H R Khan: Towards vibrant debt markets – a 7iframework

Keynote address by Shri H R Khan, Deputy Governor of the Reserve Bank of India, at the 13th FIMMDA-PDAI Annual Conference on “Asian money, bond & derivatives in the new global economy”, Kuala Lumpur, 27 January 2012.

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It is a great pleasure to be here amidst you all for the 9th Annual meeting of the Fixed Income Money Market Derivatives Association (FIMMDA) and the Primary Dealers Association of India (PDAI) in this enchanting and energetic city of Kuala Lumpur. Relations between our two great nations, India and Malaysia, date back to ancient times. Indeed the name Malaysia is believed to have been derived from the Sanskrit root *Malayadvipa* which means “peninsula of mountains”. This land had attracted hordes of traders from India in the ancient times and the exchange was not confined not merely to merchandise but also extended to deep socio-cultural ties including customs and cuisine. The tradition continues. I am happy to note that this meeting has attracted a different breed of traders from India and elsewhere, the bond and derivative traders, to introspect on the challenges facing us in these exciting times. Risks from the global macroeconomic environment remain elevated even as growth remains subdued & unemployment high in most of the advanced economies. The Euro-area remains under stress. Neither default by one or more of the peripheral countries nor the severe austerity measures put in place to avoid a default forebode good tidings for the economy or the markets. Though the emerging economies have been less bruised in the process, funding constraints in international financial markets pose a threat to both the availability and cost of capital and in turn on their growth prospects.

In these challenging times, the imperative from our perspective is to ensure that the funding needs of expanding economies like India and Malaysia are met so that the growth trajectory upon which realisation of the aspirations of millions of our underprivileged people depends is not derailed. At the same time, the crisis has reinforced global concern for financial stability and it is equally important to ensure that latent fault lines in the financial sector do not herald a crisis with even greater suffering than tardy growth. Speaking here in Kuala Lumpur, one cannot help recollect the crisis of the late 1990’s which besieged the rapidly growing “miracle economies”. Most of these economies faced a substantial GDP contraction during 1998 and moderation in the growth during the following years. The countries dealt with the crisis in their own way but two features common to all of them are accumulation of sizeable foreign currency reserves and development of a robust local currency bond market. The size of the local currency bond market in the East Asian economies excluding Japan has been growing at a rate exceeding 20 percent which is more than twice the growth rate of the global bond market and this is evident in the corporate bond market segment as well. An interesting observation from the data on corporate bond markets in Asia is that the value of outstanding increased during the period of recent global financial crisis. The outstanding increased from US$ 929 million as of end-December 2007 to US$ 1617 million as of end-December 2010 This underlines the continued attraction for investments even during the period of financial turmoil in the global markets. In fact, post global financial crisis, the Asian bond markets are witnessing a gradual shift away from the government bond driven to a corporate bond driven market growth.

Indian bond and derivatives markets

Over the past two decades since we began the financial sector reforms, Indian bond markets have come a long way. The annual gross market borrowing of the Government of India and the State Governments increased from ₹ 122.83 billion in 1991–92 to ₹ 5,833.92 billion in 2010–11. The amount of outstanding Government of India securities increased from ₹ 780.23 billion in 1991–92 to ₹ 21569.14 billion in 2011–12. Government securities market (G-Sec) has become broad-based in terms of participation and the sovereign yield curve now spans up to 30 years. The monthly volume in secondary market on the electronic trading platform – Negotiated Dealing System-Order Matching (NDS-OM), which accounts for about 90 per cent of the trading, has increased from ₹ 314.30 billion in August 2005 to 1480.86 billion in March 2011. The bid-ask spread of on-the-run securities continues to be low at 1–2 basis points (bps) and the impact cost of the on-the-run securities is observed at around 3 bps for a trade size of ₹ 500 million. In case of corporate bonds, trading volumes have increased manifold from ₹ 1458.28 billion in 2008–09 to ₹ 5986.04 billion in 2010–11. Yet we have quite some distance to traverse to catch up with our neighbours in the Far East, let alone the advanced western countries.

The *7i* framework

In this backdrop, I intend to discuss the development of the debt and the derivatives market in India from the perspective of a central bank and a financial sector regulator with a mandate to facilitate development of debt markets of the country. I shall briefly cover some of the important initiatives taken so far and also draw the contours of future development. My discussion will be structured within what I call the ***7i* framework** – the seven *I's* standing for ***I***nvestors, ***I***ssuers, ***I***nstruments, ***I***nfrastructure, ***I***ntermediaries, ***I***ncentives and ***I***nnovation – each an important and critical component of any well-functioning and vibrant financial market.

Investors

Any discussion of development of a bond market has to begin with the investor. High savings rate, large set of domestic institutional investors and active interest from foreign investors can create a large and heterogeneous group that is necessary for an efficient bond market. The traditional investor base for G-Sec in India comprised banks, provident funds, and insurance companies. With the entry of co-operative banks, regional rural banks, pension funds, mutual funds and non-banking finance companies, the institutional investor base has been reasonably diversified. Notwithstanding the predominantly institutional character of the G-Sec market, Reserve Bank of India has recognised merit in promoting retail participation and has initiated certain policy measures to this end. Some of these include enabling small and medium sized investors to participate in the primary auction of G-Sec through a "Scheme of Non-competitive Bidding", improving access to the market for mid-segment investors by permitting well-managed and financially sound Urban Cooperative Banks (UCBs) to become members of NDS-OM and revision of authorization guidelines for the Primary Dealers (PDs) mandating achievement of minimum retailing targets. To ease the process of investment by retail/mid-segment investors, a web-enabled platform which would seamlessly integrate their funds and securities accounts has been planned by the Reserve Bank of India. Some major banks have also initiated measures like on-line trading portal for the retail investors.

An important feature of investor profile of the G-sec market is the dominance of domestic investors and limited foreign participation but this is an aspect of a policy framework rather than indicative of lack of interest by overseas investors. Investment limits for the Foreign Institutional Investors (FIIs) have been enhanced in a phased manner to US$ 15 billion in G-sec and US$ 45 billion in the case of corporate bonds (including US$ 25 billion for infrastructure sector bonds/units).Some observers argue that in the absence of significant investments by foreign investors, markets are deprived of not only a large and liquid pool of savings but also active global trading strategies which can contribute to the much needed trading liquidity. The counter argument is that the willingness of foreign investors to take a long-term view and remain engaged is highly sensitive to global economic factors and possible sudden reversals arising from "hot money" strategy of foreign investors has potential to impact the systemic stability. Let me add that the participation of foreign investor in the domestic bond markets also needs to be examined in the light of our policy stance relating to calibrated approach to capital account convertibility and the possibility of interest rate and exchange rate volatility due to large scale reversal of capital flows.

A recurrent theme in the government bond market is the lack of liquidity as seen from the low trading volumes. The daily trading volume is less than one percent of the outstanding stock. The banks and insurance companies between themselves hold about 70 per cent of the outstanding stock. The investment strategy of insurance companies and pension funds are usually dictated by Asset Liability Management (ALM)/actuarial considerations. In India because banks are mandated to hold as much as 24 per cent of their liability in the form of government securities, under Statutory Liquidity Ratio (SLR) framework, they have been permitted to classify these holdings as held-to-maturity (HTM) with a view to protecting their balance sheets from volatility arising out of interest rate fluctuations. With a dominant part of the outstanding stock thus residing in HTM portfolio and out of the market the low volume of trading is but natural. The term HTM, however, appears to be an illusion as securities are almost never held till they mature but are sold at an opportune time. Such an investment strategy impacts liquidity of the security, in particular, and the market, in general. While the changes imminent in accounting norms under the International Financial Reporting Standards (IFRS) may force transformation of the strategies of banks, there is a need for debate on the issue of reduction in the HTM category dispensation, albeit in a phased manner.

In the corporate debt market, investor base is mostly confined to banks, insurance companies, provident funds, Primary Dealers (PDs) and pension funds. Of late, the retail investors have been showing interest in corporate bonds, especially bonds issued by the infrastructure companies that entail tax incentive. While investors are not shy of debts issued by the top rated firms, they are reluctant to subscribe to the lower rated instruments. This is an anomaly because lower rated companies do have access to bank financing. Credit enhancement by banks can perhaps make such instruments attractive to investors. But on the flip side, credit enhancement essentially involves transfer of the credit risk to banks and this will not only hamper the development of corporate bond market by stunting the price discovery process but also increase the risk in the banking system. The focus must be on de-risking banking system, and at the same time, building/encouraging institutions that provide credit enhancement.

Investor interest in the interest rate derivatives market ought to be dictated by their exposure to the cash market. While investors' cash market exposure is substantial and has been increasing over time, the accounting hedge through HTM classification insulates the holders against market risk. Therefore, we observe skewed and limited participation, resulting in shallow markets. Though the Interest Rate Swaps (IRS) was launched in 1999, the only product where the market volumes have grown substantially is the overnight index swap based on the overnight money market index. Here too the participation is not significantly broad-based. Foreign banks (owning only 7 percent of the banking sector assets) are the most dominant players in the IRS market followed by the private sector banks while the participation of the public sector banks who own as much as 74 percent of the banking sector assets remain miniscule. Notwithstanding the large trading volume and value of contracts outstanding, the skewed participation leads to pricing anomalies and also puts a question mark on the economic utility of the product.

Issuers

Sovereign securities dominate the fixed income markets almost everywhere. In India too, the central and state governments remain the main issuers. Two observations are in order.

Traditionally, marketable securities of the Central and the State Governments constituted only a part of their respective liabilities and, therefore, the size of the government bond market as measured by the outstanding stock was relatively small compared to the debt-to-GDP ratio. Secondly, if one excludes the securities held by the Reserve Bank under the Open Market Operations (OMO) and other buy-and-hold entities, the market size becomes even smaller.

In recent times, market borrowings have emerged as the largest source of financing fiscal deficit. The auction based issuance process is transparent with publication of auction calendars well in advance enabling the market participants to plan their investments. The large supply of securities, due to enhanced borrowings, has enabled creation of benchmark securities with sufficient outstanding stock and issuances across the yield curve. The issuances across the risk-free yield curve in turn have provided benchmarks for valuation of other bonds/financial assets.

Despite economic recovery in 2010–11 and resumption of fiscal consolidation path, the market borrowing of the Government has remained at elevated levels in India. The Union Budget of India 2011–12 estimated gross fiscal deficit (GFD) at ₹ 4128.17 billion and budgeted gross market borrowings of ₹ 4170.00 billion. The market borrowings, however, through dated securities for the current year has been increased by about ₹ 930.00 billion due to shortfall in other financing items, primarily due to moderation in the growth rate of the economy and increased expenditure. Besides inflationary implications, such large overhangs of debt and increasing annual borrowings have impeded the growth of flow of resources to the private sector by way of both loans and bonds. More importantly, lack of fiscal flexibility has not facilitated creation of limited number of benchmarks and active consolidation of illiquid securities. This fragmented G-Sec market has neither been beneficial to the issuer nor the investors.

In spite of some passive consolidation of government securities undertaken by the Reserve Bank of India, the market remains fragmented with many stocks with relatively small size. Nearly fifty percent of the outstanding stocks has volume less than ₹ 200 billion. There is merit in pursuing active consolidation with focus on buy-backs and switches to build volumes and improve liquidity. Reserve Bank is in consultation with the government to achieve some degree of consolidation in G-Sec in the near future. Reserve Bank has recently constituted a Working Group (Chairman: Shri. R Gandhi, Executive Director, Reserve Bank of India) to examine ways to improve liquidity in Government securities and interest rate derivatives market as well as suggest measures for active consolidation of the securities.

Corporates in many developed markets – predominantly in the US and increasingly in other jurisdictions – have a marked preference to tap the bond market rather than to seek bank loans for meeting their external finance requirements. In India, however, companies continue to depend on the banking system for funds because of ease of availing bank finance, absence of credit risk mitigation mechanisms and a host of other factors, such as, absence of sound bankruptcy framework and lack of active interest of long-term investors like insurance companies.

An examination of the issuer profile of corporate bonds reveals that issuances are dominated by banks and public sector companies. Private sector, non-financial corporate issuers represent a smaller proportion. As mentioned earlier, issuers with triple-A ratings raise funds with ease from the markets as compared to firms with lower ratings. Private placements mostly dominate the primary segment of the corporate debt market accounting for more than 98 per cent of the total issuance of corporate debt (2010–11) in India. Corporates prefer raising funds through private placements as against public issuances because of operational ease of issuance under private placements with minimum disclosures, low cost of issuance and the speed of raising funds. The issuance process is also impacted by costs, such as, stamp duties, transfer costs, etc. which needs rationalisation. Preference for private placement is also dictated by the profile of investors which is mostly institutional and a narrow base at that.

Instruments

For a market to meet the diverse funding and hedging needs of the participants, there is need for a wide array of instruments and products which would also offer benefits of diversification in the portfolio. In the process of development of new instruments, Reserve Bank's endeavour has been to ensure calibrated and orderly development of the markets with emphasis on prudent risk management and promotion of financial stability.

Over the years, several instruments like zero-coupon bonds, capital-indexed bonds, floating rate bonds, STRIPS and bonds with call and put options have been introduced after wide consultations with market participants and with product features comparable to those of the most popular and liquid instruments elsewhere. In the case of short term instruments Cash Management Bills (CMBs) have emerged as a new class of instrument providing opportunities for secured, shorter term investment in sovereign paper. The size and frequency of issuance of CMBs are likely to increase given the uncertainty in cash inflows and outflows of the Government whose income and expenditure has been growing rapidly. Issues, such as, very short notice for issue of CMBs, more demand for treasury bills, which have structured tenors, may come in the way of large demand for CMBs. There is a plan to launch a new long-term instrument – the Inflation Indexed Bonds (IIBs) wherein both capital and interest would be provided protection against inflation. It is expected that institutional investors, such as, pension funds and insurance companies would exhibit interest in investing in the IIBs. The expectation is based on the fact that the IIBs give investors long-term assets with a fixed long-term real yield, insulating them against inflation as their real yields are indexed to actual inflation. Further, it is also being contemplated to increase the non-competitive portion for IIBs to have significant participation of retail investors in these instruments.

Plain vanilla fixed coupon bonds, however, remain the mainstay of issuances. With the exception of an innovative product like Collateralized Borrowing and Lending Obligations (CBLO), the market has not displayed any appetite for instruments with varied structure. A similar response pattern has been observed in respect of products such as interest rate futures (IRFs) (based on 10-year bond and 91-day T-Bill), repo in corporate bonds and new issuance of Floating Rate Bond (FRB). One plausible reason for lack of interest is illiquidity in the underlying bond market. The dilemma is that while participants do not want to trade till liquidity improves, liquidity will not improve till the participants trade giving rise to the typical "chicken and egg problem". The bottomline is that the market participants need to be more active in trading across the yield curve and across products and this requires an urgent and serious introspection by them.

Recently, the guidelines on the interest rate futures of two and five year tenors have been issued. These futures will be cash settled with settlement price computed through a polling process managed by the FIMMDA. As the product design has been finalised after due consultation with the market participants and the issue of illiquidity in underlying cash market has been dealt with by permitting cash settlement, it is expected that the product will attract active interest. Another significant step is the extension of the period of short sale to three months, effective from February 1, 2012. This will enable the participants to express their interest rate views more effectively and is expected to give fillip to term repo market. Similarly, the Credit Default Swap (CDS) on corporate bonds has been introduced to facilitate hedging of credit risk associated with corporate bonds. Introduction of credit enhancement for corporate bonds through CDS may also increase investors' interest in corporate bonds.

Several episodes in international markets underscored the importance of risk management in the use of financial products. Learning from these episodes, the approach of the Reserve

Bank of India towards regulation and risk management has been oriented to ensure orderly development of financial markets and products. This objective is achieved by establishing efficient infrastructure, addressing systemic stability issues and also supporting market development. The pre-dominant motivation has been to strike a balance between systemic stability and financial market development.

Infrastructure

Market infrastructure is a comprehensive term that includes the entire gamut of arrangements for the transactions to be carried out and settled in an efficient and safe manner. Infrastructure plays an important role in development of markets and want of an efficient, transparent and robust infrastructure can keep market participants away on one extreme or cause market crisis on the other. Reserve Bank of India has pursuing a strategy for creation of an efficient market infrastructure to enhance market activity and also to create a supporting institutional framework. In the government bond market, a state of the art primary issuance process with electronic bidding and fast processing capabilities, an efficient, completely dematerialized depository system, Delivery-versus-Payment (DvP) mode of settlement, Real Time Gross Settlement (RTGS), electronic trading platforms (Negotiated Dealing Systems and Negotiated Dealing Systems-Order Matching) and a separate Central Counter Party (CCP) in the Clearing Corporation of India Ltd (CCIL) for guaranteed settlement are among the steps that were taken by the Reserve Bank over the years towards this end. In fact, thanks to these efforts, India can boast of being one of the few emerging countries with such a state of the art financial market infrastructure for the G-Sec market. Creating a robust risk management structure for the CCP to mitigate its increasing concentration risk and enabling an assured liquidity support framework for meeting its emergency liquidity needs are some of the challenges before the Reserve Bank of India. We are closely monitoring how the international consensus is evolving on these areas.

To strengthen the market infrastructure for corporate bonds Reserve Bank of India, in consultation with the Securities and Exchange Board of India (SEBI), has permitted the clearing houses of the exchanges to have a transitory pooling account facility with the Reserve Bank. This will facilitate settlement of OTC corporate bond transactions on a DvP-I basis. The infrastructure has been bolstered by support of the market bodies with FIMMDA establishing and operating reporting platforms for corporate bonds, Commercial Papers (CPs)/Certificates of Deposit (CDs). This collaboration between the regulator and the market participants has laid the foundation for enhanced transparency and vibrancy in the market.

The financial crisis in 2008 revealed several deficiencies of the OTC derivatives market. The importance of improving transparency, mitigating systemic risks and protecting against market abuse came to the forefront. In September 2009, the G-20 leaders mandated that OTC derivative contracts should be reported to trade repositories; all standardised OTC derivatives contracts should be traded on exchanges or electronic trading platforms, where appropriate; and all standardised OTC derivatives contracts should be cleared through the CCPs. In this regard, a considerable amount of work on infrastructure to make OTC derivatives trades transparent has been done in India. As early as in 2007, Reserve Bank had mandated the reporting of all inter-institution OTC interest rate derivatives on a platform developed for the purpose by the CCIL. Introduction of CDS was accompanied by putting in place a reporting arrangement simultaneously. On the basis the recommendation of a working group, a comprehensive and efficient single point reporting arrangement for all interest rate and foreign exchange derivatives is also in the process of implementation.

Intermediaries

Intermediaries play an important role in development of the market by facilitating the transactions, providing value-added services and increasing efficacy of the processes. With regard to bond markets in India, I would like to elucidate the role of four major intermediaries *viz*. PD system, industry associations like FIMMDA/PDAI, Gilt Mutual Funds and the Infrastructure Development Funds (IDFs), which are in the offing.

The system of Primary Dealers (PDs) was established to provide support to the market borrowing programmes of the Government and also to impart liquidity in the secondary markets. Subsequent to the withdrawal of the Reserve Bank of India from the primary market, as mandated by Fiscal Responsibility and Budget Management Act 2003, the PD System has been underwriting the entire Government of India market borrowing. PDs have actively supported the bond issuances and their role in successful completion of sizeable issuance programmes over the past three years has been commendable. Recently, Reserve Bank has revised the guidelines on authorisation of PDs with focus on their market experience as well as increase in retail/mid-segment investor participation so as to widen the investor base. The revised guidelines prescribe a seasoning requirement of at least one year prior to submission of application, reasonable experience in G-Sec market with at least 15 per cent of their assets and turnover in G-Sec and a commitment to achieve a minimum turnover of 75 per cent of their minimum NOF in G-Sec on behalf of retail/mid segment clients. We expect the PDs would continue to support the market borrowing programmes, act as market makers by providing fillip to secondary markets and retail investors and proactively deal in the financial products such as CDS, IRF, etc. Reserve Bank is also exploring the possibility of enabling banks/PDs to make markets in corporate bonds through appropriate supportive measures.

Changing nature of financial markets necessitate that organisations, such as, FIMMDA and PDAI, play a more proactive role in bringing orderliness in market activities and desired level of discipline amongst market participants. Reserve Bank of India regularly engages with FIMMDA and PDAI on various issues of policy and provides inputs and perspectives of the market participants. FIMMDA has been entrusted with responsibilities, such as, publishing model prices for G-Sec and non-G-Sec to be used in valuations, formulation of model code of conduct for market participants, development and operationalization of critical market infrastructure like reporting platform for corporate bonds, repo in corporate bonds, CPs and CDs, accreditation of brokers in the OTC interest rate derivatives market, development of the daily CDS curve for valuation of open positions, etc. The entrusted responsibilities and activities/functions of FIMMDA in the underlying market clearly indicate its potential for self-regulatory role. There is, however, an urgent need for FIMMDA to further strengthen itself, build competencies, both technical and financial, and broaden its mission to carry out tasks commensurate with the developments in the market and to undertake additional responsibilities as Self Regulatory Organization (SRO). I suggest that FIMMDA may draw up an action plan in this direction with clear goals to be achieved with appropriate time lines.

Gilt Mutual Fund industry has grown manifold but the Mutual Funds (MFs) continue to invest predominantly in short-tenor fixed income assets, thereby exhibiting low demand in the G-Sec market. This is a cause of concern and requires an urgent need to examine ways for Huge requirement of investment in infrastructure sector underscores the importance of the IDFs. Reserve Bank of India has, as a special case, has permitted several prudential relaxations for setting up IDFs including enhanced exposure norms, assigning lower risk weights for capital adequacy purposes, etc. Reserve Bank of India has also allowed investment on full repatriation basis by new class of eligible non-resident investors (viz. Sovereign Wealth Funds, multilateral agencies, pension funds, insurance funds, endowment funds) in Rupee and Foreign Currency denominated bonds to be issued by IDF-NBFCs registered by the Reserve Bank of India and Rupee denominated units issued by IDF-MFs set up as SEBI registered Mutual Funds. Given our calibrated approach towards opening up of our debt markets to foreign investors, all such investments (excluding those by NRIs) will, however, be within an overall cap of US$ 10 billion (which would be within the overall cap of US$ 25 billion for FII investment in infrastructure debt). IDFs will, in days to come, act as a major source of channelizing huge quantum of funds from long term domestic and foreign investors to the corporate debt markets in the critical infrastructure sector of the country and will indeed be a gamechanger with a potential of redefining various facets of the markets.

Incentives

Incentives, both positive and negative, play a major role in shaping human behaviour and markets are no exception to this rule. For illustrative purposes, I would like to cite a few instances where incentives played important role in shaping the development of the debt markets. Existence of easy access to bank loans incentivised corporates to approach banks rather than rely on corporate bond market. This excessive reliance on bank finance hampered the development of deep and liquid bond markets and was partly responsible for the financial instability during the Asian crisis.

The illiquidity in the Indian corporate bond markets can be attributed to the apparent preference of the corporates to finance their requirements through private placement and rely on external commercial borrowings. The level and complexity of stamp duty on corporate bonds encourages an arbitrage-based approach to corporate finance and decisions are often tax-driven rather than strategy-driven. Differential tax treatment further complicates the matter as it tends to incentivise certain investors, e.g., insurance companies and mutual funds who are exempt from TDS on interest income from corporate bonds.

The regulatory dispensation of HTM classification has protected balance sheets of the banks and encouraged them to invest in G-Sec but promoted illiquidity in government bonds. Different incentive structures in treasuries of public sector banks and private/foreign bank treasuries partly explains the level of participation in derivative markets in spite of existence of similar risks on the balance sheets. While differences in incentives in public and private banks with regard to treasury operations exist, the reasons for lack of interest shown by most of the public sector in spite of the fact that they hold very high interest rate sensitive portfolio and have the balance sheet capability to participate in the market needs to be examined in depth and debated.

An understanding of the incentives is essential for both policy makers and market participants so that the market activities can be directed towards attainment of objectives of efficiency and effectiveness. While Reserve Bank tries to align incentives by regulation and supervision, regulation itself could create unintended incentives/disincentives as in the case of requirement regarding “HTM”. For instance, the ability to buy CDS without an underlying has resulted in perverse incentives in the developed markets. Reserve Bank, while framing the CDS policy, has designed regulation to curb such skewed incentives by restricting users to buy CDS only to hedge an underlying exposure. Physical settlement has been mandated after the credit event. A nuanced understanding of the incentives would help in design of regulation that promotes market development without jeopardising financial stability.

Innovation

With the world still smarting under the financial crisis believed to have been unleashed by “innovative” products, one has to talk about innovation with some degree of caution. Financial innovation is an essential feature in the history of development of financial markets. Bypassing the tax or the regulatory regime has, of course, been a major motivation for innovation, the social and economic utility of which is often questionable. An example is the Negotiable Order of Withdrawal (NOW) accounts in the US that were a result of Regulation Q restrictions on interests on demand deposits. But innovations that are motivated by the need to match the needs of the investor and the issuer or made possible by advancement in technology or knowledge are essential for evolution of financial markets. One can cite many examples – demat accounts, ATMs, credit and debit cards, explosion of options contracts, inflation indexed bonds, Fixed Rate Capital Securities, IRS, CDS and so on. It is true that financial innovation has also resulted in complex products which package and redstribute risks in a way that is scarcely understood. As observed by Lord Turner of the UK Financial Services Authority, financial innovation has produced some products of very dubious social value. It is vital to understand that financial innovation is not an objective in itself but a process and has to cater to the products to the felt need of the market in particular and wider economy in general without compromising on financial stability. The old adage "Innovate or Perish" should read "Innovate with Caution or Perish" in so far as the financial sector is concerned.

Innovation and risk are two aspects of financial markets between which there is a great deal of tension. As such, inadequate risk management framework can make the difference between survival and death for an institution, particularly a financial institution. Several episodes in international markets have repeatedly underscored this – Orange County, LTCM, BCCI, Enron, Barings, Northern Rock – one can go on. We have just seen that innovative products like the CDOs and innovative institutional arrangements like the SPVs without adequate appreciation of embedded risk and an appropriate regulatory framework for risk management could wreck havoc. Nearer home, ill-judged use of some exotic foreign exchange derivative by some corporates led to substantial losses and created fracas between them and the banks that had sold them the products.

The respective Boards of the financial institutions need to ensure appropriate oversight of the functioning of treasuries. The Board must put in place risk policies and also ensure strict adherence of the limits and standards. There should be clear procedures for assessing and monitoring risk, with adequate accountability, clear lines of authority and separation of duties. The approach of Reserve Bank towards regulation and risk management is oriented to ensure development of financial markets and products by establishing supportive infrastructure, address systemic stability issues and also support market development. Maintaining a balance between systemic stability and financial market development remains the main focus of the Reserve Bank of India. Therefore, the emphasis is towards creation of a robust regulatory/supervisory framework to prevent systemic weaknesses.

Often, there is a tendency to look towards more advanced markets and mimic their practices without subjecting such products and practices to customization as would be required in the eco-system of the adopting country. Like the Meiji Restoration scientists, who after having received scientific training in various European countries, returned to Japan and wanted to carry forward their work in the language in which they had received instruction, the financial sector professionals have a tendency to crave for the products that they are familiar with. The success of innovative products/processes such as the CBLO, which is a variant of tri-partite agreement, infrastructure such as electronic trading platforms (NDS, NDS Call or NDS-OM) and transitory pooling of accounts for settlement of corporate bonds in the books of the Reserve Bank of India strengthens the case for looking inwards for inspiration to evolve customized innovations

In India, innovation has been rather muted and even the reception for new products has been rather insipid. The regulators are not against innovative products; their concern is that neither should the innovation be oriented towards skirting the regulatory regime nor should they lead to build-up of systemic risk. It is imperative for the market participants and the industry association to ensure that adequate risk management systems and corporate governance structures are in place before embarking on innovations. As you all may have observed, Reserve Bank has followed and will continue to follow a measured approach in the introduction of innovative products through adoption of appropriate risk management framework suitable to our eco-system.

Concluding remarks

To summarize, I have briefly described the 7i framework which focusses on the structure and developments of our debt market and the possible future direction to invigorate our debt markets with reference to this framework. We need to realise that development and adoption of new products in emerging market economies is not often easy. It requires considerable amount of patience, hand-holding and fine-tuning depending on the needs of the respective eco-system. It is equally important to remember that market liquidity is a consequence of active participation of market players. New financial products and instruments are designed to cater to funding and hedging needs but the need to be actively used by the market participants without, of course, increasing the risks to the financial stability and jeopardising the interest of the ultimate end-users/customers. The lack of market interest, if any, must be introspected and debated seriously to draw up remedial action plan.

At the end, I would like to reiterate that in the context of a developing market like India the Reserve Bank of India, other concerned regulators, Government, FIMMDA, PDAI and all the market participants are all joint stakeholders in the development of the debt markets. All of us have to work towards this common objective and a conclave like this would go a long way in generating useful insights and inputs in this direction. With these thoughts I wish the conference and participants all the very best for productive and useful deliberations mixed with the pleasure of exploring this beautiful country. I thank FIMMDA and PDAI for giving me this opportunity to share some of my thoughts with all of you. I would also like to specially thank Dr.Zeti Akhtar Aziz, Governor, Bank Negara Malaysia for spending her valuable time in our midst and sharing her insights with us.