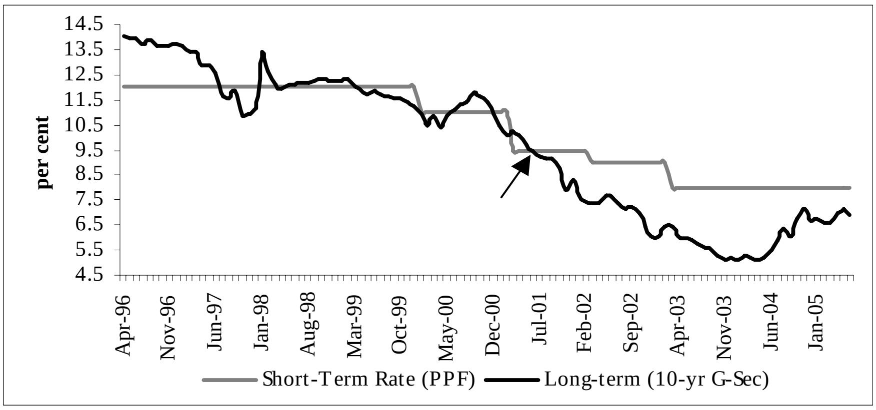
2. DEVELOPMENT OF BOND MARKETS AND THE MARKET MICRO STRUCTURE

2.1. Interest Rate Deregulation

The last fifteen years witnessed a gradual maturing of India's financial markets. Since 1991, key steps were taken to reform the Indian financial markets. With the introduction of auction systems for rising Government debt in the 1990s, along with the decision to put an end to the monetization of Government deficits, started the gradual process of deregulation of interest rates. While the immediate effect of deregulation of interest rates was associated with rising interest rates, deft debt management policy by the RBI and the improvements in the market micro structure saw a gradual decline in the interest rates.

The global developments coupled with a phased reduction in the administered interest rate structure, lower inflation and ample liquidity led to lowering of interest rates in the Indian economy. The gradual opening up of the economy also helped the domestic interest rates to align with the global interest rates.

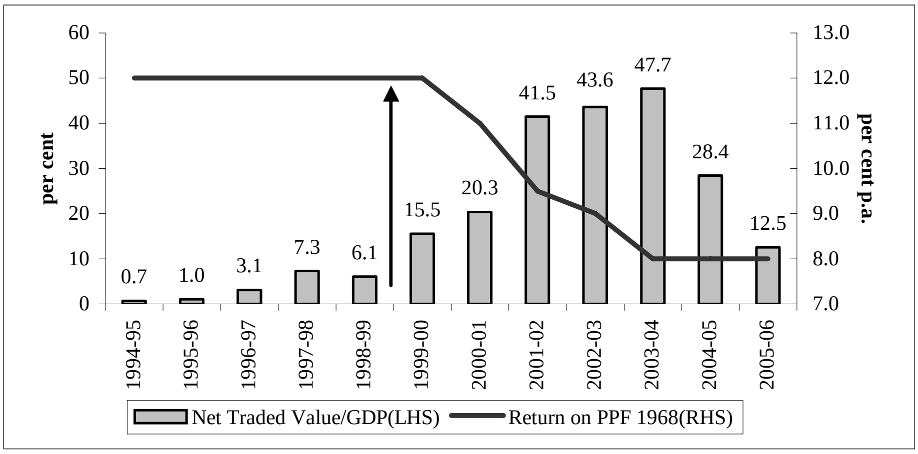
Figure 1: Structure of Interest Rate



Source: Reserve Bank of India (RBI)

With the RBI deregulating interest rates and introducing Primary Dealers (PDs) in Government securities market amidst other market reforms along with rationalization of administered interest rates on Government's own small savings programmes such as post office savings schemes and public provident fund, the ratio of net traded value of bonds to GDP increased from a mere 15.5% to a significant 47.7%. The decline in trading volumes in recent years, however, is an indication of rising risk aversion on account of rising interest rates due to rising demand for bank credit along with credit spreads and tightening liquidity conditions.

Figure 2: De-administration of Interest Rates and Net Traded Value in the Bond Market



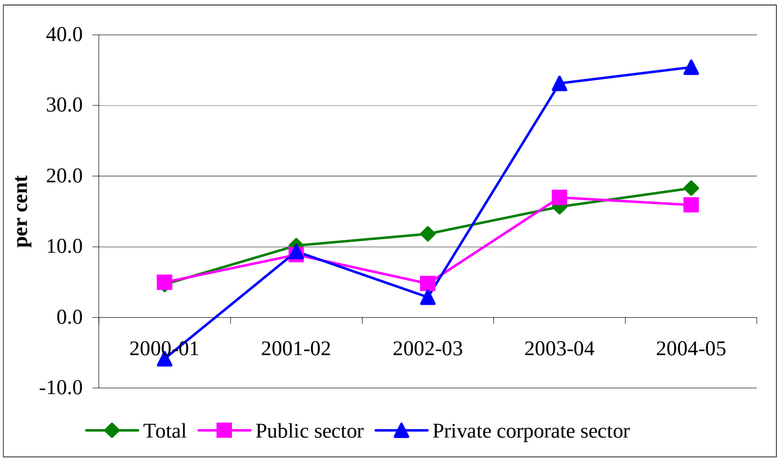
Source: RBI

2.2. Increasing internal resources

Another important aspect that needs to be considered while examining the growth of the debt market in India is the growth stimuli provided by the broad sectors in the economy. The ongoing industrial buoyancy in the economy has primarily been led by the manufacturing sector. Total domestic product generated in the industrial sector grew at an average growth of 8.1% during 2002-03 to 2005-06.

The figure 3 suggests that total capital formation has significantly increased during 2003-04 and 2004-05. While the total investment grew at an average of 17% during the two years mentioned above, private corporate investment registered a robust growth of 34% during the same period. At 16%, public sector investment recorded a moderate decline in 2004-05. With increasing capital formation undertaken by the economy, the requirement of funds has also increased. While this has lead to an increase in resources raised by the debt market, the pattern of investment is not reflected in the pattern of funds raised in the bond market. The corporate sector, which has recorded the highest growth rate in investment, has raised significantly lower amounts in the debt market than the amount of funds raised by the Government.

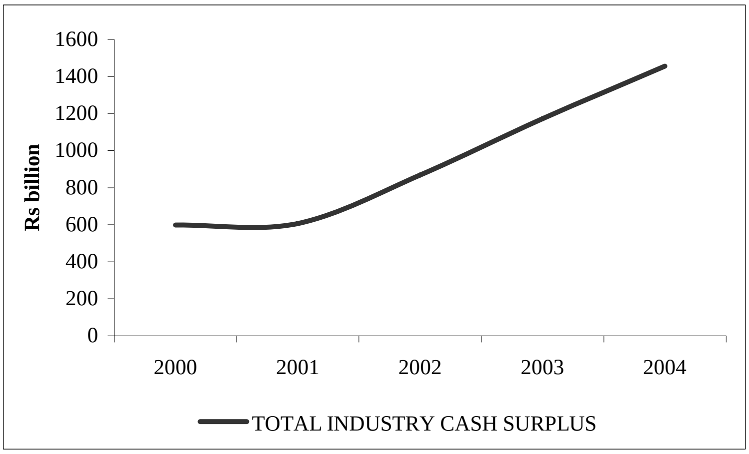
Figure 3: Total Gross Fixed Capital Formation by Sector



Source: Central Statistical Organization, Government of India

One of the reasons for the corporate sector not tapping the debt market has been their rising cash surplus. Total cash surplus with the industry increased from Rs. 597 billion in 2000 to Rs. 1455 billion in 2004, growing at a significant 25% per annum. Thus the presence of huge cash reserves and high level of private placement of debt have together resulted in decline in public issuances of corporate debt.

Figure 4: Total Industry Cash Surplus



Source: Prowess

2.3. Size of the debt market

Worldwide debt markets are three to four times larger than equity markets. However, the debt market in India is very small in comparison to the equity market. This is because the domestic debt market has been deregulated and liberalized only recently and is at a relatively nascent stage of development. The debt market in India is comprised of two main segments, the Government securities market and the corporate securities market. Government securities form the major part of the debt market - accounting for about 90-95% in terms of outstanding issues, market capitalization and trading value. In the last few years there has been significant growth in the Government securities market. The aggregate trading volumes of Government securities in the secondary market have grown significantly from Rs 1,610 billion in 1998-99 to about Rs 21,899 billion in 2004-05.

Table 1: International Comparison - 2004

	Total Outstanding Debt (US$ billion)	% of GDP
US	19186.6	163.5
Euro Area	9570.2	93.3
Japan	8866.7	182.9
Korea	568.4	75.5
Brazil	371.6	56.2

India	239.2	34.8
Malaysia	106.6	90.5
Chile	41.8	41.0

Source: IMF Global Financial Stability Report

In terms of size, the Indian debt market is the third largest in Asia after Japan and Korea. It, however, fairs poorly when compared to other economies like the US and the Euro area (Refer Table 1). At the end of 2004, the total debt outstanding in India stood at US$ 239.2 billion, equivalent to 34.8% of GDP, significantly lower than 183% debt to GDP ratio observed in Japan. Unlike other emerging economies, the Indian debt market is not a very well developed one and plays only a secondary role to the credit and equity markets in terms of mobilising funds.

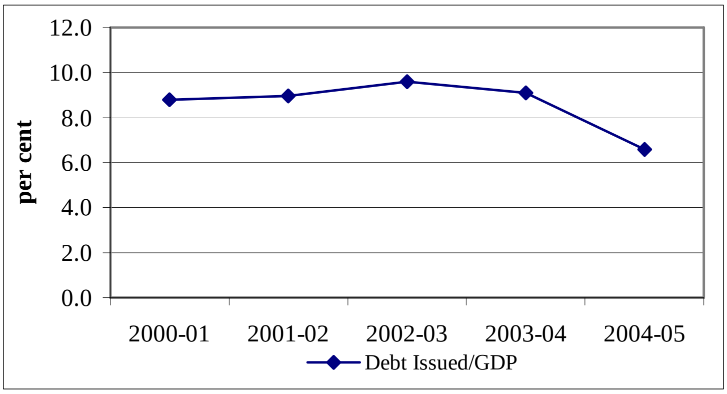
Table 2: Total Debt Issued

	Total Debt Issued (Rs billion)			Growth (%)		
	Total Debt Issued	Corporate	Government	Total Debt Issued	Corporate	Government
1999-00	1727	594	1133	--	--	--
2000-01	1850	565	1284	7.1	-4.9	13.3
2001-02	2040	515	1525	10.3	-8.8	18.8
2002-03	2350	531	1819	15.2	3.1	19.3
2003-04	2509	527	1981	6.8	-0.8	8.9
2004-05	2050	594	1456	-18.3	12.7	-26.5

Source: RBI
Note : includes short term instruments such as CPs and CDs

The Indian debt market also lags behind in terms of the size of the corporate debt market. The share of corporate debt in the total debt issued had in fact declined from 34% in 1999-00 to a low of 21% in 2003-04, before recovering to a more robust 29% in 2004-05.

Figure 5: Debt Issued as % of GDP



Source: National Stock Exchange of India (NSE), RBI

2.4. Regulators

The Securities Contracts Regulation Act (SCRA) defines the regulatory role of various regulators in the securities market. Accordingly, with its powers to regulate the money and Government securities market, the RBI regulates the money market segment of the debt products (CPs, CDs) and the Government securities market. The non Government bond market is regulated by the SEBI. The SEBI also regulates the stock exchanges and hence the regulatory overlap in regulating transactions in Government securities on stock exchanges have to be dealt with by both the regulators (RBI and SEBI) through mutual cooperation. In any case, High Level Co-ordination Committee on Financial and Capital Markets (HLCCFCM), constituted in 1999 with the Governor of the RBI as Chairman, and the Chiefs of the securities market and insurance regulators, and the Secretary of the Finance Ministry as the members, is addressing regulatory gaps and overlaps.

2.5.

2.6. Issuers

2.5.1. Government

The Government of India, along with various State Governments and some statutory bodies（for example, Financial Institution like Industrial Development Bank of India）, account for the largest volume of instruments issued and traded in the Indian debt market. The high fiscal deficit is the reason for the size of this market.

There are concomitant benefits of Government issuing debt and development of markets for Government debt. Presence of an active secondary market helps in the effective functioning of the monetary policy through indirect instruments such as open market operations. Also it has often been observed that the existence of an efficient Government securities market lays the foundation for the development of the corporate debt market. This clearly underlines the importance of the Government securities market and highlights why it is imperative that they are well established and operate efficiently.

Table 3: Outstanding Government Securities vs. Total Debt Outstanding (2004)

	Total Outstanding (US$ billion)	Government Securities (US$ billion)	Share of Government Securities in Total Outstanding Debt (%)
US	19186.6	5526.4	28.8
Japan	8866.7	6836.7	77.1
Korea	568.4	171.6	30.2
Brazil	371.6	295.9	79.6
India	239.2	235.0	98.2
Malaysia	106.6	45.2	42.4
Chile	41.8	20.0	47.8

Source: IMF Global Financial Stability Report

While rising fiscal deficits over the last two decades have resulted in healthy issuance of Government securities in India, what also needs to be considered here is the Central Government’s endorsement of the Fiscal Responsibility and Budget Management Act

(FRBM Act), which aims at eliminating revenue deficit and reducing fiscal deficit to 3% of the GDP by 2008-09. If these targets are achieved, the outcome would be a reduction in the size of Government securities market, which may be countered by the expansion of the economy and the commensurate need for resources both by the public and private sectors.

2.5.2. Corporate Sector

Contrary to the global scenario, Indian corporates have shown little interest in raising money from the market through bonds or commercial paper. Their reluctance to do so is predominantly due to their level of comfort with bank financing. Over the years, the bank credit to the corporate sector has expanded exponentially reaching Rs. 532.4 billion in 2004-05. These funds, coupled with an unparalleled increase in external commercial borrowings, have increased the corporate sector's access to funds, thus reducing their dependence on the public issue of debt.

Table 4: Key Sources of Funds to Industry (Rs. billion)

	Amount Issued				% Of Total Flow Of Resources To Industry			
	2001-02	2002-03	2003-04	2004-05	2001-02	2002-03	2003-04	2004-05
Bank Credit to Industry	106.8	313.0	175.0	532.4	63.7	149.6	37.9	45.4
Flow from Non-banks to Corporates (1 to 5)	60.8	-103.8	286.7	639.5	36.3	-49.6	62.1	54.6
1. Capital Issues * (i+ii)	45.3	6.4	24.2	132.6	27.0	3.1	5.2	11.3
i) Non-Government Public Ltd. Companies (a+b)	41.8	6.4	23.2	105.8	25.0	3.1	5.0	9.0
a) Bonds/Debentures	33.0	2.2	0.0	0.0	19.7	1.0	0.0	0.0
b) Shares	8.8	4.2	23.2	105.8	5.3	2.0	5.0	9.0
ii) PSUs and Government Companies	3.5	0.0	1.0	26.8	2.1	0.0	0.2	2.3
2. ADR/GDR Issues +	22.1	34.3	31.0	29.6	13.2	16.4	6.7	2.5
3. External Commercial Borrowings (ECBs) $		-114.2	181.1	388.9		-54.6	39.2	33.2
4. Issue of Commercial Papers (CPs) #	9.3	18.1	23.1	41.1	5.5	8.7	5.0	3.5
5. Financial Assistance extended by Financial Institutions (net)	-19.4	-48.5	27.2	47.3	-11.6	-23.2	5.9	4.0
Total Flow of Resources to Industry	167.6	209.2	461.7	1171.9				

*: Gross issuances excluding issues by banks and financial institutions. Figures are not adjusted for banks' investments in capital issues, which are not expected to be significant.
+: Including Global Depository Receipts (GDRs)/American Depository Receipts (ADRs) and Foreign Currency Convertible Bonds (FCCBs) excluding issuances by banks and Financial Institutions.
$: Including short-term credit and adjusted for redemption of Resurgent India Bonds (RIBs) in October 2003.
#: Excluding issuances by Financial Institutions and banks' investments in Commercial Papers (CPs).
@: Data on retained earnings and depreciation for the year 2004-05 are based on abridged results of 1273 non-financial non-Government companies. Retained earnings for 2004-05 have been taken as 60.4% of net profit, the same ratio as during 2003-04.
Source: RBI

Though the debt issued by the corporates has risen over the years, they are predominantly private placements. The share of public issues has declined from 23% in 1995-96 to 6.9% in 2004-05.

Table 5: Resources Raised by Corporate Sector (Rs. billion)

Year (1)	Equity (Public issues) (2)	Debt (Public issue) (3)	Debt (Private Placements) (4)	Total Debt (3+4) (5)	Total Resources Mobilized (6)=(2+5)
1995-96	88.8	29.4	100.4	129.8	218.6
1996-97	46.7	70.2	183.9	254.1	300.8
1997-98	11.3	19.3	309.8	329.1	340.5
1998-99	5.0	74.1	387.5	461.6	466.6
1999-00	29.8	47.0	550.7	597.7	627.5
2000-01	24.8	41.4	524.6	566.0	590.7
2001-02	10.8	53.4	454.3	507.7	518.5
2002-03	10.4	46.9	484.2	531.2	541.6
2003-04	178.2	43.2	484.3	527.5	705.7
2004-05	214.3	41.0	553.8	594.8	809.1

Source: NSE

Similar to banks, corporates have been raising money from the retail markets by way of term deposits. Presently, the company statute permits corporates to raise deposits equivalent to 50% of its capital and free reserves. Several good credit-rated corporates have been inclined to raise funds by way of private placements to big lenders/investors, but are averse to tapping the public issue market. Regulatory requirements including quality and the type of disclosures, which are more rigorous in the case of public issues, act as primary deterrents to corporates, though for the sake of investor protection, these regulations are a necessary evil.

In order to promote the issuance of corporate bonds, the Government has stated that privately placed debt can't be distributed to more than 50 investors. A number of corporates are trying to circumvent this by, issuing the debt privately to less than 50 investors in the preliminary stage. Subsequently, these investors sell the debt further to a larger investor base, defeating the purpose of the entire process.

However, lately a number of reforms and significant restructuring has been carried out in the Indian financial and capital market areas, which has made tapping of retail bond market less problematic, particularly from the point of view of servicing a large number of investors.

On the issue of bank financing, the current system works in favor of borrowers, since the burden of cash management is more on the banking system. With prudential norms, rising emphasis on asset liability matching and gradual disappearance of long term financiers in the form of erstwhile developmental financial institutions, the market for long term financing must have to be in the form of bond markets. The development of derivatives market for hedging interest rate risk also will see the emergence of a robust bond market.

2.7. Instruments

Along with the main issuers (namely the Government and the corporates), Public sector units and banks have also been tapping into the debt market to meet their fund requirements. The differences in needs of these players have led to the issuance of different types of instruments with different maturity periods and yield structures.

The 'money market' deals with short-term requirement and employment of funds, with the instruments issued having a maturity period of less than a year. The most important feature of the money market is the high liquidity it offers. This coupled with the trait of no tax deduction at source from the interest component (because they are discount instruments and do not pay any interest) makes them a very attractive source of investment. The main traded instruments are Commercial Papers (CPs), Certificates of Deposit (CDs) and Treasury Bills (T-Bills).

The following table lists all the participants and the instruments issued in the Indian debt market.

Table 6: Participants and Products in Debt Market

Issuer	Instrument	Maturity	Major Investors
Central Government	Dated Securities Treasury Bills	1-30 years 91/182/364 days	Banks, Insurance Companies, Provident Funds, Mutual Funds, PDs, Individuals
State Government	Dated Securities	5-10 years	Banks, Insurance Companies, Provident Funds
PSUs (Centre and States)	Bonds	5-10 years	Banks, Insurance Companies, Corporate, Provident Funds, Mutual Funds, Individuals
Corporates	Bonds/Debentures Commercial Paper	1-10 years 15 days to1 year	Banks, Mutual Funds, Corporates, Individuals
Primary Dealers (PDs)	Commercial Paper	15 days to1 year	Banks, Corporate, Financial Institutions, Mutual Funds, Individuals
Banks	Bonds issued for Tier II capital Certificates of Deposit	Minimum 5 years 3 months to 1 year	Banks, Corporates

Source: RBI

Commercial Paper (CP): They are primarily issued by corporate entities. It is compulsory for the issuance of CPs that the company be assigned a rating of at least P1 by a recognized credit rating agency. An important point to be noted is that funds raised through CPs do not represent fresh borrowings but are substitutes to a part of the banking limits available to them.

Certificates of Deposit (CD): While banks are allowed to issue CDs with a maturity period of less than 1 year, financial institutions can issue CDs with a maturity of at least 1 year. The prime reason for an active market in CDs in India is that their issuance does not warrant reserve requirements for bank.

Treasury Bills (T-Bills): T-Bills are issued by the RBI at the behest of the Government of India and thus are actually a class of Government Securities. Presently T-Bills are issued in maturity periods of 91 days, 182 days and 364 days. Potential investors have to put in competitive bids. Non-competitive bids are also allowed in auctions (only from specified entities like State Governments and their undertakings, statutory bodies and individuals) wherein the bidder is allotted T-Bills at the weighted average cut off price.

Long-term debt instruments: These instruments have a maturity period exceeding 1 year. The main instruments are Government of India dated securities (GOISEC), State Government securities (state loans), Public Sector Undertaking bonds (PSU bonds) and corporate bonds/debenture. Majority of these instruments are coupon bearing i.e. interest payments are payable at pre specified dates.

Government of India dated securities (GOISECs): Issued by the RBI on behalf of the Central Government, they form a part of the borrowing program approved by Parliament in the Finance Bill each year (Union Budget). They have a maturity period ranging from 1 year to 30 years. GOISECs are issued through the auction route with the RBI pre specifying an approximate amount of dated securities that it intends to issue through the year. But unlike T-Bills, there is no pre set schedule for the auction dates. The RBI also issues products other than plain vanilla bonds at times, such as floating rate bonds, inflation-linked bonds and zero coupon bonds.

State Government Securities (state loans): Although these are issued by the State Governments, the RBI organizes the process of selling these securities. The entire process, right from selling to auction allotment is akin to that for GOISECs. They also form a part of the SLR requirements and interest payment and other modalities are analogous to GOISECs. Although there is no Central Government guarantee on these loans, they are believed to be exceedingly secure. One important point is that the coupon rates on state loans are slightly higher than those of GOISECs, probably denoting their sub-sovereign status.

Public Sector Undertaking Bonds (PSU Bonds): These are long-term debt instruments issued generally through private placement. The Ministry of Finance has granted certain PSUs, the right to issue tax-free bonds. This was done to lower the interest cost for those PSUs who could not afford to pay market determined interest rates.

Bonds of Public Financial Institutions (PFIs): Financial Institutions are also allowed to issue bonds, through two ways - through public issues for retail investors and trusts and secondly through private placements to large institutional investors.

Corporate debentures: These are long-term debt instruments issued by private companies and have maturities ranging from 1 to 10 years. Debentures are generally less liquid as compared to PSU bonds.

Table 7 Instrument-wise Securities Traded at the Wholesale Debt Market (WDM) segment of the NSE (Rs. billion)

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Government Dated Securities	9.46	11.13	10.82	11.41	11.18	11.07	4.32
T- Bills	1.14	0.45	0.72	0.34	0.39	0.54	0.47
PSU/Institutional Bonds	0.29	0.06	0.12	0.08	0.17	0.24	0.10
Others	0.89	0.36	0.34	0.17	0.26	0.14	0.10

Source: NSE

Note: 2004-05 figures April-August

The table 7 clearly reveals the importance of Government securities in the debt market. They form the major part of trading at the Wholesale Debt Market (WDM) segment of the NSE.

2.8. Trading, clearing and settlement:

2.7.1. Government securities

Government securities can be traded over the counter as well as on the stock exchanges. With the setup of the Negotiated Dealing System (NDS), the role of brokers has diminished in the Government securities market. Market participants can deal through this system directly with each other (negotiated dealing which is similar to telephone market with requirements to deal reporting on the NDS) as also through an anonymous order matching mechanism (these kind of transactions can be done through the NDS-OM module (Negotiated Dealing System – Order Matching)). Settlement is on T+1 basis while the transactions on the stock exchanges are on T+2 rolling settlement basis. While the transactions undertaken on NDS seamlessly flow through to the Clearing Corporation of India Ltd.(CCIL), for clearing and settlement, the transactions on the stock exchanges are cleared through the respective clearing corporations of the exchanges. The RBI is the record keeper for Government securities holdings, hence the ultimate settlement of Government securities are done at the RB I.

The establishment of CCIL greatly improved the settlement mechanism through the process of novation (the CCIL acts as the central counterparty guaranteeing the settlement with the help of a settlement guarantee fund) and multilateral netting.

2.7.2. Corporate bonds

On the other hand, currently the trades in corporate bonds are executed in three different ways:

(i) Directly between participants where a bilateral trade is settled through central bank money using cheques and transfer of securities through depository mode

(ii) Through a broker who brings a buyer and a seller together and helps them to execute a deal. The broker is obliged to report the deals to the stock exchange where he is registered

(iii) Through the equity market segment at the stock exchange where corporate bonds are traded in an anonymous order book system and the settlement happens through the clearing house/corporation with novation.

The first two methods are used frequently by institutions as money and securities are directly exchanged among buyers and sellers. In order to develop this market, it is required to put in place a trading platform that would cater specifically to institutional buyers and sellers since they form a large share of the corporate debt market. Globally, this market has been functioning as an over-the-counter market. The justification for a separate trading platform for the institutional investors has been recently recognized by the SEBI. Stock exchanges have been permitted to set up such a platform where individual trades of the value of Rs. 50 million and more can be executed without disturbing the price discovery process in the other wing of the market.

2.7.3. Clearing & Settlement System

A trade reporting system is only the first step towards the development of the secondary market in corporate bonds. It is essential that the trade reporting system closely ties into the clearing and settlement system so that the accuracy and integrity of trades reported is validated and their settlement thereby ensured. The trades in the secondary market are bilaterally settled amongst the participants. In the interest of overall market risk mitigation, it is essential that the clearing and settlement of trades in this market be handled in line with global best practices in settlement with well-established clearing and settlement procedures through recognized clearing and settlement agencies.

Currently, there is no structured settlement system in the market for corporate bonds. The settlement risk is relatively high in case of direct and brokered deals reported to the stock exchanges. Only a small proportion of trades executed through anonymous trading system of stock exchanges have a well-structured settlement system with proper risk guarantee of settlement

The CCIL could expand its wings to cover settlement of corporate bond. Although the basic principles of guaranteed settlement of Government securities trades and corporate bond trades are same, the risk of corporate bonds is considerably higher on two counts. In the case of Government securities, there is no credit risk while even AAA rated corporate instruments are not entirely free from credit risk. Secondly, there is much higher level of liquidity in Government securities than in the corporate bonds. Hence, market price risk is much higher in the case of corporate bonds. In view of these two distinguishing features of corporate bonds, the clearing corporation will have to charge much higher levels of margins when it plans to offer settlement guarantee.