VI FINANCIAL MARKET EVOLUTION AND GLOBALISATION

6.1 The importance of developing appropriate financial institutions and financial markets in promoting economic growth can be hardly overemphasised. Central banks in emerging markets have made conscious efforts towards developing efficient markets and institutions in recent years, especially after some weaknesses in the system were revealed during several financial crises that occurred in the 1990s in different parts of the world. There is a growing recognition among central bankers around the world that a well functioning financial market enables efficient use of market-based instruments of monetary policy by improving interest rate signals in the economy. Apart from enhancing the efficiency of monetary policy, deep and well functioning financial markets promote mobilisation of domestic savings and improve the allocative efficiency of financial intermediation, and foster the necessary conditions to emerge as an international or a regional financial centre (Turner and t'dack 1996). Strong domestic financial markets also act as a buffer against external disturbances and help in absorbing shocks to the domestic banking system during crises. Further, they provide incentives for development of hedging instruments, and lower macroeconomic volatility and financial instability. Efficient financial markets also have several indirect benefits such as rapid accumulation of physical and human capital, more stable investment financing, and faster technological progress.

6.2 Financial market development is a complex and time-consuming process. There are no short cuts for developing well-functioning markets with depth and liquidity (Tarapore, 2000). Some of the pre-conditions for financial market reform are macroeconomic stability, sound and efficient financial institutions and structure, prudential regulation and supervision, strong creditor rights, and contract enforcement. Measures to improve market infrastructure must be implemented at an early stage of reform alongside appropriate legal framework. These conditions facilitate growth of financial transactions including inter-bank transactions and active liquidity management. At the same time, there are at least three major macroeconomic features which can inhibit reform of domestic financial markets. First, large Government deficits can crowd out financing of the private sector thereby inhibiting the growth of corporate debt markets. Second, high and variable inflation rates and unrealistic exchange rates also stifle the financial markets by raising uncertainties about the risks and returns to financial activity. Third, financial repression policies such as high inflation taxation, high required reserve ratios, subsidised or directed credit programmes, credit rationing, and ceilings on deposit and loan interest rates also hinder financial market development.

6.3 As indicated in chapter III, the sequencing and pace of reforms are also vital to safeguard monetary and financial stability and avoid reversals. While the existing research has not been able to zero in on the most efficient path of financial market reforms, the issues that have been extensively debated include: whether bank-based or market-based system of development should be adopted; the order of sequencing of reforms of various segments of the financial market to be followed; and whether or not capital account liberalisation should precede domestic financial market reform.

6.4 Since the setting up of the Reserve Bank of India in 1935, the role of the Reserve Bank in the financial sector and financial market development has undergone significant changes. Emerging primarily as a bank-based financial system, the development of financial system in India has been to finance the planned development efforts. To this end, institutional development received considerable attention of the Reserve Bank. The broad based development of the banking sector to meet short-term financing needs was supplemented by the setting up of specialised development financial institutions by the Reserve Bank to cater to long-term financing needs. Since the early 1990s, the introduction of financial sector reforms provided a strong impetus to the development of financial markets. The introduction of market based monetary policy instruments, the liberalisation of capital controls and integration of the Indian economy with global markets in the 1990s exposed the country to potentially volatile capital inflows posing new challenges and dilemmas for the Reserve Bank in monetary and exchange rate management. This called for a renewed thrust towards deepening and ensuring stability in the financial markets.

6.5 The objective of this chapter is to trace the changing role of the Reserve Bank in financial market evolution and development in India, particularly in the context of increasing globalisation and liberalisation. Section I deals with the structure and development of financial markets in India with particular focus on the money, Government securities and foreign exchange (Forex) markets which are regulated by the Reserve Bank. The evolution of these markets over time and their current status are reviewed. Section II delineates the changing role of the Reserve Bank in the financial markets in the context of liberalisation and globalisation of the economy and highlights the importance of appropriate institutional and legal reforms. The final section presents some concluding observations.

I. FINANCIAL MARKET DEVELOPMENT: THE INDIAN EXPERIENCE

6.6 India has a long and chequered history of financial intermediation. By the turn of the twentieth century, India had insurance companies (both life and general) and a functional stock exchange. Even before the setting up of the Reserve Bank of India in 1935, the country had money, Government securities and foreign exchange markets. The markets were, however, characterised by paucity of instruments, limited number of players and lacked depth, partly because the Indian financial system was primarily a bank-based system.

6.7 The course of development of financial institutions and markets during the post-Independence period was largely guided by the process of planned development pursued in India with emphasis on mobilisation of savings and channelising investment to meet Plan priorities. At the time of Independence in 1947, India had a fairly well-developed banking system. The adoption of bank dominated financial development strategy was aimed at meeting the sectoral credit needs, particularly of agriculture and industry. Towards this end, the Reserve Bank concentrated on regulating and developing mechanisms for institution building. The commercial banking network was expanded to cater to the requirements of general banking and for meeting the short-term working capital requirements of industry and agriculture. Specialised development financial institutions (DFIs) such as the IDBI, NABARD, NHB and SIDBI, *etc.,* with majority ownership of the Reserve Bank were set up to meet the long-term financing requirements of industry and agriculture. To facilitate the growth of these institutions, a mechanism to provide concessional finance to these institutions was also put in place by the Reserve Bank.

6.8 Thus, while characterised by significant institutional development, the environment in the financial sector up to the 1990s was not particularly conducive for the development of deep and wide financial markets. In fact, it had resulted in segmented and under-developed markets characterised by paucity of instruments, and limited number of participants. Banks and financial institutions functioned in a highly regulated environment, characterised by an administered interest rate structure, quantitative restrictions on credit flows, fairly high reserve requirements and pre-emption of significant proportion of lendable resources for the priority and Government sectors. While the quantitative restrictions resulted in credit rationing for the private sector, interest rate controls led to sub-optimal use of credit resulting in low levels of investment and growth. These, coupled with other factors such as the absence of proper accounting, transparency and prudential norms, resulted in a large build-up of non-performing assets in the banking system. The resultant 'financial repression', led to erosion of profitability in the banking sector, besides decline in productivity and efficiency. The bank-based and highly controlled regime turned out to be inimical to financial market development.

6.9 In the context of the balance of payments crisis of 1991, a comprehensive structural and financial sector reform process was initiated in India as recommended by the Committee on the Financial System (Chairman: M. Narasimham, 1991) which became the starting point for gradual deregulation of the financial sector and development and integration of various segments of the financial market. Measures were initiated to streamline functioning of the financial system to create a sound, competitive and efficient banking system capable of meeting the increasing challenges of liberalisation and globalisation. Some of the major structural changes in the financial sector comprised removal of barriers to entry, introduction of free pricing of financial assets in most of the segments, relaxation of quantitative restrictions, new methods of floatation/ issuance of securities, increase in the number of instruments, enlarged participation, improvement in trading, clearing and settlement practices, improvement in the informational flows, transparency and disclosure practices. Simultaneously, measures were initiated since 1992-93 to strengthen the banking system by putting in place capital adequacy requirements, asset classification and provisioning norms, asset-liability management systems and risk management systems. Such measures contributed towards growing competition in the banking sector and integration of the money, foreign exchange and Government securities markets and they have been integrated into the overall deregulation process of the financial sector.

The Role of Reserve Bank of India

6.10 The role of the Reserve Bank in the financial markets assumed significance due to the following factors: First, the primary interest of the Reserve Bank in financial markets is because of its criticality in the transmission of monetary policy. From an operational perspective, reliance on indirect instruments and money market operations for conducting monetary policy necessitated development of the money, Government securities and foreign exchange markets. Second, financial stability has emerged as one of the increasingly important concerns for the Reserve Bank resulting in increased attention to financial market development. The money market is the focal point for Reserve Bank intervention for equilibrating short-term liquidity flows on account of its linkages with the foreign exchange market. The Government securities market has become the focal point for the entire debt market due to several considerations: First, the fiscal deficit of the Government, both Centre and the States, continues to be fairly high, resulting in large market borrowings by the Central and State Governments. With the corporate debt market still in its nascent stage of development, the Government securities market is the largest component of the debt market. Second, it serves as a benchmark for pricing of other debt market instruments. Third, it provides an efficient transmission channel for monetary policy. The Reserve Bank's attention to the foreign exchange market development is primarily directed towards imparting stability to the exchange rate.

6.11 The stake of the Reserve Bank in the financial markets arises on account of several reasons: First, the Reserve Bank as a monetary authority is most concerned with the transmission of monetary policy. Second, it must be recognised that India is neither a closed economy nor an open economy. In reality, India is an opening economy and a careful management of the process of opening is critical for growth and stability (Reddy, 2005). Third, since the markets were repressed in several ways in the past by law, regulation and policies, the Reserve Bank has, therefore, been facilitating the development of markets by creating an enabling environment through legal changes, technological and institutional development and dynamic improvements in market micro-structure. Fourth, the regulation of some of the financial markets is warranted by virtue of the Reserve Bank's Charter. This relates to the money market, which is central to monetary policy, the Government securities market which is significant from the point of view of developing a yield curve, and the forex market which is integral to external sector management. The amendments to the Securities Contract Regulations Act and Government notifications thereunder giving jurisdiction to the Reserve Bank has helped in formalising this aspect. Fifth, technological infrastructure has become an indispensable part of the reform of the financial markets, with the gradual development of sophisticated instruments and innovations in market practices. The Reserve Bank has, therefore, taken active interest in developing appropriate technological infrastructure to facilitate market development in areas such as payment and settlement systems, Delivery *versus* Payment (D*v*P) and Electronic Funds Transfer (EFT). Last though not the least, modern financial markets are complex. The Reserve Bank, therefore, needs to equip and continuously update itself to perform its developmental and regulatory roles effectively. The process involves constant interaction with the global counterparts in order to identify best practices, benchmark existing practices in the Indian markets, identify gaps and take measures to move towards international standards, within the framework of India's unique country circumstances.

Structure and the Growth of Financial Markets in India

6.12 The financial sector in India currently comprises financial institutions, financial markets and financial instruments. The various segments of the financial market in India are the credit market, the money market, the Government securities market, the foreign exchange market, the capital market and the insurance market. While the money, Government securities and foreign exchange markets are regulated by the Reserve Bank, the capital market falls within the purview of Securities and Exchange Board of India (SEBI) and the insurance market is regulated by the Insurance Regulatory and Development Authority (IRDA). Several measures have been taken by the Reserve Bank over the years and by the SEBI (during the 1990s) for developing these markets.

6.13 On account of the relatively underdeveloped nature of the financial markets till the 1990s, firms to a large extent depended on financial intermediaries for meeting their funds requirement. Existence of segmented markets tended to obscure the transmission of monetary policy impulses that result in sub-optimal allocation of resources (Kamesam, 2001).

6.14 Financial market reform in India is thus, a more recent phenomenon and formed an important component of the overall financial sector and structural reform process initiated in the early 1990s. Financial market reform in India has followed a well calibrated approach. As a matter of fact, the reform process started from the mid-1980s with initiation of several measures following the recommendations of the Committee to Review the Working of the Monetary System in India, 1985 (Chairman: Sukhamoy Chakravarty) and the Working Group on the Money Market, 1987 (Chairman: N. Vaghul). The process, however, gathered momentum in the early 1990s with wide ranging reforms in all segments (money, forex and Government securities) of the financial market. A gradual approach to market reform has been followed in India so as to avoid destabilising effects.

6.15 The general approach to financial sector and market reform in India has been a transparent, collaborative and consultative process aimed at resolving many possible dilemmas. The reform process itself was characterised by caution with a tilt towards preserving stability, careful sequencing of measures, mutually reinforcing monetary measures and ensuring consistency and complementarity with other policies. Further, reform in the financial markets has always been undertaken within the overall monetary policy framework and is coordinated with reforms in the money and foreign exchange markets. Many of the major reforms have been implemented in phases, allowing for transition so as not to destabilise market conditions or any group of participants or the financial system in general (Reddy, 2005).

6.16 The development of the money and Government securities markets in India was triggered by three major developments. First, the replacement of automatic funding of the Government deficits through *ad hoc* Treasury Bills (which carried a fixed coupon rate of 4.6 per cent per annum from December 1974) by Ways and Means Advances (WMA) at interest rates linked to the Bank Rate in 1997 which led to greater market financing of fiscal deficit and fostered the development of the Government securities market. Second, the introduction of an enabling institutional and legal framework and the development of an array of indirect instruments of monetary control such as the Bank Rate (re-activated in April 1997), the strategy of combining auctions, private placements and open market operations in Government paper since 1998-99 and the liquidity adjustment facility (LAF) (instituted in June 2000) contributed significantly to financial market development (Reddy, 2000). Third, the setting up of an appropriate legal, institutional, technological and regulatory framework has helped in increasing liquidity and transparency across different segments of the financial market.

State of the Financial Markets in India

6.17 The evolution of the financial markets in India has been a gradual process and is broadly categorised into pre-reform period (*i.e.*, before 1990s when markets were in a state of inertia/transition) and reform/post-reform period (since the early 1990s when markets were characterised by large scale and rapid reform).

Money Market

6.18 Money market is the most important segment of the financial system as it provides the fulcrum for equilibrating short-term demand for and supply of funds, thereby facilitating the conduct of monetary policy. It is a market for short-term funds with a maturity of up to one year and includes financial instruments that are close substitutes for money. The money market is generally expected to perform three broad functions: (i) it provides an equilibrating mechanism to even out demand for and supply of short-term funds; (ii) it also presents a focal point for central bank intervention for influencing liquidity and general level of interest rates in the economy; and (iii) it provides reasonable access to providers and users of short-term funds to fulfil their borrowing and investment requirements at an efficient market clearing price (Vaghul, 1987).

6.19 There is no demarcated distinction between the short-term money market and the long-term capital market, and in fact there are integral links between the two markets as the array of instruments in the two markets invariably form a continuum (Vaghul, 1987). The Reserve Bank is the most important constituent of the money market. Owing to its implications for conducting monetary policy, the money market falls under the direct purview of regulation of the Reserve Bank. The primary objective of the Reserve Bank's operations in the money market has been to ensure that short-term interest rates and liquidity are maintained at levels which are consistent with the overall monetary policy objectives, *viz.,* maintaining price stability, ensuring adequate flow of credit to the productive sectors of the economy and maintaining orderly conditions in the financial markets. Liquidity and interest rates in the system are influenced by the Reserve Bank through the use of various instruments at its disposal such as cash reserve ratio, standing facilities/refinance schemes, repo and reverse repo transactions, changes in the Bank Rate, open market operations, and some times through foreign exchange swap operations. Recognising the important role of the market in the monetary policy process, the Reserve Bank has taken active interest in continuously refining the money market instruments in order to have greater control over the liquidity in the system and for creating an efficient mechanism to impart interest rate signals.

Pre-Reform Period

(i) 1930s to 1960s

6.20 The Indian money market during the period was characterised by paucity of instruments, lack of depth and dichotomy in the market structure. The inter-bank call money market was the core of the Indian money market. Before the creation of the Reserve Bank in 1935, the money market consisted of two fairly distinct sectors, *viz*., the organised and unorganised sectors (SBI, 2003). While the organised sector consisted of the Imperial Bank of India – a quasi-central bank till 1935, the Indian joint-stock banks and the exchange banks, the indigenous bankers such as the shroffs, money lenders, chetties, multanis, nidhis, chit funds, *etc*. formed the unorganised part. Cooperative credit institutions occupied an intermediate position between the two sectors. The Imperial Bank, the foremost commercial bank of the country and a few of the leading Indian joint-stock banks discounted *hundis* (internal bills of exchange). This was the main credit instrument of the unorganised sector which provided the only link between the two sectors. Owing to the absence of a proper central bank, the money market was characterised by sharp imbalances between the supply and demand for funds, wide fluctuations in interest rates during the busy and slack seasons and marked regional variations in interest rates. The Imperial Bank could not, however, lend stability to the money market as it had to borrow from the Government at high rates of interest. Nevertheless, the bank rendered assistance to the money market by using the large Government balances at its disposal, which constituted its major investible resources.

6.21 The Imperial Bank acted as the bankers' bank, though not statutorily, till 1935 and held the balances of other banks (both Indian and exchange) and also granted accommodation to them when in difficulty or during periods of tight money conditions. (This position remained unchanged even after 1935 at regions where the Reserve Bank had not set up offices). Advances were generally granted by way of demand loans against the Government or other gilt edged securities, though at times these were also in the nature of overdrafts.

6.22 The Bank Rate was the prime lending rate at which the Imperial Bank generally advanced money against Government securities. This rate was determined by the Committee of the Central Board of the Imperial Bank and depended on the demand for money which in turn was determined almost entirely by the requirements of trade, particularly foreign trade, in staple commodities such as foodgrains, raw cotton, raw jute and jute manufactures. The rates of interest on loans, including the Bank Rate, fluctuated according to the ebb and flow of this trade. The Imperial Bank would usually not reduce the Bank Rate when its cash to liabilities ratio (an indication of liquidity) was found to be low. Apart from the Bank Rate, the Imperial Bank also periodically announced a *hundi* rate, which was generally equal to or slightly higher than the Bank Rate. Through the rates which the Imperial Bank charged on its advances and the discount of *hundis,* and by its willingness or refusal to extend financial assistance, it could profoundly influence the provision of credit as well as money market rates.

6.23 As early as in 1931, the Indian Central Banking Enquiry Committee (1931) had underscored the need for integration of the two sectors of the Indian money market. It had recommended linking of indigenous bankers satisfying certain conditions such as minimum capital and reserves, nature of business, having audited accounts *etc*., with the Reserve Bank. Subsequently, the Reserve Bank drew up a scheme in August 1937 for inclusion of indigenous bankers doing banking business under the Second Schedule of the Reserve Bank Act, 1934.

6.24 After the formation of the Reserve Bank in 1935, the organised market comprised the Reserve Bank, the Imperial Bank of India, foreign banks and the Indian joint stock banks. *Quasi*-Government bodies and large-sized joint stock companies also participated in the money market as lenders, the money lent by them being usually termed as 'house money' (RBI, 1958). Financial intermediaries such as call loan brokers, general finance and stock brokers also functioned in the market. Although the magnitude of funds dealt within the call market was not large in relation to the deposit resources of banks, it was the most sensitive segment of the money market. The Imperial Bank of India did not participate in the call money market, but other banks obtained loans and advances from it. Subsequently, however, banks increasingly shifted their demand for accommodation to the Reserve Bank. Besides the call money market, there was no other significant segment in the market.

6.25 With the creation of the Reserve Bank of India in April 1935, the task of determining the Bank Rate was taken over by it from the Imperial Bank. It was on July 4, 1935, *i.e.*, the day before the scheduled banks were to lodge their statutory deposits with the Reserve Bank, that the Bank Rate of 3.5 per cent was officially announced for the first time by the Reserve Bank. It was the standard rate at which the Reserve Bank was prepared to buy or re-discount bills of exchange or other eligible commercial papers. Subsequently, the official rate of the Imperial Bank was redesignated as the Imperial Bank advance rate (as distinct from the Imperial Bank *hundi* rate), which was to be the rate for advances against Government securities and the benchmark for the calculation of interest on other advances on which a fluctuating rate of interest was charged. In order to serve the economy in general and the rural sector in particular, the All-India Rural Credit Survey Committee recommended the creation of the state-partnered and state-sponsored bank by taking over the Imperial Bank of India, and integrating with it, the former state-owned or state-associate banks. An Act was, accordingly, passed in the Parliament in May 1955 and the State Bank of India was constituted on July 1, 1955.

6.26 Though the Reserve Bank was empowered, under the statute, to use the usual instruments of monetary policy, the choice of the instruments of monetary control that could be used was limited by the structural characteristics of the money market. An important aspect of the money market in India was the seasonality in the demand for money and credit which broadly followed the course of the agricultural season. The incidence of closing of accounts of the Government at the end of the financial year in March also added to the element of seasonality in the money market.

6.27 The money market structure in India, loose as it was, however, was not entirely uncoordinated (RBI, 1958). The indigenous bankers enjoyed rediscount facilities from the Imperial Bank of India and other commercial banks which, in turn, had access to the Reserve Bank. Recourse on the part of the indigenous money market to the resources of the organised market took place usually during the busy season when the crops were being harvested and moved from the producer to the wholesaler. At around the time the Reserve Bank was established, the unorganised money market was the most important segment accounting for as much as 90 per cent of the transactions. Since then, its importance in overall terms fell considerably. But for certain sectors such as agriculture, retail trade, various classes of small borrowers and also to an extent small scale industry, this market continued to remain an important source of finance, its chief advantages being flexibility in operations and ease of access to the borrowers. But these advantages were more than offset by the highly onerous terms on which resources were made available to the borrowers. One of the most important objectives of policy at that time was, therefore, to devise methods to facilitate the flow of credit to these sectors from the organised sector and to provide it on reasonable terms.

6.28 Rediscounting bills were among the most important instruments of credit control and the Indian Central Banking Enquiry Committee (1931) had recommended early establishment of a market in commercial bills. No steps could, however, be taken by the Reserve Bank in this direction until the beginning of 1952 because of the War and the difficulties arising out of the partition of the country. The Bill Market Scheme was finally introduced on January 16, 1952. Under the scheme, the Reserve Bank made advances to scheduled banks in the form of demand loans against their promissory notes supported by 90 days usance bills or promissory notes of their constituents. It was primarily a scheme for providing accommodation to banks. The scheme, however, did not succeed in developing a market in genuine bills.

6.29 The short-term control measures were intended to regulate the amount and cost of temporary accommodation to the banks during the busy season; and for holding inventories of essential commodities. For short-term control, the access of commercial banks to the Reserve Bank was regulated by the Net Liquidity Ratio (NLR) System[1]. The long-term control measures were aimed at bringing about the desired directional changes in credit flows and in the cost of credit to the different sectors.

6.30 Over the years, the Reserve Bank had, through its loan and open market operations, succeeded to a considerable extent in reducing the level of interest rates in general and call money and bazaar bill rates in particular, as also in mitigating the seasonal fluctuations in interest rates, which had been a marked characteristic of the Indian money market, prior to the Reserve Bank's establishment.

(ii) 1970s and 1980s

6.31 The money market during the 1970s and 1980s was also characterised by poor liquidity, the paucity of instruments and limited number of participants. The major features of the Indian money market during the period were :

(a) Restricted market with a narrow base and limited number of participants – banks and two all India financial institutions. The entry into the market was tightly regulated. Moreover, the market was lopsided with a few large lenders and a large number of borrowers. The market lacked participants who could make for an active market by alternating between lending and borrowing.

(b) The overall size of the market was also very small relative to the size of the economy – overall transactions barely formed 3 to 4 per cent of the bank deposits.

(c) The market was also characterised by paucity of instruments and dealings were generally confined to overnight call and short notice (up to 14 days), inter-bank deposits/ loans, Repo market and bills rediscounting.

(d) The interest rates in the market were also tightly regulated and controlled (by a voluntary agreement between the participants through the Indian Banks' Association (IBA) intermediation). However, during periods of tight liquidity, the prescribed rates were not strictly adhered to, and more often breached (Vaghul 1987).

6.32 Owing to the above features, the unorganised money market used to meet the sectoral financing gaps (*i.e.,* the requirements of unsatisfied borrowers in the organised financial system). Interest rates in the unorganised sector were higher than those in the organised sector and were more market-related. The call money market, the dominant market, was strictly an inter-bank market till 1971 when the UTI and LIC were allowed to operate in the market. While commercial and cooperative banks participated as both lenders and borrowers, LIC and UTI, institutions with a sizeable short-term float funds, were permitted to lend in order to augment the supply of funds in the market. The overnight call/term money had traditionally facilitated banks in maintaining reserve requirements. Thus, in the 1970s and 1980s, call money market in India remained basically "an over the counter (OTC) market" as brokers were not permitted in the market – (Until March 1978, call money market transactions could be undertaken through brokers. Since then, banks were prohibited by the Reserve Bank, from paying brokerage on call money market operations as it had stopped payment of brokerage on deposits).

6.33 Prior to December 1973, the call market rates were freely determined by the market but as the rates touched a high of 25 to 30 per cent and remained at that level, the IBA intervened and brought some order in the market as it was felt that high interest rate over long periods would distort the entire banking system operations and would also militate against the basic objectives of planned credit allocation under an administered structure of lending rates. A ceiling of 15 per cent on call money rate was fixed by the IBA in December 1973; the ceiling was, however, reduced in phases to 8.5 per cent by March 1978. The resurgence of inflationary pressures and the sharp upward movement in administered interest rates in 1979-80 necessitated increase in the ceiling on call rates to 10 per cent in April 1980.

6.34 The volume of business in the call money market which was Rs.573 crore in 1982-83 (average borrowings of banks), increased to Rs.1,067 crore by 1985-86. The inter-bank term deposits/loan market, where funds were lent out for periods of over 14 days was also equally under-developed. The participants in the market were commercial and cooperative banks. Interest rates in the market were not governed by any Reserve Bank directive. However, the IBA had fixed ceiling rates for inter-bank transactions. During periods of tight liquidity, interest rates ceilings in the market were breached

[1] The NLR was the proportion of a bank's cash, balances with the Reserve Bank, current account deposits in the notified banks and investments in Government and other approved securities less its total borrowings from the RBI, SBI and IDBI to its aggregate demand and time liabilities.

as in the case of call money. The volume of transactions in the market ranged between Rs.420-1,000 crore in 1985-86.

6.35 In well-developed money markets, Treasury Bills are generally an integral part of money market operations. In the Indian context, however, the role of Treasury Bill (an instrument of short-term borrowing by the Government) as a money market instrument was largely attenuated because of certain historical developments (Vaghul, 1987). First, the substantial Treasury Bill creation which reflected Government deficits, had largely remained unfunded over the years and the bulk of Treasury Bills were held by the Reserve Bank. Second, the discount rate on 91 day Treasury Bills had remained unchanged at 4.6 per cent since 1974 and moreover, this rate was totally out of alignment with other short-term rates. Third, as these Bills were freely rediscounted by the Reserve Bank, the banks used the Treasury Bill market essentially for parking funds for very short periods of one to two days and given the stipulation of the cash reserve ratio (CRR) as an average for a fortnight, there were very large and volatile fluctuations in investments of banks in Treasury Bills as also the banks' cash balances with the Reserve Bank. These violent fluctuations were entirely counter- productive and gave wrong signals for monetary management. Accordingly, to overcome the problems, two measures were taken by the Reserve Bank, *i.e.*, the recycling of Treasury Bills and the introduction of an additional early rediscounting fee.

6.36 A new scheme called the Bills Rediscounting Scheme was introduced with several new features in November 1970 under which the Reserve Bank rediscounted genuine trade bills at the Bank Rate or at a rate specified by it, at its discretion. Over the years the rediscounting facility was made restrictive and made available on a discretionary basis. The other instrument in the money market was participation certificates (introduced in 1970). Both of these were, however, not significant.

6.37 The Chakravarty Committee (1985) was the first to make comprehensive recommendations for the development of the Indian money market. This was followed by the Vaghul Committee set up by the Reserve Bank to specifically examine various aspects for widening and deepening of the money market. Following the recommendations of these two Committees, several new initiatives were taken. Instruments such as the Certificates of Deposit (CDs introduced in 1989), Commercial Paper (CP introduced in 1989), inter-bank participation certificates (with and without risk) were introduced to increase the range of instruments. Certificates of Deposit are basically negotiable money market instruments issued by banks and financial institutions during tight liquidity conditions. Smaller banks with relatively smaller branch networks generally mobilise CDs. As CDs are large size deposits, transaction costs on CDs are lower than retail deposits. The Discount and Finance House of India (DFHI) was set up in 1988 to impart liquidity to money market instruments and help the development of secondary markets in such instruments. The DFHI was jointly set up by the Reserve Bank, public sector banks and financial institutions. The Reserve Bank, however, disinvested its shareholding in DFHI in March, 2003. To enable price discovery, interest rates in the money market were freed in 1989. In the case of call money, the rates were deregulated in stages. Interestingly, money market rates were freed in India before the deregulation of deposit and lending rates of banks.

6.38 Repurchase Agreements (Repo), a short-term money market instrument is used for smoothening volatility in money market rates by central banks through injection of short-term liquidity into the market as well as absorbing excess liquidity from the system[2]. Being a money market instrument, regulation of the repo market falls under the Reserve Bank's jurisdiction. Accordingly, the Reserve Bank has been concerned with use of repo as an instrument by banks or non-bank entities and issues relating to type of eligible instruments for undertaking repo and eligibility of participants to undertake such transactions and it has been issuing instructions in this regard to banks, in consultation with the Central Government. In India, banks often entered into buy back arrangements in respect of Government and other approved securities and PSU bonds among themselves and with their large public sector and corporate clients until April 15, 1987 when the Reserve Bank issued certain guidelines, *inter alia*, by prohibiting buy back arrangements in respect of corporate securities and bonds issued by public sector undertakings. From December 1, 1987 the units of Unit Trust of India were not eligible as approved security for the purpose of entering into repo transactions. In order to ward off any undesirable developments following the detection of large scale misuse of repos, banks were prohibited from entering

[2] Repo arrangements do not necessarily involve the central banks; they can be among market participants.

into buy back arrangements in Government and other approved securities with non-bank clients, while they could enter into buy-back arrangements with other banks (inter-bank) with effect from April 4, 1988.

Reform/Post- Reform Period (1990s)

6.39 The money market in India witnessed significant progress particularly from the mid-1990s, in terms of refinements in money market instruments, introduction of new instruments and supplementary measures to add depth and liquidity to the market. The money market instruments in India during the period mainly consisted of: (i) Call/ Notice Money, (ii) Term Money, (iii) Certificates of Deposit, (iv) Commercial Paper, (v) Treasury Bills, (vi) Repurchase Agreements (Repos), (vii) Interest Rate Swaps/Forward Rate Agreements, and (viii) Rediscounting of commercial bills scheme.

6.40 During the 1990s, the participation in the call money market was widened to cover primary and satellite dealers and corporates (through primary dealers) besides other participants. While banks and primary dealers are permitted to lend and borrow in the market, other entities could participate only as lenders. Following the recommendations of the Narasimham Committee (1998) and the Reserve Bank's Internal Working Group to Examine the Development of Call Money Market (1997), steps were initiated to reform the call money market and make it a pure inter-bank market, in a phased manner starting in 1999. With the development of the repo market since the late 1990s, the call money market has gradually been transformed into a pure inter-bank market including primary dealers. This process, which was initiated in 1999, was completed in August 2005.

6.41 A significant development in the Indian money market has been the introduction of Rupee derivatives, *i.e.*, Interest Rate Swaps (IRS)/ Forward Rate Agreements (FRA), in 1999 to further deepen the money market and enable market participants to hedge their risks. In addition to several other measures taken since its introduction, with effect from May 20, 2005, market participants were advised to use only domestic Rupee benchmarks for interest rate derivatives. Market participants were, however, given a transition period of six months for using Mumbai Inter-bank Forward Offered Rate (MIFOR) as a benchmark, subject to review. However, on request from the Fixed Income Money Market and Derivatives Association (FIMMDA), market participants have been allowed to use MIFOR swaps in respect of transactions having underlying permissible forex exposures, for market making purpose, subject to appropriate limit as may be approved by the Reserve Bank.

6.42 The repo market suffered a major setback due to the securities irregularities of 1992. The Janakiraman Committee, set up in the wake of the securities market irregularities reported that there existed a thriving market for repos and virtually all wholesale participants of the money market and not only banks, used repo transactions widely, despite there being an explicit prohibition on their use. After the detection of the irregularities, the Reserve Bank imposed a ban on ready forward deals and banks were prohibited from undertaking repos in Government dated securities and approved/trustee securities from June 22, 1992. Repos in Treasury Bills were, however, exempted from prohibition. Double ready forward deals, including those in Treasury Bills were also strictly prohibited and the ban was extended to financial institutions as well. Justice Variava's judgement was of great significance in the context of development of the repo market in India as it held that all repo transactions undertaken by banks and other institutions were illegal and void as they were prohibited under Section 16 of the Securities Contract Regulation Act (SCRA), 1956 and Government's notification dated June 27, 1969[3]. In order to legally facilitate the repo transactions, the Reserve Bank had to take up the issue with the Government to exempt banks and such of those entities deemed necessary by the Reserve Bank, from the prohibition contained in the notification. Amending the Notification which prohibited forward transactions in securities, the Government issued notifications by virtue of which banking companies, cooperative banks, Primary Dealers (by name) and Satellite Dealers (by name) were permitted to undertake ready forward transactions in specified securities, provided the transactions were settled through SGL Accounts maintained at the Public Debt Office, Mumbai. Further, non-bank entities as notified by the Central Government were permitted to undertake reverse repos only.

6.43 Several reforms were undertaken in the repo market since 1999, by way of widening of participants and instruments, institutional development and by bringing uniformity in trading and accounting practices with the help of FIMMDA. A Clearing Corporation of

[3] Report on Repurchase Agreements (Repos), Reserve Bank of India, August 6, 1999.

India Ltd. (CCIL) was set up to make the repo operations efficient, with adequate safeguards. The turnover in the repo market has shown an increasing trend on account of various factors such as limits placed on eligible market participants relating to call/ notice money transactions, introduction of D*v*P III, permitting rollover of repo and market repo rate ruling below the call rate during certain periods. Effective February 23, 2003, based on the advice of the Technical Advisory Committee (TAC) on Money and Government Securities Markets, repo eligibility was extended to select category of non-SGL account holders with adequate safeguards to ensure delivery *versus* payment and transparency. Also effective May 11, 2005, participation in market repo facility has been extended to non-scheduled urban cooperative banks and companies having gilt accounts with scheduled commercial banks, subject to certain eligibility criteria and safeguards. Collateralised Borrowing and Lending Obligations (CBLO) has also emerged as a promising instrument in the money market with a sharp increase in volumes. CBLO is unique to India. It was launched by CCIL in January 2003 for the benefit of non-bank participants who were either phased out of the inter-bank call money market or were given restricted access to the market or were unable to get fair quotes from larger market participants.

6.44 In India, CP is issued by well rated corporates and financial institutions in accordance with the terms and conditions set out by the Reserve Bank. Over the years, there has been a substantial relaxation in the conditions relating to issuance of CP. Banks are the major investors in CP. Liquidity in the banking system and the differential between CP rate and banks' Prime Lending Rates (PLRs) have been the main drivers of CP market in India. Banks have at times arbitraged between the call and the CP market by borrowing from the former market and lending in the latter as inter-bank call rates have generally tended to be lower than CP rates. Corporates in India have preferred to resort to CP issuance as against borrowings from banks when money market rates were below the PLRs of banks. Active secondary market for CP could not emerge in India due to the preference of investors to hold the instrument upto maturity owing to higher risk adjusted returns as also the differences in stamp duty between different investors and the States.

6.45 Important measures taken to activate the CP market were the delinking of CP from the cash credit limit in October 1997, further conversion of CP into a stand-alone product in October 2000 and trading of CPs in dematerialised form which helped to lower transaction costs and reduction in stamp duty effective March 1, 2004. Large investment interest by mutual funds on account of Reserve Bank's guidelines on non-SLR debt securities and also policy induced phasing out of leasing and finance companies from accessing public deposits also spurred the CP market.

6.46 Since its introduction in 1989, several initiatives were taken by the Reserve Bank to provide flexibility and depth to the CD market. Secondary market for CDs has not developed in India due to the preference of holders to hold the instrument upto maturity due to the higher interest rates offered on it relative to retail deposits. The flexibility of CDs has improved over the years through measures such as reduction in the minimum lock-in period, amount of issue and preferring dematerialised form.

6.47 In the recent period, following, *inter alia,* the recommendations of the Technical Group on Money Market (May 2005), the focus and policy thrust of the Reserve Bank in the money market has been towards encouraging the growth of collateralised market, developing the rupee yield curve, ensuring transparency and better price discovery, providing avenues for better risk management and strengthening monetary operations. In the near future, there are several areas of the money market on which the Reserve Bank would need to focus. Though repo has emerged as a major money market instrument, the implementation of the FRBM is likely to reduce the supply of Government paper calling for broad-basing the pool of securities to act as collateral for repo and CBLO markets. There are various issues relating to the OTC derivatives such as ambiguity over legality of such contracts, absence of netting laws, *etc*. In this context, amendment of the Reserve Bank Act, 1934 to provide legal clarity to OTC derivatives assumes significance as it could lead to further development of the market.

6.48 To enable orderly development of the money market, prudential limits have been set on borrowing and lending in the call money market for different categories of participants based on different benchmarks. The feasibility of migrating from different benchmarks to standardised benchmark needs to be explored. Further, with improvements in the Asset Liability Management (ALM) framework and risk management systems, the possibility of allowing more flexibility to banks and Primary Dealers (PDs) in the call/notice money market as warranted by balance-sheet structure may have to be examined.

Money Market Activity

6.49 The call/notice money market which formed the core segment of the Indian money market for many decades has gradually been giving way to other instruments such as the IRS/FRAs,repos, CP, CBLO and CDs (Table 6.1). The daily average turnover in the call money market, which stood at around Rs.35,144 crore in 2001-02 almost halved to Rs.14,170 crore in 2004-05, reflecting, *inter alia* the conscious decision on the part of the Reserve Bank to make the call/notice money market a pure inter-bank market.

6.50 Since the early 1990s, call rates have fluctuated widely depending upon the liquidity conditions in the system. The average call money rate which ranged between 7 per cent (1993-94) and 17.7 per cent (1995-96) during the early 1990s fluctuated in a narrow range of 4.6 per cent to 9.2 per cent between 2000-01 to 2004-05 reflecting, *inter alia,* the comfortable liquidity in the system as also the success of the Reserve Bank's liquidity adjustment policy through LAF. Several factors like the overall liquidity, Government's borrowing programme, growth in non-food credit, capital flows, tax outflows, seasonal factors (large currency drawals) and the Reserve Bank's market operations (open market operations, repo/reverse repo, refinance/standing facilities, cash reserve ratio) influence the call money market. While historically, statutory preemptions (CRR/SLR requirements) and reserve maintenance period were major factors that influenced the call money rates in India, with the gradual opening up of the economy since the early 1990s and the integration of the various segments of the financial markets, call rates have tended to be influenced by developments in the forex, the Government securities and at times, the capital market.

6.51 The term money market which is the market for short-term funds of over 14 days has not yet developed not withstanding several measures taken in the past. Despite the fact that banks were exempted from the maintenance of CRR and SLR on inter-bank liabilities from April 19, 1997, the average daily turnover in the term money market has not increased substantially.

6.52 Banks issue CDs, particularly, during periods when the demand for credit is high. CD issuance has fluctuated widely since 1993. With the tightening of liquidity conditions and increased demand for bank credit, CD issuance has picked up sharply during 2005 (Outstanding amount was Rs.30,445 crore on December 9, 2005 (Chart VI.1).

Chart VI.1: Certificates of Deposit

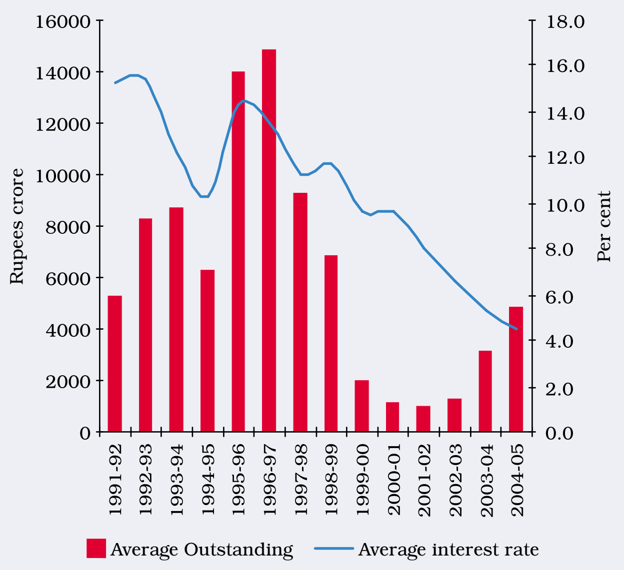


Table 6.1: Activity in the Money Market

(Rupees crore)

Year	Average Daily Turnover			Outstanding Amount*			Forward Rate Agreements/ Interest Rates Swaps (Notional Amount)	Commercial Bills Rediscounted by Commercial Banks
	Call Money Market	Term Money Market	Repo Market (Outside the LAF)	Collateralised Borrowing and Lending Obligations (CBLO)	Commercial Paper	Certificates of Deposit		
1	2	3	4	5	6	7	8	9
1999-00	23,161	–	6,895	–	7,014	1,908	–	–
2000-01	30,423	–	10,500	–	6,751	1,199	18,014	–
2001-02	35,144	195	30,161	–	7,927	949	50,503	–
2002-03	29,421	341	46,960	30	8,268	1,224	1,50,039	417
2003-04	17,191	519	10,435	515	7,835	3,212	3,74,631	515
2004-05	14,170	526	17,135	6,780	11,723	6,052	8,12,500	355

* end-March.

Source : Handbook of Statistics on Indian Economy; Annual Report, RBI, various issues.

Chart VI.2a: Commercial Paper

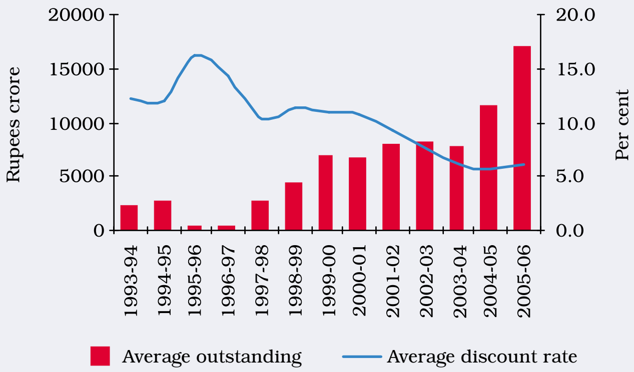
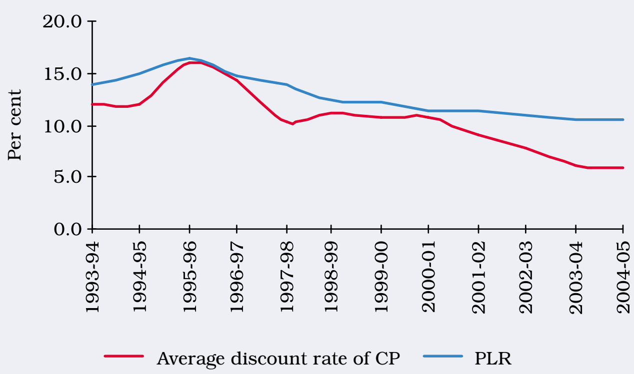


Chart VI.2b: Average Discount Rate of CP v/s PLR



6.53 The steady increase of CDs has been on account of several factors such as the revised guidelines by the Reserve Bank on investments by banks in non-SLR debt securities, reduction in stamp duty on CDs effective March 1, 2004, withdrawal of tax deduction at source, disallowing premature closure of deposits under CDs *vis-à-vis* alternative competing instruments such as fixed deposits and greater opportunity for secondary market trading. On the demand side, the Securities and Exchange Board of India placing a bar on mutual funds (MFs) from parking funds in bank deposits coupled with improved funds position with MFs provided an impetus to the CD market. An encouraging development in the CD market is that some of the top rated banks have been getting their CDs rated for better access to the market even when such rating is not mandatory under the extant guidelines.

6.54 Issuance of CP by corporates has also picked up rapidly since 2003-04. The outstanding amount of CP increased sharply from Rs.577 crore in end-March 1993 to Rs.1,500 crore at end-March 1998 and stood at Rs.17,180 crore at end-December, 2005.

6.55 It has been observed that corporates resort to CP issues when the money market rates are generally lower than the bank's PLR. This is reflected in the fluctuating volumes (Chart VI.2a & VI.2b).

6.56 As mentioned earlier, a remarkable development in the Indian money market has been the introduction of Rupee Interest Rate Swaps/ Forward Rate Agreements in 1999 to enable market participants to hedge their risks and also facilitate the emergence of a rupee yield curve. The popularity of these instruments is evident from the fact that within a very short span, the volumes in the market (notional principal amount) increased by leaps and bounds from around Rs.18,014 crore at end-March 2001 to over Rs.13,15,306 crore by September 2005.

6.57 The repo market (market repo) is another segment of the money market, which has grown significantly as it has emerged as one of the most important alternative instrument for parking short-term funds with the gradual move towards a pure inter-bank call/notice money market. Notwithstanding some fluctuations, the average daily turnover in the repo market had increased sharply, particularly since 2001-02 and touched a peak in 2002-03. Thereafter, it declined and stood at around Rs.17,135 crore in 2004-05.

6.58 In sum, in recent years, the Reserve Bank's approach has been to foster balanced development of different segments of the money market, introduce new instruments and make the existing instruments more flexible, reduce dependence of participants on uncollateralised exposures, facilitate price discovery in the short-end and upgrade the payment system infrastructure. Accordingly, the Reserve Bank's strategy has focused on developing pure call/notice money market, instituting full-fledged Liquidity Adjustment Facility, developing infrastructure, promoting transparency, and initiating various measures pertaining to instruments for non-bank participants. Following the various initiatives taken by the Reserve Bank over the years, the depth and liquidity in the money market has increased significantly.

Government Securities Market

6.59 The Government securities market in India forms an overwhelming part of the overall debt market. Interest rates in this market provide benchmarks for other segments of the financial market. Historically, the impetus for development of the Government securities market in India has come from the large Government borrowing requirements while an additional reason during the 1990s was the increased capital flows and the need for sterilisation. The Reserve Bank used domestic eligible marketable bonds from its portfolio whenever it wanted, to sterilise the monetary expansion.

Legal Basis

6.60 The legal basis for Reserve Bank's operations in the Government securities market is provided by Sections 20, 21 and 21A of the Reserve Bank of India Act, 1934, according to which the Bank is entrusted with the function of management of public debt and issue of new loans of the Union Government and State Governments. The provisions of the Public Debt Act, 1944 also enjoin upon the Reserve Bank the responsibility of administration of the public debt. The functions include issuance of new loans, payment of interest every half year, retirement of rupee loans and all matters pertaining to debt certificates and registration of debt holdings.

6.61 The Reserve Bank actively operates in the gilt-edged market in order to create orderly conditions in the market by influencing the prices and yields of securities. Under Section 17(8) of the Reserve Bank of India Act, 1934, the Reserve Bank is authorised to purchase and sell securities of the Union Government or a State Government of any maturity and the security of a local authority specified by the Central Government on the recommendations of the Central Board. In fact, this section provides the legal setting for the conduct of open market operations. However, at present the Reserve Bank deals only in the securities issued by the Central Government and not in those of State Governments and local authorities. The Reserve Bank derives its regulatory power over the Government securities market from Section 16 of the Securities Contract (Regulation) Act, 1956, under which the Government has delegated the powers exercisable by it to the Reserve Bank.

Pre- Reform Period (1930s to 1980s)

6.62 A deep and liquid Government securities market could not emerge particularly from 1950s due mainly to the heavy borrowing requirements of the Government and the artificially low coupon rates on Government securities which had an impact on the entire yield structure of financial assets in the system. Financing of the budget deficit of the Central Government by the Reserve Bank took place through an arrangement of automatic monetisation through *ad hoc* Treasury Bills. To ensure absorption of the large supply of Government bonds in the face of administered rates, the Reserve Bank mandated maintenance of a minimum statutory liquidity ratio (SLR) whereby the commercial banks had to set aside substantial portions of their liabilities for investment in Government securities at below market interest rates. The market was also characterised by several peculiarities such as voucher trading, switch quotas, cash purchase and separate purchase and sale lists.

6.63 Historically, investors in the gilt-edged securities included individuals as well as financial institutions. Over a period, the gilt-edged market had assumed the nature of captive market with the financial institutions as the major subscribers. Effective from March 16, 1949, banks had to maintain liquid assets in cash, gold or unencumbered approved securities amounting to not less than 20 per cent of their total demand and time liabilities (DTL) under Section 24 of the Banking Regulation Act, 1949. The SLR was the outcome of the action taken to prevent banks from offsetting the impact of variable reserve requirements by liquidating their Government security holdings. The Act was subsequently amended in 1962 requiring all banks to maintain a minimum amount of liquid assets equal to not less than 25 per cent of their DTL in India effective from September 16, 1964. Since 1970, the SLR has been gradually increased with the objective of restricting the expansionary trend in bank credit as also for augmenting banks' investments in Government securities particularly in the context of financing of the Five Year Plans. The Regional Rural Banks and cooperative banks were permitted to maintain the SLR at the minimum of 25 per cent. The SLR was frequently increased in the 1970s touching 34 per cent in December 1978, 35 per cent in October 1981, and further to 38.5 per cent in September 1990.

6.64 One aspect of the financial market structure in India during the pre-reform was the narrowness of the market for Government and semi-Government securities. This meant that there was little scope for using open market operations in Government securities for controlling liquidity. The Reserve Bank's operations in this sphere were, therefore, directed mainly at ensuring orderly conditions in the Government securities market so that there was a reasonable allocation of the available resources between the Central Government, the State Governments and the various other borrowers in the public sector on the one hand, as also the

Government sector and the rest of the economy on the other.

6.65 The practice of tax deduction at source (TDS) on Government securities had led to the practice of voucher trading in Government securities and price distortions in the market. Prevalence of this practice made it necessary for the Reserve Bank to fix quotas in regard to switch transactions, suspension of trading in a particular scrip for one month before the interest due date, *etc*., which to some extent restricted the freedom of the dealers in the market. Furthermore, it created a situation in which the Reserve Bank had to impose limitations on its open market operations. Triangular switches without any ceiling, were also permitted to encourage inter-bank dealings in Government securities and approved brokers were allowed to submit such contracts. However, in reality the banks were utilising the triangular switches, mostly for availing themselves of the income-tax voucher benefit. An Internal Group set up by the Reserve Bank in 1981 had recommended that steps should be taken to stop voucher trading by removing the incentive for such trading. The removal of TDS at source on Government securities market in 1997 put an end to this practice and also heralded the beginning of tax reforms in the debt market.

6.66 The policy pursued initially was to maintain separate lists for purchase and sale transactions and different scrips were included in these lists. Securities with a stock of less than a fixed amount were placed on the list of securities meant for buying and those with a stock of more than that specified amount were put on the sales list. The loans maturing within three years were included in the buying list irrespective of the stock position, so as to enable the Reserve Bank to facilitate conversion of maturing loans. From the point of view of allowing greater freedom to the dealers in the gilt-edged market to manage their portfolio in a flexible manner, it was considered necessary to create conditions, wherein the investors would be able to sell and purchase securities of their choice. The scope for this, given the state of secondary market was rather limited. The Reserve Bank, therefore, had to take up the responsibility of meeting the demand for different scrips emanating from different groups of investors. Towards this end, it became necessary to dispense with the practice of keeping separate purchase and sale lists and accordingly, the Reserve Bank was prepared to buy or sell all the securities which it normally dealt with in its open market operations.

Post-Reform Period

6.67 The 1990s marked a watershed in the development of the Government securities market with wide ranging reforms in terms of instruments, institutions and procedures. A major development in the market was the introduction of an auction system for dated securities in June 1992, which marked a move towards market related rates on the Government securities. Plain vanilla, fixed coupon bonds formed most of the Government bond issuances prior to the 1990s. An abiding objective of the Reserve Bank as the Government's debt manager has been to evolve Government securities with new features to suit both the preferences of the Government as well as the market and in tune with evolving market conditions. The sale of Government securities in India was done both through pre-announced/tap issues. Auctions were of the discriminatory/multiple price, sealed bid type. With a view to eliminating the problem of "winner's curse" associated with the multiple price auction and broadening the market participation, the uniform price auction method was introduced in respect of 91-day Treasury Bill. Simultaneously, with a view to moderating the adverse impact of the large borrowing programme, the Reserve Bank has been accepting private placement of Government stocks and releasing them to the market when the interest rate expectations turned out to be favourable. As a part of market development measure, a variety of Treasury Bills, *viz*., 14-day, 91-day, 182-day, 364-day maturities were introduced. Key instruments were also introduced at the longer end of the maturity spectrum with special features to hedge various risks and suit investor preferences during the 1990s. Innovations were also introduced with respect to long-term bonds, such as zero coupon bonds (January 1994), floating rate bonds (1995-96) and capital- indexed bonds (December 1997). Bonds with call and put options were also issued.

6.68 In the reform period, major efforts towards institutional strengthening in the Government securities market were undertaken. To develop the secondary market for Government securities, the Securities Trading Corporation of India (STCI) was set up by the Reserve Bank jointly with the public sector banks and all-India financial institutions in May 1994. Over the years, as the market reached progressively high stages of development, the Reserve Bank divested its holdings in the institution. The system of Primary Dealers in Government securities was also introduced in March 1996 to provide two-way quotes and develop the market. A delivery *versus* payment system (D*v*P) was introduced in transactions in the Government securities market from July 1995. In order to encourage schemes of mutual funds which are dedicated exclusively to investments in Government securities, the Reserve Bank also introduced a liquidity support facility, either by way of outright purchases or reverse repos in Central Government securities. In order to provide a safety net or exit route for PDs so that they can actively make market in Treasury Bills, the Reserve Bank commenced purchase of Treasury Bills through OMO with exclusive access to PDs from February 2000. The Negotiated Dealing System (NDS) was operationalised from February 15, 2002 to provide, *inter alia*, an on-line electronic bidding platform for primary auctions in Central/State Government securities and OMO/LAF auctions.

6.69 The investor-base in the Government securities market has widened since the early 1990s, which now comprises commercial banks, cooperative banks, insurance companies, provident funds, financial institutions (including term-lending institutions), mutual funds, gilt funds, primary dealers, non-bank finance companies and corporate entities. The Reserve Bank earlier held Government securities predominantly for supporting the Government borrowing programme as also for conducting open market operations. Banks have been the dominant investors in the Government securities primarily on account of SLR requirements. However, in recent years, it has been found that banks have invested in the Government securities well beyond the statutory requirements partly because of relatively attractive rates of return and zero risk weight assigned to such investments under capital adequacy norms and partly because of relatively sluggish demand for commercial credit. The size of the Government securities market is large and is growing. It is evident from the large stock of outstanding dated securities of Central Government, which as on March 31, 2005 amounted to Rs.8,953 billion or 28.9 per cent of GDP.

6.70 Some of the initiatives undertaken in the Government securities market to improve the functioning of the market are: (i) establishment of Cash and Debt Management Group consisting of officials from the Reserve Bank and the Government in May 1997 which has systematised and rationalised the borrowing programme of the Government as it could be completed without destabilising the financial markets; (ii) mechanism of conducting auctions in Government securities were progressively refined by combining both price-based and yield-based auctions, thereby improving liquidity, elongating the maturity for debt and facilitating the emergence of benchmarks; (iii) the institutional infrastructure has been strengthened by increasing the number of Primary Dealers (from 2 in 1996 to 17 in 2005) and making them functionally stronger through imposition of capital adequacy norms and other prudential norms. (iv) changes in valuation norms for banks' investment portfolio have been introduced; and (v) the Reserve Bank has moved away from announcing the yield curve for Government securities (from October 2000), which is now given out by the FIMMDA on a daily basis.

6.71 Several other measures have also been taken to improve the functioning of the Government securities market. 14-day and 182-day Treasury Bills were withdrawn and the notified amount of 91-day Treasury Bills was simultaneously increased. 182-day Treasury Bills were reintroduced in April 2005. A Negotiated Dealing System was introduced in February 2002 to facilitate electronic bidding, secondary market trading and settlement and to disseminate information on trades on a real-time basis. The Reserve Bank started the automation of its Public Debt Offices for this purpose. To act as the counterparty in all trades involving Government securities, Treasury Bills, repos and foreign exchange, the CCIL was set up. The entire system would operate in a networked environment and Indian Financial Network (INFINET) would provide the backbone for communication. In August 2005, an electronic order matching trading system was incorporated into the NDS to facilitate anonymous secondary market trading in Government securities.

6.72 In the Government securities market, the primary challenge facing the Reserve Bank in an FRBM environment is how to ensure effective debt management. While entrusting the responsibility of full underwriting of auctions to the PDs, as recommended by the Technical Group on Central Government securities market (July 2005), a smooth transition has to be planned in the interest of stability in the financial markets.

6.73 Considering the larger responsibility cast on the PDs, in order to make the PD system effective, they may have to be compensated with appropriate incentives such as funding of repo and exclusivity in auctions, which is a typical feature in most countries with PD system. Absence of short sales constrain the market making role of PDs by restricting their ability to hedge market risk. The recommendation of the

Technical Group for introduction of short selling is expected to fill-up this gap. In this context, the main challenge is to ensure that the benefits of short selling leads to a more efficient price discovery process, while at the same time avoid undue price volatility caused by short squeezes and cornering of stocks, and putting in place an effective system to address situations of delivery shortages. A securities borrowing window at the Reserve Bank as suggested by the Technical Group for PDs, could be a step in the right direction.

6.74 "When, as and if issued" (also known as "when-issued" (WI) markets are in place in many developed countries. WI trading in Government securities functions somewhat like trading in a futures market in that positions may be taken and covered many times before the actual settlement date. Such trading takes place between the time a new issue is announced and the time it is actually issued. In the FRBM environment, the Reserve Bank's absence from primary auctions necessitates a more efficient market mechanism for absorption of primary auctions. WI market would thus be a necessary ingredient of such a mechanism and needs to be actively encouraged.

6.75 The Reserve Bank has since the late 1990s, been following a policy of passive consolidation, through the process of reissue of existing securities in order to improve market liquidity. Of the 111 outstanding securities issued by the Central Government as on date, only 20 have a size of Rs.15,000 crore or more. Thus, while re-issuance has achieved some degree of consolidation, there are still a large number of small sized securities and very few actively traded in the market. At present there is an imperative need for active consolidation, which would involve buying back of large number of small sized illiquid securities from existing holders and issuing a smaller number of liquid securities in exchange. However, structural issues like the skewed pattern of holding of Government securities in India and the impact on banks' balance sheets of selling securities out of their 'Held to Maturity' category, need to be addressed.

Market Activity

6.76 The Government securities market witnessed significant growth in terms of volume and liquidity following the various measures taken by the Reserve Bank since early 1990s. The outstanding stock of Central Government securities increased by around twelve-fold from 1992 to 2005 (Table 6.2). As a proportion of GDP it has doubled from 14.7 per cent to around 28.9 per cent during the above period. The turnover in the Government securities market, which was around one-third of the GDP in 1996 had increased sharply to over 200 per cent of GDP in 2003, but declined thereafter to 73 per cent in 2005 mainly due to increase in the interest rates in the recent years.

6.77 A significant feature in the Government securities market has been elongation in the average

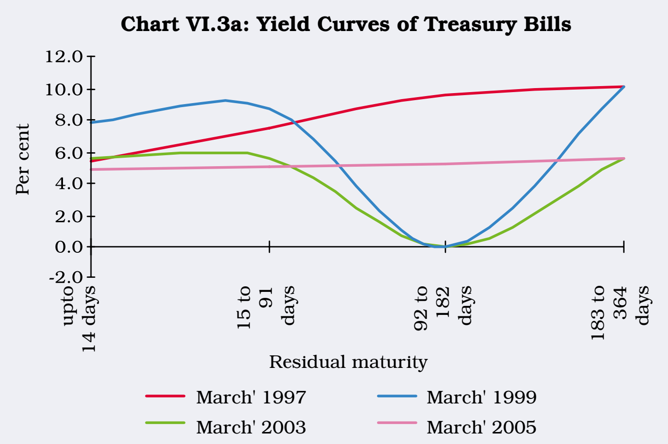
Table 6.2: Snapshot of the Indian Government Securities Market

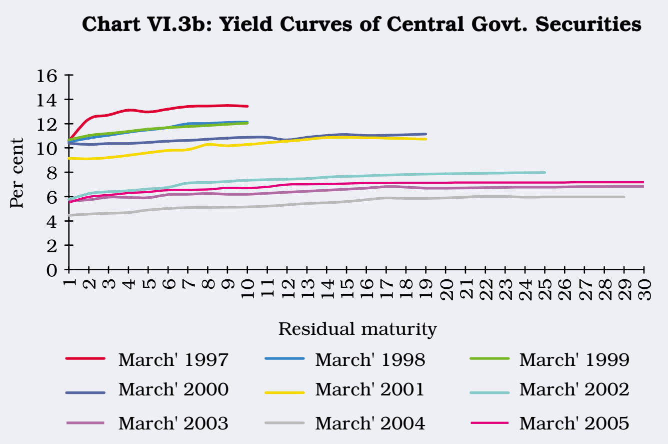
Item	1992	1996	2002	2003	2004	2005
1	2	3	4	5	6	7
Outstanding stock (Rs. in billion)	769	1,375	5,363	6,739	8,243	8,953
Outstanding stock as ratio of GDP (per cent)	14.68	14.20	27.89	27.29	30.09	28.94
Turnover / GDP (per cent)	–	34.21	157.68	202.88	87.78	72.99
Average maturity of the securities issued during the year (in years)	–	5.70	14.90	15.32	14.94	14.13
Weighted average cost of the securities issued during the year (per cent)	11.78	13.77	9.44	7.34	5.71	6.11
Minimum and maximum maturities of stock issued during the year (in years)	N.A.	2-10	5-25	7-30	4-29	5-30
PDs share in the turnover						
A. Primary market			70.46	65.06	50.84	36.02
B. Secondary market		–	22.04	21.72	24.25	26.7

* CCIL : Clearing Corporation of India Limited.

Note : Turnover is the total of outright (volume*2) and repo (volume*4) turnover.

Source : Report on the Internal Technical Group on Government Securities Market, 2005, RBI.





maturity profile of Government securities to 14.1 years in 2005 from 5.7 years in 1996. In the context of declining interest rate scenario, the Reserve Bank successfully increased the tenor progressively to 30 years, which had ranged upto 10 years during the 1990s. The weighted average cost of securities issued which went up from 11.8 per cent in 1992 (first-year of market-related rate), to 13.8 per cent in 1996, declined thereafter to 6.1 per cent in 2005. Various factors such as the need to develop the yield curve for longer tenors and to reduce the potential redemption pressure and refinance risk, necessitated elongation of maturity profile of Government securities.

6.78 Minimising the cost of borrowing of Government is a primary concern of the Reserve Bank as a debt manager. Normally, with an upward sloping yield curve, longer the maturity of the security, higher is the cost; thus there is a trade off between tenor of borrowing and its cost (Mohan, 2004). However, the falling interest rates scenario witnessed generally upto 2003-04 and the comfortable liquidity position in the system had helped the Reserve Bank to achieve the twin objectives of elongation of maturity profile of new debt and reduction in the cost of borrowing (Table 6.3 and Chart VI.3a & VI.3b). These developments besides reflecting the depth and resilience of the market is also an indication of the transition from passive to active debt management by the Reserve Bank.

6.79 The increasing secondary market activity in the Government securities market is a noteworthy feature in India. There has been a more than

Table 6.3: Weighted Average Yield and Maturity for Market Loans of Government of India

Year	Weighted Average Yield (New Loans) (Per cent)	Range of Maturity of New Loans (Years)	Weighted Average Maturity (New Loans) (Years)	Weighted Average Maturity of Outstanding Stock (Years)
1	2	3	4	5
1995-96	13.75	2-10	5.7	N.A.
1996-97	13.69	2-10	5.5	N.A.
1997-98	12.01	3-10	6.6	6.5
1998-99	11.86	2-20	7.7	6.3
1999-00	11.77	5-20	12.6	7.1
2000-01	10.95	3-20	10.6	7.5
2001-02	9.44	5-25	14.3	8.2
2002-03	7.34	7-30	13.8	8.9
2003-04	5.71	4-29	14.94	9.78
2004-05	6.11	5-30	14.13	9.42

Source : Report on the Internal Technical Group on Government Securities Market 2005, RBI.

Table 6.4: Volume of Secondary Market Transactions in the Government Securities Market

Year	Share of Outright (Per cent)	Share of Repo (Per cent)	Total (Rs. billion)
1	2	3	4
1996-97	76.40	23.60	1,229
1997-98	86.74	13.26	1,857
1998-99	82.53	17.47	2,272
1999-00	84.66	15.34	5,393
2000-01	81.95	18.05	6,981
2001-02	77.00	23.00	15,739
2002-03	71.20	28.80	19,557
2003-04	63.69	36.31	24,334
2004-05	41.09	58.91	21,894

Source : Report on the Internal Technical Group on Government Securities Market 2005, RBI.

Table 6.5: Ownership of Central Government Securities (Share in Total)

(Per cent)

Category of holders	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Reserve Bank of India (own account)	25	22	11	3	3	9	3	13	11	8	9	8	7
Commercial banks	55	60	65	72	69	64	68	58	59	61	61	61	58
Life Insurance Corporation of India	13	15	16	17	17	18	20	19	18	18	19	20	19
Unit Trust of India	0	0	0	5	6	4	1	1	0	0	1	0	0
NABARD	0	0	2	2	1	1	1	1	0	0	0	0	0
Primary Dealers	0	0	0	0	0	0	0	0	0	0	2	1	1
Others (including EPF, Coal Mine PF and Others)	7	3	6	1	4	4	7	9	11	12	8	10	13
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Based on Outstanding as at end-March 2003.
Source: Report of the Internal Technical Group on Central Government Securities Market, 2005, RBI.

seventeen-fold increase in the volume of transactions between 1996-97 to 2004-05 (Table 6.4).

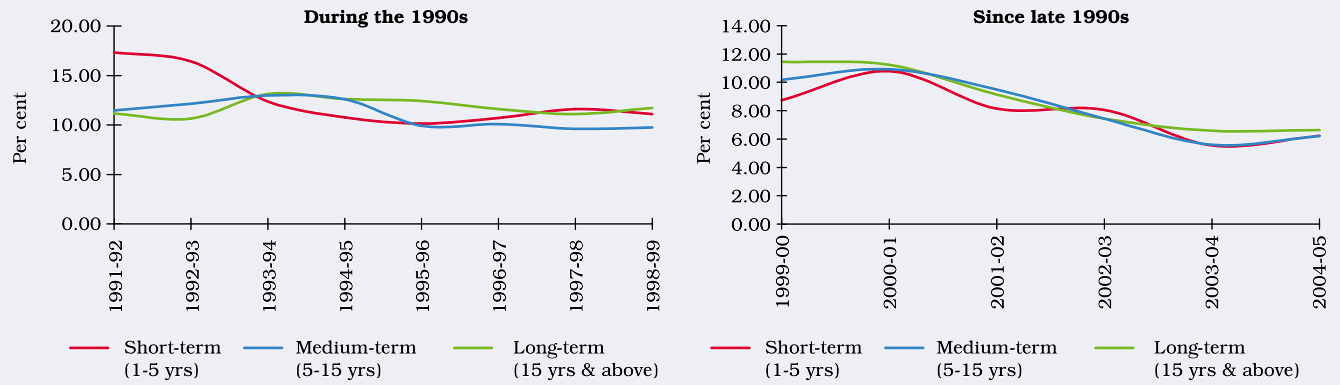
6.80 Trading in the Government securities market had exceeded the combined trading in equity segments of all exchanges in the country indicative of the deepening of the market (Mohan, 2004). This trend reversed in 2004-05. The share of commercial bank holdings of Government securities continued to rise during the 1980s and the early 1990s. It reached a peak of 72 per cent as at end-March 1994 before declining to 58 per cent at end-March 1998 (Table 6.5). Today in terms of size, product diversity, activity and technological state, the Indian Government securities market is one of the best among Emerging Market Economies (EMEs) (Jadhav, 2005).

6.81 Yields across various maturities have been moving, by and large in tandem, since the late 1990s (Chart VI.4).

Foreign Exchange Market

6.82 During the past seven decades the foreign exchange market in India has witnessed a significant transformation from a highly controlled to a liberal regime. The forex market basically comprises Authorised Dealers (ADs) which are mostly banks, exporters and importers, individuals and the Reserve Bank. Before 1990s, the market was highly regulated. In view of the scarcity of foreign exchange reserves, banks, exporters and individuals had to surrender the foreign exchange earned/received by them to the Reserve Bank. The forex market in India has acquired

Chart VI.4: Gilt Yield



increasing depth with the transition to a market determined exchange rate system in March 1993 and the subsequent gradual but significant liberalisation of restrictions on various external transactions.

6.83 The mode of exchange rate determination is of paramount importance to the development of foreign exchange market. Internationally, the exchange rate regimes have witnessed significant changes over the past several decades. There is no single exchange rate regime which can be considered appropriate for all countries, at all times. Though the choice of an exchange rate regime is country-specific and contingent, *inter alia*, on macroeconomic policies, there is a growing consensus globally in favour of a flexible/floating rate regime

Pre-Reform Period (1930s to 1980s)

6.84 India's forex market lacked depth and liquidity during the above period. Exchange control and the fixed exchange rate regime came in the way of forex market development. Since the 1930s up to early 1990s the policy relating to exchange rate varied significantly. After the 'Sterling area'[4] arrangement (up to 1974), the external value of currency was determined in terms of a basket of currencies until the two-stage liberalisation of exchange rate in the early 1990s. Exchange control was introduced in India on September 3, 1939 following the outbreak of the Second World War mainly to conserve the non-sterling area currencies and utilise them for essential purposes. The objective of exchange control was primarily to regulate the demand for foreign exchange for various purposes, within the limit set by the available supply. It, thus, involved rationing of foreign exchange among various competing demands for it. In the closing stages of the War, it became clear that control over foreign exchange transactions would have to continue in the post-War period in the interest of making the most prudent use of the foreign exchange resources. It was, therefore, decided to place the control on a statutory basis and the Foreign Exchange Regulation Act of 1947 was accordingly enacted. The Act, which came into force on March 25, 1947 was initially valid for a period of five years and was further extended for another five years in 1952. It was finally placed on a permanent basis in 1957. The Act empowered the Reserve Bank, and in certain cases the Central Government, to control and regulate dealing in foreign exchange payment outside India, export and import of currency notes and bullion, transfers of securities between residents and non-residents, acquisition of foreign securities, *etc*. The Act was later replaced by a more comprehensive legislation, *i.e.,* the Foreign Exchange Regulation Act, 1973 (FERA).

6.85 The stance of policy during the control regime was to manage the exchange rate mainly for facilitating India's imports before 1990s. The strict control on forex reserves through FERA had the dubious distinction of creating one of the largest and most efficient parallel markets for foreign exchange in the world, *i.e.*, the hawala (unofficial) market (Tarapore, 2000).

Legal Basis

6.86 For the purpose of management of the foreign exchange reserves, the Reserve Bank had been empowered to buy and sell foreign exchange from and to scheduled banks, under Section 17(3)(a) of the Reserve Bank of India Act, 1934. The Government's notifications under Section 40 prescribed the rates at which the Reserve Bank was bound to buy and sell Sterling (or other foreign exchange) without limit. However, the Reserve Bank's day-to-day operations with the Authorised Dealers were conducted under the powers derived from Section 17(3) of the Act, at rates determined from time to time within the stipulated margins. The foreign currencies that were purchased by the Reserve Bank under this Section were Pound Sterling, US dollar (since October 1972), Deutsche Mark (since March 1974) and Japanese Yen (since end-May 1974). Pound Sterling was, however, the only currency sold by the Reserve Bank, up to February 1993, as it was the intervention currency. There after the US dollar became the intervention currency.

6.87 In the late 1960s, most of the Sterling area countries including India began to diversify their foreign exchange reserves with a view to spreading the risk of losses arising from fluctuations in the exchange value of Sterling. To prevent the balance of payments of the United Kingdom from being adversely affected by liquidation of Sterling holdings by the Sterling area countries, the United Kingdom Government entered into agreements with them, effective September 25, 1968, undertaking to maintain the US dollar value of the bulk of their

[4] The 'Sterling area' comprised mainly the British Empire countries which had close historical, economic and political ties with the United Kingdom and the value of whose currencies was based on Pound Sterling. The object of this arrangement was to produce a central pool of non-sterling area currencies to be owned and operated by the United Kingdom for the use of the members of the Sterling area.

Sterling reserves. In return for the guarantee, the Sterling area countries undertook to keep a minimum percentage of their total official external reserves in Sterling, known as the minimum Sterling proportion, at all times. The arrangements also envisaged that the Sterling area countries would voluntarily deposit a part of the non-Sterling currencies in their reserves with the Bank for International Settlements (BIS).

6.88 As long as India was a member of the group of countries known as the 'Sterling area', of which the United Kingdom was the centre country, India's foreign currency assets had to be kept almost entirely in Sterling, the foreign currency assets in non-Sterling area currencies being transferred to the U.K. in return for Sterling deposits. With effect from June 23, 1972 when the Pound Sterling was floated, the United Kingdom authorities restricted the Sterling area to the United Kingdom, the Channel Islands, the Isle of Man, the Republic of Ireland and Gibraltar for purposes of exchange control and others were designated as non-residents.

6.89 The agreement with India, which was initially for a period of three years, was renewed periodically till it was finally terminated on December 31, 1974. The process of diversification of the reserves was accelerated thereafter. From October 4, 1975 the Reserve Bank stopped announcing its buying and selling rate for spot US dollars and also stopped selling any foreign currency. However, the Reserve Bank continued to buy US dollars from the ADs.

6.90 In July 1978, the statutory provisions in the Reserve Bank Act, 1934 were amended and enlarged with a view to enabling the Bank to utilise more effectively the foreign exchange reserves, which had been rising continuously since 1975.The Reserve Bank was buying US dollar, Pound Sterling, Deutsche Mark and Yen, both spot and forward for varying maturities up to 12 months but only sold Pound Sterling and Dollar on spot basis. The buying and selling rates of Pound Sterling of the Reserve Bank acted as floor and ceiling rates and the inter-bank market remained within these rates.

6.91 Until the early 1970s, in view of fixed rate regime, the forex market was perceived as a mechanism for putting through merchant transactions. With the collapse of the Bretton Woods agreement and the floatation of major currencies, the conduct of exchange rate policy posed a great challenge to central banks as currency fluctuations opened up tremendous opportunities for market players to trade in currency volatilities in a borderless market (Sodhani, 1995). The forex market in India, however, remained relatively insulated, due to the exchange controls, which inhibited capital movement and further, banks were required to undertake only cover operations and maintain a square or near square position at all times.

6.92 As demand began to slowly build up, banks in India were permitted by the Reserve Bank to undertake intra-day trade in forex in 1978. Consequently, the stipulation of maintaining square or near square position was to be complied with only at the close of business each day. The extent of position which could be left uncovered overnight (the open position), as well as the limits up to which dealers could trade during the day was to be decided by the management of banks.

6.93 As opportunities to make profits began to emerge, the major banks started quoting two-way prices against the Rupee as well as in cross-currencies (*i.e.,* Euro-currencies), and gradually, trading volumes began to increase. This was supported by a major change in the exchange rate regime in 1975 whereby rupee was de-linked from the Pound Sterling and under the managed floating arrangement, the external value of rupee was determined by the Reserve Bank in terms of a weighted basket of the currencies of India's major trading partners. Given the Reserve Bank's obligation to buy and sell unlimited amounts of the intervention currency, *i.e.*, Pound Sterling, arising from the banks' merchant purchases, its quotes for buying/selling effectively became the fulcrum around which the market moved.

6.94 As volumes increased and the profit motive led to the widely different practices (some of which were irregular), the need for a comprehensive set of guidelines covering the entire gamut of dealing operations to be observed by banks engaged in forex business was felt. Accordingly the "Guidelines For Internal Control over Foreign Exchange Business" were framed for adoption by the banks in 1981.

6.95 During the late 1980s, deterioration in the macroeconomic situation warranted a structural change in the exchange rate regime which in turn had an impact on the forex market. Large and persistent external imbalances were reflected in a rising level of external indebtedness. The exchange rate of the rupee became increasingly misaligned, despite the graduated real depreciation of the rupee *vis-à-vis* major currencies. The Gulf War of July 1990, given the fragile state of the economy, triggered off an unprecedented crises of liquidity and confidence which called for the adoption of exceptional corrective steps. The country simultaneously embarked on a stabilisation and structural reform process to generate impulses for growth.

Reform/Post-Reform Period (1990s onwards)

6.96 This phase was marked by wide-ranging measures to widen and deepen the market, besides exchange rate liberalisation. The impetus for forex market reform was provided by recommendations of the Rangarajan Committee (1992), the Sodhani Committee (1995) and the Tarapore Committee (1997). The importance attached to the forex market is amply evident from the preamble to the Foreign Exchange Management Act (FEMA, 1999). One of the main objectives of the FEMA is the orderly development of the foreign exchange market in India.

6.97 In the early 1990s, the forex market in India was in the initial stages of development and suffered from several shortcomings. The spot as well as forward markets lacked depth and liquidity. The market was skewed with a handful of public sector banks accounting for bulk of the merchant business and the foreign banks a greater share of inter-bank business. The forward rates reflected demand and supply, rather than interest rate differentials due to absence of integration between the money and forex markets and the restrictions placed on borrowing/lending in the international market. On account of ceilings on open positions and gaps, there was a virtual absence of market making. The cross-currency market had not developed on account of prohibition on initiating transactions in the overseas market. Besides forward contracts and cross currency options, there was no free access to other hedging products. The Sodhani Committee, therefore, recommended that any attempt at vitalising the forex market should necessarily, start with relaxation of regulations governing these issues.

6.98 Alongwith the changes in the policies in foreign trade and foreign investment, a significant change occurred with respect to exchange rate management. From a managed floating system under which the exchange rate was officially determined, the regime had passed through several phases to reach a market based system under which the exchange rate is determined by forces of demand and supply (Rangarajan, 2000). Radical changes in policy in regard to the exchange rate of the Rupee were made in 1991. First, the Rupee rate was adjusted downwards in two stages, on July 1 and July 3, 1991. The two-step downward adjustment of the Rupee in terms of the intervention currency, *viz*., the Pound Sterling, worked out to 17.38 per cent. Thereafter, the rupee exchange rate was anchored to a rupee-US dollar rate close to Rs.26 a dollar. Second, on March 1, 1992, partial convertibility of the rupee was introduced in the form of a dual exchange rate system called the Liberalised Exchange Rate Management system (LERMS) alongwith other measures of liberalisation in the areas of trade, industry, foreign investment and the import of gold. Under the system all foreign exchange receipts on current account transactions (exports, remittances, *etc*.) were required to be surrendered to the ADs in full. The rate of exchange for conversion of 60 per cent of the proceeds of these transactions was the market rate quoted by the ADs while the remaining 40 per cent of the proceeds were converted at the Reserve Bank's official rate. The ADs in turn were to surrender to the Reserve Bank 40 per cent of their purchase of foreign currencies representing current receipts at the official rate of exchange announced by the Reserve Bank. They were free to retain the balance of 60 per cent of foreign exchange for being sold in the free market for permissible transactions.

6.99 As a transitional arrangement, LERMS served to impart stability to the external value of the rupee and to prepare the narrow inter-bank foreign exchange market for an increased volume of transactions. However, it involved a dual exchange rate system, implicit in which was a tax on exports arising out of the differential in the rates of surrender of export proceeds. Moreover, the system could not be sustained for long as it called for the rationing of subsidised foreign exchange among certain imports, inevitably resulting in distortions in resource allocation. As it functioned, there were indications of the diversion of remittances from their normal route to the capital account, since inflows into certain non-resident rupee deposit accounts were allowed full conversion at the market exchange rate whereas remittances in the form of current transfers were to be converted at the market exchange rate only to the extent of 60 per cent. A downward adjustment in the official exchange rate took place in early December 1992 and ultimate convergence of the dual rates was made effective from March 1, 1993. Some of the features of the so-called modified LERMS were :

(i) All foreign exchange receipts were converted at market determined rates of exchange from March 2, 1993.

(ii) The unification of exchange rates marked an important step in the progress towards convertibility on the current account. The freely floating exchange rate regime continued to operate within the framework of exchange control. Current receipts were surrendered to the banking system, which in turn met the demand for foreign exchange arising out of permissible purposes. The rates of exchange at which these transactions were effected were determined in the market.

(iii) The ADs were not required to surrender to the Reserve Bank any part of foreign exchange sold to them. The Reserve Bank could, however, at its discretion, enter the market to purchase/sell foreign exchange. The Reserve Bank's obligation to sell forex for any purpose other than debt service payments of the Government of India was replaced. It currently buys/sells only US dollars, which in March 1993 replaced, the Pound Sterling as the intervention currency. From March 2002, Euro became an additional intervention currency.

(iv) With effect from October 4, 1995, the Reserve Bank discontinued quoting its buying and selling rate. At present, the Reserve Bank announces a Reference Rate based on the quotations of a few select banks in Mumbai at twelve noon every day. Among other things, the Reference Rate is also applicable to Special Drawing Rights transactions.

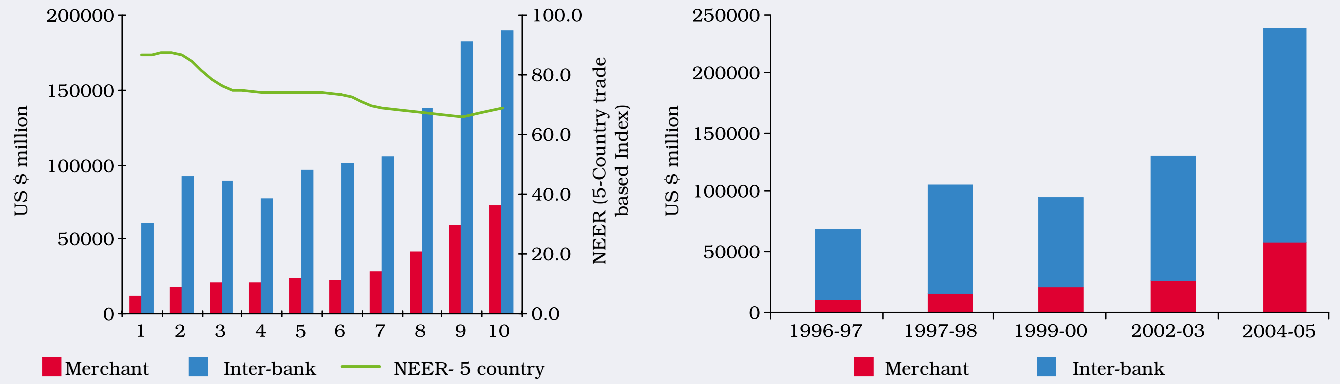
(v) In order to ensure that exchange rate of the rupee fully reflected the demand-supply situation and in furtherance of the move towards eliminating transaction through reserves, it was decided with effect from July 3, 1995 to route debt service payment (civil) of Government of India through the market.

6.100 Current account transactions were freed of exchange control regulations and controls over several transactions on capital account were also eased. India now has a floating rate with no fixed rate target. Daily movements are very closely watched by the Reserve Bank. The Indian forex market is relatively thin, and the declared policy of the Reserve Bank is to meet temporary demand-supply imbalances, which arise from time to time. The objective is to keep market movements orderly and ensure that there is no liquidity problem or rumour or panic-induced volatility (Jalan, 2000). While the central bank of the country intervenes in the foreign exchange market, it does so primarily to prevent volatility and instability (Rangarajan, 2000).

6.101 Given the lack of depth and liquidity in the forex market, the aim was to remove the imperfections. The major initiatives taken to widen and deepen the Indian forex market and to link it with the global financial system were: (i) freedom to banks to fix net overnight position limits and gap limits (with the Reserve Bank formally approving the limits), initiate trading positions in the overseas markets, determine the interest rates (subject to a ceiling) and maturity period of FCNR(B) deposits (not exceeding three years) with exemption of inter-bank borrowings from statutory pre-emptions, and use derivative products for asset-liability management; (ii) in order to facilitate integration of domestic and overseas money markets, ADs were allowed to borrow abroad related to their capital base as a prudential measure. ADs were allowed to avail of loans, overdrafts and other types of fund-based credit facilities from their overseas branches and correspondents upto 15 per cent of their unimpaired Tier-I capital or US$ 10 million or its equivalent, whichever was higher. The funds are allowed to be used for any purpose - other than lending in foreign currencies. ADs have been provided the flexibility to cross these limits solely for replenishing their rupee resources in India for normal business operations and not for deployment in call money or other markets; (iii) corporates were provided significant freedom in managing their foreign exchange exposures. Though, they were permitted to hedge anticipated exposures, this facility was temporarily suspended after the East Asian crises. Exchange Earners' Foreign Currency (EEFC) account entitlement has also been rationalised. Various risk management strategies have been allowed to corporates, such as freedom to cancel and rebook forward contracts, although currently freedom to rebook cancelled contracts is suspended, while rollover is permissible. Other risk management tools subject to prudential requirements have been allowed like cross-currency options on a back-to-back basis, lower cost option strategies like range forwards and ratio range forwards and others and hedging of external commercial borrowings (ECBs) exposures. In a market determined exchange rate regime, the behaviour of the customers and the ADs significantly influences the course of the exchange rate. CCIL commenced settlement of forex operations for inter-bank US Dollar/Indian Rupee spot and forward trades from November 2002 and inter-bank US dollar / Indian ruppe cash and tom trades from February 2004. The period also witnessed greater integration of the forex market with the domestic financial markets and the global markets.

6.102 The Technical Group on the Forex Market (2005), has made various recommendations for further liberalisation of the extant regulations. Some of the recommendations, such as, freedom to cancel and rebook forward contracts of any tenor, delegation of powers to ADs for grant of permission to corporates to hedge their exposure to commodity price risk in the international commodity exchanges/markets and extension of the trading hours of the inter-bank foreign exchange market have already been implemented.

Chart VI.5: Turnover in the Foreign Exchange Market



6.103 Greater liberalisation enjoins upon banks to act more responsibly so as to instil confidence in corporate entities undertaking derivatives transactions. Following the instances of some international banks encountering compensation claims owing to slackness on their part, there is a need for all banks in India to introduce a customer suitability and appropriateness policy. The "appropriateness standard" ensures that banks use the same principles for taking credit decisions in respect of complex derivative transactions, as they do for non-derivative transactions.

6.104 Derivatives accounting in India is still in the formative stage. There is a need for greater clarity of derivative accounting in the books of banks and corporates (in regard to revenue recognition and valuation of assets and liabilities) as also between hedge and trading transactions. In the context of good corporate governance, the issue of greater disclosure on the part of banks and corporates has become important. In the case of complex structured products, it is imperative on the part of the banks/corporates to be transparent and disclose the nature and quantum of risks contracted and put in place systems to monitor these risks.

6.105 On account of the large outstanding forward positions, banks in India carry risks on their books. CCIL's proposal to extend guaranteed settlement of US dollar-rupee forward transactions from trade date is expected to significantly increase the depth and liquidity in the forward market and thereby reduce such risks. Further liberalisation of the capital account in line with Tarapore Committee recommendations is likely to pose new challenges for the forex market in future.

Market Activity

6.106 The monthly turnover in the foreign exchange market increased by over 1.7 times from about US $ 17 billion in July 1996 to about US $ 29 billion in May 2005. Though inter-bank transactions account for bulk of the transactions in the forex market, its share has come down over the years (from around 87 per cent in July 1997 to 72 per cent in May 2005) (Chart VI.5). Simultaneously, the share of merchant transactions has more than doubled (from 13.5 per cent to 27.8 per cent during the same period). The forward market segment (swaps plus forward) has grown at a faster pace, relative to the swaps.

6.107 Reflecting the build-up of forex reserves, the strong capital flows and the confidence in the Indian economy, the forward premia has come down sharply from the peak reached in 1995-96 (Chart VI.6).

6.108 Under the market determined exchange rate regime, the Indian Rupee has moved in an orderly

Chart VI.6: Movement of Forward Premia

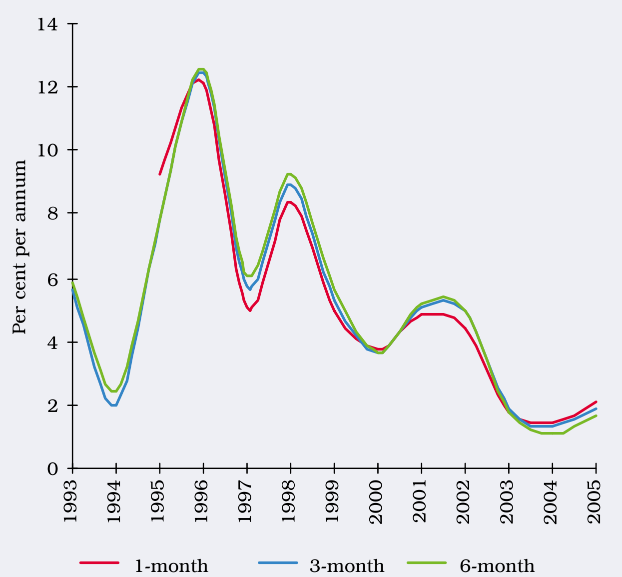
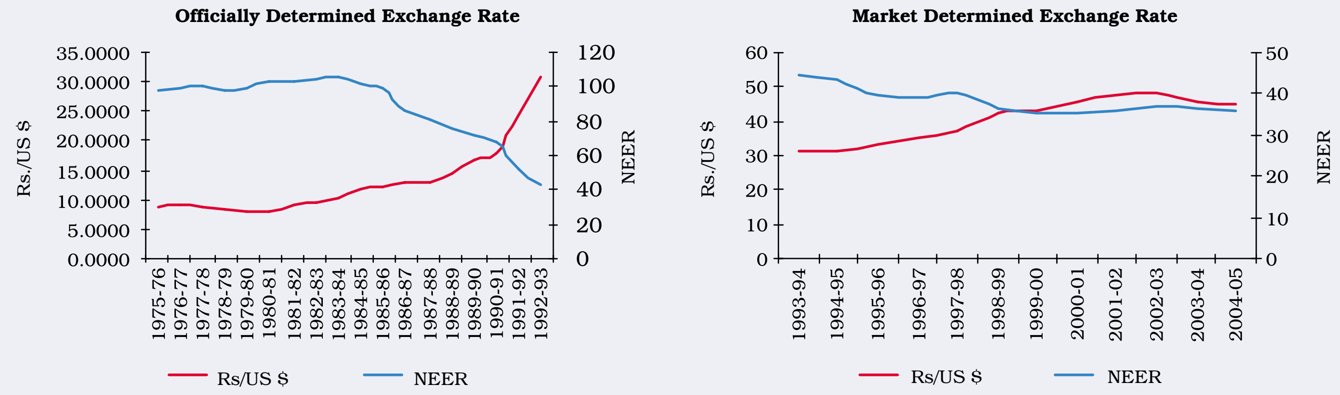


Chart VI.7: Movement of Indian Rupee v/s Nominal Effective Exchange Rate



manner and the foreign exchange market has displayed stable conditions. This has been particularly so after 1999-2000 as compared with the earlier regime, *i.e.*, prior to 1992 when exchange rate of rupee was officially determined by the Reserve Bank (Chart VI.7).

Relative Size of Financial Markets and Integration

6.109 All the three segments of the financial markets witnessed significant growth in terms of volume, participants and liquidity following the various measures taken since early 1990s to widen and deepen the markets as discussed above. The money market has emerged as the most significant component of the rupee denominated financial market in India surpassing the volumes traded in the Government securities market and equity markets- its share almost doubled from just around 1.6 per cent of GDP in 1990-2000 to 3.1 per cent of GDP in 2002-03, but declined sharply thereafter owing, *inter alia*, to the fall in the call money market turnover (Table 6.6).

Table 6.6: Relative Size of Domestic Financial Markets in India (Rupee Denominated)

(Rupees crore)

Markets	Average Daily Turnover	Nominal GDP at current market price	Col. 1 as per cent of Col.2	M3	Col. 1 as per cent of Col.4	Bank Deposit	Col. 1 as per cent of Col.6	Bank Credit	Col. 1 as per cent of Col.8	Central Govt. Internal Debt	Col. 1 as per cent of Col.10
1	2	3	4	5	6	7	8	9	10	11	12
Money Market*											
1999-00	30,056	19,36,831	**1.6**	11,24,174	**2.7**	8,13,345	**3.7**	4,35,958	**6.9**	7,14,254	**4.2**
2000-01	40,923	20,89,500	**2.0**	13,13,220	**3.1**	9,62,618	**4.3**	5,11,434	**8.0**	8,03,698	**5.1**
2001-02	65,500	22,71,984	**2.9**	14,98,355	**4.4**	11,03,360	**5.9**	5,89,723	**11.1**	9,13,061	**7.2**
2002-03	76,722	24,63,324	**3.1**	17,17,960	**4.5**	12,80,853	**6.0**	7,29,215	**10.5**	10,20,689	**7.5**
2003-04	28,146	27,60,025	**1.0**	20,05,676	**1.4**	15,04,416	**1.9**	8,40,785	**3.3**	11,41,706	**2.5**
2004-05	31,830	31,05,512	**1.0**	22,53,938	**1.4**	17,00,198	**1.9**	11,00,428	**2.9**	12,70,272	**2.5**
Govt. Securities Market											
1999-00	–	19,36,831	**–**	11,24,174	**–**	8,13,345	**–**	4,35,958	**–**	7,14,254	**–**
2000-01	2,802	20,89,500	**0.1**	13,13,220	**0.2**	9,62,618	**0.3**	5,11,434	**0.5**	8,03,698	**0.3**
2001-02	6,252	22,71,984	**0.3**	14,98,355	**0.4**	11,03,360	**0.6**	5,89,723	**1.1**	9,13,061	**0.7**
2002-03	7,067	24,63,324	**0.3**	17,17,960	**0.4**	12,80,853	**0.6**	7,29,215	**1.0**	10,20,689	**0.7**
2003-04	8,445	27,60,025	**0.3**	20,05,676	**0.4**	15,04,416	**0.6**	8,40,785	**1.0**	11,41,706	**0.7**
2004-05	4,826	31,05,512	**0.2**	22,53,938	**0.2**	17,00,198	**0.3**	11,00,428	**0.4**	12,70,272	**0.4**
Equity Market											
1999-00	–	19,36,831	**–**	11,24,174	**–**	8,13,345	**–**	4,35,958	**–**	7,14,254	**–**
2000-01	9,308	20,89,500	**0.4**	13,13,220	**0.7**	9,62,618	**1.0**	5,11,434	**1.8**	8,03,698	**1.2**
2001-02	3,310	22,71,984	**0.1**	14,98,355	**0.2**	11,03,360	**0.3**	5,89,723	**0.6**	9,13,061	**0.4**
2002-03	3,711	24,63,324	**0.2**	17,17,960	**0.2**	12,80,853	**0.3**	7,29,215	**0.5**	10,20,689	**0.4**
2003-04	6,309	27,60,025	**0.2**	20,05,676	**0.3**	15,04,416	**0.4**	8,40,785	**0.8**	11,41,706	**0.6**
2004-05	6,566	31,05,512	**0.2**	22,53,938	**0.3**	17,00,198	**0.4**	11,00,428	**0.6**	12,70,272	**0.5**

* includes Call Money, Term Money and Repo Markets.
Source : Handbook of Statistics on Indian Economy; Annual Report, RBI, various issues

Table 6.7: Relative Size of Foreign Exchange Market in India

(US $ Million)

	Foreign Exchange Market-Monthly Average Turnover	Foreign Currency Assets*	Col 2 over Col 3 (per cent)	External Debt*	Col 2 over Col 5 (per cent)
1	2	3	4	5	6
1999-00	–	35,058	–	98,263	–
2000-01	1,19,521	39,554	302.2	1,01,326	118.0
2001-02	1,23,947	51,049	242.8	98,843	125.4
2002-03	1,32,072	71,890	183.7	1,04,958	125.8
2003-04	1,78,400	1,07,448	166.0	1,11,715	159.7
2004-05	2,41,010	1,35,571	177.8	1,23,310	195.5

* As at end-March.
Source: Handbook of Statistics on Indian Economy.

6.110 The sharp decline in turnover was mainly on account of the move towards a pure inter-bank call money market. The share of the Government securities market has, however, increased from around 0.1 per cent to 0.3 per cent of GDP between 2000-01 to 2002-03 before declining in 2004-05 due to rising interest rates which impacted trading activity. The share of the equity market to GDP had also more than halved between 2000-01 and 2004-05. The relative size of the forex market had also grown significantly (Table 6.7).

6.111 One of the primary goals of financial market development in India has been to foster integration of financial markets which, besides creating competitive markets, assist in using market based instruments of monetary policy. The relative share of various segments of the domestic financial market reveals that money market constitutes the bulk of the market, followed by the equity market and then the gilt market (Table 6.8).

Market Integration

6.112 The major thrust of Reserve Bank's policies has been on the development of deep, liquid and integrated financial markets. Accordingly, the reform process has helped in integration of various segments of the financial markets. The channels of linkages between markets vary. For example, the integration between call money market and forex market operates essentially through banks' permissible limits on investments in overseas markets, and options to hedge, prepay, *etc*., in foreign currency under FCNR (B), on banks' own account or that of corporates. These linkages are expected to get widened and deepened and have to be tracked. Another example relates to the linkages between call money market and Government securities market where large positions in Government securities are funded through short-term borrowings, especially from the call money market. Various segments of the financial markets have become better integrated, particularly from the mid-1990s (Chart VI.8).

Chart VI.8: Call Rate, Gilt Yield and Forward Premia

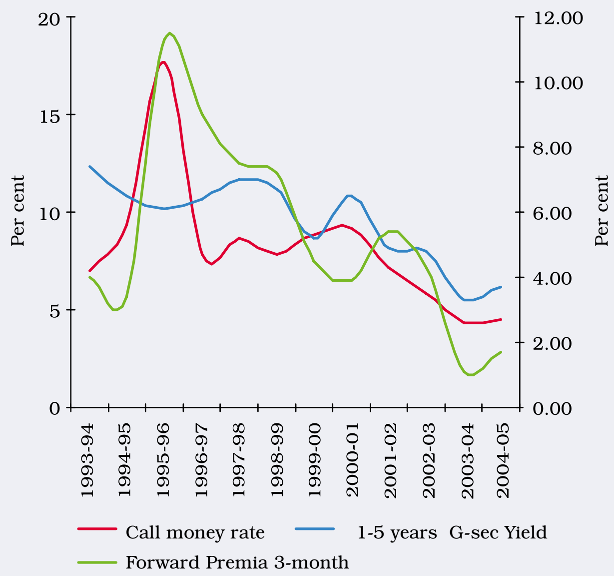


Table 6.8: Indian Domestic (Rupee-denominated) Financial Markets at a Glance

	Money Market-Average Daily Turnover* (Rs. Crore)	Govt. Securities Market-Average Daily Turnover (Rs. Crore)	Equity Market-Average Daily Turnover		Grand Total (2+3+4+5)	Percentage share in Total		
			BSE (Rs. Crore)	NSE (Rs. Crore)		Money Market	Government Securities Market	Equity (BSE+NSE)
1	2	3	4	5	6	7	8	9
2000-01	40,923	2,802	3,981	5,327	53,034	77.2	5.3	17.6
2001-02	65,500	6,252	1,229	2,081	75,061	87.3	8.3	4.4
2002-03	76,722	7,067	1,250	2,461	87,500	87.7	8.1	4.2
2003-04	28,146	8,445	1,980	4,329	42,900	65.6	19.7	14.7
2004-05	31,830	4,826	2,053	4,513	43,222	73.6	11.2	15.2

*: Covers Call Money, Term Money and Repo Markets.
Source: Handbook of Statistics on Indian Economy; Annual Report, RBI, various issues.

6.113 As reforms in the financial markets progress, linkages between the different segments of market and between domestic and international markets improve. Internationally also there will be growing pressure for rapidly and more deeply integrating domestic and global markets. In the context of integration of Indian financial market with international markets, the move towards capital account convertibility, which has an important bearing on the forex market, assumes paramount significance. Some of the pre-conditions/signposts for capital account convertibility, as mentioned in the Capital Account Convertibility (CAC) Report, such as, fiscal consolidation, mandated inflation rate, consolidation of the financial sector, adequacy of foreign exchange reserves, sound BoP situation, *etc*., are to be adhered to properly before rupee can be made fully convertible on the capital account. With the growing integration of both the real and the financial sectors with the international economy, the impact of external impulses would be felt more strongly, making it imperative to have the preconditions in place before full capital account convertibility is allowed.

6.114 The emerging linkages among money, Government securities and foreign exchange markets have at times necessitated the use of short-term monetary measures by the Reserve Bank alongwith meeting demand-supply mismatches to arrest excessive volatility in the foreign exchange market. The Indian financial markets have in recent years, exhibited some tendency to be in tandem with global financial market, reflective of the growing integration between domestic and international markets on the one hand and among various segments of the domestic financial market on the other, as a result of financial sector reforms and increasing globalisition led by Information Technology. The far-reaching financial sector reforms have facilitated India's movement to an open economy framework in which interaction between forex, Government securities and money market has become quite important. The opening of the economy has brought about gains in terms of inflows of foreign investments, which have contributed to growth and employment. However, these gains have also posed new challenges for managing the macroeconomy amidst large and volatile capital flows (Mohan, 2004). This has had implications for monetary management. India has addressed this challenge with appropriate monetary-fiscal coordination. Suitable changes were made in the LAF scheme. The MSS was introduced to address more enduring portion of the liquidity overhang. In the context of market integration, the Reserve Bank keenly watches the global developments which could have a bearing on the Indian economy and the financial markets and has been taking prompt corrective measures. For instance, the Reserve Bank actions following the East Asian crises and subsequently the September 11, 2001 crises in the various financial markets and its efficacy has been globally acknowledged (Jalan, 2000).

Volatility

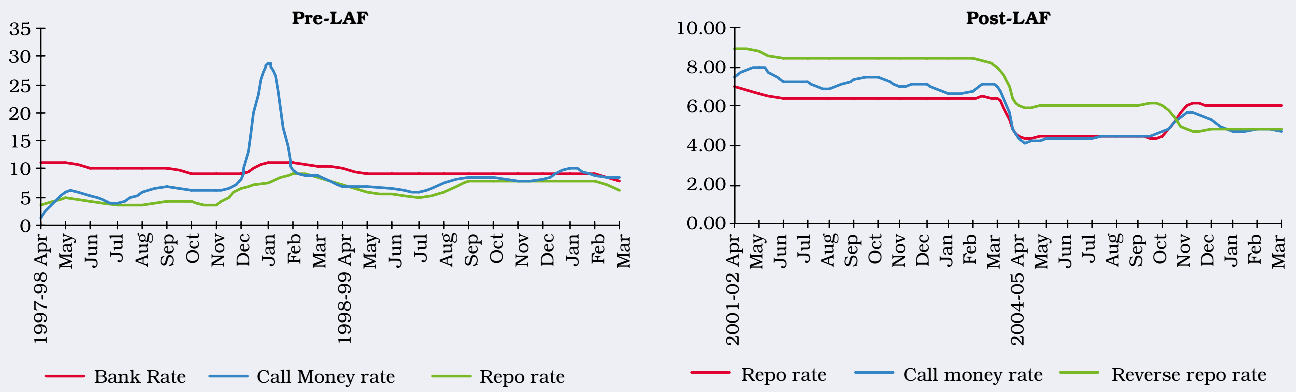
6.115 Financial market integration appears to have reduced volatility over time. The volatility in the call money market (as measured by the standard deviation and coefficient of variation) has come down during the period 1996-97 to 2004-05 as compared to the early 1970s and 1990s (Table 6.9). After activating Bank Rate in April 1997, an informal corridor was set by the Bank Rate (ceiling) and the repo rate (floor). However, after introduction of LAF in 2000, the informal corridor has been set by the repo and reverse repo rates (Chart VI.9). The foreign exchange market

Table 6.9: Volatility in Major Financial Markets

Period	Money Market				Forex Market: Forward Premia						G- Sec Market: Gilt Yield$					
	Call Money Rate		Repo Rate		1-month		3-month		6-month		Short-term		Medium- term		Long-term	
	SD	CV	SD	CV	SD	CV	SD	CV	SD	CV	SD	CV	SD	CV	SD	CV
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1970s	2.68	32.22									0.53	10.66	0.52	9.76	0.54	9.08
1980s	1.16	12.25									3.48	40.62	1.63	19.75	1.47	16.14
1991-92 to1995-96	5.35	39.31	2.12^	27.24^			4.41*	70.57*	3.93*	62.82*	3.29	24.52	1.21	10.23	1.05	8.78
1996-97 to 2004-05	1.82	25.50	1.69	27.96	2.19	48.08	2.62	53.05	2.90	56.50	2.20	24.43	1.90	21.58	2.23	23.07

$: redemption yields
* : Covers the period from 1993-94 to 1994-95
^ : Covers the period from 1992-93 to 1994-95
Short-term: 1-5 years: Medium-term: 5-15 years: Long-term: 15 years and above
SD: Standard Deviation CV: Coefficient of Variation
Source: Handbook of Statistics on the Indian Economy, RBI.

Chart VI.9: Pre and Post LAF Informal Corridors for Call Rates



also witnessed lower volatility since the mid-1990s compared to the early 1990s, which may be on account of increase in depth of the market. However, in the Government securities market, the trend has just been the opposite with volatility increasing since mid-1990s compared to early 1990s due, *inter alia* to increase in secondary market activity.

6.116 Preliminary evidence of financial market integration is provided by the strength of association (*viz.*, cross correlation) of rates across various segments of the financial markets (Table 6.10). The linkages between the call and gilt markets during the period 1996-97 to 2004-05 are found to be stronger than in the early 1990s (1993-94 to 1995-96) reflecting greater integration. Surprisingly, the linkages between call and forex market (forward premia) appear to have weakened since the mid-1990s compared to the earlier period which may be on account of various measures taken by the Reserve Bank in the wake of the East-Asian crises to check spillover of the volatility in the external sector to the domestic financial markets.

6.117 Despite the differences in the time periods, the improved correlation coefficients reflecting increased integration of various segments of the financial markets as also within the money market is in line with the findings of earlier empirical studies. (Reserve Bank, 2000-01 and 2003-04).

Market Development – Dilemmas and Challenges

6.118 As in the case of most central banks, in the context of financial market reform, the Reserve Bank had to contend with different issues, some of them conflicting, such as:

(i) The multiple regulators in the Indian financial markets (while the Reserve Bank regulates the money, Government securities and forex markets, the SEBI regulates the equity market and IRDA the insurance sector) has necessitated close coordination between the Reserve Bank and other regulators to smoothen the market reform process (as banks and financial institutions are major players in several markets).

(ii) In the Government securities market, the Reserve Bank has twin roles to play, *viz.*, that of a regulator and as a debt manager (the role of debt management has been enjoined by the Reserve Bank Act). Containing the adverse

Table 6.10: Correlation Coefficients Among Major Financial Market Rates

Period	Call Rate & Forward Premia			Call & Repo Rate	Call Rate & Gilt Yields			Forward Premia & Gilt Yields		
	1-month	3-month	6-month		Short-term	Med-term	Long-term	1-month	3-month	6-month
1	2	3	4	5	6	7	8	9	10	11
1970s					0.75	0.69	0.66			
1980s					0.63	0.82	0.87			
1991-92 to 1995-96		0.96 *	0.96 *	0.88 **	0.43	-0.80	-0.65		-0.98*	-0.65 *
1996-97 to 2004-05	0.73	0.67	0.65	0.59	0.87	0.97	0.94	0.87	0.72	0.78

* Covers the period from 1993-94 to 1995-96.
** Covers the period from 1992-93 to 1995-96.
Source: Handbook of Statistics on the Indian Economy, RBI.

impact of high fiscal deficits, without at the same time diluting the monetary policy stance has been the real challenge facing the Reserve Bank on several occasions in the past.

(iii) Given the large capital inflows, exchange rate management has emerged as a major dilemma for the Reserve Bank calling for close coordination between monetary and external sector management. The exchange rate has emerged as a very critical factor in the conduct of monetary policy with progressive globalisation of the economy. Furthermore, it has been recognised that the excessive weight that may be given to popular perceptions in regard to exchange rate as against what is warranted by compulsions of economic factors could certainly complicate monetary management. Creating public awareness of the forex situation and forex markets has been an important task for the Reserve Bank. Other issues facing the Reserve Bank in forex management as in the case of other central banks are: (a) the appropriateness of the exchange rate regime (particularly, in the context of the hypothesis of the so-called "impossible trinity" which posits that full Capital Account Convertibility, monetary independence (for inflation control), and a stable currency are not feasible (b) which rate should be monitored (nominal or real) and (c) stability versus volatility in exchange markets (Jalan, 2001).

(iv) Smooth and efficient financial markets have necessitated constant interaction with market participants without in any way compromising confidentiality so as to effect changes in the regulatory aspects of the markets through consultative mechanisms.

(v) In the context of globalisation and liberalisation, transparency and data dissemination are necessary to check oligopolistic tendencies and to facilitate development of competitive markets. The Reserve Bank has been disseminating data on various aspects of financial markets and its operations. In this context, how much to reveal to the market without compromising monetary policy and financial stability has emerged as a challenge.

(vi) A major challenge within the Reserve Bank has been to institute arrangements to improve the skills of its personnel to keep pace with the speed and the skills of market participants.

(vii) There are also some conflicts in the role of the Reserve Bank as regulator and supervisor of banks. For example, while from the supervisory perspective, issuing short-term paper to match ALM guidelines is more favourable, the Reserve Bank as debt manager prefers to balance the maturity profile with long duration paper.

II. CHANGING ROLE OF THE RESERVE BANK IN FINANCIAL MARKETS IN THE CONTEXT OF LIBERALISATION AND GLOBALISATION

6.119 A significant feature during the past century has been the rapid evolution in the role of central banks globally. This was brought about by several factors like the liberalisation of the domestic economy and the financial system; and globalisation and technological advances. While during most of the last century central banks had made their decisions largely in a domestic context, this situation changed markedly for many countries from the early 1990s (Greenspan, 1997). In the context of the volatile capital flows and a series of crises, central banks in several countries were forced to re-examine their roles, particularly with regard to financial market development and expend considerable efforts and resources in developing strong domestic financial markets.

6.120 The experience of countries such as India has shown that with a move from plan-based and regulated structure to a market- based system, central banks' role have also undergone significant changes. Though the central bank continues to have regulatory and developmental roles, the nature of such role has changed. As a regulator of financial markets, the primary concern of the central bank is financial stability and maintenance of orderly conditions in the markets. Towards this end, it strives to create a congenial regulatory environment to support orderly market development by putting in place appropriate systems, procedures, standards and codes, risk management systems and accounting standards on par with global standards. Similarly, the developmental role of the central banks in markets involves removing irritants to market development (creating new institutions, instruments, and providing necessary infrastructural and technological support by way of modern payment and settlement systems). The integration of domestic financial markets with the global markets calls for closer coordination among central banks and international standard setting agencies to bring greater transparency and uniformity in standards across world markets to prevent crises and contagion. The changes in the structure of the economy and the financial markets, together with globalisation, have necessitated changes in the monetary policy framework and operating procedures in several countries, including India. Globalisation and liberalisation have also created various dilemmas in central bank's operations.

6.121 All central banks are fundamentally concerned about the flow of credit in their economies, whether this credit flows from banks, non-bank financial institutions, or institutional investors. In the new financial landscape institutional investors and other non-bank financial institutions hold a larger share of assets and credit risk than ever before. A large proportion of the financing needs are intermediated through securities markets which is very much in keeping with their traditional responsibilities (McDonough, 1998). Accordingly, the two important responsibilities of central banks in respect of global fixed income and debt markets are: (i) to enhance the price discovery process by promoting transparency in their own actions; (ii) to ensure that the banks, as providers of liquidity, perform their proper role in supporting the trading process by making sound credit decisions.

6.122 Globalisation and integration of financial markets have posed new challenges and dilemmas for central banks in monetary, financial and external sector management. In the context of the integration of the Indian financial markets with the global markets, the regulatory and supervisory role of the Reserve Bank has become critical for maintenance of financial stability. Accordingly, the Reserve Bank refined its monetary policy operating procedures and instruments as also its regulatory mechanism to match global standards. Various aspects of financial institutions, markets and financial infrastructure such as risk management systems, income recognition and provisioning norms, disclosure norms and accounting standards have been introduced in line with international best practices.

Evolution of the Monetary Policy Transmission Mechanism

6.123 Monetary policy in India has been continuously responding to changes in both the domestic and global macroeconomic conditions and accordingly, the operating procedures have undergone significant changes. While before the mid-1990s, reserve money was used as the operating target and banks' reserve served as the operating instrument, there has been an increase in the role of market forces in the determination of both interest rates and exchange rates, with deregulation. However, this framework came under increasing stress - the upward pressure on the money supply exerted by increasing liquidity on account of capital flows had to be sterilised (Mohan, 2004). In the context of the increasing evidence of changes in the underlying transmission mechanism of monetary policy following the importance gained by interest rates and exchange rates *vis-à-vis* quantity variables as pricing decisions were largely left to market forces, the monetary policy framework in India was revamped during the late 1990s. The reform of monetary and financial sectors enabled the Reserve Bank to expand the array of instruments at its command. The reliance on reserve requirements, particularly the cash reserve ratio, has been reduced as an instrument of monetary control. The CRR has been brought down from a peak of 15.0 per cent in 1994-95 to 5.0 per cent at present. The Statutory Liquidity Ratio has also been brought down from 38.5 per cent in 1992 to its statutory minimum of 25 per cent. Consequently, the Reserve Bank adopted a more broad-based multiple indicator approach since 1998-99, whereby interest rates or rates of return in different markets (money, capital and Government securities markets) alongwith such data as on currency, credit extended by banks and financial institutions, fiscal position, trade, capital flows, inflation rate, exchange rate, refinancing and transactions in foreign exchange available on high frequency basis are juxtaposed with output data for drawing policy perspectives. Such a shift was gradual and a logical outcome of measures taken over the reform period since early 1990s (Reddy, 2002).

6.124 In a deregulated financial environment with reasonably open capital account, monetary policy has to respond to unexpected changes on a short-term basis. The switchover to a multiple indicator approach provided necessary flexibility to the Reserve Bank to respond to changes in domestic and international economic and financial market conditions more effectively.

6.125 Some of the important factors that shaped the changes in monetary policy framework and operating procedures in India during the 1990s were the delinking of the budget deficit from its automatic monetisation by the Reserve Bank, increasing capital flows and reform of the financial markets. With the increasing globalisation and liberalisation of the Indian economy, monetary policy witnessed significant changes. While upto the early 1990s, monetary policy in India, attempted to control the cost, quantum and direction of flow of credit, the various policies initiated during the 1990s and the development and the integration of the financial markets enhanced the role of price signals of the central bank thereby making interest rates an increasingly dominant variable in monetary policy transmission mechanism in India, in place of the earlier quantity variables (Mohan, 2004). Further, with the progressive opening up of the Indian economy, monetary policy, exchange rate policy and fiscal policy had to increasingly be coordinated to ensure that the policies do not work at cross purposes (Tarapore, 2000).

6.126 In this context, the Reserve Bank has endeavoured to develop the financial markets in order to prepare the ground for moving to indirect instruments of policy. As a first step, yields on Government securities were made market related. Simultaneously, the Reserve Bank helped in creating a variety of other market related financial products. In the next stage, the interest rate structure was simultaneously rationalised and banks were given the freedom to determine their major interest rates which facilitated the use of open market operations (OMO) as an effective instrument for liquidity management as also to curb short-term volatilities in the foreign exchange market. Another important and significant change introduced during the period was the reactivation of the Bank Rate by initially linking it to all other rates including the Reserve Bank's refinance rates (April 1997). The subsequent introduction of fixed rate repo (December 1997) helped in creating an informal corridor in the money market, with the repo rate as floor and the Bank Rate as the ceiling. The use of these two instruments in conjunction with OMO enabled the Reserve Bank to keep the call rate within this informal corridor for most of the time. Subsequently, the introduction of LAF from June 2000 enabled the modulation of liquidity conditions on a daily basis and also short-term interest rates through the LAF window, while signaling the stance of policy through changes in the Bank Rate. The thrust of monetary policy particularly since the mid-1990s, has been on use of policy instruments in a more flexible and bi-directional manner. Although there is no formal targeting of overnight interest rates, the LAF has enabled the Reserve Bank to de-emphasise targeting of bank reserves and focus increasingly on interest rates. Overnight interest rates are now gradually emerging as the principal operating target (Mohan, 2004).

6.127 While the monetary system in India is still evolving and the various inter-sectoral linkages in the economy are undergoing changes, the emerging evidences on transmission channel suggest that the rate channels are gradually gaining importance over the quantity channel. The econometric evidence produced by the Third Working Group on Money Supply (1998) indicated that output response to policy operating through the interest rate was gaining strength. Similarly, the impact of an expansionary monetary policy on inflation was found to be stronger through interest rates than the exchange rate, given the relatively limited openness of the economy.

6.128 With increasing market orientation, monetary policy in India has been focusing on structural and regulatory measures designed to strengthen the financial system and to improve the functioning of various segments of the financial market. Several measures have been introduced after extensive consultations with experts and market participants and have been directed towards increasing the operational efficiency of monetary policy, redefining the regulatory role of the Reserve Bank, strengthening the prudential and supervisory norms, improving the credit delivery system and developing the technological and institutional framework of the financial sector (Reddy, 2000). The interaction of technology with deregulation has also contributed to the emergence of a more open, competitive and globalised financial market. The various reforms have laid a solid foundation which enabled the Reserve Bank to respond more effectively to the international challenges such as the East-Asian currency crises, sanctions and domestic uncertainties, besides assisting the attainment of a respectable level of growth rate, reasonable price and exchange rate stability. The Reserve Bank's conduct of monetary policy, particularly during the crises years has commanded respect and credibility, both domestically and globally.

6.129 The increasing linkages among money, Government securities and foreign exchange markets require that at times the Reserve Bank use short-term monetary measures alongside intervention to arrest excessive volatilities in the foreign exchange market. In the present market determined exchange rate regime, the primary objective of the Reserve Bank continues to be the maintenance of orderly conditions in the foreign exchange market, meeting temporary demand-supply gaps which may arise due to uncertainties or other reasons, and curbing destabilising and self-fulfilling speculative activities. In this context, the Reserve Bank closely monitors the developments in the financial markets at home and abroad and takes such measures, as it considers necessary from time to time.

Transparency, Cooperation and Best Practices

6.130 Transparency in market operations is essential for smooth functioning of financial markets as also efficient monetary policy transmission mechanism (details in chapter III). The benefit of transparency is that it reveals information about current and future behaviour of the central bank and thereby influences expectation formation and market behaviour. In the context of globalisation, the need for disseminating adequate, timely and quality data relating to various aspects of the economy such as real sector, interest and exchange rates and prices, for efficient functioning of markets has gained significance as inadequate information can result in asymmetric information and can lead to problems like moral hazard and hightened volatility in the markets. The Reserve Bank has, therefore, taken several initiatives to disseminate data on financial markets as also its operations at regular intervals to facilitate orderly functioning of markets.

6.131 Following the East Asian, Latin American and Russian financial crises, there has been a growing recognition for cooperation and exchange of information by regulators of the financial system and central banks (details in chapter III). India has been taking active part in the working of several key international fora on financial standards and codes. Through SEBI, India is represented on the International Organisation of Securities Commission (IOSCO), and was an early subscriber to the Special Data Dissemination Standards (SDDS).

6.132 The globalisation and blurring of distinction between the domestic and international markets (for equity, bonds and foreign exchange instruments) has necessitated code of best practices to create sound and strong financial markets and institutions. While the money market is generally a national market, the Government securities market, equity market and foreign exchange markets have increasingly become integrated globally calling for a common set of standards and codes regarding various aspects relating to the markets such as valuation of assets, accounting norms and disclosure standards by regulators and market participants. In the case of the securities market, the IOSCO has played a key role in bringing out global standards and the norms while for the derivatives market the International Swaps and Derivatives Association (ISDA) has played a crucial role in prescribing the best market practices. Besides, the efforts by these agencies, international institutions like the IMF, the World Bank and the G-20 have also taken keen interest in promoting convergence of global best practices for financial markets to ensure financial stability.

Institutional and Technological Infrastructure

6.133 In the liberalised financial market, participants need efficient institutional and technological infrastructure to effectively compete in domestic and global markets. Central banks have a key role in putting in place state of the art technological infrastructure and other supportive institutional framework designed to enhance financial market efficiency. In the area of institutional and technological infrastructure for financial market development several initiatives have been taken by the Reserve Bank such as operationalisation of D*v*P System, the Clearing Corporation of India, Real Time Gross Settlement System (RTGS), Centralised Funds Management System (CFMS); NDS and the Structured Financial Messaging Solution (SFMS) (details in chapter IV).

Legal Framework

6.134 Financial market reform depends on corresponding developments in the legal framework. Changes in statutes have been a gradual and slow process constraining market development in India, as in many other countries. Legislative changes, which were required to support the reforms were becoming increasingly difficult after 1993. Therefore, some of the desired changes had to be adjusted within the parameters and structure of existing laws (Rangarajan, 2000). Several measures taken for development of financial markets required changes in legislation or introduction of new laws. Illustratively, these included amendments to the Public Debt Act and introduction of Government Securities Bill (to provide flexibility in undertaking transactions in Government securities and facilitate retailing), amendments to the Reserve Bank of India Act (to bring about among other things greater flexibility in monetary policy operations by reducing the statutory minimum for CRR/SLR, enable separation of debt management functions, *etc*.); enactment of the Fiscal Responsibility and Budget Management Act (FRBM) (to bring reasonable control over fiscal management), amendment to the Banking Regulation Act (to encompass areas of security laws and regulatory framework of banking), amendment to the Negotiable Instruments Act (to bring it in conformity with the Information Technology Act, 2000 to bring electronic cheque, securitised certificate and other evolving products within its ambit); and enactment of Bill on asset securitisation (to create an enabling environment for market for asset securitisation).

6.135 As per the announcement in the Union Budget 2005-06, a Bill to amend the Reserve Bank Act, 1934 for providing, among other things, legality to OTC derivatives has been introduced in the Parliament. Similarly, the Government Securities Bill seeks to broaden the market for Government securities by facilitating retail interest while also ensuring an orderly secondary market. Some of the substantive improvements expected in the management of public debt on account of this Bill are: (i) stripping and reconstitution of Government securities to facilitate improved secondary market liquidity, and enabling better risk allocation for investors, (ii) provision for hypothecation, pledge and creation of lien on Government securities, *etc*. These measures are expected to facilitate market developments.

Role of Consultative Approach

6.136 A hallmark of the financial market reform process in India has been the consensus building, which is operationalised through inter-departmental working groups, inter-agency committees and Technical Advisory Committees at the formulation stages and Financial Markets Committee (FMC) at the monitoring stage. The aim is to involve all the stakeholders in the formulation and implementation stages. Greater deregulation underscores the importance of closely monitoring market developments by the regulator which takes place through the FMC in the Reserve Bank, (it meets daily before the opening of the markets and at times on more than one occasion, when situation warrants). The FMC reviews the liquidity and interest rate situation in financial markets and advises the top-management on the course of action that would be required by the Reserve Bank during the day. This institutionalised framework helps the Reserve Bank to take an integrated view on all important decisions having an impact on financial markets. As excessive volatility in the financial markets could impair the balance sheet of banks, have adverse effects on confidence in the markets and also pose a threat to financial stability, the Reserve Bank continuously monitors developments in various segments of the financial market and takes necessary corrective measures. A separate Financial Markets Department (FMD) has been set up in the Reserve Bank to provide greater focus to market surveillance.

III. CONCLUSIONS

6.137 A review of the financial market development in India during the past seven decades reveals that the Reserve Bank has been successful in creating deep and vibrant money, Government securities and foreign exchange markets, though they still need to be strengthened further. The success of the reform process has so far depended on several factors like macroeconomic stability, sound financial institutions, a favourable legal framework, technological support and congenial policy environment. Further, financial market reform was calibrated with reforms in other areas, in particular with fiscal reforms, and reforms in the external sector. Financial market development in India has, apart from improving monetary policy transmission mechanism facilitated changes in monetary policy strategies: from emphasis on credit allocation to monetary targeting and the subsequent multiple indicator approach. These changes would not have been possible without financial market development. The success of deregulation of interest rate regime in India owes significantly to the simultaneous development of financial markets. Financial markets have enabled banks and institutions to better manage their affairs, liquidity and treasury operations and thereby strengthened their fund-based income and profitability. Further, the growth of financial markets in the 1990s contributed towards improved asset and liability management by banks and other financial entities. At the same time there was a significant shift in the financing pattern of larger companies, which moved away from the banking system to raise resources from the financial markets.

6.138 Though the various initiatives taken by the Reserve Bank have resulted in deep and wide, money, Government securities and forex markets, the reform process is far from over.

6.139 In the money market, the policy thrust of the Reserve Bank would continue to be to encourage the development of collateralised market, broad-base the pool of securities to act as collateral for repo and CBLO markets and provide avenues for better risk management with further improvements in the ALM framework. In the Government securities market, in the FRBM environment short-selling with appropriate safeguards, developing “When Issued” market, active consolidation and ensuring effective debt management are likely to be some of the challenges facing the Reserve Bank. In the forex market, further liberalisation of the capital account in line with CACs recommendations could pose fresh challenges to the Reserve Bank. Greater attention may have to be paid on aspects such as upgrading risk management systems, derivatives accounting standards, customer suitability and appropriateness standards and improve disclosure.

6.140 In the context of integration of the Indian financial markets with the global markets, the Reserve Bank has been constantly refining and fine-tuning its regulatory mechanism to match global standards. To safeguard financial stability, central banks, including the Reserve Bank, have to closely monitor the current and evolving global developments. Global financial imbalances, coupled with other developments such as abundant liquidity and generally low interest rates in the global financial markets, growing sophistication of financial market participants and the proliferation of complex and highly leveraged financial instruments including credit derivatives and structured products such as Collateralised Debt Obligations could cause liquidity and interest rate risks and heighten volatility in the financial markets, if there is an abrupt and sharp readjustment. This issue has gained more relevance in the context of the recent trend of consolidation in the financial sector. The single most important risk factor for financial markets in good times is complacency (Global Financial Stability Report, 2005). This coupled with factors such as low risk premiums and untested elements of risk management systems dealing with complex financial instruments could ultimately become hazardous to financial markets. These developments pose a challenge to the Reserve Bank and other central banks, as they have to factor these in while designing monetary policy responses, devise strategies to mitigate systematic liquidity risks to stave off crises and keep a close watch on financial market innovations.

6.141 Central banks, including the Reserve Bank, have to be vigilant about the risk profile of financial intermediaries, particularly concentration risk and their vulnerability to abrupt market price shocks. The current global financial scenario highlights the need for appropriate risk management strategies as also for greater coordination and information sharing among central banks to prevent transmission of adverse developments abroad to the domestic economy and markets.

6.142 Notwithstanding the significant changes in the financial markets, there are several imponderables which may have a bearing on monetary policy. Some of the developments which are likely to have a bearing on the size and evolution of the money and Government securities markets in the coming years are implementation of the FRBM Act, 2003 (which would put an end to the Reserve Bank's participation in primary auctions of Central Government securities from April 1, 2006). While this would lead to functional separation of debt management from monetary operations thereby enabling the Reserve Bank to have greater control over the composition of its balance-sheet and flexibility in monetary operations, it would also call for greater coordination between the Reserve Bank and the Government for ensuring stability in the financial markets. In the context of the changed monetary and debt management scenario, the Reserve Bank has to take steps to fine-tune its open market operations and LAF. Greater accuracy in forecasting market liquidity over the short- to medium-term has also become very crucial. The issue of broad-basing the pool of securities to act as collateral for the Reserve Bank repo may also have to be examined.

6.143 Another challenge confronting the Reserve Bank in the medium-term is the increasing openness of the Indian economy and the management of liquidity, following strong capital inflows. As there is a trade-off between the excessive volatility in the financial markets, exchange rates and interest rates which are likely to result in erosion in the competitiveness of the economy on the one hand, and financial cost of sterilisation (measured as outgo of coupon on the sterilised amount over and above the earnings from deployment of foreign exchange reserves) on the other, the Reserve Bank has to properly balance its sterilisation operations. In addition, sterilisation operations also have implications for the issue of stabilisation of short-term interest rates in the money market calling for fine-tuning of its policy instruments by the Reserve Bank so as to keep call money rates range bound (within the corridor of the repo and reverse repo rates).

6.144 Liberalised and integrated financial system and markets pose fresh challenges to central banks as they tend to amplify existing distortions in macroeconomic management. It often generates excessive optimism and under-pricing of financial assets, which coupled with capital account convertibility and high fiscal deficits lead to crises. In a liberalised financial system, it is no longer regulation, but market discipline, which maintains financial stability. This necessitates greater transparency, fostering strong institutions and developing better risk analysis systems. Improvements in market discipline also call for greater coordination between banks, major players in the financial markets and regulators. Market discipline (Basel II, Pillar III) therefore, assumes significance: commercial banks in India will start implementing Basel II norms with effect from March 31, 2007. In order to have greater transparency in the financial position and risk profile of banks, India has been expanding the area of disclosures. Adoption of Basel II would improve risk management systems and enhance the competitiveness of Indian banks, thereby enabling them to play a more active role in global financial markets.

6.145 Over the years, the changes in monetary and financial regime globally have changed the dynamics of the financial markets. In the area of monetary policy, the low and stable inflation coupled with very strong central banks have changed the monetary dynamics. Consequently, while rising inflation is no longer a major concern, excessive increase in asset prices and credit have emerged as major challenges facing the central banks as this could lead to financial instability. As economies have become more pro-cyclical, inflation is no longer the major indicator of financial stability because strong swings in asset prices could lead to financial instability. In the context of financial stability, besides improved transparency, better analysis of trends in major sectors of the economy and banks to detect signs of stress, policies which better affect inflation expectations and cautious liberalisation of international capital movements have assumed significance. The Reserve Bank and other central banks have to pursue market driven strategies and policies that are stable and forward looking to anchor expectations. Fiscal discipline and deep and well functioning financial markets are necessary for the success of central bank's policy strategy.