

*Corporate Debt Market: Developments, Issues & Challenges**

Harun R Khan

It is an honour to address the distinguished participants of the 9th Annual Conference on Capital Markets (CAPAM 2012) on an issue which is attracting a lot of attention of the policy-makers and market participants – the corporate debt market. Deeper and broader financial markets are desirable for public policy objectives as they play a critical role in improving the efficiency of capital allocation within the economy. Capital market comprising equity and debt market is one of the most important segments in the financial system of any country. While India has a very advanced G-sec market, its corporate bond market is relatively under developed. Developing a more vibrant corporate bond market has therefore become an important agenda among the concerned stakeholders, *i.e.*, Government of India (GoI), the Reserve Bank of India, the Securities and Exchange Board of India (SEBI), the Insurance Regulatory and Development Authority (IRDA), *etc.* and in the recent times they have made co-ordinated efforts to achieve this objective.

A. Need for a well-developed corporate bond market in India

2. The 2008 Global Financial Crisis (GFC) highlighted the need to reduce the dominance of the banking system in financing corporate sector by developing a good corporate bond market. India's infrastructure funding requirements (estimated at around 10 per cent of GDP annually) need a robust corporate bond market for diversifying risk, enhancing financial stability, and for better matching of risk-return preferences of the borrowers. Historically, India's financial system has been bank-dominated, supplemented by the

Development Financial Institutions (DFIs). However, the financial system has undergone several changes during the recent years and DFIs have been converted into banks. Commercial banks, by nature, are not able to fill the gap in long-term finance, given the asset-liability management issues.

3. A well-developed corporate bond market is critical for Indian economy as it (i) enables efficient allocation of funds, (ii) facilitates infrastructure financing, (iii) improves the health of the corporate balance sheets, (iv) promotes financial inclusion for the Small and Medium Enterprises (SMEs) and the retail investors, (v) safeguards financial stability and (vi) enables development of the municipal bond market. Accordingly, development of the corporate bond market has been high on the agenda for the regulators. I will cover each of these areas briefly.

Efficient allocation of resources

4. A well-developed corporate bond market provides additional avenues to corporates for raising funds in a cost effective manner and reduces reliance of corporates on bank finance. A deep and liquid debt market augments financial savings and helps match the savers to the borrowers in an efficient manner. By enlarging the financial sector, capital markets promote innovation in financial instruments. In addition, it instils discipline in behaviour of firms leading to increased efficiency of the system. The existence of a well-functioning bond market can lead to the efficient pricing of credit risk as expectations of all bond market participants are incorporated into bond prices. In order to achieve the objective, it is desirable to have diversified issuer and investor base. Issuer profile in India, however, is concentrated among a few category of market participants dominated by financial sector firms including banks, Non-Banking Financial Companies (NBFCs), financial institutions, housing finance

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companies (HFCs) and Primary Dealers (PDs) (81 per cent) while other non-finance corporates account for only 19 per cent of total issuances made in 2011-12. Similarly, on demand side, majority of investment are made by banks and institutions including Foreign Institutional Investors (FIIs) with very little or negligible part played by retail investors. Thus, there is an urgent need to further develop the Indian corporate debt market.

Infrastructure financing

5. The Committee on Infrastructure Financing (Chairman: Shri Deepak Parekh) has estimated that ₹51.46 trillion would be required for infrastructure development during the 12th Five Year Plan (2012-17) and that 47 per cent of the funds could come through the PPP route. If we add the potential financing needs for upgrading our railways, urban and rural infrastructure, the financing needs could be much larger. As much as the G-sec market development has provided a boost to the development of the corporate bond market, the municipal bond market could derive similar benefits from a well-developed corporate bond market. This would provide boost to financing the urban infrastructure in an assured and sustainable manner. In this context, it is important to note that GoI's capital expenditure has remained stagnant during the last two years at around 13 per cent. Hence, the role of private sector assumes greater importance in the context of infrastructure development.

Health of the corporate balance sheet

6. External borrowings of the corporate sector have increased substantially in the last decade, in part due to the falling implicit cost of the external commercial borrowings (ECBs). While the external debt could help the corporate sector diversify the funding sources, excessive reliance on the same could pose balance sheet risks when the availability of funding liquidity is subject to sharp volatility in the international markets, making the debt rollovers difficult or rollovers are possible only at high interest rates. A Standard & Poor's (S&P) forecast in June 2012 had warned that more than half of the 48 companies that are due to redeem an estimated US\$ 5 billion of convertible bonds in 2012 may default, while

the others may redeem by borrowing at high cost or stiffer terms. The recent phenomenon of sharp fluctuation in the exchange rate, particularly sharp depreciation of Rupee has imparted severe pressure on the profitability of many Indian firms having large foreign exchange obligations. A well-developed domestic corporate bond market could, thus, reduce such vulnerability of our corporates to both currency and liquidity risks besides reducing our external sector vulnerabilities as share of ECBs as per cent of our foreign exchange reserves has been declining in the recent years. A perusal of the various sources of raising resources in the domestic market reveals that the large non-financial corporates have been raising only about 4 per cent through the debt route while the bank borrowings and foreign currency borrowings account for 17.8 per cent and 3.2 per cent, respectively as on March 31, 2011.

Financial inclusion of the SMEs and retail investors

7. Corporate debt can provide our SMEs with an avenue for sourcing funds. Since this would require rating and would result in greater external scrutiny, it would help SMEs become more transparent and follow proper accounting, governance and disclosure practices. It would also increase their understanding of this important market for sourcing funds in addition to banks and other alternative funding options. It is expected that Chambers of Commerce and SME associations would take this up on a priority basis so that our SMEs too could access the corporate debt market in the coming years as has been the experience in the US, Europe and some Asian countries. This would also go a long way in fulfilling our financial inclusion objectives for the SMEs, most of whom, as we know, do not have access to formal financial sector. Corporate debt can also provide an excellent long term investment avenue for retail investors, who lack knowledge and understanding of this important asset class. One hopes that, market bodies, such as, the Fixed Income Money Market and Derivatives Association of India (FIMMDA), the Primary Dealer Association of India (PDAI), etc. together with the stock exchanges take up the task of spreading awareness with all sincerity that it deserves.

This is very relevant as Indian households have one of the highest savings rate in the world but the household wealth in India is generally parked in bank deposits, gold and real estate with almost negligible investment in corporate bonds. If retail investors prefer to invest in shares of certain companies, there should be no reason why they should be hesitant to also consider investing in its debt.

Financial stability

8. Various financial crises have highlighted that even well regulated, supervised, capitalised and managed banking systems may have limitations in mitigating financial vulnerabilities. The crises have underscored that the banking systems cannot be the predominant source of long-term investment capital without making an economy vulnerable to external shocks. Alan Greenspan had argued that bond markets could act like a 'spare tyre', substituting for bank lending as a source of corporate funding at times when banks' balance sheets are weak and banks are rationing credit. The capital inflows to the country through ECBs, while helping the country fund the current account deficits and corporate to raise resources at a lower cost, could become a source of the transmission of severe external shocks to the domestic economy. Therefore, it is important to develop the domestic corporate bond market to enable corporates to meet a substantial part of their funds requirement domestically. Further, credit flow to infrastructure sector by banks has grown manifold in last few years. There is, however, a risk of exposure attached to banks with such long term financing considering ALM mismatch. Moreover, banks' ability to withstand stress is critical, especially in the context of the recent increase in banks' non-performing assets on account of their exposure to the infrastructure sector. Bond markets also aids financial stability by spreading credit risks across the economy and thereby shielding the banking sectors in times of stress. Further, a well-developed bond market can also help banks raise funds to strengthen their balance-sheets. Viewed in the above context, a vibrant debt market is critical to meet the funding requirement for infrastructure sector. Hence, going forward, there is a need to increase the reliance on the corporate bond financing so as to reduce

macro-economic vulnerability to shocks and mitigate systemic risks.

Development of municipal bond market

9. According to the High Powered Expert Group Committee (Chairperson: Dr. Isher Judge Ahluwalia), India will need to invest ₹39,187 billion between 2012 and 2031 to meet its urban infrastructure requirements. Municipal bonds could be an important source of financing for this requirement. Since 1997, only 25 municipal bond issues have taken place in India mobilising only ₹14 billion. An active corporate bond market could enable market for municipal bonds issued by the Urban Local Bodies (ULBs). In this context, a World Bank study (October 2011) on 'Developing a Regulatory Frame work for Municipal Borrowing in India' has focused on such bonds. Keeping in view sustainability it has recommended that there should be interest cap on such bonds and they should be treated as tax-free bonds in the same manner as other tax free instruments. The study has also recommended that a new asset class called 'rated municipal securities' needs to be added instead of 'non-government securities' to both the IRDA and the Pension Fund Regulatory and Development Authority's (PFRDA) investment guidelines.

B. Growth of Indian debt market

10. Recommendations of various committees have been implemented by the respective regulators to promote debt market in India. The growth of corporate bond market in India has been aided by existence of a well-developed G-sec market which provides a benchmark yield curve for bond pricing, a well-functioning depository system, credible system of rating agencies and adequate legal framework. Measures, such as, rationalising the listing norms, standardisation of market conventions, reduction in the shut period, setting up of reporting platforms, and implementation of DvP settlement of corporate bond trades have had an encouraging impact on the market resulting in considerable increase in issuance as well as secondary market trading of corporate bonds. Total issuance has increased from ₹1,747.81 billion in 2008-09 to ₹2,968.94 billion in 2011-12. Similarly trade

volume has increased from ₹1,481.66 billion in 2008-09 to ₹5,937.83 billion in 2011-12. During the current fiscal year upto September 2012, the trade volumes have been ₹3261.14 billion. The share of bonds issued through public issues has increased from 0.86 per cent in 2008-09 to 7.3 per cent in 2011-12. Out of the four modes of resource mobilisation namely, IPOs, FPOs, bonds and rights issues, the share of bonds have increased from 9.2 per cent in 2008-09 to 73.5 per cent in 2011-12 indicating greater reliance of entities on bonds for resource mobilisation in the recent period.

C. Structure of corporate debt market in India

11. The primary market for corporate debt is mainly dominated by private placements (93 per cent of total issuance in 2011-12) as corporates prefer this route to public issues because of operational ease, *i.e.*, minimum disclosures, low cost, tailor made structures and speed of raising funds. Banks/FIs (42.3 per cent of total issuances) followed by finance companies (26.4 per cent) were the major issuers in 2011-12. India lacks a long-term debt market for pure project finance. Corporate bonds issued in India usually carry a rating of AAA indicating lack of interest in bonds of lower rated borrowers in the debt market. Institutional participants, such as, banks, primary dealers, mutual funds, insurance companies, pension funds, corporates, *etc.* are the major players in this market. Retail investors are also gradually entering this market. Their participation is, however, minuscule. As regards regulation of corporate debt market, the regulatory involvement is clearly delineated between the Reserve Bank of India and the SEBI. The Reserve Bank is responsible for the market for repo transactions and OTC credit derivatives besides framing prudential regulations for banks, *etc.* in respect of their exposure to corporate bonds. In all other cases, SEBI has the regulatory jurisdiction except in case of unlisted privately placed bonds.

D. Measures taken to develop the corporate bond market

12. Government, SEBI and other stakeholders have initiated several measures to develop the corporate

debt market. Reserve Bank of India has also taken various initiatives in this regard. Some of these are recounted below:

- i. To promote transparency in corporate debt market, a reporting platform was developed by FIMMDA and it was mandated that all RBI-regulated entities should report the OTC trades in corporate bonds on this platform. Other regulators have also prescribed such reporting requirement in respect of their regulated entities. This has resulted in building a credible database of all the trades in corporate bond market providing useful information for regulators and market participants.
- ii. Clearing houses of the exchanges have been permitted to have a pooling fund account with RBI to facilitate DvP-I based settlement of trades in corporate bonds.
- iii. Repo in corporate bonds was permitted under a comprehensive regulatory framework.
- iv. Banks were permitted to classify their investments in non-SLR bonds issued by companies engaged in infrastructure activities and having a minimum residual maturity of seven years under the Held to Maturity (HTM) category;
- v. The provisioning norms for banks for infrastructure loan accounts have been relaxed.
- vi. The exposure norms for PDs have been relaxed to enable them to play a larger role in the corporate bond market.
- vii. Credit Default Swaps (CDS) have been introduced on corporate bonds since December 01, 2011 to facilitate hedging of credit risk associated with holding corporate bonds and encourage investors participation in long term corporate bonds.
- viii. FII limit for investment in corporate bonds has been raised by additional US\$ five billion on November 18, 2011 taking the total limit to US\$ 20 billion to attract foreign investors into this market. In addition to the limit of US\$ 20 billion, a separate limit of US\$ 25 billion has been provided for investment by FIIs in corporate bonds issued by infrastructure companies. Further,

additional US\$ one billion has been provided to the Qualified Financial Institutions (QFI).

- ix. The terms and conditions for the scheme for FII investment in infrastructure debt and the scheme for non-resident investment in Infrastructure Development Funds (IDFs) have been further rationalised in terms of lock-in period and residual maturity.
- x. Further, as a measure of relaxation, QFIs have been now allowed to invest in those MF schemes that hold at least 25 per cent of their assets (either in debt or equity or both) in the infrastructure sector under the current US\$ three billion sub-limit for investment in mutual funds related to infrastructure.
- xi. Revised guidelines have been issued for securitisation of standard assets so as to promote this market. The guidelines focus on twin objectives of development of bond market as well as provide investors a safe financial product. The interest of the originator has been aligned with the investor and suitable safeguards have been designed.
- xii. Banks have been given flexibility to invest in unrated bonds of companies engaged in infrastructure activities within the overall ceiling of 10 per cent; and
- xiii. Bank has issued detailed guidelines on setting up of IDFs by banks and NBFCs. It is expected that IDFs will accelerate and enhance the flow of long-term debt for funding the ambitious programme of infrastructure development in our country.

E. Issues and challenges in Corporate Bond Market

13. While the measures taken so far have generated the momentum needed to develop the market, the indicators are suggesting that the market is yet to develop to its potential in relation to needs of our macro-economy. The size of the Indian corporate bond market at 11.8 per cent of GDP is lower than the average for Emerging East Asia and for Japan at 17.2 and 19.8 per cent respectively. There are potential risks

associated with this market, such as, absence of robust bankruptcy framework, insufficient liquidity, narrow investor base, refinancing risk, lack of better market facilities and standardisation. Some of the issues and challenges which need attention are:

- i. Taking measures to improve liquidity, such as, consolidation of particularly the privately placed bonds, *etc.*;
 - ii. Setting up a suitable framework for market making in corporate bonds;
 - iii. Providing tools to manage credit, market and liquidity risks {*e.g.* CDS, Interest Rate Futures (IRF), Repo in corporate bonds, *etc.*};
 - iv. Introducing a suitable institutional mechanism for credit enhancement to enable SMEs and other corporates with lower credit rating to access the corporate bond market;
 - v. Developing a smooth yield curve for the government securities market for efficient pricing of the corporate bonds;
 - vi. Enhancing transparency by setting up of centralised database for tracking rating migration, issue size, *etc.*;
 - vii. Increase the scope of investment by provident/pension/gratuity funds and insurance companies in corporate bonds;
 - viii. Calibrated opening of the corporate bond market to the foreign investors;
 - ix. Developing safe and sound market infrastructure;
 - x. Establishing a sound bankruptcy regime;
 - xi. Rationalisation of stamp duty across states;
 - xii. Developing the securitisation market under the new regulatory framework;
 - xiii. Wider participation of retail investors in the market through stock exchanges and mutual funds.
14. I would briefly touch upon some of these issues, particularly those with which the Reserve Bank is connected directly or indirectly.

Improving liquidity

15. Low liquidity is an issue that needs to be addressed urgently. Several reports have suggested consolidation of the corporate bond issues through reissues to promote liquidity. We need to make a beginning in this area by involving PSUs and large corporate with significant volumes of bonds outstanding in devising a suitable scheme of consolidation of their issues. There are suggestions to the effect that in respect of regular issuers that there could be restriction on the number of securities they can issue in a year so that reissues would become necessity.

Market making

16. Banks and PDs have played the role of market making in the G-Sec with reasonable success and we need to explore the possibility of replicating the experience in the corporate debt market as well, *albeit* with the realisation that primary dealers would be exposed to greater credit risk if they carry a sufficiently large inventory of corporate bonds that is needed for market making. Moreover, their limitation to increase exposure to corporate bonds with the context of growing issuance size of Government bonds has to be kept in view. Some suggestions to incentivise PDs for market making are, however, being discussed with the stakeholders. Further, there is a need for a debate on creation of a separate agency/institution to promote market making in corporate bonds, on the lines of institutions established to promote government securities market.

Credit derivatives

17. In the context of development of the corporate bond market and promoting infrastructure funding, CDS has been introduced with all safeguard, such as, not allowing naked CDS for the users, mandating position limits for the market makers, compulsory reporting of transactions to the trade repository in CCIL, *etc.* and high expectations. CDS could provide an avenue for participants to mitigate credit risk and enable effective redistribution of credit risk within the system. With the necessary infrastructure that included trade repository, documentation, publication of CDS curve for valuation, standardisation of contracts, *etc.*

in place, participants were permitted to enter into CDS with effect from December 1, 2011.

18. Though the guidelines were framed after detailed discussions with the market participants, only few trades have taken place since the launch of the product. Some of the reasons being attributed are difficulty in signing separate Credit Support Annex (CSA for India), non-availability of netting benefits and posting of collateral on daily basis. Both SEBI and IRDA are likely to permit their regulated entities to participate in CDS as users soon. These are not major operational issues and should not deter market participants from undertaking trades. Stringent capital adequacy guidelines are also being termed as stumbling block. Since CDS is a complex derivative product and downside risk is very high, Reserve Bank intends to follow a cautious and gradual approach in the nascent stage of development of the market. As far as capital adequacy guidelines are concerned, Reserve Bank has broadly followed Basel norms. Hence, it is imperative that market participants use the product to suit their business and risk management requirements.

Interest rate derivatives

19. Interest rate derivatives (IRD) products like Interest Rate Swaps (IRS) and IRF enable market participants to hedge their interest rate risk and take a trading call in the market, leading to the development of the underlying cash market in terms of enhancing liquidity and price discovery. Thus, success of IRDs will be key to the development of corporate debt market. Though the market for IRS has evolved over the past decade and is fairly liquid with average daily trade volumes comparable with the volume traded in the G-Sec market, same is not true for exchange traded IRF. Reserve Bank is examining the recommendations made by Working Group on 'Enhancing Liquidity in G-Sec and Interest Rate Derivatives Market' (Chairman: R. Gandhi) relating to introducing IRF based on overnight call borrowing rate, fine tuning the product design of the delivery-based 10-yr IRF by permitting single-bond contracts, larger contract size, *etc.* to revive IRF market. As regards IRS, Reserve Bank has already taken various initiatives like setting up of a reporting platform for

IRS transactions and enabling non-guaranteed central clearing of IRS trades. The process for introduction of guaranteed settlement of IRS transactions is underway. It is expected that market participants will make use of various IRD products for hedging interest rate risk in their portfolio. There is also a need for altering the skewed participation profile in the IRS market given that majority of the participants are foreign and private sector banks with minuscule interest from public sector banks.

Repo in corporate debt

20. Among the various initiatives taken by RBI, introduction of repo in corporate bonds has been one that is aimed to impart secondary market liquidity to the corporate bond market. The guidelines permitting repo in corporate bonds were issued in March 2010 and the same were fine-tuned in December 2010. However, except for a handful of trades, the market has not taken off. The reasons cited for lack of interest include non-signing of the Global Market Repo Agreement (GMRA), lack of lenders, such as, mutual funds and insurance companies in repo market, *etc.* Reserve Bank is engaging with other regulators to address these issues. While SEBI has permitted the mutual funds to participate in this repo market, authorisation from IRDA is expected soon. There is a view that an exchange traded tripartite repo structure could enhance attractiveness of corporate bonds and improve trading volumes. There are, however, concerns, among others, relating to the capacity of central counterparty (CCP) to handle the risk, particularly given the low level of liquidity in the underlying cash market and liquidity accessing capacity of the CCP under extreme situations when settlement obligations have to be met in an orderly manner. The efficacy of these instruments (CDS, IRF and repo) hinges around the crucial issue of whether market participants would use the instrument to hedge risks or they remain as available instruments not used. Though all these instruments were introduced after having detailed consultation with the market participants, it is rather perplexing for regulator to find almost no activity in these instruments. It is hence necessary that the market participants make best use of the product.

Credit enhancement - bank guarantee

21. Other issue which market has been demanding is allowing banks to provide credit enhancement/partial credit enhancement to corporate bonds by means of guarantee, credit facility, liquidity facility, *etc.* The measure may appear to be expedient but the underlying objective of de-risking the bank balance sheets through development of corporate debt market will not be met as such a product will place the entire risk on the banking system. Further, banks providing credit enhancements/partial credit enhancement like issuing guarantees for corporate bonds will distort the pricing of the corporate bonds, discourage institutional and retail investors to appraise and assume credit risk and add to the reputational and financial risk of banks. Further, if guarantees are offered by public sector banks, investors tend to form an impression that the bonds have implicit Government support. Thus, provision of bank guarantee will impinge on the genuine development of corporate bond market. In fact, there is hardly any parallel in the world of credit enhancements being provided by the banking sector to corporate bonds. In this regard, some structure for partial credit enhancement, outside banking, could, however, be considered. Under the extant regulations of the Foreign Exchange Management Act (FEMA), entities like multi-lateral/regional financial institutions, government and financial institutions, foreign equity holders, *etc.* have been enabled to provide credit enhancement and for this guarantee fees upto 200 bps could be paid by the Indian issuers. Some international and domestic financial institutions have in fact shown some interest in this regard and these initiatives could be taken forward.

Smooth sovereign yield curve

22. The absence of a risk-free term structure of interest rates makes it difficult to price credit risk of instruments issued by the private sector and quasi-sovereign. In the Indian context, however, with issuance of Government bonds for different maturities upto 30 years the sovereign risk free curve does exist. There is, however, an issue relating to having a smooth yield as also almost flat nature of the curve beyond 10 years since trading is confined to a few points.

particularly in the 10 to 14 year segment. FIMMDA has, however, taken steps to create a yield curve by taking available trade data from different points and applying the Cubic Spline interpolation model for smoothening the yield curve. In addition to passive consolidation being adopted by the Reserve Bank over the years, it is, in consultation with the Government, considering the process for active consolidation involving buybacks/switch operations besides regular issuances at different points of the curve.

Enhancing transparency

23. It is desirable that the level of information dissemination available in G-Sec and money market is replicated in corporate debt market. This is required as there is paucity of information on individual issuances as there is no comprehensive database (though one private firm collects quite a bit of data) which constrains policy-making. The proposed measures of SEBI to simplify the disclosure norms for debt listing will definitely improve the situation. However, there is an urgent need to design and create such centralised database with more details like issue size, option availability, rating, *etc.* for better market transparency and improve regulation. It may also be noted that there is also a bias towards issuance of bonds through private placement which is not a very transparent method and thus, is impacting the secondary market liquidity in corporate debt. Hence, there is need to encourage public issuance of bonds.

Relaxing investment restrictions

24. Keeping in view the long term funding requirements of infrastructure sector, insurance, provident funds (PFs) and pension companies are best suited for making investment in such bonds. Hence, there is a need to revisit the investment guidelines of such institutional investors since the existing mandates of most of these institutions do not permit large investment in corporate bonds. Prudential requirements of the sectoral regulations would, however, need to be balanced with the need for a developed bond market which ultimately would be in the interest of all the financial market participants.

Expanding access to the foreign investors

25. There is a growing demand to open up the corporate debt market and, in particular infrastructure debt segment to the FIIs/QFIs. There is also a demand for fiscal concession to the FIIs. It has to be kept in view that based on our experience and lessons learnt from the global financial crisis, we have adopted a cautious approach. Nevertheless, the limits and conditions for investments by the FIIs have been liberalised particularly for the infrastructure bond as mentioned in para 12 above. The limits available so far, however, have not been used up significantly. The recent announcement regarding reduced withholding tax to five per cent for foreign currency denominated infrastructure bonds and its likely extension for the Rupee infrastructure bond investments by the FIIs may lead to greater utilisation of the available limits.

Settlement systems/ trading platform

26. The success of order matching trading platform in G-Sec market can act as guidance for setting up of order-matching trading platforms for the corporate debt market. Considering that the trading platforms on exchanges are non-functional, a quote driven anonymous screen based trading platform could possibly bring about the desired focus on trading in corporate debt market due to reduction in transaction cost and improved time efficiency in execution of trades.

Efficient bankruptcy regime

27. A robust, timely, effective and efficient bankruptcy regime is essential to development of corporate debt market from investors' point of view. Steps, such as, reforming bankruptcy law, early resolution of bankruptcy cases and streamlining the procedures relating to insolvency would go a long way in achieving the same. The issue of insolvency of financial institutions established under statutes and bi-lateral netting among them during bankruptcy also need resolution. Possibly, as recommended by the Committee on Financial Sector Assessment, a comprehensive insolvency regime for banks and other financial institutions need to be expedited.

F. Implementation of Basel III and corporate bond market

28. Many steps have been taken to promote bank lending to infrastructure sector like liberalisation of credit exposure norms, liberal dispensation for classification of investments under HTM category, expansion of list of businesses included under infrastructure sector, *etc.* As a result, banks' exposure to infrastructure lending has grown by more than four times between 2005 and 2011. However, two factors are limiting the ability of the banks. First, in the context of Basel III guidelines for the banks, the additional capital requirement is estimated at ₹5 trillion for the banks, of which non-equity capital will be of the order of ₹3.25 trillion while equity capital will be of the order of ₹1.75 trillion. Capital augmentation of banks in future could be a challenge and this could constrain them from increasing their lending to infrastructure in line with the financing needs of the sector. Therefore, there is a clear need for a corporate debt market to serve as a source of long-term finance for corporates and as an alternate to a bank-dominated financial system. The specific characteristics of infrastructure bonds like long duration and high coupon make these bonds attractive for insurance and pension companies who should step up their investments given the limitations on banks' capacity. Steps being contemplated by IRDA for insurance companies may provide necessary boost.

29. The second constraint faced by the banks is that of ALM mismatches that limits the banks role in lending to infrastructure. For banks it would be difficult to assume bulk of the project risk and capital costs indefinitely in infrastructure projects without a commensurate development of the corporate bond market. Therefore, the importance of long-term debt financing for infrastructure projects can hardly be overstated owing to the longer pay-back period, multiplicity of approvals required, delays due to complexities in the design, safety and environmental aspects, *etc.* It may, however, be noted that we may see large issues of bonds by the banks to augment capital requirements for Basel III as indicated above and this, in turn, add to the volumes in the corporate bond market.

G. Concluding remarks

30. I have highlighted the criticality of corporate bond market in the economy as it allocates resources efficiently and enables long-term resource raising to sectors, such as, infrastructure. A vibrant corporate bond market provides an alternative to conventional bank finances and also mitigates the vulnerability of foreign currency sources of funds. From the perspective of financial stability, there is a need to strengthen the corporate bond market. Limited investor base, limited number of issuers and preference for bank finance over bond finance are some of the other obstacles faced in development of a deep and liquid corporate bond market. I have also briefly discussed the growth and structure of Indian corporate bond market and outlined measures taken by the regulators, in particular the Reserve Bank of India to develop the market. I have flagged some of the issues and challenges faced by this market and the approach to be adopted to address them in order to enable the market to reach its potential.

31. The task before us is to improve liquidity, enhance transparency, provide safe and sound market infrastructure, enable appropriate institutional structure, such as, robust bankruptcy framework, *etc.* The regulators have taken proactive steps and provided the market with tools of risk management. Efforts are on to enable wider participation in the market and create scope for market making. The regulators, like Reserve Bank, has always followed a consultative approach and welcomed suggestions from the stakeholders. It is also expected that the market participants need to be more active and participate in corporate bond market and make use of risk management tools/financial products. This would enable growth of the corporate bond market and cater to the needs of the real economy and the financial sector. I am sure that the panellists of the next session would deliberate on some of the issues raised above and other related issues and provide useful and implementable suggestions to meet the challenges of developing a more vibrant corporate bond market in India.

32. I once again thank FICCI for giving me this opportunity to share my thoughts on such a topical subject.