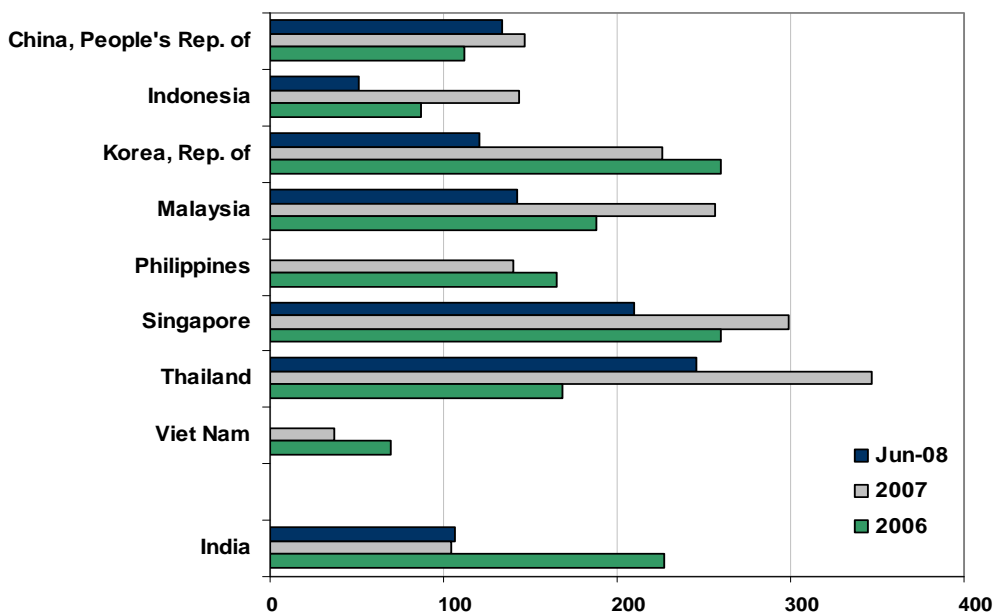
Figure 5: Corporate Bonds (% of GDP)



Sources: AsianBondsOnline, Bank for International Settlements, and Reserve Bank of India.

The turnover ratio for government bonds is lower than in most markets in emerging East Asia—the corporate ratio compares well, but the small number of outstanding bonds means the secondary market is small and illiquid. The turnover ratio for Indian government bonds, in 2007 was 104%, meaning that, on average, government bonds changed hands slightly more than once a year.³ Although some caution is necessary when making international comparisons because of differing methodologies,⁴ government bond market turnover ratios in other emerging East Asian markets were higher (**Figure 6**). Ratios in Korea, PRC, and Indonesia were around 150% in 2007; in Malaysia the ratio exceeded 250% and Thailand over 350% (albeit an unusually high figure for Thailand reflecting unusual political circumstances). Elsewhere, the ratio in Japan is over 500%, in Australia over 600%, while the US; Canada; and Taipei,China have ratios well over 2,000%. Hong Kong, China had a ratio of over 9,000% in 2007.

Figure 6: India and EEA Government Securities Turnover (% Average Outstanding)



Data for India for June 2008 covers January to March 2008 only.

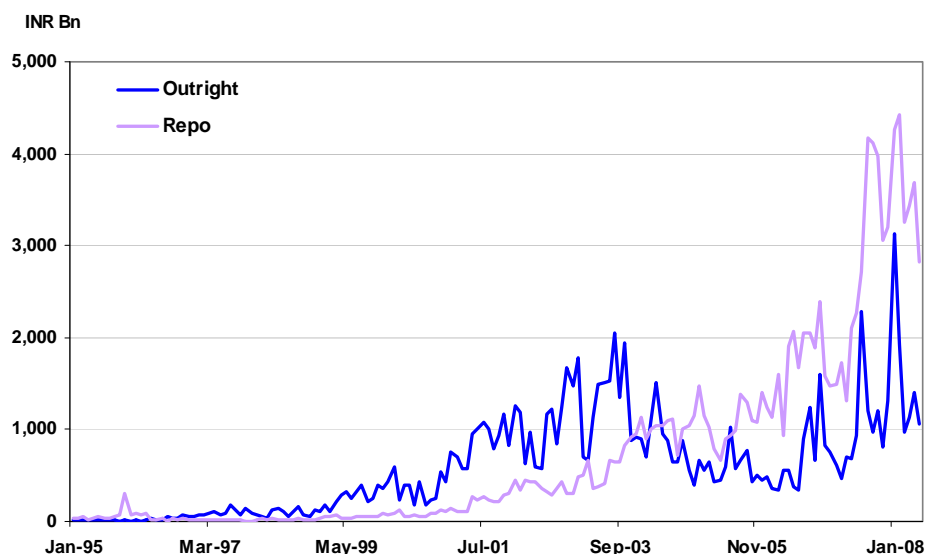
Sources: AsianBondsOnline, Reserve Bank of India and Clearing Corporation of India Ltd.

³ Turnover ratio is calculated as 12 months trading as a percentage of market capitalization.

⁴ Indian banks and some other investors are required to hold a certain percent of their assets in government bonds. These holdings can be traded but arguably the “free float” of Indian government bonds is likely to be quite low, hence the caution of too much reliance on turnover ratios.

Government bond turnover fell away from a peak in 2003 but has since recovered and is currently rising on a strong but volatile trend. Turnover of repurchase agreements (repo) continues to increase as more borrowers use them as a financing tool and is now considerably larger than government bond market turnover by investors (**Figure 7**). Illustrating the relative illiquidity of the government bond market is the low level of traded bonds—in the 12 months to July 2007 only 22 of the 95 bonds traded on more than 100 days and only 8 traded on more than 200 days. (**Table 3**). Liquidity is clearly concentrated in a few bonds and does not extend along the length of the yield curve, which has emerged over a spectrum of 30 years. It is highly concentrated in 10-year issues (bonds maturing in 2016–17 comprised 50% of all trading) and 5-year issues (bonds maturing in 2010–12 were 20% of all trading).

Figure 7: Government Securities Turnover



Source: Reserve Bank of India.

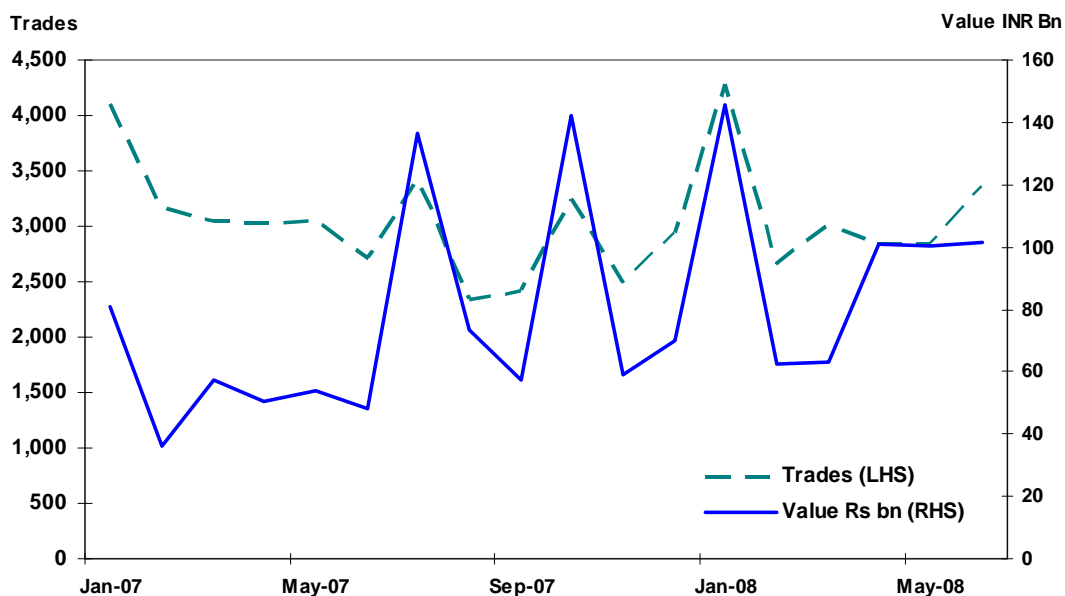
Table 3: Government Bonds – Days Traded
(Aug 2007 – July 2008)

Days Traded	Number of Stocks
Over 200	8
150-199	6
100-149	8
50-99	18
25-49	8
Below 25	27
0	20
Total	95

Source: Clearing Corporation of India Ltd.

Until 2007, information on Indian corporate bond market turnover was incomplete and largely anecdotal. In 2007, however, the Securities and Exchange Board of India (SEBI) launched initiatives to ensure more comprehensive reporting of the over-the-counter (OTC) bond market (**Figure 8**). Current volumes are running at low levels—around 140 transactions amounting to about USD80 million per day. But corporate bond markets worldwide are typically illiquid,⁵ so it may be overly optimistic to expect India to develop a uniquely liquid corporate bond market. Nonetheless, a more liquid market should eventually contribute to lower costs of capital for issuers. India’s corporate turnover ratio is quite high at 70% in 2007, comparing favorably with most other emerging East Asian corporate bond markets (**Figure 9**). However the small total of outstanding corporate bonds in India means that the secondary market is small and relatively illiquid, irrespective of the turnover ratio. The same is also true for the PRC, which has a high turnover ratio and a very small value of corporate bonds outstanding (relative to GDP).

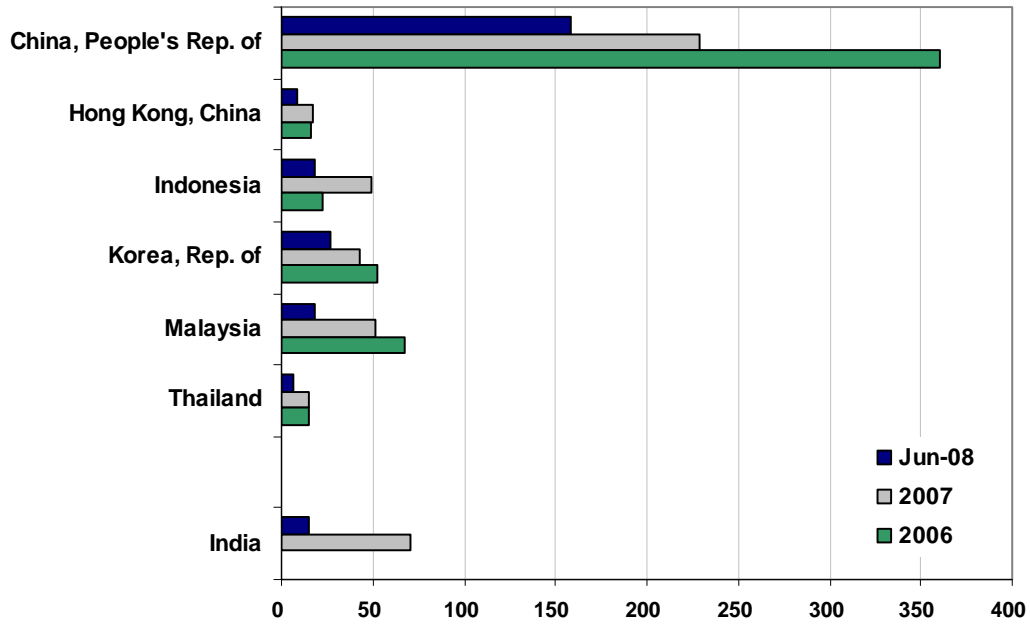
Figure 8: Corporate Bond Turnover



Source: Securities and Exchange Board of India.

⁵ Corporate bond markets even in developed markets—for example the Eurobond market—are notoriously illiquid with most bonds only trading actively for a brief period after issue and around the time of significant events, such as re-rating or redemption. They also tend to be institutional markets, so such trading as occurs tends to be in large blocks, putting further pressure on liquidity.

Figure 9: Indian and EEA Corporate Bonds Turnover (% of Average Outstanding)



Data for India for June 2008 covers January to March 2008 only.

Sources: AsianBondsOnline and Securities and Exchange Board of India.

Box 1: Reforming Finance for Development

Economic growth in India has picked up in recent years, and like other integrating Asian economies, it too requires large amounts of efficiently intermediated capital to sustain its development. However, an important constraint to financial reform has been dealing with the vestiges of financial “repression”—deliberate policies that crowd out the private sector from credit markets and limit the ability of financial markets to develop as intermediaries for saving.

Years of deficit financing have led to large-scale intervention and state ownership of financial intermediation. High statutory reserve requirements, extensive directed lending to priority sectors (including mandatory holdings of government securities by banks), regulated interest rates, credit ceilings, and other controls are examples.

Financial Market Liberalization

Reforming and liberalizing financial markets began in the wake of the country's 1991 balance-of-payments crisis. The thrust of these reforms was to promote a diversified, efficient and competitive financial system, with the ultimate objective of improving the allocation of resources through operational flexibility, improved financial viability, and institutional strengthening. The pace of reform was, however, slower than those in product markets, partly because the introduction of stricter prudential controls on banks revealed significant problems in asset portfolios. Prior to the reforms, state-owned banks controlled 90% of bank assets—compared with approximately 10% at end-2005—and channeled an extremely high proportion of funds to the government. Interest rates were determined administratively; credit was allocated on the basis of government policy and approval from the Reserve Bank of India (RBI) was required for individual loans above a certain threshold. Capital markets were underdeveloped, with stock markets fragmented across the country. The major stock market¹ acted mainly in the interest of its members, not the investing public. Derivative markets did not exist and comprehensive capital controls meant that companies were unable to bypass domestic controls by borrowing abroad.

Concerns over the 1997/98 Asian financial crisis and its contagion effects further spurred Indian authorities to strengthen the domestic financial system. Reforms were, and continue to be, based on several principles: (i) mitigate risks in the financial system; (ii) efficiently allocate resources to the real sector; (iii) make the financial system competitive globally; and (iv) open the external sector. The goal was to promote a diversified, efficient, and competitive financial system which would ultimately improve the efficiency of resource allocation through operational flexibility, enhanced financial viability, and institutional strengthening.

Banking Sector Reform

Reform of the banking system has been gradual and sequenced, focusing on improved prudential control, recapitalization of public-owned banks, and the introduction of greater competition. Reforms have included the establishment in 1994 of a Board of Financial Supervision within Reserve Bank of India; substantially tightened rules on bad loans, and convergence of regulatory norms with international best practices. Various legal and technology-related measures have likewise been implemented, such as the strengthening of credit information and creditors' rights, and the development of a dedicated communication backbone for banks.

Work to introduce the new Basel II regulatory system is underway and a pilot project was launched in 2003 to operate a risk-based supervision system. The introduction has, however, been postponed to 2009 for banks with only domestic operations, and to 2008 for other banks as it takes time to raise capital. Enhanced competition has also been introduced by allowing new entries into the market. A dozen private Indian banks have been created and about 30 new foreign banks had entered the market and started operations by end-2006. Prudential reforms have been implemented. But while interest rates have been deregulated, controls remain in four areas—savings deposit accounts, small

¹ A number of exchanges exist, the National Stock Exchange of India Limited (NSE) and the Bombay Stock Exchange are the two most significant stock exchanges in India, and between them are responsible for the vast majority of share transactions.

loans in priority areas, export credits, and nonresident transferable rupee deposits. The reduction in the lending requirement to government from 63.5% to 30.0% of bank assets has given banks greater lending latitude. Other measures include ending the RBI's participation in the primary market for government securities and lending to the government; removal of the legal ceiling on the statutory liquidity ratio; and abolishment of limits on both the floor and ceiling of the cash reserve ratio, allowing RBI to alter these ratios depending on prevailing monetary and economic conditions.

Banking sector reforms have been sequenced to correspond with changing regulations of the foreign exchange market. The government has allowed the exchange rate to gradually float (as opposed to a "crawling" peg), and full current account convertibility has been introduced, with *de facto* capital account convertibility for nonresidents, and calibrated liberalization for residents. Other recent measures include foreign participation in the Indian foreign exchange market, unlimited hedging of genuine foreign exchange risk, and the introduction of new instruments such as interest rate and currency swaps, options, and forward contracts.

Capital Market Reforms

Significant effort has similarly gone into strengthening India's capital markets, particularly through the creation of various institutions such as the Securities and Exchange Board of India (SEBI) in 1992, an insurance market regulator in 1999, and a pension market regulator in 2004. The National Stock Exchange (NSE)—one of the first in the world to have a corporate structure—was likewise created in the mid-1990s. This has developed into the world's third largest exchange in terms of number of transactions, with foreign shareholders approved to own up to a maximum of 26% (the amount allowed by FDI regulations).

In contrast to equity markets, the government and corporate bond markets have been held back by the more restrictive regulatory framework. A number of reforms were introduced to the government bond market in 1992 when the price of newly-introduced bonds was set by auction. But it was not until 2005—11 years after the equity market—that bond market became an electronic order limit market. Several measures were implemented to minimize risks in equities trading and to create a national market in stocks. These included the introduction of a clearing and settlement system, creation of a centralized counterparty for transactions, establishment of a modern depository system for stocks, and a shift from a relatively primitive carry-forward system to the introduction of futures contracts. Trading in derivatives on the NSE started in 2000—the Indian market is now the tenth largest globally for futures contracts on single stocks and indexes and the largest for futures on single stocks.

As part of the package of financial reforms, commodity exchanges were also fundamentally overhauled. Starting in the mid-1990s, the commodity market regulator began to reform the domestic markets and while initial attempts were unsuccessful, three new markets were eventually created in 2000 based on the architecture of the NSE.

Since the mid-1990s, the Indian financial system has been steadily if incrementally deregulated and more exposed to international financial markets. Its rapid transformation has been accompanied by strong economic growth, increased market robustness, and a considerable increase in efficiency. Reforms are continuing with the development of appropriate market regulation and an associated payment and settlement system, as well as greater integration into global financial markets.

The financial market as a whole, however, remains subject to a number of constraints that need to be eased if efficiency is to improve further. The level of bank and financial intermediation remains low, for instance, both with respect to lending and deposits, and most banks remain largely controlled by public sector institutions. While household savings are high, individuals generally prefer to invest in real assets and gold rather than in financial assets.

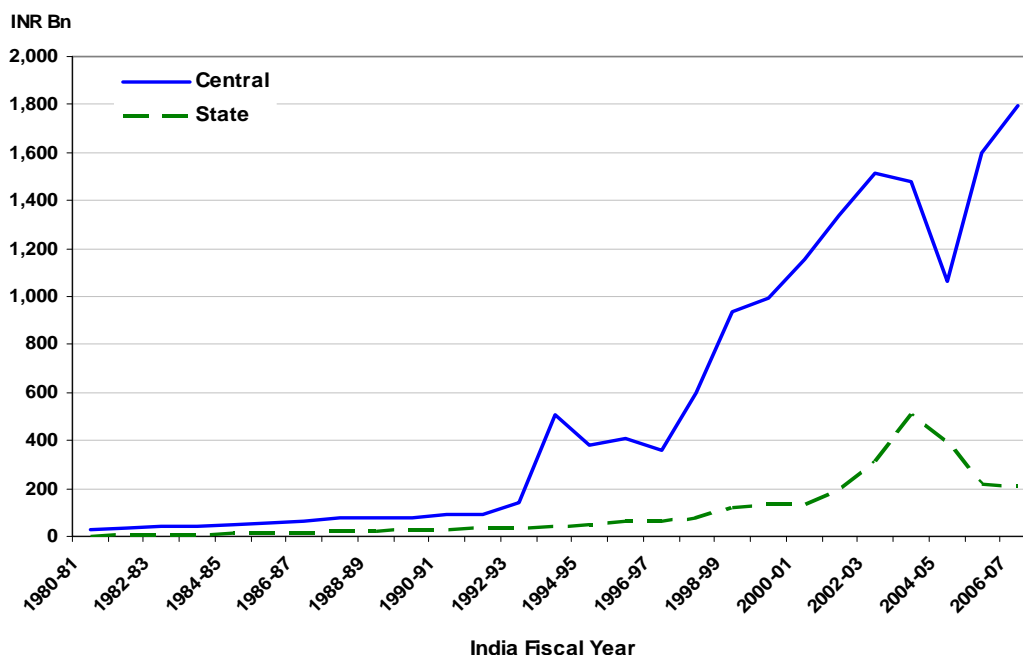
A major challenge is thus to deepen financial intermediation. This can be achieved by further improving the environment for financial investment through better regulation, greater transparency, and generally stronger institutions and legal frameworks.

III. Government Bonds: Reforms Proceed, Development Lags

A. Key Developments

The government bond market has developed steadily—with an increased supply of bonds, market reforms, and infrastructure enhancements—while new fiscal discipline aimed at controlling the deficit may reduce new bond issuance. Indian government borrowing since the late 1990s has been large and has grown rapidly. Government deficits have also been large. The revenue deficit increased to 5% of GDP in fiscal year 2001–02. Since then, although the deficit appears to be more under control at about 2.5% of GDP, growth has remained strong and suggests the actual deficit has continued to increase, calling for further government borrowing (Figure 10).

Figure 10: Indian Government Market Borrowing



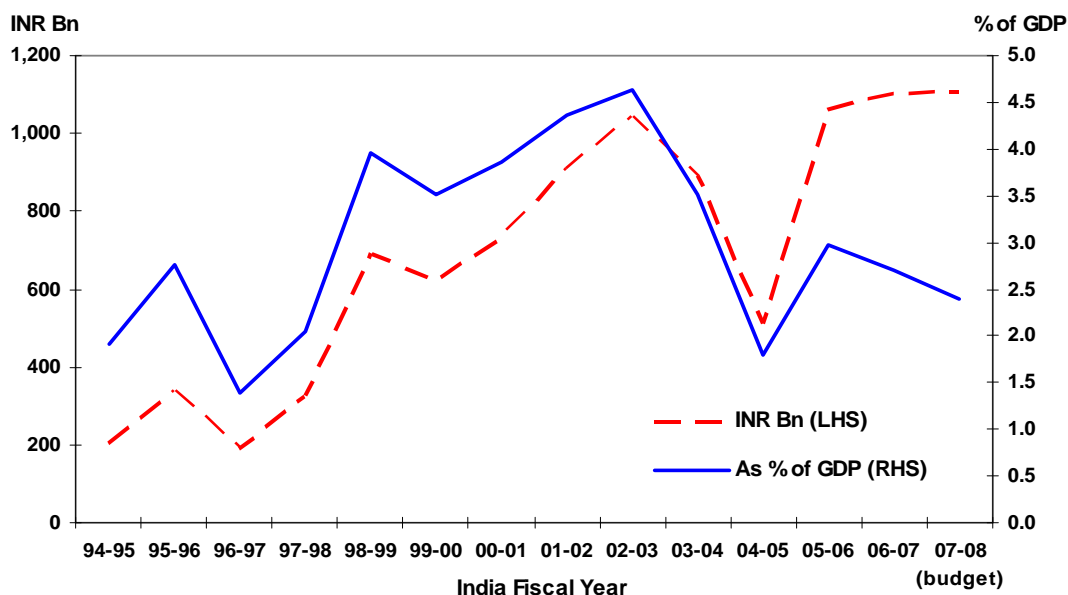
Source: Reserve Bank of India.

The enactment of the Fiscal Responsibility and Budget Management Act (FRBM) in 2003 was the culmination of a lengthy attempt to devise a control strategy for public finances. The act requires the government to follow a strategy to reduce the fiscal deficit to less than 3% of GDP by 2009. Additionally, the government is required to produce a Medium Term Fiscal Policy Statement as part of the annual budget, in which it explains the sustainability of policies, how they are consistent with the FRBM, and to make projections for the current and following 2 years.

The discipline this has imposed has led to the possibility of breaking the upward momentum of the absolute deficit—though it has shown considerable volatility over the past few years. More importantly, the sharp acceleration in GDP growth since 2001 has led to a major decline in the deficit as a proportion of GDP. From its peak in 2001–02 the percentage has declined

substantially, and is now below the FRBM target for 2009. Despite the progress, however, government borrowing remains high in absolute terms and is highly volatile (**Figure 11**). And government demands on the market remain large, with outstanding debt at more than 90% of GDP.

Figure 11: Government Borrowing for Deficit Financing



Source: Reserve Bank of India.

The RBI operates the government bond market, and therefore acts as monetary authority and debt manager, as well as regulator of the government bond market and its key participants—primary dealers and banks.⁶ Other participants are regulated by SEBI, the Insurance Regulatory and Development Agency (IRDA), or the Provident Fund regulator. New securities are issued by auction, with primary dealers required to participate. Trading is a mix of OTC bilateral negotiation and an order matching system. Banks and primary dealers are the main participants, but other investors have access to trading. Some limited retail trade occurs on the stock exchanges. Bond holdings have been dematerialized, existing as entries on the books of depositories. India uses Real-Time Gross Settlement (RTGS) and settlement is done on a net basis using delivery versus payment (DVP).

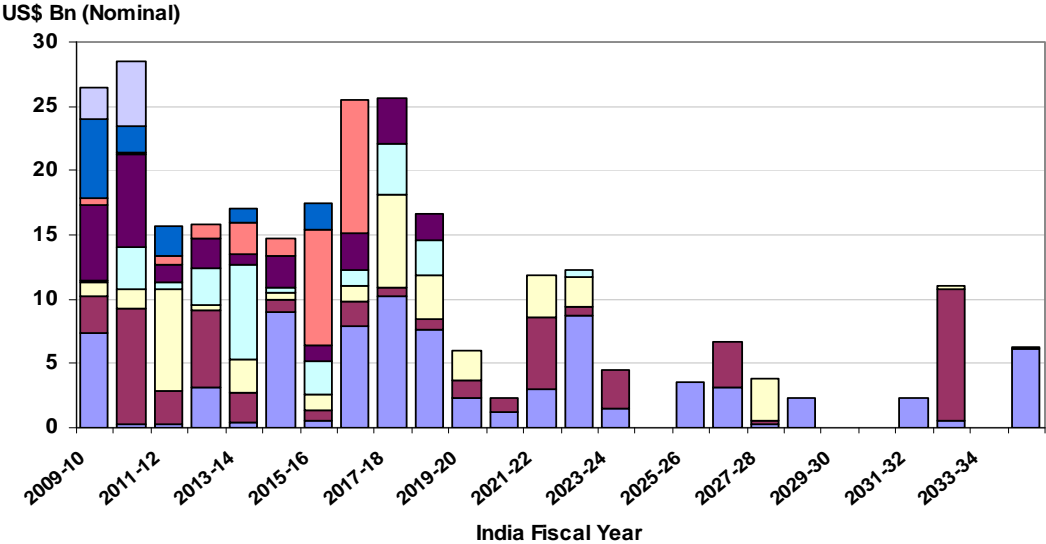
Significant characteristics of the government bond market include (i) a large number of issues that can be quite small; (ii) a large proportion of electronic trading; (iii) the absence of bond-related derivatives—while equity market derivatives are very active; and (iv) statutory requirements on investors.

The government bond market has a long history and, consequently, a very large number of issues—of which many can be quite small. Each column in **Figure 12** represents the total value of the government bonds outstanding that mature in the corresponding year. The splits in each

⁶ The trend in developed countries has been to separate the functions because of potential conflicts of interest and the difficulty of convincing the market that the debt management function is not using monetary policy to manipulate the government bond market. This discussion is occurring in India but a rapid change is not expected.

column represent the value of each individual issue maturing in that year. Thus in 2009–10, eight of the issues are due to mature. It is clear that at most maturities there are several issues, none of which is very large (or therefore very liquid). Other Asian markets have recognized that small issue size does not enhance liquidity. The Philippines, Singapore, and Malaysia are continually increasing benchmark sizes to encourage trading. The Philippines, with a much less-developed local currency debt market, aims to increase benchmark size to between USD1.0–1.5 billion while, for example, Singapore wants to increase benchmark size to USD3–5 billion per issue. India’s issues are an average of less than USD75 million, with the largest below USD350 million—small by the standards of international benchmarks. The RBI has followed a policy of passive consolidation that reduces the number of bonds—the fiscal years 2007/08 and 2008/09 saw the retirement of 14 separate bonds for the addition of four new bonds reducing the number of bonds outstanding by 10 to 95. However, of the four new bonds, only one was over USD2 billion, representing an international benchmark bond, while the other three ranged from USD250 million to USD530 million.

Figure 12: Indian Government Debt by Maturity



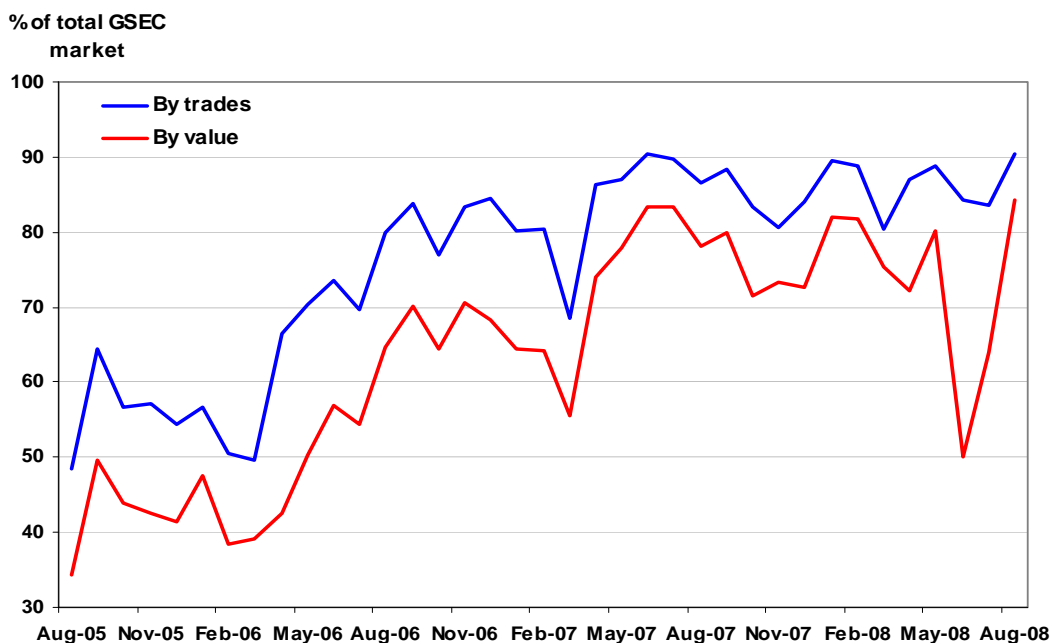
Mix of individual bonds maturing each fiscal year.

Source: Reserve Bank of India.

A significant proportion of trading is conducted electronically. The negotiated dealing system (NDS) allows a range of trading styles including anonymous negotiation and order matching. The order matching system is now the dominant form of trading approaching an unusual 90% of market share (**Figure 13**). Several markets have tried to initiate some form of electronic trading system for government bonds, but none have had as much success as India in attracting significant business.

As with bond markets in emerging East Asia, India has no bond-related derivative market. An attempt to introduce interest rate futures was unsuccessful, largely because banks were only permitted to use the market for specific hedging transactions. By contrast, equity market derivatives have been highly successful in India and now rank among the most traded in the world.

Figure 13: NDS-OM Market Share of Government Securities Trading



NDS refers to negotiated dealing system; OM refers to order matching.

Source: Clearing Corporation of India Ltd.

India retains a number of statutory requirements on investors. Banks, insurance companies, and pension funds are required to hold 25% of assets in government securities. In contrast, foreign investors have only limited access to government securities.

B. Reforms

The Reserve Bank of India has introduced a number reforms since 1992 in an effort to move toward a more transparent and market-driven structure. The process of auctioning new issues was introduced in 1992, replacing the previous system whereby government issues were allocated to investors—largely banks and state-owned investment institutions. Until prohibited under the FRBM in 2006, the RBI frequently intervened in the auction, taking substantial holdings onto its own books (“devolvments”) to ensure the auction achieved the right price.

1. Primary Dealers

Primary dealers were introduced in 1996 to support the auction system. Primary dealers may be independent or may be linked to banks. In 2006, the primary dealer structure was modified to allow banks to operate directly as primary dealers (separate primary dealer subsidiaries of banks were permitted to reintegrate into the parent bank). There are currently six primary bank dealers and 11 “stand-alone” primary dealers. Primary dealers have privileged access to preferential finance at the RBI through the liquidity access facility and through repos. Primary dealers are also given favored access to the RBI's open market operations. They are permitted to borrow and lend in the money market, can raise resources through commercial paper, and have the same access to finance from commercial banks as any other corporate borrower. Issuance is a two-stage process with primary dealers bidding to underwrite the issue and then

bidding for the issue itself. Primary dealers are assessed on their performance in auctions and in the secondary market. The auction process permits noncompetitive retail bids to be submitted through primary dealers.

Models for primary dealerships vary across countries. The purpose is to construct a system, which provides primary dealers sufficient privileges to encourage them to undertake the obligations. The obligations are usually to bid in all auctions and to support some form of continuous secondary market. Privileges usually involve preferential access to central bank finance and some degree of exclusivity in the auction. But not all countries follow the exclusivity model. Thailand for instance allows major (government-sponsored) savings institutions to bid directly for government securities. Other countries allow institutions to make separate bids though these must be routed through primary dealers. The Indian model, however, where primary dealers aggregate interest from their client and submit single bids is the most commonly used.

2. Issuance

A “when-issued (grey) market” was introduced in May 2006. Initially, it was only permitted when the issue was a re-opening of an existing bond (one that was currently trading). The rules were subsequently relaxed to allow when-issued trading in selected new issuances (bonds that were not re-openings of old bonds). This is a relatively sophisticated tool which, while common in developed markets, is not common in Asia, with few exceptions such as Singapore and Hong Kong, China.

Increasingly, issuers of government bonds have come to realize that transparency of issuance allows investors to plan their cash flows and investments more accurately. This prevents the market being distorted by temporary excess supply and ensures better prices. Most issuers now publish some form of timetable of forthcoming issues. In 2001, a published timetable was introduced for Treasury bill auctions but not for longer-dated bonds. In part, this was a consequence of weak control of the budget deficit, leading to frequent revisions in funding requirements during the course of the year. Since September 2006, the RBI has published a yearly issuance timetable for dated bonds.

Indian state governments raise finance through omnibus issues organized by the RBI. State issues are not government guaranteed. The omnibus issues are sold at fixed coupons and prices (the same for every state). Potential buyers subscribe at the fixed-coupon rate for the bonds of a particular state (the amount on issue for each state is not announced). The subscription is closed after 2 days even if some issues are under subscribed.

Current government bonds are fixed-coupon with maturities from 1 to 30 years. The RBI has experimented over the years with a number of different types of bonds. These include (i) zero-coupon bonds; (ii) capital-indexed bonds (inflation-linked principal); and (iii) floating-rate bonds. None has generated much interest and all have now been discontinued. The RBI is now working to develop a market for Separate Trading of Registered Interest and Principal of Securities (STRIPS).⁷

⁷ Separate Trading of Registered Interest and Principal of Securities (STRIPS) allow investors to hold and trade the individual principal and coupon components of eligible Treasury notes and bonds.

3. Short-selling

Primary dealers are obliged to support the secondary market by providing continuous two-way quotes. In practice, until the prohibition on short-selling of government bonds was relaxed, it was difficult for primary dealers to meet this obligation and market opinion was that they did not. Short-selling was absolutely prohibited until March 2006. It was then relaxed, allowing primary dealers and scheduled commercial banks to run intraday short positions. In January 2007, this was further relaxed to allow short positions to run for 5 days. Market opinion is, however, that the remaining restrictions still pose a significant barrier—for example; the limiting of short positions to a maximum of 0.25% of an issue can be restrictive in the case of the many small issues that still exist. However, the direction of policy is clear and the barrier caused by short-selling restrictions is likely to continue to decline in importance.

4. Repo Market

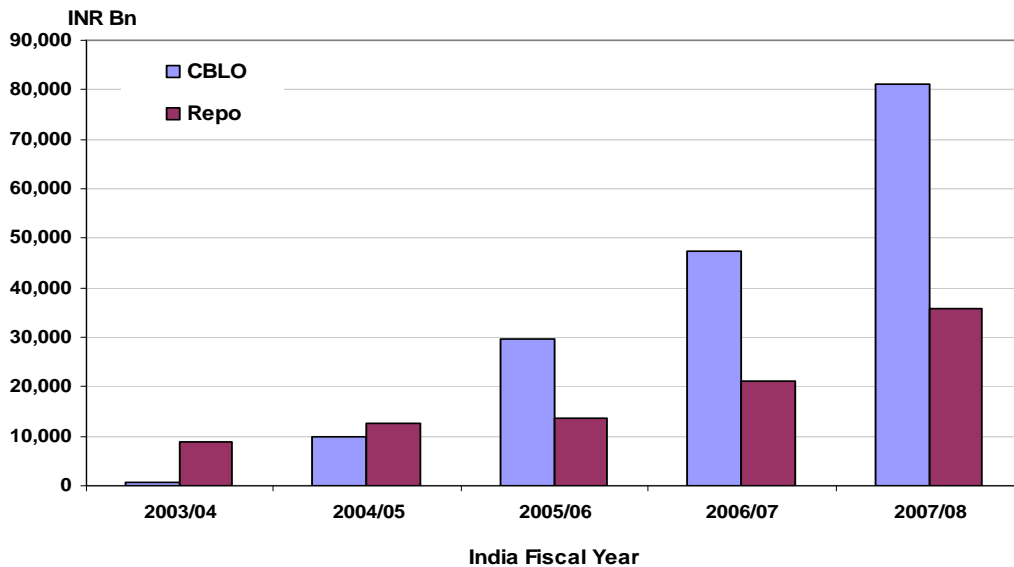
The government bond repo market is open to primary dealers and banks, which are free to repo their non-Statutory Liquidity Reserve (SLR) holdings.⁸ Repo-eligible securities are government bonds, Treasury bills and state government bonds. Repos are almost exclusively between the market and the RBI and there are few third-party repos. They are available for a range of terms but are mostly short-dated. In the current financial year to July (4 months) 72% of repos were overnight and 22% were for 2–3 days. The RBI uses repos and reverse-repos to conduct money market operations. Daily rates are announced and set a band between the repo and reverse-repo rates, where the call money market operates. The volume of repos has grown sharply in recent years though less fast than the volume of Collateralized Borrowing and Lending Obligations (CBLOs) (**Figure 14**). The heaviest borrowers (of cash) in the market are foreign banks (46% in July 2008), public sector banks (33%) and primary dealers (18%).

5. Collateralized Borrowing and Lending Obligations (CBLOs)

The Clearing Corporation of India Ltd. (CCIL), the clearing agency, operates a market for CBLOs—a form of tripartite repo (approved by the RBI) that allows market participants to create borrowing facilities by placing collateral securities (government bonds and treasury bills) at the CCIL. Borrowers can then bid for funds (up to their collateral's value less a discount margin) through the CBLO system—a transparent, electronic order book. CBLOs are an innovative technique unique to India, developed to supplement and possibly supplant the bilateral repo market. Established in 2001, CCIL is India's first exclusive clearing and settlement institution to provide guaranteed settlement facility for transactions in government securities, money market instruments, and foreign exchange. CCIL, owned by industry participants, also manages bond lending transactions and operates the CBLO facility.

⁸ Banks are required to keep a Statutory Liquidity Reserve (SLR) equal to at least 25% of deposit liabilities.

Figure 14: Repo and CBLO Volumes



CBLO refers to Collateralized Borrowing and Lending Obligations.

Source: Clearing Corporation of India Ltd.

CBLOs are offered for a variety of terms—most are overnight (75%) but dates out to 1 year are possible. The CBLO offers significant advantages over repos: (i) the instrument is tradable, allowing a borrower to reverse the position and repay the loan before its term expires; and (ii) CBLOs are considered secure because of the involvement of CCIL as guarantor of each transaction. This means (i) failures are rare, and (ii) CBLOs can be used by participants with lower credit ratings.

There are currently (July 2008) 169 participants in the CBLO market. In July 2008 mutual funds were the largest lenders representing 74% of the market followed by insurance companies representing 11%. The importance of mutual funds has been a persistent feature of the market and is partly a consequence of SEBI rules limiting mutual funds' use of fixed deposits. The main borrowers were public sector banks (46%), private sector banks (15%), and foreign banks (13%)—again a pattern which has persisted during the market's life. The advantages of CBLOs have led to a rapid expansion of the market since its introduction in January 2004. CBLO volumes now outstrip repo volumes by a significant margin.

CBLOs offer a number of advantages to the Indian market:

- Access is open to a wider range of participants than the conventional interbank market—CBLO participants include domestic and foreign banks, mutual funds, provident funds, insurance companies, and primary dealers. The main requirements on participants are that they have a constituent subsidiary general ledger (SGL)⁹ account for stock and an account with a recognized settlement bank.

⁹ Subsidiary General Ledger (SGL) is an account where market participant's dematerialized holdings of government stock are maintained.

- CBLO transactions are novated by CCIL, meaning that (i) CCIL conducts risk management and is able to guarantee transactions—in fact, the number of failures has been very small and all were covered by CCIL, with its losses small given the quality of the collateral and the use of adequate discounts; and (ii) transactions are anonymous so lenders and borrowers do not know each others' identity—useful especially in uncertain times, when banks may be reluctant to lend to some counterparties.
- Banks are especially attracted: (i) securities held in any of the three types of holding accounts—held to maturity, available for sale, and trading—can be used as collateral for CBLOs; and (ii) the RBI grants limited exemptions from following cash reserve ratio (CRR) and SLR requirements to encourage the development of the market. Banks are therefore able to borrow more cheaply on the CBLO market.
- CBLOs are more flexible than normal repos (note that repos with counterparts other than the RBI are rare anyway), because they can be traded and hence positions can be closed earlier than originally intended if circumstances change.
- The collateralized nature of the instrument means that rates are typically lower than in the conventional call market. Furthermore, the fact that additional participants, notably mutual funds, can access the market reduces the CBLO rate below the repo rate. Recent figures show the call market at 6.75%, the repo rate at 6.4% and the CBLO rate at 6.25%. The security of collateral also means that the market is open to participants who would not be able to make unsecured borrowings at acceptable rates.
- The instrument is traded in a transparent, auction-based market, which is likely to lead to greater pricing efficiency and fewer pricing anomalies.
- The infrastructure requirements are small as the CBLO system is integrated with the existing settlement processes allowing Straight-thru Processing.
- Like all products that allow increased leverage, CBLOs and repos have the potential to increase systemic risk—so strong regulatory supervision of exposures is essential. In the current climate there will inevitably be concerns—especially from regulators—that easing borrowing, while it might enhance and develop the market, will increase systemic risk. And CBLOs are not immune from these concerns:
- The CBLO market removes some regulatory control since participants can lend among themselves without going through central bank repos. However, the RBI has been a staunch supporter of the CBLO market and it has a justified reputation for caution in relaxing regulations.
- CBLOs encourage a wider range of participants and potentially allow them to gear up their holdings of government bonds. However the risk management rules applied by CCIL limit the risk of default and normal regulatory structures prevent participants acting imprudently.

While there may be legitimate concerns, there is no substance to suggest that CBLOs could increase systemic risk—though any relaxation is likely to place strains on already weak regulatory structures.

6. Interest-Rate Derivative Market

Interest-rate derivative markets are OTC—there is no exchange-traded interest rate derivative market. India has a relatively active OTC market for interest rate swaps. The market is based on three benchmarks, but the Mumbai Inter-Bank Offered Rate (MIBOR) dominates. MIBOR swap volumes in July 2008 reached INR7.7 trillion covering some 12,000 transaction (turnover in government securities reached INR838 billion the same month). Foreign banks are the largest participants—69% in July 2008.

In common with most other Asian bond markets, India has no bond-related derivative market. Previously, an attempt was made to introduce interest rate futures, but without success—largely because banks were only permitted to use the market for specific hedging transactions. By contrast, equity market derivatives have been highly successful in India, which now ranks among the world leaders in equity derivatives.

Primary dealers in other markets use interest rate derivatives to hedge risks and optimize use of capital. Without derivatives, primary dealers cannot manage risk exposures and so must carry them on their books. This increases costs and reduces willingness to provide liquidity. Indian primary dealers are active participants in the OTC MIBOR swap market, but an exchange-based market would offer greater flexibility and lower cost. Discussions about reintroducing exchange-traded derivatives have tended to focus on technical aspects, rather than on the main problem that limits the participation of banks to hedging.

7. Trading and Settlement Infrastructure

The Reserve Bank of India has significantly enhanced India's trading and settlement infrastructure. Until 2002, the secondary government bond market was a purely OTC telephone market. The main participants were banks and primary dealers with agency brokers acting as intermediaries. In February 2002, the RBI launched the Negotiated Dealing System (NDS). The NDS was designed to work complementary to the OTC trading structure, with the aim of its gradual replacement. In practice the NDS was mainly used for post-trade reporting of OTC trades. This brought about considerable efficiencies in settlement but had little impact on trading.

In August 2005, the RBI introduced its Negotiated Dealing System—Order Matching Segment (NDS-OM). This is a screen-based anonymous trading and reporting platform enabling electronic bidding in primary auctions and disseminates trading information with a minimum time lag. NDS-OM has had considerable success and has taken a dominant share of government securities market trading.

RBI's success in gaining market acceptance for electronic trading is unusual and thus has lessons for other government bond markets. There is a strong preference among most regulators for electronic markets—largely because of the greater transparency and consequent greater ease of regulation. Increasingly investors have come to realize that electronic markets are beneficial through better transparency and lower transaction costs. Today, equity markets are almost exclusively electronic, though some permit a degree of OTC trading especially for large transactions or for illiquid stocks.

Bond markets have been largely immune from this trend and trade largely OTC despite numerous attempts to encourage, push, or even force them on to electronic platforms. With few exceptions, these attempts have failed. Most markets, including India, have some form of electronic trading system for bonds. Typically these handle no more than a fraction of the

trading on the OTC market and are mainly used (if used at all) as post-trade reporting platforms. These electronic platforms are almost always spin-offs from equity trading platforms—based on public order exposure (for example, the Thai BEX system). The clear lesson is that the order exposure model that works for equity markets does not work for bond markets. It is worth noting the successful proprietary electronic systems—recent estimates suggest that 57% of the US fixed-income market is now traded electronically—are (i) not public so dealers can ensure quotes are only shown to their preferred clients and (ii) are usually based on request for quotes and negotiation trading mechanisms.

The RBI avoided the risk of market rejection by introducing the NDS as a non-mandatory supplement to the traditional OTC trading practices. NDS allowed post-trade reporting and considerably easier settlement. Only when this had gained acceptance did the RBI offer trading functionality under the NDS-OM system—which offers a number of OTC-like options such as “request for quotes” as well as order exposure. The result has been considerable success in moving the bulk of the market to the electronic platform, which resulted in greater transparency, greater settlement security, and lower costs.

Government bonds are held in scripless form. Participants have SGL accounts if they are direct participants or constituent SGL accounts operated by SGL account holders if they are indirect participants.

Real Time Gross Settlement for cash was introduced in 2004. Settlement of government securities is now 1 day following the transaction (T+1) using the DvP-III model, whereby both bond and cash positions are settled on a net asset basis.

IV. Corporate Bonds: Transparency Improves, But Development Still Lags

A. Key Developments

Several changes have helped improve transparency in the corporate bond market, including better documentation requirements and improved credit rating. But it remains undeveloped with small private placements the norm. Four key developments have affected corporate bond markets over the past decade:

- dematerialization of holdings, as required by SEBI since 2002;
- increased trading transparency from compulsory reporting of trades. There are currently three trade reporting avenues for corporate bonds—SEBI began publishing trading details in January 2007;
- documentation requirements for private placements have been enhanced. Five years ago the term sheet sent out to potential buyers was little more than half a page and many key pieces of information were omitted or implied. Today, it is far more complete—market participants consider the documentation adequate;
- linking local rating agencies (of which there are five offering bond ratings) to international rating agencies (**Table 4**).

Table 4: Indian Credit Rating Agencies

Credit Rating Agency	Ownership/Status
CRISIL	Standard & Poor's are major shareholder
CARE	61% owned by 3 major Indian banks (IDBI, SBI, Canara)
ICRA	Moody's is a major shareholder
Duff and Phelps (India)	Subsidiary
Fitch (India)	Subsidiary

Source: Agency websites.

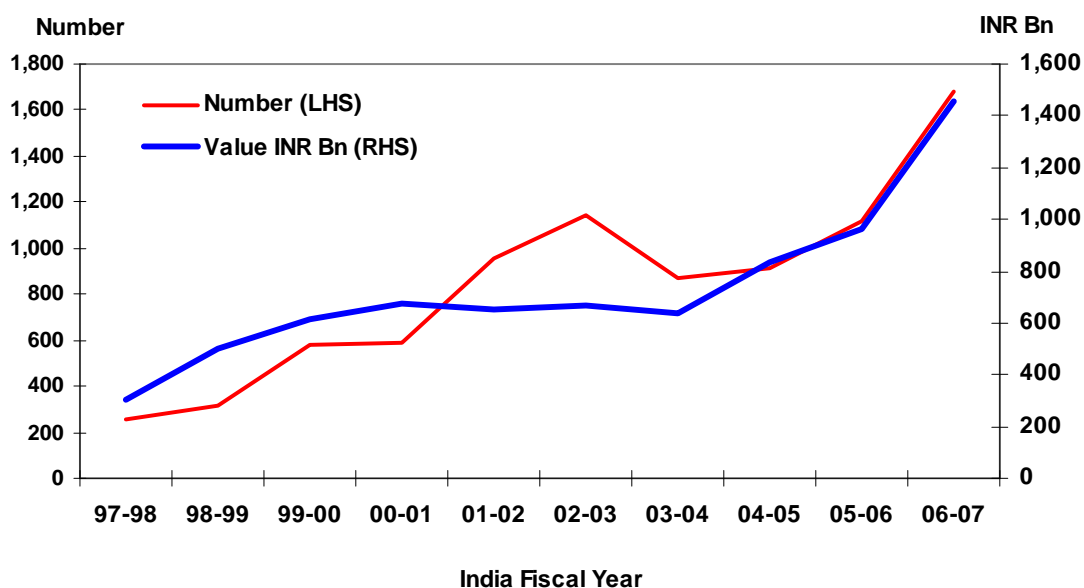
Authorities are examining recommendations for improving the corporate market, including the possibility of a uniform stamp duty and reform of issuance procedures. The *Report of the High Level Expert Committee on Corporate Bonds and Securitization*—commissioned by the Union government and chaired by R. H. Patil in 2005—made a number of recommendations for improving the corporate bond and securitization markets. The government is examining its recommendations on stamp duties, issuance procedures/disclosure requirements for public issues, and modifying the investment rules relating to institutions. SEBI now has a rolling program to monitor implementation of the key recommendations that are within its jurisdiction. In December 2007 SEBI relaxed the requirement for bond issues to be rated by two agencies and the requirement that public issues must be of investment grade. It also increased market transparency by requiring transaction reports (as described below) and publishing volume data. In addition, a number of minor enhancements recommended in the report, including one for trading conventions, have been implemented.

B. Factors Limiting the Further Development of Corporate Bond Markets

1. Most Issues are not Corporate Bonds but Private Placements

In actual fact, although corporate bonds can be issued publicly, most issues in the corporate bond market are not really bonds but private placements, and most issues are not made by corporations (**Figure 15**). Public issues are bonds offered to a wide range of investors and which conform to the regulatory standards required of public issues of bonds. They require a prospectus approved by SEBI, and have to be open at a fixed price for a month to allow investors—particularly retail investors—to subscribe. Private placements can be made to a maximum of 50 “Qualified Institutional Buyers” (professional investors). And require much less documentation. The small number of investors makes it relatively easy to renegotiate terms. Typically, for example, a change in interest rates will lead to a renegotiation of the coupon on a placement during the currency of the issue. This makes private placements very flexible.

Figure 15: Private Placement Issues



Source: Reserve Bank of India.

Public issues are rare because of excessive disclosure requirements—new SEBI proposals are designed to simplify the process. Disclosure requirements for public issues are viewed by potential market participants as excessive:

- Prospectuses for bond issues are reported to be several hundred pages long.
- Against international practice, disclosure requirements are identical, irrespective of whether the company is already listed or not.
- There is no provision for shelf registration—whereby a program of tranches can be covered by a single prospectus.

The issue process is reportedly slow, taking several months, which, with high marketing and other costs, makes public issues very expensive. The slow process also makes issues risky, as the price is fixed throughout the offer period. In contrast, documentation for private placements is minimal, although requirements have been increased in recent years. Placements can be issued quickly with book building and pricing usually completed within a day.

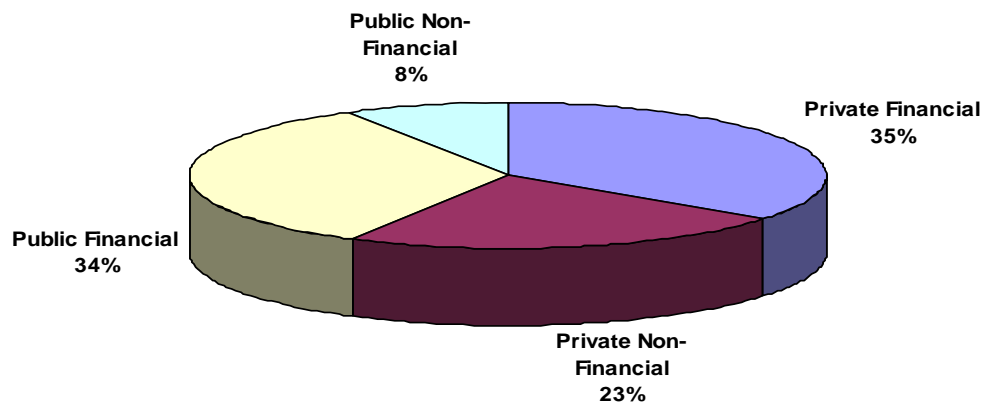
In line with recommendations of the Patil report, SEBI has agreed new listing agreements with stock exchanges—in August 2008 they were issued for public comment. Key features include (i) Companies publicly-listed on an Indian exchange would be required to make only minimal additional disclosures for a public issue or a private placement; and (ii) unlisted companies would be required to make more substantial disclosures, though less than those required for an equity issue.

2. Private Placement Issues are Small

Private placement issues are generally quite small, averaging about USD20 million. Because private placements are quite small, corporate issuers tend to make several separate placements, sometimes on the same day. Because there are a limited number of investors available, the separate issues will all, practically speaking, go to the same lender, usually under similar terms. The result is that many of the “bonds” are actually syndicated loans—as the largest investors for private placements are banks.

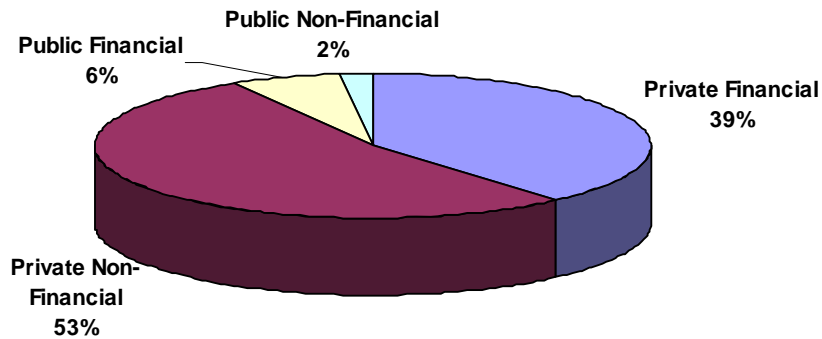
Corporate bonds are usually issued by the private sector, banks, and public companies. Issuance in 2006–07 was USD35 billion over 1,678 issues. Public entities accounted for 42% of the value and 8% of the number of issues. They were also relatively large, averaging USD107 million. Private financial companies—largely banks raising money for lending purposes—represented 35% of the value and 39% of the volume. Private, nonfinancial corporate issuers represented only 23% of value, but 53% of the volume, indicating an average value of only USD10 million (**Figures 16, 17**). Private sector and nonfinancial issuers—normally major participants in other corporate bond markets—are only a small proportion corporate bonds in the Indian market, in terms of value.

Figure 16: Value of Private Placements by Issuer Type (2006/07)



Source: Reserve Bank of India.

Figure 17: Number of Private Placements by Issuer Type (2006/07)

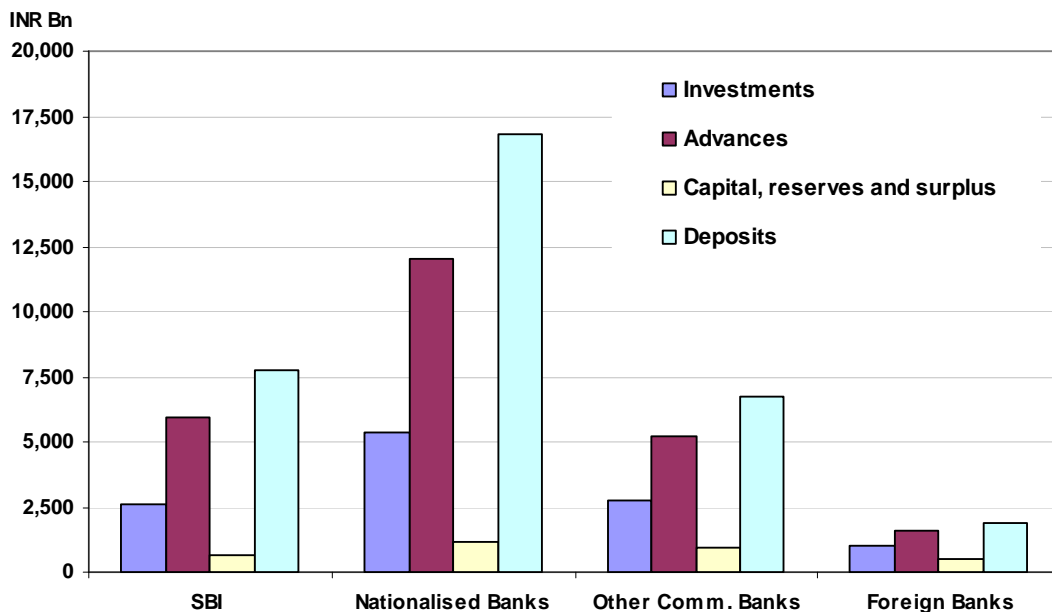


Source: Reserve Bank of India.

3. Demand for Corporate Bond Finance is Limited

Corporate demand is limited for genuine bond finance (as opposed to loans disguised as bonds). Traditionally companies have borrowed from banks to meet financing needs. Bank credit continues to dominate corporate funding, accounting for 90% of financial assets, with state-owned banks representing 70%—a declining but still dominant share (**Figure 18**).

Figure 18: Deposits, Investments, and Advances by Bank Type (2007-08)



Source: Reserve Bank of India.

The main source of finance for smaller companies is from former “development banks,” which have emerged from state-owned development banks but are now private and profit-oriented. They finance themselves not through deposits—from which they are generally barred—but through debt issues. Development banks are active in the private placement market, borrowing wholesale to lend to smaller corporations. Private placements have dominated debt issuance and banks—even a single bank—will often absorb an entire issue. The decision as to whether to issue a bond or take a loan is determined by tactical, not strategic, factors:

- At various times the RBI has prohibited banks from lending at rates below their published lending rate—but the prohibition did not apply to investments in private placements. Therefore, a bank that wanted to offer a very tight rate to a highly rated corporate borrower would present the loan as a bond.
- Interest rate expectations may influence the choice—when rates are falling, as they have been for several years, borrowers will prefer a variable rate loan and lenders a fixed-rate bond.
- Large bank loans are required to pass an internal approval process, usually by the board or a board committee. Private placement investments are not subject to the same scrutiny (or delay), again, giving banks an incentive to grant loans but present them as bonds.
- Loans are not subject to stamp duties, whereas bonds are, making loans desirable for tax sensitive borrowers.
- Loans may be preferable for banks because they are not marked-to-market—this will change under Basel II rules, which are due to begin implementation in 2008. Bonds not held-to-maturity are marked-to-market. But, in the absence of reliable secondary market prices; there is scope for manipulation and window dressing.¹⁰

Similarly, corporations tend to regard loans and bonds as interchangeable. This occurs to some extent in most markets. But in India there is a strong focus on managing or arbitraging micro-features. The level and complexity of stamp duty encourages the arbitrage-based approach to corporate finance so decisions are often tax-driven rather than strategy-driven. There is a stated, but as yet unscheduled, intention to reform the stamp duty, probably by introducing a standard national rate with a maximum rate, as recommended in the Patil report.

4. Companies with High Credit Ratings Dominate Corporate Issuance

The distribution of corporate bonds issued by rating (**Table 5**) indicates that the number of sub-investment grade issues is minimal and the proportion below AA is small—7.5% by value in 2007–08. Only the largest corporations are likely to achieve an AAA rating. Others are thus excluded from the bond market and obliged to rely on bank finance. Recent figures suggest the proportion of lower-rated bonds may be increasing in particular the proportion of sub-investment grade bonds following the SEBI’s relaxing its rules relating to lower-rated bonds.

¹⁰ The Reserve Bank of India allows banks to hold bonds in “trading book”, “available-for-trading” and “held-to-maturity”. The latter are not marked to market under current rules.

Table 5: Distribution of Corporate Bonds Issued by Rating

% of Total	AAA		AA		A		BBB		Non-Investment Grade	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
1999-00	35	83	25.9	9.4	25	6.1	7.7	0.8	6.4	0.6
2000-01	38.3	76.6	33.6	10.1	21.4	11.6	3.1	1.3	3.7	0.3
2001-02	31.7	61.6	33.5	27.8	24	9.3	7.8	1.1	3	0.2
2002-03	45.6	76	27.1	13.8	18.2	7.5	6.3	1.6	2.8	1
2003-04	50.4	77.5	24.8	14.9	17.3	6.1	6.5	1.1	1	0.4
2004-05	56.7	72.2	22.4	22	11.8	3.7	7.1	1.9	1.8	0.3
2005-06	54.6	75.1	30.8	16.7	9.4	7.8	4.4	0.3	0.8	0
2006-07	57.4	79.5	26.5	16.0	9.7	1.8	6.1	2.7	0.4	0.0
2007-08	39.5	73.1	30.3	19.4	19.7	5.7	7.4	1.5	3.2	0.3
2008-09 (4 months)	22.0	76.7	25.3	14.9	20.7	4.3	23.1	3.3	9.0	0.8

Source: Securities and Exchange Board of India.

5. Wholesale Trading is Over-the-Counter

Wholesale trading in the corporate bond market is entirely over-the-counter, with some major banks acting as unofficial market makers. The declining role of brokers in the government bond market has led to their general withdrawal from the market. The National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) offer order-driven, bond-trading platforms that are used for post-trade reporting but rarely for trading. The exchange-trading platforms are mainly used by a small number of retail participants.

6. Delivery Versus Payment (DvP) Clearing is not Available for OTC

Delivery versus payment (DvP) clearing is available for the few trades transacted on the stock exchanges' dealing platforms but not for OTC trades, which are the bulk of the market. However, corporate bond OTC transactions are settled bilaterally between the counterparties. There is no central counterparty to start the process and so reduce settlement risk. In 2002, SEBI introduced regulations requiring corporate bonds to be held in scripless form. However, cash is still settled inter-office—sellers instruct the CCIL to move bonds before they have the funds from the buyer, so the system is not truly DvP, and sellers are at risk during settlement. This potentially imposes a barrier to trading. But because the market is limited to a small number of major players in practice, the risk is considered manageable.

7. Settlement Infrastructure Lags in Development

If the market were to expand to encompass a wide range of investors, then it would require a better settlement infrastructure. SEBI is currently consulting the stock exchanges to introduce mandatory, centralized clearing and settlement for corporate bonds. It is not clear how this will affect the non-exchange market. But the implication is that it will apply to all bond trading.

8. Repurchase Agreements are not Permitted for Corporate Bonds

The RBI is the regulatory authority for this part of the market as corporate bond repos would be regarded as money-market instruments. The RBI has been considering allowing corporate bond repos for some time—and now may be moving toward permitting them. CBLOs have been increasingly taking the role of repos but limited to government bonds. Since late 2007, SEBI has been talking with RBI about corporate bond repos. Inevitably this is linked to the parallel discussions on settlement with the exchanges.

9. Conventional Securities Lending are not Developed for Corporate Bonds

Conventional securities lending is theoretically available as an alternative to repos, but general market illiquidity makes it impractical. India does have efficient, automated securities borrowing and lending infrastructure for equities, which was introduced when “badla”—the indigenous carry-forward system—was outlawed in the early 2000s, but conventional securities lending has not been developed for corporate bonds.¹¹

Other factors that have a limiting impact on trade include (i) tax deducted at source—which complicates trades between tax-exempt and non-exempt entities; (ii) no single database of bonds; and (iii) no universal conventions for day count or interest calculation, for example.

V. Securitization: Early Starter Awaits Take Off

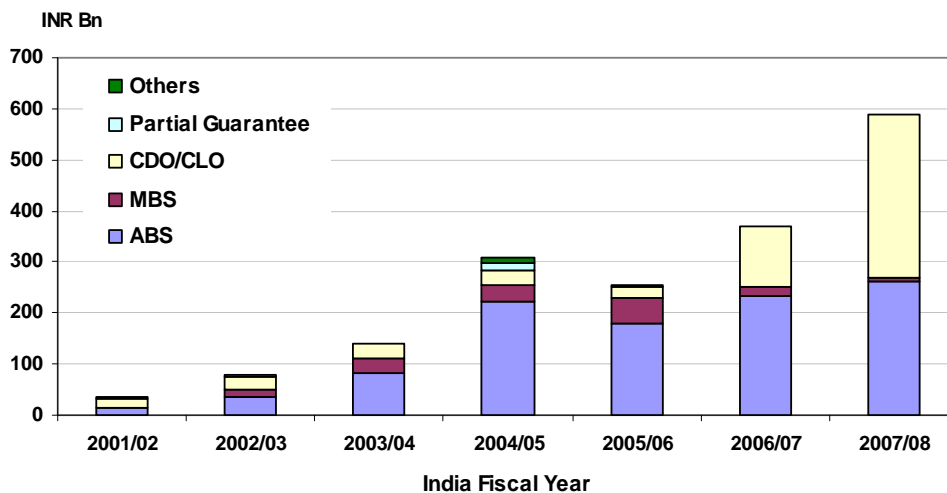
India began securitization early among Asian markets, with transactions going back to the early 1990s. Growth accelerated from 2000, reaching INR580 billion (USD12.5 billion) in fiscal 2007/08 (**Figure 19**). However, the securitization market has not yet taken off. Volumes tend to be low and asset types limited. Volumes appear to be mainly influenced by tax or regulatory arbitrage considerations rather than by underlying financial factors. The market is also subject to regulatory, legal, and tax uncertainties.

Auto loans were the mainstay of the securitization market in the 1990s. Since 2000, residential mortgage backed securities (RMBS) have also contributed to market growth, though RMBS activity has slowed significantly during the last 2 years, as a focus on asset-backed securities (ABS) has claimed the biggest share of the market— in FY2007 accounting for 63%, followed by CDO/CLO at 32%. In 2007/08 there was a further shift toward CDO/CLO issues— representing 54% of the total. Together with ABS (45% of the total) these two asset classes made up 99% of securitization volumes.

Credit card securitization has been limited, partly because of stamp duty costs, but also because the credit card market in India—while showing rapid growth—remains small. There have also been limited future flow securitizations, such as toll receipts, and some infrastructure financing. Demand for infrastructure financing in India is now recognized and it is expected that securitization of receivables from those projects should expand rapidly.

¹¹ “Badla” was a feature of most markets in the subcontinent. Essentially it involved the carrying over of positions rather than settling them—in effect, un-margined OTC futures. The growth and opacity of badla led the Securities and Exchange Board of India to finally ban the practice and force the unwinding of positions.

Figure 19: Structured Finance

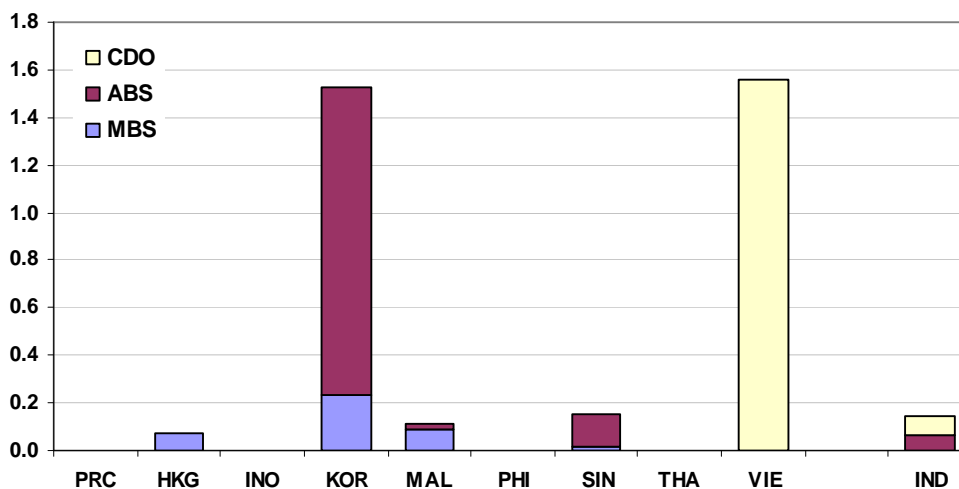


Source: ICRA Ltd.

As the nature of the securitized assets suggests, originators have mainly been banks and nonbank financial institutions. The originators include former development banks that have been privatized and which have become major players in the consumer lending market, and housing finance companies. ICRA estimates the top five originators account for about 80% of issuance. There has also been some securitization of corporate loans, again with substantial credit enhancement. These have included single loan securitizations.

The preference for asset-backed securities (ABS) in India mirrors the pattern in Korea and the Philippines. Mortgage-backed securities (MBS), which are more significant in Malaysia and Singapore, have been less significant in India (**Figures 20, 21**).

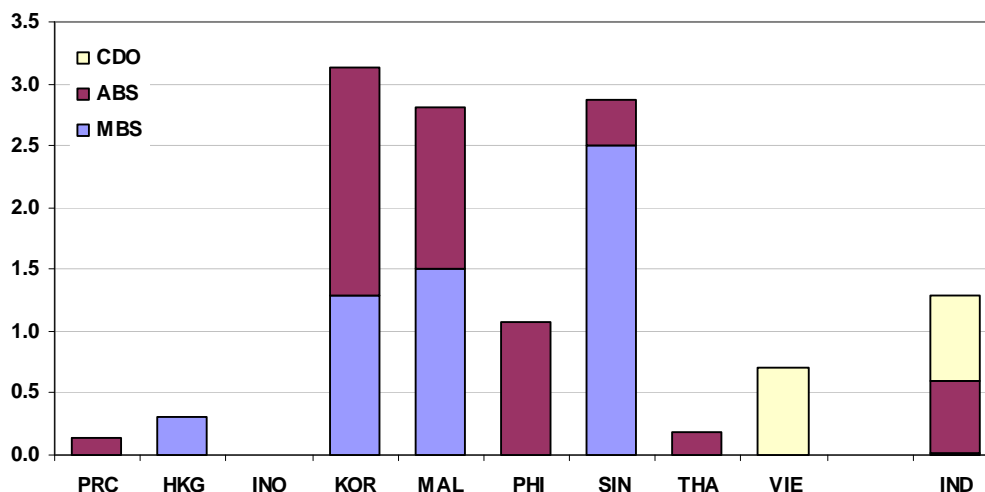
Figure 20: India and EEA Securitization (% of GDP), 2001



Sources: AsianBondsOnline, ICRA Ltd., and Reserve Bank of India.

Securitization was generally small in emerging East Asian markets in 2001, amounting to less than 0.2% of GDP, including India. By 2006 a number of the region's economies—Korea, Malaysia, Philippines, and Singapore—had expanded securitization levels considerably (to between 1.5% and 4.0% of GDP). In t Korea, Philippines, and Malaysia, they did this through policies designed to recapitalize the banking sector. In India, reasonable growth brought securitization volumes to roughly 1% of GDP.

Figure 21: India and EEA Securitization (% of GDP), 2007



Sources: AsianBondsOnline, ICRA Ltd., and Reserve Bank of India.

A. Banks and Insurance Companies: Predominant Investors in Securitized Notes

Insurers are subject to restrictive investment mandates, and thus securitized assets are structured to achieve very high ratings and, often, to minimize prepayment risk. To gain these ratings, successful issues require very substantial levels of credit enhancement. Methods of enhancement have included (i) direct recourse to the originator (often structured as put options); (ii) originator or third-party guarantees; (iii) over-collateralization; and (iv) cash collateral and reserves.

Until recently, securitizations with subordinated tranches were not offered in India and remain a rarity. This is because there is (i) little investor demand for such lower-rated notes; and (ii) there was no capital penalty for originating banks retaining the first-loss tranche. RBI guidelines have removed the latter reason and the market is now seeing some use of subordinated tranches.

India currently does not have credit insurance or an active market for credit derivatives, meaning these risk management tools are unavailable for structuring deals and the use of credit default swaps to create synthetic securitizations is impractical.

Regulatory responsibility within the securitization market is unclear. But the strong involvement of banks means that the RBI's regulatory actions will have a significant impact. For example, RBI recently published regulations on the capital provision required for securitizations by banks. These are similar to, but stricter than, Basel II requirements.

There are several distinguishing features of India's securitization market:

- As a common law jurisdiction, India does not require specific legislation to permit the formation of special purpose vehicles (SPVs).
- This gives considerable flexibility, but at the same time means that many features are left unclear until decided by case law.
- For tax reasons, SPVs are set up as single-purpose trusts, rather than corporate entities as is common in other jurisdictions.
- Arbitrage considerations are regarded as crucially important and the tax and regulatory environment helps decide whether to securitize, far greater than in other markets. As an example, the recent RBI rules on capital provision led to a number of direct assignment deals (that is, transfers of cash flows but without an SPV) since the new rules specifically applied only to transactions involving an SPV.

B. Reforms

The Securitization and Reconstruction of Financial Assets & Enforcement of Security Interest Act, which was intended to clarify the status of securitization, has been enacted, but is regarded as having had little effect. The implementation of Basel II may have an impact, and India plans to begin implementation in 2008. RBI regulations—which as noted are stricter than Basel II—have encouraged more direct assignments (cash flow transfers without SPVs). The Patil report also made recommendations on securitization relating to the stamp duty and taxation.

Developing a securitization market requires financial institutions that have an incentive to securitize and a set of standard assets to securitize. Financial institutions will securitize if they are (i) they need to reduce the size of the balance sheets; or if they are (ii) under competitive pressure. Securitization permits them to realize profits on their current assets by selling them. A securitization market also requires a supply of assets that typically can be securitized at the start of the market. These are the standard assets such as mortgages, auto loans, and credit card receivables, as well as infrastructure projects where future cash flows can be securitized.

India's banks have not felt pressure on their balance sheets so far—though credit demand suggests they may. Other entities such as auto finance companies have been active but they are small relative to the bank market. In considering which assets to securitize: (i) India is still developing its credit card market; (ii) auto loans are being securitized but the residential mortgage market remains too small for securitization on any scale; and (iii) India's infrastructure demands are huge—but the main expenditure is in the future. As a result, there has so far been limited incentive for securitization. But this may change as credit demand and infrastructure expenditure increase. The use of securitization to finance infrastructure development and remit the cash flows could diversify the investor base for infrastructure debt.

The stamp duty is a major barrier to the development of securitization. Transfers of assets require written instruments that are subject to stamp duty. Rates of duty on asset transfers vary among the states, but are generally high—most states charge between 3% and 16% on the value of the property being transferred. Tax uncertainty also remains as there are no clear rulings on taxing SPVs. Market practice and current opinion is that taxation of interest paid on SPV bonds will be levied on investors rather than being paid by the SPV. However, this has not been tested. There is also a general lack of clear regulatory structure. A legal amendment is

underway that clarifies the position of SEBI as the principal regulator for securitizations, although, as in corporate bonds, the RBI will retain a significant role because of the involvement of banks.

VI. Regulation Hampers Participation

Regulatory responsibility in India's bond markets is fragmented—and there is the perception among market participants that they are also at cross-purposes. Corporate bonds are regulated by SEBI, which is responsible for authorizing the public issue prospectus and for setting standards regarding private placements. It also regulates some of the participants—the brokers (who have all but disappeared from the market) and mutual funds. Other participants are subject to different regulators. Banks and primary dealers are regulated by the RBI, insurance companies (including the Life Insurance Corporation of India) by the Insurance Regulation and Development Agency and provident/pension funds by their own regulator.

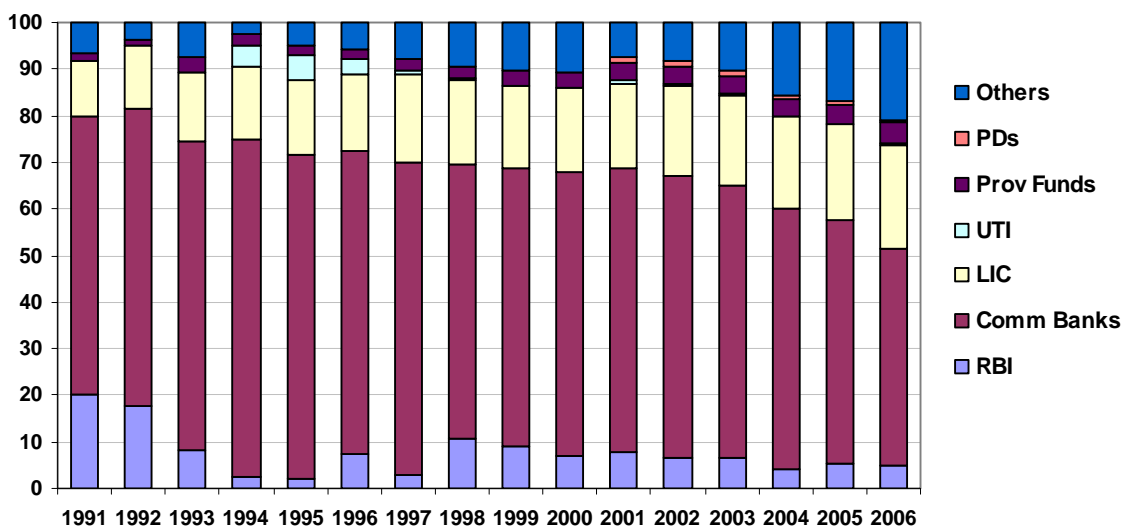
The bankruptcy system is time-consuming and inefficient, although the law is based on United Kingdom law and, as such, is judged to be reasonably clear. There are, however, (i) significant political pressures against declaring enterprises insolvent; and (ii) serious delays in the court process—several years is the quoted time for resolution of insolvencies. In practice bankruptcy is hardly an issue in the corporate bond market because (i) very few issues are rated below AA; and (ii) the terms of the private placement (and the small number of investors) mean it is easier to renegotiate terms if necessary, rather than to go through the legal processes for insolvency.

Banks, life insurance, and pension funds are required to hold a minimum of 25% of their time deposit liabilities in government securities—the Statutory Liquidity Requirement (SLR). Only holdings in excess of the SLR requirement can be traded and repurchased. Bank holdings have declined as a proportion of total government bond issuance over time as interest rates have fallen and loan demand has risen (**Figure 22**). However, in absolute terms, 2006 was the first year in which banks' holdings of government bonds fell.

A. Life Insurance Sector

The life insurance sector remains dominated by the Life Insurance Corporation of India (LIC). LIC now faces competition from private sector insurers but in terms of investment it represents 98% of the market. Although LIC is only required to hold 25% of its assets in government bonds, it still maintains about 75% of its assets in government bonds. Private sector insurers are similarly conservative.

Figure 22: Holdings of Government Bonds by Investor Groups (% , end-March)



Source: Reserve Bank of India.

B. Pension Funds

Also, pension funds tend to hold a larger percent of government bonds than required. The pension fund sector is mainly controlled by various state-run provident schemes. A new pension system based on individual accounts is being introduced, though the time of completion has not been published. Life insurers and pension funds are also constrained by legal mandates as to the proportion of corporate bonds and to quality and rating. Like banks, these investors tend to buy and hold, partly because that is their nature and partly because of the lack of liquidity. The current structure of investors includes many with heavy state involvement. In addition competition is limited—for example in the low-premium life business. These investors may lack the incentive (and the skills) to engage in more active investment strategies. Bond mutual funds in practice invest mainly in short-term instruments to match the short expected holding period of their investors.

The requirement to hold government bonds constrains liquidity by restricting the main liquidity traders to arbitrage transactions rather than directional trading. This means that the market tends to dry up in anticipation of a fall in interest rates because the natural suppliers of bonds cannot sell below their required holding level. It also ensures that the amount of government bonds held by mutual funds and other entities that are not required to hold a certain proportion of government bonds is small relative to the more static holdings of the banks, insurance companies, and pension funds.

There is likely to be a movement away from government bonds over the longer term, as the New Pension System (NPS) is implemented and as the private sector insurance companies gradually chip away the dominance of LIC. However, unless there is a change in the mandates of the state-controlled investors, the range and size of corporate bond investors will remain limited.

C. Mutual Funds

The mutual fund market has developed rapidly in India and is now almost exclusively private. Specialist “gilt funds” (which have access to the RBI liquidity facility) have been set up to invest exclusively in government securities.¹² However, the nature of the Indian bond mutual fund industry’s customer base—largely corporates using mutuals for short-term treasury management—means that the bond funds are treated as money-market funds and must invest mostly in short-term bonds and bills.¹³

D. Foreign Investors

Foreign fund managers wishing to invest in Indian debt securities must first apply to SEBI and gain an Foreign Institutional Investor (FII) certificate. Certificates are valid for 3 years and are renewable. FIIs in turn register individual sub-accounts for each investor for which they act. SEBI has introduced a number of reforms to smooth access for foreign investors:

- FII status is not open to individuals, hedge funds, corporates, or to fund managers;
- FIIs can now undertake short-selling and stock borrowing/lending on par with domestic investors;
- Registration has been simplified; and
- FII status has been opened to non-resident Indians (NRIs).

There are currently 1,483 FIIs operating 4,474 sub-accounts as of September 2008. The number of FIIs has increased significantly over the years following the reforms—from 685 at end 2005—though the bulk of these are active in equities and derivatives rather than bond markets.

FIIs are also limited by SEBI in the amount they can invest and their investments are subject to monthly reporting. Currently there is an aggregate cap of USD5 billion of government debt and USD3 billion of corporate debt. The aggregate caps have been raised over time—twice during 2008 (from USD2.6 billion for government bonds and USD2 billion for corporate bonds. Individual FII/sub-accounts are allocated limits within the aggregate total permitted. Individual limits are allocated on a first come first serve basis up to a maximum currently at USD200 million. FIIs are required to fulfill their allocations within 15 days of the application being approved.

In addition to changes in the quantitative limits, FIIs have been subject to changes in the method of assessment. In January 2008, the methodology was changed to include investments in bond mutual funds, which meant that the total invested exceeded the aggregate limit. FIIs were restricted from further investment until their aggregate holdings were reduced to conform to the aggregate limit.

Although foreign investor access remains controlled, FIIs are increasingly important holders of domestic bonds and have become major players in equities. FIIs are allowed to invest in equities without any aggregate limit though subject to a reporting requirement and to maximum

¹² Gilt funds, as they are conveniently called, are mutual fund schemes floated by asset management companies to invest exclusively in government securities.

¹³ Corporate use of bond mutual funds developed when there was a tax exemption for income from bond mutual funds. The tax exemption has now been removed but the practice continues.

percentage ownership limits (24% for most companies, 20% for public-sector banks). At the end of March 2008, foreign investors owned 15% of the shares of the companies in the BSE 500 (the main blue chip index). For comparison a recent survey has estimated that FII holdings of Indian equities were approximately 10 times the holdings of domestic mutual funds and indeed exceeded the combined holdings of domestic financial institutions, including mutual funds and insurance companies, retail and high-net worth investors.

Generally FIIs are permitted to invest in derivatives (including theoretically in bond-related derivatives—though these do not currently exist). SEBI has periodically imposed limits on FII derivative activities when it appeared that derivative use risked compromising other policy objectives such as limits on foreign ownership.

Historically FIIs have not been attracted to Indian debt markets. But the rapid economic growth and improvement of India's sovereign rating have led to FIIs to become increasingly invested in Indian debt markets—both government and corporate. Again, corporate bond holdings exceeded the permitted aggregate total in January 2008 (albeit because of an unexpected change in the calculation methodology). At end June 2008, FII domestic debt holdings totaled USD3.87 billion, up from USD2.29 billion at the start of the year (the total permitted investment is USD8 billion).

E. Investor Diversity

Arguably the availability of a wide pool of investors is the most significant factor in driving market development. Regulators often focus primarily on infrastructure and regulatory development—as these are relatively easy to improve and non-controversial. However, infrastructure and regulation are necessary but not sufficient to make a market. Rather, the existence of supply and demand from investors and issuers is the key requirement. The need for investor diversity is recognized by most regulators, but there is a tendency to see growth of the market as a substitute for diversity, which it is not. Merely increasing the size the market and the number of investors with similar investment strategies merely increases herd behavior—one that characterizes many less-developed markets. Nor is the lack of diversity in bond markets likely to be addressed by encouraging retail participation. While retail investors can provide a useful counterpoint in equity and derivative markets, their influence in bond markets is unlikely to be significant.

Many markets have received a major development stimulus from foreign investors. Typically foreign investors are seen as a source of funds but they are also catalysts for more general development. Foreign investors are an important element in building investor diversity and encouraging participation tends to lead to significant improvements in the local market. There are many reasons for this:

- Most obviously foreign investors command extremely large liquid pools of assets and so can add significantly to local market liquidity. They operate on global strategies that are less sensitive to short-term local issues—making them valuable contrarian investors.
- They are likely to be accustomed to following active trading strategies in home markets and will try to do the same in emerging markets. Also, their global business means their trading strategies will be partly driven by external factors—such as exchange rates and comparative economic performance—which brings a new dimension into local markets.

- There is also diversity in investment horizons. This particularly holds when local institutional investors are poorly developed—as is true in many developing Asian markets—and markets are therefore driven by speculative retail investors. However the willingness of foreign investors to take a long-term view is highly sensitive to the treatment they receive. Arbitrary and discriminatory treatment of foreign investors will encourage them toward a “hot money” strategy.
- Foreign investors often have skills and experience that are lacking in local markets. Exposure of local practitioners to foreign investors tends to lead to skill improvements and to better regulatory decisions.
- Foreign investors will tend to push strongly for innovations such as the introduction of derivatives—often they will have access to OTC derivatives on local assets traded in offshore centers. Unless local firms are permitted access to derivatives—ideally through developing a local market—they will trade at a disadvantage and so will reinforce the pressure from foreign firms.

VII. Rationalizing Regulatory Structures

Rationalizing and consolidating the regulatory and supervisory structure of India’s local currency bond market could contribute to spurring innovation, economies of scale, liquidity, and competition. After years of strong economic growth, and financial market development, India’s financial sector is at a turning point. The regulatory and financial supervisory framework plays an important role in developing a vibrant, local currency bond market and financial markets generally. Streamlining regulatory structures to lessen regulatory inconsistencies, gaps, overlaps, and arbitrage can help ensure a level playing field by making players report to the same regulator regardless of size or ownership. It can also help regulatory systems adapt to increasing globalization and rapid innovation of new financial instruments. Substantial efficiencies can thus be gained allowing economies of scale, improved liquidity, and increased competition and innovation.¹⁴ Recent events in global markets have also served to emphasize the systemic risks that can arise from inconsistencies between, for example, the regulation of assets with similar risks but with different types of entities.

A. Measures to Address Bond Market Liquidity

Deep and liquid bond markets provide a safety valve when access to bank credit tightens—by providing an alternative source of financing. To address the lack of bond market liquidity, authorities could (1) relax exchange controls on bonds to facilitate investment by foreign investors and broaden the domestic investor base; (2) ease investment mandates on contractual savings institutions that encourage funds to hold bonds to maturity; (3) develop exchange and OTC derivatives and swap markets; and (4) consolidate the outstanding stock of government bonds.

1. Relax exchange controls on bonds to facilitate investment by foreign investors and broaden the domestic investor base.

¹⁴ There is no perfect regulatory system. The problems with Northern Rock in the United Kingdom are being attributed to the fact that the United Kingdom had moved to a single supervisor, the Financial Services Authority (FSA), with the monetary authority having no supervisory powers. At the same time, the Bear Stearns debacle in the United States is being attributed to the absence of a single supervisor. What is essential is effective cooperation between all the concerned authorities, which transcends the specifics of organizational architecture.

The restriction on foreign holdings of bonds is anomalous, in that it is more onerous than the corresponding restrictions on foreign investment in equities, on foreign direct investment, and on foreign investment in derivatives. The potential benefit achieved by allowing more foreign interest—especially trading interest—would encourage greater liquidity and investor diversity in the government bond market. Recently the RBI has repeatedly relaxed the restrictions during 2008 substantially increasing the aggregate holdings permitted for foreign investors. However, indications are that foreign investors have not taken up the allowances of corporate debt available to them. The limitations and distortions in the market have forced some Indian corporate issuers with a global presence who want access to foreign investors have to issue in the Euromarket or elsewhere rather than domestically. This contributes to further fragmenting already limited liquidity.¹⁵

2. Ease investment mandates on contractual savings institutions to hold bonds to maturity.

Banks are active traders of government bonds but the SLR limit means that a considerable part of their stock of assets cannot be traded. The result is to reduce the profitability of the banking system. Institutional investors are the main support for corporate bond markets in most jurisdictions. Life insurance and pension sector institutions are subject to strict investment mandates, which means their ability to invest in non-government debt instruments is limited. To avoid the risks of a too-rapid easing of investment mandates, relaxation should be controlled and phased. The Patil Committee recommends using risk-based guidelines. However, such guidelines can only be useful when the relevant skill set within the institution is at an appropriate level and the historic data on risk is available.

3. Develop derivatives and swaps markets.

Bond market liquidity is not necessarily about trading itself, but in using risk management tools to alter the risk profile of a portfolio. However, tools such as derivatives, bond lending and borrowing, repurchase agreements (repos) and swaps, as well as OTC credit derivatives and credit insurance, are not available in the bond market. Developing derivatives and swap markets is a critical measure for broadening the investor base and for increasing liquidity in both government and corporate bond markets. It is also crucial to funding massive infrastructure investment needs and providing corporations with the tools they need to manage the risks associated with India's financial globalization. These markets allow a wider dispersal of risk as derivatives and swaps help reduce costs, enhance returns, and allow investors to manage risks with greater certainty and precision. Derivative and swap markets also help address exchange and interest rate risks. The development of these markets needs to be underpinned by improving regulatory, legal, and infrastructure frameworks.

Discussions about reintroducing exchange-traded derivatives have focused on the technical aspects. It has been proposed that bond indexes—both corporate and government—be created and futures and options on the same be introduced along the same lines of what has been permitted in equity. The possibility of introducing exchange traded single bond futures and exchange traded credit derivatives is also being explored. In the February 2008 budget speech, the Finance Minister proposed to develop derivative markets by:

- launching exchange-traded currency and interest rate futures; and by

¹⁵ Foreign institutional investors are required to be registered with SEBI.

- developing a transparent credit derivatives market with appropriate safeguards.

However, sentiment in India has been moving against derivative markets—restrictions on commodity derivative markets and recent events in global credit derivative markets will probably reinforce that sentiment.

4. Consolidate the outstanding stock of government bonds.

Despite some passive consolidation especially at the long end the government market remains fragmented with many relatively small stocks. There is now a budget provision to finance the consolidation of the outstanding stock of government bonds. RBI should thus move away from its policy of passive consolidation (which has not led to significant improvements in the number and size of issues) to a more active but market-driven retirement of small issues, with the aim of creating a limited number of large benchmark issues along the yield curve.

B. Measures to Develop the Corporate Bond Market

Reforming stamp duty and disclosure for public offers are additional measures that can help develop the corporate bond market.

1. Reform the stamp duty.

The stamp duty is a significant barrier to the development of both the corporate bond and securitization markets. Stamp duties are typically 0.375% for debentures and, as they are strictly ad-valorem, there is no volume discount.¹⁶ The rate of duty varies depending upon location (various states have set their own rates). Recently official comments have suggested that individual states have agreed to waive stamp duties but this has yet to be announced as official policy. Rates also vary with the nature of the issuer; and with the nature of the initial purchaser (for example, promissory notes bought by commercial and some other banks are subject to only 0.1% duty, compared with 0.5% if issued to other investors). Interest payments are taxable as income and capital gains are taxable. The Patil report¹⁷ recommends that there should be a uniform low rate across all states and that the maximum amount payable should be capped. Plans are being drawn up to address this but the timescale is unclear.

2. Reform disclosure for public offers of corporate bonds.

Issuers consider the current process expensive and risky. Existing regulations could be reformed to allow for disclosures that are appropriate for public issues into a largely professional market by entities that are already well-known to the investment community. Regulations could also be changed to allow techniques such as shelf registration.¹⁸ The public issue process is also unduly long to allow for postal submissions—a recent proposal by the RBI to allow online applications might help by shortening the time an issuer is on risk. SEBI proposals, when implemented, should address some of the burdensome nature of issuance by rationalizing disclosure requirements especially for companies already listed.

¹⁶ The stamp duty on secondary market transactions was removed for dematerialized stock transfers in 2000.

¹⁷ Report of the High Level Expert Committee on Corporate Bonds and Securitization (December 2005).

¹⁸ A registration of a new issue which can be prepared up to 2 years in advance, so that the issue can be offered quickly as soon as funds are needed or market conditions are favorable.

VIII. Conclusion: Learning from Neighbors

As markets develop, there is a lot to be learned from sharing experience with other financial centers. While this is widely practiced in equity markets information sharing needs further development in the bond markets. Every capital market has unique features derived from history, culture, and legal structures, but increasingly they also have common features. Equity markets, for example, now almost all follow some version of an electronic order display and execution system.

But too often, in learning from others, developing markets try to mimic the more advanced markets of Europe and North America. Structures that suit vast and complex markets in developed countries with greater variety of instruments and investors are less appropriate (or excessively expensive) for less-developed markets. There is thus a strong case for looking to neighboring emerging markets at similar stages of development for guidance. Doing so may suggest innovative solutions to problems that have been tried successfully in similar markets, provide support for local market innovations based on their success elsewhere, and allow markets to avoid other's mistakes.

India has developed a number of unique features in its bond market—for example its CBLO system and the successful electronic trading platform—which could usefully be studied by its neighbors, many of which suffer from limited repo markets or which have (like India) tried unsuccessfully to move bonds on to electronic platforms.

At the same time, in the development of its corporate bond market, India can no doubt learn from its neighbors' disclosure policies, bankruptcy processes, consolidation of government benchmark issues, and regulatory structures.

Bond market associations are also less well-developed than their equity market counterparts, which benefit from international gatherings and regional associations like the World Federation of Exchanges. The Asian Bond Markets Initiative could play an instrumental role in helping address this shortfall.

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About the paper

In this paper, Stephen Wells and Lotte Schou-Zibell examine India's bond market, comparing it to its emerging East Asian neighbors, and discussing the policies that can help it develop and meet the needs of its firms and investors.