A Decade of Reforms in Government Securities Market in India and the Road Ahead*

RAKESH MOHAN

I. INTRODUCTION

It gives me great pleasure to deliver this keynote address at the Annual Conference of FIMMDA jointly organised by the Fixed Income Money Market Dealers Association of India (FIMMDA) and Primary Dealers Association of India (PDAI). Many of you would recall that the FIMMDA-PDAI conference held in Bangkok in 2002 was addressed by Governor, Dr. Y. V. Reddy when he was Deputy Governor. My address today is like a footnote to the comprehensive address given by Dr Reddy in Bangkok[1].

He had covered a whole range of issues relevant for the development of the debt market including the need and motivation for development of domestic debt markets, the key issues relating to the development of the government securities market and also of the corporate bond market. He had emphasised the importance of the development of institutions and infrastructure such as the development of institutional investors, self-regulatory organisations, credit rating agencies, the relative roles of banks and bond markets, development of primary dealers, efficient clearing and settlement mechanisms and the like. More importantly, he had laid out the road map for the development of Indian debt markets in a very detailed manner for the following two years.

I am here to really give you a progress report. First, it is very gratifying to see that most of reforms contemplated by him at that time have been completed. Second, as he had said, the development of the corporate debt market is different: whereas the government securities market has developed a great deal, the corporate debt market has a long way to go.

The development of any market needs a great deal of collaboration and consultation between regulatory authorities and market players. This has been achieved very successfully in the Indian debt market because of the existence of FIMMDA and PDAI. As you know, we consult you regularly and especially when any changes are contemplated: as exemplified by the recent discussions of the Reports of the Working Groups on Sterilization and on the Liquidity Adjustment Facility (LAF). FIMMDA has played a pivotal role in several other areas such as documentation of repos, commercial paper (CP) and certificates of deposit (CDs), finalisation of the daily and annual valuation methodology for fixed income securities and derivative instruments, development of the yield curve for corporate securities and the like. I am also happy to note that FIMMDA's "Handbook of Market Practices" is helping the market in standardising market practices for fixed income securities and money market instruments. Likewise, PDAI has also played an important role in making our G-Sec market more liquid and in the successful completion of the Government's market borrowing programme every year. Both PDAI and FIMMDA have participated in framing regulatory guidelines on a host of issues in the G-Sec market. Given that the annual turnover in the secondary market for G-secs is now almost twice India's GDP and that, after Japan, India's G-sec market is probably the largest in Asia, the importance of FIMMDA and PDAI in ensuring smooth, ethical and transparent conduct of business can hardly be overemphasised. The need for sustained efforts to further improve market practices and to benchmark them against international best practices is of paramount importance. We will continue with the same collaborative spirit in the future also.

This Conference is timely for many reasons. First, given the burgeoning reserves in Asian countries, there are new discussions on development of domestic bond

---

* Keynote Address by Dr. Rakesh Mohan, the then Deputy Governor, Reserve Bank of India at the Annual Conference of FIMMDA jointly organised by Fixed Income Money Market Dealers Association of India (FIMMDA) and Primary Dealers Association of India (PDAI) on March 20, 2004 at Dubai. Dr. Mohan is grateful to H.R. Khan, A. Prasad, S. Subbaiah and Partha Ray of the Reserve Bank of India for their assistance.

[1] For a full text of the speech, refer to "Developing Bond Markets in Emerging Economies: Issues and Indian Experience", Y. V. Reddy, *RBI Bulletin*, April, 2002.

markets in this region. Efforts are on in Asia to set up an Asian Bond Fund which envisages cross border investments in Asian bond markets. Many of our neighbouring countries like Sri Lanka have expressed interest in raising funds through our bond markets. The Government has recently issued a notification to launch Indian Depository Receipts. We have also permitted supra-nationals like the World Bank, International Financial Corporation and the Asian Development Bank to float local currency bonds in India. More recently, Indian residents have been permitted to invest up to US $ 25,000 in any securities abroad, including debt instruments. These developments augur well for collaboration between Self Regulatory Organisations (SROs) in different countries.

Second, over the last two decades, sustained budget deficits have necessitated large issuance of government securities in India. Taking advantage of this, we were able to develop a deep and liquid government securities market. Recent improvements in the fiscal position during 2003-04 has resulted in a lower than budgeted fiscal deficit. The government has embarked on a process of fiscal consolidation through enactment of the Fiscal Responsibility and Budget Management Act. Compliance with the Act will result in substantial improvement in the fiscal position. A zero revenue deficit and 3 per cent fiscal deficit is to be achieved in the next five years. Various state governments are following suit and seeking to enact similar fiscal responsibility legislation. This would hopefully usher in a new era of declining government borrowing. The Indian market has been used to rising fiscal deficits and large borrowing programmes of government over the years. Banks especially have been investing in government securities much more than the statutory requirements. A shrinking government securities market will pose a number of issues, including that of liquidity, reliable substitute assets and the like.

Third, after five years of slow growth, the Indian economy is transiting to a new higher growth path. The availability of adequate infrastructure facilities is vital for acceleration of the economic development of a country. However, the financing of infrastructure projects is a highly challenging task. Banks are hesitant to finance infrastructure projects partly because they lack the requisite skills in project appraisal and partly on consideration of asset-liability mismatches. The India Infrastructure Report (EGCIP, 1996) had projected the magnitude of infrastructure investment that was required to accelerate Indian annual economic growth to 7-8 per cent over the following ten years. Actual investment has been much lower than projected (Mohan, 2004), in both the public and private sectors. The gap between increasing demand for financing infrastructure activity and dwindling budgetary support has led to a wave of deregulation and privatisation of infrastructure in a number of countries. The huge gap between investment demand and the supply of finances provides complex challenges to different constituents of the financial system, which compel a search for alternative ways of financing these investments. With the development of an active and liquid market for securitised corporate debt, mutual funds, commercial banks and financial institutions could also emerge as potentially large investors. Ways will need to be found for the elongation of corporate debt issued by infrastructure entities. Thus, in the context of infrastructure financing, the prevalence of a long-term debt market becomes critical. The existence of a vibrant debt market is important for providing mechanisms for greater liquidity as also for risk minimisation. In India, while equity markets have developed well in terms of liquidity, infrastructure and regulatory framework, the debt market has lagged behind. Thus attention needs to be given to the development of an appropriate institutional mechanism for promoting the corporate debt market.

Fourth, with the decline of development finance institutions, one of the sources of finance for corporates, project loans has been dwindling. Corporates will, therefore, have to depend on debt financing directly from the market, which underscores the importance of a transparent, deep and liquid corporate debt market.

These are some of the issues facing us now. We have developed a large government securities market. We need to build on this work further and work towards developing a corporate bond market. Against this background, it is indeed appropriate that the theme chosen for this year's Conference is "Globalising the Indian Bond Market", which not only reflects the confidence that the market participants have in the inherent strengths of the Indian debt market, but also the ability of Indian players to compete with the best in the world. We have the potential for a debt market that has both breadth and depth. In fact our debt market can be among the largest and most efficient in the world. Thus the theme of this year's conference is very appropriate. All of us are partners in the reform process and all of us have equal responsibility to make our markets globally competitive, efficient and transparent.

We started the reform process in the government securities market in 1992 and a decade has gone by. It would be appropriate for us to take stock of what has been achieved so far and set an agenda for the near future. Against this backdrop, my address today would essentially review a decade of reforms in the Indian government securities market, assess its impact and set out the future agenda.

The rest of the address is organised as follows. A review of reforms in the government securities market is undertaken in section II; covering the various measures taken to develop the market, salient outcomes and empirical evidences; section III covers some of my thoughts on the future of the debt markets in India and the concluding remarks are presented in section IV.

II. Review of Reforms in the Government Securities Market

The Indian government securities market has been transformed in the last ten years. A snapshot of the market would reveal that between 1992 and 2003, the outstanding stock of central government securities has increased nine-fold to Rs.6,739 billion. As a proportion of GDP, it has doubled from 14.7 per cent to 27.3 per cent. The average maturity of securities issued during the year has elongated to 15 years in 2003 from around 6 years in 1996. The weighted average cost of securities issued during the year first rose from 11.8 per cent in 1992 to 13.8 per cent in 1996 and then fell to 7.3 per cent in 2003. Turnover has increased to over 200 per cent of GDP in 2003 (Table 1).

Pre-Reform Period of the Government Securities Market

The government securities market in the pre-reforms period was characterised by administered (and often artificially low) rates of interest; the participants were captive investors (mostly banks) due to high SLR requirements; there was an absence of a liquid and transparent secondary market for G-Secs, resulting in the lack of a smooth and robust yield curve for pricing of the instruments. Low coupon rates were offered on government securities to keep government borrowing costs down, which made real rates of return negative for several years until the mid-1980s. During the 1980s, the volume of debt expanded considerably, particularly short-term debt, due to automatic accommodation to the Central Government by the Reserve Bank of India, through the mechanism of *ad hoc* Treasury Bills. With a captive investor base and interest below the market rate, the secondary market for government bonds remained dormant. Non-market related yields on government securities affected the yield structure of financial assets in the system, and led to higher lending rates. Driven by these compulsions, Reserve Bank's monetary management was dominated by a regime of administered interest rates, and rising Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) prescriptions. High CRR and SLR left little room for monetary maneuvering.

Against this backdrop, and in the context of the overall economic reform programme, reforms in government securities markets commenced in the beginning of the 1990s. In a nutshell, the most compelling factors for initiating reforms were (a) increased borrowing requirements of the government due to the burgeoning fiscal

Table 1: Snapshot of the Indian G-Sec Market

	1992	1996	2002	2003
Outstanding stock (Rs. in billion)	769	1375	5363	6739
Outstanding stock as ratio of GDP (per cent)	14.68	14.20	27.89	27.29
Turnover / GDP (per cent)	--	34.21	157.68	202.88
Average maturity of the securities issued during the year (in Years)	--	5.70	14.90	15.32
Weighted average cost of the securities issued during the year (Per cent)	11.78	13.77	9.44	7.34
Minimum and maximum maturities of stock issued during the year (in Years)	N.A.	2-10	5-25	7-30
PD share in the turnover				
A. Primary market			70.46	65.06
B. Secondary market	--	--	22.04	21.72
Transactions on CCIL* (Face value Rs. in Billion)	--	--	548	15,323

* CCIL : Clearing Corporation of India Limited.

Note : Turnover is the total of outright and repo turnover. Outright turnover and repo turnover are calculated as twice and four times the transactions volume respectively

Sources : 1. RBI, Report on Currency and Finance, Various issues
2. RBI (2003)

deficit (b) the need to keep the cost of borrowing reasonable (c) the need to develop a benchmark for other fixed income instruments for the purposes of pricing and valuation, and to act as a conduit for convergence of interest rates in other markets (d) operate monetary policy through indirect instruments like open market operations (OMO) and repos, which requires an active secondary market for G-Secs and (e) to improve the overall efficiency of financial markets. Some of the most salient reforms initiated in the G-sec market since 1992 are presented in Box 1.

Box 1: Reforms in the G-Sec Market

Year	Reform Initiated	Objective	Remarks
June 1992	Commenced auction of Central Government Securities at market determined rates for the first time	To induce transparency into the process	Price discovery has become very fine over a period of time.
January 1993	91 day Treasury Bills offered through auctions at market determined rates	To offer an instrument for managing the liquidity	Emerged as a very useful instrument and now forms a benchmark at the short end of the yield curve.
January 1994	Issued Zero coupon Bond for the first time. Securities Trading Corporation of India (STCI) commenced operations	To add new instruments and intermediaries	STCI is now a primary dealer (PD). STCI and 17 PDs have become important intermediaries in the G-Sec market.
August 1994	A historic agreement was signed between RBI and the government on the net issue of adhoc treasury bills	To pave way for abolition of adhoc treasury bills	Facilitated further reforms in the market.
March 1995	Guidelines and procedures for enlistment of Primary Dealers were issued	To strengthen the market intermediation	PD system has evolved as an important segment of G-sec market.
July 1995	Delivery-versus-Payment (DVP) in G-secs was introduced	To reduce settlement risk	We are now graduating to DVP-III.
September 1995	Floating Rate Bonds (FRBs) was introduced	To add more instruments	Floaters are now becoming popular. 15-20 per cent of fresh GOI borrowing is now through FRBs.
January 1997	Technical Advisory Committee (TAC) was constituted	To advise RBI on developing G-sec market	Plays a great role in developing the G-sec market and signifies the consultative and collaborative approach of RBI in implementing reforms.
March 1997	Historical agreement between Government and RBI to, inter alia, discontinue adhoc T-Bills	To discontinue automatic monetisation	Improved transparency and pricing as also autonomy in monetary policy making.
April 1997	FIMMDA was established	Self regulation	Improved practices.
	Repo was permitted in all G-secs to SGL a/c holders	To deepen the repo market and to shift the money market from call to collateralised repo market	Repo market has been developing.

Contd....

Year	Reform initiated	Objective	Remarks
July 1997	FIIs were permitted to invest in G-secs	To broaden the market	FII have become an important player in the market today, particularly in T-Bill segment.
December 1997	Capital Indexed Bonds were issued PDAI was formed	To help investors hedge the risk	Efforts being made to revitalise this product
April 2000	Sale of securities allotted in primary issues on the same day	To improve secondary market	This has also helped manage the overnight risk
June 2000	Introduction of Liquidity Adjustment Facility (LAF)	To manage short term liquidity mis-matches	Emerged as an important tool
February 2002	Negotiated Dealing System (NDS) (Phase I) operationalised Clearing Corporation of India Ltd. (CCIL) was operationalised	For improved trading and settlement/Guaranteed Settlement by a CCP.	Contributed to the institutional framework for the market / reduced settlement risk
May 2002	Compulsory holding of G-secs in demat form by RBI regulated entities	To reduce the settlement risk	The progress of dematerialisation is being monitored
June 2002	PDs were brought under the BFS jurisdiction	For integrated supervision of market	The position is being reported periodically to BFS
July 2002	G-secs with call and put option was introduced	To offer variety of instruments	Product may need improvement
October 2002	Trade data of NDS is being made available on RBI website	To improve transparency	Besides, the measure is helping the small investors as well.
January 2003	Trading of G-secs on stock exchanges	To facilitate easier access and wider participation	This has not taken off very well. Efforts are on to improve the position
February 2003	Eligibility to participate in the repo market was extended to non-banks	To widen the market	Efforts are on to further widen and deepen the repo market. Extension to corporates is being examined.
June 2003	Interest Rate Derivatives (IRD) have been introduced	To facilitate the market hedge their market risk	Trading in IRDs is expected to get a boost after SEBIs modified guidelines issued in January, 2004.
July 2003	Government Debt Buy-Back scheme was successfully implemented	To reduce interest burden of government and to help market participants offload their illiquid securities	Total of Rs. 144 billion (face value) securities were bought back by the government and issued liquid securities for equivalent amount at market yield.
March 2004	RTGS system trial run	Real time, online, large value inter-bank payment and settlements	Running successfully

Source : 1. DFHI (2000).
2. Reserve Bank of India.

Impact of Reforms

The debt market reforms process has encompassed important developments in active policy making, institutions, clearing and settlement systems, trading expansion, diversification of participants and instruments, better regulatory systems, introduction of new technology and appropriate enabling legislation. These reforms enabled a systematic process for integration of the different segments of the domestic markets as well as some integration of the domestic financial markets with the international markets. This also shows that development of a debt market is a difficult and long drawn out process and requires active cooperation between different institutions. It would be appropriate at this stage to look at certain specific achievements in the last 10 years.

A. Savings Pattern and Government Borrowing

India's gross domestic saving rates have been driven mainly by household and corporate savings (Table 2). The most important development to have taken place in recent years is the marked deterioration in public sector savings, which have turned negative and fallen from a level of 1.3 per cent of GDP as recently as in 1997-98 to -2.5 per cent in 2001-02, as against a positive 1.8 per cent of GDP during the high growth phase of 1995-1997 and 1.5 per cent in 1990-92. This reflects deteriorating fiscal performance compounded by inadequate returns to past public investment financed by borrowing.

The primary issuance of Central Government debt has increased manifold during the decade of the 1990s from Rs. 89 billion in 1991-92 to Rs.1,511 billion in 2002-03. The issuance of the state government debt has also increased 9 times during the corresponding period from Rs.34 billion to Rs.309 billion. The increasing funds requirement of the government was met through an increasing domestic private savings rate which predominantly funded the growing borrowing needs of the government.

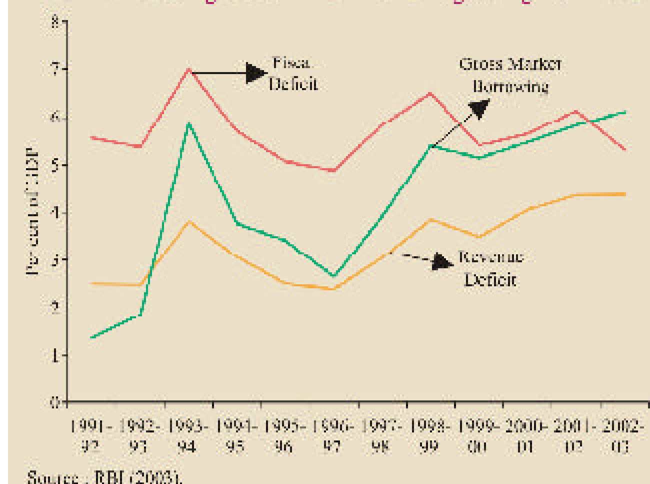
Table 2: Saving Patterns in the Economy

(Per cent of GDP)

	1981-82	1991-92	2001-02
Gross Domestic Saving Rate	18.6	22.0	24.0
Household Saving	12.6	17.0	22.5
Private Corporate Saving	1.5	3.1	4.0
Public Sector Saving	4.5	2.0	(-) 2.5

Source : RBI (2003).

Chart 1: Increasing Gross Market Borrowing during 1992-2003



The increasing share of Government securities in financing the fiscal deficit of the Central government, from 21 per cent in 1991-92 to 79 per cent in 2002-03, illustrates how significant the role of the marketable dated securities has become (Charts 1 and 2). With increasing reliance on market borrowing as a source of deficit financing over the years, the level of gross market borrowing exceeded the fiscal deficit for the first time in 2002-03. The high fiscal deficit and revenue deficits have necessitated large borrowing by the central government, leading to an appreciable increase in the total stock of outstanding securities (Table 3). This level of domestic market borrowing is unusual among developing countries. Although the Indian (Centre and States combined) fiscal deficit has been among the highest in the world, we have

Chart 2: Share of Net Market Borrowing in Fiscal Deficit

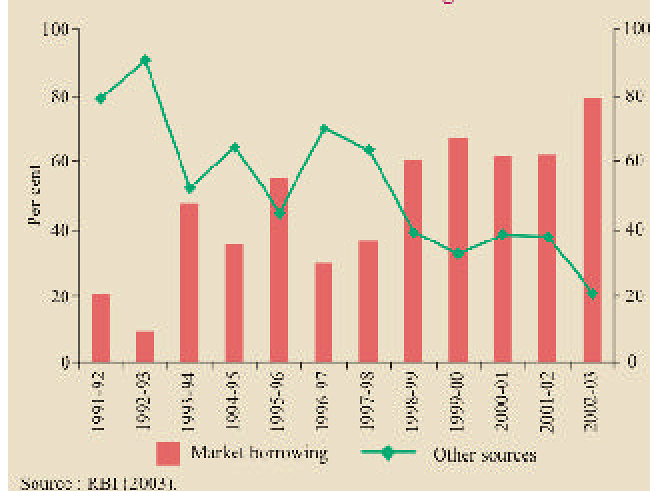


Table 3: Outstanding Stock of Securities of the Centre and State Governments

(Rs. billion)

Year	Centre	States
1991	704	156
1992	769	190
1993	817	236
1994	1106	261
1995	1375	312
1996	1695	379
1997	1929	436
1998	2490	508
1999	3116	615
2000	3819	739
2001	4537	868
2002	5363	1040
2003	6739	1331

Source : Reserve Bank of India.

not had to resort to substantial external borrowing, except from bilateral and multilateral sources. This has imparted stability to the system.

B. Primary Market Developments

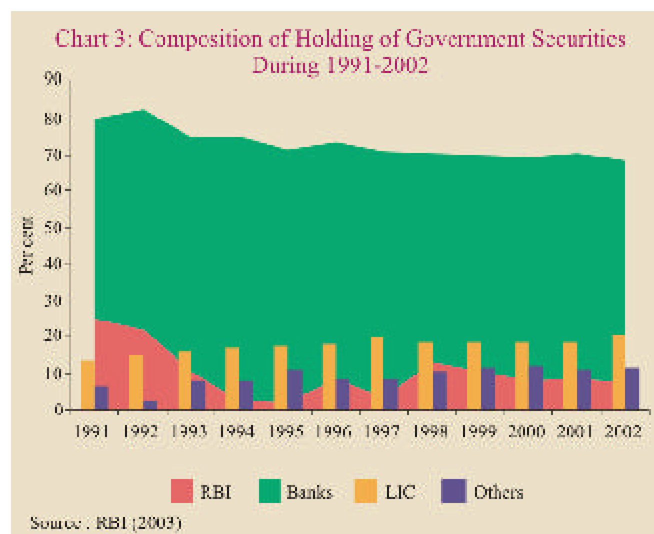
Widening of Investor Base

Traditionally, the investor base for government securities in India has been banks, financial institutions, Provident Funds (PFs), insurance and pension funds but commercial banks (at present 64 per cent) and Life Insurance Corporation of India (LIC) (18 per cent) are the largest holders. Most of the holdings of these investors are in the nature of statutorily mandated investments. This category has been further diversified by the entry of co-operative banks, regional rural banks, mutual funds and non-banking finance companies in the recent period. In addition, the entry of 100 per cent Gilt Mutual Funds has broadened the retail investor base. The thrust of policy initiatives in this direction is focused on developing the retail segment of the market. To enable small and medium sized investors to participate in the primary auction of government securities, a "Scheme of Non Competitive Bidding" was introduced in January 2002, which is open to any person including firms, companies, corporate bodies, institutions, provident funds, trusts, and any other entity prescribed by RBI. The scheme provides for allocation of up to 5 per cent of the notified amount at the weighted average rate of accepted bids. Investors can bid through banks or PDs a minimum amount of Rs.10,000 to a maximum amount of Rs. 20 million. A few PDs have already introduced schemes for retail marketing of Government securities using the network of bank branches and post offices. Screen based order-driven trading on the stock exchanges has also been introduced to encourage retail participation in the G-sec market, although this scheme has not been successful so far. To improve liquidity for retail investors in the secondary market, RBI has been encouraging PDs to offer two-way quotes to retail investors and to become members of stock exchanges for this purpose. All these measures have collectively resulted in more diversified holding of G-secs among market participants (Chart 3).

Consolidation of Issues to Improve Liquidity

A policy of passive consolidation through reissuance/ reopenings was started in 1999 in order to improve fungibility among the securities and to facilitate consolidation of debt (Table 4). The larger stock size of securities in question has greatly improved market liquidity and helped the emergence of benchmark securities in the market. Active consolidation has not been resorted to (except a one-off debt swap which involved tax benefits against provisioning by banks) in view of administrative costs and legal considerations. The process of passive consolidation itself has helped in containing the number of bonds around the level that was prevailing at the end of 1998-99. Of the 25 loans issued (excluding private placements) during 2002-03, 15 were reissues. This ability to 'reissue' or 'reopen' loans is limited by the maximum outstanding amount that is perceived as 'manageable' from the viewpoint of redemption in the year of maturity. However, the drop in yields and resultant steep premia, in many cases, deters 'buy and hold' investors from subscribing to existing securities. As at the end of March 2003, there were 117 Central Government

Chart 3: Composition of Holding of Government Securities During 1991-2002



Source : RBI (2003)

Table 4 : Consolidation of G-Sec Issues

(Per cent)

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Reissues/total borrowing	33.30	86.57	58.89	66.73	59.20	66.67

Source : Reserve Bank of India.

securities with outstanding amount of Rs. 6,739 billion. Of these, 31 securities with minimum outstanding issues of Rs. 100 billion or more accounted for 54 per cent of the total outstanding amount.

Elongation of the Maturity Profile of New Debt and Reduction in the Cost of Borrowing

For most of the 1990s, the maturity of Central government issuance ranged up to 10 years. This led to potential redemption pressure and refinancing risk. This, as also the need to develop the yield curve for longer tenors, has necessitated elongation of maturity of government bond issuance. In the early 2000s, the Reserve Bank has succeeded in increasing the tenor progressively up to 30 years (Table 5). Thus, the weighted average maturity of bonds issued during a year, which was around 5.5 years in 1996-97, increased to 15.17 years by end-January 2004. As a debt manager, the Reserve Bank has the obligation of minimising the cost of borrowing to the Government. Normally, with an upward sloping yield curve, longer the maturity of the security, higher is the cost; thus there is a trade-off between tenor of borrowing and its cost. However, the falling interest rate scenario in the last 3-4 years and the comfortable liquidity position has helped the Reserve Bank achieve the twin

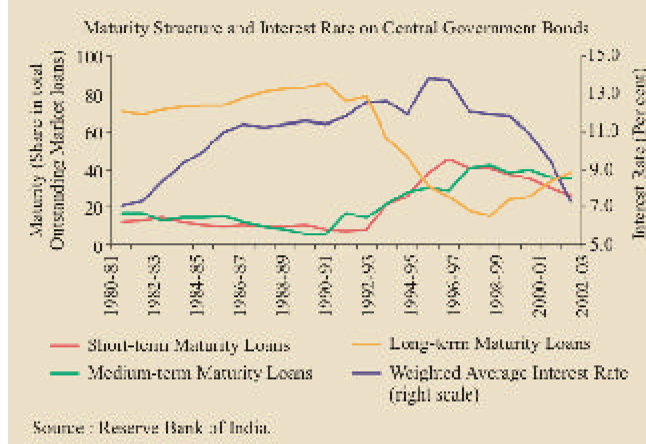
Table 5: Weighted Average Yield and Maturity for Market Loans of Government of India

Years	Weighted Average Yield (New Loans) (Per cent)	Range of Maturity of New Loans (Years)	Weighted Average Maturity (New Loans) (Years)	Weighted Average Maturity of Outstanding Stock (Years)
1995-96	13.75	2-10	5.7	N.A.
1996-97	13.69	2-10	5.5	N.A.
1997-98	12.01	3-10	6.6	6.5
1998-99	11.86	2-20	7.7	6.3
1999-00	11.77	5-20	12.6	7.1
2000-01	10.95	3-20	10.6	7.5
2001-02	9.44	5-25	14.3	8.2
2002-03	7.34	7-30	13.8	8.9

N.A. : Not Available.

Source : RBI (2003).

Chart 4 : Maturity Structure and Interest Rate on Central Government Borrowings



objectives of elongating the maturity profile of new debt (Chart 4 and Table 6), and reducing the cost of borrowing at the same time (Chart 5). This reflects both depth and resilience of the market, facilitated by easy monetary conditions in the recent past. This also reflects a transition from passive to active debt management by RBI.

Diversification of Debt Instruments

Prior to the 1990s, most of the government bond issuances were in the form of plain vanilla, fixed coupon securities. For a market to meet the diverse funding and hedging needs of its participants, a wide array of instruments needs to be available. Through the 1990s, various types of instruments have been introduced, like

Chart 5: Fall in the Weighted Average Cost of Borrowing

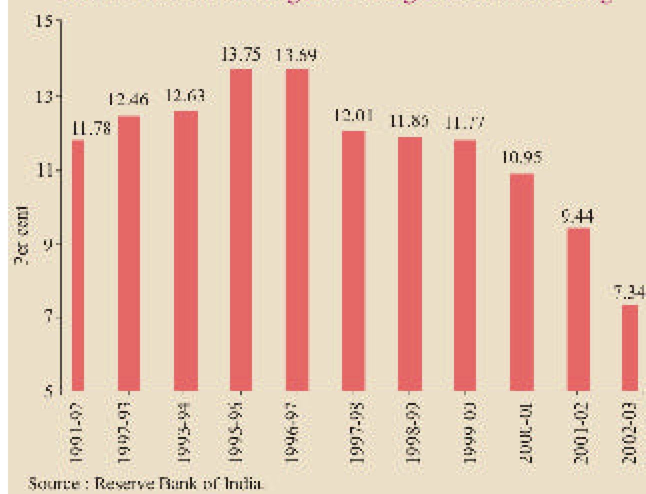


Table 6: Maturity Pattern of the Government of India Rupee Loans (Outstanding Stock)

(Rs. billion)

Year (end-March)	Under 5 years		Between 5 to 10 years		Over 10 Years		Total Amount
	Amount	Per cent to Total	Amount	Per cent to Total	Amount	Per cent to Total	
1991-92	57	7.4	129	16.8	583	75.8	769
1992-93	66	8.1	116	14.2	635	77.7	817
1993-94	237	21.4	246	22.2	623	56.3	1106
1994-95	348	25.3	377	27.4	650	47.3	1375
1995-96	650	38.3	514	30.3	531	31.3	1695
1996-97	873	45.3	559	29.0	498	25.8	1929
1997-98	1020	41.0	1017	40.8	453	18.2	2490
1998-99	1291	41.4	1323	42.5	503	16.1	3116
1999-00	1430	37.4	1477	38.7	912	23.9	3819
2000-01	1588	35.0	1781	39.3	1168	25.7	4537
2001-02	1642	30.6	1908	35.6	1814	33.8	5363
2002-03	1809	26.8	2304	34.2	2626	39.0	6739

Source : Reserve Bank of India.

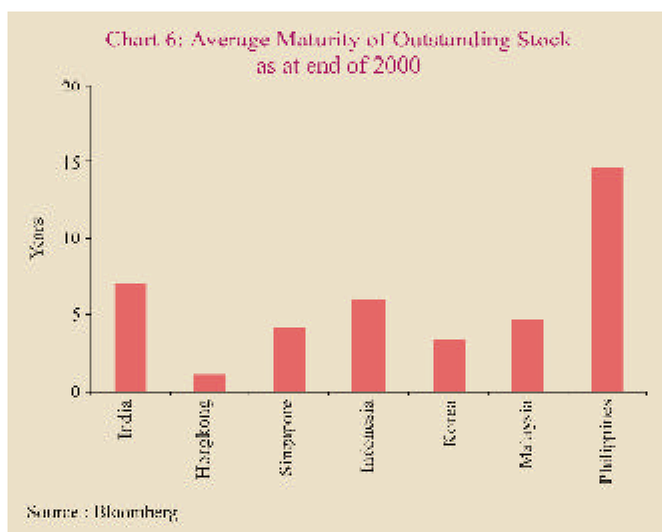
zero coupon bonds, capital indexed bonds, floating rate bonds and bonds with call and put options. But, plain vanilla bonds remain the mainstay. The introduction of STRIPs[2] is being envisaged and will be undertaken as and when the enabling legislation is enacted. These instruments would enable better asset-liability management of participants and help them hedge interest rate risk, balance sheet risk and inflation risk. Besides, they also offer diversity in the portfolio, which would reduce the unsystematic risk (Box 2).

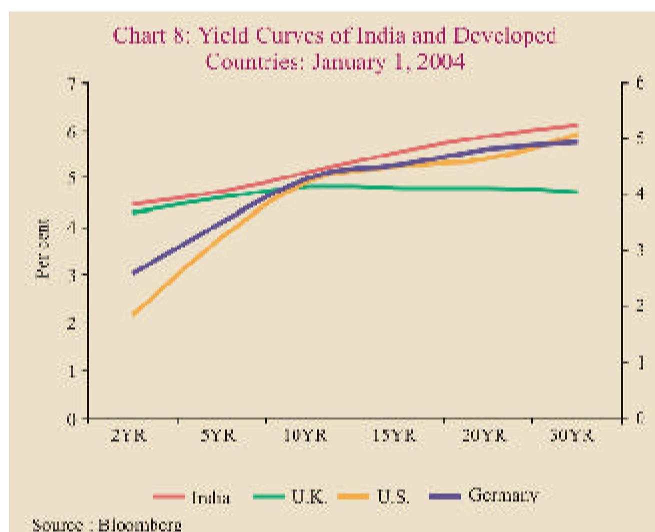
Recently a number of measures were taken to develop the market further. First, the repo market was widened by expanding the participant base. With effect from March 2003, certain specified category of non-bank entities like mutual funds, insurance companies, housing companies, non-banking financial companies, *etc.,* who were till then not eligible to participate in repo market, were made eligible. In so doing, safeguards were prescribed to ensure transparency and delivery-versus-payment. Second, all RBI regulated entities were directed to maintain (as well as trade in) their investment portfolio in government securities in demat form from May 2003. Third, in order to ensure uniform accounting treatment by all RBI-regulated entities for repo / reverse repo transactions and to impart an element of transparency to such transactions, uniform accounting norms were stipulated by RBI for the market repo/reverse repo transactions to be followed by all the RBI- regulated entities from the current financial year. Fourth, limited purpose 'Government Securities Lending' was permitted by the RBI, for the exclusive purpose of enabling CCIL to complete settlement of government securities transactions.

Box 2: Diversification of Debt Instruments

Instrument	Status
Plain vanilla Bonds (preferred choice)	Most popular. As on February 24, 2004, they constituted 97 per cent of the total outstanding Bonds.
Floating Rate Bonds	Being issued. Modified recently.
Index Linked Bonds	Likely to be reintroduced.
Zero Coupon Bonds	Not being issued presently.
Treasury Bills	Being issued under 91 day and 364 day tenors.
Repo	Has been activated and efforts are on to improve further.
STRIPS	Likely to be introduced in the near future.

[2] Separately Traded Registered Interest and Principal Securities (STRIPs).





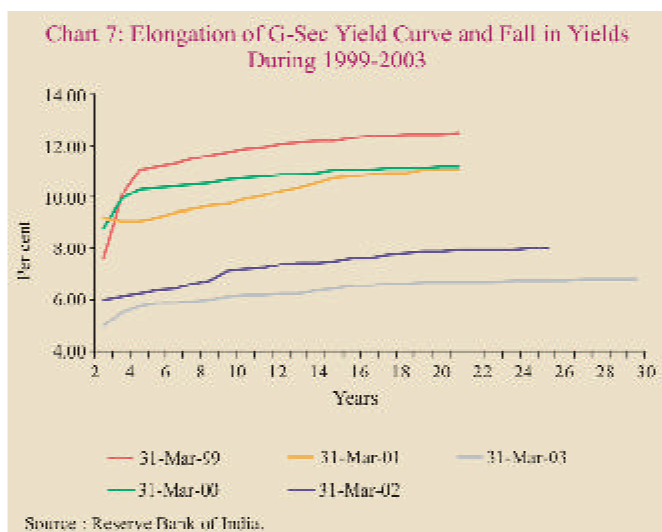
C. Secondary Market Developments

Development of an Elongated and Smooth Yield Curve

The sustained efforts of RBI to elongate the maturity profile resulted in a smooth and reliable yield curve to act as the bench mark for the other markets for pricing and valuation purposes (Charts 6,7 and 8). The maximum maturity was extended to 30 years. The 30-year bonds, issued after a break of 15 years, were mainly to meet the requirements of the insurance sector. In fact, the Indian yield curve today compares well with not only the emerging economies, but also the developed world.

Development of a Deep and Liquid Market

An important and creditworthy aspect of the efforts made by RBI to develop the Government Securities market is reflected in the increasing activity in the secondary market. Table 7 illustrates that there has been a near 20 fold increase in the volume of transactions since 1995-96. It is indeed a great achievement in the sense that trading in government securities exceeded the combined trading in equity segments of all the exchanges in the country during 2002-03. This kind of growing turnover reflects further deepening of markets.



It is heartening to note that the increasing liquidity in the market has also helped price discovery as reflected in finer bidding patterns emerging in auctions and the narrow spreads in the secondary market quotes (Table 8). The activity in the secondary market in a way facilitated the elongation of the maturity of the yield curve. As a corollary of the secondary market activity, issues such as valuation of securities and risk management strategies like cutting the positions have become more market savvy and reliable. The turnover in central government dated securities for the year

Table 7: Volume of Secondary Market Transactions in the G-Secs Market

	Share of Outright (Per cent)	Share of Repo (Per cent)	Total (Rs. billion)
1996-97	76.40	23.60	1,229
1997-98	86.74	13.26	1,857
1998-99	82.53	17.47	2,272
1999-00	84.66	15.34	5,393
2000-01	81.95	18.05	6,981
2001-02	77.00	23.00	15,739
2002-03	71.20	28.80	19,557

Source : NSE (2003) and Reserve Bank of India.

Table 8 : Typical bid-ask Spreads of the "on the run" Bonds

(Basis Points)

India	HK	Singapore	Korea	U.S	Japan	Germany	U.K.
1	5-10	5	1	3	7	4	4

Source : BIS (2002).

2002-03 at Rs. 50,104 billion[3] was nearly double the GDP of the country, which speaks volumes of the depth that the market has attained. Another important measure of liquidity is bid-ask spreads, on which also India is comparable with most liquid markets in the world as shown in Table 8.

D. Development of Market Infrastructure

Securities Settlement System (SSS)

Settlement of government securities and funds is being done on a Delivery vs. Payments (DvP) basis in the books of the RBI since 1995. A Special Funds Facility from Reserve Bank for securities settlement has also been in operation since October 2000 for breaking gridlock situations arising in the course of DvP settlement. With the introduction of Clearing Corporation of India Ltd (CCIL) in February 2002, which acts as clearing house and a central counterparty, the problem of gridlock of settlements has been reduced. To enable Constituent Subsidiary General Ledger (CSGL) account holders to avail of the benefits of dematerialised holding through their bankers, detailed guidelines have been issued to ensure that entities providing custodial services for their constituents employ appropriate accounting practices and safekeeping procedures. With the implementation of RTGS, SSS will also be linked to RTGS to provide intra-day liquidity to the market participants.

Negotiated Dealing System (NDS)

The Negotiated Dealing System (NDS), which was operationalised on February 15, 2002, provides screen based electronic dealing and reporting of transactions in money market instruments (including repo), facilitates secondary market transactions in Government securities, disseminates information on trades with minimal time lag, and provides an online electronic bidding facility in the primary auctions of Central/State Government securities, and OMO/LAF auctions. This system is now being developed further so that anonymous screen based, order matching trading can take place more efficiently and reduce telephone based trading. In addition, the NDS enables "paperless" settlement of transactions in government securities with electronic connectivity to CCIL and the DVP settlement system at the Public Debt Office through electronic SGL transfer form. All entities having SGL Accounts with RBI were advised to join the NDS-CCIL system by March 31, 2003. In phase I B of PDO-NDS Project, NDS was integrated with the securities settlement system and primary market operations. Further, all the regional Public Debt Offices (PDOs) were interconnected and automated which resulted in electronic maintenance of record of ownership of stock in physical and SGL form. This has facilitated electronic transfer of record of ownership to any PDO in the country.

Clearing Corporation of India Limited (CCIL)

The Clearing Corporation of India Limited (CCIL) started clearing of transactions in government securities and repos reported on the NDS since February 15, 2002 and clearing of Rupee/US$ forex spot and forward deals since November 12, 2002. Acting as a central counterparty through novation, the CCIL provides guaranteed settlement and has in place risk management systems to limit settlement risk and operates a settlement guarantee fund backed by lines of credit from commercial banks. The netting of funds by CCIL reduces the liquidity requirements of the market and thereby liquidity risk of the system. All the transactions in government securities concluded or reported on NDS have to be necessarily settled through the CCIL. CCIL has also initiated another instrument called "Collateralised Borrowing and Lending Obligation" (CBLO) which is a tripartite repo product for facilitating liquidity and cash management to other participants (Table 9). There are so far 156 members of CCIL.

Table 9 : Increasing Transactions Conducted Through Clearing Corporation of India Limited

(Amount in Rs. billion - face value)

Transactions on CCIL	Outright transactions	Repo transactions	Total	Share in the total SGL transactions (Per cent)
2001-02	389	159	548	3.74
2002-03	10692	4632	15324	78.92
2003-04	15751	9432	25183	95.40

Source : NSE (2003) & CCIL (Various issues).

[3] Turnover is the total of outright and repo turnover. Outright turnover and repo turnover are calculated as twice and four times the transactions volume, respectively.

Trading in Stock Exchanges

In order to facilitate easier access and wider participation in the government securities markets, a facility has been provided to buy and sell government securities through the stock exchanges (NSE, BSE and OTCEI) with effect from January 16, 2003. Given the reach of the stock exchange screens, it is expected that government securities can be bought or sold throughout the country. Keeping in view the interests of the small investor, the minimum order size has been kept low at Rs. 1,000 (face value). Trading through this facility is yet to develop in any substantive fashion and hence needs further attention for the development of this facility. The technical infrastructure is, however, now in place.

E. Introduction of Market Intermediaries

The system of Primary Dealers was introduced in 1996 with liquidity support and provision of incentives for underwriting primary issuances of government securities. They are also expected to provide two-way quotes in the secondary market, and thereby help develop the retail market. There are currently 18 PDs in operation reflecting a mix of ownership. Of these, 9 are promoted by public sector banks and public financial institutions, 6 by foreign banks, 2 with the collaboration of foreign security houses and 1 by local non-banking finance companies (NBFCs).

A review of the performance PDs reveals that they have indeed played a significant role in deepening and widening the market. The amount of PDs' absorption in the primary market for government securities has been increasing over the last few years. The details of the primary purchases, both dated GOI securities and Treasury Bills by the PDs are provided in Table 10.

Similarly, the performance of the PDs in the secondary market has been good as reflected in the increasing turnover (Table 11).

However, besides being active investors and traders as reflected in the data above, PDs also perform a market-making function, in the course of which they are allowed access to the Reserve Bank's liquidity window in the form of the Liquidity Adjustment Facility and assured liquidity support in consonance with their commitments in primary auctions. Furthermore, in view of their special role in financial markets, the Reserve Bank has instituted a regulatory framework for primary dealers which reflects their functional similarities as well as differences with banks. In view of their essential function as dealers in money market instruments and government securities, PDs, unlike banks, are not subject to several regulations in respect of asset classification, income recognition, non-performing assets, provisioning and exposure norms. The scale, scope and regulation of the primary dealer network in the Indian case is, more or less, consistent with cross-country experience (Table 12).

PDs have been brought under the purview of the Board for Financial Supervision (BFS) in 2002-03 in view of their large number, highly leveraged portfolios with short-term funds, substantial share in the Government securities market, and a significant position in the money market, comparable with banks and the consequent systemic importance. The Reserve Bank also undertakes on-site inspection of each PD besides the off-site supervision through prescribed periodic returns. In January 2002, PDs were advised to follow a prudent dividend distribution policy. This is expected to build up sufficient reserves (even in excess of regulatory requirements), which can act as a cushion against any adverse interest rate movements in the future. The financial strength of the PDs is being monitored at regular intervals. With a view to enlarging the funding avenues for their operations, PDs were allowed to avail of FCNR(B) loans from banks within an overall limit

Table 10: Performance of PDs in the Primary Market

(Rs. billion)

Year	PDs absorption of		Total amount issued		Percentage of PD absorption to total amount issued	
	Treasury Bills	Dated GOI Securities	Treasury Bills**	Dated GOI Securities*	Treasury Bills	Dated GOI Securities
2000-01	238	447	280	690	84.95	64.76
2001-02	270	560	325	853	83.21	65.60
2002-03	339	539	461	888	73.49	60.68

* Excludes devolvement and private placements with RBI.

** Excludes Non Competitive Bids

Source : Reserve Bank of India.

Table 11: Performance of PDs in the Secondary Market

(Rs. billion)

Year	PDs turnover (both outright and repos) in		Market Turnover		Percentage of PD turnover in the total turnover	
	Treasury Bills	Dated GOI Securities	Treasury Bills	Dated GOI Securities	Treasury Bills	Dated GOI Securities
2000-01	765	3623	1877	14545	40.75	24.91
2001-02	832	7978	2370	36204	35.12	22.04
2002-03	900	9875	4457	45457	20.19	21.72

Source: Reserve Bank of India.

of 25 per cent of their Net Owned Funds (NOF) to supplement their funding sources. The foreign exchange risk on such loans would need to be hedged at all times at least to the extent of 50 per cent of exposure.

The guidelines on capital adequacy and risk management to the Primary Dealers were revised in January 2004. The major changes include (i) reduction in holding period to 15 days from the existing 30 days (ii) withdrawal of the option of maintaining the capital charge at fixed rate of 7 per cent, thereby making it mandatory to calculate market risk based on internal Value at Risk (VaR) approach and standardised method and (iii) a thorough and detailed revision of capital adequacy statement for attaining uniformity of reporting by the PDs. Besides, the returns now being submitted by the PDs have been rationalised. Six returns that were required earlier were discontinued in September 2003, while a new return on certain balance and profitability indicators has been introduced in January 2004.

Following representations received from some PDs, the Reserve Bank issued operational guidelines enabling them to undertake Portfolio Management Services (PMS) for entities other than those regulated by the Reserve Bank. Besides compliance with the above operational guidelines, the PMS undertaken by PDs, requires prior approval of the Reserve Bank and registration with the SEBI.

F. Improvements in Transparency and Data Dissemination

To enable both institutional and retail investors to plan their investments better and also to provide further transparency and stability in the Government securities market, an indicative calendar for issuance of dated securities has been introduced since 2002. To improve the information flow to the market, the Reserve Bank announces auction results soon after the auction and all transactions settled through SGL accounts are released

Table 12: Primary Dealer Systems - Cross-Country Experience

Economy	Start Date	Number of Dealers	Number of PDs	Access to Central Bank Facilities		Supervision
				Liquidity Support	Open Market Operations	
Brazil	1974	338	22	No	Yes	Central Bank.
Canada	1998	44	12	Yes	Yes	Central Bank, Ministry of Finance.
France	1987	40 plus	18	No	No	Ministry of Finance.
India	1996	N.A.	17	Yes	Yes	Central Bank.
Mexico	2000	20-25	5	Yes	No	Central Bank, Ministry of Finance.
UK	1986	N.A.	17	No	No	Financial Services Authority, Ministry of Finance.
USA	1960	N.A.	25	Yes	Yes	Central Bank, Ministry of Finance.

N.A. : Not Available.

Source: Arnone, Marco and George Iden (2003).

on the same day by way of press releases/on RBI website. Statistical information relating to both primary and secondary market for Government securities is disseminated at regular intervals to ensure transparency of debt management operations as well as of secondary market activity. This is done through either press releases or Bank's publications (*e.g.,* RBI Monthly Bulletin, Weekly Statistical Supplement, Handbook of Statistics on the Indian Economy, Report on Currency and Finance and Annual Report). The Reserve Bank is also an initial signatory of Special Data Dissemination Standards of the IMF and places substantial information and statistics on its website.

In order to provide wider access of the data and transparency in the Government Securities market, the data on trades in Government Securities and other data captured by the Negotiated Dealing System (NDS) has been disseminated to the general public through the RBI website since October 25, 2002. In addition, the data on transactions in government securities settled daily at the Public Debt Office (PDO), Mumbai has also been placed on the website.

G. Development of the Corporate Debt Market

With the efficient development of the government securities market, the foundations have been laid for the corporate debt market. As this market develops there will be greater integration of the debt market with other financial markets leading to higher overall efficiency in the intermediation of financial resources and their allocation to users that yield higher marginal returns. The G-sec yield curve has evolved as a true benchmark for pricing of other debt instruments. Due to the active G-sec market, the debt market in general has developed substantially as evident from falling spreads of corporate paper over G-Sec paper as shown in Table 13. The MIBOR and gilt yield spreads are also getting aligned. However, banks still have incentives to invest in government securities because of higher total yield arising from price gains due to fall in yields.

Regulation of Private Placement of Debt

Despite these developments, it has been observed in recent years that the vast majority of corporate debt paper has been issued on a private placement basis leading to lack of transparency and liquidity in the corporate debt market. It was, therefore, felt that regulatory action was needed to be taken by both SEBI and RBI to regulate this market in order to induce greater public issuance of corporate debt.

SEBI issued guidelines on September 30, 2003 stipulating the conditions to be complied with in respect of private placement of debt. These conditions governed issuance, listing and trading of privately placed debt securities. The Reserve Bank also issued corresponding guidelines putting prudential limits on banks relating to subscription to privately placed corporate debt. Subscription beyond these limits would have to be public issues of corporate debt that is then more transparent, and whose market price would potentially be clearer at any time. Subsequently, market participants made representations and suggestions and sought clarifications on various provisions of the circular from SEBI. There was a general feeling in the market that the guidelines were too stringent. Based on the feedback received from market participants and banks, RBI also modified (on December 10, 2003) the prudential guidelines for banks' non-SLR investments. Besides, SEBI was advised to take steps to address the issues of (i) a simplified listing procedure for listed companies and (ii) to spell out an appropriate listing procedure for unlisted companies. SEBI issued a circular on December 22, 2003 to all the stock exchanges incorporating the above suggestions. It was observed that the clarifications issued by SEBI effectively addressed almost all the issues raised by the market participants. This has made a beginning in promoting the expansion of the corporate debt market but we still have a long way to go.

Table 13: Spread of Corporate Debt Paper Over Government Securities

(Basis Points)

	March 31, 2001			March 30, 2002			March 31, 2003			January 31, 2004		
	1 yr.	5 yr.	10 yr.	1 yr.	5 yr.	10 yr.	1 yr.	5 yr.	10 yr.	1 yr.	5 yr.	10 yr.
AAA	110	114	111	208	198	207	67	70	76	71	65	87
AA+	134	138	137	300	309	325	108	100	108	91	91	108
AA	170	171	168	352	371	388	140	140	148	127	125	142

Source : FIMMDA (2004).

H. Summary of Developments

I had started my lecture by referring to Dr. Reddy's keynote address at Bangkok in 2002. I had also mentioned to you that he had set up an agenda to be reached within a one or two-year time span. It would be worth spending a few more minutes to summarise what we have achieved in the last two years.

As I mentioned earlier, we have fine-tuned the scheme for non-competitive bidding. The RBI is now issuing more floating rate bonds and also made it as part of its calendar. The CCIL has stabilised and has in fact been extended to cover forex settlement in inter-bank market. With the stabilisation of the operations of the CCIL, turnover in the repo market has increased. The PDO operations have been centralised and connectivity with other centres have been established. On the technology side, the negotiated dealing system is also working smoothly. This has led to an easier bidding process in primary auctions and electronic ownership of records. Electronic fund transfer (EFT) has been extended and a national EFT has been put in place for greater ease in transfer of funds. The operations of NDS are also stabilising and efforts are on to make usage of NDS more widespread. The Real Time Gross Settlement System has undergone its test run and has gone live in a phased manner.

Progress on the legal side has been a little slower. The Fiscal Responsibility and Budget Management Bill has been enacted. However, the Government Securities Bill that will facilitate lien marking pledge of securities for raising loans against government securities *etc.,* though approved by the Cabinet has not yet been passed. The Government Securities Act would pave the way for the introduction of STRIPS. Coupon rates are already being aligned for introduction of STRIPS and the necessary software has also been put in place. Another major development relates to the RBI and SEBI guidelines that were implemented to regulate private placement of non-SLR securities. This is expected to improve the transparency and disclosures in the corporate debt market. Thus, you will observe that the agenda set by Dr. Reddy had set milestones for moving ahead and we have been able to show impressive achievements. Following in his footsteps, I will also attempt to set out a further agenda to be reached within one or two-year time span.

III. Road Ahead for the Indian Debt Market

A. Government Securities

Continuing Consolidation

It is of paramount importance to continue the efforts towards developing a deep and liquid market for G-secs. While there were about 123 outstanding securities as at end of March 2003, 31 securities account for nearly 54 per cent of the outstanding amount. This indicates that while some of the securities are liquid, the others are not. There is need, therefore, for the continued consolidation of the outstanding securities. This would further enhance our efforts towards developing truly credible and reliable benchmarks across the yield curve. The development of an elongated and smooth yield curve aided by comfortable liquidity in the system, in the debt markets should augur well for long term financing.

Widening of Repo Markets

In order to widen the repo market further, the RBI is actively considering permitting corporate entities to participate in this market. Of course, the RBI would ensure that such reforms take place in a risk-free environment and the necessary preconditions to ensure risk-free settlement would have to be put in place. With the decision to move gradually towards pure inter-bank call/term money market, there is a need to remove the operational/regulatory hurdles pertaining to the repo market (an alternative to the call/term money market for funding/investment). One of the perceived hurdles in the development of the repo market is the inability to roll over contracts. To enable continuous access to funds from the repo market, it was decided in the last Monetary Policy to permit rollover of repos which will be enabled along with DVP-III. In order to reduce the price risk assumed by market participants, sale of securities previously purchased has been permitted with certain safeguards built in to prevent short sales.

Index Linked Bonds

An instrument that is under active consideration is the index-linked bond. This would add to the array of instruments available to investors and enable greater portfolio diversification. Other products such as "When Issued (WI)" market could be considered as and when the market feels the need for them.

Institutional Development

Exclusivity to PDs: The long pending demand of PDs for exclusivity in the auctions of G-secs in a limited way is under the consideration of RBI. However, in order to fulfil their obligations, Primary Dealers will have to assume a greater role and responsibilities for market making and retailing of G-secs.

CCIL: The Clearing Corporation of India Limited (CCIL) continues to provide guaranteed settlement of transactions in Government Securities even under the RTGS environment. With the introduction of DVP-III and compulsory settlement through CCIL, the reduction in number of transactions for settlement with RBI will bring down the associated risk, cost and time in completion of settlement. The CCIL is expected to further develop the repo market and repos in corporate debt instruments are also being considered to improve liquidity in the debt market.

Technology issues

Order Driven Trading System: In order to facilitate an efficient and transparent trading process, the system of order driven trading on NDS was examined by a Working Group under the Chairmanship of Dr. R.H.Patil. The objective is to develop NDS to be a truly screen based system with appropriate connectivity/linkage with trading on stock exchanges. This is an extremely important issue. There is need to establish some linkage between the wholesale government securities market and the retail debt market so that there can be much greater diversification of holdings of government securities. As financial markets get integrated, this should become possible. Once other market participants get easier access to the government securities market through trading on the stock exchanges it would become easier for banks to manage their government securities portfolios, manage their interest rate risk, and also respond more flexibly to changes in credit demand in the economy.

Real Time Gross Settlement System (RTGS): The RTGS has been implemented, which provides for inter-bank and customer based inter-bank funds transfer. The total solution for the RTGS (Integrated Audit System (IAS) and RTGS systems) is currently in the process of installation for testing. The total solution, once implemented, will facilitate net settlement of batches arising from CCIL and also DVP I transactions.

Risk Management

Presently, PDs measure the market risk of their portfolios based on the internal VaR model and/or standardised model, while the banks are required to use a flat charge. In order to implement the BIS guidelines on measuring and managing the market risk, the guidelines to measure the market risk have been extended to banks as well in a phased manner. It is of paramount importance that market participants ensure sound and reliable risk management system to handle credit, market and operational risks. How well we guard the system against the various risks would decide the future direction of the market.

The Road Ahead

The road ahead is clear and exciting but on the way forward, we should not fritter away the gains we have worked so hard for. For this, there are several issues which need to be addressed. Let me at this stage flag a few of these issues for the benefit of your deliberations.

First, with the liberalisation and activation of G-sec market, the market for interest rate derivatives has been increasing. I need hardly overemphasise the need for appropriate risk management in this area. As in the case of other products, I would expect the FIMMDA to issue the best practices in trading of derivatives. The ICAI has released the draft guidelines on accounting for derivatives, which are expected to be vetted by the market participants. Similarly, an internal group in RBI has dealt with the issue of harmonising the OTC derivatives and interest rate derivatives. The recommendations are being examined.

Second, in the above context of greater thrust on market players with different perceptions, retailing of Government Securities assumes great importance. The PDs must assume a greater role in providing liquidity so that an exit route is always available for the retail investor. Banks can also contribute to the retailing of G-Secs given the reach and network of their branches. A related issue is to bring down the transactions costs, which have been very high for the retail investors.

Third, as regards non-Government debt markets, the major issue of clearing and settlement in corporate debt market instruments will have to be squarely addressed sooner rather than later. RBI has decided to introduce trading and settlement of OTC derivatives through CCIL. The role of credit rating agencies in further developing

the corporate debt market needs to be appreciated by all, and now that rating is made mandatory for all private placements, the issue acquires lot of significance.

B. Development of the Corporate Debt Market

The regulatory authority for the corporate debt market is the Securities and Exchange Board of India (SEBI) so I will only make some general remarks on the development of this market.

While the G-sec market is now fairly well-developed, the corporate debt market needs to be developed so that India can have a well-integrated financial market. Apart from the advantages that it confers for long-term financing, an integrated financial market is necessary for efficient transmission of monetary policy. The foundations for developing an efficient corporate debt market have already been laid as the necessary infrastructure and institutions that have been created for the G-sec market are already available. The RBI and SEBI have also taken a number of initiatives to ensure that this market develops in a transparent and safe manner. Recent initiatives include announcing guidelines on trading and listing requirements for corporate debt by SEBI and asking banks to invest only in listed and rated corporate paper by the RBI.

As I have already mentioned, with the passing of the Fiscal Responsibility and Budget Management Act, the Government would be required to reduce its deficit which in turn would result in a reduced market borrowing programme. The reduced availability of G-secs will force banks to look for alternate investment avenues. Further, the economy being on a high growth path would create higher demand for funds, especially in infrastructure. With term lending from financial institutions on the decline, the corporate funding needs, especially for infrastructure, would necessarily have to be met by the bond market. The infrastructure projects irrespective of the sectoral characteristics have high leverage ratios. Not only is the initial recourse to debt funding very high for infrastructure investments, but the subsequent expansion, renovation or modernisation are also funded substantially through debt financing. It is clear that there would be a huge gap between investment demand and the supply of financial resources. While some of the traditional modes of financing infrastructure – project financing from banks and financial institutions, raising equity from the capital markets and foreign direct investment – would continue, the magnitude of the gap between the demand and supply is such that alternate ways of financing these investments are necessary. Thus the key requirement for the Indian capital market is the development of a vibrant bond market.

Developing a corporate debt market has been found to be much more difficult than either the equity market or the government securities market in all countries, developed or developing. It is difficult to develop adequate liquidity for trading since there is a much greater heterogeneity in corporate debt issues relative to either the equity market or the government securities market. As we have seen, even in the G-Sec market, only a minority of instruments are found to have adequate liquidity.

Furthermore, in developing countries, there is generally a lack of good quality issues, a lack of institutional investors, and inadequate legal, regulatory and technological supporting infrastructure. It is also found that corporate entities generally prefer to borrow from banks and financial institutions since cost of bond issuance is high and renegotiation is difficult. Moreover, in developing countries, the market is generally fragmented and small, hence it is difficult to achieve anonymity.

In India, however, a number of pre-conditions have been met or are in the process of being met. First, there is a well functioning government securities market with adequate benchmark issues; the regulatory and legal infrastructure is in place; clearing and settlement systems have been developed; and technological infrastructure is also in place with the implementation of RTGS. Second, the money market is also working relatively efficiently so that the transmission of monetary policy can be effective. Third, with decline in inflation since the late 1990s, inflationary expectations have been tempered, interest rates have fallen and have been relatively stable. Fourth, the last decade has also been the emergence of credible credit rating agencies. Fifth, with improved regulation of equity markets and enhanced attention to corporate governance, public disclosure of corporate balance sheets has improved considerably with proper accounting, auditing and disclosure rules. Thus the stage is set for the emergence of a well functioning corporate debt market.

What are some of the other pre-conditions that still need greater attention? First although there has been some progress in the enforcement of creditors' rights, the legal

and regulatory system still has a long way to go in this area. The implementation of bankruptcy laws is very tardy so bond investors would have to wait a long time to get any compensation from defaulting companies. Second, the interest rate derivatives market is in its infancy and needs greater development for the easy access of hedging instruments to bond investors. Third, brokerage systems for retailing of either government securities or corporate debt instruments have yet to develop. What the retail investor wants is transparency in pricing, confidence regarding repayment, simplicity and convenience of dealing in the market and low cost. There must be adequate liquidity to enable case of entry and exit. This is difficult to achieve without the presence of market makers who can provide buy/sell quotas on a regular basis, and also have the ability to operate in the market with adequate volumes - a role similar to that of primary dealers in the government securities market.

Even after the various reforms proposed for developing a corporate debt market are put in place, it may be difficult to actually issue long-term debt instruments since borrowing agencies may not have high enough credit quality to go to the market. Also given the risks associated with infrastructure projects, considerable effort needs to be undertaken to mitigate these risks and provide greater comfort to investors. In view of the long maturities of infrastructure financing, credit enhancement would be required to raise long-term debt. This would need institutional innovations such as bond insurance, provision of guarantees, securitisation of assets and the like.

The potential for developing an active and deep debt market is high. There is a multiplicity of possible issuers. As in the world's largest bond market, the United States, there is a large number of municipal authorities, urban development authorities, state government SPVs and the like who could potentially issue bonds for infrastructure financing, if they can become credit worthy. With the increasing role of the private sector in infrastructure, there can also be a large number of private sector issuers. Furthermore, with Indian industry exhibiting a new competitiveness, there is likely to be a resurgence of IPOs, that will need to be supplemented with matching magnitudes of fund raising through debt instruments and loans. On the investors side, as more private insurance companies enter the market and expand, and pension funds come into existence along with provident funds, there will be increasing demand for medium and long term safe debt instruments. There is also an increasing number of non-profit organisations and trusts who need debt instruments of varying risk and return characteristics for investing their endowment resources. Finally, there are now more than 35 cities with more than one million population and almost 40 others with more than 100,000 population, so there is an increasing mass of retail investors waiting to be tapped.

So the conditions are ripe for the development of the corporate debt market in India. What we have learned in the development of the government securities market is that this process of developing such a market is a long drawn out affair and is unlikely to arrange on its own. Proactive institutional development will have to be undertaken by the relevant authorities with active consultation and participation of market participants - issuers, intermediaries, exchangers, and investors alike.

IV. Conclusions

We have come a long way in the government securities market in fostering a deep and liquid G-Sec market and in the process we have learned a lot. The process has been easier in this market since the Reserve Bank is the issuer of government securities, is a participant in this market, and is also the regulator of this market. As the monetary authority its actions in this market also provide interest rate signals. Consequently, the Reserve Bank took upon itself the task of developing the market infrastructure to ensure safety in the settlements and payments systems. The development of the market was also aided by the fact that the underlying instruments, government securities, enjoy sovereign status and are therefore essentially free from credit risk.

Development of the corporate debt market is a more complicated process. Apart from the large variance of risk in underlying instruments, it involves various issues such as a good and transparent trading infrastructure, settlement and clearing by other linked organizations, money market intermediaries and the like. The motivation for the development of the government securities market was the expansion in government borrowing coinciding with the cessation of automatic monetisation. Now, the private sector borrowing needs are likely to expand and hence development of the corporate bond market will require focused attention. The Reserve Bank's motivation in this task is to broadly develop the financial market and debt market in particular

so as to make the transmission of monetary policy more efficient. We are aware of the complexities, but are keen to approach the task with flexibility though the active involvement of market participants. Let me also wish the deliberations all success and look forward to learning from the expertise and experience of the distinguished participants.

References

Arnone, Marco and George Iden (2003), Primary Dealers in Government Securities: Policy Issues and Selected Countries' Experience, *IMF Working Paper*, No.WP/03/45.

Bank for International Settlements (BIS) (2002), *The Development of Bond Markets in Emerging Economics* BIS Papers No.11, Basel.

Clearing Corporation of India Limited (CCIL), *Market Update*, Various issues, Mumbai.

Discount Finance House of India (DFHI) (2000), *Developments in Money and Government Securities Markets During 1985-2000 – A Review*, DFHI: Mumbai.

Expert Group on the Commercialisation of Infrastructure Projects (EGCIP) (1996), *The India Infrastructure Report: Policy Imperatives for Growth and Welfare*. New Delhi: National Council of Applied Economic Research.

Fixed Income Money Market Dealers Association of India, (FIMMDA) website (accessed in March 2004), (www.fimmda.org)

Mohan, Rakesh (2004), "Infrastructure Development in India: Emerging Challenges", pp. 35-71, in Bourguignon, Francois and Boris Pleskovic (eds.): *Accelerating Development, Annual World Bank Conference on Development Economics,* Washington DC: World Bank and Oxford University Press.

National Stock Exchange (NSE) (2003), *Indian Securities Market Review*, Mumbai.

Reserve Bank of India (2003), *Handbook of Statistics on the Indian Economy*, Mumbai.

Reserve Bank of India, *Annual Reports*, various issues, Mumbai.

Reserve Bank of India, *Report on Currency and Finance*, various issues, Mumbai.