IV FINANCIAL MARKET STRUCTURE

4.1 An understanding of the organisational structure of markets for financial assets is vital for knowing the limitations and prospects in relation to efficiency, integration and stability. Financial markets in India comprise in the main, the credit market, the money market, the foreign exchange market, the debt market and the capital market[1]. Recently, the derivatives market - OTC and exchange traded - has also emerged. With banks having already been allowed to undertake insurance business, bancassurance market is also likely to emerge in a big way. Most of the financial markets were characterised till the early 'nineties by controls over the pricing of financial assets, restrictions on flows or transactions, barriers to entry, low liquidity and high transaction costs. These characteristics came in the way of developments of the markets and allocative efficiency of resources channelled through them. The initiation of financial sector reforms in the early 'nineties was essentially to bring about a transformation in the structure, efficiency and stability of financial markets, as also an integration of the markets. Some of the important structural changes enabled by financial sector reforms relate to introduction of free pricing of financial assets in almost all segments, relaxation of quantitative restrictions, removal of barriers to entry, new methods of floatation/issuance of securities, increase in the number of instruments and enlarged participation, improvement in trading, clearing and settlement practices, improvement in the informational flows, transparency and disclosure practices, to name a few. In this Chapter, an attempt is made to provide an account of the market structures and instruments of the financial sector, *viz.*, the credit market, the money market, the foreign exchange market, the debt market, the capital market, the insurance market, and the recently established derivatives market and banc- assurance.

[1] One could, in fact, refer also to household finance market, NBFC market, and insurance market, as holding considerable promise in the years to come. These markets are not yet as developed and regulated as the credit/foreign exchange/money/capital/gilt-edged markets. Besides, there is very little of good time-series data of these markets that could be regarded as subjected to competitive forces. It is for these reasons, the focus on these markets had to be limited in this Report.

Credit Market Structure

4.2 In the context of relatively underdeveloped capital market and with little internal resources, firms or economic entities depend largely on financial intermediaries for their fund requirements. In terms of sources of credit, they could be broadly categorised as institutional and non-institutional. The major institutional purveyors of credit in India are banks and non-banking financial institutions, *i.e.,* development financial institutions (DFIs) and other financial institutions (FIs) and non-banking financial companies (NBFCs) including housing finance companies (HFCs). The non-institutional or unorganised sources of credit include money-lenders, indigenous bankers and sellers for trade credit. However, information about unorganised sector is limited and not readily available. The credit market is the predominant source of finance. An important aspect of the credit market is its term structure, *viz*., (i) short-term credit, (ii) medium-term credit, and (iii) long-term credit. While banks and NBFCs predominantly cater to short-term needs, FIs provide mostly medium and long-term funds. However, the actual time-length of the credit availed would depend, *inter alia*, on the production-sale cycle.

Banks[2]

4.3 Banks in India can be broadly classified as commercial banks and co-operative banks. In terms of ownership and function, commercial banks can be grouped into three categories–public sector banks, regional rural banks and private sector banks (both domestic and foreign). These banks have over 67,000 branches spread wide

[2] Details of data about the working and progress of banks in India are not included, since these are covered extensively in the Bank's annual reports on Trend and Progress of Banking in India. Here the main focus would be on the structural aspects that have a bearing on financial integration and development.

across the country. After initiation of financial sector reforms, competition in the banking sector has increased. Porter (1985) crystallises competition as a composite of five forces, *viz.*, rivalry amongst existing firms, potential entry of new competitors, potential development of substitute products, bargaining power of suppliers and bargaining power of consumers[3]. In the context of banking, all these are relevant except perhaps the bargaining power of suppliers. The threat of new entrants and substitute products as well as the rivalry amongst existing banks are becoming increasingly apparent in the Indian banking industry.

4.4 Competition among commercial banks has increased with the entry of new private sector banks and the permission to foreign banks to increase their number of branches in the 'nineties. After the guidelines issued in January 1993, 8 new private sector banks are presently in operation. These banks use state-of-the-art technology. Further, following India's commitment to the WTO agreement in respect of the services sector, foreign banks, including both new and the existing ones, have been permitted to open up to 12 branches a year with effect from 1998-99 as against the earlier stipulation of 8 branches. Also, competition among public sector banks has increased with relaxation of many guidelines, allowing for portfolio shifts for optimising the ultimate objectives. With the amendment to the Banking Companies Acts 1970/1980, public sector banks are now allowed to access the capital market to raise funds. This has diluted the shareholding of the Government, although it is still the major shareholder with a minimum 51 per cent of total equity. Local Area Banks (LABs) are also being set up to induce competition in urban, semi-urban and rural areas.

4.5 The competition in the banking sector has so evolved in the recent years that the market structure of the banking sector has tended to be oligopolistic. While the number of banks is reasonably large, the dominance of public sector banks, and especially of a few large banks continues. Such banks accounting for large share of deposits and advances as market leaders are able to influence decisions about liquidity and rate variables in the system. But, even such banks may face challenges in the future and face tougher competition, given the gradual upgradation of skills and technologies in competing banks and the restructuring and re-engineering processes being attempted by both foreign and private sector banks.

4.6 Since bank nationalisation in 1969, there has been significant growth in the geographical coverage of banks and the amount of resources mobilised by banks. The spectacular increase in deposits as percentage of national income to 48.7 per cent in 1999 as against 15.5 per cent in 1969 testifies to the favourable impact of branch expansion. There has also been a sharp increase in credit to agriculture, small-scale industries, trade and other activities which had little access to bank finance before 1969.

4.7 Prior to financial sector reforms, commercial banks functioned in a regulated environment, with administered interest rate structure, quantitative restrictions on credit flows, fairly high reserve requirements and pre-emption of significant proportion of lendable resources for the priority and the government sectors. While the quantitative restrictions led to the credit rationing for the private sector, interest rate controls led to sub-optimal use of credit and low levels of investment and growth. At the same time, flexibility of monetary policy in influencing the volume and cost of credit was constrained by considerations relating to domestic debt management and the need to finance the resource needs of the government sector. The resultant 'financial repression' led to decline in productivity and efficiency and erosion of profitability of the banking sector in general.

4.8 It is in the background of these circumstances that the development of sound commercial banking system was worked out mainly with the help of the recommendations of the Committee on the Financial System (Chairman: Shri M. Narasimham), 1991. The consequential financial sector reforms envisaged interest rate flexibility for banks and reduction in reserve requirements, besides a number of structural measures. Interest rates, as a consequence, have emerged as a major signalling device for resource allocation. This apart, credit market reforms included introduction of new instruments of credit, changes in the credit delivery system and integration of functional roles of diverse players, such as, banks, financial institutions and non-banking financial companies (NBFCs). The gradual introduction of a loan

[3] Porter, Michel E., (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York.

system in the place of a cash credit system has facilitated banks in planning their cash flows better, and in reducing the costs of uncertainty. At the same time, there has been greater competition with the introduction of new private sector banks and the permission given to foreign banks to open branches, as also with progressive improvement in the role of the non-banking sector. Restrictions on project financing by banks have been removed. With the result, the share of term loans as percentage of total bank loans went up to 34.9 per cent as at the end of March 1999 from 26.1 per cent as at end-March 1995.

4.9 The implementation of prudential norms characterised the initial phase of the financial reforms. Once the framework of improved soundness of financial intermediaries was provided, attention was bestowed on deregulation of the credit market. The gradual scaling down of cash reserve and statutory liquidity requirements has afforded flexibility to banks to manage their asset portfolios. The average CRR has been progressively brought down to 8.5 per cent in August 2000 from its peak at 15 per cent during July 1989 to April 1993. The SLR, which was at a peak of 38.5 per cent during September 1990 to December 1992, had been reduced to the statutory minimum of 25 per cent by October 1997. Besides, the coverage of priority sector has also been appropriately enlarged to include software and agro-processing industries and venture capital, while the existing priority sector categories have been broadened, giving the banks larger access in meeting the priority sector targets. Selective credit controls were eliminated over time. In addition, credit restrictions have been gradually removed/relaxed for purchases of consumer durables, and loans to individuals against shares and debentures/bonds.

Subsidiaries of Banks

4.10 An important development in the financial sector in the recent years has been the diversification and growth of para-banking activities. In India, following the erstwhile UK model, wherein diverse financial activities can be undertaken only through separate affiliates, banks were allowed to undertake non-traditional activity, *i.e*., leasing through separate subsidiaries in 1983 by amending the Banking Regulation Act, 1949. From 1986-87 and onwards, banks were allowed to set up subsidiaries to undertake other non-traditional activities, such as, mutual funds, hire purchase, factoring, *etc.* A number of banks have sponsored mutual funds (for example, State Bank of India, Canara Bank and Indian Bank). In 1994, banks were also allowed to undertake departmentally para banking activities, such as, leasing, hire purchase, factoring, *etc.* Presently, banks can undertake para banking activities either through subsidiaries or in-house or both.

4.11 The reasons for banks entering para-banking activities include the need for diversifying earnings, maximising economies of scale and scope, making profits, and also the desire to have leading market positions in financial services.

4.12 Merchant banking is an important area where subsidiaries of banks have made their presence felt. Merchant banking includes services, such as, pre-issue, management of public issue, *etc.,* and as such is dependent on the conditions in the stock market. Prior to 1983, banks used to undertake merchant banking activites in-house. In 1983, they were allowed to set up separate subsidiaries for undertaking merchant banking activities and the first banking subsidiary in the field of merchant banking was the SBI Capital Market, which started functioning in 1987 when the capital market was buoyant. There are now a number of bank subsidiaries involved in the merchant banking activities, such as, PNB Capital Services, BOI Finance, Indbank Merchant Banking Services, *etc.*

4.13 The dealing in government securities is another area where banks have been fairly active. Banks also set up subsidiaries for acting as primary dealers for government securities which include SBI Gilts, PNB Gilts, Gilts Securities Trading Corporation (set up by Canara Bank and Bank of Baroda).

4.14 Banks, through their subsidiaries, also provide services, such as, factoring (SBI Factors, Canbank Factors, etc), securitisation of loans and receivables into debt securities (Citi Bank), stock broking (SBI Securities, PNB Securities, *etc*.), financial guarantee for infrastructure projects, *etc.* Venture capital is a new area where banks have entered. The main players include Canbank Venture Capital Fund. SBI, Andhra Bank, Union Bank of India have contributed towards equity of venture capital funds floated by Technology Development and Investment Corporation of India (TDICI), Gujarat Investment Corporation, *etc*. Many banking subsidiaries, such as, SBI Home Finance, BOB Housing Finance, and PNB Housing

Finance, are also quite active in the field of housing finance. Banking subsidiaries are also operating in the credit card business, *e.g.*, SBI Cards and Payment Services Ltd.

4.15 There is a shared responsibility between the Reserve Bank and SEBI in the regulation of para banking activities of banks. In India, a prudential regulatory framework based on capital adequacy is in place in the case of para-banking subsidiaries as well. It is also important to adopt an arms-length approach between a bank and its subsidiary since involvement of banking subsidiaries in any activity that is subject to 'bubbles' and irregularities could impose financial burden on parent banks. But, as the problems of subsidiaries are hardly quickly noticed, public sector banks have been required to provide a consolidated balance sheet including position of their subsidiaries from the year ended March 31, 2000 to correctly reflect their financial strengths and weaknesses as is the case in the US. Such a transparent practice will help individual investors to make informed choices better.

Financial Institutions

4.16 A large variety of financial institutions has come into existence over the years to perform a variety of financial activities. While some of them operate at all-India level, others are state level institutions. All-India financial institutions (AIFIs) consist of all-India development banks, specialised financial institutions, investment institutions and refinance institutions. The state level institutions, on the other hand, comprise 18 State Financial Corporations (SFCs) and 26 State Industrial Development Corporations (SIDCs).

4.17 All-India development banks (IDBI, IFCI, ICICI, SIDBI and IIBI) occupy an important position in the financial system as the main source of medium and long-term project finance to industry. Among them, the IFCI (1948), IDBI (1964) and IRBI (presently IIBI-1984) were established under various Acts of the Parliament. The ICICI (1955) was set up as a public limited company under the Companies Act. The SIDBI (1990), a wholly owned subsidiary of IDBI, was set up for promotion, financing and development of industry in the small-scale, tiny and cottage sector. It acts as the chief refinancing institution in this sector. Besides, specialised financial institutions are also operating in the areas of export-import (EXIM Bank-1982), infrastructure (IDFC-1997), tourism (TFCI-1989) and venture capital (IVCF, ICICI Venture). Investment institutions in the business of mutual fund (UTI-1964) and insurance activity (LIC-1956, GIC and its subsidiaries-1972) have also played significant roles in the mobilisation of household sector savings and their deployment in the credit and the capital markets. In the agriculture and rural sector and the housing sector, the NABARD (1982) and NHB (1988) respectively, are acting as the chief refinancing institutions. Both of them are also vested with certain supervisory functions.

4.18 Besides providing direct loans (including rupee loans, foreign currency loans), financial institutions also extend financial assistance by way of underwriting and direct subscription and by issuing guarantees. Recently, some development financial institutions (DFIs) have started extending short term/working capital finance, although term-lending continues to be their primary activity. Amongst them, the five all-India development banks accounted for 83.9 per cent of the total financial assistance sanctioned during 1998-99. The overall importance of these financial institutions could be judged from the fact that their combined assets estimated at Rs.4,88,516 crore formed about 55.1 per cent of the assets of the banking sector as at end-March 2000.

4.19 Historically, the Reserve Bank and the Central Government have played a major role in financing these institutions by subscribing to the share capital, by allowing them to issue Government guaranteed bonds and by extending long-term loans at concessional terms. However, with the financial sector reforms in the 'nineties, concessional lending by the Reserve Bank and the Government was phased out, leaving the financial institutions to rely for financing their needs on the equity capital and the debt markets. Expansion of their equity base through public offers and public issues of long-term bonds has become an important element of their market-based financing. In order to provide flexibility, the Reserve Bank has also allowed FIs to raise resources by way of term deposits, CDs and borrowings from the term money market within the umbrella limit fixed in terms of net owned funds. In order to expand their scope of business, a large number of them have been entering various businesses - venture capital, mutual funds, banking (through subsidiaries) and insurance.

Non-Banking Financial Companies (NBFCs)

4.20 Non-banking financial companies (NBFCs) are financial intermediaries engaged primarily in the business of accepting deposits and making loans and advances, investments, leasing, hire purchase, *etc.* NBFCs are a heterogeneous lot. NBFC sector is characterised by a large number of privately owned, decentralised and relatively small-sized financial intermediaries. NBFCs are of various types, such as, loan companies (LCs), investment companies (ICs), hire purchase finance companies (HPFCs), equipment leasing companies (ELCs), mutual benefit financial companies (MBFCs) also known as Nidhis, miscellaneous non-banking companies (MNBCs) also known as Chit Funds and residuary non-banking companies (RNBCs). Loan companies, investment companies, hire purchase finance companies and equipment leasing companies are defined on the basis of the principal activity of their business. Although NBFCs in India have existed for a long time, they shot into prominence in the second half of the 'eighties and in the first-half of the 'nineties, as deposits raised by them grew rapidly. Total assets/liabilities of NBFCs grew at an average annual rate of 36.7 per cent during the 'nineties (1991-98) as compared with 20.9 per cent during the 'eighties (1981-91). Customer orientation, concentration in the main financial centres and attractive rates of return offered by them are some of the reasons for their rapid growth. Primarily engaged in the area of retail banking, they face competition from banks and financial institutions.

4.21 An attempt to regulate NBFCs started in the 'sixties when the Reserve Bank issued directions relating to the maximum amount of deposits, the period of deposits and rate of interest they could offer on the deposits accepted by them. To safeguard depositors' interest, norms were laid down from time to time, *inter alia*, regarding maintenance of certain percentage of liquid assets, creation of reserve funds and transfer thereto every year a certain percentage of profit, *etc.* These directions were amended from time to time, and in 1977 the Reserve Bank issued two separate sets of guidelines, *viz*., NBFC Acceptance of Deposits Directions, 1977 for NBFCs and MNBC Directions, 1977 for MNBCs.

4.22 Traditionally, the regulation of NBFCs was confined to deposit-taking activities of NBFCs. Although some attempt was made to regulate the asset side of NBFCs in 1994 in pursuance of the Shah Committee recommendations, the absence of adequate regulatory powers remained a major constraint. In 1997, however, the RBI Act was amended and it was given comprehensive powers to regulate NBFCs. The amended Act made it mandatory for every NBFC to have minimum net owned funds (NOF) of Rs.25 lakhs (subsequently increased to Rs.2 crore for the new companies) and obtain a certificate of registration from the Reserve Bank for commencing or carrying on business. The provisions relating to certificate of registration and minimum NOF were put in place to ensure that only companies with a healthy background and adequate capital were allowed to carry on the business. This was also to reduce the number of NBFCs to a manageable universe for purposes of effective regulation and supervision. As on June 30, 2000, out of the 37,274 companies seeking registration, 679 were approved for registration with permission to accept public deposits, while 8,451 were approved for registration without authorisation to accept deposits. Ceilings were prescribed for acceptance of deposits based on the principal business, capital adequacy, credit rating and NOF. The amended Act also empowered the Reserve Bank to regulate the asset side of NBFCs. Accordingly, in January 1998, the Reserve Bank laid down norms relating to capital adequacy, income recognition, asset classification, credit rating, exposure norms, *etc.* The Reserve Bank has also developed a comprehensive system to supervise NBFCs accepting/holding public deposits. This involves: (i) on-site inspection; (ii) off-site monitoring through periodic control returns from NBFCs; (iii) use of market intelligence; and (iv) submission of reports by auditors of NBFCs.

4.23 Public deposits held by NBFCs (including RNBCs) as at end-March 1999 at Rs.20,429 crore constituted approximately 2.6 per cent of aggregate deposits mobilised by scheduled commercial banks (excluding regional rural banks). Significantly, RNBCs (numbering only nine) held 52.1 per cent of the total deposits held by all NBFCs. Public deposits of large NBFCs (i.e., holding public deposits of Rs.20 crore and above) accounted for about 45 per cent of the total liabilities of the NBFC sector as a whole. Deposits of large size (Rs.10,000 and above) constituted 74.5 per cent of the total deposits of NBFCs. Increased competition in the financial sector, on the one hand, and strengthening of the regulatory

requirements, on the other, have resulted in a major consolidation in the NBFCs sector in the recent period.

Housing Finance Companies (HFCs)

4.24 In India, investment in housing is mainly financed by own sources or from informal credit market. The formal housing finance institutions contribute only 15-20 per cent of housing investments in the country (NSS, 44th Round, 1988-89). However, within the formal housing finance sector, the conventional sources of housing finance in India have been the public sector institutions. Over the years, they were found to be grossly inadequate to meet the requirements of the new investments and maintenance of housing and habitat systems. Accordingly, since the mid-eighties, efforts have been directed at the development of housing finance institutions to meet the large resource gap that exists for housing finance in the country. A policy shift to encourage private and co-operative sectors in housing could be discerned and the necessary legal and regulatory changes are being effected in this regard.

4.25 The formal segment of housing finance includes funding provided by the Central and State Governments and funds from financial institutions like GIC, LIC, commercial banks and specialised housing finance institutions and co-operative banks. HUDCO was set up in April 1970 as an apex techno-finance organisation in order to provide loans and technical support to state and city level organisations. The State Governments are responsible for implementing social housing schemes. Almost all the States have set up Housing Boards in order to facilitate the implementation of the social housing schemes. Co-operative banks have been financing housing schemes. Co-operative banks cater to economically weaker sections, low and middle income groups as well as co-operative or group housing societies. The first comprehensive guidelines in respect of these banks (other than Urban Co-operative Banks) were issued by the Reserve Bank in December 1984.

4.26 The second formal tier of the housing finance consists of insurance corporations, commercial banks and housing finance companies. In 1976, the Reserve Bank issued its first set of housing finance guidelines to scheduled commercial banks for the benefit of weaker sections of the society. At present, banks are required to extend for housing finance 3 per cent of incremental deposits in a financial year. This apart, the financial market for housing includes housing finance companies, which provide the bulk of housing finance. Although there are around 400 HFCs in operation, the market is dominated by a few big players. More than 95 per cent of disbursements are accounted for by only 29 leading HFCs having refinance facility from the National Housing Bank (NHB).

4.27 In recognition of the need for developing a network of specialised housing finance institutions in the country, the National Housing Bank was set up in July, 1988 as a wholly owned subsidiary of the Reserve Bank under the National Housing Bank Act, 1987, to function as an apex bank for the housing finance. NHB regulates HFCs, refinances their operations and expands the spread of housing finance to different income groups all over the country, while functioning within the overall framework of the housing policy. It has also helped in diverting increasing proportions of annual provident fund accumulations for housing finance through housing linked savings schemes for provident fund subscribers.

4.28 The second major policy in this direction was introduced in 1994 in the form of the National Housing Policy (NHP) that envisaged a major shift in the Government's role from a provider to a facilitator. The policy framework deals with technological, financial and institutional aspects. The market for housing finance really started growing after the NHP was framed. Among the HFCs, while HUDCO dominated in terms of size (paid up capital), HDFC and to an extent LIC performed better in terms of profits and total disbursements. The NHP also recognised the need to strengthen HUDCO through augmenting its resources for meeting the requirements for shelter provisions for lower income groups in a larger measure in rural and urban areas including the shelters and the slum dwellers and for expanding infrastructure facilities in the urban areas.

4.29 The NHB, as part of its regulatory measures, announced introduction of major provisions in September 1997 to strengthen the regulatory framework for HFCs. The regulations, *inter alia,* included compulsory registration of housing finance companies with minimum net-owned fund of Rs.25 lakhs, mandatory transfer

of 20 per cent of net profits to a reserve fund, maintenance of 5 per cent of SLR in bank deposits and another 5 per cent in approved securities. The Union Budget for 2000-01 envisaged a 20 per cent tax rebate under section 88 of the Income Tax Act for repayment of housing loans up to Rs.20,000 per year as against Rs.10,000 earlier.

4.30 The interest rate structure across HFCs has been similar due to the similarity in their liability structure resulting in similar cost of funds. For the year 1996-97, 55 per cent of the deposits received from the public were collected at rates above 14 per cent.

Money Market Structure

4.31 Money markets perform the crucial role of providing a conduit for equilibrating short-term demand for and supply of funds, thereby facilitating the conduct of monetary policy. The money market instruments mainly comprise: (i) call money, (ii) certificates of deposit, (iii) treasury bills, (iv) other short-term government securities transactions, such as, repos, (v) bankers' acceptances/commercial bills, (vi) commercial paper, and (vii) inter-corporate funds. While inter-bank money markets and central bank lending *via* repo operations or discounting provide liquidity for banks, private non-bank money market instruments, such as, commercial bills and commercial paper provide liquidity to the commercial sector. Unlike in developed economies where money markets are promoted by financial intermediaries out of efficiency considerations, in India, as in many other developing countries, the evolution of the money market and its structure has been integrated into the overall deregulation process of the financial sector.

4.32 In 1985, the Chakravarty Committee first underlined the need to develop money market instruments in India, while in 1987 the Working Group on the Money Market (Chairman: Shri N. Vaghul) laid the blueprint for the institution of money markets. The Reserve Bank has gradually developed money markets through a five-pronged effort. First, interest rate ceilings on inter-bank call/notice money (10.0 per cent), inter-bank term money (10.5-11.5 per cent), rediscounting of commercial bills (12.5 per cent) and inter-bank participation without risk (12.5 per cent) were withdrawn effective May 1, 1989. Secondly, several financial innovations in terms of money market instruments, such as, auctions of Treasury Bills (beginning with the introduction of 182-day Treasury Bills effective November 1986), certificates of deposit (June 1989), commercial paper (January 1990) and RBI repos (December 1992) were introduced. Thirdly, barriers to entry were gradually eased by (i) increasing the number of players (beginning with the Discount and Finance House of India (DFHI) in April 1988 followed by primary and satellite dealers and money market mutual funds), (ii) relaxing both issuance restrictions and subscription norms in respect of money market instruments and allowing determination of yields based on demand and supply of such paper, and (iii) enabling market evaluation of associated risks, by withdrawing regulatory restrictions, such as, bank guarantees in respect of CPs. Fourthly, the development of markets for short-term funds at market determined interest rates has been fostered by a gradual switch from a cash credit system to a loan-based system, shifting the onus of cash management from banks to borrowers and phasing out the 4.6 per cent 91-day tap Treasury bills, which in the past provided an avenue for investing short-term funds. Finally, institutional development has been carried out to facilitate inter-linkages between the money market and the foreign exchange market, especially after a market-based exchange rate system was put in place in March 1993.

4.33 The changes in the money market structure need to be seen in the context of a gradual shift from a regime of administered interest rates to a market-based pricing of assets and liabilities. The development of money markets in India in the last 3-4 years has been facilitated by three major factors. First, the limiting of almost automatic funding of the government, largely realised with the replacement of *ad hoc* Treasury bills (which bore a fixed coupon rate of 4.6 per cent per annum from July 1974, implying a negative real interest rate for most part of the period) by ways and means advances (WMA) at interest rates linked to the Bank Rate and the development of the government securities market, discussed later in the chapter, permitting a gradual de-emphasis on cash reserve ratio as a monetary policy instrument. Secondly, the development of an array of instruments of indirect monetary control, such as, the Bank Rate

(re-activated in April 1997), the strategy of combining auctions, private placements and open market operations in government paper (put in place in 1998-99) and the liquidity adjustment facility (LAF) (instituted in June 2000). Thirdly, the enabling institutional framework was introduced in the form of primary and satellite dealers and money market mutual funds. The monetary authority uses money markets to adjust primary liquidity in the domestic economy and monetary policy is often, in turn, shaped by developments in the money and the foreign exchange markets.

Call/Notice Money Market

4.34 The overnight inter-bank call money market, in which banks trade positions to maintain cash reserves, is the key segment of the money market in India. It is basically an 'over the counter' (OTC) market without the intermediation of brokers. Participation has been gradually widened to include other financial institutions, primary/satellite dealers, mutual funds and other participants in the bills rediscounting market and corporates (through primary dealers) besides banks, LIC and UTI. While banks and primary dealers are allowed two-way operations, other non-bank entities can only participate as lenders. As per the announced policies, once the repo market develops, the call money market would be made into a pure inter-bank market, including primary dealers.

4.35 The call money market is influenced by liquidity conditions (mainly governed by deposit mobilisation, capital flows and the Reserve Bank's operations affecting banks' reserve requirements on the supply side and tax outflows, government borrowing programme, non-food credit off-take and seasonal fluctuations, such as, large currency drawals during the festival season on the demand side). At times of easy liquidity, call rates tend to hover around the Reserve Bank's repo rate, which provides a ready avenue for parking short-term surplus funds. During periods of tight liquidity, call rates tend to move up towards the Bank Rate and more recently the Reserve Bank's reverse repo rate (and sometimes beyond) as the Reserve Bank modulates liquidity in pursuit of monetary stability (Chart IV.1). Besides, there are other influences, such as, (i) the reserve requirement prescriptions (and stipulations regarding average reserve maintenance), (ii) the investment policy of non-bank participants in the call market which are among the large suppliers of funds in the call market, and (iii) the asymmetries of the call money market, with few lenders and chronic borrowers.

4.36 The annual turnover in the call money market at Mumbai which amounted to Rs.16,44,790 crore in 1991-92 and Rs.15,45,160 crore in 1996-97 moved up in more recent years. For example, the daily turnover increased to Rs.33,882 crore during 1999-2000 from Rs.25,956 crore during 1998-99. The average interest in the call money market during last four years tended to move up from 7.8 per cent in 1996-97 to 9.0 per cent during 1999-2000. However, volatility tended to move downwards (Table 4.1 and Chart IV.1).

Term Money Market

4.37 The term money market in India is still not developed, with the daily turnover amounting to Rs.951 crore - Rs.1,489 crore during March 2000, up from Rs.23 crore - Rs.967 crore during March 1999. Select financial institutions (IDBI, ICICI, IFCI, IIBI, SIDBI, EXIM Bank, NABARD, IDFC and NHB) are permitted to borrow from the term money market for 3-6 months maturity, within stipulated limits for each institution. Banks were exempted from the maintenance of CRR and SLR on inter-bank liabilities to facilitate the development of the term money market in April 1997, subject to the condition that effective CRR and SLR on total demand and time

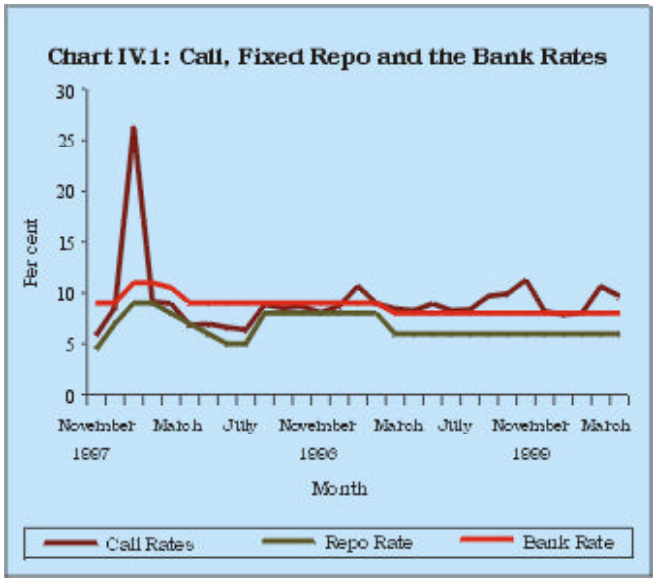


Table 4.1: Inter-bank Call Money Lending Rates

(Per cent)

Year (April-March)	Maximum	Minimum	Average	Coefficient of Variation#	Bank Rate (End March)
1	2	3	4	5	6
1996-97	14.6	1.05	7.8	37.3	12.0
1997-98	52.2	0.2	8.7	85.7	10.5
1998-99	20.2	3.6	7.8	14.9	8.0
1999-2000	35.0	0.1	9.0	12.7	8.0

: Of monthly weighted averages.
Source : *Handbook of Statistics on Indian Economy, 2000*, RBI.

liabilities would not be less than 3 per cent and 25 per cent, respectively.

Repos

4.38 Repo is a money market instrument, which enables collateralised short-term borrowing and lending through sale/purchase operations in debt instruments. Under a repo transacion, a holder of securities sells them to an investor with an agreement to repurchase at a pre-determined date and rate. In the case of a repo, the forward clean price of the bonds is set in advance at a level which is different from the spot clean price by adjusting the difference between repo interest and coupon earned on the security. Repo is also called a ready forward transaction as it is a means of funding by selling a security held on a spot (ready) basis and repurchasing the same on a forward basis. Reverse repo is a mirror image of repo as in the case of former, securities are acquired with a simultaneous commitment to resell.

4.39 Subsequent to the irregularities in securities transactions, repos were initially allowed in the Central Government Treasury bills and dated securities created by converting some of the Treasury bills. In order to activate the repos market essentially to be an equilibrating force between the money market and the Government securities market, the Reserve Bank gradually extended repos facility to all Central Government dated securities and Treasury bills of all maturities. Recently, while the State Government securities were made eligible for repos, the Reserve Bank also allowed all non-banking entities, maintaining SGL and current account with its Mumbai office, to undertake repos (including reverse repos). Furthermore, it has been decided to make PSU bonds and private corporate securities eligible for repos to broaden the repos market.

4.40 The Reserve Bank also undertakes repo/ reverse repo operations with PDs and scheduled commercial banks, as part of its open market operations. It also provides liquidity support to SDs and 100 per cent gilt mutual funds through reverse repos. There is no limit on the tenor of repos. The Reserve Bank initially conducted repo operations for a period of 14 days. Since November, 1996, the Reserve Bank has been conducting 3-4 day repo auctions, synchronizing with working day and week-end liquidity conditions, in order to modulate short-term liquidity. With the introduction of Liquidity Adjustment Facility (LAF) from June 5, 2000, the Reserve Bank has been injecting liquidity into the system through reverse repos and absorbing liquidity from the system through repos on a daily basis. These operations are conducted on all working days except on Saturdays, through uniform price auctions and are restricted to scheduled commercial banks and PDs. This is apart from the liquidity support extended by the Reserve Bank to PDs through refinance/reverse repo facility at a fixed price.

4.41 Repos help to manage liquidity conditions at the short-end of the market spectrum. Repos have often been used to provide banks an avenue to park funds generated by capital inflows to provide a floor to the call money market. During times of foreign exchange market volatility, repos have been used to prevent speculative activity as the funds tend to flow from the money market to the foreign exchange market. For instance, a fixed rate repo auction system was instituted in November 1997 with a view to ensuring an effective floor for the short-term interest rates in order to ward off the spread of contagion during the South-East Asian crisis. The repo rates were reduced with the return of capital flows, which imparted stability to the foreign exchange market.

Commercial Paper

4.42 Commercial Paper (CP) is issued by non-banking companies and all-India Financial

Institutions (AIFIs) as an unsecured promissory note or in a dematerialised form at a rate of discount not tied to any transaction. It is privately placed with investors through the agency of banks. Banks act as both principals (*i.e.*, as counter parties in purchases and sales) and agents in dealership and placement. Banks are not allowed to either underwrite or co-accept issue of CP.

4.43 Conditions relating to issuing of CPs have been relaxed gradually with a view to broad-basing the market. For instance, the maturity period has been changed from 91 days - 6 months earlier to 15 days - 1 year. The minimum size of CPs has also been reduced from Rs.1 crore to Rs. 5 lakh. The issuer base has been widened by allowing PDs, SDs and AIFIs, apart from corporates, to issue CPs to access short-term funds.

4.44 The limit for issuance of CP, which was initially carved out of the maximum permissible bank finance (MPBF), was later linked to the cash credit component of MPBF. With the cash credit component gradually shrinking and, thereby, restricting the development of CP, the issuance limit was delinked from the cash credit limit in October 1997. Initially, banks were required to restore the cash credit limit on the maturity of the paper, guaranteeing the issuer funds at the point of redemption. This "stand-by" facility was withdrawn in October 1994 to impart a measure of independence to CP as a money market instrument. Banks could be approached for a restoration of the original cash credit limit at a later date, the sanction of which was left to their discretion. The credit rating requirement, initially an enabling condition for issuing CP, gradually turned to signal the issuer's position in the market. The Reserve Bank converted CP into a stand-alone product effective October 2000, with a view to enabling the issuers in the services sector to meet short-term working capital requirements and, at the same time, according banks and FIs the flexibility to fix working capital limits after taking into account the resource pattern of companies' finances including CPs. Trading in the dematerialised form, which was introduced recently, is likely to reduce transactions costs.

4.45 The pricing of CP usually lies between the scheduled commercial banks' lending rate (since corporates do not otherwise have the incentive to issue CP) and some representative money market rate (which represents the opportunity cost of bank funds). The Indian CP market is driven by the demand for CP by scheduled commercial banks, which, in turn, is governed by bank liquidity. Banks' investments in CP, despite a positive interest rate differential between the bank loan rate and the CP rate, may be explained by two factors, *viz.*, (i) the higher transactions costs of bank loans, and (ii) the relative profitability of CP as an attractive short-term instrument to park funds during times of high liquidity. As inter-bank call rates are typically lower than the CP rates, some banks also fund CP by borrowing from the call money market and, thus, book profit through arbitrage between the two money markets. Most of the CPs seem to have been issued by the manufacturing companies for a maturity period of approximately three months or less, mainly due to the fact that investors do not wish to lock funds for long periods of time. In most international markets, CP is issued on a short-term basis with a roll-over facility; this facility, however, is not allowed in the Indian CP market.

4.46 The secondary activity is subdued in most CP markets on account of the investors' preference to hold the instrument due to higher risk-adjusted return relative to those of other instruments. However, mutual funds find the secondary market relatively remunerative, since stamp duty for the issuer will be higher in case the buyer is a mutual fund rather than a bank. Hence, there is a tendency to route a CP through an institution (usually a bank), which attracts lower stamp duty in the primary market, to a mutual fund in the secondary market.

Certificates of Deposit

4.47 Certificates of Deposit (CD), introduced in June 1989, are essentially securitised short-term time deposits issued by banks during periods of tight liquidity, at relatively high interest rates (in comparison with term deposits). But the transaction cost of CDs is often lower as compared with that of retail deposits. When credit picks up, placing pressure on banks' liquidity, banks try to meet their liquidity gap by issuing CDs, often at a premium. The required amounts are mobilised in larger amounts through CD, often for short periods in order to avoid interest liability overhang in the subsequent months when credit demand slackens. As banks offer higher interest rates on CDs, subscribers find it profitable to hold CDs till maturity. As a result, the secondary market for CDs has been slow to develop.

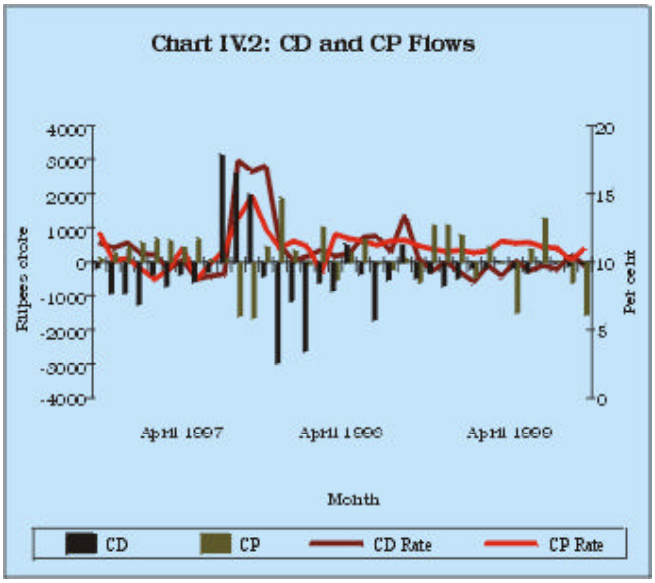
4.48 The Reserve Bank initially limited the issuance of CDs at a certain percentage of the

fortnightly average of the outstanding aggregate deposits of 1989-90. Over-time, bank-wise limits were raised and subsequently abolished, effective October 16, 1993, enabling the CD to emerge as a market determined instrument. The reduction in the minimum maturity of time deposits and the permission to allow banks to pay different interest rates based on deposit size, reduced the relative attractiveness of CDs. With a view to broadening the CD market, the minimum issuance size was gradually scaled down to Rs.5 lakh and the minimum maturity reduced to 15 days in April 2000. Again, in order to provide flexibility and depth to the secondary market, the restriction on transferability period for CDs issued by both banks and financial institutions was withdrawn effective October 10, 2000.

4.49 The issuance of CDs and subscription to CPs by scheduled commercial banks and the interest rate on the two instruments broadly reflected the liquidity conditions of banks (Table 4.2 and Chart IV.2). The outstanding amount of CP increased to Rs.3,264 crore as at end-March 1994 from Rs.577 crore as at end-March 1993, while CDs declined to Rs.5,571 crore from Rs.9,803 crore. As liquidity conditions tightened with the increased demand for bank credit and capital outflows, the outstanding amount of CDs increased steadily to scale a peak of Rs.16,316 crore as at end-March 1996, while CP issues dwindled to Rs.76 crore. As liquidity conditions eased, the outstanding amount of CDs declined to Rs.12,134 crore as at end-March 1997 but increased to Rs.14,296 crore as at end-March 1998 following the Reserve Bank's monetary

Table 4.2: Certificates of Deposit and Commercial Paper: Summary Statistics

Year/ Instrument (End-March)	CD		CP	
	Interest Rate (per cent)	Outstanding (Rupees crore)	Interest Rate (per cent)	Outstanding (Rupees crore)
1	2	3	4	5
1993	12.5-16.5	9,803	15.8-16	577
1994	7-12.2	5,571	11-12	3,264
1995	10-15	8,017	14-15	604
1996	12-22.3	16,316	20.2	76
1997	7-14.3	12,134	11.3-12.3	646
1998	7.2-26	14,296	14.2-15.5	1,500
1999	8-12.5	3,717	9.1-13.3	4,770
2000	7.5-12	1,227	10-12	5,663



tightening measures on January 16, 1998. CDs declined to Rs.3,717 crore at end-March 1999 as a result of slackening of credit demand and capital inflows and remained limited to an average of around Rs.1,500 crore during 1999-2000. The outstanding amount of CP picked up, after the limits were enlarged in October 1997, to Rs.4,770 crore as at end-March 1999 and further to Rs.5,663 crore as at end-March 2000.

Commercial Bills Market

4.50 The commercial bill market in India is very limited, as evidenced by the fact that commercial bills rediscounted by commercial banks with financial institutions stay often well below Rs.1,000 crore. The commercial bills market was constricted by the cash credit system of credit delivery where the onus of cash management rested with banks. The Reserve Bank withdrew the interest rate ceiling of 12.5 per cent on rediscounting of commercial bills, effective May 1, 1989. The success of the bills discounting scheme is contingent upon financial discipline on the part of borrowers. As such discipline did not exist, the Reserve Bank, in July 1992, restricted the banks to finance bills to the extent of working capital needs based on credit norms. However, in order to encourage the 'bills' culture, the Reserve Bank advised banks in October 1997 that at least 25 per cent of inland credit purchases of borrowers should be through bills. The Working Group on Bills Discounting by Banks (Chairman: Shri U.R. Ramamoorthy) has recently submitted its report to the Reserve Bank.

Money Market Mutual Funds (MMMFs)

4.51 In April 1992, scheduled commercial banks and public financial institutions were allowed to set up MMMFs, subject to certain terms and conditions. The prescribed restrictions were relaxed subsequently between November 1995 and July 1996 in order to impart more flexibility, liquidity and depth to the market. MMMFs are allowed to invest in rated corporate bonds and debentures with a residual maturity of one year. The minimum lock-in period for units of MMMFs was relaxed from 30 days to 15 days in May 1998. In 1999-2000, MMMFs were allowed to offer 'cheque writing facility' in a tie-up with banks to provide more liquidity to unit holders. MMMFs, which were regulated under the guidelines issued by the Reserve Bank, have been brought under the purview of the SEBI regulations since March 7, 2000. Banks are now allowed to set up MMMFs only as a separate entity in the form of a trust. Currently, there are only three MMMFs in operation.

Foreign Exchange Market Structure

4.52 The foreign exchange market in India comprises customers, authorised dealers (ADs) and the Reserve Bank. With the transition to a market determined exchange rate system in March 1993 and the subsequent gradual but significant liberalisation of restrictions on various external transactions, the forex market in India has acquired more depth.

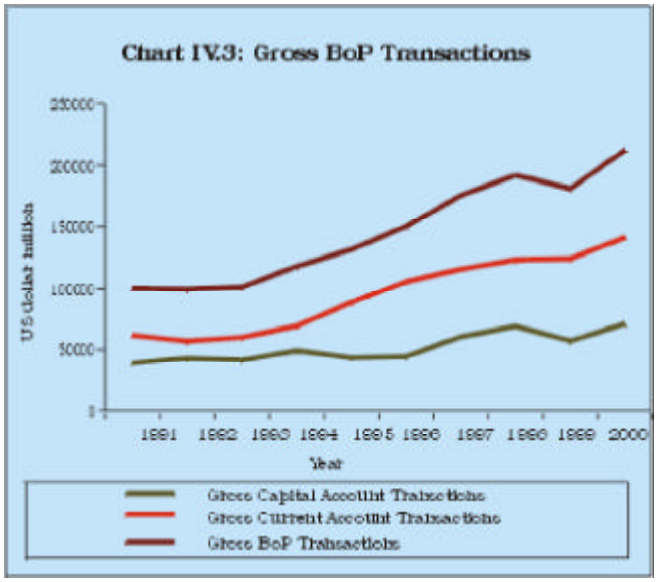
4.53 The growing depth of the Indian forex market in the 'nineties reflects essentially the result of the implementation of a number of recommendations of three important committees, *viz.,* the High Level Committee on Balance of Payments (Chairman: Dr. C. Rangarajan), the Report of the Expert Group on Foreign Exchange Markets in India (Chairman: Shri O.P. Sodhani) and the Committee on Capital Account Convertibility (Chairman: Shri S.S. Tarapore).

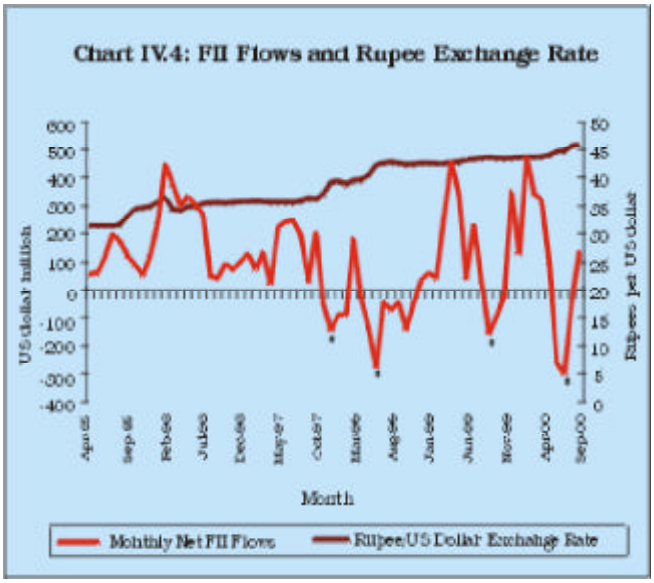
4.54 Since the unification of the exchange rate in March 1993, several measures have been introduced to widen and deepen the forex market. First, banks have been given the freedom to (i) fix net overnight position limits and gap limits (with the Reserve Bank formally approving the limits), (ii) initiate trading position in the overseas markets, (iii) determine the interest rates of NRI deposits (Linked to LIBOR in the case of FCNR(B) deposits) and maturity period [minimum maturity of one year in the case of FCNR(B) deposits]. Secondly, inter-bank borrowings have been exempted from statutory pre-emptions. Thirdly, banks have been permitted the use of derivative products for asset-liability management. Fourthly, in order to facilitate integration of domestic and overseas money markets, ADs have been allowed to borrow abroad. However, as a prudential measure, their external borrowings have been related to their capital base. At present, ADs are allowed to avail of loans, overdrafts and other types of fund based credit facilities from their overseas branches and correspondents up to 15 per cent of their unimpaired Tier I capital or US $ 10 million or its equivalent, whichever is higher. The funds are allowed to be used for any purpose - other than lending in foreign currencies. ADs have been provided the flexibility to cross these limits solely for replenishing their rupee resources in India for normal business operations and not for deployment in the call money or other markets. In such instances, a report on each borrowing has to be immediately forwarded to the Reserve Bank and its prior permission is needed for repayment of such loans. Such permission would be given only if the AD has no borrowings outstanding from the Reserve Bank or other bank/financial institution in India and the concerned AD is clear of all money market borrowings for a period of at least four weeks before the repayment. Fifthly, corporates have been provided significant freedom in managing their foreign exchange exposures. They are permitted to hedge anticipated exposures, though this facility has also been temporarily suspended after the Asian crisis. Exchange Earners' Foreign Currency (EEFC) account entitlement has also been rationalised. Risk management strategies like freedom to cancel and rebook forward contracts have been allowed to corporates, although currently due to Asian crisis, freedom to rebook cancelled contracts is suspended. However, corporates are allowed to roll over the contracts. Other risk management tools like cross-currency options on back-to-back basis, lower cost option strategies like range forwards and ratio range forwards and hedging of external commercial borrowing (ECB) exposures have been allowed subject to prudential requirements.

4.55 The customer segment of the spot market in India essentially reflects the transactions reported in the balance of payments. Although as percentage of GDP, gross inflows and outflows have not increased significantly, in absolute value

terms, there has been a two-fold increase in the merchant transactions in the 'nineties (Chart IV.3). Current transactions, however, continue to dominate the capital transactions. The merchant segment of the market continues to be dominated by select public sector units, in particular, the Indian Oil Corporation (IOC), and the Government of India. In the post-1993 period, the foreign institutional investors (FIIs) have also emerged as major players in the foreign exchange market with some evidence of links between the FII flows and the behaviour of the exchange rate (Chart IV.4). During the four major phases of net FII outflows (as shown by * in Chart IV.4), the exchange rate of the rupee seemed to depreciate. While earlier the debt service requirements of the Government and IOC were being routed through the Reserve Bank, since 1996 such demands have also been routed through the market. As the forex demand on account of public sector units and the Government tends to be lumpy and uneven, resultant demand-supply mismatches entail occasional pressures in the forex market, warranting market interventions by the Reserve Bank.

4.56 There has been a considerable improvement in the forex market turnover in the recent years, particularly during the post-reform period. The total turnover, *i.e.,* merchant and inter-bank taken together, in the forex market increased by 6-fold between the period 1987-88 to 1999-00. The average monthly turnover increased from about US $ 17 billion in 1987-88 to US $ 50 billion in 1993-94 and further to US $ 109 billion in 1998-99. Reflecting restrictions on





re-booking of cancelled forward contracts for imports and splitting of forward and spot legs of a commitment, the monthly turnover declined to US $ 95 billion in 1999-00. The inter-bank turnover constitutes the predominant part of total turnover. The proportion of inter-bank turnover in total turnover increased from 82 per cent in 1987-88 to 91 per cent by 1991-92 but declined to less than four-fifths by 1999-00. As regards the classification by way of spot and forward transactions, available data for the recent period indicate that the merchant segment is dominated by spot transactions, while the inter-bank segment is dominated by forward transactions. During 1999-00, spot transactions accounted for about 55 per cent of total merchant turnover, while the forward transactions formed 40 per cent of total inter-bank turnover.

4.57 In the Indian forex market, which is essentially transactions driven, interbank transactions in the spot segment mostly facilitate market making. At times, however, inter-bank transactions also reflect the "day trading" pattern. With restrictions on overnight overbought and oversold positions, day trading allows one to benefit from the intra-day exchange rate movements without violating the close of the day position limits. During normal market conditions, the ratio between inter-bank and merchant transactions should be somewhat stable. In the face of disorderly conditions, tendency for day trading may increase and, as a result, the ratio may increase. This is evidenced from Chart IV.5. Whenever the Indian rupee was under pressure (particularly corresponding to the three points

shown by * in Chart IV.5), the ratio of inter-bank spot transactions to merchant transactions tended to exceed the average, suggesting that day trading activities increase during volatile market conditions.

4.58 In the forward/swap segment of the market, importers and corporates generally tend to rush for cover when the spot market turns disorderly and prefer to keep their positions open during stable market conditions. This creates occasional large mismatches in the forward segment of the market. This is evidenced from Chart IV.6. If merchant sale in the forward segment is used as a proxy for forward demand by importers and merchant purchase in the forward segment is used as a proxy for supplies by exporters in the forward market, then the ratios of monthly forward demand to monthly imports and monthly forward supply to monthly exports could explain the sensitivity of exporters and importers to forward market in India. Chart IV.6 shows that the ratio of demand for forward cover to imports remained below one during stable market conditions, but got close to one or exceeded one whenever the spot exchange rate came under pressure. Two-way movement in the exchange rate is essential to increase the sensitivity of exporters and corporates to the forward market.

4.59 Initiation of longer maturity contracts up to one year represents a healthy development in the forex market. According to the BIS Survey on Global Foreign Exchange markets, the maturity breakdown of outright forward transactions in different markets shows that while for the global market as a whole the share of one year contracts was about 4 per cent, in India it was close to 3 per cent. Forward contracts up to seven days, however, represented 51 per cent of total outright forward transactions in the world as against 22 per cent in India. This could be on account of the restrictions in the Indian market that without an underlying transaction, an agent cannot enter into a forward contract.

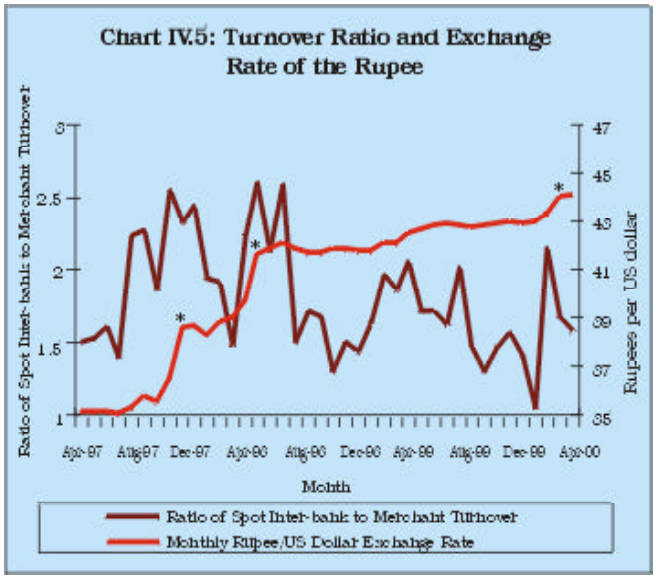
4.60 The Reserve Bank's presence in the market essentially reflects its policy of ensuring orderly market conditions. Reflecting its stance, net intervention sales of the Reserve Bank generally coincided with conditions of excess demand in the market, while net intervention purchases coincided with surplus market conditions and contributed to reserve build-up (Chart IV.7).

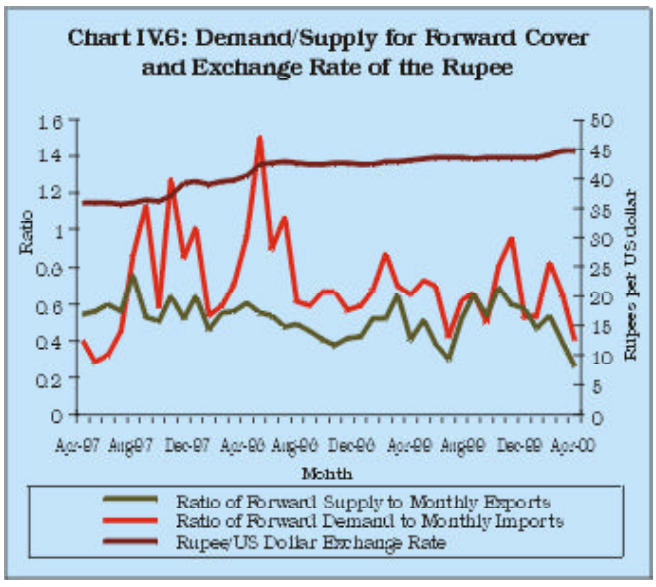
Structure of Debt Market

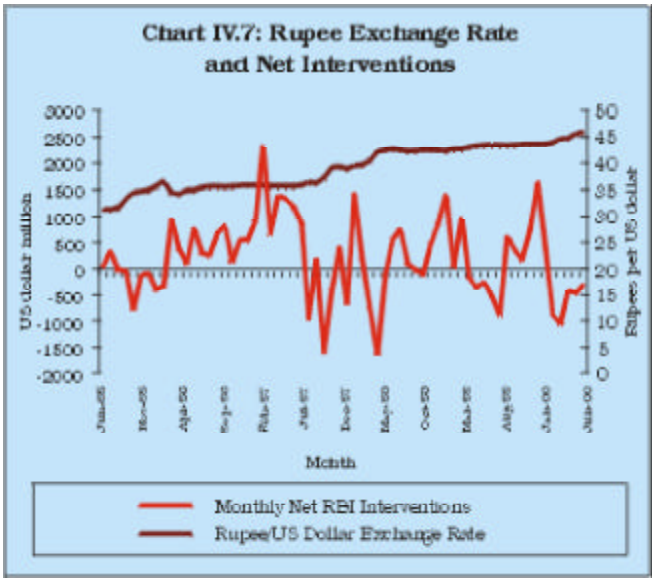
4.61 The domestic debt market comprises two main segments, *viz*., the Government securities and other (mainly corporate) securities comprising private corporate debt, PSU bonds and DFIs bonds. The government securities market is pre-dominant, while the other segment is not very deep and liquid.

Government Securities Market

4.62 The size of the Government securities market is large and is growing. This is evident from the fact that secondary market transactions in Government securities increased to Rs. 5,39,255 crore in 1999-2000 as against Rs. 1,27,179 crore in 1995-96.







4.63 The Government securities market witnessed significant transformation in the 'nineties. Its development was constrained mainly by lack of definite limits on the automatic monetisation of the Central Government budget deficits and by relatively low coupon rates offered on the Government securities. The artificially low yield on Government securities had an impact on the entire yield structure of financial assets in the system. Both these factors were corrected during the 'nineties. As regards the secondary market, there was not much activity which was hindered by low bond yields and predominence of captive investors. The secondary market activity increased following the introduction of auction based yields. The activity in the secondary market could further pick up once bond yields are better aligned and investors, other than institutions (banks and insurance companies) start actively transacting in the market.

Type of Instruments

4.64 As a part of developing money market instruments, a variety of Treasury bills, *viz*., 14-day, 91-day, 182-day, 364-day maturities have been introduced. Innovations have also been introduced with respect to long-term bonds, which include zero coupon bonds, floating rate bonds and capital indexed bonds.

Selling Techniques

4.65 An event of significance to the gilt market was the introduction of auction system for dated securities in June 1992, marking a move to market related rates on the Government securities. The important objective to be achieved through the auction system was the process of price discovery. At present, the sale of Government securities in India is done both through auction method as well as pre-determined coupon/tap issues. Auctions are of the discriminatory/multiple price, sealed bid type. The multiple price auction is the mostly used selling technique. The sale of Treasury bills is conducted through the auction method. Apart from the allotment through auction, the practice of entertaining non-competitive bids in Treasury bills to State Governments, non-government provident funds and other central banks at the weighted average price determined in auctions also exists. Non-competitive bids are, however, accepted outside the notified amount. This is done to encourage participants who do not have sufficient expertise in such bidding. The Reserve Bank also participates on a non-competitive basis in Treasury bills and dated securities to primarily take up some part of the issues in case of under-subscription. In the recent years, with a view to moderating the market impact of the large borrowing programme on interest rates, the Reserve Bank has accepted private placement of government stocks and released them to the market when the interest rate expectations turned out to be favourable.

4.66 With a view to eliminating the problem of "winner's curse", associated with the multiple price auction, and broadening the market participation, the uniform price auction method was introduced in respect of 91-day Treasury bill. Since 1999-2000 most of the current primary issues of dated securities are through re-issues and price-based auctions, instead of yield-based auctions, to enable consolidation of securities. Such consolidation is necessary for ensuring sufficient volumes and liquidity in any one issue and to facilitate the emergence of bench-marks and development of Separately Traded Registered Interest and Principal of Securities (STRIPS).

4.67 While there exists a fixed calendar for auctions of all types of treasury bills, auctions/ issues of dated securities are not based on any fixed calendar (Table 4.3). However, the auction/ issue of Treasury bill and dated security is announced in advance through a public notification. While the 14-day and 91-day Treasury bills are auctioned on a weekly basis,

the auctions of 182-day and 364-day Treasury bills are held on a fortnightly basis. The treasury bills/bonds are issued to successful bidders in the form of stock certificates or by credit to their Subsidiary General Ledger Account.

Types of Traders/Market Participants

4.68 The main investors in the Government securities market in India are commercial banks, co-operative banks, insurance companies, provident funds, financial institutions (including term-lending institutions), mutual funds especially the gilt funds, primary dealers, satellite dealers, non-bank finance companies and corporate entities. The Reserve Bank also absorbs primary issuance of Government securities, either through private placement or devolvement. Though banks have traditionally been the dominant investors in the Government securities due mainly to SLR requirements, they have, in recent years, found it advantageous to invest in the Government securities beyond the statutory requirements partly because of the better risk-return characteristic of such securities in the context of adherence to capital adequacy requirements and partly because of relatively sluggish demand for commercial credit. The share of commercial bank holdings continued to rise during the 'eighties and the early 'nineties. It reached a peak of 72.5 per cent as at end-March 1994 before declining to 59.5 per cent as at end-March 1999 (Table 4.4).

4.69 A large participant base reduces the borrowing cost for the Government, reduces market volatility and imparts competition in the market. A market with adequate depth and liquidity for participants with different perceptions and liquidity requirements should emerge; this is also essential to avoid unidirectional movements in the market. The present structure of the Government securities market is pre-dominantly institutional, while the household participation is negligible or nearly absent. Foreign Institutional Investors (FIIs) are also permitted to invest in the dated Government securities and Treasury bills, both in the primary and secondary markets, within the overall debt ceilings. While FIIs are allowed to invest in the debt up to a maximum of 30 per cent of their total investments, there is no such limit for dedicated debt funds.

4.70 In order to promote the retail market segment and provide greater liquidity to retail investors, the Reserve Bank allowed banks to freely buy and sell Government securities on an outright basis at prevailing market prices, removing restriction on the period between sale and purchase. Furthermore, the interest income on government securities was exempted from the provision of Tax Deduction at Source (TDS) with effect from June 1997, facilitating quotations at 'clean prices' and genuine trading in the secondary market.

Market Supporting Structures/Institutions

4.71 A crucial issue in the development of the Government securities market is the need for a well functioning secondary market, which requires (i) a transparent system of trading; (ii) a secure system of settlement of transactions; (iii) an institutional structure whereby the market players

Table 4.3 : Features of Treasury Bills Auction

Type of Treasury bill	Periodicity	Notified Amount (Rupees crore)	Day of Auction	Day of Payment
1	2	3	4	5
14-day	Weekly	100	Every Friday	Following Monday
91-day	Weekly	100	Every Friday	Following Monday
182-day	Fortnightly	100	Wednesday preceding the non-reporting Fridays	Following Thursday
364-day	Fortnightly	500-750	Wednesday preceding the reporting Fridays	Following Thursday

Table 4.4: Pattern of Investment in Central and State Government Dated Securities - By Investor Category

(Per cent)

End of March	Reserve Bank	Commercial Banks	LIC	Others
1	2	3	4	5
1981	20.6	45.6	12.0	21.8
1986	25.2	48.1	10.6	16.1
1991	20.3	59.4	12.3	8.0
1996	7.3	64.9	16.8	11.0
1997	2.8	63.0	18.7	15.5
1998	10.7	58.9	18.0	12.4
1999	9.1	59.5	17.9	13.5

have divergent perceptions about liquidity and interest rates; and (iv) a liquid market with a matured system of price determination.

4.72 To develop the secondary market for the Government securities, the following measures were initiated.

Secondary Market Window

4.73 The central banks often play the role of market makers providing two-way quotes through their sales window to infuse liquidity in the secondary market for the Government securities. Generally, two approaches are adopted for operating the secondary market window by the central banks: (i) fixing buying and selling prices and announcing them to the market, and (ii) using a dynamic approach whereby the secondary market window pricing is continuously adjusted in response to the market dynamics. During the initial stages of market development, the Reserve Bank used to announce the sale and purchase prices of securities. In the recent period, however, the Reserve Bank has offered a select list of securities for sale, depending upon supply and demand conditions. A few securities are also included in the purchase list, with a view to improving liquidity through select securities. The sale/purchase prices and the securities offered on sale are frequently revised.

Discount House Arrangements

4.74 The DFHI was originally set up in April 1988 for developing the money market. It was also allowed to participate in Treasury bills and dated securities. Further, for developing an efficient institutional infrastructure for an active secondary market in Government securities and public sector bonds, the Securities Trading Corporation of India (STCI) was set up in May 1994. Both DFHI and STCI later transformed themselves into PDs.

Primary Dealer System

4.75 The primary dealer system was evolved and made functional in 1996 with the objective of strengthening the securities market infrastructure and bringing about improvement in the secondary market trading, liquidity and turnover in Government securities as also encouraging their voluntary holding amongst a wider investor base. PDs have ensured maximum participation in the auctions of Government securities. In the secondary market, they act as market makers by providing continuous two-way quotes thereby ensuring liquidity and support to the success of primary market operations. The system also creates appropriate conditions for open market operations of the Reserve Bank and facilitates the transfer of market making activities from the Reserve Bank to the market agents.

4.76 As on March 31, 2000, there were 15 approved PDs in the gilts market. The Reserve Bank guidelines specify that the institutions willing to register as PDs should have sufficient and continuous presence in the Government securities market and a certain minimum financial capacity (minimum net owned funds of Rs.50 crore). A PD commits bids in the auction for a minimum amount in the Central Government dated securities and Treasury bills, maintains a minimum level of success ratio, underwrites pre-determined parts by which subscriptions/accepted bids fall short of the notified amounts, offers two-way quotes for Government securities and achieves an annual turnover of not less than five times in Government dated securities and ten times in Treasury bills, within which outright transactions should be three and six times, respectively. In return to such obligations, the Reserve Bank extends to them facilities like current account/SGL account, liquidity support linked to bidding commitments, freedom to deal in money market instruments and favoured access to open market operations. The primary market purchases of PDs in Government securities and Treasury bills rose from Rs.20,835 crore in 1996-97 to Rs.53,797 crore in 1999-2000. The secondary market turnover (outright plus repos) of PDs also recorded significant growth from Rs.90,453 crore to Rs.3,34,471 crore during the same period.

Satellite Dealers

4.77 With a view to broadening the market with a second tier of dealer system in trading and distribution and imparting greater momentum in terms of increased liquidity and turnover, a system of SDs was put in place in December 1996. The Reserve Bank had granted registration to 9 entities as SDs in the Government securities market. The network of satellite dealers provides retail outlets thereby encouraging voluntary holding of Government securities among a wide investor base. The SDs are also given limited

liquidity support from the Reserve Bank. It may be noted that some of the SDs have become PDs. At present 4 SDs are in operation. The scheme for approval of both PDs and SDs has been made an ongoing process. However, the response to the scheme of SDs has been limited so far.

Gilt Funds

4.78 The Reserve Bank also encouraged setting up of mutual funds dealing exclusively in gilts, called gilt funds with a view to encouraging schemes of mutual funds dedicated to Government securities and creating a wider investor base for them. Mutual funds dedicated exclusively to investment in Government securities are also provided liquidity support by the Reserve Bank by way of reverse repos in Central Government securities outstanding at the end of the previous calendar month. The liquidity support provided by the Reserve Bank would be to the extent of 20 per cent of the investment in Government dated securities.

Trading and Settlements/Clearing Systems

4.79 Under market microstructure theory, the market efficiency is significantly influenced by the transaction costs or costs of trading (Box IV.1). The transaction costs are, in turn, determined by the type of trading, clearing and settlement system existing in a market. A well developed market in Government securities requires a system of transparent pricing and allotment, which, in a special sense, refers to information needs. In turn, such a system would imply active market making activity and broad-based participation. The National Stock Exchange (NSE) introduced a transparent screen-based trading system in the wholesale debt market, including Government securities in June 1994. The trading system known as National Exchange for Automated Trading (NEAT) is a fully automated screen-based trading system. The Over the Counter Exchange of India (OTCEI) also started trading in Government securities in July 1997. However, a major part of government securities transaction in the secondary market is operated through over-the-counter negotiated deals. The brokers, who are members of the NSE and OTCEI can transact business on behalf of commercial banks. The OTCEI and NSE markets complement each other. As announced in the Mid-term Review of Monetary and Credit Policy for 2000-01, the Reserve Bank has taken an in-principle decision to move over in due course to order-driven screen-based trading in Government securities on the stock exchanges. The screen based trading system would be applicable to all stock exchanges on which banks and FIs can operate.

Clearing system

4.80 The presence of a fast, transparent and efficient clearing system constitutes the basic foundation of a well-developed secondary market in Government securities. In India, a major step in this direction was the establishment of the D*v*P system. The Reserve Bank presently operates a Government securities settlement system for those having Subsidiary General Ledger (SGL) Accounts in its Public Debt Offices through D*v*P System. The D*v*P system ensures settlement by synchronising the transfer of securities with the cash payment. This reduces settlement risk in

Box IV.1

Market Microstructure - A Theoretical Perspective

The last two decades have seen a tremendous interest in the market microstructure. Market microstructure theory, which is still in the process of evolution, analyses as to how specific trading mechanisms affect the price formation process. The interest in the role of trading mechanisms has been spurred after the market crash in 1987. In contrast to traditional models of finance that assumed perfect markets and equilibrium conditions, security market microstructure concerns with market imperfections, such as, cost of trading and asymmetries in information, *etc.*

The concerns about trading mechanism in the pricing process were raised by many, but the most direct analysis was that of Demsetz (1968) who examined the importance of trading mechanism in the determination of prices in securities markets. Although his focus was on the nature of transaction costs, his analysis of how the time dimension of supply and demand affected market prices set the stage for the formal study of market microstructure. He brought into focus the time dimension of trading, *i.e.*, if the number of traders wishing to sell immediately did not equal the number who wished to buy immediately, imbalance of trade would make it impossible to find a market-clearing price at a given time. The immediate execution of trading involves the implicit costs, which are referred to as the price of immediacy. Thus, Demsetz argued that the lack of equilibrium could be overcome by paying a price for immediacy. His analysis also brought into focus the implication that the specific structure of the market could affect the trading price. Since the size of the price concession needed to trade immediately (*i.e.*, the spread) depended on the numbers of traders, factors, such as, volume

(Contd...)

(...Concld.)

could affect the cost of immediacy and, thus, the market price. Demsetz's work clearly suggested that the behaviour of markets, much like the behaviour of firms, could only be understood by examining their structure and organisation.

If the role of trading mechanism is important as analysed in Demsetz model, the interactions between the market mechanism and trader behavior is not less important. If the trading mechanism matters in setting prices, it also will matter in affecting traders' order decisions. Therefore, the question of how prices are set is a far more complex process than assumed under Walrasian framework.

The initial theoretical microstructure literature concerned with the policies of market makers and explained their bid-ask spread through the use of two approaches. The initial approach emphasised the role of transaction costs in determining the bid-ask spread. The inventory approach beginning with Garman (1976) highlighted the importance of transaction costs in determining the bid-ask spread as the specialist or market maker faces complex balancing problem in that he must moderate random deviations in inflows and outflows. Inventory models provide an added rationale for the reliance on market maker. Just as physical marketplaces bring buyers and sellers together in space, the market maker can bring buyers and sellers together in time through the use of inventory. A buyer need not wait for a seller to arrive but simply buy from the dealer who depletes his inventory.

In 1971, a new theory, beginning with Bagehot (1971), emerged to explain market prices that did not rely on transaction costs, but rather on an important role for information. In the information-based market microstructure models, new information gets reflected into prices as a result of the trading behavior of informed and uninformed traders. The information-based models used insights from the theory of adverse selection to demonstrate how, even in competitive markets without explicit transaction costs, spreads would exist. Adverse selection arises when the market maker is dealing with an informed trader. That the spread of a market maker reflects balancing of losses with the informed trader with gains from the uninformed trader represented a fundamental insight into market making.

While inventory and transaction costs are important factors, the notion that information costs also affect prices provided a new and important direction for market structure research. Underlying much of the research of information-based models is the focus on the information implicit in market data and on the learning process that translates this information into prices.

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securities transactions and also prevents diversion of funds through SGL transactions.

4.81 Under the current system, banks, financial institutions, insurance companies and now PDs are allowed to hold SGL Accounts for securities and Current Accounts for cash. For these participants, the settlement takes through the D*v*P system. Other participants like corporates, mutual funds, provident funds, co-operative banks and societies and individuals are not allowed to hold direct SGL Accounts with the Reserve Bank. However, the SGL account holders are provided the facility to maintain a second SGL Account called Constituents' SGL Account with the Reserve Bank to enable them to hold Government securities on behalf of their constituents.

Trading Volumes in Subsidiary General Ledger Account

4.82 The secondary market transactions in Government securities (through SGL Accounts), as published from September 1994, have witnessed significant growth with an average annual growth rate working out to 91 per cent during the period 1994-95 to 1999-2000. This reflects the increased depth of the Government securities market (Table 4.5). The average annual transactions increased by 10-fold between 1994-95 and 1999-2000. The composition of transactions reveals that the share of outright transactions consistently rose from 42.1 per cent in 1994-95 to 84.7 per cent in 1999-2000. The steady growth in outright transactions is an evidence of the emergence of a more liquid and matured Government securities market.

Competitive Pricing of Securities

4.83 Auctions have contributed to the development of bidding skills among banks and institutions. Banks, in particular, have been paying special attention to treasury operations as they could become centres of profit. An elastic band of interest responsiveness from the investors as part of active investment

Table 4.5: Secondary Market Transactions in Government Securities

(Rupees crore)

Year (April-March)	Outright	Repo	Total
1	2	3	4
1994-95	21,306 (42.1)	29,263 (57.9)	50,569
1995-96	29,531 (23.2)	97,648 (76.8)	127,179
1996-97	93,921 (76.4)	29,021 (23.6)	122,941
1997-98	161,090 (86.7)	24,619 (13.3)	185,708
1998-99	187,531 (82.2)	40,697 (17.8)	228,228
1999-2000	456,515 (84.7)	82,739 (15.3)	539,255

Note: Figures in brackets are percentages to total transactions.

management to a range of maturities is an important step in the process of competitive pricing of securities in the primary and secondary markets. The interest rates on Government securities are now within the range of substitutability where rate movements evoke a response from investors leading to a possible confluence of interest rates in the system.

Improvement in Market Absorption

4.84 Since the switchover to the market mechanism for issuing securities, the primary issues of the Central Government have reflected a more than ten-fold increase. However, with the emergence of an active Government securities market, the Reserve Bank's absorption of primary issues came down drastically from 45.9 per cent in 1992-93 to 1.45 per cent in 1993-94 and to barely 0.74 per cent in 1994-95, partly reflecting the rise in market absorption. However, in recent years, the primary subscription by the Reserve Bank has remained high (29.4 per cent in 1999-2000), reflecting the unfavourable market conditions at the time of issuances. The monetary impact of the Government borrowings was contained by offloading these securities in the market at a favourable time through an open market operation of the Reserve Bank. Thus, an active use of open market operations to ensure the success of the borrowing programme and the lesser reliance on the Reserve Bank is a reflection of the depth acquired by the Government securities market. Market orientation to issues of Government securities paved the way for the Reserve Bank to activate open market operations as a tool of market intervention.

Other Debt Markets

4.85 The corporate debt market still constitutes a small segment of the debt market despite policy initiatives taken during the 'nineties. The interest rate ceiling on corporate debentures was abolished in 1991 paving the way for market based pricing of corporate debt issues. In order to improve the quality of debt issues, all publicly issued debt instruments, irrespective of their maturity, are presently required to be rated. The role of trustees in case of bond and debenture issues has also been strengthened over the years.

4.86 A large proportion of corporate debentures in India is of hybrid variety combining features of both debt and equity. The corporate sector has been issuing debt instruments of longer maturity, incorporating features of liquidity and often at floating rates of interest. Besides the public issue of debt instruments, the private placement route has also emerged as an important mode of floatation of new corporate debt issues during the 'nineties. During 1999-2000, the private sector debt issues in the private placement market amounted to Rs.18,122 crore, as against Rs.2,401 crore by way of public and rights issues. Some privately placed debt-instruments are subsequently listed on stock exchanges for trading.

4.87 DFI bonds have emerged as an important segment of the debt market. During the last 8 years or so, DFIs made large issues of bonds in varying maturity ranging from 1 year to as long as 20 years. Some of the bond issues of DFIs offered innovative features including call and put options at various points of time during the currency of the bonds. DFIs have issued bonds by way of public issues as well as on a private placement basis.

4.88 Since the middle of the 'eighties, long-term bond issues (maturity 5-10 years) by public sector undertakings (PSUs) imparted a new dimension to the debt market. Resource mobilisation through PSU bonds, which included both tax free and taxable bonds, increased sharply to touch Rs.5,663 crore in 1990-91, of which 44.9 per cent was accounted for by tax-free bonds. The 'nineties, however, witnessed a steady decline in the issue of tax-free PSU bonds, accounting for only 4.6 per

cent of PSU bonds (Rs.8,622 crore) during 1999-2000. While traditionally most of the PSU bonds were floated in the public issues market, in the recent years, most of such bond issues were privately placed. This is one reason why secondary market activity in PSU bonds has been limited.

4.89 The secondary market activity in the debt-segment, in general, however, remains low and subdued both at BSE and the Wholesale Debt Market Segment of the NSE, partly due to of lack of sufficient number of securities and partly due to lack of interest by retail investors. In order to improve the secondary market activity in this segment, the Union Budget for 1999-2000 abolished stamp duty on transfer of dematerialised debt instruments.

Capital Market Structure

4.90 Capital market structure has evolved over time with the market practices and conditions generally reflecting the policies put in place. Till the onset of reforms in the early 'nineties, raising of resources in the primary segment of the market was subject to several controls, disallowing the pricing to be determined by market conditions. Trading in the secondary market was subject to opaque practices. The trading and settlement system was outdated and out of tune with internationally followed practices. The volumes, however, increased and securities continued to exist in the physical form. Physical securities also created uncertainties for investors and increased the transaction cost. Besides, long and uncertain settlement cycles created serious problems for clearing houses. Informational flows to the market participants were also deficient. As the process of price formation has to be efficient for the growth and stability of the market, it was considered necessary to orient the Securities and Exchange Board of India (SEBI) to undertake the tasks of regulation and supervision. The SEBI was, for this purpose, given statutory powers through a separate legislation in 1992.

New Capital Issues - Free Pricing Introduced

4.91 Raising of capital from the securities market before 1992 was regulated. Under the Capital Issues (Control) Act, 1947, firms were required to obtain approval from the Controller of Capital Issues (CCI) for raising resources in the market. New companies were allowed to issue shares only at par. Only the existing companies with substantial reserves could issue shares at a premium, which was based on some prescribed formula. In 1992, the Capital Issues (Control) Act, 1947 was repealed and with this ended all controls relating to raising of resources from the market. Since then the issuers of securities could raise the capital from the market without requiring any consent from any authority either for making the issue or for pricing it. Restrictions on rights and bonus issues have also been removed. New as well as established companies are now able to price their issues according to their assessment of market conditions. However, issuers of capital are required to meet the guidelines of SEBI on disclosure and investor protection. Companies issuing capital are required to make sufficient disclosures, including justification of the issue price and also material disclosure about the 'risk factors' in their offering prospectus. These guidelines have served as an important measure for protecting investor interest and promoting the development of the primary market along sound lines.

New Capital Issues - Issuing Mechanism

4.92 After the CCI regime was discontinued, the mechanics of determining offer price assumed importance. Initially, only fixed price mechanism of floating new capital issues was followed. This method of floatation, however, suffered from a drawback in that it was not easy to determine the price at which the market would clear the issue and, thus, could lead to either underpricing or overpricing of an issue. The empirical evidence in many countries suggests that new capital issues are normally underpriced. This results in transfer of wealth from the issuer to the investor, entailing, in the process, a cost to the issuer. As the method of offering shares at a fixed price by the issuer has proved to be not efficient, an alternative mechanism of book building has become popular in many countries. Book building mechanism is a method through which an offer price of an Initial Public Offering (IPO) is based on investors' demand. The book building mechanism which was introduced in 1995 gave the issuer the choice to raise resources either through this or the fixed price mechanism. Although the book building guidelines were prescribed in 1995, no issue was floated due to certain restrictive guidelines, which were modified in 1999. In terms of the extant guidelines issued by the SEBI, an issuer has been given the option to book build either 90 per cent

of the net offer to the public or 75 per cent of net offer to the public. The balance issue is offered to the public at the fixed price determined through the book building exercise. In the 75 per cent book building scheme, the allotment in the book built portion is required to be only in the dematerialised form. The book building mechanism of floating new capital issues has been devised in such a way that small investors are also able to subscribe to securities at a price arrived at through a transparent process.

4.93 As the book building process is both time and cost-effective, it is becoming quite popular. This can be gauged from the fact that during 2000-2001 (April-October), 12 issues for an aggregate amount of Rs.1,256 crore (constituting 40.2 per cent of the total resources raised from the public issue market) were floated using book building mechanism as against 4 issues aggregating Rs.516 crore (constituting 6.7 per cent of the total resources raised) during the entire year of 1999-2000.

4.94 Both BSE and NSE offer their infrastructure for conducting on-line IPOs through book building. A related development has been the efforts to market IPOs through the existing secondary market infrastructure (trading terminals of stock exchanges, brokers, *etc.*). The SEBI has already approved a proposal of marketing of IPOs through stock exchanges and the guidelines to this effect are expected to be issued shortly. Once implemented, the system would help to overcome the inherent disadvantages faced by issuers and investors in the form of reduction of load on the banking and postal system and saving of time and cost associated with the process of new capital issues.

Secondary Market - Trading Mechanism

4.95 The efficiency of automated *vis-à-vis* floor-based trading system in the secondary segment of the market is widely debated, although the evidence around the world suggests that markets are moving away from the floor-based trading system. Over time, floor-based trading is likely to disappear, going by the trends noticed so far. Transparency is the major factor in debates over floor-based system *versus* electronic system and proponents of the automated system contend that floor-based trading is inefficient and less transparent. Many major international stock markets, such as, London, Paris, Toronto, Frankfurt and Sydney, conduct electronic trading.

4.96 Till recently, trading on the Indian stock exchanges took place through open outcry system barring NSE and OTCEI, which adopted screen-based trading system from the beginning (*i.e.,* 1994 and 1992, respectively). At present all other stock exchanges have adopted on-line screen-based electronic trading, replacing the open outcry system. Of the two large stock exchanges, the BSE provides a combination of order and quote driven trading system, while NSE has only an order driven system. In an order driven system, orders from all over India are entered into the electronic system and matched directly on a continuous basis without the involvement of a jobber or market maker. In a quote driven system, the market makers offer two way quotes and are ready to buy and sell any quantity. With the introduction of computerised trading, members could enter their orders/quotes on work stations installed in their offices instead of assembling in the trading ring. All stock exchanges operating in India have over 8000 terminals spread wide across the country. In pursuance of the announcement made in the Union Budget 1999-2000, the SEBI issued guidelines for opening and maintaining the trading terminals abroad. While no trading terminal could be opened abroad due to high cost of connectivity, the permission of internet trading provides an alternative as the investor in any location could route the order through the internet for execution on the Indian stock exchanges. For ensuring greater market transparency, the SEBI has recently banned negotiated and cross deals (where both the seller and the buyer operate through the same broker). In September 1999, all private off-market deals in both shares as well as listed corporate debts were banned. All such deals are now routed only through the trading screens.

4.97 There are three main advantages of electronic trading over floor-based trading as observed in India, *viz.,* transparency, more efficient price discovery, and reduction in transaction costs. Transparency ensures that stock prices fully reflect available information and lowers the trading costs by enabling the investor to assess overall supply and demand. Owing to computer-based trading, the speed with which new information gets reflected in prices has increased tremendously. The quantity and quality of information provided to market participants during the trading process (pre-trading and post-trading) having significant bearing on the price

formation has also improved. Besides, the screen-based trading has the advantage of integrating different trading centres all over the country into a single trading platform. It may be noted that prior to screen-based trading, the very presence of stock markets in different regions implied segmentation of markets affecting the price discovery process. Investors in other locations were, under such conditions, unable to participate in the price formation process at the major stock exchange, namely the BSE. However, with screen-based trading spread across various locations, the process of price discovery has improved in the Indian stock markets. Screen-based trading has also led to significant reduction in the transaction cost since it enabled the elimination of a chain of brokers for execution of orders from various locations at BSE and NSE.

Instruments and Market Participants

4.98 The capital market has widened and deepened considerably in the recent years with enlargement of participants and emergence of new instruments. In the Indian capital market, traditionally mainly two instruments were traded, *i.e.*, debt and equity. However, starting from the mid-'eighties and especially during the first-half of the 'nineties, a wide range of innovative/hybrid instruments combining both the features of debt and equity were introduced to suit varied needs of investors and issuers/borrowers. Besides DFIs, PSUs also issued many debt instruments with innovative features.

4.99 Markets have also widened with the increase in the number of players, such as, mutual funds and foreign institutional investors. There are now 34 mutual funds operating in the country with total asset base of over Rs. one lakh crore. At the end of November 2000, there were about 551 FIIs registered with the SEBI. They made investment to the extent of about US $ 11.5 billion in equity. With large investment base and active trading operations, FIIs now significantly impact the Indian stock markets.

Trading, Clearing and Settlement Systems

4.100 The trading, clearing and settlement systems, which had suffered from several bottlenecks, have been considerably improved with measures taken to shorten the settlement cycle through the introduction of rolling settlement system in select scrips and acceleration of the process of electronic book entry transfer through depository.

Trading Regulations

4.101 Trading by member brokers is subject to some restrictions. These relate to margining system, intra-day trading limit and exposure limit. Each broker is subject to margins and to the trading limit, Various types of margins, such as, daily margins, mark to market margin, ad hoc margin and volatility margins to contain price volatility, are in place. There is also an intra-day trading limit, which is the limit to volume. Each broker's trading volume during a day is not allowed to exceed the intra-day trading limit. In case a broker wishes to exceed this limit, he or she has to deposit additional capital with the exchange. Thus, brokers are now required to have adequate capital in relation to their positions. With a view to enhancing market safety, the upper limit for gross exposure of the member-broker of the stock exchange has been fixed at 20 times of his capital. These restrictions have an impact on daily transaction volume and daily volatility.

Gradual Switch Over to the Rolling Settlement

4.102 The Indian stock market has, historically, adopted an account period settlement system whereby positions of brokers are accumulated till the end of a specified period and only the netted out positions with respect to every security are settled. The accumulation of position during the settlement cycle has given scope for speculative activities and, thus, increasing the possibility of default by participants. By combining the features of both cash and futures markets, the account period settlement also impeded the price discovery process. Further, the end of the settlement period, in the absence of significant borrowing and lending facility, has often witnessed erratic price movements. Although the account period settlement system through increased volume of trade, has tended to add to the liquidity in the system, there have been concerns over its ill-effects. As a partial remedy, the period of trading cycle was reduced from a fortnight to one week uniformly across all stock exchanges. The long-term solution to the trading system, however, rests with the alternative system of rolling settlement (RS), which is accepted and is being adopted in a phased manner. Under the RS system, any transaction made on a particular day necessarily results in delivery after a fixed number of days. The rolling settlement on a T+5 basis was introduced in select scrips numbering 10 in all in January 2000. Subsequently as on May 8, 2000,

153 more scrips were brought under the rolling settlement system. The introduction of rolling settlement, however, demands quicker movement of funds and securities. This, in turn, requires adequate developments in dematerialisation and electronic funds transfer (EFT) facility. While the process of dematerialisation is taking place satisfactorily through the existing depositories, efforts are afoot to improve and expand the existing EFT facility.

Increased Dematerialisation

4.103 Safe and quick transfer of securities is an important element for smooth and efficient functioning of the securities market. Apart from the problems involved in the movement of physical security certificates, bad deliveries due to faulty paper work, theft, forgery *etc.* added to the transaction cost and restricted liquidity. To overcome these difficulties, legislative changes were carried out for maintaining ownership records in an electronic book-entry form. Under this mode, securities are transferred in a speedy and safe manner without interposition of issuers in the process, except in few circumstances. In order to catalyse the process of dematerialisation of securities and dematerialised trading, an element of compulsion was introduced by requiring the individual and institutional investors to settle trades compulsorily in dematerialised form in shares of select companies. At end-October 2000, there were 1415 scrips in which all investors - institutional and retail - were required to settle trades in dematerialised form. As at end-May 2000, 93 per cent of securities delivered for settlement by value at BSE and NSE combined together were in the dematerialised form. With progressive expansion of the list of securities in the compulsory dematerialised form, it is expected that more than 98 per cent of scrips traded on all exchanges would be in compulsory dematerialised form by end-March 2001.

Near Elimination of Counter-party Risk

4.104 One of the shortcomings of the clearing and settlement process of the Indian stock markets was the absence of a system to reduce counter-party risk. Managing this risk is essential for promoting a safe and efficient market. To provide the necessary funds and ensure timely completion of settlements in cases of failure of member brokers to fulfil their settlement obligations, major stock exchanges have set up Settlement Guarantee Funds. The aggregate corpus of the Fund at the stock exchanges is presently over Rs.1,000 crore. The NSE has set up a clearing corporation which guarantees settlement of all trades. The clearing corporation, thus, assumes the counter party risk involved in all the transactions.

4.105 All stock exchanges in the country have established clearing houses. Consequently, all transactions are settled through the clearing houses. In the past, while some transactions were settled through the clearing houses, others were settled directly between the members. Routing of transactions through clearing houses has substantially reduced the credit risk in the settlement system.

Circuit Breakers/ Price Bands

4.106 Circuit breakers were first introduced in 1987 in the U.S. in the wake of sharp fall in the share prices. To contain abnormal price variations, scrip-wise specific daily price bands or circuit breakers in India were introduced in 1995 whereby the trading automatically got suspended if the prices varied either side beyond 8 per cent; further trading was allowed only up to the price band. Price bands, which were originally fixed at 8 per cent, were relaxed in January 2000, whereby a further variation of 4 per cent in the scrip beyond 8 per cent, after a cooling off period of 30 minutes, was allowed. This was made applicable in the case of 100 scrips. In June 2000, for all scrips under compulsory rolling settlement, the price band was relaxed by 8 per cent (from 4 per cent earlier) with half an hour cooling period after the scrip had hit the initial price band of 8 per cent.

4.107 While recent experiences in some countries,, such as, Brazil, Taiwan and Thailand, showed that circuit filters were successful in slowing down the market momentum, there has been some controversy over the effectiveness of circuit filters over the medium to long-term. The opponents of circuit filters also cite their adverse effects on the process of price formation. In the recent Asian crisis, there were many instances when the price discovery process was impeded in the cash markets, spilling over subsequently to the futures markets as well. However, circuit filters are favoured mainly on the ground that they

are the best available tool for containing volatility. This is based on the belief that containing of excess volatility helps to maintain investor confidence in the market.

Structure of Informational Flows

4.108 Market microstructure is concerned with information and disclosures. There is a broad agreement that transparency affects the information and price discovery. A company offering securities in the Indian capital market is required to make a public disclosure of all relevant information through its offer documents, as indicated earlier. After a security is issued to the public and subsequently listed on a stock exchange, the stock exchange requires the issuing company to make continuing disclosures under the listing agreement. In India, all listed companies are now required to furnish to the stock exchanges and also publish mandated unaudited financial results on a quarterly basis. India is one of the few countries in the world to have a system of quarterly disclosures and it has served a useful purpose in that price-sensitive information on earnings and revenues is now available at greater frequency. The publication of half-yearly corporate results on the basis of limited review by its auditors has also been made mandatory for listed companies. The disclosures of material information, which would have a bearing on the performance/operations of the company, are now required to be made available to the public immediately. Recently, a decision has been taken that the companies would be required to make decisions regarding dividend, bonus and rights announcements or any material event within 15 minutes of the conclusion of the board meeting where the decisions are taken. Following the international practices, companies in India are also required to provide shareholders with cash flow statements in the prescribed format along with the complete balance-sheet and profit and loss statement. Companies are also required to furnish to the stock exchanges on a quarterly basis, a statement on the actual utilisation of funds and actual profitability, as against projected utilisation of funds and projected profitability. As part of better corporate governance practices, disclosures about segment reporting, related party transactions and consolidated balance sheet are also expected to be introduced.

Emphasis on Fair Trading Practices

4.109 The SEBI has been mandated under its Act to prohibit insider trading in securities. In 1992, the SEBI formulated the Insider Trading Regulations prohibiting insider trading and made it a criminal offence punishable in accordance with the provisions under the SEBI Act, 1992. The Regulations define an insider as a person who has access to price-sensitive non-public information with regard to a company. Such a person is prohibited from trading in the securities of such a company under the regulations. The violation of the regulations can result in prosecution of the person guilty of such violation. During 1999-2000, of the 56 cases investigated by SEBI, 47 related to price rigging and manipulation. There are now separate regulations in place governing substantial acquisition of shares and takeovers of companies. The regulations are aimed at making the takeover process more transparent and to protect the interests of minority shareholders.

Increasing Integration of Various Segments of Securities Markets

4.110 In India, different stock exchanges have so far followed their own practices relating to settlement procedures creating segmentation of the market. While stock exchanges continue to follow different systems, certain developments have resulted in better integration of the various segments of the Indian securities market. The two major stock exchanges, *viz.,* BSE and NSE, have expanded their operations in different locations, thus, providing investors across the country with the facility to trade in the stocks listed/permitted in these stock exchanges. The Inter-connected Stock Exchange of India Ltd. (ICSI) has been set up as an inter-connected market system and provides its trading members a facility to trade on the national market in addition to the trading facility at the regional stock exchanges. This has integrated the various regional stock exchanges, although the trading activity in the ICSI has not been very significant. Many regional stock exchanges have also become members of BSE and NSE, which further strengthened the integration process of various stock exchanges in the country. Equity market is also increasingly integrating with the Government securities and private corporate

sector debt market. The interest rate structure of Government securities and securities issued by the corporate entities is better aligned at present than in the past.

The Impact of the Changing Structure

4.111 The changing structure of capital market has had some positive impact on the volatility, liquidity and transaction cost.

Volatility

4.112 Volatility plays a key role in assessing the risk/return trade-offs and forms an important input in asset allocation decisions. It is widely accepted that large fluctuations in market returns carry important negative effects on risk-averse investors. Besides, they have important economic implications, especially for the overall domestic investment, and for the flow of funds from abroad. Volatility is caused by a number of factors ranging from technical or short-term to fundamentals. These, *inter alia*, include trading practices like the length of the settlement period, the facility for carry-forward of transaction, announcements of corporate results, measures announced in the Government budgets, industrial production, the overall economic condition including the policy stance, and the extent of openness of the economy. Several macroeconomic variables like inflation, money supply, interest rates, *etc.* also affect the movements in share prices directly or indirectly. The market microstructure too wields influence on volatility.

4.113 An analysis of the volatility of the Indian stock markets as measured in terms of co-efficient of variation (CV) in the BSE Sensex suggests that although stock markets continue to be highly volatile, the volatility has tended to decline in the recent years. Co-efficient of variation at 25.93 per cent during the period from April 1991 to March 2000 was lower as compared with 33.43 per cent during the 6-year period from April 1985 to March 1991. The CV declined further to 17.51 per cent during the period from April 1995 to March 2000. Volatility in recent years has been affected by the trends in the NASDAQ market.[4]

Liquidity

4.114 The condition of market liquidity can be considered as one of the factors affecting the price discovery function and market efficiency. A liquid market is defined as a market where a large volume of trades can be accommodated without any significant effects on price. Liquidity on the Indian stock exchanges has improved significantly due to sharp increase in trading volumes, which grew at an average annual rate of 75.8 per cent during the latter half of the 'nineties (Table 4.6). The growth of liquidity is also evident from the two ratios, *viz*., traded value ratio and turnover ratio, which are commonly used to measure the liquidity.

4.115 The traded value ratio is measured as the total value traded divided by GDP. The turnover ratio is measured by the value of total shares traded divided by market capitalisation. Whereas the traded value ratio captures trading in relation to the size of the economy, the turnover ratio captures trading in relation to the size of the stock market.

4.116 An analysis of these two ratios in the Indian stock market suggests that liquidity has increased in the recent years. The traded value ratio, which was 23.2 per cent during 1993-94, declined to 15.7 per cent during 1994-95, but increased sharply thereafter to 58.1 per cent by 1998-99. A sharp improvement has also taken place in the turnover ratio. The ratio, which was 50.9 per cent during 1993-94, declined to 34.4 per cent in the following year, but increased gradually thereafter to as high as 215.1 per cent during 1999-2000 (Table 4.7).

Transaction Costs

4.117 Transaction costs have a significant bearing on returns as they can substantially affect the notional gains from investments. Transaction costs also impact volumes and volatility as reduction in trading cost could induce the investor to trade more frequently leading to increased volumes. The empirical evidence suggests that increased trading volumes by increasing liquidity result in reduction in volatility. Transaction costs, apart from including explicit cost, such as, brokerage fees, *etc.* also include some implicit components, such as, market impact cost (cost of degradation in price suffered due to execution of large orders), clearing and settlement cost arising due to counter party risk, paper work cost and bad delivery, *etc.* In addition, in a trading

[4] Volatility has been covered in detail in Chapter V.

Table 4.6: Turnover at Stock Markets

(Rupees crore)

Year (April - March)	Turnover			
	BSE	NSE	Others	All India
1	2	3	4	5
1990-91	36012	-	-	-
	(22.6)	-	-	-
1991-92	71777	-	-	-
	(99.3)	-	-	-
1992-93	45696	-	-	-
	(-36.3)	-	-	-
1993-94	84536	-	119167	203703
	(85.0)	-	(-)	(-)
1994-95	67748	1728	93429	162905
	(-19.9)	(-)	(-21.6)	(-20.0)
1995-96	50064	68141	109163	227368
	(-26.1)	(3843.3)	(16.8)	(39.6)
1996-97	124284	294504	227328	646116
	(148.3)	(332.2)	(108.2)	(184.2)
1997-98	207383	369934	331364	908681
	(66.9)	(25.6)	(45.8)	(40.6)
1998-99	311999	414383	297000	1023382
	(50.4)	(12.0)	(-10.4)	(12.6)
1999-00	685028	839052	542951	2067031
	(119.6)	(102.5)	(82.8)	(102.0)
Average Annual Growth Rate				
1990-91 to 1994-95	30.13	-	-	-
1995-96 to 1999-00	71.81	863.13	48.66	75.80

- Not available.

Note : Figures in brackets indicate percentage variation over the previous year.

Source : BSE, NSE and SEBI.

Table 4.7: Indicators of Liquidity

(Per cent)

Year (April - March)	Traded Value Ratio	Turnover Ratio
1	2	3
1993-94	23.2	50.9
1994-95	15.7	34.4
1995-96	18.7	39.7
1996-97	45.8	132.3
1997-98	58.1	154.1
1998-99	58.1	178.3
1999-00	-	215.1

- Not available.

mechanism which involves market makers, trading cost also includes bid and ask spread.

4.118 Despite the growing popularity of stock markets during the 'eighties and the first half of the 'nineties, the transaction costs were high due to physical movement of papers, bad deliveries due to existence of securities in physical form, less transparent method of trading, involvement of a chain of brokers for executing transactions in the largest stock exchange, *etc.* Changes in the market microstructure, such as, automated trading, dematerialisation, increased liquidity, guarantee of trades and increased competition in the supply of brokerage services and resultant reduction in brokerage fees have brought about a significant reduction in the transaction cost. According to the estimates, there has been a decline in average transaction cost for all investors in the past few years. The transaction cost on India's equity market declined to 0.6 per cent of selling/buying price in 1999 from 4.75 per cent in 1994. The transaction cost in India now compares well with that in the best markets of the world (Table 4.8). The reduction in the transaction cost is an excellent signal of improvement in the overall market efficiency and market growth.

Insurance Market Structure

4.119 In an increasingly competitive economy, the need for insuring against risks is well recognised. In India, the insurance industry is broadly classified into life insurance and non-life insurance business. The life insurance business has so far been undertaken by the Life Insurance Corporation of India (LIC) and the non-life insurance by the General insurance Corporation (GIC) and its four subsidiaries. The share of insurance in the financial savings of the household sector grew up from 7.6 per cent in 1980-81 to 11.4 per cent in 1999-2000. Despite the state monopoly, the insurance business in rural areas remains underdeveloped. In terms of sum assured for life insurance by LIC, 47.0 per cent of the new business originated from the rural areas during 1998-99. By contrast, only 5.2 per cent of insurance premium of GIC and its subsidiaries was from rural areas during the same year.

4.120 Insurance penetration - measured as the ratio of insurance premium to GDP - at 2.6 per cent in 1998 has remained quite low as compared with the world average of 7.4 per cent. The insurance industry in India, so far organised as state monopoly, while contributing substantially

Table 4.8: Transaction Costs on Indian Stock Exchanges

(Per cent)

Transaction cost/ Year	1994	1999	Global Best
1	2	3	4
Trading			
Fees	2.50	0.25	0.25
Market Impact Cost	0.75	0.25	0.20
Clearing	Present	Nil	Nil
Settlement			
Paper work	0.75	0.10	0
Bad delivery	0.50	0	0
Stamp duty	0.25	0	0
Total	**>4.75**	**0.60**	**0.45**

Source : SEBI and *Indian Securities Market - A Review*, NSE, September 2000.

in terms of mobilisation of long-term financial savings, has not been able to cover more than 18 per cent of the population. This was due mainly to the absence of competitive pressure resulting in inadequate development of insurance products. While the Government securities dominate the investment portfolio of LIC, market instruments, such as, shares and debentures are important investment avenues for GIC and its subsidiaries.

4.121 In the wake of financial liberalisation during the early 'nineties, the Committee on Reform of the Insurance Sector (Chairman: Shri R. N. Malhotra) recommended in 1994 the opening up of the insurance sector to private participation and the institution of a separate regulatory and development authority. Accordingly, the Insurance Regulatory and Development Authority (IRDA) Act was enacted in 1999, and a separate Insurance Regulatory and Development Authority was set up. The insurance sector was also thrown open to the private sector. This has opened up the possibility of developing India's insurance industry on a competitive basis to meet the insurance demand of a socially and economically mobile society and a rapidly changing industrial sector.

4.122 With the dismantling of the state monopoly, the emerging structure of the insurance business remains uncertain. However, the nature of the evolving insurance business would certainly influence the market position of various participants. Initially, insurance is seen as a complex product of a high advice and service component in which face-to-face interaction is important. As the products become simpler and awareness increases, they become off-the-shelf commodities, which can be sold through retail counters (*e.g.*, banks), telephones or Internet. However, such transition is a slow process and the importance of the existing distribution channels, particularly in India, would not diminish. Nevertheless, banks, financial institutions and NBFCs may be willing to utilise their existing customer-depositor base for the purpose. While there would be a tendency for the new entrants to eat into the market share of the LIC and GIC in the existing segments, the maximum growth in business is expected to be through building up of niches around new products. Examples of potential niches of new entrants may be (i) offering creditors' insurance schemes to financial sector players, (ii) providing general insurance cover for service sector, which remains under-serviced at present, (iii) greater coverage in personal insurance including health, shopkeepers, accident and professional indemnity covers, and (iv) providing index-linked returns on life insurance policies.

4.123 An evolving insurance sector needs high degree of regulation to ensure solvency of insurers and also the protection of interests of policyholders. The IRDA Act 1999, while allowing private participation including foreign equity participation up to 26 per cent of the paid-up capital, has simultaneously stipulated prudential norms for investments and service obligations in the less-lucrative rural sector.

4.124 Both banks and NBFCs satisfying the prescribed criteria have already been permitted to enter the insurance business with prior approval of the Reserve Bank. All banks and their subsidiaries are permitted to undertake fee-based insurance business without risk participation. For risk participation, banks would be required to form a joint-venture company with a normal equity participation of 50 per cent. The Reserve Bank will give permission to banks and registered NBFCs, desirous of entering the insurance business on a case-by-case basis subject to the satisfaction with the laid down criteria. When a foreign partner contributes 26 per cent of the equity with the prior approval of IRDA/ FIPB, more than one bank may be permitted to participate in the equity of the insurance joint venture. NBFCs are also allowed to participate in the insurance business subject to the satisfaction of laid down criteria relating to net owned fund (not less than

Rs.500 crore), CRAR, net NPAs, net profits, *etc.* Banks and NBFCs entering the insurance business have been directed to ensure that 'arms length' distance is maintained between the bank/ FI/NBFC and the insurance entity, so that the risks in the insurance business are not transferred to the parent entity.

Emerging Markets

4.125 Apart from traditional financial markets, two more markets are emerging, namely, the derivatives market, which has come into being recently and the bancassurance market, which is likely to emerge in an important way once banks start undertaking insurance business.

Derivatives Market Structure

4.126 Financial derivatives in the Indian financial markets are of recent origin barring trade related forward contracts in the forex market[5]. Recently, over-the-counter (OTC) as well as exchange traded derivatives have been introduced, marking an important development in the structure of financial markets in India. Forward contracts in the forex market have also been liberalised. Exchange traded derivatives tend to be more standardised and offer greater liquidity than OTC contracts, which are negotiated between counterparties and tailored to meet the needs of the parties to the contract. Exchange traded derivatives also offer centralised limits on individual positions and have formal rules for risk and burden sharing.

4.127 In India, OTC derivatives, *viz.,* Interest Rate Swaps (IRS) and Forward Rate Agreements (FRAs) were introduced in July 1999, while one exchange traded derivative, *viz.,* Stock Index Futures was introduced by the two largest stock exchanges in June 2000. The FRA is an off-balance sheet contract between two parties under which one party agrees on the start date (or trade date) that on a specified future date (the settlement date) that party, *viz.*, the party that agrees, would lodge a notional deposit with the other for a specified sum of money for a specified period of time (the FRA period) at a specified rate of interest (the contract rate). The party that has agreed to make the notional deposit has, thus, sold the FRA to the other party who has bought it. The IRS is a contract between two counter-parties for exchanging interest payment for a specified period based on a notional principal amount. The notional principal is used to calculate interest payments but is not exchanged. Only interest payments are exchanged. The IRS and FRA were introduced with a view to deepening the money market as also to enable banks, Primary Dealers and financial institutions to hedge interest rate risks. The IRS has emerged as the more popular of the two instruments in the Indian market, accounting for nearly all of the 928 outstanding deals, amounting to Rs.12,620 crore of notional principal as on November 17, 2000. The overnight call money rates and the forex forward rates have emerged as the most popular benchmark rates.

4.128 A resident of India who has borrowed foreign exchange in accordance with the FEMA, may enter into an interest rate swap or currency swap or coupon swap or foreign currency option or interest rate cap/collar or Forward Rate Agreement (FRA) contract with an authorised dealer (AD) in India or with a branch outside India of an authorised dealer for hedging his loan exposure and unwinding from such hedges provided that (i) the contract does not involve rupee, (ii) foreign currency borrowing has been duly approved, (iii) the notional principal amount of the hedge does not exceed the outstanding amount of the loan, and (iv) the maturity of the hedge does not exceed the un-expired maturity of the underlying loan. ADs in India may remit foreign exchange related to such foreign exchange derivative contracts. No resident in India can enter legally into a foreign exchange derivative contract without the prior permission of the Reserve Bank. Among the non-residents, while FIIs may enter into a forward contract with rupee as one of the currencies with an AD in India, non-resident Indians and Overseas Corporate Bodies could take forward cover with an AD to hedge (i) dividend due on shares held in India, (ii) balances in FCNR(B) and NR(E)A, and (iii) the amount of investment made under portfolio scheme. The Reserve Bank may also consider allowing residents to hedge their commodity price risk (including gold but excluding oil and petroleum products) subject to certain conditions.

4.129 A beginning with equity derivatives has been made with the introduction of stock index futures by BSE and NSE. Stock Index Futures contract allows for the buying and selling of the particular stock index for a specified price at a

[5] Futures markets in the commodity segment, however, have existed for a long time.

specified future date. Stock Index Futures, *inter alia*, help in overcoming the problem of asymmetries in information. Information asymmetry is mainly a problem in individual stocks as it is unlikely that a trader has market-wide private information. As such, the asymmetric information component is not likely to be present in a basket of stocks. This provides another rationale for trading in Stock Index Futures. Also, trading in index derivatives involves low transaction cost in comparison with trading in underlying individual stocks comprising the index. While the BSE introduced stock index futures for BSE Sensex comprising 30 scrips, the NSE introduced Stock Index Futures for S&P CNX Nifty comprising 50 scrips. Stock Index Futures in India are available with one month, two month and three month maturities. Till November 8, 2000, both the stock exchanges had recorded a cumulative combined turnover of Rs.1,210 crore. To effectively manage risk in the derivative segment, adequate risk containing measures have been put in place. They include specifying minimum net worth requirement of brokers and its composition, margining system based on 99 per cent Value at Risk (VaR) model, position limit for various participants and guidelines for collection and enforcement of margins. Another equity derivative product in the equity market, *viz.,* stock index options is likely to be introduced shortly. The SEBI has set January 2001 as the target date for introducing options trading in the Indian market.

4.130 Forward contracts market has emerged as an important segment of the forex market in India in the recent years. It comprises customers, such as, corporates, exporters, importers, and individuals, Authorised Dealers (ADs) and the Reserve Bank. Of late, FIIs have emerged as major participants in this segment. The market operates from major centres with Mumbai accounting for bulk of the transactions. Till February 1992, forward contracts were permitted only against trade related exposures and these contracts could not be cancelled except where the underlying transactions failed to materialise. In March 1992, in order to provide operational freedom to corporate entities, unrestricted booking and cancellation of forward contracts for all genuine exposures, whether trade related or not, were permitted. At present, the forward contracts market is active up to six months where two-way quotes are available. The maturity profile has recently elongated with quotes available up to one year. With the gradual opening up of the capital account, forward premium is now increasingly getting aligned with the interest rate differential. Importers and exporters also influence the forward market in many ways. Besides, banks are allowed to grant foreign currency loans out of FCNR (B) liabilities and this too facilitated integration of the forex and the money markets, affecting the forward premium.

Bancassurance

4.131 In developing countries, one important character of insurance business and of long-term life insurance, in particular, is that insurance policies are generally a combination of risk coverage and savings. The savings component in the insurance policies is seen as a possible source of competition for the banking industry, as the insurance industry develops on a competitive basis. There are, however, other considerations, that point to the possible complementarities and synergies between the insurance and banking business.

4.132 The most important source of complementarity arises due to the critical role that banks could play in distributing and marketing of insurance products. So far, direct branch network of LIC, GIC and its subsidiaries together with their agents have been instrumental in marketing of insurance products in India. With further simplification of insurance products, however, the vast branch network and the depositor base of commercial banks are expected to play an important role in marketing insurance products over the counter. The eagerness on the part of several banks and NBFCs to enter into insurance business following the opening up of the industry to private participation reflects this emerging process.

4.133 The present interest of banks to enter into insurance business also mirrors the global trend. In Europe the synergy between banking and insurance has given rise to the concept of ‘bancassurance’ - a package of financial services that can fulfill both banking and insurance needs. In France, for example, over half of the insurance products are sold through banks. In the US, banks lease space to insurers and retail products of multiple insurers, in the way the shops sell products. The institutional framework within which this functional overlaps are taking place

has been varied - floatation of separate insurance companies by banks, banks' buying stakes in existing insurance companies, and swap of shares and mergers. Insurance companies have also sought to acquire stakes in some banks.

4.134 In India, the Reserve Bank, in recognition of the symbiotic relationship between banking and the insurance industries, has identified three routes of banks' participation in the insurance business, *viz.*, (i) providing fee-based insurance services without risk participation, (ii) investing in an insurance company for providing infrastructure and services support and (iii) setting up of a separate joint-venture insurance company with risk participation. The third route, due to its risk aspects, involves compliance to stringent entry norms. Further, the bank has to maintain an 'arms length' relationship between its banking business and its insurance outfit. For banks entering into insurance business with risk participation, the prescribed entity (*viz.*, separate joint-venture company) also enables to avoid possible regulatory overlaps between the Reserve Bank and the Government/IRDA. The joint-venture insurance company would be subjected entirely to the IRDA/Government regulations.

4.135 Besides commercial banks, rural co-operative credit institutions are also envisaged as an important vehicle for distributing insurance products in under-served rural areas. The Task Force to Study the Co-operative Credit System and Suggest Measures for its Strengthening (Chairman: Shri J. Capoor) noted that this could have the attendant benefit of portfolio diversification for these institutions.