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## Development of Securities Markets: The Indian Experience

NARENDRA JADHAV\*

A satisfactory pace of economic growth in any economy is contingent upon availability of adequate capital. A well-developed securities market, while acting as a provider of funding for economic activity at the macro level, plays specific roles in an economy: it diffuses stress on the banking sector by diversifying credit risk across the economy, supplies funds for long-term investment needs of the corporate sector, provides market-based sources of funds for meeting the government's financing requirements, provides products with the flexibility to meet the specific needs of investors and borrowers, and allocates capital more efficiently.

The main impulse for developing securities markets, including both the equity and debt segments, depends on country-specific histories and, more specifically in the context of the financial system, it relates to creating more complete financial markets, preventing banks from taking on excessive credit, risk diversification in the financial system, financing government debt, conducting monetary policy, sterilizing capital inflows, and providing a range of long-term assets. Prior to the early 1990s, most financial markets in India faced pricing controls, entry barriers, transaction restrictions, high transaction costs, and low liquidity. A series of reforms since the early 1990s have aimed to develop the various segments of financial markets by phasing out the

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\*Naredra Jadhav is Principal Adviser and Chief Economist, Department of Economic Analysis and Policy, Reserve Bank of India.

administered pricing system; removing barrier restrictions; introducing new instruments; establishing an institutional framework; upgrading the technological infrastructure; and evolving efficient, safe, and more transparent market practices.

## Corporate Securities: The Equity Segment

Capital markets have historically played an important role in channeling long-term resources for commerce and industry in many countries, such as the United States and the United Kingdom, whereas in some other countries, including Japan and Germany, corporate investments are largely financed through intermediary-based sources. The Indian capital markets are some of the oldest in Asia. Traditionally, however, the Indian financial system since independence has been based on financial intermediaries rather than capital markets. Given the developmental needs of the country in the past and the inability of the markets to generate and allocate funds effectively for long-term development projects, the bank-based financial system best suited the country's needs.

During the 1990s, however, the growing needs of the economy and the forces of liberalization changed the face of the Indian financial system drastically, and the capital markets assumed a prominent place in the resource allocation process of the economy. In recent years, the Indian financial system seems to be gradually maturing to a point at which both the intermediary- and market-based systems coexist, thus drawing the benefits of both systems.

The policy environment governing the capital markets evolved rapidly in the 1990s to pave the way for vibrant, liquid, and transparent markets. The major reforms in the Indian capital market since the 1990s are presented below:

- In 1992, the Capital Issues (Control) Act (1947) was phased out, enabling the corporate sector to raise capital from markets without the permission of regulators, subject to sufficient disclosures in the offer documents. A book-building mechanism for the pricing of new capital issues was introduced in 1995, whereby the offer price of an initial public offering is based on the demand for the issue. The book-building mechanism has proved to be both cost and time effective in India.
- Buyback of shares helps improve liquidity in shares of companies and helps the corporate sector enhance investors' wealth. Securities and Exchange Board of India (SEBI) issued the SEBI (buyback of

securities) regulations in 1998, under which a company is permitted to buy back its shares from shareholders.

- The market microstructure for the Indian capital markets evolved to become free and fair during the 1990s. The stringent disclosure norms have improved the information flow to small investors, and the stricter corporate governance practices prescribed for listed companies have helped curb insider trading and price-rigging practices.
- To control excess volatility in the markets, circuit breakers have been introduced on the stock exchanges. Effective June 2, 2001, index-based marketwide circuit breakers applicable on the Bombay Stock Exchange (BSE) Sensex and the S&P CNX NIFTY (the two major indexes of stock prices) are operational at 10 percent, 15 percent, and 20 percent on movement on either side of any of the indices.
- Management of various risks, such as counterparty risks and credit risks, is important in promoting the safety and efficiency of the capital market. To provide necessary funds and ensure timely completion of settlement in cases of member brokers' failure to fulfill their settlement obligations, major stock exchanges have set up settlement guarantee funds (SGFs). These funds are like self-insurance schemes, with the members contributing to the fund. SGFs have played a key role in ensuring timely settlement, especially during periods of market turbulence. Furthermore, the clearinghouses set up by each of the stock exchanges have substantially reduced counterparty risk in the settlement system. Various risk management mechanisms, such as capital adequacy requirements, trading and exposure limits, and daily margins composed of mark-to-market margins and value at risk margins, are now in place.
- Technology has played an important role in changing market practices in India. The Indian stock markets have moved away from open outcry system to an online electronic trading system, in line with best international practices. The electronic system has improved efficiency in the price discovery mechanism, lowered transaction costs, promoted transparency in transactions, and helped improve integration across stock exchanges throughout the country.
- Until recently, the majority of scrips on Indian securities markets was traded in physical form. Trading securities in physical form slows down transactions, adversely affecting the liquidity of the markets, increasing trading costs, and also contributing to problems relating to bad deliveries, theft, and forgery. Compulsory dematerialization has resulted in the overwhelming majority of securities being traded in electronic form.

- Technology has also enabled faster movement of funds across the country. Electronic funds transfer, combined with dematerialization of securities, has created an environment conducive to the reduction of settlement cycles on the stock markets. Shorter settlement cycles reduce the risk involved in transactions and speculative activity, and infuse more liquidity into the markets. The Indian stock markets, which previously followed a Monday-to-Friday settlement cycle, gradually switched to a rolling settlement cycle. The rolling settlement cycle was reduced to T+3 effective April 2002 and further to T+2 effective April 2003 in line with best international practices. In addition to their effect on trading, the technological developments have made their mark in the clearing and settlement process, paving the way for efficient and sophisticated systems.
- The Indian capital markets in the 1990s deepened and widened, with a larger investor base and emergence of a wide range of innovative and hybrid instruments. On the investor-base side, foreign institutional investors (FIIs), which have been allowed to invest in Indian equities since 1992, have now emerged as the biggest institutional investors on Indian capital markets. Mutual funds, especially private sector mutual funds, have also emerged as active institutional investors.
- On the instrument side, derivative instruments, such as index futures, stock futures, index options, and stock options, have become important instruments of price discovery, portfolio diversification, and risk hedging. Various risk-containment measures, including margins, positions, and exposure limits, are in place to ensure smooth functioning of the derivatives market.
- Indian companies can now raise funds freely in the international capital markets through the use of various instruments, such as American Depositary Receipts (ADRs) and Global Depositary Receipts (GDRs), foreign currency convertible bonds, and External Commercial Borrowings. ADRs and GDRs have two-way fungibility, meaning that investors (foreign institutional or domestic) in any company that has issued ADRs and GDRs can freely convert the ADRs and GDRs into underlying domestic shares, and vice versa. This is expected to improve liquidity in the markets and eliminate arbitrage between domestic and international markets.

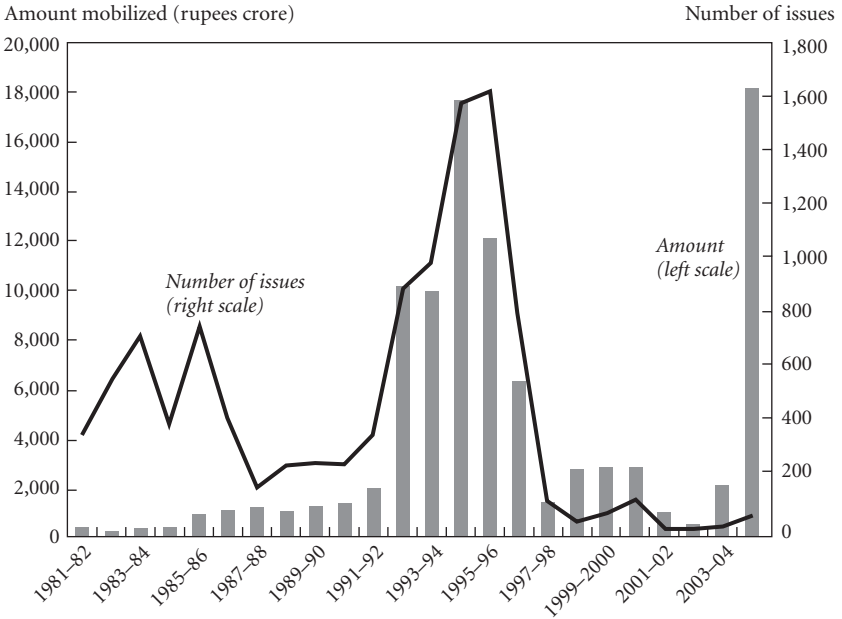
The Indian equity market has developed tremendously since the 1990s. The market has grown exponentially in terms of resource mobilization, number of listed stocks, market capitalization, trading volume, and investor base. Along with this growth, the profiles of the investors, issuers, and

intermediaries have changed significantly. The market has witnessed a fundamental institutional change, resulting in drastic reduction in transaction costs and significant improvement in efficiency, transparency, and safety. In the 1990s, reform measures initiated by the SEBI, such as market-determined allocation of resources, rolling settlement, sophisticated risk management, and derivatives trading, greatly improved the framework and efficiency of trading and settlement. Almost all equity settlements take place at two depositories. As a result, the Indian capital market has become qualitatively comparable to many developed markets.

As a result of the reforms undertaken in the liberalization period, the capital market in India has deepened. The prevalent conditions in the primary and secondary markets seem to have affected corporate decisions to finance project costs either through the equity markets or through loans. A large amount of funds to finance project costs has traditionally been raised through loans from financial intermediaries. Industrial liberalization, however, led to an increasing number of companies tapping the primary capital market to mobilize resources in the early 1990s. In the second half of the 1990s, following deceleration in the industrial sector and subdued conditions in the stock market, the corporate sector again shifted to the loans route, and the amount raised through new capital issues declined. More recently, there has been a revival of the primary market owing to a recovery in the stock markets as well as improvement in the investment climate and macroeconomic outlook (Figure 5.1).

There has been a change in the pattern of financing of the Indian corporate sector. The share of capital market-related instruments in the total funds, which picked up in the first half of 1990s, has declined in the current decade so far. The trend might change with an upturn in the capital market. The share of financial intermediaries in total funds also has declined. There has been a greater reliance on internal sources. During the 1980s and 1990s, internal sources of funds as a percentage of total sources ranged around 30–40 percent, whereas during recent years it has increased to more than 50 percent and even came close to 70 percent in 2002–03. Correspondingly, there has been a reduction in reliance on external financing. As a result of corporate reliance on internal generation of funds, there has been a noticeable decline in the debt-equity ratio (Table 5.1).

A notable feature of the 1990s was the substantial growth of the private placement market. The private placement market emerged as the preferred source of financing for corporations, including public sector enterprises, state-level undertakings, and development financial institutions (DFIs). The resources raised through the private placement market, which

**Figure 5.1. Resource Mobilization by the Private Corporate Sector through Equity**

stood at Rs. 13,361 crore (1 crore = 10 million) in 1995–96 increased to Rs. 85,102 crore in 2004–05. Currently, the size of the private placement market is estimated to be four times that of the public issues market.

The euro issues market became operational and developed in the 1990s. The amount raised through euro issues was as high as Rs. 7,898 crore in 1993–94 but declined afterward to Rs. 3,353 crore in 2004–05. Even though the amounts raised by new euro issues show a declining trend, the scrips listed on international markets are being actively traded.

The stock markets witnessed a long and sustained rally starting in May 2003, which continued throughout 2004 and 2005 despite intermittent disturbances. Notably, unlike in the past, this rally has been broad-based, encompassing almost all sectors. The BSE Sensex closed at the historical high of 8,500.26 on September 20, 2005, mainly because of strong buying support from domestic and foreign institutional investors, strong industrial growth, and satisfactory progress of the monsoon.

Turnover, which is an indicator of market liquidity, has shown a sustained increase, both on the BSE and the National Stock Exchange (NSE), in the stock market rally. Substantial liquidity has also shifted to the derivatives market, which started trading in June 2000. Turnover in

**Table 5.1. Pattern of Sources of Funds for Indian Corporates**

Item	1985–86 to 1989–90	1990–91 to 1994–95	1995–96 to 1999–2000	2000–01 to 2003–04
Internal Sources	31.9	29.9	37.1	61.4
External Sources	68.1	70.1	62.9	38.6
<i>Of which:</i>				
Equity capital	7.2	18.8	13.0	9.7
Borrowings	37.9	32.7	35.9	10.4
<i>Of which:</i>				
Debentures	11.0	7.1	5.6	–1.2
From banks	13.6	8.2	12.3	19.0
From financial institutions	8.7	10.3	9.0	–1.4
Trade dues and other current liabilities	22.8	18.4	13.7	17.7
Total	100.0	100.0	100.0	100.0
<i>Memorandum items:</i>				
Share of capital market–related instruments (debentures and equity capital)	18.2	26.0	18.6	8.4
Share of financial intermediaries (borrowings from banks and financial institutions)	22.2	18.3	21.3	17.5
Debt-equity ratio	88.4	85.5	65.2	62.8

Source: Articles on “Finances of Public Limited Companies,” *RBI Bulletin* (various issues).

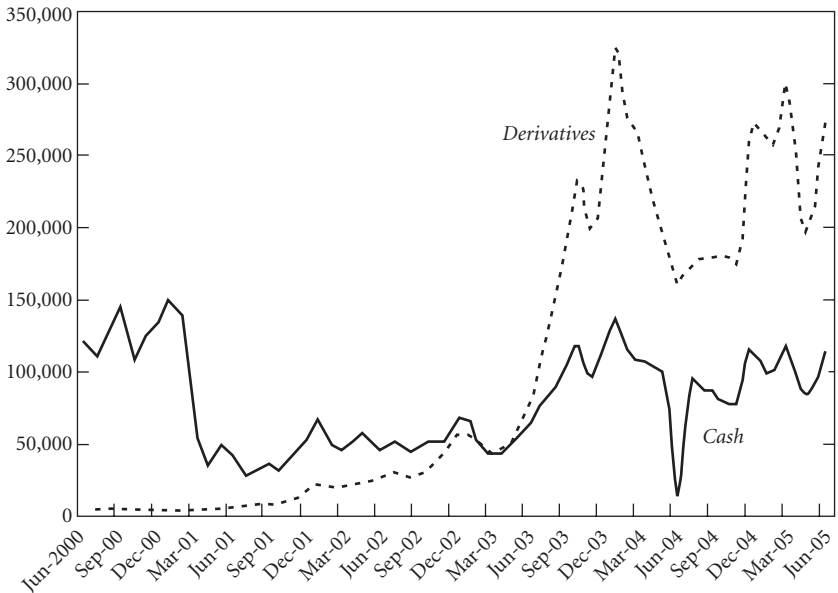
Note: Data pertain to nongovernment nonfinancial public limited companies.

the derivatives market remains much higher than in the cash markets (Figure 5.2).

Market capitalization, which is a barometer of the size of the stock market and the market value of investors' wealth, has similarly shown a steady increase. The market capitalization of the BSE and the NSE as of end-March 2005, at Rs. 1,698,428 crore and Rs. 1,585,585 crore, respectively, represents all-time-high levels mainly because of a surge in stock prices and listing of new securities (Figure 5.3). The market capitalization of the BSE as a percentage of GDP, which roughly accounts for 95 percent of market capitalization countrywide, increased from 16.2 percent in 1990–91 to 54.7 percent in 2004–05.

The price/earnings (P/E) ratio, which reflects the valuations of scrips vis-à-vis their earnings, was much higher in the 1992–94 period as compared with the present ratio (Figure 5.4). Despite unprecedented price levels, the P/E ratio for Indian equities has remained attractive thanks to strong growth in corporate earnings. A high P/E ratio indicates overvalued scrips as compared with corporate earnings; thus the current low P/E ratio points toward the potential of the Indian stock markets, notwithstanding the current high prices.

**Figure 5.2. Turnover in Cash and Derivatives Segment of the NSE Stock Exchange**  
(In rupees crore)

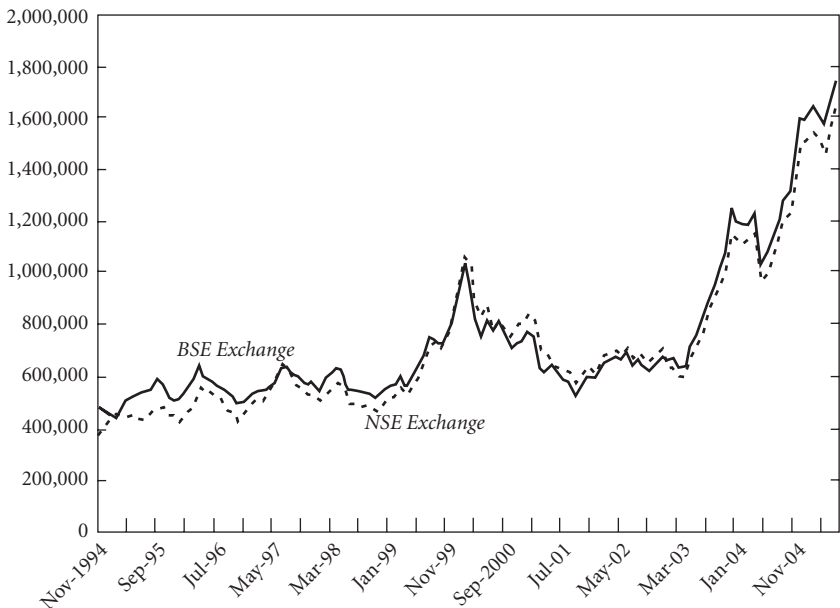


The Indian stock markets have become more stable thanks to the strengthening of the market design and risk containment measures. This is reflected in a sharp decline in the volatility of stock prices, measured by the coefficient of variation for the BSE Sensex (Figure 5.5).

Liberalization and consequent reform measures have drawn the attention of foreign investors, leading to a rise in portfolio investment in the Indian capital market. FIIs emerged as the largest institutional investors in the Indian equity market in the 1990s. Apart from providing institutional character to the capital markets, FIIs inject global liquidity into the markets and reduce the cost of capital. From the perspective of FIIs, investments in various countries provide an excellent measure of portfolio diversification and hedging, and also take advantage of arbitrage opportunities. Over recent years, India has emerged as a major recipient of portfolio investment among emerging market economies. Because of such large inflows, reflecting the confidence of cross-border investors in the prospects of the Indian securities market, India received positive portfolio inflows each year except one. The stability of portfolio flows toward India contrasts with the large volatility of portfolio flows in most emerging market economies. FII



**Figure 5.3. Trends in Market Capitalization**  
(In rupees crore)

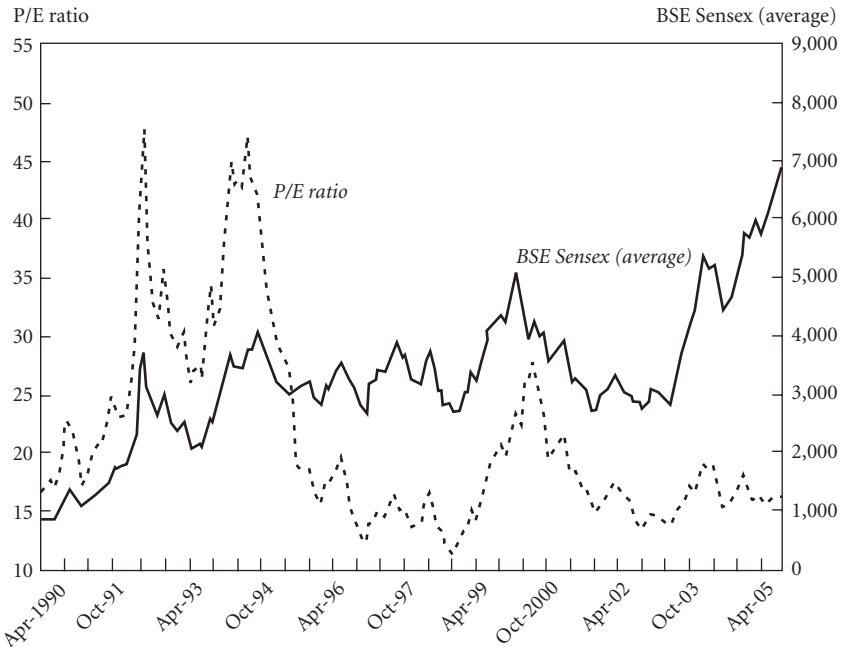


investment in equities in 2004–05 was Rs. 44,123 crore, which was one of the highest investments in equities in a single year by FIIs.

### Corporate Securities: Debt Segment

From the perspective of developing countries, a liquid corporate bond market can play a critical role in supporting economic development. It supplements the banking system to meet the requirements of the corporate sector for long-term capital investment and asset creation. It provides a stable source of financing when the equity market is volatile. Further, with the decline in the role of DFIs, there is an increasing realization of the need for a well-developed corporate debt market as an alternative source of finance.

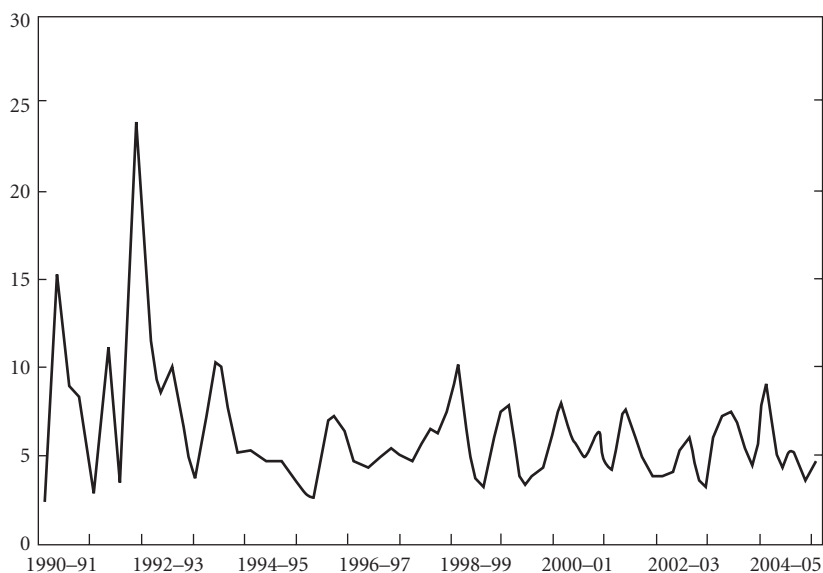
A number of policy initiatives were taken during the 1990s to activate the corporate debt market in India. The interest rate ceiling on corporate debentures was abolished in 1991, paving the way for market-based pricing of corporate debt issues. In order to improve the quality of debt issues, rating was made mandatory for all publicly issued debt instruments,

**Figure 5.4. Price-Earnings Ratio of BSE Sensex Scrips and Average BSE Sensex**

irrespective of their maturity. The role of trustees in bond and debenture issues has strengthened over the years. All privately placed debt issues are required to be listed on the stock exchanges and follow the disclosure requirements. However, despite the policy initiatives, corporate debt still constitutes a small segment of the debt market in India. Whereas the primary market for debt securities is dominated by the private placement market, the secondary market for corporate debt is characterized by poor liquidity, although this has improved in recent years.

The developed financial markets are characterized by a sound financial and legal infrastructure, which is necessary for the development of a corporate bond market, supported by a well-functioning regulatory system. The United States is, by far, the most suitable example of a country whose corporate bond market is deep, efficient, and liquid. The bond markets in the United Kingdom and euro-area countries are also reasonably developed. The markets for debt securities in Western European countries and Japan are much smaller than in the United States, not only in absolute terms but also as a percentage of GDP. Unlike the developed financial systems, the corporate bond market has a very short history of develop-

**Figure 5.5. Quarterly Coefficient of Variation of BSE Sensex**  
(In percent)



ment in the emerging market economies. A comparative position of the corporate debt market in developing countries and the United States is presented in Table 5.2.

Historically, India had a bank-dominated financial system, which was supplemented by DFIs to provide long-term project finance. However, the financial system has undergone a marked change in recent years. With the conversion of DFIs into banks, a gap has been created for long-term finance. Commercial banks, given the short-term nature of their liabilities, may not be able to fill the gap in long-term finance. In view of this, India's corporate sector requires long-term finance to supplement its resources. In this context, development of the corporate bond market will play a strategic role in the near future.

The corporate debt market in India has existed since independence. Public limited companies have been raising capital by issuing debt securities. In 1985–86, state-owned public sector undertakings began issuing bonds. However, in the absence of a well-functioning secondary market, such debt instruments remained illiquid. In recent years, because of falling interest rates and adequate availability of funds, corporate debt issuance has shown a noticeable rise, especially through private placements (Table 5.3).

**Table 5.2. Comparative Position of the Indian Corporate Debt Market, 2002**

	India	Malaysia	Hong Kong SAR	Singapore	United States	Korea	China
<i>(In billions of U.S. dollars)</i>							
GDP	510	95	164	91	10,445	462	1,238
Government bonds	143	47	11	31	6,685	225	201
Corporate bonds	19	36	34	27	9,588	156	212
Bank loans to corporate sector	156	135	678	210	6,976	609	2,073
Equity	170	123	463	102	11,010	216	463
<i>(In percent)</i>							
Corporate bonds to GDP	4	38	21	30	92	34	17
Corporate bonds to total bonds	12	43	76	47	59	41	51
Corporate bonds to bank loans	12	27	5	13	137	26	10
Corporate bonds to equity	11	29	7	26	87	72	46

Sources: Bank for International Settlements, Deutsche Bank, World Bank, and World Federation of Stock Markets.

Corporations continue to prefer private placement of debt issues rather than floating public issues. Resource mobilization through private placement picked up from Rs. 13,361 crore in 1995–96 to Rs. 85,102 crore in 2004–05. The dominance of private placement has been attributed to several factors, such as ease of issuance, cost efficiency, primarily institutional demand, and so forth. About 90 percent of outstanding corporate debt has been privately placed. In the private placement market, 57 percent of issuances are by financial institutions and banks, in both the public and private sectors. Public sector companies account for 58 percent of privately placed issues. About 26 percent represent issues by public sector undertakings and central and state government guaranteed bonds.

The secondary market activity in the debt segment, in general, remains subdued at both the BSE and the Wholesale Debt Market Segment (WDM) of the NSE, partly because of a lack of a sufficient number of securities and partly because of a lack of interest by retail investors. In order to improve secondary market activity in this segment, the Union Budget for 1999–2000 abolished the stamp duty on the transfer of dematerialized debt instruments. This enabled a pickup in the turnover in corporate debt at the NSE from Rs. 5,816 crore in 2002–03 to Rs. 17,521 crore in 2004–05. The share of turnover in corporate debt securities in total turnover in the WDM segment of the NSE, however, remains small at about 2 percent.

**Table 5.3. Resource Mobilization by the Corporate Sector***(In rupees crore)*

Year	Public Equity Issue	Debt Issues			Total Resource Mobilization (2+5)	Share of Private Placements in Debt Issues (4/5*100)	Share of Debt in Total Resource Mobilization (5/6*100)
		Public issues	Private placements	Total (3+4)			
1	2	3	4	5	6	7	8
1995–96	14,493	5,970	13,361	19,331	33,824	69.12	57.15
1996–97	7,928	7,483	15,066	22,549	30,478	66.81	73.99
1997–98	1,701	2,957	30,099	33,056	34,756	91.05	95.11
1998–99	2,622	6,743	49,679	56,422	59,044	88.05	95.56
1999–00	3,230	4,475	61,259	65,734	68,964	93.19	95.32
2000–01	3,111	3,251	67,836	71,087	74,198	95.43	95.81
2001–02	1,025	6,087	64,876	70,963	71,988	91.42	98.58
2002–03	1,233	3,634	66,948	70,582	71,815	94.85	98.28
2003–04	3,427	4,424	63,901	68,325	71,752	93.53	95.22
2004–05	18,024	3,868	85,102	88,970	106,994	95.65	83.15

India is fairly well placed as far as prerequisites for the development of the corporate bond market are concerned. There is a developed government securities market that provides a reasonably dependable yield curve. The major stock exchanges have trading platforms for transactions in debt securities. Infrastructure for clearing and settlement also exists. The Clearing Corporation of India Limited (CCIL) has been successfully settling trades in government securities, foreign exchange, and money market instruments. The existing depository system has been working well. The settlement system has improved significantly in recent years. The settlement in government securities has moved over to delivery versus payment (DVP III)<sup>1</sup> since March 29, 2004. Real Time Gross Settlement (RTGS) has become operational for commercial bank transactions in certain cities. The presence of multiple rating agencies provides an efficient rating mechanism in India.

The Indian corporate debt market has, however, remained confined to AAA or AA+/AA rated borrowers. Most investors are institutions, with very few retail investors; hence, the disintermediation process is not complete. Transparency is limited in both the primary and the secondary markets, liquidity is poor, and many bonds are held until redemption. The legal recourse in case of nonpayment of interest and principal is complicated, and bankruptcy laws provide little comfort. The legal and

<sup>1</sup>Under the DVP III mode of settlement, both the securities leg and the funds leg of transactions are settled on a net basis.

regulatory requirements, accounting and auditing standards for issuers, and the infrastructure for trading, clearing, and settlement need to be further developed.

## **Government Securities Market**

A well-developed government securities market facilitates market-based conduct of monetary policy and provides a domestic credit risk-free rupee yield curve as a benchmark for prices of other securities. However, prior to 1991, the government securities market was not developed, because of inefficient market practices and lack of proper institutional infrastructure. Subscriptions to government securities emanated mainly from the reserve bank, as it monetized the budget deficits of the government and banks as part of fulfilling its statutory obligations. The main factor that inhibited the development of the sovereign yield curve in India in the pre-reform period was the prevalence of artificially low administrative coupon rates on these securities that were out of alignment with other interest rates in the economy. The coupon rates remained virtually unchanged up to 1979–80. Thereafter, although coupon rates were revised upward, especially for securities of longer tenor, the yield of a 30-year government bond remained lower than the maximum bank deposit rate. The reserve bank, despite being the debt manager for the government, did not have control over volume, maturity, and term structure of interest rates in the government securities market. This was mainly on account of the absence of any limit to the automatic monetization of central government budget deficits. Consequently, the market remained narrow, with captive participation from institutions as dictated by statutory requirements. Apart from the reserve bank holding securities on its own account, the major investors were banks, insurance companies, provident funds, and other trust funds. The reserve bank did not have special representatives in the market and had to make use of the services of stockbrokers. The non-remunerative yields and captive nature of the government securities market impeded secondary market activity. The maturity structure of government securities remained highly skewed in favor of longer terms of more than 15 years.

The reform process for the government securities market focused on the following major areas:

- It was necessary to phase out the administered interest rate system and bring in market discovery of prices of government securities to ensure broad-based participation. Accordingly, an auction-based

system for issuances of government dated securities was initiated in June 1992. The auctioning system has been essentially of a multiple-price variety, whereby successful winning bids are filled at the bid price. Occasionally, however, for dated securities, with a view to eliminate the typical “winner’s curse” problem of the multiple-price method and to broaden investor participation, a uniform price auction has been adopted, whereby successful bidders pay a flat price, called the cut-off price. Furthermore, to diversify participation, allotment is also made through noncompetitive bids outside the notified amount to state governments, nongovernment provident funds, other central banks, and individuals.

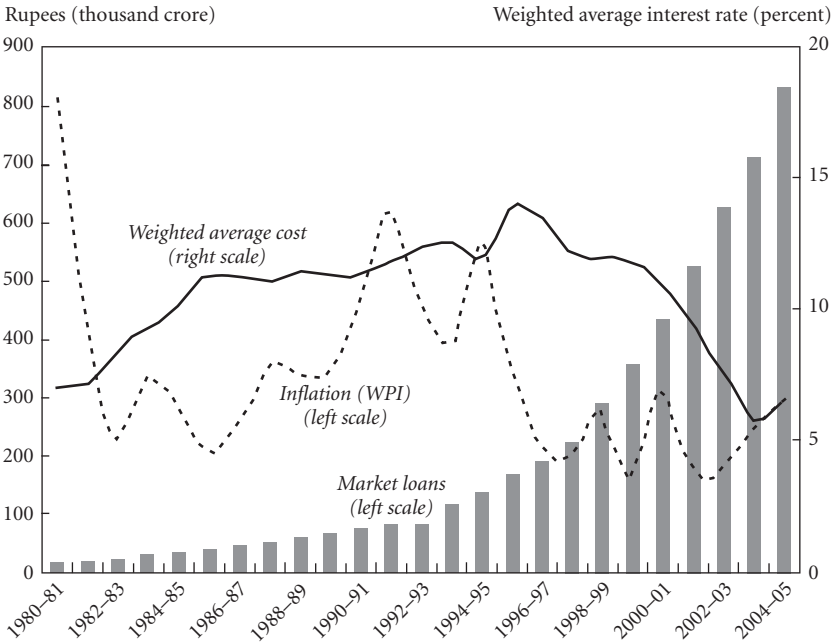
- An appropriate network of intermediaries (Discount and Finance House of India in 1988, Securities Trading Corporation of India in 1994, and primary dealers (PDs) in 1995) was created with the objective of strengthening the securities market infrastructure. A PD provides a minimum bidding commitment, maintains a minimum success ratio, and underwrites and offers two-way quotes in the government securities market. The PD system enables a lowering of the government’s market borrowing cost as far as possible consistent with a prudent degree of rollover risk. There were 18 PDs in March 2004, which accounted for more than one-quarter of outright turnover in the government securities market. Efforts have also been made to make participation in this market wider and voluntary. The statutory liquidity ratio (SLR), the proportion of net demand and time liabilities that a bank had to keep as investments in government and other approved securities, was brought down from 38.5 percent to its minimum value of 25 percent during the first half of the 1990s. The reserve bank’s monetization of government debt through subscriptions of government dated securities was also reduced; the reserve bank’s primary subscriptions occur now with the objective of managing liquidity or to devolve the gilt on its own account when market conditions are not conducive to unloading the same through sales under open market operations once market conditions improve. Foreign institutional investors were permitted in the gilt market in July 1997. The retailing of government securities was promoted by allowing the trading of government securities on the stock exchanges on an anonymous screen-based, order-driven basis to provide countrywide access.
- The reserve bank shifted from passive to active management of public debt as the practice of automatic monetization of the central government deficit through ad hoc treasury bills was phased out and

replaced by a scheme of ways and means advances (WMAs). Because the ad hoc treasury bills bore a fixed coupon rate of 4.6 percent and WMAs are extended at interest rates linked to the bank rate, the abolition of ad hoc treasury bills has served as a major landmark for migrating to a system of market-related interest rates in the government securities market.

- Attempts were made to introduce new instruments to suit diverse investor requirements; for example, zero coupon bonds (January 1994), floating rate bonds (September 1995), capital indexed bonds (December 1997), and bonds with call and put options (July 2002). However, plain vanilla bonds have remained the mainstay. Since 1999–2000, a policy of reissuance of key securities through price-based auctions has enabled passive consolidation of public debt, helped emergence of benchmark securities, and promoted liquidity in the government securities market. Active consolidation of public debt was undertaken under a debt buyback scheme in July 2003 under which high-cost and illiquid securities issued in the past were bought back by the government in exchange for new securities at the prevailing market yield.
- A policy priority has been to improve the market practices in government securities in line with best international practices. Efforts have been made to calibrate technological upgrades of trading, payment, and settlement structure in the gilt market in a phased manner to make it safer, transparent, and efficient. Settlement risk was lowered with the introduction of the delivery versus payment (DvP) system in July 1995, which ensures settlement by synchronizing the transfer of securities with cash payment. The DvP graduated into the third stage in April 2004, with settlement of both securities and funds on a net basis. CCIL commenced operations on February 15, 2002, in clearing and settlement in government securities. Backed by an SGF, CCIL acts as central counterparty and provides guaranteed settlement. The Negotiated Dealing System, which was set up simultaneously, provides online electronic bidding at the auctions and permits paperless settlement of transactions in government securities with electronic connectivity to CCIL and the DvP system. Measures were introduced in May 2002 for holding government securities in a dematerialized instead of physical fashion, which had carried the potential risk of irregularities through nondelivery. Screen-based, order-driven trading of gilts was also allowed in stock exchanges as of January 2003. The operationalization of RTGS was undertaken in March 2004 for continuous processing and settlement



**Figure 5.6. Market Loans and Interest Rate of Central Government Borrowing**



transfer of funds to minimize payment risk. Efforts have been made to widen the investor base in the government securities market. The Reserve Bank of India authorized banks and primary dealers to open Constituent Subsidiary General Ledger accounts for their constituents for wider participation in the government securities market. The cumulative debt investment for FIIs was raised from US\$1 billion to \$1.75 billion, with the ceiling on corporate debt at \$0.5 billion being kept over and above the government securities ceiling of \$1.75 billion.

The switchover to the system of market-related interest rates has allowed the government to increase market loans substantially since the early 1990s (Figure 5.6). Reforms brought flexibility on both the supply and demand sides of the government securities market. On the supply side, the reserve bank undertook active debt management by modulating the maturity structure of primary gilt issuances as required. It was shortened from 16 years in 1990–91 to 5.5 years in 1996–97 to reduce the costs of government borrowing. However, subsequently, with a view to avoiding bunching of repayments, the maturity structure of government securi-

ties was lengthened to 15 years in 2003–04. Availability of ample liquidity enabled the reserve bank to lengthen the maturity of gilt issuances, with substantial reduction in weighted average yield from 13.7 percent in 1996–97 to 5.7 percent in 2003–04. Strikingly, the auctioning system has facilitated a market-related softening of the interest cost of government borrowing as opposed to artificial lowering of the interest cost in the pre-reform-administered interest rate regime.

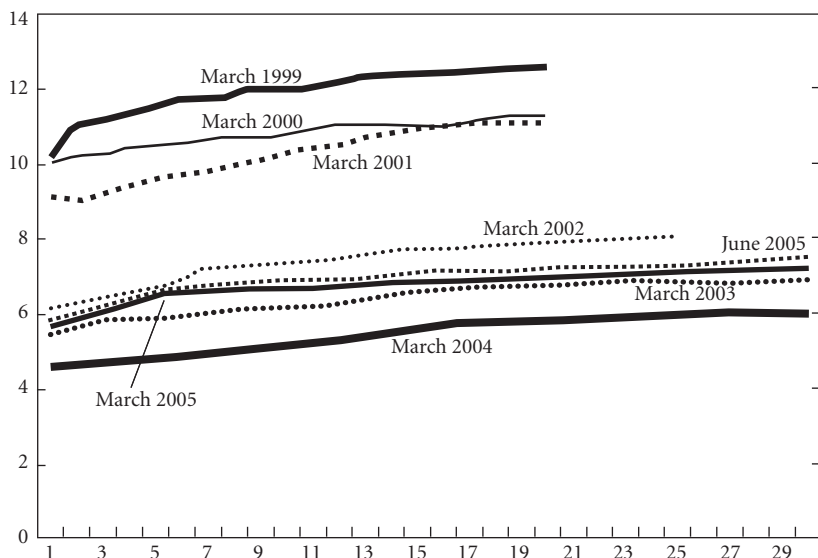
On the demand side, the investor base for government securities has widened from commercial banks, financial institutions, and provident and pension funds to co-operative banks, regional rural banks, mutual funds, and nonbank financial companies in recent years. The reserve bank's share of the total stock of government securities has steadily declined, reflecting its sterilization operations as well as its policy of keeping private placements and devolvments on its own account to a minimum. Strikingly, despite SLR reductions, banks have been voluntarily maintaining gilt investments much above the stipulated levels, especially during phases of slack in credit time, slowdown in the demand for credit and market expectations of interest rate softening. Mutual funds dedicated exclusively to investments in government securities or gilt funds have been set up to encourage retailing of gilts. Furthermore, a scheme of noncompetitive bidding reserving for individuals up to 5 percent of the auctions' notified amounts was introduced in January 2002.

These developments have enabled the evolution of a smooth yield curve in the government securities market. The maturity of the yield curve has gradually lengthened in recent years. Persistent rallies in government securities prices have progressively shifted the yield curve down. Furthermore, with the prevalence of liquidity overhang and the repurchase (repo) rate as an anchor of short-term rates, the yield curve has progressively flattened in the past few years (Figure 5.7). Transactions in the secondary market in the government securities market have expanded at a phenomenal pace, increasing from Rs. 1, 22,942 crore in 1996–97 to Rs. 2,723,621 crore in 2004–05. The sharp increase, especially in recent years, reflected a sustained rally in the prices of the government securities market as well as increased use of the repo market.

## **Assessment of Reforms and Future Challenges**

The progress made by the Indian capital markets in the post-liberalization phase in terms of implementing international standard practices, widening and deepening capital markets, and technological progress has been

**Figure 5.7. Yield Curves in Government Securities**  
(In percent)



remarkable. It should, however, be noted that this period was also marked by the greatest turmoil the markets have ever witnessed. With timely and appropriate policy initiatives, systemic failures were avoided. Some of the fundamental problems relating to Indian capital markets include a huge number of illiquid stocks; lack of depth, with a few companies accounting for the majority of trading volume; a low delivery ratio; and concentration of trading with a few brokerage houses. Although some of these problems are chronic and difficult to solve for any regulatory authority, they underline the need to develop capital markets further.

With the initiation of financial sector reforms, the avenues for raising long-term finance for the Indian corporate sector are undergoing a shift. Whereas the corporate sector now has increased access to international capital markets, the channeling of funds from the traditional source of long-term finance to the corporate sector—DFIs—has been slowing down. With some of these DFIs converting into universal banks, one can expect a boost in the flow of medium- to long-term financing from the banking sector to the corporate sector, because these DFIs have an existing client base and expertise in the evaluation and monitoring of project financing. After the East Asian crisis, a unanimous view has emerged that a multiagency approach to meeting the demand for long-term funds

would be both effective and efficient. Under such an approach, the equity market, the debt market, banks, and financial institutions should together meet the long-term financing needs of the corporate sector.

The development of the corporate debt market is, however, still relatively inadequate. Most investors are institutions, with very few retail investors. Transparency is limited in both the primary and secondary markets, liquidity is poor, and many bonds are held until redemption. The legal recourse in case of nonpayment of interest and principal is complicated, and bankruptcy laws afford little comfort. To develop the corporate bond market, conscious efforts have to be made to increase the supply of high-quality paper, creating an adequate institutional investor base, ensuring a variety of instruments of differing maturities, and mounting supporting infrastructure. Emphasis also needs to be placed on efficient legal systems as important infrastructure for deep and liquid bond markets. Among legal reforms, bankruptcy laws and capacity to seize collateral are particularly important. Experience also indicates that in many emerging economies, because the risk is transferred to the creditor in bond markets as compared to banks, there is a preponderant bias toward bank deposits among household savers in many countries. In other words, development of the domestic corporate debt market is bound to be a long process, and banks will have to continue to be dominant in the financial systems of most emerging market economies.

Some success has also been achieved in creating a deep and liquid government securities market as the investor base has widened with the participation of nonbank players, limited primary purchases of the reserve bank, and market-related movement of coupon rates. The elimination of automatic monetization by the reserve bank and reduction of the statutory preemption of banks have provided much-needed autonomy for the conduct of the monetary policy. Considerable progress has been made in establishing a state-of-the-art institutional framework, risk-management systems, clearing and settlement systems, and transparency in debt management operations in the government securities market. However, several challenges remain. First, the need for better coordination of the debt and monetary management functions continues, because the timing and amounts of issuance of government securities may not always coincide with the requirements of monetary management. Progress has already been made in this direction: a half-yearly calendar for issuance of government securities minimizes uncertainty on the part of both the debt manager and the investors. Second, there is a need to introduce new instruments, such as longer-term repos, rollover of repos, and separate trading of coupon instruments with the operationalization of Separate Trading for Registered Interest and

Principal of Securities. Capital Indexed Bonds with modified features will be introduced shortly to offer inflation-linked returns on both the coupons and the principal repayments. Third, the derivatives market is evolving in India and, therefore, its development has to be cautiously planned to avoid pitfalls. There is a need to harmonize the regulatory prescriptions for over-the-counter (OTC) and exchange-traded interest rate derivatives. Furthermore, in order to strengthen the OTC derivatives market and to mitigate the risks involved, a clearing arrangement through CCIL also needs to be worked out. The trading volume of government securities in the stock exchanges continues to suffer. Finally, market operation mechanisms need to be worked out for the phase commencing April 2006, when the Reserve Bank of India will not participate in the primary market of government securities. An appropriate role needs to be designed for the primary dealers for successful completion of primary auctions during this phase.

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