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Financial Markets

INTRODUCTION

Financial markets play a key role in transmitting monetary policy signals by the central bank in a market-oriented policy environment. Until about the 1990s, functioning of most of the financial markets was subject to several constraints, such as controls over pricing of financial assets, restrictions on the flow of transactions, barriers to entry, low liquidity and high transaction costs. Monetary policy was also not attuned to the use of market-based indirect instruments. The financial markets in India in the pre-reform period functioned in an environment of financial restrictions, driven dominantly by fiscal compulsions. Dealings in the money market were confined to overnight call money and notice money. Financial intermediaries in the money market were practically non-existent. Rates of interest on instruments in this market were tightly controlled, with ceilings prescribed on almost all the rates. The government securities market was narrow and dealings in this market were on a limited scale. Thus, the money and government securities markets could not provide the needed basis for the conduct of credit policy through indirect instruments of control. A regime of tight exchange and trade controls prevalent in the 1980s precluded the growth of an active foreign exchange market. The Reserve Bank made attempts in the second half of the 1980s to impart some measure of flexibility to the money and government securities markets. However, on account of lack of financial market integration, there were no dynamic linkages between the money market and the conduct of monetary and credit policy.

Financial sector reforms since the early 1990s sought to remove the constraints through liberalisation and deregulation of the financial sector.

The Reserve Bank embarked on a programme of developing the financial markets, such as money, government securities and foreign exchange markets, in a smooth and seamless way. Repos (repurchase agreements) were introduced as an operating instrument for liquidity management and coincidentally served as a money market instrument.[1] The Government participated in this endeavour by guiding the policy direction of the Reserve Bank.

As the securities market regulator, the Securities and Exchange Board of India (SEBI), is entrusted with the responsibility of developing the capital market comprising the debt and equities markets. Since some of the money market instruments and government securities are also traded in the stock exchanges, there evolved a regulatory co-ordination between the Reserve Bank and SEBI. This chapter covers related developments in institutions, instruments and market infrastructure, mainly during the period from 1989–90 to 1996–97, linking some earlier developments as necessary. Annex 16.1 presents a consolidated view of developments in the financial markets.

THE SETTING: RECOMMENDATIONS OF VARIOUS COMMITTEES

The initiation of the financial sector reforms by the Reserve Bank was aided by the recommendations of three committees. The committee to review the working of the monetary system (Chairman: Prof Sukhamoy Chakravarty) laid the foundations, *inter alia*, for the reform and development of the money market, contemporaneously with the strengthening of the government securities market. It made a strong case for an active money market. First, the development of an efficient money market required developing institutions, instruments and operating procedures to widen and deepen the market and allocating short-term resources with minimum transaction costs and minimal delays. In India, this task should be performed by the Reserve Bank, the report declared. Second, the central bank as an important constituent in the money market on account of its role as lender of last resort to banks formed a sizeable segment of the money market. The committee also envisaged the development of an active secondary market for Treasury Bills by providing necessary support to brokers and dealers and permitting banks to avail of their services.

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1. Repo and reverse repo meant absorption and injection of liquidity, respectively. The nomenclature of repo and reverse repo were interchanged with effect from October 29, 2004 aligning with international usage.

The report of the working group on the money market (Chairman: Shri N. Vaghul) framed its main recommendations on three tenets. First, the money market should evolve as an equilibrating mechanism for evening out short-term surpluses and deficits; second, this market should serve as a focal point for central bank intervention for influencing the liquidity in the system; and, third, it should afford reasonable access to users of short-term money to meet their requirements at a realistic price. These objectives were to be realised by a four-pronged strategy, *viz.*:

(i) Widen and deepen the money market by selectively increasing the number of participants. This would broaden the base of money market operations by ensuring adequate supply of funds.

(ii) Activate the existing operational instruments and develop new market instruments so as to have a well-diversified mix of instruments suited to different requirements of borrowers and lenders.

(iii) Make an orderly move away from a structure of administered interest rates to market-determined interest rates.

(iv) Create an active secondary market by establishing new sets of institutions that would impart sufficient liquidity to the system.

The working group recognised that while continued supervision of the money market was necessary and the phased deregulation of the market needed to be approached with caution, there should be transparency of rules rather than a predominance of discretion. It observed, "The objective should be to move towards a more efficiently operating money market which would generate a ripple effect through the monetary and banking system."

The committee on the financial system (Chairman: Shri M. Narasimham) identified the main building blocks for reform of the working of the commercial banking sector and development financial institutions (DFIs). It noted that inter-bank call money transactions still formed the major part of money market activity, and even though instruments such as the 182-day Treasury Bills, certificates of deposit (CDs) and commercial paper (CP) had been introduced, there was still a high degree of volatility in this market. The report observed that efforts had been made to broaden activity in the money market and to create a secondary money market, and hoped that broadening the money market by inducting more participants, especially of market-makers, and enlarging the variety of instruments would help develop and activate the secondary market. It added that market activity would expand if more scope was given for the

bills discounting business, and wanted the Reserve Bank to use its bills rediscounting function in larger measure as a method of refinancing in order to popularise the bill as an instrument of finance.

In addition to these three committees, the Reserve Bank followed a consultative approach to the development of financial markets by forming various internal working groups and committees with participation from outside institutions and market players from time to time.

ORGANISATIONAL STRUCTURE OF THE FINANCIAL MARKETS

MONEY MARKET

Money markets perform the pivotal role of acting as a conduit for equilibrating short-term demand for and supply of funds, thereby facilitating the conduct of monetary policy. A freely operating money market is a sensitive barometer of the prevailing and evolving conditions in the financial markets and, ideally, this market provides a mechanism for clearing short-term surpluses and deficits. In India, the strengthening of the money market and its structure was an integral component of the overall deregulation process of financial sector reform. The instruments in use were money at call (overnight) and at short notice (up to 14 days), CDs, CP and bill rediscounting of commercial banks. Activities in most segments other than the call money market and, to some extent, CDs, were few and far between.

Until about the year 1987, the money market suffered from paucity of instruments, and both the interest rates and participants were tightly regulated. Thus, the market was practically moribund. However, a series of policy measures taken from 1987 paved the way for significant changes in the structure of the money market in the next few years.

The progress made towards strengthening the money market was highlighted by the Governor, Shri R.N. Malhotra, in the H.S. Kamath Memorial Lecture delivered at the Academy of Administration, Bhopal, on September 1, 1989. He termed the changes that had been ushered in as a "metamorphosis", the major being: (i) the introduction of 182-day Treasury Bills on auction basis; (ii) setting-up the Discount and Finance House of India Ltd (DFHI) to develop an active secondary market in money market instruments; (iii) launching two types of inter-bank participation — one with risk and the other without risk; (iv) removal of interest rate ceilings on call and notice money, inter-

bank term money, rediscounting of commercial bills and on inter-bank participations without risk; and (v) the induction of two money market instruments — CDs, which provided a market-determined rate of return on bulk deposits, and CP, which enabled prime borrowers to raise short-term funds from the market.

The Reserve Bank promoted the development of the money market in diverse ways. First, interest rate ceilings on inter-bank call/notice money (as mentioned above) were withdrawn from May 1, 1989. Second, there were several innovations in money market instruments, *e.g.*, Treasury Bills auctions (commencing from the auction of 182-day bills in November 1986), CDs (June 1989), CP (announced in March 1989 and introduced in January 1990) and repos (December 1992). Third, the barriers to entry were gradually reduced, thereby increasing the number of market players, beginning with the establishment of the DFHI in April 1988, followed by primary dealers (PDs) and satellite dealers (SDs) (announced in December 1996) and money market mutual funds (MMMFs); relaxing both issuance and subscription norms for money market instruments and allowing the yields to be determined by demand and supply of such paper; and enabling market evaluation of associated risks by withdrawing regulatory restrictions, such as, bank guarantees for CP. Fourth, the market for short-term funds at market-determined rates got a boost with the gradual switch from a cash credit system to a loan-based system, shifting the onus of cash management from banks to borrowers, as well as the phasing out of the 91-day Treasury Bills on tap at 4.6 per cent interest rate, which had served as an outlet for investing short-term surplus funds. Finally, measures were taken to strengthen inter-linkages between the money market and the foreign exchange market; this gained impetus after a market-based exchange rate system was put in place in March 1993. The DFHI, through its manifold activities, played an active role in this reform process.

Thus, the money market got a shot in the arm with the repositioning from a regime of administered interest rates to market-determined pricing of assets and liabilities. Other developments that hastened the process included limiting and then discontinuing the automatic monetisation of fiscal deficit, thus necessitating raising of funds through the gilt-edged market and relying less on statutory liquidity ratio (SLR) as a policy instrument for debt management; a shift towards indirect instruments of monetary control; and emergence of an institutional framework in the form of PDs, SDs and MMMFs.

CALL/NOTICE MONEY MARKET

The overnight inter-bank call money market, in which banks traded positions and maintained reserves, had been a key component of the money market in India. It was basically an 'over-the-counter' market without the intermediation of brokers. Since the 1980s, participation was progressively widened [*i.e.,* originally banks, Life Insurance Corporation of India (LIC) and Unit Trust of India (UTI)] to include other financial institutions (FIs), mutual funds PDs/SDs, participants in the bills rediscounting market and the corporate (through PDs). The banks and PDs that were part of the payments system were allowed two-way operations, namely, lending and borrowing, while other participants with surplus short-term funds were permitted as lenders, to provide them with short-term investment opportunities in the absence of other avenues and ease the strain on the inter-bank market caused by pressures on short-term liquidity.

The movements in the call money rates were influenced mainly by the liquidity position of banks and other FIs, and these were dependent on a variety of considerations. On the supply side, the main factors were changes in the reserve requirements of banks, impounding and release of incremental cash reserve ratio balances, flow of funds from abroad and their outflow and trends in deposit mobilisation. On the demand side, the government borrowing programme, tax outflows, off-take of food credit and seasonal fluctuations in demand for funds impacted the money market rates. For a considerable period, the call money market suffered from two asymmetries, namely, few lenders compared with a large number of borrowers, which resulted in less than optimal management of funds and, second, a chronic reliance by some banks on money market funds to comply with statutory reserve requirements. However, over time, the Reserve Bank widened the money market by increasing the number of participants, namely, LIC, General Insurance Corporation of India (GIC), Industrial Development Bank of India (IDBI) and National Bank for Agriculture and Rural Development (NABARD), on the supply channel. All participants in the bills rediscounting market who were not operating in the call/notice money market were allowed entry as lenders from October 20, 1990. Select all-India FIs were permitted to operate as borrowers in the term money market from October 1993. For a long time, only mutual funds set up by public sector banks (PSBs) operated as lenders in the call/notice money/rediscounting market. In April 1995, the Reserve Bank provided access to mutual funds set up in the private sector and

approved by the SEBI as lenders in this market with a view to facilitating a level playing field among participants.

COMMERCIAL BILLS MARKET

Traditionally, the commercial bills market was very small and the volume of commercial bills rediscounted by commercial banks with FIs not large. Moreover, operations in the commercial bills market were constricted by the cash credit system, where the onus of cash management was borne by commercial banks. The success of the bills market depended heavily on the financial discipline exercised by borrowers. The Reserve Bank tried to improve the working of the market in several ways, but with little effect. With this objective, the interest rate ceiling of 12.5 per cent on rediscounting of commercial bills was withdrawn from May 1, 1989. The Reserve Bank enhanced refinance limits to the DFHI against the collateral commercial bills/derivative usance promissory notes in 1990–91 to augment the flow of funds to the bills rediscounting market. Later, in July 1992 the Reserve Bank restricted financing of bills by banks to the extent of the working capital needs based on credit norms. To encourage a bill culture, the Reserve Bank advised banks in October 1997 that at least 25.0 per cent of inland credit purchases of borrowers should be through bills.

GOVERNMENT SECURITIES MARKET

The government securities market[2] in India in the past had been narrow principally due to low coupon rates. Moreover, the captive market was dominated by institutional investors who had to compulsorily invest in government and other approved securities to comply with statutory requirements. No doubt, during the 1980s coupon rates on dated securities were raised, but still they were not attractive enough to potential investors outside the captive market. Furthermore, the growth of the gilt-edged market was severely constrained by unlimited and automatic monetisation of the budget deficit of the Central Government and the low coupon rates offered on government securities in order to reduce the Government's burden of interest payments. The abnormally low yields on government securities (especially for the 91-day *ad hoc* as well as tap Treasury Bills) resulted in the yield pattern of financial assets in the system becoming artificial and far removed from the 'real' rate of interest.

2. The topic of government securities market has also been covered in chapter 15: Public Debt Management.

The Reserve Bank realised that a strong and vibrant government securities market was a *sine qua non* for discharging its responsibilities as debt manager and regulator, as also for effective monetary and public debt management. After the launch of wide-ranging economic reforms in 1991, the Government also subscribed to this view. This was because the size of the Central Government's annual borrowing programme was substantial and it not only overreached the viability of the debt market but also affected adversely the fundamental monetary, fiscal and other related macroeconomic variables, if not managed properly. In the event of the Government having to borrow more than what the market could absorb, interest rates would have to be set at higher than normal or real levels. Ultimately, the non-governmental sector would be 'crowded out'.

The implementation of the recommendations of the Chakravarty Committee had already provided an impetus to the development of the government securities market. However, it was only since 1992–93 that this market underwent remarkable transformation and gained in strength and importance. In the credit policy circular to banks (dated April 21, 1992) the Reserve Bank declared that the development of government securities market was an important step towards the evolution of tools of monetary control other than those provided by reserve requirements and credit controls. Further, the Reserve Bank affirmed therein that the policy was intended to ensure that the Government's credit needs were increasingly met directly from the market instead of through pre-emption of deposit resources. This also marked adoption of an active internal debt management policy in place of a passive one.

The sale of dated government securities and Treasury Bills by the method of auction (from June 1992) was a milestone event because it affirmed the move to market-related rates on government securities and improved the 'price discovery' of these instruments. The most preferred selling technique was 'multiple price auction'. However, the practice of entertaining non-competitive bids in Treasury Bills to state governments, non-government provident funds (PFs) and foreign central banks at the weighted average price determined in auctions continued. The Reserve Bank participated in primary auctions and, on occasions, took up some part of the issues in cases of under-subscription at the accepted yield/price.

FOREIGN EXCHANGE MARKET

The foreign exchange market in India became an active one by the mid-1990s, as it emerged from a regime of exchange control to fulfil its principal

function of price determination in its various segments, particularly after current account convertibility was introduced in 1994. Quantitative controls and barriers to entry were progressively dismantled to allow greater volumes in trading and diversity in transactions to be cleared in the market.

The Indian foreign exchange market had a three-tier structure. These included: (i) the Reserve Bank of India at the apex level; (ii) authorised dealers (ADs) licensed by the Reserve Bank to undertake foreign exchange business under the Foreign Exchange Regulation Act, 1973 (FERA)[3]; and (iii) customers, such as importers and exporters, corporate entities and other foreign exchange earners. In addition, there were foreign exchange brokers, who brought buyers and sellers together, but were not permitted to deal in foreign exchange on their own account.

ADs were governed by the guidelines framed by the Foreign Exchange Dealers' Association of India (FEDAI). Dealings in the foreign exchange market covered transactions between ADs and exporters/importers and other customers, inter-bank transactions among ADs themselves, transactions with overseas banks and transactions between ADs and the Reserve Bank.

With the introduction of the unified exchange rate management system[4] in March 1993, the Reserve Bank was not required to sell foreign exchange in the market. All commercial transactions were put through at market-determined exchange rates. The Reserve Bank quoted its buying and selling rates, which were generally in accord with the market rates and could move within a 5.0 per cent band of the prevailing market rates. The Reserve Bank also, at its discretion, intervened in the market to ensure that orderly conditions prevail.

The Indian foreign exchange market had a thin but growing forward market. With the exchange rate being market-related, the need for protection against adverse currency movements grew and banks increasingly made use of hedging instruments to cover their foreign currency exposures. Prior to 1994, the only hedge instrument was forward cover for foreign currency exposures, which was available to corporate entities. In January 1994, banks were permitted to offer cross-currency options on a fully covered basis.

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3. FERA, 1973, was subsequently replaced by the Foreign Exchange Management Act (FEMA, 1999).
4. The Liberalised Exchange Rate Management System (LERMS) was instituted in March 1992 and the dual exchange rates were merged in March 1993.

Risk Management in the Forex Market

In a regime of exchange control, risk management subserved the interests of exchange and payments restrictions. Moreover, the law of 'one price' could not operate in a milieu where interest rates were regulated and capital controls were in vogue. Therefore, the risk management by banks was limited to the decision whether or not to hedge.

Up to 1994–95, the exchange risk arising out of foreign exchange transactions was regulated by adhering to certain limits on the open positions of banks. These limits included daylight limits for dealing room operators by the managements of individual banks, overnight limits for open position in each currency as well as for all currencies put together and cut-loss limits that limited the loss if the rate continuously moved against the bank.

The Reserve Bank had stipulated much earlier in 1978, that ADs should maintain a square or near-square position at the end of the day. In October 1992, the authorities imposed a cap of US$ 1.0 million oversold against rupees to prevent excessive speculation; this limit was raised to ₹ 16 crore overbought or oversold in May 1994. Exchange risk that arose due to a mismatch in the forward maturities for which the market was shallow, thin and volatile was controlled by adhering to individual gap limits placed on mismatches in various currencies bought and sold for a particular month and the aggregate gap limit (AGL) that was fixed for all the gaps irrespective of their being positive or negative for all currencies put together. The Reserve Bank guidelines issued in 1994–95 stipulated that the total AGL should not exceed US$ 100.0 million or six times the owned funds of the bank, whichever was less. This ensured control over uneven inflows and outflows due to mismatches.

Measures to Deepen the Foreign Exchange Market

Prior to February 1992, ADs could cover the exchange risk of their customers only for trade transactions and customers had to directly take cover in the currency in which they were exposed against the rupee. From March 1992, ADs were allowed to offer forward cover not merely for trade transactions, but for all other genuine transactions as long as the amounts and maturity dates were identifiable. To allow customers greater flexibility in their hedging decisions, the Reserve Bank permitted covering of exposure in currencies other than the US dollar by splitting it into two components (both against the US dollar). The customer was given the freedom to cover each component separately or to cover only part of the

risk, leaving the other exposed. Banks could offer long-term forward cover using structured rates on a case-by-case basis. Forward contracts could also be entered into for remittances of dividend and capital for foreign direct equity investment. To impart liquidity to the foreign exchange market and provide market participants with operational freedom and manoeuvrability, corporate entities were permitted to cancel and re-book forward contracts. Earners of foreign exchange were allowed to retain 16.0 per cent of their foreign currency earnings (enhanced to 25.0 per cent in March 1994) with ADs, which could be used for certain approved purposes. At the same time, the limit on 100.0 per cent export oriented units (EOUs) in export processing zones (EPZs), software technology parks (STPs) and electronic hardware technology parks (EHTPs) was raised to 160.0 per cent. In November 1993, the Reserve Bank introduced a scheme of pre-shipment credit in foreign currency (PCFC) to enable Indian exporters to avail of credit at competitive international rates; however, this scheme was withdrawn in February 1996.

ADs were empowered to negotiate bankers' acceptance facility (BAF) with either overseas banks or discounting agencies or a similar arrangement with any other agency without the prior approval of the Reserve Bank for the purpose of rediscounting bills abroad. The rate of interest on BAF or similar arrangement was not to exceed 1.0 per cent over the six months' London interbank offered rate (LIBOR) in the case of rediscounting with recourse and 1.5 per cent over the six months' LIBOR in the case of rediscounting without recourse. In addition, ADs could on-lend in foreign currency as well as invest abroad in certain specified instruments.

The Reserve Bank set up in November 1994 an expert group on foreign exchange market in India to recommend measures for the growth of an active, efficient and orderly foreign exchange market and for the introduction of new derivative products. The expert group made several recommendations concerning removal of market constraints, the development of derivative products, with suggestions for short and long-term measures, and risk management accounting and disclosure standards. It also dealt with aspects such as information systems and clearing mechanisms relating to the forex market.

IMPORTANT DEVELOPMENTS IN THE FINANCIAL MARKETS AND THE RESERVE BANK'S RESPONSES

In view of the close relationship and inter-linkages among the financial markets that have a bearing on the conduct of monetary and exchange rate

policies, it is useful to focus on certain important developments in each of the markets and the responses of the Reserve Bank to the same.

MONEY MARKET

Money markets broadened and diversified with the operationalisation of CDs and CP and the introduction of 182-day Treasury Bills, and deepened with the increase in the number of participants and abolition of stamp duty on bills. However, with the deregulation of interest rates on money market instruments, the money market was subjected to occasional bouts of interest rate volatility and banks found it unremunerative to have chronic dependence on this market. Consequently, banks accorded high priority to improved funds management. Even though the Reserve Bank provided the DFHI with as much as ₹ 1,000 crore in March 1990 as temporary support to ease the extreme stringency in the market, continued support was not possible from the point of view of conducting effective monetary policy. The Reserve Bank also cautioned banks that a well-functioning money market could only smoothen short-term imbalances, but could not be a good source for financing their structural disequilibria.[5]

Spells of Volatility

The call money rates remained stable until the middle of October 1990, but immediately thereafter, they escalated to high levels as reflected in the call money rate of the DFHI touching a high of 61.0 per cent on October 19, 1990. To moderate the volatility, the Reserve Bank increased the access to its discretionary refinance facility, softened the loss of interest on cash reserve ratio (CRR) defaults and enhanced the limits for issue of CDs by banks. The call money rates softened from the fortnight ended November 2, 1990 and the maximum call rate came down to 16.25 per cent during the fortnight ended December 28, 1990; they remained range-bound between 16.0–17.0 per cent until February 22, 1991. There was a temporary hardening of rates during the months of March and April 1991 and the DFHI's call rate rose to a peak of 46.0 per cent in the fortnight ended April 5, 1991. The scene was repeated in the months of April and May 1991, with rise in call money rates to very high levels and the average for the fortnight ended May 17, 1991 was 43.0 per cent as against 23.0 per cent for the comparable fortnight in the previous year. The demand for funds came down, because such high call rates were not viable for borrowers.

5. Reserve Bank of India, *Annual Report, 1989–90.*

However, by the end of May 1991, the call money market turned easy and remained so until the end of March 1992.

The Reserve Bank discerned that high call rates distorted the pattern of investment in favour of short-term lending rather than more productive purposes, and if reasonable rates were to prevail, banks should not over-extend themselves in terms of provision of credit in the expectation that the call market would meet the gap.

The comfortable conditions in the money market between December 1991 and the end of March 1992 were mainly due to excess short-term liquidity in the financial system on account of foreign inward remittances, counterpart funds of the India Development Bonds (IDBs) and sluggish demand for non-food credit.

The reasons for the instability in call money rates in 1990–91 were traced to factors, both systemic and regulatory, governing the maintenance of reserve requirements by banks. The Reserve Bank came round to the view that the existing system of maintenance of CRR on the basis of a daily average for a fortnight had contributed to the volatility. Though this system provided flexibility to banks both on the borrowing and lending sides; this flexibility turned out to be the cause of volatility. Since any change in the method of maintenance of reserve requirement needed a fundamental change in the legislative framework, the Reserve Bank was reconciled to the fact that since some banks were structurally dependent on the money market, call money rates would remain erratic, and the resolution of high volatility in call money rates rested more in the method of reserve requirement system than in the over-extended position of these banks.

Although the Reserve Bank was working towards greater integration of various sectors of the money market, it was realistic enough to concede that this was a long-term objective, namely:[6]

> A prerequisite for a well-developed financial system is close integration of various segments of the money market leading to greater stability in and narrowing of differentials among the relative interest rates. Convergence in interest rates on different money market instruments will have to wait till the rates in other segments of the financial markets are freed. A precondition for this to be achieved is that the phenomenon of large monetisation of the Government debt would need to come down drastically.

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6. Reserve Bank of India, *Annual Report, 1991–92.*

Reflecting the relatively comfortable liquidity conditions in the banking system, call money rates ruled generally easy during 1992–93, except for a brief period in April and May 1992 when rates flared up to a high of 100.0 per cent on April 28, 1992. This extreme volatility was caused by increased borrowing by some banks to cover their enhanced CRR requirements on year-end increase in deposits within a short period due to a number of bank holidays in April and May 1992, inadequate supply of call funds and uncertainty in the market caused by irregularities in fund management by some commercial banks and FIs, particularly in their operations in government securities.

The DFHI commenced its operations in central government dated securities in April 1992, but the overwhelming proportion of these transactions during 1992–93 pertained to repos with the Reserve Bank. The activity in commercial bills was at a low ebb consequent to reduced recourse to the bill system following the Reserve Bank's stringent action in July 1992 to curb irregular use of the bill discounting/rediscounting facility.

During 1993–94, the money market witnessed easy availability of short-term funds, particularly call money, at comparatively low and stable rates of interest for most part of the year. Banks and FIs began to park their surplus funds in Treasury Bills (both at primary auctions and in the secondary market), and, as a result, the cut-off yields at Treasury Bills auctions drifted downwards.

The call/notice money market enjoyed comfortable liquidity conditions during the greater part of 1994–95. In September 1994, however, the markets turned somewhat stringent following, *inter alia*, a pick-up in non-food credit. The peak lending rate of the DFHI touched 53.0 per cent on September 23, 1994 (as against the normal range of 5.0–10.0%). The Reserve Bank, in order to facilitate a return to orderly conditions in the call/money market as also to improve the effectiveness of monetary management, advised banks to minimise day-to-day swings in their CRR balances. The rates returned to normal by early December 1994, but this proved to be short-lived. Immediately thereafter, banks faced a liquidity crunch due to moderation in capital inflows and continued high demand for non-food credit. The call money market once again became tight in December 1994, accentuated by transient causes such as advance tax payments and public sector undertakings' (PSU) equity sales. To ease the situation, the Reserve Bank injected liquidity into the system through

additional money market support to the DFHI and the Securities Trading Corporation of India Ltd (STCI), as well as through some limited open market purchases of government dated securities. A new line of reverse repo facility was opened to the DFHI and the STCI as liquidity support. The conduct of reverse repos enabled the Reserve Bank to indirectly intervene in the market, arresting any upward pressure on the call money rates.

The rates in the call money market ruled steady from April to October 1995. However, from the end of October 1995, the call money rates of banks rose sharply, touching a peak of 85.0 per cent on November 3, 1995 that mirrored the turbulence in the foreign exchange market and the Reserve Bank's intervention in that market to prevent unusual depreciation of the Indian rupee. Moreover, the massive borrowing programme of the Central Government contributed to the volatility in call rates. After the spot foreign exchange market stabilised, the Reserve Bank provided money market support, which rose to an unprecedented level of ₹ 5,555 crore on November 8, 1995. This intervention, coupled with other policy measures, such as a reduction in reserve requirements and enhancement of limits for banks under the government securities refinance facility, helped moderate call money rates by December 1995, notwithstanding the underlying pressure on the call money rates of banks caused by asset-liability mismatches amidst high demand for non-food credit in the face of sluggish deposit growth.

The call money rates once again firmed up between the middle of February 1996 and the middle of March 1996. The Reserve Bank's money market support during this period was, however, minimal. This was deliberate since a large injection of liquidity would have jeopardised the efforts to maintain exchange rate stability. The call money rates ruled easy once again after the middle of March 1996, following the inflow of funds into the banking system, aided partly by spot foreign exchange market purchases by the Reserve Bank. Subsequently, the phased reduction in the average CRR (spread over April–July 1996) as well as the relaxation in CRR and SLR on non-resident (external) rupee (NR(E)R) deposits further helped to ease the call money rates.

During 1996–97, there was a substantial pick up in liquidity — particularly in the last quarter of the year — emanating from policy-induced cuts in CRR and the revival of capital inflows from abroad. This led to significant softening of interest rates at the short end of the money market. However, the interest rate spread across varying maturities was high, as evident from the steep yield curve, the continued presence of

market segmentation and high inflationary expectations. The market absorption of government securities was comparatively high, while the off-take of commercial credit was sluggish. The call money rates in general exhibited moderate fluctuations during the year in contrast to the volatility during the previous year.

With a view to provide a reasonable floor to call money rates as also a short-term avenue for banks to park their surplus funds, the Reserve Bank resumed its repo auctions in November 1996. Another objective was to ensure that money market rates did not dip to unreasonably low levels. Accordingly, repo auctions were conducted on a regular basis during January–March 1997. During the year, a conscious attempt was made to broad base the call/notice money market by increasing the number of participants. Four PDs were additionally permitted to participate in the call/notice money market as both borrowers and lenders, and seven mutual funds were allowed to participate as lenders. Consequently, the turnover in the market improved.

GOVERNMENT SECURITIES MARKET

The price movements in the government securities market[7] were considerably influenced by various factors, such as, the Central Government's actual borrowing *vis-à-vis* the budgeted amounts, the maturity structure of debt issued or proposed to be issued, the absorptive capacity of the market and the policies on domestic debt management. The Reserve Bank, in its Report on Currency and Finance for 1995–96, postulated that for the growth of a market with adequate depth and liquidity and to avoid unidirectional movements in the market, players with different perceptions and liquidity requirements needed to emerge. A well-developed government securities market, it was felt, would in turn enable other segments of the debt market to develop.

The market for government securities was activated by the Government reducing its dependence on credit from the Reserve Bank of India and commercial banks. The Reserve Bank, on its part, recast its debt management strategy to serve as a tool of monetary control with flexible interest rates, devised new market instruments and modulated liquidity expansion/contraction through open market operations (OMOs). Also, existing financial instruments were made available with varying short-term maturities to cater to the needs of different classes of investors.

7. Also refer to chapter 15: Public Debt Management.

During the 1990s, as already referred to, a system of auctions was introduced to develop government securities as a potent monetary instrument and to bring about flexibility in the market rates of interest. For example, the auctioning of 364-day Treasury Bills was undertaken in 1991–92 and auctioning of 5-year and 10-year bonds was done for the first time in 1992–93. The DFHI started dealing in dated government securities on a limited scale from April 2, 1992 and this marked the first step in the direction of developing a secondary market in government securities.

However, during the early part of this period, the irregularities unearthed in government securities transactions temporarily affected the standing of the Reserve Bank as debt manager. The manipulations that took place in ready-forward transactions by banks and other entities turned out to be at the root of large-scale irregularities in the securities market transactions. This prompted the Reserve Bank to impose a ban on ready-forward transactions in government securities provisionally. The perceptions of the Reserve Bank on this episode were reflected in its Annual Report for 1991–92:

> In the recent period there had been a phenomenal increase in the amount of churning in the dated securities market largely in the form of ready-forward transactions; such activity, ostensibly to adjust reserve requirements, *inter alia,* facilitated the recent irregularities in the securities market. It was for this reason that the Reserve Bank felt it necessary to put a temporary ban on ready-forward transactions in dated securities…There are a number of reasons for not immediately resuming ready-forwards in dated securities. First, the present reserve requirements and the interest rate regulations could provide scope for predatory activity to circumvent the regulatory framework. Secondly, the unwinding of transactions prior to the ban needs to be completed in view of the serious problems faced by the system. Thirdly, the market borrowing programme and auctions for longer-dated Treasury Bills have been proceeding very smoothly despite the disruption of the secondary market. In view of all these factors, it is prudent to continue the ban on ready-forward transactions in government securities at least for some time.

The monetary and credit policy of April 1992 was a landmark in terms of a new approach to internal debt management by introducing a market orientation to the absorption of dated government rupee securities

and longer-term Treasury Bills. A system of regular auctions was started for central government securities, including issue of Treasury Bills of varying maturities. Another notable aspect of the re-oriented internal debt management policy was to make dated government securities attractive to investors in terms of coupon rates.[8]

Interest rates were allowed within an overall ceiling to respond to market conditions. In 1991–92, the maximum coupon rate was raised in two stages from 11.50 per cent to 12.50 per cent, while the maximum maturity was reduced from 20 years to 16 years. The maximum coupon rate in 1992–1993 increased to 13.0 per cent for 16 years' maturity. The central government securities were auctioned for shorter maturities up to 10 years at cut-off yields/coupon rates ranging from 12.0 per cent for a 5-year maturity to 12.75 per cent for a 10-year maturity. In 1993–94, the maximum coupon rate was raised to 13.5 per cent, with a further reduction of maximum maturity to 10 years. Auctions of 364-day Treasury Bills were conducted on a fortnightly basis and later such auctions became a regular feature. These auctions evoked good response, partly because of the relative attractiveness of the instrument and to some extent because it provided a safe avenue to investors in the face of uncertainties prevailing in the government securities market consequent to the irregularities in the securities transactions.

Another important step in the direction of active debt management operations was the introduction of an auction scheme for 91-day Treasury Bills for a pre-determined amount, and with Reserve Bank participation. The cut-off yields were significantly larger than the fixed discount rate of 4.6 per cent per annum on such bills sold on tap. The absorption of 91-day Treasury Bills by the market picked up fast. For the first time, in 1992–93 the Central Government raised its entire gross market borrowing through the auction system. While the Reserve Bank initially subscribed ₹ 2,214 crore (out of the total issue of ₹ 4,821 crore), the bulk of these securities were later sold by the Reserve Bank in the secondary market. With the introduction of the auction system, the coupon rates for central government loans emerged through cut-off yields at which competitive bids were accepted in auctions. The coupon rates so brought about were

8. The maximum coupon rate on central loans was as low as 6.50 per cent in 1977–78. It was raised in stages to 11.50 per cent by 1985–86. Subsequently, the maximum maturity period was reduced from 30 years to 20 years. These developments, to some extent, augmented the profitability of banks and the attractiveness to other categories of investors.

more attractive than the pre-determined coupon rates for comparable maturities. The improvement in the coupon rate was on top of the shortening of maturity profile. The Annual Report of the Reserve Bank for 1992–93 conjectured that coupon rates that had emerged on securities (both central and state governments) over the past three years were an indication that the yield curve was sloping upward gently as years-to-maturity expanded.

The Reserve Bank conducted auctions of repos for dated central government securities from time to time to even out short-term liquidity in the banking system within a fortnightly make-up period. The first auction was held on December 10, 1992. This was another definitive step towards developing OMOs. Initially, repo auctions were for very short periods of one or two days, but later repos up to 14 days followed.

'Switch quotas' that had been in vogue since July 1973 were abolished. By this process, annual quotas of government securities bought by banks and insurance companies could be switched over to the Reserve Bank to improve their yield on investments. The Reserve Bank decided to offer for sale only a select number of securities as its option instead of including in the offer list all dated securities in its portfolio.

During 1993–94, the Government continued to place its market borrowing through auctions, and funding was actively undertaken to lengthen the maturity pattern of short-term debt. The policy of placing state government securities and government guaranteed bonds at fixed coupon rate was, however, continued. To provide better liquidity to government paper and stimulate market-making activity by other parties, the Reserve Bank established the STCI to play the role of market-maker by offering two-way quotes for government securities. The new institution, which commenced operations from June 27, 1994, actively bought and sold securities at market prices, thereby ensuring liquidity and facilitating turnover for various maturities. The system of delivery *versus* payments (D*v*P) was instituted to reduce counter-party risk and diversion of funds through securities transactions. There was good buyer response for Treasury Bills, both at the primary auctions and in the secondary market. Banks and other FIs found it convenient to park their surplus funds in these instruments with the result that the cut-off yields in Treasury Bill auctions tended downwards.

Steps were taken to further widen and deepen the government securities market in 1994–95. Repo auctions had to be suspended after February 3,

1995 in the context of the stringent liquidity conditions prevailing in the market. The Reserve Bank later extended the reverse repo facility in dated government securities to the STCI and the DFHI to inject liquidity into the system. The reverse repos enabled the Reserve Bank to arrest undue upward pressure on call money rates. There was a resurgence of demand for commercial bank credit in 1995–96, which led to a hardening of interest rates and a concurrent slowdown in market absorption of government securities by banks. Consequently, there was substantial devolvement of government securities on the Reserve Bank. During 1995–96, the OMOs of the Reserve Bank were subdued, due to large and frequent primary issues of central government securities and increased demand for commercial credit in the face of moderation in foreign capital inflows.

Yield Curve

There were frequent shifts in the yield curve during 1994–95 due to varying liquidity conditions in the money and credit markets. The yield curve for different maturities, which had shifted downward in the early part of 1994–95, moved up particularly sharply in the middle of September 1994. The yield, which was 11.55 per cent for 8-year stock issued on November 16, 1994, shot up to 12.71 per cent with the issue of the 5-year zero coupon bonds in February 1995, evidencing an uptrend in the interest rates of government securities. The spells of tight liquidity conditions witnessed since September 1994 caused larger trading in shorter maturities and pushed up yields on long-term securities, thus resulting in an inverted yield curve. This could be explained by the differences in the long-term and short-term inflationary expectations and temporary imbalances in the short-term money markets and foreign exchange markets. It further suggested that the secondary market had a substantial influence on the activities in the primary issues market.

The substantial improvement in liquidity on one hand and the sluggish credit off-take on the other led to larger market absorption of government securities, facilitating early completion of the Government's market borrowing programme for 1996–97. There was also lower devolvement on the Reserve Bank and PDs and less strain on the interest rate. OMOs, including repos, came into sharper focus during the year, given the imperative need to neutralise the excess liquidity generated from the build-up of foreign exchange reserves as well as the rates of interest and exchange rates to rule at reasonable levels. A system of announcing a

calendar of repo auctions on a monthly basis was started in January 1997 so that participants could plan their treasury management operations in an optimal manner.

The Reserve Bank took a series of major policy decisions during 1995–96 and 1996–97, which had a bearing on the level of activity in the money and financial markets. The more important among these were reduction in CRR, exemption/reduction of reserve requirements on certain categories of external deposits, liberalisation of interest rate on domestic term deposits with a maturity of over one year, rationalisation of lending norms, liberalisation of the guidelines for setting-up MMMFs and aligning the operations of financial companies closer with the organised financial system. As a result, the relative rates of return on various instruments moved within a narrow range, suggestive of a move towards greater integration of financial markets than before.

Easy liquidity conditions in 1996–97 were reflected in the softening of the interest rates on securities across the maturity spectrum, especially at the shorter end. The maximum coupon rate on 10-year maturity bonds declined from 14.0 per cent to 13.65 per cent in February 1997, while that for a 3-year security came down from 13.70 per cent in June 1996 to 13.40 per cent in December 1996. The fall in interest rates for short-term paper was more pronounced, as the implicit yield at cut-off prices for 91-day Treasury Bills lost ground substantially from 12.97 per cent as at end-March 1996 to 7.96 per cent as at end-March 1997. The rate for 364-day Treasury Bills also eased considerably from 13.12 per cent to 10.10 per cent over this period, and declined further to 8.42 per cent by end-July 1997. Thus, while improved liquidity impacted more strongly at the shorter end of the market, its impact on the longer end of the market was distinctly weaker, resulting in steepening of the yield curve. The yield spread (based on primary yield rates) between 91-day Treasury Bills and 364-day Treasury Bills, which stood at only 16 basis points at end-March 1996, widened to 214 basis points at end-March 1997, while the yield spread between 91-day Treasury Bills and 10-year government paper shot up from 103 basis points to 569 basis points over the same period.

Data in Table 16.1 show that the weighted average interest rates on dated securities of the Centre progressively rose during the period 1980–81 to 1996–97, which, *inter alia,* imposed a larger interest burden on the Government.

TABLE 16.1

Coupon Rates on Government Dated Securities

(Per cent per annum)

Fiscal Year	*Weighted Average Rate*	*Range*
(1)	*(2)*	*(3)*
1980–81	7.03	6.00 – 7.50
1985–86	11.08	9.00 – 11.50
1989–90	11.49	10.50 – 11.50
1990–91	11.41	10.50 – 11.50
1991–92	11.78	10.50 – 12.50
1992–93	12.46	12.00 – 12.75
1993–94	12.63	12.00 – 13.40
1994–95	11.90	11.00 – 12.71
1995–96	13.75	13.25 – 14.00
1996–97	13.69	13.40 – 13.85

Source: Reserve Bank of India, *Annual Report, 1996–97.*

The comparative movements in the rates of return on various financial assets in the 1990s give an idea of the liquidity conditions in the domestic financial markets as well as the degree of integration among different markets. Table 16.2 shows that despite a sharp decline in the inflation rate as at end-March 1996, interest rates tended to increase across the board, reflecting probably the higher demand for funds emanating from the revival in real sector activities.

FOREIGN EXCHANGE MARKET

The sharp narrowing of the current account deficit (CAD) and substantial inflows of foreign capital in the form of foreign investments and deposits in non-resident accounts in 1992–93 resulted in excess supply of foreign exchange in the inter-bank market. As against weak market absorption, the excess supply augmented the foreign exchange reserves in the form of purchases of foreign currencies by the Reserve Bank.

The exchange rate of the Indian rupee was market-driven effective March 1, 1993. As a result, the market distortions caused by the system of dual exchange rates came to an end. This development, along with attractive rates of return on investments in India and limited absorption by way of imports, was responsible for excess supply in the foreign exchange market. This situation provided an opportunity to the authorities to liquidate the

TABLE 16.2

Relative Rates of Return in Major Financial Markets

(Per cent per annum)

Item	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*
			(last week/fortnight of March)				
Call money rate (Mumbai) (DFHI average lending rate)	21.50	30.63	17.38	6.38	16.10	16.28	3.66
91-day Treasury Bills auction/cut-off yield	--	--	10.97	7.46	11.90	12.97	7.96
182/364-day Treasury Bills (cut-off yield)	10.08	9.27	11.10	9.97	11.94	13.12	10.10
Certificates of Deposit (middle rate)	12.44	14.50	14.50	9.60	12.50	17.13	11.38
Commercial Paper (middle rate)	15.10	16.50	15.88	11.50	14.50	20.16	11.88
Deposit rate* (3-year)	10.00	12.00	11.00	10.00	11.00	free	free
Prime lending rate (PLR)#	16.00	19.00	17.00	14.00	15.00	16.50	14.50–16.00
Coupon rate of 10-year GoI securities (issued during the fiscal year)	10.75	11.00	12.75	12.50	12.35	14.00$	13.65
Memorandum item							
Inflation rate (WPI: point-to-point basis)	12.10	13.56	7.02	10.81	10.41	5.00	6.90

Notes: * : Deposit rate for March 1995 was the ceiling rate for term deposits of 46 days to 3 years and above. The rate for March 1996 was for maturity of 46 days and up to 2 years. From October 1, 1995 banks were free to determine deposit rates for maturity above 2 years. From July 2, 1996 the ceiling on term deposits of 30 days and up to one year was 11.00 per cent, and banks were free to determine deposit rates for maturity above one year.

: Relate to five major scheduled commercial banks (SCBs). For 1995, the rate pertains to prime lending rate of the SBI.

$: Pre-announced. For 1994, the figure relates to the fixed coupon rate offered in conversion of Treasury Bills.

-- : Not applicable.

Figures on gross yield calculated on the basis of annual average for the respective financial years.

Source: Reserve Bank of India, *Annual Report*, various issues.

costly and volatile liabilities that were a feature of the country's foreign exchange reserves and to re-organise the reserves in terms of durable components that carried no obligation to repay. With this objective, the Reserve Bank absorbed foreign currency offered to it at its buying rate. Foreign currency assets (FCA) increased from US$ 6,434.0 million at the end of March 1993 to US$ 16,068.0 million at the end of March 1994. The Reserve Bank's gross purchases of foreign currencies amounted to

US$ 13,940.0 million during 1993–94. Consequent to the accretions to the FCA through purchases from the market, liabilities amounting to US$ 1,243.0 million in the form of swaps that had been incurred during 1991–1993 could be completely eliminated.

The Reserve Bank effected three major changes in 1994–95 to deepen the foreign exchange market. As already mentioned, the limit of US$ 1.0 million or its equivalent prescribed on banks' oversold positions in the rupee against foreign currencies was raised in May 1994 to ₹ 16 crore, with an identified cap on overbought position. In December 1994, corporate bodies were authorised to book forward contracts in any permitted currency irrespective of the currency of invoice, subject to certain credit enhancements in the form of obtaining suitable margin deposits or earmarking against counterparty/default risk. The Reserve Bank banned from January 16, 1995 the roll-over of forward contracts at historical rates in order to achieve transparency in the financial statements of corporate entities/banks.

Episode of Volatility (October 1995)

The year 1995–96 was notable for considerable volatility in the foreign exchange market, particularly in the second half of the year, despite strong macroeconomic fundamentals. Since the rupee was overvalued as evident from the continuing inflation differentials, a correction was overdue. The exchange rate of the rupee exhibited sudden volatility in October 1995, triggering expectations and causing a bandwagon effect. The rupee came under considerable pressure. The Reserve Bank intervened in the spot foreign exchange market, which stabilised the market and the rupee remained at the level of US$ 1 = ₹ 35.00 until the end of December 1995. Further depreciations in the rupee towards the end of January and early February 1996 were due to speculative dealings by market entities.

The Reserve Bank responded in February 1996 by terminating the PCFC scheme, freeing the interest rate on post-shipment rupee export credit for over 90 days and enhancing the interest rate surcharge on import finance. These measures helped to restore some semblance of stability in the foreign exchange market by reversing the strong 'leads and lags' in external payments and receipts. While the Reserve Bank did resort to large interventions in the foreign exchange market in October 1995, subsequent interventions in the swap market restored domestic rupee liquidity. For the year 1995–96 as a whole, the overall impact of foreign exchange intervention on domestic liquidity was minimal.

The theoretical underpinnings of exchange rate stability in the Indian context *vis-à-vis* monetary management were propounded in the credit policy circular to banks dated April 3, 1996 as follows:

> While it is not feasible to have a specific nominal exchange rate target, the real effective exchange rate provides a measure of competitiveness and this can be used as a reference for assessing sustainability of the exchange rate in relation to an earlier period, say, March 1993 when the exchange rate could be deemed to be in equilibrium. In the ultimate analysis, exchange rate stability can be achieved only if Indian inflation rates are not seriously out of alignment with inflation rates in major industrial countries and this, once again, underscores the need for a cautious monetary policy.

Measures were taken to fine-tune the policy responses to evolving market conditions during 1995–96, even while carrying forward the progressive liberalisation of the trade and payments regime. The first set of measures was directed at easing excess demand conditions in the foreign exchange market and reversing the build-up of speculative expectations. Besides encouraging the inflow of foreign exchange through non-resident deposits, Euro-issues and external commercial borrowings (ECBs), the Reserve Bank took steps to even out 'leads and lags' in receipts and payments by inducing repatriation of export proceeds and terminating the PCFC scheme. The second set of measures was aimed at improving the functioning of the foreign exchange market and stemmed from the recommendations of the expert group on foreign exchange market in India. Banks were allowed to set their own aggregate overnight positions and AGL subject to certain conditions.

The average monthly turnover in the foreign exchange market rose moderately during 1996–97 in comparison with the high growth phase of 1993–94 to 1995–96, when significant increases in current and capital account transactions led to a robust rise in the monthly turnover of merchant transactions. There was moderation in the average monthly turnover during the year. However, the share of inter-bank transactions in the total turnover remained well over 80.0 per cent. An encouraging development was the progressive integration of the forex market with the money market as evidenced by softening of the forward premia from the second half of 1996–97 in the wake of a significant moderation in short-term interest rates and sustained stability in the exchange rates.

Growing Inter-linkages between the Foreign Exchange Market and Financial Market

By 1994–95, the foreign exchange market was increasingly viewed as a continuum stretching from debt markets at the long end to markets for call and notice funds at the short end.[9] The forward market provided conditions for integration of the foreign exchange market with the financial markets. Forward transactions served as the mechanism whereby the foreign exchange market coalesced with the money market. While the linkage between the money market and the foreign exchange market was weak in the pre-LERMS period (*i.e.*, before March, 1992), introduction of market-determined exchange rates and growing importance of the forward market for foreign exchange strengthened the conduits for transmission of impulses between the short-end of the money market and the foreign exchange market. The changes brought about in the reserve requirements from time to time resulted in the increasing use of swaps by commercial banks to bolster their local currency reserves. Tight liquidity conditions in the money market and the resultant rise in call money rates induced demand for swaps, whereby banks acquired spot rupees to be swapped for forward dollars. This exerted an upward pressure on the swap premia which had, in general, been on the rise since November 1994 in tandem with the movements in the call money rates.

In October 1995, the downward pressure on the rupee intensified due to speculative forces, and the nominal exchange rate fell to ₹ 35.65 per US dollar. A panic demand for cover by importers and cancellations of forward contracts by exporters created persistent mismatches between supply and demand in both spot and forward segments of the market. Forward premia surged sharply in October 1995, particularly for shorter maturities, with the highest rise recorded in the cash spot range. The premia were far out of alignment with the interest rate differentials. The prohibitive cost of foreign exchange cover acted as a deterrent to banks from mobilising foreign currency deposits and employing them to fund domestic assets. In the circumstances, large dollar balances were held in their *nostro* accounts.

The exchange market intervention (net sales) by the Reserve Bank in the spot market led to withdrawal of liquidity in October 1995 to the extent of ₹ 2,780 crore from the money market. There was a sharp hike in call rates, touching a peak of 85.0 per cent on November 3, 1995, largely mirroring the turbulence in the foreign exchange market and the Reserve

9. Reserve Bank of India, *Annual Report, 1994–95.*

Bank's intervention in that market. Given the buoyant demand for credit to support real sector activities, there was a need for liquidity injection, which was resorted to by the authorities. Besides, reverse repo arrangements with the DFHI and the STCI, the relaxation of banks' reserve requirements augmented liquidity in the market. Intervention, in turn, was supported by measures such as a surcharge on import finance (effective October 1995) and tightening the concessionality element in export credit for longer periods.

The cumulative net liquidity impact of the Reserve Bank's domestic monetary and exchange rate management after November 1995 turned out to be positive. The rupee was generally maintained at the level of ₹ 35 per US dollar in the spot segment until the middle of January 1996. A bout of sharp depreciation, however, was witnessed between the end of January 1996 and the first week of February 1996, when the rupee plunged to a record low of ₹ 37.95 per US dollar in the spot market, while premia rose to around 20.0 per cent in the forward segment.

In counter-response, the Reserve Bank took several measures in early February 1996 to accelerate the receipt of export proceeds and to prevent deceleration in import payments. The PCFC scheme was discontinued from February 8, 1996 as the negative rate of interest charged under the scheme created serious disruptions in the foreign exchange market. Exporters were asked to discharge their statutory obligation to realise export proceeds within six months from the date of export of goods, failing which punitive action was envisaged under the relevant statute.

The progress made in forging increased financial market inter-linkages during the 1990s was reviewed by the Reserve Bank in its Annual Report for 1996–97, besides providing its perspectives about future trends. The Indian financial market in the past had been characterised by marked segmentation among its various constituents due to a variety of regulations, including barriers to entry. This impaired the free flow of resources and impinged on efficient utilisation of scarce resources. Since the introduction of reform measures in the early 1990s, broad segments of the market, *viz.*, the money market, government securities market and foreign exchange market had responded 'favourably' with growing inter-linkages among them, thus facilitating faster liquidity pass-through. This was borne out by the fact that improvements in liquidity in 1996–97 got translated into significant softening of various money market rates, interest rates on government paper, particularly those at the shorter end, and forward premia in the foreign exchange market. Further:

> The increasing complementarity between credit market and capital market on one hand, and credit market and external sources of financing on the other, has become evident in giving the corporates a wider choice among alternate sources of funds. The integration between yield rates on Government paper and those of other debt market instruments is, however, currently at a formative stage on account of, *inter alia,* narrow investor base and the lack of depth in secondary markets. While these changes are symptomatic of a greater interplay of market forces, the thrust of the Reserve Bank's policy is on elimination of the factors constraining these segments and to facilitate opportunities for larger arbitrage.

Deepening of the Forex Market

In April 1997, the Reserve Bank announced two decisions to deepen and widen the forex market. Under the forward cover based on business projections, exporters and importers were allowed to take forward cover without having to produce documentary evidence of a firm order or opening a letter of credit (LC) through a bank. The ADs could, without any limitation on the period of such contracts, book contracts based on a declaration of exposure supported by past performance and business projections but subject to certain conditions. This measure was expected to provide flexibility to corporate entities and improve liquidity in the forward markets for periods even beyond six months.

The second pertained to development of the rupee forex swap market. Several corporate entities that had foreign exchange exposures arising out of external borrowings were unable to procure long-term forward cover for such exposures. They, therefore, tended to go in for six-month roll-over forward cover. There were corporate entities in the system that were willing to convert some or whole of their rupee liabilities into forex liability. The Reserve Bank decided to allow ADs to run a swap book within their open positions/gap limits to enable them to arrange such swaps without its prior approval.

Exchange Rate Movements of the Rupee and Interventions by the Reserve Bank

With the institution of the market-based exchange rate regime in March 1993, the exchange rate of the rupee strengthened rapidly from its level in February 1993, when speculative attacks in the period leading up to

an announcement of the Union Budget for 1993–94 had weakened the rupee to a low of ₹ 33.14 per dollar. Subsequently, however, a remarkable degree of stability in the movement of the exchange rate prevailed and the rupee remained anchored at a level of ₹ 31.37 against the US dollar. A sharp improvement in the current account balance and large capital inflows resulted in the foreign exchange market being flush with excess supply of funds, the demand being dampened by low import growth. The consequent upward pressure on the rupee was staved off by the Reserve Bank's intervention in the market in the form of large spot purchases. There was a clustering of the inter-bank rates around the Reserve Bank buying rate. The Reserve Bank's passive intervention was motivated by the need to protect export competitiveness by preventing an appreciation of the rupee, which, in any case, would have been against the fundamentals. The Reserve Bank's Annual Report for 1993–94 conceded that while the intervention to hold the nominal value of the rupee in the face of large capital inflows implied generation of primary liquidity, it also underscored the need to maintain the role of the exchange rate as a nominal anchor for the economy.

The remarkable stability of the rupee *vis-a-vis* the US dollar continued during 1994–95. The surge in imports and the deceleration in the inflow of foreign capital impacted the surplus conditions that existed during 1993–94 and the first half of 1994–95 in the foreign exchange market. The buying rate of the Reserve Bank was unchanged at ₹ 31.37 per US dollar. The rupee, however, came briefly under pressure in March 1995, touching a low of ₹ 31.97 per US dollar, when the supply of foreign exchange was affected by the temporary drying up of foreign remittances due to the closure of the markets in the Gulf region and pre-budget expectations, as also by a rise in demand due to seasonal spurt in imports. The rupee, however, recovered its stability soon after and generally remained steady against the US dollar, but depreciated sharply against other major currencies and the SDR. This weakness mirrored the behaviour of the US dollar, the intervention currency.

Reflecting the weakness in the US dollar, the rupee depreciated in terms of the index of nominal effective exchange rate (NEER) based on a 36-country export-weighted index. By March 1995, this index depreciated by 7.8 per cent over its level in March 1994. The nominal depreciation in the rupee was strong enough to offset the adverse inflation differential between India and the rest of the world. As a result, the rupee also

depreciated marginally in 1995 in real terms, as indicated by the index of real effective exchange rate (REER) over its level in March 1994.

In the market for forward foreign exchange, with the deregulation of lending rates in October 1994, a loose relationship seemed to emerge between the swap premia and the prime lending rate. While this link was not manifest when considering nominal interest rates, an examination of the real interest rates, *i.e.*, interest rates adjusted for inflation differentials, tracked reasonably well the movements in the swap premia. Another factor affecting the swap premia was call money rate movements, which assumed importance with the increased recourse to swaps by commercial banks to augment their rupee resources to meet their reserve requirements. The Reserve Bank declared that the growing importance of the forward foreign exchange market in an environment of economic liberalisation underscored the need to have a well-developed market for foreign exchange derivatives.[10] In India, the main instruments of hedging at that time were forward contracts, swaps and cross-currency options. In the absence of international quotes for the rupee, it was not possible to introduce rupee-based options.

The prolonged stability in the exchange rate of the rupee from March 1993 came under stress in the second half of 1995–96. The widening of the CAD in the face of a rising trade deficit, the ebbing of capital flows and pronounced appreciation of the US dollar against major international currencies triggered market expectations that resulted in the depreciation of the rupee in the second half of 1995–96. The exchange rate began, thereby, to increasingly reflect the interplay of market forces.[11] The Reserve Bank closely monitored the market to ensure that exchange rate movements were in alignment with macroeconomic fundamentals. It stood ready to take action to curb any speculative activity in the market.

In August 1995, the rupee weakened to ₹ 31.94 per US dollar essentially because of the strengthening of the US dollar, as also the increase in demand for foreign exchange (to meet burgeoning import payments) that far exceeded the supply in the market. Further, the spread between buying and selling rates widened, reflecting uncertain conditions in the foreign exchange market. The downward pressure on the rupee intensified in October 1995, when the nominal exchange rate fell to ₹ 35.65 per US

10. Reserve Bank of India, *Annual Report, 1994–95.*

11. Reserve Bank of India, *Annual Report, 1995–96.*

dollar in terms of FEDAI indicative rates, amplified by speculative factors. Unidirectional expectations of a 'free fall' of the rupee reinforced the normal 'leads and lags' in external receipts and payments, vitiating orderly market activity. Panic demand for cover by importers and cancellations of forward contracts by exporters created persistent mismatches of supply and demand in both the spot and forward segments of the market. The forward premia rose sharply in October 1995 and banks held large balances in their *nostro* accounts as the high cost of foreign cover dissuaded them from mobilising foreign currency deposits. The Reserve Bank intervened in the market in response to these upheavals to signal that the fundamentals were in place and to ensure that the market correction of the overvalued exchange rate was orderly and calibrated. Exchange market intervention by the Reserve Bank was initially supported by withdrawal of liquidity from the money market to prevent speculative attacks on the exchange rate. As call money rates soared in the face of stringent liquidity conditions, the policy stance of intervention in the exchange market was tempered by restoration of money market support, an easing of reserve requirements on domestic as well as non-resident deposits and an increase in the interest rates on NRE deposits. As a result of the Reserve Bank's exchange market operations the six-month forward premia, which rose to over 23.0 per cent in March 1996, declined to less than 13.0 per cent in June 1996. While the Reserve Bank's operations culminated in net sales between October 1995 and February 1996, it turned into much larger net purchases during March–June 1996.

The decisive and timely policy responses restored stability to the market and the rupee traded within the range of ₹ 34.28–₹ 35.79 per US dollar in the spot segment until mid-January 1996. In the first week of February the rupee touched a record low of ₹ 37.95 per US dollar in terms of FEDAI indicative rates in the spot market, while the three-month premia rose to around 20.0 per cent. The range of forward premia moved broadly in tandem with the fluctuations triggered at the very short end of the spectrum, *i.e.*, the cash-spot segment. The forward premia for the relatively longer maturities of three months and six months during the period did not reflect the prevailing interest rate differentials.

The Reserve Bank intervened actively in the spot, forward and swap markets from October 1995, which had the desired impact on the exchange market and the domestic liquidity (Table 16.3). In this regard two significant developments stood out. First, the net sales in the foreign exchange market between October 1995 and June 1996 broadly evened out

and the intervention smoothened the volatility rather than propping up the exchange rate. In fact, the exchange market intervention in October 1995 was carried on until the rupee appreciated to a point considered consistent with a real exchange rate. A steep fall in the rupee value at that time could have undermined confidence in the currency. The intervention was done in the spot market first, followed by intervention in the forward market. According to, Dr C. Rangarajan,[12] one important lesson learnt from the experience was the need for integration between the domestic money market and the foreign exchange market since the latter could not be controlled without controlling the former. Second, while the intervention initially impinged quite sharply on domestic liquidity, the overall impact had been broadly balanced with a net injection of liquidity.

TABLE 16.3

Reserve Bank's Foreign Exchange Market Operations

(US$ million)

Period	*Purchases**	*Sales**	*Net Purchases (+)/Sales (–)*
(1)	*(2)*	*(3)*	*(4)*
1995			
October	7	792	–785
November	290	401	–111
December	272	328	–56
1996			
January	1,368	1,770	–402
February	140	468	–328
March	1,135	175	+960
April	577	209	+368
May	336	235	+101
June	1,150	365	+785
Total	5,275	4,743	+532

Notes: * : Include spot, forward and swap transactions effected during the month.
– : net sales from FCA.
+ : net accretion to FCA.

Source: Reserve Bank of India, *Annual Report, 1995–96.*

The external sector during 1996–97, displayed welcome signs of stability in contrast with the turbulence in the foreign exchange market in

12. Transcript of the interview with Dr C. Rangarajan, former Governor, Reserve Bank of India, December 2006.

the second half of 1995–96. A surge in net invisible receipts and a strong resumption of capital flows after a brief interruption during October 1995 to February 1966 caused a large overall surplus in the balance of payments (BoP). Reflecting these developments, easy conditions prevailed in the foreign exchange market throughout the year. While the spot market was awash with supplies of foreign exchange, premia in the forward market declined significantly due to the easing of downside expectations of the future exchange rate of the rupee as well as a narrowing of short-term interest rate differentials *vis*-a-*vis* the rest of the world.

The nominal exchange rate was subjected to considerable upward pressures that were mitigated by continuous passive interventions by the Reserve Bank. Consequently, there was a build-up in foreign exchange reserves to a peak of US$ 26,423.0 million at the end of March 1997 — the equivalent of seven months of imports. Despite the interventions, the appreciation of the US dollar *vis*-a-*vis* other foreign currencies as well as continued inflation differential culminated in a strong appreciation of the REER of the rupee. A related and far-reaching development was the gradual integration of the foreign exchange market with the money market as signified by the softening of forward premia from the second half of 1996–97 in the wake of significant moderation in short-term interest rates and sustained stability in exchange rates.

In 1996–97, exchange rate management policy was guided mainly by the underlying market conditions, namely, contraction in the CAD and resurgence of capital inflows. Subsequent to the market-driven downward correction in the exchange rate of the rupee in the second half of 1995–96, the stability of the rupee was restored by the beginning of 1996–97 and prevailed throughout the year. Following large scale capital inflows and to prevent the appreciation of the rupee, the Reserve Bank undertook large purchases of the US dollar from the market during the year essentially to protect international competitiveness. Nevertheless, the trade-based REER appreciated by 9.6 per cent by March 1997 over its level in March 1993.

The Reserve Bank perceived that attaining the stable exchange rate objective in the context of large capital inflows necessitated maintenance of a delicate balance between the required rate of growth in exports and price stability. Thus, the interventions by the Reserve Bank during 1996–97 ensured that the nominal exchange rate was bound in a narrow range of ₹ 35 to ₹ 36 per US dollar between May 1996 and June 1997,

and this insulated the economy from imported inflation and anchored expectations[13] (Table 16.4).

TABLE 16.4

Rupee Exchange Rates
(FEDAI Indicative Rates)

(₹ per unit of SDR/US dollar)

	*SDR**	*US dollar**
Annual Exchange Rate (April – March)		
1993–94	43.8863	31.3655
1994–95	45.7908	31.3986
	(– 4.2)	(– 0.1)
1995–96	50.4768	33.4498
	(– 9.3)	(– 6.5)
1996–97	50.8858	35.4999
	(– 0.8)	(– 5.8)
Exchange Rate as on		
March 31, 1994	44.3133	31.3725
March 31, 1995	49.1558	31.4950
	(-10.9)	(-0.4)
March 29, 1996	50.1633	34.3500
	(– 2.0)	(– 9.1)
March 31, 1997	49.8032	35.9150
	(+ 0.7)	(– 4.4)

Notes: 1. FEDAI : Foreign Exchange Dealers' Association of India.
2. * : Rupees per SDR arrived at by crossing the US dollar rate with the RBI reference rate.
3. Figures in brackets indicate percentage appreciation (+)/depreciation (–) of the rupee over the previous period.

Source: Reserve Bank of India, *Annual Report*, various issues.

INSTITUTIONS AND INSTRUMENTS

Financial markets operated through institutions and instruments, evolved to suit the requirements of the respective markets. The effective functioning of the markets and, as a corollary, the two-way transmission mechanism for the monetary policy of the Reserve Bank depended on the efficiency and dynamism they exhibited.

13. Reserve Bank of India, *Annual Report, 1996–97.*

The main institutions functioning in the financial markets besides banks and FIs were the DFHI, STCI and PDs. The Reserve Bank established the DFHI in 1988 to develop an active secondary market for money market instruments and integrate various segments of the market to facilitate the smoothening of short-run imbalances. As a first step in developing a secondary market in central government dated securities, the DFHI started dealing in such securities from April 2, 1992, but its efforts received a temporary setback in the aftermath of the irregularities in securities transactions when new inter-bank ready-forward deals in dated government and other approved securities were prohibited (June 1992). In October 1992, the Reserve Bank introduced a new refinance facility against dated government and other approved securities to provide liquidity to banks affected by the above development. Since its inception, the DFHI made successful efforts to develop the short-term money market and the secondary market for money market assets and, more importantly, served as the fulcrum of activities in the money market. It also functioned as a PD. The DFHI was eligible to obtain refinance from the Reserve Bank.

In the pivotal gilt-edged market, a need was felt to develop an institutional infrastructure that would serve as a base for an active secondary market in these securities. This matter assumed urgency in the context of the Central Government's decision to meet its budgetary credit needs through the government securities market rather than from the Reserve Bank or commercial banks. Therefore, the Reserve Bank set up in 1993 a specialised institution entrusted with the task of fostering the development of a vibrant market in government securities, including Treasury Bills. The new institution, the STCI, commenced operations in June 1994. While the development of a secondary market in dated government securities and public sector bonds was its main responsibility, it could also hold short-term money market assets like Treasury Bills as part of its liquidity management operations. The STCI acted as a PD and market-maker in government securities.

To further strengthen the secondary market, the Reserve Bank granted in principle approval in November 1995 to six entities to be accredited as PDs to undertake transactions in government securities. Subsidiaries of scheduled commercial banks (SCBs), all-India FIs and companies that had net owned funds of the prescribed minimum amount were eligible to apply to become PDs. PDs underwrote the auctions of government securities, operated as market-maker by offering two-way quotes and provided access to securities to a wider base of investors. Besides improving secondary

market trading, liquidity and turn-over in government securities, PDs extended further support to the active deployment of indirect instruments of monetary control.

The Reserve Bank announced on December 31, 1996 the guidelines for setting-up SDs for strengthening the infrastructure in the government securities market, enhancing liquidity and turnover, providing a retail outlet and encouraging voluntary holding of government securities among a wider investor base.

The instruments inducted for the first time in the financial markets during the period covered by this volume were CDs, CP, units/deposits in MMMFs, Treasury Bills of different maturities and repo transactions. They helped improve banks' assessment of their daily cash flow position and strengthened the Reserve Bank's own liquidity management.

CERTIFICATES OF DEPOSIT

CDs were introduced in June 1989 in pursuance of a recommendation of the Vaghul Committee. Their principal objective was to widen the range of money market instruments and give corporate investors as well as non-bank financial intermediaries greater flexibility in the deployment of their short-term surplus funds at competitive rates of interest. This instrument also aided banks contain the process of disintermediation of deposits. CDs could be issued only by SCBs (excluding the regional rural banks [RRBs]); had to conform to the prescribed minimum limits; and the maturity had to be between 91 days and one year. CDs were issued at a discount to face value and the discount rate could be freely determined. They were freely transferable by endorsement and delivery but only 45 days after the date of issue. Banks were not allowed to grant loans against CDs or buy back their own CDs.

An internal review in March 1990 (in the Credit Planning Cell [CPC]) concluded that, by and large, banks had successfully handled the new instrument and the scheme had evoked good response from individuals and corporate investors due to higher rate of interest that it offered as compared with fixed deposits, short-term maturity and free transferability. However, certain features inhibited the development of a secondary market in this instrument, such as, the reluctance of holders of CDs to disinvest them owing to their attractive rate of return, banks' disinclination to invest in them since they carried no fiscal advantage and the limited size of the primary market. To boost its growth in the primary

market, from April 1990 the Reserve Bank enhanced the limit for issue of CDs by individual banks from 1.0 per cent to 2.0 per cent of their average outstanding deposits.

At the same time, the denomination of issue was fixed at multiples of ₹ 10 lakh instead of ₹ 25 lakh. The perception of the Reserve Bank was that banks should be encouraged to place relatively large amounts in the primary market at somewhat lower rates if CDs were to become a viable instrument. The bank-wise limits for issue of CDs underwent upward revisions in December 1990, April 1992, October 1992 and April 1993 before they were withdrawn; this gave banks greater flexibility in mobilising deposits at competitive rates of interest and was also a step towards deregulation of the interest rate structure. Banks were given the freedom to issue CDs depending on their requirements. The minimum size of issue of CDs to a single investor was also progressively reduced to ₹ 5 lakh in multiples of ₹ 1 lakh by October 1997.

A tendency was noticed whereby banks mobilised more resources through CDs whenever stringent conditions prevailed in the money market, and in times of easy conditions in the money market, they showed less reliance on high-cost CDs, or the interest rate on mobilised CDs came down.

COMMERCIAL PAPER

To enable highly-rated corporate borrowers to diversify their sources of short-term borrowing and to provide an additional outlet to investors, the Reserve Bank, on the recommendations of the Vaghul Committee, permitted CPs to be introduced from January 1990. The features of CPs were: unsecured promissory notes not tied to specific transactions; could be privately placed with investors (excluding non-residents) through banks or other FIs; only companies that had a net worth of at least ₹ 10 crore, a maximum permissible finance limit of at least ₹ 25 crore and listed at the stock exchanges were permitted to enter the CP market; the issuing company to obtain every six months an excellent rating from an agency approved by the Reserve Bank; the maturity period of CP ranged from 91 days to 6 months; the instrument to be issued in multiples of ₹ 25 lakh subject to a minimum size of ₹ 1 crore; CP to be issued at a discount to face value and the discount rate could be freely determined; the maximum amount of CP issue by a company limited to 20.0 per cent of the maximum permissible bank finance; and CP to be freely transferable by endorsement and delivery.

The Reserve Bank had been periodically relaxing the guidelines for the issue of CP to broad base the primary market; the relaxations covered various aspects, *e.g.*, tangible net worth of the company issuing the CP, minimum rating from Credit Rating and Information Services of India Ltd (CRISIL), denomination of issue, working capital (fund-based limit) of the issuing company and the maximum maturity period for issue of CP. Finally, the requirement for banks to obtain the prior approval of the Reserve Bank was dispensed with.

MONEY MARKET MUTUAL FUNDS

The MMMFs, a special genre of mutual funds, invested only in high-quality money market instruments that were short term. They undertook the process of disintermediation to bring a wide range of short-term money market instruments within the reach of individual investors. Commercial banks and FIs or their existing mutual funds/subsidiaries engaged in fund management were permitted to set up MMMFs.

The Reserve Bank issued guidelines for the MMMF scheme on April 29, 1992. As MMMFs were primarily intended to be a vehicle for individual investors to participate in the money market, their units/shares could be issued only to individuals. Non-resident individuals could subscribe to these units, subject to the condition that both the capital and the dividend would be non-repatriable. MMMFs were free to determine the minimum size of investment by a single investor. The resources mobilised by MMMFs should be invested exclusively in money market instruments, such as Treasury Bills and dated government securities that had an unexpired maturity up to one year, call/notice money, CP, CDs, and commercial bills arising out of genuine trade/commercial transactions and acceptable or co-accepted by banks. The minimum lock-in period for investments in MMMFs was 46 days and they could offer buy-back facilities to investors. MMMFs were required to calculate the net asset value (NAV) of each scheme and disclose NAVs periodically for the benefit of their investors.

Setting-up an MMMF required the prior authorisation of the Reserve Bank, which was empowered to issue directions, call for any information and inspect their books and accounts. In December 1995, to make the scheme more flexible and to impart greater liquidity and depth to the money market, institutions in the private sector were allowed to set up MMMFs, the ceiling on the size of MMMFs was removed and the prescription of minimum and maximum limits on their investments in individual instruments were withdrawn. The restriction that the units

could be issued only to individuals was withdrawn effective April 9, 1996 and, consequently, MMMF units became available to corporates and others on par with other mutual funds as regards their eligibility to invest in such a scheme. The scheme was made more attractive to investors by reducing the minimum lock-in period from 46 days to 30 days from July 1, 1996.

TREASURY BILLS

The Chakravarty Committee had recommended that Treasury Bills should be developed as a monetary instrument with flexible rates, which would enable banks to better manage their short-term liquidity. The objective was to provide an alternative avenue for short-term investments for which an active secondary market would develop over time. Accordingly, the Reserve Bank introduced in November 1986 182-day Treasury Bills, initially on a monthly auction basis, without any rediscounting facilities. State governments and PFs were not allowed to participate in these auctions. The discount rate was flexible and varied with the outcome of the auctions. To impart flexibility, the amount for each auction was not fixed in advance. With the liquidity provided by the DFHI, these 182-day Treasury Bills were established by 1991–92 as a useful monetary instrument.

The Reserve Bank made a significant pronouncement in its credit policy circular to banks dated April 21, 1992, that the gilt-edged market would be reorganised in such a way that the Government would decrease its dependence on credit from the Reserve Bank and banks. This circular also announced that the Government proposed to float Treasury Bills of varying maturities up to 364 days on auction basis.[14]

Consequent to discontinuation of the 91-day Treasury Bills on tap and *ad hoc* Treasury Bills from April 1997, the Reserve Bank decided to issue Treasury Bills of different maturities to facilitate the cash management requirements of various sectors of the economy. To assist in the formation of a more comprehensive yield curve, sale of a new category of 14-day Treasury Bills on auction basis was announced on May 20, 1997 at a discount rate equivalent to the interest rate charged on ways and means advances (WMA) to the Central Government. This was different from the 14-day Intermediate Treasury Bills introduced earlier on April 1, 1997 to cater to the needs of investing the surplus funds of state governments,

14. For details, see chapter 15: Public Debt Management.

foreign central banks and other specified bodies with whom the Reserve Bank had entered into special arrangements.

REPOS (REPURCHASE AGREEMENTS)

Repo transactions play an active and positive role in increasing the turnover in government securities and Treasury Bills in the secondary market. Repos enable collateralised short-term borrowing through selling of debt instruments. Under repo transaction, the security was sold with an agreement to repurchase it at a pre-determined date and rate. Reverse repo was a mirror image of repo and represented the acquisition of a security with a simultaneous commitment to resell. In other words, the repo was a form of sale of dated securities by the Reserve Bank for very short periods with a confirmed buy-back provision. The Reserve Bank often used this in conjunction with the refinance arrangement to ease stringent conditions marked by very high call rates. The reverse repo operations were generally conducted through PDs.

Repo transactions with the Reserve Bank served as a handy instrument for banks to optimise returns on short-term surplus liquid funds. Repos were introduced in December 1992, but gained prominence a few years later as part of the open market strategy to neutralise the impact of liquidity on the domestic economy due to inflow of foreign funds. The Reserve Bank extended the reverse repo facility in dated government securities to the DFHI and the STCI to inject liquidity into the market. In particular, the conduct of reverse repos enabled the Reserve Bank to arrest undue upward pressure on call money rates during 1994–95. However, repo operations were suspended after February 3, 1995 due to the stringent liquidity position in the money market, but resumed about a year later.

In April 1997, the Reserve Bank activated the repo market, since it functioned as an equilibrating force between the money market and the securities market. First, the instruments eligible for repo/reverse repo transactions were expanded to include all central government dated securities besides Treasury Bills of all maturities. Earlier, the transactions could take place only in Treasury Bills of all maturities and dated government securities that were approved by the Reserve Bank in consultation with the Government. Second, non-bank entities that held a subsidiary general ledger (SGL) account with the Reserve Bank were allowed to enter into reverse repo transactions with banks/PDs in Treasury Bills of all maturities and all dated central government securities. However, the first leg of the transaction by non-bank entities was to be by way of

purchase of securities eligible for repos from banks/PDs and the second leg was to be by selling back securities to banks/PDs. The transactions had to be effected in Mumbai.

INSIGHTS INTO POLICYMAKING

For the Reserve Bank, the strategies for development of the financial markets had been drawn up in an elaborate manner by the Chakravarty Committee in the case of the market for government securities, and by the Vaghul Committee in the case of the money market, its institutions and instruments. The Reserve Bank started implementing the suggestions soon after the respective reports were submitted. The process gained momentum when the Narasimham Committee came out with recommendations relating to policy and institutional issues that would have a bearing on the efficiency and functioning of financial markets and the institutions. In respect of the government securities market, there was a further thrust with the signing of the agreement between the Reserve Bank and the Government to phase out automatic monetisation of budget deficit (September 1994), which necessitated the Central Government to have recourse to the market to meet its short-term needs for budgetary finance. Evolving a strong financial market structure required the Reserve Bank to initiate measures at different points of time to widen market participation, to relax guidelines for issuance of different market instruments and to frame a 'reference rate' for the money markets. These initiatives were responsible for the entry of more participants in the call money market and flagged the need for the development of a 'reference rate' that was fully market determined.

ENTRY OF MORE PARTICIPANTS IN THE CALL MONEY MARKET

With the freeing of the call money rates from May 1, 1989, at times the money market experienced bouts of extreme volatility in interest rates. The rates in call money markets ruled high on certain fortnights, subsequently declined when borrowers found it unremunerative to operate at such high rates and alternative sources of funds became available at lower rates. The DFHI quoted moderate rates, but with the limited resources at its disposal found it difficult to calm the market. After call money rates were freed, many banks alternated between lending and borrowing, which reduced the lopsidedness of the call money market. The Reserve Bank was concerned that the credit operations of some banks were not backed by their own

resources and, in the process, they were indulging in over-extension of credit. In other words, these banks considered the call money market as a means for meeting structural disequilibrium in their sources and uses of funds. Despite financial support from the Reserve Bank, the DFHI was unable to impart stability to the market by reducing its volatility.

The need for the entry of more participants in the call/notice money market was internally reviewed in the Reserve Bank (CPC) in March 1990. It was recognised that the periodic flaring up of the call money rates would persist as long as banks had a structural dependence on the call money market, and that widening and deepening the call and notice money market would help integrate the call and rediscount markets. Moreover, banks that had a structural dependence on the call market had to be weaned away from this disproportionate reliance on this market. If these banks were to be provided any assistance, they first had to build-up a large portfolio of Treasury Bills to protect their CRR position during any period of tight liquidity, and gyrations in the call money rates would continue as long as the CRR was based on an average of fortnightly balances.

In principle, the Reserve Bank was not averse to opening up the call market to a larger number of participants, but at the same time it did not rule out the possibility that such a move inevitably exerted increased pressure on the administered structure of deposit rates. On balance, it was felt that eventually a smooth transition had to be made by freeing deposit rates.

The Reserve Bank decided that it was preferable to selectively increase the number of participants as lenders in the call and notice money markets. The institutions selected for this purpose were the GIC, the IDBI and NABARD, and the facility was to be offered subject to their complying with certain conditions. The policy note suggested that banks that were chronic borrowers could be excluded from the market and taken care of through long-term measures that would bring down the extreme volatile conditions in the market, but this perception did not find favour. The authorities realised that as long as deposit rates remained below market rates, efforts would be made to get round the regulations and the stage had not been reached where a drastic change in deposit rates could be ventured. The Vaghul Committee had recommended that the bills rediscounting market might be completely opened up to companies and trusts. The Reserve Bank, however, considered it advisable that first the call and rediscount markets should be integrated.

During this period, the concept of starting MMMFs took shape. The Executive Director, in his note dated March 29, 1990, postulated that with the increasing number of participants in the call market, the pressure from other institutions for access to this market would increase and there would be pressure to move away from the administered deposit rate structure. For this purpose, a scheme for introducing MMMFs was mooted with regulation over their activities.

RELAXATION IN GUIDELINES FOR ISSUE OF COMMERCIAL PAPER

The Reserve Bank in January 1990 had circulated to banks the guidelines for issue of CP. In some quarters, certain features of the scheme were seen to be restrictive, *e.g.,* the limit on tangible net worth, working capital limit, credit rating and the period of issue. Accordingly, the Reserve Bank made a few relaxations. The net worth criterion of a company was reduced from ₹ 10 crore to ₹ 5 crore, thereby enabling more companies to become eligible to issue CP; the limit for minimum working capital (fund-based) was reduced from ₹ 25 crore to ₹ 16 crore so that the more efficiently run companies satisfying the eligibility criteria in all other aspects could avail of the CP facility; the minimum CRISIL credit rating was relaxed from P1+ to P1, which would allow investors to differentiate between companies; and the denomination of issue was reduced from ₹ 25 lakh to ₹ 10 lakh while keeping the minimum issue in the primary market unchanged at ₹ 1 crore, which was expected to bring in a large number of transactions at the primary stage and result in more active trading in the secondary market. The Deputy Governor expressed the hope that after the relaxations, both the primary and secondary markets would become more active and that increased activity would take place with the onset of the slack season.

CERTAIN ISSUES RELATING TO CDs CONSIDERED

In its internal review in December 1990, the Reserve Bank came to know that certain banks had offered unusually high rates to mobilise CDs despite its advice that the freedom to determine rates should be used judiciously and that there was considerable variation in the rates offered for similar maturities. The interest rates offered on CDs tended to be high because reserve requirements had to be maintained on CDs. Another finding was that certain banks had issued CDs at high rates of interest during periods when conditions in the call money market were relatively easy and, hence, there was scope for further improvement in fund management by banks.

Although the growth of the primary market in CDs was not insignificant, the secondary market for this instrument had not developed. It was feared that if this situation continued, CDs might turn out to be as illiquid as fixed deposits. The lack of activity in the secondary market was attributed to the high interest rates paid on CDs, which served as an incentive to investors to hold CDs up to maturity. Since, in the long run, the growth of primary market was dependent on the growth of the secondary market, it was considered necessary for banks to offer rational rates on CDs and evolve suitable procedures for making CDs more liquid in the secondary market. These inputs were expected to facilitate the authorities in framing the policies in future.

PARTICIPATION OF PRIVATE MUTUAL FUNDS IN THE CALL/NOTICE MONEY MARKET AND BILLS REDISCOUNTING MARKET

Towards the middle of 1994, seven mutual funds set up by PSBs and public sector FIs were allowed to participate in the call/notice money market as lenders. Several private sector institutions were granted permission in 1994 to set up mutual funds and some of them approached the Reserve Bank for permission to deploy their short-term surplus funds in the call/notice money market and bills rediscounting market as lenders in order to earn income.

The CPC saw merit in the proposal since the increased flow of funds could provide more resources to the banking system and denying the request might tantamount to 'discrimination'. However, the Deputy Governor, Shri S.S. Tarapore, did not agree with the discrimination argument on the grounds that the new entrants had other avenues for deployment of their surplus funds and that the request had to be viewed in a broader perspective:

> We are in a difficult situation on the co-ordination of various segments of the reform. CPC is right when it talks of "discrimination". But I do not know which course of action would be more hazardous—continuing the discrimination till the basic conditions are met for a general freeing of the call and notice money market or facing the situation of our having to open up the money market without conditions for a free money market or not. The basic issue is deposit rate control. My own preference is to live with the discrimination for the time being; then potential candidates can use their short-term funds in 91-day Treasury Bills, CPs and CDs. We should not open up the call and notice money

> and bill rediscount market to these mutual funds at this stage. We can review the situation after a few months. Meanwhile, the mutual funds can use other avenues.

The Governor concurred with this appraisal.

A 'REFERENCE RATE' FOR MONEY MARKETS

In 1994 the Reserve Bank contemplated the feasibility of introducing a 'reference rate' for money markets. The need for a 'reference rate' was felt because the Treasury Bill rate and the interest rates on CDs and CP were not considered suitable for evolving a 'reference rate'; the former was determined in the auctions as cut-off yields and the market for the latter instruments was narrow. However, different views emerged out of extant circumstances. During March–June 1994, a study in the CPC examined the possibility of introducing a 'reference rate' akin to the LIBOR, which would serve as a benchmark for other interest rates in the financial system. In the absence of any 'reference rate', the institutions operating in the capital and money markets were facing a problem of pricing market-related instruments. The 'reference rate' in consideration was to be market-determined and had to serve as an anchor for other short-term and long-term rates. It was conjectured that all the administered controls on interest rates would be either removed or reduced considerably. This new rate, to be termed the Bombay interbank offered rate (BIBOR), was comparable to LIBOR.

It was, however, felt that the immediate objective was to establish a link between the Bank Rate and the other short-term interest rates (such as the Treasury Bills rates, call money rate, deposit rates, lending rates and the interest rate on dated government securities). The Bank Rate would be the anchor rate and the other short-term interest rates would move in tandem with changes in the Bank Rate. In the process, interest rates were expected to emerge as an effective instrument of monetary control and the Reserve Bank could regulate interest rates in the short-term money market. Moreover, the practice of daily forecasting of liquidity conditions and management of liquidity through market interventions using the policy rate would become important. Succinctly put, the internal review (1994) conceptualised the process as:

> It is desirable to develop the Bank Rate into an ideal reference rate by the RBI, standing ready to provide supplementary resources to banks through the bridging of temporary reserve shortages

> through discounting some eligible collateral. The Reserve Bank can influence the BIBOR through this mechanism. The yields on Treasury Bill and long-term government securities could be truly market determined if a system of primary dealers is developed for these instruments and the Reserve Bank provides a line of credit to these dealers at the Bank Rate [the reference rate].

However, another view was that the Treasury Bill auction rates, the repos rate and dated securities OMO rates were better placed to develop into 'reference rate/s' in the system. Moreover, for a 'reference rate' signal from the Reserve Bank, the refinance rate (linked to the Bank Rate) could not be a 'reference rate' unless sector-specific refinance became relatively small and the bulk was in the category of general refinance facility. While the Bank Rate could be an appropriate candidate for the 'reference rate', "ultimately, a reference rate has to earn its position in the market and cannot become an effective reference rate merely by RBI calling it so," noted the review. The Governor finally reasoned that the emergence of a 'reference rate' would have to wait until the lending rate structure had been deregulated and that stage had not been reached.

CONCLUDING OBSERVATIONS

The Indian financial system grew rapidly during the 1980s and 1990s and comprised an impressive network of institutions, instruments and markets. The deepening and widening of the financial structure was most impressive in the case of banking and term lending institutions.

When the comprehensive financial sector reforms were launched, macroeconomic policies and operational measures were directed towards improving the allocational and functional efficiency of the economic system in general. The reform of the financial sector was a critical component. The financial sector reforms and supervision under the *aegis* of the Reserve Bank strengthened the inter-play of market forces and fostered the process of integration among various segments of the financial markets; this was manifest in relative rates of return on various instruments moving within a comparatively narrow range. The development of a liquid and deep market for government securities instilled dynamism into the financial system and imparted flexibility in the conduct of monetary policy.

By the year 1996–97, the role of the financial markets had become crucial for economic development in several ways, namely, in mobilising

and allocating savings in the economy, in transmitting signals for monetary policy formulation and in facilitating liquidity management consistent with the overall short and medium-term policy objectives. While the long-term goal of achieving integration among different segments of the financial markets was very much in the picture, the main thrust of the Reserve Bank's policy was on removing factors that inhibited the free flow of resources within these segments and improving opportunities for arbitrage across segments and maturities so that pricing and allocation of resources became more efficient. However, the growing inter-linkages gave another dimension to the conduct of monetary policy in view of the necessity to assess, on a continuous basis, the liquidity conditions in the system and to initiate appropriate measures for minimising volatility in the financial markets. It must be conceded that not much progress could be made in developing a smooth short-term yield curve in the absence of term money market and an active secondary market for Treasury Bills, CP and CDs, an aspect that required more policy initiatives to facilitate the evolution of an appropriate benchmark for pricing short-term instruments.

ANNEX 16.1

A Survey of Developments in Financial Markets in India

A. Markets and Institutions

Year	*Markets* *(Money Markets, Government Securities Market, and Foreign Exchange Market)*	*Institutions* *(DFHI, STCI and PDs)*
1986–87	The working group on money market (Chairman: N. Vaghul) submitted its report on January 13, 1987. The central theme of the report was that there should be an activisation of the money market.	
1987–88	The main recommendations of the report of the Vaghul Committee were implemented. The ceilings on interest rates were abolished over a period in respect of call and notice money, inter-bank term money, rediscounting of commercial bills and inter-bank participation certificates without risk. New instruments, such as, CDs and CP were introduced without interest rate stipulation in June 1989 and January 1990, respectively.	
1988–89		The DFHI was set up in April, 1988 to develop an active secondary market in money market instruments. DFHI was exempted from the ceiling on bill rediscounting rate (April 1988) and allowed to participate in call and notice money market both as lender and borrower (July 1988). Its operations were exempted from interest rate ceiling prescribed by IBA in the call/notice money market (October 1988).
1989–90		To augment the resources of DFHI, RBI sanctioned separate peak refinance limits against the collateral of 182-day Treasury Bills and eligible commercial bills of exchange (March 1990).

contd...

contd...

Year	*Markets (Money Markets, Government Securities Market, and Foreign Exchange Market)*	*Institutions (DFHI, STCI and PDs)*
1990–91	Access to the call/notice money market was widened. IDBI, NABARD and GIC were permitted to participate in the market as lenders only (May 2, 1990). Until then, only SCBs, co-operative banks and DFHI were allowed to act as both lenders and borrowers in this market. Subsequently, (*i.e.*, on October 20, 1990), all the participants in the bills rediscounting market were granted entry as lenders in the call/notice money market.	
1991–92	Access as lenders in the call/notice money market and bill rediscounting market was extended to those entities which were able to submit evidence to the Reserve Bank of bulk lendable resources (April 1991).	
1992–93	RBI repos introduced (December 1992). The Reserve Bank initiated several measures to develop and activate the government securities market (October 1992 onwards). These included, introduction of government securities refinance facility to provide liquidity to banks holding these securities; repos auction for government dated securities for better short-term management of excess liquidity and to even out interest rates in the call/notice money market (December 10, 1992) and setting-up of an Internal Debt Management Cell in the Reserve Bank of India (October 1, 1992). From April 1992, the entire borrowing programme of the Central Government (*i.e.*, dated securities) was conducted through auctions. Under the LERMS forex market became active. Banks were permitted to offer forward exchange cover for trade and all other genuine trade transactions (March 1992).	

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Year	*Markets* *(Money Markets, Government Securities Market, and Foreign Exchange Market)*	*Institutions* *(DFHI, STCI and PDs)*
1993–94	Some FIs (which were allowed to lend but not borrow in the call/notice money market) were permitted from October 1993 to borrow from the term money market for maturity periods in the range of three to six months within the limits stipulated for each institution. These institutions were IDBI, ICICI, IFCI, SIDBI, Exim Bank and NABARD.	The STCI was set up in 1993 as a specialised institution entrusted with the task of fostering the development of an efficient secondary securities market in government dated securities and public sector bonds. It commenced operations from June 1994.
	Banks were allowed to offer cross-currency options on a fully covered basis (January 1994).	
1994–95	An expert group was set up in November 1994 to recommend measures for growth of an active, efficient and orderly foreign exchange market. Large scale intervention had to be done by the Reserve Bank since the foreign exchange market experienced volatile conditions during October 1995 – February 1996.	
1995–96	In order that the facility of rediscounting of commercial bills and derivative usance promissory notes was availed of in accord with its intended purpose, such rediscounting had to be made for a minimum period of 15 days (April 21, 1995).	
	The mutual funds set up in the private sector and approved by SEBI were permitted to operate as lenders only in the call/notice money/bills rediscounting market (June 27, 1995). Until then only mutual funds set up by PSBs were allowed to operate as lenders in this market.	
	Repos (ready forward transactions) in Treasury Bills of all maturities and some dated central government securities had been introduced to provide liquidity to banks holding these securities. A minimum holding period of three days was laid down (September 30, 1995) since some banks were found to be using repos for as short a period as one day merely as a change in nomenclature from call money.	

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Year	*Markets (Money Markets, Government Securities Market, and Foreign Exchange Market)*	*Institutions (DFHI, STCI and PDs)*
1996–97	The Reserve Bank began providing liquidity support to dedicated mutual funds (floated with the approval of SEBI) in the form of purchases of central government dated securities up to certain prescribed limit (April 3, 1996). Guidelines for SDs were issued to further strengthen the infrastructure in the gilt-edged market (December 1996). The Government decided to permit foreign institutional investors (FIIs) in the category of 100.0 per cent debt funds to invest in central government and state government dated securities in both the primary and secondary markets (January 30, 1997). The Reserve Bank issued guidelines on March 8, 1997.	Prior to April 1996, banks authorised to deal in foreign exchange were not permitted to initiate cross currency trading positions in overseas forex markets. They could transact overseas only to square a position acquired in the local foreign exchange market. This restriction was withdrawn (April 3, 1996) taking into account the gradual deepening of the forex market and setting-up of sophisticated dealing rooms by many banks. Initially, only a few selected banks were permitted to avail of this facility. A foreign exchange market technical advisory committee was set up by the Reserve Bank to prepare policy papers on specific market-related topics (April 1996).
1997–98	A standing committee on money market was set up to advise the Reserve Bank to further develop the money market and make it more efficient (April 1997). Measures were announced for deepening and widening of the forex market, *viz*., forward cover based on business projections and development of rupee forex swap market (April 1997). Till April 1997, only two entities were permitted to operate in the call/notice money market as lenders by routing their transactions through DFHI. This facility was extended to all PDs and also the minimum size of transaction was reduced (April 26, 1997). Two decisions were taken in April 1997 to activate the repos market so that it served as an equilibrating mechanism between the money and securities markets. First, repos/reverse repos were permitted among select institutions in Treasury Bills of all maturities and central government dated securities which were approved by the Reserve Bank. Secondly, non-bank entities which were holding SGL accounts with the Reserve Bank were allowed to enter into reverse repos transactions with banks/PDs in Treasury Bills of all maturities and dated central government securities subject to certain conditions.	

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Year	*Markets (Money Markets, Government Securities Market, and Foreign Exchange Market)*	*Institutions (DFHI, STCI and PDs)*
	The minimum size of transactions for entities reduced from ₹ 10 crore to ₹ 5 crore (October 1997). The Reserve Bank took a number of initiatives during October 1997. The more important were, a move towards price auction, fixing of an issue amount for all auctions, making non-competitive bids outside the notified amount, allowing FIIs with 30.0 per cent ceiling on debt to participate in the government securities market and relaxing regulations applicable to banks in regard to retailing of government securities.	

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B. Instruments

Year	*Instruments* (*Treasury Bills, CDs, CP and MMMFs*)
1986-87	The 182-day Treasury Bill was introduced in November 1986 on auction basis with the objective to develop Treasury Bills as a monetary instrument with flexible rates and to serve as a financial instrument with an intermediate maturity between dated securities and the existing 91-day Treasury Bills. Reserve Bank introduced 182-day Treasury Bill refinance facility (April 1987).
1989-90	CDs were introduced in June 1989 to widen the range of money market instruments and to give investors greater flexibility in deployment of their short-term surplus funds. CDs provided for a market-determined rate of return on bulk deposits. CP was introduced in January 1990. Thereby, highly rated corporate borrowers could diversify their sources of short-term borrowing and also it provided an additional outlet to investors.
1990-91	The limits for issue of CDs by commercial banks were enhanced and the denomination of issue reduced (April 1990). In December 1990 the minimum size of issue and the denomination of individual CD were lowered. Also, bank-wise limits for issue of CDs were raised from 2.0 per cent to 3.0 per cent of average aggregate deposits in 1989–90. Guidelines for issue of CP were relaxed (April 24, 1990) to broad base the primary market and widen the scope for secondary market.
1991-92	Further relaxation made in the guidelines for issue of CP (April 1991) to facilitate wider participation and greater flexibility in operation.
1992-93	In April 1992, 364-day Treasury Bills were introduced on auction basis, without support from RBI and without pre-determined amount. In January 1993, 91-day Treasury Bills were introduced on auction basis with pre-determined amount and with RBI support at the cut-off yield. Issue of zero coupon bonds. Total permissible limits for issue of CDs by the banking system were enhanced (April 1992 and October 1992), which provided greater freedom to banks in determining interest rates on deposits. Guidelines for issue of CP were relaxed (April 1992) to widen the scope for its issue in the primary market.

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Year	*Instruments (Treasury Bills, CDs, CP and MMMFs)*
	MMMFs were allowed to be set up by commercial banks and their subsidiaries. The objective was to provide additional short-term avenue for investors and to bring money market instruments within the reach of individuals and small bodies. The scheme was introduced in April 1992.
1993-94	The total permissible limits for issue of CDs by banks were enhanced in April 1993. Later, with a view to give banks greater flexibility in mobilisation of deposits at competitive rates of interest, the Reserve Bank withdrew the bank-wise limits. Banks were granted freedom to issue CDs depending on their requirements.
	The maximum maturity period of 6 months for issue of CP by companies was raised to between 3 months and less than one year. To be eligible to issue CP, the requirements of a minimum net worth of a company and its minimum working capital limit (fund-based) were reduced (October 18, 1993).
1994-95	The facility of stand-by arrangement with cash credit limits was abolished (October 1994). As a result, whenever CP was issued, the bank effected *pro tanto* reduction in the cash credit limit of the company. The objective was to delink the repayment out of cash credit limits of the issuer and thus impart a measure of independence to CP as a money market instrument.
1995-96	Changes were made in the scheme of MMMFs (December 11, 1995) to make it more flexible and attractive to banks and financial institutions and at the same time to impart greater liquidity and depth to the money market. Important changes were, allowing entry of private sector, removal of the ceiling on the size of MMMFs and withdrawal of the prescription of minimum and maximum limits on investments in individual instrument.

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Year	*Instruments (Treasury Bills, CDs, CP and MMMFs)*
1997-98	Treasury Bills of different maturities were issued to facilitate cash management needs of different segments of the economy and also to activate the Treasury Bills market. (This was in the context of the issues of 91-day Treasury Bills on tap and *ad hoc* Treasury Bills having been discontinued from April 1, 1997). The minimum size of issue of CDs to a single investor was reduced twice (April and October 1997). The minimum period of issue of CP was reduced (April 15, 1997). Investments by MMMFs relaxed to include corporate bonds to improve their earnings and liquidity (October 1997).

Notes: 1. This brief survey covers the money market, government securities market and the foreign exchange market, the operations over which the Reserve Bank exercised direct control. The developments in the other two segments of the financial market, namely, the organised market, dominated by commercial banks and hire-purchase and leasing finance companies in which the NBFCs played a leading role, are dealt with in chapter 6: Banking and Finance and chapter 17: Reforms in Banking and Financial Institutions.

2. The developments in the other important markets in the financial system, namely, the equity market, capital market and debt market comprising PSU bonds and corporate debentures and housing finance are excluded as they come within the purview of different regulatory authorities.