An analysis of financial sector reforms in India and the challenges ahead

R.Gurumurthy[1]

Institute for Indian Economic Studies
Waseda University
Tokyo

Paper presented at the
Tokyo Club Macro Economic Conference
6-7 December 2006

I.INTRODUCTION

The hallmark of India's economic reforms undertaken after the BoP crisis in the early 1990s was the financial sector reforms. The ensuing years also witnessed several landmark developments in the global arena and each of these developments has left an indelible imprint on the global financial markets. For instance, the launch of *world wide web* has contributed to the collapse of information costs; the East Asian crisis highlighted the dilemmas associated with international private capital flows; the failure of LTCM was an eye-opener to the possibilities of low frequency high impact events posing dangers however robust the risk management systems are; the internet bubble shifted the focus to behavioural aspects of markets; Enron episode has exposed the rating agencies and accounting firms; China and India emerging as drivers of global economy indicating that population is not a bane but a boon since each mouth that comes into the world to be fed is also accompanied by a pair of hands; emergence of Basel as a rule maker for the banking system – more about its implications on the markets later, emergence of euro as a potential competitor to US dollar and finally globalisation itself that has opened domestic markets to international competitions and making them more vulnerable to global swings.

The recent episodes of financial crisis often lead one to doubt whether the liberalization process itself is a cause of such instability, or are the crises the result of too little or too much of liberalization, or are they due to faulty sequencing and their incomprehensiveness. Though correlation is not causation, the decade of 1990s which was the result of increased deregulation and globalisation witnessed banking crises in 63 countries compared to 45 countries in the earlier decade. Like a financial model that is put to stress test and back testing to predict and assess its efficacy, the reforms strategy undergoes a systemic stability test in the ensuing years. In any case the reforms are not a onetime initiative but an ongoing process that emerges continuously as a

[1] The opinions expressed in this paper are the author's own and do not represent those of any organization he is/was associated with.

result of the conflict between financial innovation and the regulatory responses in a series of "regulatory dialectics"(Kane).

As India expands its role in the global economy, there is an imminent need to strengthen its financial sector further in aiding economic development and facilitate a smoother integration with the global financial markets. India has made rapid progress in reforming the banking sector and the securities markets. These reforms were undertaken within a comprehensive package involving improved fiscal responsibility and enhanced central bank independence. The strategy and process of financial sector reforms in India have been widely commented upon. To an ordinary eye it might look anything but dramatic but if one can pause and discern it can reveal a lot more. We all know that even a closed economy is not immune to the global shocks, and it is especially true to countries of India's size. A decade and a half of reasonable stability amidst turbulences elsewhere, which could have easily impacted India, is a testimony to the reforms process, though there is always room for improvement. Given my grooming at the central bank, during a period that fortunately coincided with many of these changes, I would try to present the reforms process in a perspective as I deem fit as a disciple of experience. At the same time I would like to state that I am not claiming originality to any of the ideas/arguments that this paper is going to present and my intention is only to present things in the right perspective and to invite wider intervention in an ongoing debate.

II.PERSPECTIVE

The main aim of the financial sector reforms was to give strength to the then already existing financial institutions opiated under the legacy of tight regulations and to make them worthy of aiding the broader economic reforms. Thus, reducing the State intervention in financial intermediation process to allow the free market forces to facilitate price discovery mechanism was the chief plank of the reforms process. The path India followed to bring in these reforms has been unique in many ways.

II (a) Pace of reforms

Usually we get into the debate with regard to the pace of reforms – whether it should follow a *big bang* approach or a *gradual and cautious* approach. I tend to see no merit in such debates, when the arguments are not based on the prevailing socio-politico-economic realities. The dosage and intensity of the medication depends upon the stage of the disease; it is said that the disease progresses through six stages viz., accumulation, aggravation, overflow, relocation, manifestation and maturation. Some treatments are expensive and the indigent cannot afford a trial and error – hence the importance of diagnosis. In the same vein, what is more important while undertaking the reforms process is to understand the linkages properly and to administer a comprehensive but a manageable policy mix so that the reforms are non disruptive as also not a vain burden on the meager resources. Many a time, a set road map for reforms might make economic sense but can't sail through for want of socio-political acceptance. Given the democratic polity of India, changes could be carried out only with a popular consensus; while this may involve delays, the consensus

approach ensures stability to the reforms process. In other words, policy makers have to understand the constituencies and political economy before they can steer through the reforms successfully.

Another issue that decides the pace of reforms is the maturity and state of institutional mechanism that is prevalent at any point of time. In other words it is about *where to start* and *to aim at what*. In a way, this also can be explained by the so-called philosophically sounding "zeitgeist" (or the spirit of the time). Institutional building is something that cannot be achieved overnight for first you have to tackle the *opposition to change* from the current set of rentiers who have an incentive to perpetuate the existing inefficiencies in the system. (Does the recent killing of a liberal Russian central banker any indication?) Crises come in handy as they can mobilize the requisite political will which is hard to come by during peace time. Hence, crisis is an opportunity. A good example for the importance of timing and the maturity of markets in any reforms is the attempt to ban an age-old system of badla[2] that was prevalent in the Indian stock markets. The first attempt by Securities and Exchanges Board of India, (SEBI) to ban badla in 1993 was not successful as the regulator was forced to reintroduce the same three years later, though in a modified format. Subsequent to a misuse of badla, when SEBI banned it again in 2001, the ban was successful. The institutional development and the great deal of knowledge building that took place in the intervening period were crucial for this success. Besides, by 2001, the National Stock Exchange (NSE) was well entrenched in the financial system and had a strong incentive to support the ban[3].

We have to assess the Indian reforms against such an understanding and I am going to argue that the reforms path we have adopted is the best given the prevalent set of constraints. This doesn't undermine the fact that there is a lot more that is required to be done to make our financial markets one amongst the best in the world.

II (b)Structure of financial market – pre-reforms

With high degree of unemployment and without any social security arrangement worth its name, savers were left with a few broad financial savings options, - (i) investing in gold, an unproductive asset but supposed to be a good hedge against inflation; (ii) banks which offered high safety (mainly because of deposit insurance and a predominant government ownership), high liquidity and reasonable returns; (iii) company deposits, that offered better returns with poor liquidity and were unsafe and finally (iv) government sponsored small savings schemes that offered better returns and safety but poor liquidity.

State dominated the markets for users of funds. Apart from deficit financing and borrowings from the market at administered rates, the mobilizations through government sponsored small savings schemes that were supposed to be taken care of by the government as a banker, were utilized to finance the budget deficits. Corporate sector depended mainly on bank credit, and was stifled by credit controls and crowding out by the government. Disintermediation through securities markets was not popular due to lack of appropriate institutional arrangements and market micro structure.

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[2] Badla is a mechanism whereby for the spot market transactions the settlement can be carried forward by making use of badla financing

[3] *The Evolution of Securities markets in India in the 1990s* – Ajay Shah and Susan Thomas, 2001

Financial intermediation was mainly through an inefficient banking system. Term lending institutions were taking care of long-term requirements of the borrowers and the commercial banks were focusing on the working capital financing mainly through the *cash credit system*[4] of lending which put a great deal of burden of cash management on the lending institutions. A large unorganized sector constituting moneylenders and *chit funds*[5] were thriving outside the regulatory purview. Under a regulated interest rate environment it was a passive intermediation and a greater part of the direction for such intermediation came from the State. Price discovery had no scope. Credit risk dominated the process with no way to efficiently distribute the risk; State remained the ultimate taker of risks. Coming to the securities market, despite having Asia's oldest stock exchange, the equity market was mainly confined to the city of Mumbai and was like a club market with strong entry barriers[3]. Borrowers did not have free access to foreign markets; in a way that has been a blessing in disguise since pegged exchange rates and an open capital account could have been disastrous as was proved later in the East Asian economies.

With a substantial population below poverty line at the time of independence, State intervention became inevitable in allocating the scarce resources. It is a different matter that the same State intervention became a Pavlovian reflex later. Thus, the State had taken upon itself the responsibility of allocating the resources and in the process the efficiency of resource allocation was compromised. Through a process of *directed credit* and *directed investment*, the State tried its best as a super financial intermediary to allocate the scarce resources. There was naturally no scope for price discovery mechanism under such a milieu. The resultant financial repression amidst fiscal profligacy made a set of financial institutions – by financial institutions I mean apart from the financial intermediaries, the institutional arrangements on the legal, accounting and regulatory fronts – only a *namesake* to carry out the political agenda. Not everything was bad with this philosophy, though. Through social control and bank nationalization later, the country could achieve a great degree of financial inclusion; a financial inclusion of this magnitude would not have been possible but for such State intervention.

To give the institutions a semblance of respectability after decades of state intervention would mean a great deal of change in the mindset and most importantly a strong political will. The fact that the reforms were initiated by a *relatively unstable* government with indigenous efforts was praiseworthy. Relaxation of credit controls was more easily manageable compared to interest rate deregulation. Any deregulation of administered pricing mechanism has the tendency to overshoot immediately after such deregulation and has the potential to destabilize the system; hence a comprehensive strategy to tackle the impact on monetary, fiscal and regulatory fronts became absolutely necessary.

II (c) Banking Sector Reforms:

In India banks have been the mainstay of the financial intermediation. However, with a legacy of tight regulation, the intermediation was carried out passively. Hence the foremost important part of

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[4] Under a cash credit system, the borrower is given a drawing power limit (based on the availability of collateral) within the overall sanctioned loan limit and the borrower has the freedom to credit and debit his account as per his cash flow requirements – in a way transferring the cash management burden to the banking system.

[5] A kind of pooled savings/borrowing mechanism confined to the members of the fund

the reforms was to allow banks perform their primary duty effectively i.e., to allocate resources efficiently. This primarily requires encouraging the price discovery mechanism and then grooming the banking system walk through it to catch up with best standards in the industry. We just need to keep in mind the difference between the lion in the cage and the lion in the jungle – the former could most probably be a lame duck and releasing it from the cage after all the years of pampering could make its survival very difficult. With deregulation, the banking industry that was hitherto bothered about credit and liquidity risks only, needed skills to manage additional risks such as market risk and enhanced operational risk. The assets built up over the years through the policy of *directed credit and investment* became vulnerable to the vagaries of interest rate movements. Concurrent with the reduction of statutory liquidity ratio (SLR)[6], prudential measures were introduced but gradually in order that the shocks could be absorbed by the banking sector in small doses as also to ensure that the banking sectors' support to the government's borrowing programme was not withdrawn abruptly. Along with the evolving reform measures, the composition of bank's balance sheets also underwent changes. Despite reduction in SLR, the banks were making larger investments in government securities during most part of the nineties both due to lesser capital provisioning and lower credit take-off. This profile has been changing in the recent years with the change in business cycle and the consequent demand for credit.

Another important change that has taken place has been the transformation of term lending institutions into banks. The operations of the term lending institutions became unviable under a deregulated interest rate environment. In addition, contributions from the central bank to some of these financial institutions were withdrawn as the former was in the process of slowly moving out of non-core central banking activities. However, this process suddenly created a vacuum in the long-term segment of the loan market that was all through facilitating fixed asset creation in the private sector. For the banks eventually, this change has created asset liability mismatches. Maturity transformation being one of the main functions of the banks, in the absence of well developed derivatives markets there was no way such asset liability mismatches could be managed more efficiently and this might have constrained the industry from growing faster.

Reforms in this area have to be assessed on two fronts viz., the extent or reach and the efficiency levels. Extent or reach has a social connotation - what we call today financial inclusion. Looking back, we can say that a large part of this goal was achieved through the government's policy of social control and later through nationalization of banks, between the 1960s and 1980. The policy thrust on branch expansion that we saw in the earlier period was absent in the 1990s. In a way the nineties could be termed as a consolidation phase for the banking industry *(Table 1)*.

Table 1:Growth of commercial banking in India

	1969	1980	1991	2005
Number of Commercial banks	73	154	272	288
Number of bank branches	8,262	34,594	60,570	68,339
Population per office ('000)	64	16	14	16

[6] Banks are required to keep a certain portion of their liabilities in cash, gold or unencumbered approved securities; this is as per the Banking Regulation Act, 1949; the ratio as per this statute is a minimum of 25% and a maximum of 40%. Since cash and gold are unproductive assets, banks mainly keep this proportion of their liabilities invested in government securities. This is a form of *directed investment*.

Source:Reserve Bank of India

The health of the public sector banks (PSBs) was improved through capital infusion. This was done through government issuing interest bearing bonds to the banks without exerting pressure on the already weak fisc. Such recapitalisation, on a cumulative basis accounted for less than 1% of the GDP. Elsewhere such costs were much higher - for instance, in Argentina, Thailand, South Korea and Turkey the recapitalisation costs were 55%, 42%, 35% and 10% respectively (Mohan, Rakesh 2006). Further, over the years most of the PSBs not only returned the capital to the government but also benefited the government through their improved valuations since many of them have issued shares to the public and are listed on the stock exchanges.

In other words, the Indian banks were revived not merely through capital infusion, which in any way was not large, but also by bringing fundamental improvement in their performance. This can be seen by other facts. The capital adequacy of the banking sector at 12.4% as at the end of March, 2006 is comparable to global standards. In terms of asset quality - there has been a gradual but substantial improvement in the gross and net non-performing assets. These figures, which were around 7% and 3.3% at the end of March 1997, improved to 1.9% and 0.7% respectively by end-March, 2006. This is despite tightening the norms for reckoning the NPAs. As a result, as at the end of March, 2006 the ratio of net non-perfoming *loans* to capital (a worst case scenario measure for aset quality) is around 15.5% compared to 71.3% as at the end of March 1999.

Table 2:Gross NPAs of Scheduled commercial banks

Year	SCBs	PSUs	OPSB	NPSB	FB
1996-97	7.0	7.8	5.2	1.3	2.1
2000-01	4.9	5.3	5.1	2.1	3.0
2004-05	2.5	2.7	3.2	1.6	1.4
2005-06	1.9	2.1	2.5	1.0	0.4

SCBs – All scheduled commercial banks;PSUs-Public sector undertakings (banks);OPSB-Old private sector banks
NPSB-New private sector banks;FB-Foreign banks
Source:Reserve Bank of India

Table 3:Net NPAs of Scheduled commercial banks

Year	SCBs	PSUs	OPSB	NPSB	FB
1996-97	3.3	3.6	3.1	1.0	0.9
2000-01	2.5	2.7	3.3	1.2	0.8
2004-05	0.9	1.0	1.4	0.8	0.4
2005-06	0.7	0.7	0.9	0.4	0.4

SCBs – All scheduled commercial banks;PSUs-Public sector undertakings (banks);OPSB-Old private sector banks
NPSB-New private sector banks;FB-Foreign banks
Source:Reserve Bank of India

As bank credit continues to dominate the funding requirements, the credit markets need additional paraphernalia to cope with counterparty risk and balance sheet constraints -first, to identify the right borrower and later, to manage the credit portfolio. Database on borrowers, especially in the retail loan segment that is growing at 30-40% a year, is very important for verifying the borrowers' credentials. The enactment of Credit Information Bureau Act and the establishment of credit information bureaus are going to bring necessary changes in the credit markets. Credit Information Bureau (India) Ltd., (CIBIL) has made sufficient progress on this front and has built a database of over 20 million borrowers. On the management of credit portfolio front, the enactment of

Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act (SARFAESI) gave the requisite comfort to the lending institutions in enforcing the contractual rights. In order not to render the developments (such as these on the legal front), biased against the borrowers, a subsequent amendment to the SARFAESI ensured the creditors rights too, and this is an example of regulatory empathy. Establishment of Lok Adalats (people's courts), debt recovery tribunals and a corporate debt restructuring mechanism were the other measures to aid the process of quick recovery/restructuring of loans.

The divestment of bad loans to a separate government asset management company was not considered appropriate in view of the moral hazard (Reddy.Y.V, 2006). Such asset reconstruction companies hence, were encouraged in the private sector. The fact that Asset Reconstruction Company (India) Ltd., (ARCIL) the first such asset reconstruction company, which has acquired around USD 4 billion worth of NPLs has posted 31% return on equity for the year ended March, 2006 and declared 12% maiden dividend shows the maturity of the financial markets in India.

Along with strengthening their balance sheets the public sector banks were made to face competition by allowing private sector entry into banking. Further the ownership of the domestic banks has been broad-based. The private sector banks (including the foreign banks) have gained an impressive 8% more of market share between 2001 and 2006 reducing the share of public sector banks in deposits and advances to 74% and 72% in June, 2006 from 82% and 80% respectively in June, 2001. Though the government is owning the majority stake, private equity has been infused into them and most of the PSU banks are subjected to market discipline through listing on the stock exchanges. ICICI Bank, one of the private sector banks incorporated in 1994 could become the second largest bank in India well within a decade (though, a major contribution to its balance sheet size came from the reverse merger of its parent and the leading financial institution ICICI in 2002 after universal banking was permitted). Looking at the operating expenses of the Indian banks, at around 2% they were comparable to world standards.

Foreign investment is allowed upto 20% in the public sector banks (voting rights, however, restricted to 1%) and to the extent of 74% in the case of private sector banks (voting rights restricted to 10%). Reserve Bank of India has come out with a road map for further opening up this sector which may start in the year 2009.

Since any deregulation has to be logically followed by enhanced surveillance, emphasis was given to offsite surveillance and internal control mechanism apart from developing skills at the supervisory levels. The emergence of financial conglomerates, over the years has also necessitated a reorientation in the supervisory stance. Since these conglomerates operate across market segments such as banking, securities business, insurance, investment banking etc., currently their regulation and supervision has been carried out through a coordinated effort amongst all the financial industry regulators. The high level committee on capital markets (HLCC) headed by the Governor of the Reserve Bank of India and other regulators and the representative of ministry of finance as members does this job through periodical meetings.

On the issue of relaxation of credit controls, the issue is still open. The focus here is the stipulation regarding the priority sector lending. Is *directed credit* all that bad? Efficient financial intermediation would mean that the savers' money should find its way to the *most needed* in an *economic sense* and not in a *social sense*. In other words money is best deployed in the most profitable way or

goes to the borrower who pays the most. And free markets do this precisely – of course within their own acceptable risk parameters. This sometimes entails moral hazard and at times adverse selection. Despite the benefit of having the prudential regulatory norms whereby credit to certain sectors can be regulated through appropriately calibrated risk weights instead of initiating an absolute ban on certain types of bank credit, it would be still difficult to ensure credit flow to the socially desirable sectors like agriculture and manufacturing vis-à-vis speculative activities such as real estate and capital market activity. The regulatory responses to lending to real estate sector or stock market activity emanate from such concerns, despite the importance of such activities for any economy.

Thus the banking sector has come a long way in terms of improving its efficiency as well as reach. A road map has already been laid for the opening of the sector to larger foreign participation by the year 2009. Before that, the policy stance is likely to promote consolidation amongst the domestic banks so that a few large sized banks emerge. There are other issues and challenges, which will be discussed later.

II (d) Securities market reforms:

II (d) (1) Equity markets:

While it is true that the banking sector reforms in India were not guided by any banking crisis, the improvements in the functioning of the securities market were driven by the infamous securities scam in the early 90s. The scam that rocked both the banking sector and the securities market in the early nineties was mostly due to the inadequacies of the system as also due to market players subverting the extant regulations. Despite having a history of equity culture and the oldest stock exchange in Asia[7], the Indian equity market was broadly confined to the contours of Mumbai, its commercial capital. It was operated as a club with entry barriers and the affairs of the exchange were influenced by the powerful broker community. Trades were through the traditional open outcry system and there was no guaranteed settlement mechanism. Spot market trades resembled forward market transactions with badla or the native carry forward mechanism facilitating carry over of transactions for any length of time. In the absence of depositories and dematerialisation, ownership of equity was evidenced through physical certificates which were prone to theft and manipulation. Pricing of *initial* and *follow-on public offers* were neither market determined nor scientific. Controller of capital issues (CCI), under the ministry of finance was regulating the capital markets.

The period between 1992-96 was an eventful one as far as the Indian equity markets are concerned. In 1992, SEBI, the securities market regulator became a statutory and powerful organization.[8] The National Stock Exchange (NSE) and its associated institutions viz., National Securities Clearing Corporation Ltd., (NSCCL) and National Securities Depository Ltd. (NSDL) were established in the ensuing years.

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[7] The Mumbai (Bombay) Stock Exchange is the oldest stock exchange in Asia set up in 1875

[8] Though SEBI was established in 1988, only in April 1992 it became a statutory body through an administrative order

The establishment of NSE has been a path-breaking initiative. Though promoted by a set of public sector institutions, it was allowed to function as a private corporate entity. Unlike many of the then existing exchanges, especially the Bombay Stock Exchange (BSE), it was not to be run by brokers and the brokers were instead to act only as franchisees without any say in the day-to-day functioning of the exchange. NSE could establish wider reach through the adoption of virtual exchange model, whereby, members spread over the *length and breadth* of the country were connected through satellite network. In fact it is the first stock exchange in the world to be connected by a satellite network. Anonymous order matching electronic trading platform replaced the age-old open-outcry system. The trade follow-up was supported by the NSCCL through "novation[9]" and a guaranteed settlement mechanism. The NSDL established in 1996, could promote dematerialisation of stocks on the back of a proactive policy stance from SEBI. These changes suddenly catapulted the equity market architecture in India to be on par with global standards. No wonder the NSE, within a year of its establishment became the largest stock exchange in the country in terms of volumes traded. Now for several years, it has been the third largest in the world in terms of handling the highest number of transactions (*Table 4*)

Table 4:Large Exchanges of the world in terms of share transactions

Rank	Exchange	Transactions in 2005 (million)
1	NYSE	1219
2	NASDAQ	1077
3	National Stock Exchange (NSE)	565
4	Korea	392
5	Mumbai Stock Exchange (BSE)	257
6	Shanghai	210
7	Shenzhen	149
8	Taiwan	135
9	Deutsche Bourse	88
10	Euronext	78
11	London SE	66

Source: World Federation of Exchanges

Through its networking across the country, NSE rendered almost all the regional stock exchanges redundant and forced the Mumbai (Bombay) Stock Exchange (BSE) to mend its ways and reform. To sum it up, currently the equity market trades in India move through a seamless process of anonymous order matching system, with trades following a course of price-time priority, clearing and settlement through novation with a settlement guarantee mechanism in place and in a dematerialized electronic book entry form.

The pre trade and post trade transparency promoted by NSE has improved price evolution process on the bourses (since anybody can watch the order book at any point of time) and the supervisor's supervisory capacity respectively. Risk containment is through margining, settlement guarantee fund of the clearing corporation contributed by the members, marked to market mechanism for margin maintenance and real time monitoring of members' exposure limits. NSE has been the first stock exchange in the world to introduce the system of monitoring members' exposure limits on a

[9] Through novation the clearing corporation interposes between buyer and seller and through the support of settlement guarantee fund it reduces the counterparty risk.

real time basis. Further it was the first Indian bourse to allow internet trading. Thus through satellite communication and later through the internet, NSE has reached the households across the length and breadth of the country. This is by all means innovative and path breaking.

Demat trading has tremendously improved the liquidity and small investor interest as one can deal in as small as a single share (earlier market lots of 100 or 10 used to be a barrier for small and retail interest in stocks). It has also helped reducing the settlement cycle to the current T+2 level. Derivatives trading was introduced in the year 2000. Currently both NSE and BSE offer index futures and options. Besides, futures and options on individual stock are available for many stocks. There are very few stock exchanges across the globe which offer individual stock futures and in India too they were introduced amidst lot of apprehensions. They are more often than not blamed for the increased volatility on the bourses.

As regards the competitiveness of equity markets, we need to look at the transaction costs. India has one of the world's lowest transaction costs based on screen-based transactions, paperless trading and a T+2 settlements cycle. The transaction cost is a combination of *transaction processing cost* and the *market impact cost*. Impact cost, which is the cost due to the adverse price movement while putting through a transaction itself, is also a measure of liquidity in the sense that a liquid market is one where the impact costs are the lowest (*Table 5*). On the depositories front, the per transaction charges applied by the Indian depository institutions are among the lowest in the world.

Table 5: Impact Cost in equity spot market (per cent)

	2002	2003	2004	2005
NSE-NIFTY*(for Rs. 5 million)	0.12	0.10	0.09	0.08
NSE –NIFTY Junior**(for Rs.2.5 million)	0.41	0.32	0.31	0.16

Source: Economic Survey 2005-06, Government of India
*Top 50 stocks on the National Stock Exchange
**Next 50 stocks

The Mutual Fund industry has a chequered history in India. Public sector monolith, the Unit Trust of India (UTI) had been the only player since its inception in the sixties till the late eighties when its monopoly was ended with the entry of other mutual funds sponsored by banks, mainly in the state sector and insurance companies. The entry of private sector funds in the nineties heralded competition, though till recently UTI was outside the regulatory purview of SEBI. Investors also could not quite assimilate the concept of *mutual fund* for quite a long time as this could be seen by the investor frenzy in the case of some of the fund IPOs (the Morgan Stanley Growth Fund mobilized around Rs.981 crores from around 1 million investors in 1994 and Mastergain from the UTI in 1992 garnered around Rs.4,500 crore during a stock market boom) and the hefty gray market premium (post issue but before listing) for what is otherwise an NAV based investment. The industry has since matured and is a dominant counter force to the foreign institutional investors. As at the end of March, 2006 there were 592 mutual fund schemes operated by 38 mutual funds (of which, 30 are in the private sector) with total assets under management around Rs.2318.62 billion.

On the regulatory front, ban of badla (discussed earlier) and transition to rolling settlement reduced the speculative transactions. On the other hand, demutualisation of stock exchanges is tackling the governance issues. SEBI is also taking several measures to enhance investor protection. We are hearing that SEBI is seriously thinking of taking over the investor protection funds from the stock exchanges, which is expected to strengthen the investor protection mechanism.

II (d) (2) Debt markets:

The spectacular developments we saw in the equity market could not be replicated to promote the corporate debt markets. The debt markets are dominated by government securities. Unlike the equity market, the direct retail interest in fixed income products is not widespread. For the small investors, there are other superior options available such as small savings schemes and bank deposits. The retail interest in equity markets is also due to the fact that the retail investor in this market looks for capital gains rather than dividend yield. Credit markets still dominate the corporate financing requirements and this is a constraint for the corporate debt markets to come up with critical volumes. The regulatory aspects still are said to be cumbersome, and whatever market exists for corporate debt, it is predominantly a private placement market. Over the years, efforts to bring in direct retail participation, even in the government securities market did not work. Institutional investors could bring a change in the desired direction and this needs further relaxations in the investment norms for the pension funds and development of insurance sector. The booming housing market and the requirements of infrastructure sector could be right opportunities in promoting the depth and breadth of the securitisation market. Institutional interest also could be enhanced through further fillip to interest rate derivatives.

Table 6:Resources raised through primary markets

(Rs.billion)

	2002	2003	2004	2005
Debt	45.49	52.84	23.83	0.66
Equity	24.20	28.91	334.75	303.25

Source: Economic Survey 2005-06, Government of India

Table 7: Government securities market

(Rs.billion)

	2002	2003	2004	2005
Gross issuance	1,202.13	1,130.00	1,195.00	1,293.50
End year market capitalisation	6,551.48	9,599.03	9,963.41	10,515.21
Turnover ratio*	197.48	16.48	107.48	71.42

*as a per cent of market capitalization

On the other hand, the developments in the government securities markets could be explained by the initiatives taken by the Reserve Bank of India (RBI) in its role as the government debt manager. The growth in fiscal deficit and the market borrowings contributed to the development of the markets. Removal of tax deduction at source on trading in government securities, established demat facility, consolidation of loans through reopening/re-issuance, introduction of primary dealers, improving indirect monetary policy tools such as open market operations, introduction of derivatives such as interest rate swaps and futures have improved the depth of the market.

The auction system introduced in a minor way in the late eighties, and in a major way in the beginning of the nineties was a significant move to allow the markets to determine the prices for government securities. Concomitantly, regulatory initiatives in introducing international best practices in valuation/accounting norms for the banks' investment portfolios (comprising mainly government securities) also necessitated the banks to *mark to market* their investment portfolios and forced them to actively trade[10].

Introduction of primary dealers (PDs) into the government securities market brought a sea change in both the primary market (in terms of finer bidding) and secondary market (in terms of added liquidity and enhanced trading activity). In order to reduce the central bank's role in the Primary Issuances the PDs were encouraged to underwrite primary issuances through incentives such as underwriting commissions. Further, to partially insulate them from volatility of the overnight interest rates (as they typically run substantially large portfolios compared to their capital base requiring them to leverage heavily largely though the short term money market) they were provided refinance facilities at favourable terms as against certain obligations on them such as price making[11] to facilitate liquidity in the market and minimum bidding commitments/success ratios to make their bidding in the primary market meaningful.

In the primary market, consolidation of stocks through re-openings (re-issuance of stocks) served two purposes. While it enhanced the liquidity[12] in those stocks by creating critical volumes, in the absence of a when issued market[13], such re-openings served as a proxy for a when issued market (since there is already a trading activity in those stocks to be reissued and hence a price). Primary issuance strategy was further fine-tuned towards issuance of benchmark securities to improve liquidity. Alignment of coupon payment dates for the new issuances also has been consciously attempted to promote stripping of government securities (STRIPS), which once materialises, can facilitate the establishment of zero coupon yield curve and also can take care of the segmental needs in terms of asset liability matching.

To bring further improvements in the pricing mechanism, a need was felt to promote a zero coupon yield curve (ZCYC). As indicated earlier, STRIPS (Separate Trading of Registered Interest and Principal of Securities) can facilitate a ZCYC. In the meanwhile, National Stock Exchange (NSE) was the first to come out with a systematic and robust algorithm for ZCYC and it publishes a daily ZCYC based on the trade data obtained from its wholesale debt market (WDM) segment. This curve is being used for pricing NSE's *interest rate futures*. FIMMDA/PDAI[14], publishes a monthly ZCYC for the market participants to value their government securities portfolios.

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[10] In the absence of *marking to market* requirement, the banks follow a *buy-and-hold* strategy.

[11] A price maker is one who quotes – accordingly he keeps his the buying rates low and selling rates high; the resultant bid-ask spread is his profit. On the other side is the price taker who is worse off since he buys high and sells low

[12] Markets are said to be liquid if transactions can take place rapidly with little impact on prices

[13] This has been introduced recently in a limited way; a full-fledged WI market is expected in the government securities markets shortly as per the announcements made in the Reserve Bank of India's monetary policy review statement for October 2006.

[14] Fixed Income Money Market Derivatives Association (FIMMDA)/Primary Dealers Association of India (PDAI) – representative bodies but nor self regulatory organizations (SROs).

Non-sovereign debt market (NSDM) includes CPs, CDs, Corporate debentures and bonds, and the fixed income securities issued by financial institutions and local authorities. The NSDM has been illiquid and quite underdeveloped for various reasons. As mentioned earlier, the common investor prefers liquid bank deposits to bonds. The corporates on the other hand prefer bank financing for it facilitates easier structuring as well as restructuring under the current scenario. For the banking system in the absence of structured securitised products, bank loans continued to be the primary but illiquid fixed price assets.

Furthermore, the disclosure norms applicable to a public issuance of bonds are not there in bank financing. Quality bond issuances with sufficient liquidity are few and far between. The free pricing allowed in the equity markets somewhat dampened the growing corporate debentures market especially the convertible debentures segment. These factors along with lower intermediation costs, fostered the development of a private placement market for non government debt products, which is still largely outside the purview of the regulatory mechanism.

Till recently, the lack of effective legal backing for contractual enforcement and the heavy stamp duties as well as the lack of understanding of asset backed securities by the large institutional investors impeded the development of market for securitised products. The legislation of SARFAESI Act (mentioned earlier) came in handy to boost the securitisation market just when the housing sector is booming and the infrastructure financing needs are increasing.

Trading, Clearing and Settlement

Trading: The Bond markets world over are dominated by the OTC contracting over the telephones, although electronic trading is picking up. India is no different. Trades are predominantly bilateral involving counterparty risk or through dealer markets. Even though the Wholesale Debt Market (WDM) segment has been functioning on the National Stock Exchange for quite sometime, the platform has been used as a reporting mechanism for the negotiated deals rather than for order processing.

Informational efficiency is critical for price discovery process. From this angle, the dealer markets are non-transparent and do not provide pre and post trade transparency. Dealer markets are popularly known as quote driven. Here the dealers act as price makers, thus providing continuous liquidity. As against this, in an order driven or order matching market (known as "auction-agency markets") trades are processed through a centralised auction and agency process on a price-time priority while ensuring anonymity of counterparties. In dealer markets because the dealers have to give two way quotes, the spreads are wider considering the risk, whereas in order driven markets there are opportunities for price improvements and hence the reduced transaction costs[15]. But in the latter there is an execution risk as the orders grow in size and the markets are not commensurately deep. On the other hand in quote driven market, there is an embedded insurance for trades, since the dealers make two-way quotes in advance.

[15] Transaction costs comprise order processing costs (all costs explicitly incurred to conclude a trade) and market impact costs (which occur because the transaction itself may change the market price of the asset)

Since both these systems have their own merits and demerits. the Negotiated Dealing System (NDS) developed by the Reserve Bank was aimed at deriving the best of negotiated and screen-based systems. Quotes on NDS can be either indicative or firm. For indicative quotes negotiation takes place through the system (on the screen). Quotes can be public (where the quotes can be viewed by preferred counterparties as well as others – meant for price discovery only) or private (only for preferred counterparties)

What NDS thus provides is a screen based trading replacing the telephonic trades. The data availability helps price discovery and transparency. The identity of the concluding parties to the deal will not be disclosed to the market, thus mimicking an anonymous trading mechanism of an electronic trading platform. Since one of the basic objectives of NDS is dissemination of on-line price information of transactions in government securities and money market instruments, transactions not concluded over the NDS will have to be necessarily reported through the NDS. NDS also provides an electronic bidding facility for the primary auctions of government securities. Thus, the NDS is an extension of the already exiting system with such improvements as dissemination of on-line price information and electronic trading.

In 2005, RBI launched an electronic order-matching module on its Negotiated Dealing System (NDS). The new system — NDS-OM, for short — is an anonymous order matching system where the identity of parties is not revealed before or after the trade. The need for such a system, which is similar to the hugely successful model pioneered by the National Stock Exchange for the equity segment, has been felt for a while. The new system has in a way sounded the death knell to the broker community.

Clearing: While the stock exchanges have their own clearing and settlement arrangements for the corporate/non-government securities, in the case of G-secs, RBI acting as the registrar, has been the final settlement authority. However, since the RBI's SGL (Subsidiary General Ledger) account facility has been meant for an exclusive club for a long time, participant outside this club, in the Government securities market had a difficulty in transacting government securities. Extension of SGL facility to depositories such as NSDL and CDSL, along with the provision of Constituent SGL facility widened the investor base for G-secs, by allowing more participants.

The establishment of Clearing Corporation of India Ltd., (CCIL), with clearing and settlement of Government securities as one of its major functions, has brought about a significant reduction in both the processing costs and the settlement risk. CCIL derives these benefits for the members through a process of novation and multilateral netting mechanism. The multilateral netting vis-à-vis a bilateral netting system has other advantages to the counterparties in terms of reduced capital charge against the exposures and the reduced back office processing work.

Settlement: Reserve Bank has been a pioneer in the area of dematerialisation of Government securities and more than 90 per cent of the holdings in Government securities are in demat form. The DvP[16] system was introduced in 1995 to address the counter party risk. The settlement is on T+ 0 as also T+1 basis.

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[16] DvP-3 is followed i.e, the securities are settled on gross basis while the funds are settled on net basis.

On the stock exchanges the compression of the settlement cycle and the introduction of rolling settlement further reduced the unhealthy speculative activity and risk. G-secs are traded in the retail segment of Stock exchanges on a T+3 rolling settlement basis while the settlement is upto T+2 for the Wholesale debt market segment.

II (e) Insurance Sector reforms:

With the incorporation of Life Insurance Corporation (LIC) of India in 1956 the life insurance business in the country was nationalized. On the other hand, the non-life insurance industry that was nationalized in the year 1973 through reconstitution of more than 100 non-life firms into 4 public sector companies. The sector was liberalized towards the end of the last millennium with the establishment of Insurance Regulatory and Development Authority and the entry of private sector. Currently, 26% foreign equity participation is allowed in the insurance sector while the likelihood of its increase to 49% is under debate.

On the life insurance front, the premia to GDP at around 2.5% (the OECD average is around 0.49%) offers lot of scope for this sector to develop. Despite apprehensions that the public sector outfit, the LIC would wilt under the competitive pressures from the private sector, it has continued with it dominance while the competition improving its efficiency levels. Apart from the insurance business, the LIC has been the major investor in capital markets and the government securities market. As a natural investor in the government securities market LIC has been a major support to the long term segment of the government securities market and aided the maturity profile transformation of the government's market borrowings, when the government debt managers were endeavouring to do so to ward off a possible bunching of repayments and a confidence crisis (the government had been for quite sometime borrowing short end and with rising deficits and deregulation of interest rates, there was an impending need to issue long term bonds in the nineties).

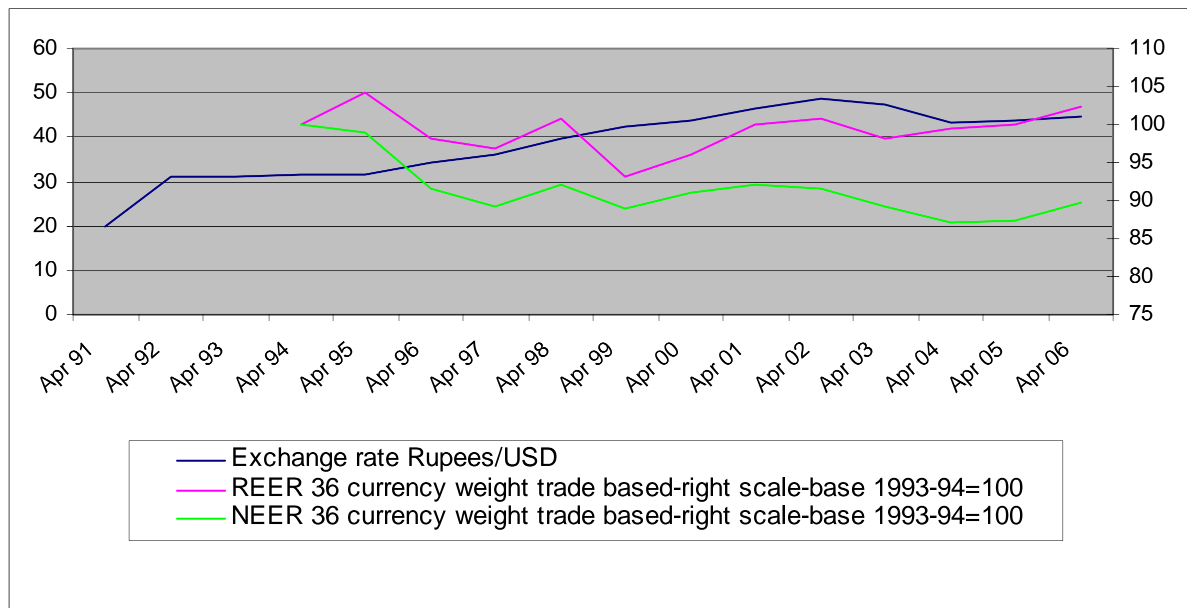
The private sector could manage 25% of the new business in the 'life' segment ever since the they were allowed and also aided innovation with insurance products being structured in various ways to suit individual needs. Bankassurance also has become popular to take advantage of synergies and given the incentives the unit linked insurance policies (ULIP) are going to the dominant product. Ever since liberalization the life insurance industry has been growing at a CAGR of over 30%.

Coming to the general insurance business, the market despite having the benefit of private sector participation, is still regulated as the tariff structure is not market determined. Against this backdrop, the IRDA's decision to detariff the general insurance business from January 1, 2007 is going to transform the general insurance industry in the country. This also would ensure, through scientific rating of risks and adoption of better risk management practices, development of a robust general insurance industry. Currently there is a cross subsidization between the more lucrative fire and engineering insurance and the more risky motor and third party insurance, which is going to be rationalised through detariffing with the larger benefits of competition accruing to the consumer.

II (f) Forex markets:

The current stance of the exchange rate policy in India, the so-called managed float has evolved over a period of time from *fixed exchange rate against single currency* through *fixed exchange rate against a basket of currencies*. In fact, the origins of reforms go back to the BoP crisis and both the exchange rate policy and the policy relating to accumulation and management of forex reserves were fine-tuned as we learnt lessons from various currency market crises elsewhere. The move towards current account convertibility was preceded by a brief transition to dual exchange rate mechanism. This was accompanied by reduction in trade protection and a gradual opening of the capital account. Banks were gradually allowed larger leeway. Managing capital flows have over the years posed challenges to monetary authorities and it was a paradox that the problem of paucity turned into a problem of plenty over the years. FII flows into the capital markets subsequent to the capital market reforms added to the concerns about a possible increase in volatility of stock prices and exchange rates. On the other hand, the policy stance was clear in discouraging short-term external debt flows into the country. In the absence of sufficient demand for forex, the inflows were to be sterilized; government securities were issued under market stabilisation scheme (MSS)[17] and in order to neutralize the impact of MSS on the fisc, the amount mobilized through sale of such government securities was immobilized with the Reserve Bank of India. The effectiveness of the exchange rate management through all this can be seen in the way the REER has behaved over the years.

Chart 1: Exchange Rate of Rupee against USD



The foreign exchange reserves which were less than $ 1 billion on the eve of the *balance of payments* (BoP) crisis, that forced India to pledge its gold, a politically delicate task sometimes dubbed as pledging the self respect of the country, has reached a respectable level of over $ 175 billion (*Table 8*).

Evidencing the gain of confidence, the erstwhile Foreign Exchange Regulation Act, 1973 (FERA) was replaced by Foreign Exchange Management Act, 1999 (FEMA) with effect from 1st June 2000.

[17] Under MSS, Government of India issues government securities solely for the purpose of sterilized intervention by Reserve Bank of India in the domestic forex markets.

The fact that FEMA is a civil law whereas FERA was a criminal law is a proof of the change in policy stance and the confidence. The latter was necessitated when the country had to preserve the scarce foreign exchange resources. In other words the thrust of the new law is to manage the foreign exchange resources of the country rather than to control or regulate them. The level of reserves also enhanced the maneuverability of exchange rate management. The surge in the outbound FDI and external commercial borrowings that we are witnessing of late is a reflection of policy stance that has been more accommodative.

Table 8:Foreign exchange reserves

Year (end-March)	Foreign exchange reserves (million US$)
1991	5834
1992	9220
1993	9832
1994	19254
1995	25186
1996	21687
1997	26423
1998	29367
1999	32490
2000	38036
2001	42281
2002	54106
2003	76100
2004	112959
2005	141514
2006	151622
2006 (as on 8th December)	175444

Source: Reserve Bank of India

The stance of the exchange rate policy is to leave it to the market with intervention only to address sharp volatility which is not caused by fundamental factors. Unlike developed economies which have the wherewithal to absorb the risks associated with exchange rate fluctuations, developing countries such as India with their labor intensive economies and output at the lower end of the value chain where the profit margins are extremely vulnerable to competitive pressures, exchange rate volatility has significant employment, output and distributional consequences (Mohan, Rakesh 2006) Thus the capital account liberalization depends on several factors such as fiscal and financial sector strength so that the capital account fluctuations are managed by the financial markets efficiently so that they do not impact the real sector. The recommendations of the committee set up by the Reserve Bank of India are largely in this direction.

II (g) Fiscal Reforms:

It has been by now well recognized that fiscal consolidation is a prerequisite for the success of economic reforms. A consolidated fiscal deficit of around 10% at the time of initiating the reforms was daunting and managing the huge and growing borrowing programme for the government at market related rates without impairing the fiscal deficit further was a nightmare. Auctioning of government securities to allow price discovery was initially done with the participation of Reserve Bank of India as a non-competitive bidder in a post-bid reserve-price sealed-tender system. This is akin to a managed float regime to mange the exchange rate, with the debt manger intervening with a reserve price unknown to the bidders at the time of bidding, to address any overshooting of rates. In addition, the decision to end deficit financing at administered rates also required to build market's absorptive capacity and liquidity for government debt. The deregulation of interest rates and the consequent higher cost of borrowing logically induced the Government to borrow at the short end to reduce the cost, but soon it threatened the sustainability of a *ponzi* scheme. So the comprehensive measures to tackle these challenges included, reforms in the government securities market, building institutional mechanisms, effecting changes in the legal and accounting fronts, initiating better cash management practices in the Government sector, borrowings based on market timing coupled with a gradual withdrawal of central bank subscription, rationalization of maturity profile of government debt etc.

Table 9:Financing pattern of gross fiscal deficit of Government of India

Year	Internal finance				External finance	Total finance/Gross fiscal deficit
	Market Borrowings	Other borrowings @	Draw down of cash balances#	Total (2+3+4)		
1	2	3	4	5	6	7
1990-91	8,001 (17.9)	22,103 (49.5)	11,347 (25.4)	41,451 (92.9)	3,181 (7.1)	44,632 (100.0)
1995-96	34,001 (56.4)	16,117 (26.8)	9,807 (16.3)	59,925 (99.5)	318 (0.5)	60,243 (100.0)
2001-02	90,812 (64.4)	46,038 (32.7)	-1,496 (-1.1)	135,354 (96.0)	5,601 (4.0)	140,955 (100.0)
2005-06 (RE)	101,082$ (69.2)	22,541 (15.4)	15,037 (10.3)	138,660 (94.9)	7,515 (5.1)	146,175 (100.0)
2006-07(BE)	113,778$ (76.5)	26,584 (17.9)	0 (0.0)	140,362 (94.4)	8,324 (5.6)	148,686 (100.0)

Notes: RE – Revised Estimates; BE – Budget Estimates
Figures in parenthesis represent percentage to total finance (gross fiscal deficit)
@ Represent small savings, state provident funds, special deposits, reserve fund, treasury bills other than 364-day tenure
#Prior to 1997, represents variations in 91-day Treasury Bills issued net of changes in cash balances with RBI.
(Rs.Crore – 1 US$ = Rs. 44.65 as on 9th November, 2006)
Source: Reserve Bank of India

The central bank in its role as the manager of public debt undertook several proactive measures to develop the government securities market (discussed earlier in detail). Besides, at a macro level, Reserve Bank of India (RBI) was instrumental in sensitizing the government both at the center and at the states about the need for prudent cash management. It had initiated a standing *Cash and*

Debt Management Committee to strategise market borrowings based both on requirements and market timing.[18] It also sensitized state governments to collate and control the contingent liabilities and persuaded them to borrow through the auction method. This in a way brought market discipline as investors started distinguishing between the bonds issues by a strong and weak state governments in terms of pricing the same. Through loan restructuring for the state governments and by linking the central bank's ways and means advances to the financial discipline (revenue receipts and capital expenditure) of the state governments further generated incentives for fiscal correction. Creation of sinking funds and fiscal responsibility legislation furthered these efforts.

Now that we have moved into a critical stage of fiscal reforms with the implementation of Fiscal Responsibility and Budget Management Act, 2003[19] there are pressures to dilute or extend the deadline for its implementation. The government's stance not to yield to such pressures and the RBI's advise in this direction are commendable. With revenues growing at a robust pace, public private partnership emerging as a viable solution to take care of the requisite capital expenditure, the government is under a self imposed constraint to reduce the revenue expenditure. The issue of separating debt management from monetary management (RBI is responsible for both these conflicting functions) may await the outcome of government's achievements in sticking to FRBM goals.

Table 10: Interest rate on G-secs and inflation

Year#	Weighted Average interest rate on Central Government securities	Inflation rate as measured by wholesale price index (WPI)
1980-81	7.03	18.2
1990-91	11.41	10.3
1995-96*	13.75	8.0
2000-01	10.95	7.2
2005-06	7.34	4.4

*year when the nominal interest rates peaked
Financial year April-March
Source: Handbook of Statistics on Indian Economy, Reserve Bank of India

II (g) Monetary policy reforms

On the monetary policy front, the efforts were to move from direct instruments to market based tools, with the objective being on price stability and ensuring availability of adequate credit to support growth. In tune with the liberalization and growth of financial markets both in terms of size and maturity, a multiple indicator approach has replaced an earlier intermediate target of broad

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[18] for cost minimization, sometimes the markets may be more liquid and offer better opportunities to borrow, but the government may not require funds at those moments. The strategies involve the cost benefit analysis of both the options i.e, just in time borrowings and borrowings based on market timing.

[19] As per FRBM Act, 2003 and came into effect in July 2004. As per the provisions of this Act, (1) the government has to place three statements viz., a medium term fiscal policy, a fiscal policy strategy and a macro economic framework, before the parliament along with the Budget, (2) the government has to reduce the fiscal deficit and eliminate revenue deficit, - there are no numbers for reduction of fiscal deficit (for 2006-07 it is to be reduced to 3.8% of GDP) but the revenue deficit has to be eliminated by 2008, (3) the Government cannot borrow from the Reserve Bank of India, other than the temporary finance to bridge the revenue-expenditure gap and (4) the finance minister is required to keep the Parliament informed about the implementation through quarterly reviews and to take corrective measures

money. This is also logically in tune with the multiple responsibilities that the Reserve Bank of India assumes right now. Simultaneously, efforts are on to integrate various segments of the market such as money, government securities and forex markets while keeping the monetary policy setting mechanism distinct from central bank's market operations. Reflecting this stance, a new department called the Financial Market Department has been carved within Reserve Bank of India, just ahead of ending the Bank's participation in primary markets for government securities. Monetary policy, which was subservient to fiscal policy for a long time has become largely independent, despite the central bank having multiple and conflicting responsibilities viz., debt manager to government, supervisor of financial system apart from the traditional functions of setting monetary policy and issuance of currency.

A concurrent benefit derived by having the central bank responsible for government debt management was that it could steer through the establishment of *open market operations* (OMO) as a monetary policy tool successfully. At the same time the discontinuation of automatic monetisation of government deficits by the central bank really paved the way for the monetary policy reorientation. A series of experiments that included an effort to reposition the bank rate as a policy signal to the current situation whereby the reverse repo rate has ultimately become the policy rate is a part of this evolutionary mechanism. Like the major central banks of the world, the Reserve Bank of India could influence the markets through a single policy rate and the markets' eagerness to look for unambiguous cues from the former indicates the progress made in terms of establishing a credible transmission mechanism.

The liquidity adjustment facility (LAF) of RBI operated as a combination of repo and reverse repo facilities might be unique in the sense that the central bank operates on both sides on any given day; this is different from a typical central bank standing to either inject or absorb liquidity. The reason for this could be that the central bank by statute cannot provide a remunerative deposit facility to banks to deploy their surpluses. Besides, such an arrangement can also take care of smaller players in the banking sector who would be on the sidelines of the markets for want of bargaining power. Thus the current stance is to guide the overnight rates to move in an informal corridor thus set by the repo and reverse-repo rates. A new instrument developed by the Clearing Corporation of India Ltd., (CCIL) called CBLO[20] provides an alternative to those entities which cannot participate in the overnight call money market as well as approach the RBI window for managing their overnight cash balances.

Appreciating the importance of leading the markets, the monetary policy setting mechanism has become more articulate and participative. An elaborate ongoing consultative process involving external consultants has been institutionalized through a standing Technical Advisory Committee on Monetary Policy within the Reserve Bank. However, as economies grow, they encounter supply side shocks and the resultant inflationary pressures have no solutions in monetary policy. In addition, the rising asset prices and credit growth are concerns for the authorities and assessing against the demands and constraints on monetary policy, the so far contra cyclical approach adopted by the RBI has been successful in balancing the avowed objectives of price stability, growth and financial system stability.

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[20] collateralized borrowing and lending obligations, a form of tri partite repo

II (h) Other financial sector reforms

The creation of the Institute for Development and Research in Banking Technology (IDRBT) was an important initiative of the Reserve Bank of India. IDRBT, since its establishment, has created substantial technological infrastructure for the benefit of the banking community with the aim of sharing expensive IT resources to achieve economies of scale. Besides operating the Indian Financial Network (INFINET), IDRBT also conducts research in banking technology and provides consultancy services and educational/training facilities for the banking community.

The mechanized cheque clearing system has matured with overall reject ratio of around 1% as against international experience of around 2% (Reddy Y.V. 2006). In compliance with the BIS Core Principles for Systemically Important Payment Systems, RBI had taken initiatives to establish the Real Time Gross Settlements (RTGS) System and an evaluation of the critical parameters of our RTGS have been quite close to the standards set by BIS. RTGS is available across 50 centres in the country today linking around 24,000 branches with an average daily settlement of more than US$ 13 billion. RBI has also implemented the National Electronic Funds Transfer System to facilitate retail funds transfer, that covers more than 5000 branches of 32 banks across 200 centres.

The creation of the Clearing Corporation of India Ltd., (CCIL) in 2001 was another important development; CCIL was created as a clearing house for settlement of market trades in Government Securities and inter-bank foreign exchange transactions 2001 and in 2002 it started clearing and settlement of market trades in Government Securities co-terminus with operationalisation of Reserve Bank of India's Negotiated Dealing System (NDS). In the same year CCIL extended the guaranteed settlement facility for inter-bank foreign exchange Spot trades in INR/USD and Forward Trades on Spot Window.

In the absence of a well-developed repo market other than where RBI acts as a counterparty, the initiatives taken by the CCIL in crating a new Money Market Instrument – "Collateralised Borrowing and Lending Obligation" (CBLO) [21] .In 2004 CCIL started clearing and settlement of ATM transactions of National Financial Switch operated by Institute for Development and Research in Banking Technology (IDRBT).

In 2005 RBI launched the anonymous screen based order matching trading module for govt. securities on its Negotiated Dealing System called NDS-OM with CCIL as the central counterparty to all deals and recently, reflecting the integration of money, government securities and forex markets, CCIL launched NDS-CALL, an electronic screen-based quote driven dealing system for all Call (overnight money), Notice and Term Money transactions in the market.

On the legislative front, certain amendments were carried out in the Securities Contract (Regulation) Act, 1956 to clearly establish the regulatory jurisdiction of RBI and SEBI to address certain issues of regulatory gaps and overlaps. In tune with the changes in the government securities market and the evolution of technology, a new Government Securities Act was legislated to replace the age-old Public Debt Act. Amendments to the Reserve Bank of India Act, 1934

[21] a tripartite repo involving CCIL

recently have given powers to the RBI to decides the cash reserve ratio (CRR)[22], which as a monetary policy tool is losing significance with RBI adopting market based indirect monetary policy instruments such as open market operations. Other amendments proposed with respect to the Banking Regulation Act, 1949 with a view to reducing the SLR (mandatory banks' investments in government securities) is pending legislation. These are certain important legislative changes besides those already mentioned elsewhere in this paper to further the financial sector reforms

Finally, Table 8 compares India with the OECD averages in terms of certain financial market indicators.

Table 11:Some indicators of financial sector - 2005

Indicator	OECD average	India
Bank Deposits/GDP	0.80	0.51
Financial system deposits/GDP	0.84	0.53
Private credit by deposit money banks/GDP	0.99	0.36
Private credit by deposit money banks and other financial institutions/GDP	1.02	0.34
Bank concentration #	0.68	0.37
Net interest margin	0.030	0.034
Bank overhead costs/total assets	0.034	0.024
Stock market capitalisation/GDP	0.75	0.50*
Stock market total value traded/GDP	0.68	0.60*
Stock market turnover ratio	0.84	1.16
Private Bond market capitalisation/GDP	0.39	0.005
Public bond market Capitalisation/GDP	0.47	0.32
Life insurance premium volume/GDP	0.049	0.025
Non life insurance premium volume/GDP	0.033	0.007

Source: World Bank
*Both market capitalisation/GDP and traded value/GDP in the euqity markets have grown sharply since (the former reaching almost 100% of GDP recently)
#Share of 3 largest banks in total assets

Thus one can see the changes and the tough decisions on all fronts evidencing the commitment to the reforms. The above enumeration, however, is only indicative of the reforms initiatives and not to be taken as exhaustive, since I did touch upon only the major features and macro level nuances. As the role of State is diminishing and markets become the arbiters of risks and rewards, there is a need to prepare ourselves for new challenges and let us see what they are!

[22] CRR- cash reserve ratio- one of the direct tools of monetary policy- the proportion of bank liabilities that has to be kept as cash deposit with the RBI; this ratio was fixed as minimum of 3% and subsequent to the recent amendments, RBI has the powers to decides this component

III.CHALLENGES

The pace of financial innovation that we have been witnessing has been breathtaking. The advances made on the technology front and the growing influence of advanced mathematics on finance have reduced the time span while complicating the structure of financial transactions. Like caught between the devil and the deep sea, financial market regulators are caught in between regulation and the need to promote innovation. No wonder then, that, even in times of prosperity the unhappiest lot is the financial sector regulators especially the central bankers who apart from having the responsibility of achieving price stability have also been vested with the additional responsibility of financial system stability. In a way the regulatory stance drives innovation and innovation prompts further corrective action from the regulators – and this is an unending regulatory dialectic *a la* Kane.

Further, the recent behaviour of markets does seem to defy some of the established norms. New explanations are discovered to bridge the gap between established theory and actual happenings. The high level of savings in countries like China is being attributed to people's apprehensions about the continuance of the newly found prosperity into the far future amidst a weakened sense of job security (Robert Schiller). It is also said that capital flowing uphill i.e., from developing countries to developed countries is not a puzzle but is due to the lack of absorptive capacity (in turn due to the underdeveloped nature of the financial system) in developing countries (Rajan et el). Globalisation has reduced the vulnerability of global economy to recession (China and India driving the global economy while developed countries were facing recession). Greenspan's *conundrum* about the long-term yields could be easily explained by others as *liquidity overhang*. And despite such liquidity overhang and more volatile capital flows, central banks worldwide have been able to control inflation. However, what have not changed much amidst all this, are the human tendencies and their behavioural disposition. We could see what happened in Holland during the Tulip mania in the seventeenth century happening again on the eve of the twenty first century during the internet bubble. Thus the emerging situation warrants a greater reliance from the regulators on behavioural indicators as early warning signals.

While appreciating the technological advances in financial industry, one needs to gauge the *flip side* of technology and factor the same into their operational risk management philosophy. The major flip side in this area is due to the high rate of obsolescence and the vendor risk. It is often said that the gains accrued to the society through the IT industry has been taken away by the same industry while addressing the Y2K issue. Further, due to speed and reduction in reaction time it often becomes difficult to rectify the man-made errors on the computer system – it cannot simply be wished away as gigo (garbage-in garbage-out) syndrome and there is a need for appropriately designed filters to facilitate a *pause and verify* and if need be, to block the consequences of unavoidable human errors. The recent episodes on the Tokyo Stock Exchange could be a lesson in this regard.

The enhanced liquidity support from the central banks, that started ahead of the Y2K phenomenon, later continued post 9/11 and was perpetuated thereafter amidst global recession. This phenomenon has greatly enhanced the risk appetite worldwide and made the regulators' job further difficult. When the economy is booming, counter cyclical policy measures from monetary authorities do encounter opposition from the political class, but if the monetary authorities also happen to be the regulators of the financial sector, then their jobs are no more enviable.

As the policy makers are confronted with new realities, there will be many more challenges ahead. Solutions might not be always complementary and policy makers have to negotiate through various conflicting choices to find the right policy mix. In a globalised environment, for a developing country, the problems are more acute as "the bulk of adjustment in case of external imbalances is often concentrated on a group of developing and transition economies, despite the fact that the source of such imbalances may occur in the developed world" [23]. Apart from these generalizations, let us see what the challenges are for India.

The first set of challenges is in the banking sector. As the banking sector is getting ready to adopt BASEL II, there is a need to harmonise the interests and responsibilities of the government owned banks on the one hand and the private sector/foreign banks on the other. In terms of size, the Indian banks are still minnows and consolidation in the industry could give them both economies of scale as well as the strength to compete with foreign banks. But the evolution of a few mega banks may also have an impact on the financial market stability through reduced diversity and hence liquidity. Besides, the size also is a moral hazard issue. Some of the largest banks with asset sizes much bigger than the GDPs of some countries have already become *fail proof* since the home country authorities will not allow them to fail for their impact on systemic stability. It is well known that in the early 1980s Citibank became technically insolvent due to bad lending in Latin America and was bailed out by the US Federal Reserve.[24] Last year, the Citigroup traders caused ripples in the markets as they sold European government bonds worth 7 billion sterling only to buy some of them back minutes after the sale at a lower price; this is an example for the might of global banks, their influence on the markets and the 'flip-side' of the electronic trading platforms. Apart from the market disruptive nature of such high powered transactions, such incidents do undermine the credibility of the extant financial market infrastructure, supposed to be robust otherwise. While entry of foreign banks in a bigger way could impart requisite competition to the domestic players, such instances might weigh larger on the regulatory stance in going ahead with further liberalization of banking industry. In any case, liberalization of banking industry is not akin to liberalization of any other industry.

Another dilemma pertains to the standards-setting mechanism for the banking industry under the aegis of BIS. On the one hand market based risk management systems are pro cyclical and tend to accentuate any crisis. On the other, common standards are taking away the requisite diversity and along with it the liquidity from the market. When there is no diversity in market expectations, the market itself disappears. It is in a way true that liquidity is more about diversity than about size[25]. Regulators have to find ways and means to encourage diversity in the market and a segmental approach to standards-setting mechanism might be a solution.

In the same context comes the issue of increasing compliance costs. We all know that one of the aims of financial sector reforms is to bring about reduction in transaction/intermediation costs. But, if the gains in terms of reduction in intermediation costs are nullified by increasing compliance costs, the entire thing would be a paradox under BASEL II, given its complexity. This complexity could pose additional concerns for the bank supervisors. The supervisors could be overwhelmed

[23] Trade and Development Report 2006-UNCTAD
[24] Avinash Persaud, 2002
[25] Avinash Persaud – Liquidity Black holes

by the banks (the regulated entities) on account of higher skills at the level of the regulated entities, in which case the supervisors may fail to perform their supervisory function in a desirable manner. Alternatively, if the supervisors strive to improve the skills in their staff, under the current *incentive compatible* structure, such trained staff may leave to join the private sector and thus the supervisor may be subsidizing the private sector[26]. I am often told that compliance is an area that is growing in importance for the banks and this is where trained supervisors could be useful to the banking industry. This is an area where the supervisors have to come up with the right incentive compatible structures and norms to address poaching by the private sector.

The concern I just mentioned is also an intra industry phenomenon as is evidenced by the attrition rates and the fast mobility in the banking sector. This results in additional costs, irrespective of who pays it, for the economy. In India, typically a customer banks with a banker and not with the bank and hence as the banker does a job-hopping, the business also goes with him. In a way, the ever-growing salaries are partly for the skills and partly for the business one carries with him to the new employer. A related issue is the perverse and asymmetric incentives in the financial industry. Performance linked bonuses without a similar structure for under performance or for excessive risk taking is the right recipe for disasters in the financial sector – since one would be betting with others money. The recent example is the collapse of hedge fund Amaranth. There is a need for the industry to come to certain understanding through a *self-regulatory* mechanism to address these issues but as things stand the *self* is dominating the *regulatory* aspect.

The jury is as yet out in the case of hedge funds. So long, it has been argued that there is no point in wasting scarce regulatory and supervisory resources on an industry, which is confined to a few wealthy individuals. Besides their presence is supposed to bring efficiency to the financial market since these funds have relative value strategies and thus are said to minimize the mis-pricing in the market. It is also said that they have institutional counterparties which themselves are regulated entities and thus the concerns are addressed in a way. In the same vein, a part of the asset bubble is also created by the participation of the private equity funds. As Governor Reddy of Reserve Bank of India recently mentioned, *while the global banking system is adequately insulated from such risks, pension funds and insurance companies could be more prone given that they are not as rigorously regulated as banks*. Surely, the risk-return profiles of hedge funds and private equity are on a different footing but then regulators need to be concerned when the consequences of their activities threaten the financial system stability.

The micro finance industry (MFI) in India is witnessing some unhealthy competition and usurious rates of interest. The intense competition also led to what is called "client hijacking". The industry with its potential is going much beyond the *self-help group* (SHG) concept and is increasingly becoming commercial with the growth of for-profit micro finance institutions. As the success of Bangladesh *grameen* bank model indicated, it is not the cost of credit but its availability that is important for the economically weaker sections of the society; but usurious rates of interest would mean the revisit of traditional *money lenders*. Some amount of regulation could be thought about and this would be best done by linking it to some sort of credit guarantee mechanism to protect the micro finance institutions against genuine defaults – as the average loan size is small and may not pose a big moral hazard.

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[26] Fernando J.Cardim de Carvalho, "Basel II: A critical assessment" - 2005

Despite the IT skills the country boasts of, the penetration of IT in the banking sector has still a long way to go. As there is a pertinent need to reduce the overheads, the banking penetration is best achieved through use of technology. The number of ATMs in India, per million population which is around 10 compares poorly with even many Asian countries. The national financial switch operated by the IDRBT endeavours to provide cross connectivity to all the banks so that customers could access any ATM despite having accounts with a particular bank. However, there is a need to increase the number of ATMs so that the banks could cater to most of the the retail banking needs of the customers without human intervention which in turn could improve their efficiency through reduction of overheads.

With deregulation of interest rates, in the absence of well-developed derivatives market especially for the interest rate products, banks cannot effectively perform the task of maturity transformation. The only alternative left with them is to manage their balance sheets within a narrow framework of asset liability matching and this constrains their growth. On the other hand the regulatory discomfiture emerges from the way some banks are selling complex derivative products which the clients do not understand properly. While innovation is good, aspects like sustenance of market interest in a product or credibility of the innovator is sometimes thrown to winds. Apart from such regulatory stance as to make it obligatory on the part of the seller of a derivative product to do a due diligence on the clients' ability to assess and manage risks by purchasing that product, encouraging financial education could solve these problems to a great extent. *Financial education can make a difference not only in the quality of life that individuals can afford, but also the integrity and quality of markets* (Reddy Y.V. 2006). Financial literacy is a matter of public policy and it also enhances the supervisory capacity. On the other hand since these non-standard structures happen more on the OTC markets, promoting exchange-traded derivatives is a viable option.

As the government is committed to fiscal responsibility and budget management, there is a lot of skepticism floating around. The current fiscal (2006-07) begins the end of central bank subscriptions to government borrowings in the primary issuance market. There are pressures on the government to defer the implementation of FRBM requirements to accommodate developmental expenditure. Some economists[27] quote functional finance a la Abba Lerner to state that fiscal deficit per se shouldn't be a constraint as long as supply side constraints affect economic performance. Others do feel that a written code such as these only prompts policy makers either to circumvent the rules or to resort to frequent relaxations. But then, having a rule in place rather than not having it sometimes will have the so called *policeman effect*. Even if violated, such rules perform the role of a benchmark. It reminds me of a joke which I heard in my childhood – a traveler waiting for long for his train at a railway station got annoyed at the delay, went to station master and threw the railway time table on the table and asked the station master, "What is the use of this timetable if the trains are delayed for this long?" To this, the station master replied, "Dear sir, if there is no timetable, how would you know that the train is delayed and for how long?" The requirement that the finance minister has to give an explanation in the parliament for any violations and to come out with corrective measures is akin to this. Even in New Zealand, which is a pioneer in this regard, the legislation provides lot of flexibility; whereas the Gramm-Rudman-Hollings Act of the US in the Regan era was a failure. The latest, on this, is the violation of the Growth and Stability Pact of the European Union by its major economies. It is thus more about a self imposed commitment on the government and going by their intention this is a good initiative and needs to be

[27] Late Sudhir Mulji

continued. The progress on this front also can facilitate the much debated separation of debt management function from the monetary management of the central bank.

In the equity markets despite the progresses made, the issue of investor protection is yet to be addressed in a substantial manner. While market discipline through its influence on equity prices has brought in a great amount change in corporate governance, the small investor still faces difficulties with respect to fly-by-night operators. The reaction on the part of the stock exchanges in de-listing an erring company might not be the right response since it hurts the investors more than the promoters. Besides, there is lot needs to be done by the regulators with regard to price manipulation. Apart from installing the best electronic surveillance mechanism to track on-line the trade flows, what the authorities need to do is to build necessary skills within to address sophisticated financial crimes and to act promptly to thwart major scams. An immediate requirement would be a functioning stock lending mechanism and an introduction of short sales. We have seen the resilience of the stock markets and the maturity, but still unable to accept the boom-bust cycles. The responses to a sharp fall in the equity markets has to be the same as when there is a sharp rise because both contribute to volatility. Stronger and healthier financial system could only create such a policy equanimity.

As McKinsey & Co sometime back noted that despite India's Anglo Saxon legal and institutional heritage, the country's corporate bond market is underdeveloped. Despite the talk about the equity markets in day to day life, we all know that the bond markets are more important than the equity market as a source of finance. Credit portfolios do not offer the flexibility that is offered by the bond portfolios in balance sheet management; further credit portfolios are much more pro-cyclical as they shrink and expand in size along with the changes in the economic cycles. Credit derivatives offer initial solutions for a transition from a credit based financing to bond financing. The speedy reforms in the pension and insurance sector and radical improvements in credit enhancement mechanisms could foster the development of bond markets, especially with a rapid growth in mortgage and infrastructure financing.

To conclude, as we liberalise *first* the banking sector further to see more FDI and *later* the external sector towards full capital account convertibility, these are at the least, some important challenges to be addressed. The banking sector alone contributes around 2.5 per cent of the GDP and employs around a million people[28]. India has the wherewithal to emerge as another important financial centre in this part of the world, with established high quality human capital and IT skills. However, one needs to appreciate Governor Reddy's remarks that the pace of financial sector deregulation has to be synchronized with sectoral and fiscal reforms. Going forward, the financial sector in India would progress through a combination of competition, consolidation and convergence.

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[28] McKinsey & Co, 2005