Chapter VI

# Financial Stability

6.1 Periodic bouts of financial turmoil, especially in the latter half of the 1990s and the enormous costs associated with such crises have brought the issue of financial stability to the centre-stage. As financial crises have invariably contributed to macroeconomic instability, most central banks are focusing on achieving and maintaining financial stability as one of their core functions.

6.2 The increased importance of financial stability is related to four major trends in the financial system. First, the financial system has expanded at a significantly faster pace than the real economy. Second, this process of financial deepening has been accompanied by a changing composition of the financial system, with an increasing share of non-monetary assets. Third, as a result of increasing cross-industry and cross-border integration, financial systems have become interwoven, both nationally and internationally. Fourth, the financial system has become much more complex in terms of the intricacies of financial instruments and diversity of activities. As a result, the sources of crises have also become manifold, necessitating the co-ordination of a number of authorities, both within and outside the country.

6.3 Although difficult to define, financial stability should not be seen only from the perspective of avoiding financial crises. It is a condition where the financial system is capable, for the foreseeable future, of performing the various tasks of facilitating a smooth and efficient allocation of financial resources from savers to investors, while at the same time managing financial risks so as to avoid adverse disturbances. Financial stability is thus crucial for attaining sustained economic growth and cannot be achieved without a strong financial system (Box VI.1).

6.4 With the process of globalisation gathering momentum, it has become increasingly necessary for central banks to assess financial stability continuously and take a forward-looking view. This is evident from the fact that several central banks presently assess the stability of the financial system through financial stability reports (FSRs). The Bank of England and the Sveriges Riksbank, Sweden were among the earliest central banks to introduce FSR in 1997. Currently, leading central banks regularly publish FSR either as part of regular publications or on an independent basis. At the global level, international financial organisation such as the IMF also publish reports on global financial stability (Table VI.1).

6.5 There have been two important reasons behind the move by central banks in conveying information on financial stability. One, it is perceived as important to generate public understanding and awareness of what financial stability is and the role the central bank can play in the process. Two, such reports also serve as a means of sharing knowledge and information across various departments of the central bank and the public at large that have a bearing on the financial stability function.

6.6 The purpose of financial stability reports, in general, is to identify at an early stage any trends of vulnerability that could lead to a crisis in the financial system. The FSRs being brought are very much contextual with contents of the reports varying quite significantly from one central bank to another. This perhaps underscores the underlying differences in the structure of the financial system and the nature of financial risks faced by different countries. Nevertheless, most of the financial stability reports cover macroeconomic developments, financial regulations and financial markets. Some FSRs also cover payments systems. Some of the other aspects covered in some FSRs are operational risks (Bank of England), profitability of deposit institutions (Banco de Espana, Spain) and prudential regulation (Banco Central do Brasil, Brazil). Some FSRs also contain special theme-based research articles.

6.7 Until the onset of reforms, India being a relatively closed economy, was largely insulated from the vicissitudes of global markets. With the gradual opening up of the economy since the early 1990s, developments in the international financial markets have come to exert an important

## Box VI.1: A Practical Approach to Financial Stability

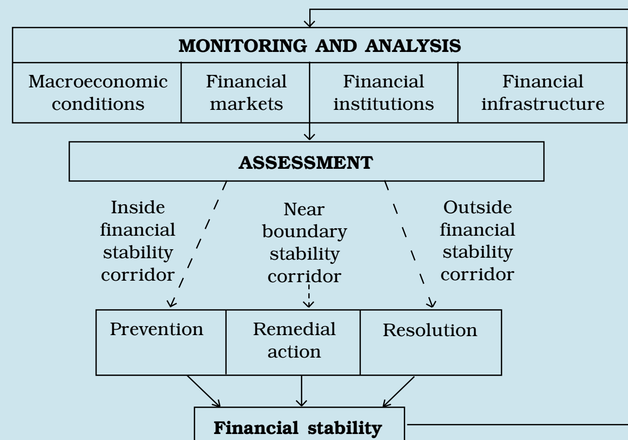
Policy makers and academics have proposed several definitions of financial stability. Some define it in terms of what it is not: a situation in which financial instability impairs the real economy. Others take a macro-prudential viewpoint and specify financial stability in terms of limiting risks of significant real output losses associated with episodes of system-wide financial distress. Several complexities arise when financial stability policy is put in practice. First, developments in financial stability cannot be summarised into a single quantifiable measure. In contrast to many other economic policy objectives (price stability, budgetary equilibrium, *etc.*), there is no unequivocal unit of measurement for financial stability. This reflects its multi-faceted nature. Second, developments in financial stability are inherently difficult to forecast. Assessing the state of financial stability not only seeks to take stock of disturbances as they emerge, but also identify the build-up of vulnerabilities that could lead to future disturbances. The difficulty here is that financial crises are hard to predict because of contagion effects and that they often reflect the far-reaching consequences of unlikely ('tail') events. Third, policies aimed at financial stability typically involve a trade-off between resilience and efficiency. Often, the pursuit of an efficient allocation of financial resources needs to be weighed against the ability to exclude or absorb shock to the financial system. Finally, policy requirements for financial stability might be time inconsistent. In particular, a short-term stability gain may come at the cost of a longer-term stability loss. For example, the provision of lender-of-last-resort finance or deposit guarantee may undermine market discipline and create a problem of moral hazard or adverse selection.

The challenge, therefore, is to develop a practical policy framework (Chart).

This comprises several stages. The first stage is to know what is happening in the financial system. Monitoring and analysis involves comprehensive and ongoing examination of relevant factors, aimed at early identification of vulnerabilities. Subsequently, an assessment is made to identify whether these vulnerabilities pose a threat to financial stability and what policy responses may be appropriate.

Accordingly, in the first case, appropriate policies are mainly preventive, aimed at maintaining stability. In the second case, when imbalances are developing, safeguarding the stability of the system will call for remedial action. Obviously, owing to its multi-faceted nature, the distinction between the policy categories is seldom clear-cut. Many instruments can be employed to maintain financial stability (Table). In the prevention mode, existing policies are maintained and updated for structural changes in order to prevent future imbalances. Surveillance of financial markets, institutions and infrastructure constitutes an important element of preventive policy. The situation changes if the financial system is close to, or at the boundary of, the range of stability.

**Chart: A Framework for Maintaining Financial System Stability**




Looking forward, the shift to a larger, more integrated, leveraged, complex and market-based financial system will continue to change the nature of financial risks. In this respect, the financial stability framework needs to be viewed as a flexible tool that can be used to interpret changes and translate these into policy implications. A major challenge, therefore, remains in developing a deeper understanding of how the different dimensions of financial stability interact with each other and with the real economy, and how these interactions are influenced by policy actions.

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### Table: Policy Instruments for Financial Stability

| | Prevention | Remedial Action | Resolution |
|---|---|---|---|
| | Implementing existing policies to safeguard financial stability | Implementing pre-emptive measures to reduce emerging risks to financial stability | Reactive policy interventions aimed at restoring financial stability |
| Market disciplining mechanisms | Maintain, Update | Strengthen | Discretionary measures |
| Self-regulation | Maintain, Update | Strengthen | Discretionary measures |
| Financial safety nets | Maintain, Update | Strengthen | LOLR, deposit insurance |
| Surveillance | Maintain, Update | Intensify | Further intensify |
| Supervision/regulation | Maintain, Update | Intensify | Discretionary measures |
| Official communication | Existing policies | Moral suasion | Restore confidence |
| Macroeconomic policies | Maintain, Update | Reduce imbalances | Discretionary measures |
| Legal system | Maintain, Update | Strengthen | Discretionary measures |

LOLR – Lender of last resort.

**Table VI.1: Financial Stability Reports Published by Select Central Banks**

| Central Bank | Name of Document |
|---|---|
| 1 | 2 |
| **Developed Countries** | |
| Australia | Financial Stability Review |
| European Central Bank | Financial Stability Review |
| Finland | Financial Stability |
| France | Financial Stability Review |
| Germany | Report on the Stability of the German Financial System (section in monthly report) |
| Netherlands | Financial Stability (regular section of quarterly bulletin) |
| New Zealand | Recent Developments in New Zealand's Financial Stability (September issue of quarterly bulletin) |
| Norway | Financial Stability Report |
| Sweden | Financial Stability Report |
| United Kingdom | Financial Stability Review |
| **Emerging Markets** | |
| Argentina | Financial Stability Bulletin |
| Brazil | Financial Stability Review |
| Hungary | Report on Financial Stability |
| Korea | Financial Stability Report |
| South Africa | Financial Stability Review |

Source : Central bank websites.

influence on the domestic conditions. The large capital inflows, despite the cautious approach to liberalisation, at times impinged on the stability in the foreign exchange and equity markets. Furthermore, with interest rate emerging as a key channel of monetary policy signals, the efficacy of monetary transmission is predicated on the health of the financial sector. Also, the gradual liberalisation of the financial sector has led to the emergence of financial conglomerates with its attendant systemic implications.

6.8 The Indian economy has also been subject to several exogenous shocks since the early 1990s in the form of sanctions resulting from India's nuclear actions, border tensions in the late 1990s, the contagion resulting from the crises in East Asia in 1997, failure of monsoon in 2003 and high and volatile oil prices. Unlike in the past when similar shocks invariably led to crisis, the economy in the 1990s was able to absorb all such shocks without any significant impact on the real economy and the financial sector.

6.9 In view of increasing integration of the economy and the various risks to which the financial system is exposed, financial stability has emerged as a key consideration in the conduct of financial policy. The Reserve Bank has adopted a multi-pronged strategy based on international best practices with suitable adaptations to promote stability of institutions, markets and the financial infrastructure. Monetary policy of the Reserve Bank by lowering of inflation and stabilising inflation expectation has also helped in fostering financial stability. The build-up of foreign exchange reserves over the years has provided a cushion against external shocks and enhanced the confidence of foreign investors in the Indian economy.

6.10 In India, the pursuit of financial stability has emerged as the central plank of financial sector reforms. In the Annual Policy Statement, 2004-05 of the Reserve Bank, it was stated that, "as the financial sector matures and becomes more complex, the process of deregulation must continue, but in such a manner that all types of financial institutions are strengthened and financial stability of the overall system is safeguarded". In the Indian context, the role of financial stability has been recognised, *inter alia,* from three principal perspectives. First, stability of the financial system has critical influence on price stability and sustained growth, which constitute the principal objectives of policy. Second, a stable financial system facilitates efficient transmission of monetary policy actions and the smooth operation of payment systems. And third, from the perspective of regulation and supervision, safeguarding depositors' interest and ensuring stability of the financial system, in particular that of the banking sector, is the mandate of the Reserve Bank.

6.11 Before the onset of reforms, the Indian financial sector was a government-dominated system with limited efficiency and too much stability through rigidity. Therefore, financial stability in India needs to be viewed contextually, more so when the sector is graduating towards a market-oriented one, with focus on efficiency and avoiding instability. Accordingly, financial stability in the Indian context comprises the following inter-related activities: (a) ensuring uninterrupted financial transactions; (b) maintenance of a level of confidence in the financial system amongst all the participants and stakeholders; and (c) absence of excess volatility

that unduly and adversely affects real economic activity. Such financial stability has to be particularly ensured when the financial system is undergoing structural changes to promote efficiency.

6.12 This Chapter reviews the stability of the financial system in India in terms of financial institutions, financial markets and financial infrastructure. The following section reviews key policy measures initiated to strengthen the financial institutions (commercial and co-operative banks), financial institutions (FIs) and non-banking financial companies (NBFCs). Section 3 assesses the stability of financial institutions in terms of soundness and profitability parameters *vis-à-vis* those prevailing in other countries. Section 4 reviews the key developments in financial markets in recent years with a special focus on 2004-05, from the perspective of financial stability. Major developments in the payment and settlement systems from the viewpoint of financial stability are set out in Section 5. The last section presents an overall assessment in terms of credit risk and market risk facing the Indian banking system over short to medium-term.

## 2. Strengthening of Financial Institutions

6.13 The Indian financial system is characterised by a multitude of institutions governed by different regulators. There are commercial and co-operative banks, development finance institutions, non-banking financial companies, insurance companies and mutual funds. Commercial banks occupy a predominant place in the financial system. The Reserve Bank is entrusted with the supervision of India's banking system under the Banking Regulation Act, 1949 and the Reserve Bank of India Act, 1934. Consequent upon amendments to the Reserve Bank of India (Amendment) Act in 1997, a comprehensive regulatory framework in respect of NBFCs was introduced. The Reserve Bank also regulates select all-India financial institutions under the Reserve Bank of India Act, 1934. Insurance companies are regulated by the Insurance Regulatory and Development Authority (IRDA) and mutual funds by the Securities and Exchange Board of India (SEBI).

6.14 The Reserve Bank endeavors to maintain stability of the financial system by promoting sound business and financial practices. To achieve this, the Reserve Bank has made persistent efforts to adopt international best practices with suitable country-specific adaptations. The key policy initiatives so far have brought the Indian financial system closer to global standards. From the standpoint of financial stability, several initiatives have been taken by the Reserve Bank to strengthen financial institutions under its purview.

### Scheduled Commercial Banks

*Macro-level Measures*

6.15 The statutory pre-emption of banks' funds has been eased with the lowering of the Cash Reserve Ratio (CRR) and the Statutory Liquidity Ratio (SLR). However, the CRR was raised by one-half of a percentage points to 5.0 per cent in September 2004. The Reserve Bank chose to increase the CRR, partly for absorbing liquidity in the system, but more importantly for signalling its concern at the unacceptable levels of inflation, while reiterating the importance of stability in financial market conditions. While the Reserve Bank continues to pursue its medium-term objective of reducing the CRR to its statutory minimum level of 3.0 per cent, on a review of the current liquidity situation, it was felt desirable to keep the present level of CRR unchanged at 5.0 per cent in the Mid-term Review of October 2005. The SLR was reduced to its statutory minimum level of 25.0 per cent in 1997. The legislative changes proposed by the Government in the Union Budget, 2005-06 seek to remove the lower and upper bounds to the SLR to provide flexibility to the Resever Bank.

6.16 A major issue before the Indian financial system in the early 1990s was the administered structure of interest rate, which did not allow the pricing of funds to be determined by the forces of demand and supply. Accordingly, at the initial stage of reforms, interest rates on both the lending and deposit sides were gradually deregulated. In order to foster greater transparency in lending rate determination, a system of benchmark prime lending rates (BPLRs) has been adopted by commercial banks, which has provided them the flexibility to price their loan products either on a fixed or floating rate basis. Since the deregulation of interest rates exposed market participants to interest rate risk, banks and FIs were allowed to adopt risk management tools such as forward rate

agreements (FRAs) and interest rate swaps (IRS) for their balance sheet management and hedging of interest rate risk.

6.17 With a view to further enhancing the efficiency and stability of the banking sector and to bring it closer to the best global standards, a two-track and gradualist approach has been adopted that is consistent with India's commitment to the WTO. Under this approach, consolidation of the domestic banking system in both public and private sectors is being combined with gradual enhancement of the presence of foreign banks in a calibrated manner. Internationally, mergers and amalgamations are a common strategy adopted to restructure/strengthen banks. Consolidation has been a dominant feature of the banking sector, particularly in emerging market economies (EMEs) in the past decade (Box VI.2).

6.18 Mergers and acquisitions have not been a new phenomenon in the Indian banking industry. Consolidation process through mergers and acquisitions has been going on for several years. However, the process has gained momentum since 1999 (Table VI.2). With increased liberalisation, globalisation and technological improvements, the consolidation process in Indian banking is likely to intensify in the future.

6.19 The Reserve Bank has to ensure that after a merger, acquisition, reconstruction or takeover, the bank or banking group has adequate financial strength and management has sufficient expertise

**Box VI.2: Public Policies and Experience in Consolidation in EMEs**

The banking industry in several EMEs, which was already undergoing a process of transformation under the influence of technological innovation, deregulation of financial sector, opening up of financial services to international competition, and changes in corporate behaviour, faced increased pressures for transformation in the wake of banking crises of 1997-98 in Asia and Latin America. The response of banking structure in different parts of the EME to the above pressures was privatisation of state-owned commercial banks, domestic mergers and consolidation and entry of foreign banks. This resulted in a tendency towards a reduced number of banks.

Recent experience with bank consolidation in the key emerging economies brings forward several issues such as the regulatory role for encouraging bank mergers; the role of governance structure and market discipline (family-owned or foreign-owned banks); the trade-off between reaping the benefits of economies of scale and maintaining competition; and the role for large, regionally (or internationally) competitive banks ('national champions'). In emerging economies, bank consolidation often involves foreign banks and government intervention.

Market-driven consolidation is a relatively new phenomenon in emerging economies and has mainly been observed in the Central Europe. Most mergers have instead resulted from government efforts to restructure inefficient banking systems (as in many Latin American countries), or from intervention following banking crises (as in Korea and South East Asia).

In the crisis-hit Asian economies, bank mergers have generally been a government-led process, motivated by the need to strengthen capital adequacy and the financial viability of many smaller, often family-owned banks affected by the 1997-98 crisis. The major example of the government-led approach is Malaysia's Danamodal, a special purpose institution with the twin objectives of recapitalising the banks and facilitating consolidation and rationalisation in the banking system. In Korea, recent mergers were for the most part initiated by the government in order to resolve unsound banks. Mergers usually involved banks with overlapping operations and were supported by large injections of public funds. In the Philippines, several incentives are being offered to the merging banks, including better access to rediscount facilities and temporary relief from certain prudential requirements. In Thailand, the government has been involved in only one merger so far, but is supportive of private merger initiatives, especially among non-bank finance companies. In Indonesia, four of the seven state banks existing before the crisis were consolidated into a new state bank (Bank Mandiri), which now controls about a quarter of total commercial bank deposits. In addition, eight private banks that had been taken over by the Indonesian Bank Restructuring Agency (IBRA) were merged during 2000 into a new institution (Danamon). When and how to promote mergers, therefore, requires a delicate balancing act on the part of the authorities.

However, as competition in a large number of market segments has intensified through deregulation, privatisation and entry of foreign banks, consolidation is becoming more market-driven. In addition, some economies with mature financial markets (Singapore, Hong Kong) are increasingly looking at consolidation as a broader competitiveness issue in regional or even global context.

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**Table VI.2: Banks Amalgamated Since Nationalisation of Banks in India**

| Sr. No. | Name of transferor bank | Name of transferee bank | Date of amalgamation |
|---|---|---|---|
| 1. | Bank of Bihar Ltd. | State Bank of India | November 8, 1969 |
| 2. | National Bank of Lahore Ltd. | State Bank of India | February 20, 1970 |
| 3. | Miraj State Bank Ltd. | Union Bank of India | July 29, 1985 |
| 4. | Lakshmi Commercial Bank Ltd. | Canara Bank | August 24, 1985 |
| 5. | Bank of Cochin Ltd. | State Bank of India | August 26, 1985 |
| 6. | Hindustan Commercial Bank Ltd. | Punjab National Bank | December 19, 1986 |
| 7. | Traders Bank Ltd. | Bank of Baroda | May 13, 1988 |
| 8. | United Industrial Bank Ltd. | Allahabad Bank | October 31, 1989 |
| 9. | Bank of Tamilnadu Ltd. | Indian Overseas Bank | February 20, 1990 |
| 10. | Bank of Thanjavur Ltd. | Indian Bank | February 20, 1990 |
| 11. | Parur Central Bank Ltd. | Bank of India | February 20, 1990 |
| 12. | Purbanchal Bank Ltd. | Central Bank of India | August 29, 1990 |
| 13. | New Bank of India | Punjab National Bank | September 4, 1993 |
| 14. | Kashi Nath Seth Bank Ltd. | State Bank of India | January 1, 1996 |
| 15. | Bari Doab Bank Ltd. | Oriential Bank of Commerce | April 8, 1997 |
| 16. | Punjab Co-operative Bank Ltd. | Oriental Bank of Commerce | April 8, 1997 |
| 17. | Bareilly Corporation Bank Ltd. | Bank of Baroda | June 3, 1999 |
| 18. | Sikkim Bank Ltd. | Union Bank of India | December 22, 1999 |
| 19. | Times Bank Ltd. | HDFC Bank Ltd. | February 26, 2000 |
| 20. | Bank of Madura Ltd. | ICICI Bank Ltd. | March 10, 2001 |
| 21. | Benares State Bank Ltd. | Bank of Baroda | June 20, 2002 |
| 22. | Nedungadi Bank Ltd. | Punjab National Bank | February 1, 2003 |
| 23. | South Gujrat Local Area Bank Ltd. | Bank of Baroda | June 25, 2004 |
| 24. | Global Trust Bank Ltd. | Oriental Bank of Commerce | August 14, 2004 |
| 25. | IDBI Bank Ltd. | IDBI Ltd. | April 2, 2005 |
| 26. | Bank of Punjab Ltd. | Centurion Bank Ltd. | October 1, 2005 |

and integrity. While the Reserve Bank has power to approve voluntary mergers and amalgamations taking into consideration the paramount need to maintain the safety and integrity of the banking system, powers to merge banking entities compulsorily rest with the Government of India. The primary objective of the Reserve Bank/ Government is to ensure that a merger is not detrimental to the public interest and also not contrary to the interests of the banks concerned, their depositors or their controlling companies. The major concern that the Reserve Bank/ Government has to address is that such mergers do not impinge on the stability of the financial system as a whole. While it may be relatively easier to resolve the issues involving the merger of a small bank with a large public sector bank, the problem is accentuated if the merger involves two large banks. On the recommendations of the Joint Parliamentary Committee (2002), a Working Group was constituted to evolve guidelines for voluntary measures involving banking companies. Based on the recommendations of the Group, the Reserve Bank issued guidelines on May 11, 2005 which, *inter alia*, lay down the process of merger and determinations of the swap ratio. The principles underlying the guidelines are also applicable, as appropriate, to public sector banks.

6.20 A well-diversified ownership structure has been emphasised to overcome the risk of concentration of ownership and the potential problems of moral hazard and linkages of owners with businesses. The shareholding of the Government in public sector banks (PSBs) has been substantially reduced over time. Efforts have been underway to increase the efficiency of the multi-institutional structure of the Indian financial sector with emphasis on increased competition by granting greater functional autonomy to PSBs and allowing greater competition from private sector and foreign banks. The managerial autonomy package for PSBs released on February 22, 2005 marks a step forward towards ensuring a level-playing field among the major players in the banking sector.

6.21 The foreign investment limit from all the sources in private banks was raised from a maximum of 49 per cent to 74 per cent in March 2004. Foreign banks were permitted to operate

in India through one of the three channels *viz*., (i) branch/es; (ii) a wholly owned subsidiary; or (iii) a subsidiary with aggregate foreign investment up to a maximum of 74 per cent in a private bank. In consultation with the Government of India, the Reserve Bank released the roadmap for the presence of foreign banks in India on February 28, 2005. The roadmap lays down the gradual liberalisation of norms governing foreign banks which will become effective in two phases.

6.22 Corporate governance has assumed crucial significance for ensuring the stability and soundness of the financial system in recent years. In order to protect the interest of depositors and integrity of the financial system, it is necessary that owners and managers of banks are persons of sound integrity. Keeping these considerations in view, the Reserve Bank initiated several measures to enhance transparency and strengthen corporate governance practices in the financial sector in India. Guidelines on ownership and governance for private sector banks were issued by the Reserve Bank on February 28, 2005 (see Chapter II for details). These are based on certain principles such as a well diversified ownership and control; important shareholders, directors and CEO being 'fit and proper'; observance of sound corporate governance principles; maintenance of minimum capital/net worth for optimal operations and systemic stability; and transparency and fairness in policy and processes. The draft policy is in consonance with treating banks as 'special' and setting upfront a roadmap in a transparent manner for existing and potential investors. The intention of the policy is to ensure adequate capital and consolidation in the banking industry with the regulator being aware of the intention of existing and potential shareholders.

*Prudential Measures*

6.23 One of the most important policy initiatives taken to strengthen the financial institutions (banks, DFIs and NBFCs) was the introduction of prudential regulations in the areas of capital adequacy, income recognition, asset classification and provisioning, exposure norms, disclosures, classification/valuation of investment and risk management as well as asset-liability management. Prudential norms are being continuously reviewed and refined keeping in view the development of financial institutions, international practices and the experience gained.

6.24 Various liberalisation measures introduced as part of financial sector reforms have exposed financial intermediaries to new risks. To mitigate the impact of such risks, an adequate cushion of capital is required. The capital to risk-weighted assets ratio (CRAR) system based on Basel norms for banks (including foreign banks) introduced in April 1992 and capital charge for market risk introduced from the year ended March 31, 2005, have been the major initiatives taken by the Reserve Bank to strengthen the capital base of financial institutions. The CRAR, which was initially stipulated at 8 per cent, was later raised to 9 per cent with at least 50 per cent of Tier-I capital.

6.25 The Banking Companies (Acquisition and Transfer of Undertakings) Act, 1969 and the State Bank of India Act, 1955 were amended to allow banks to raise capital not exceeding 49 per cent of their equity. Consequently, several PSBs have raised capital both in India and abroad. Equity sales in the market aggregating over Rs.11,500 crore have been made by the PSBs, with several PSBs having accessed the market more than once. Between 1993 and 2005, as many as 17 PSBs accessed the capital market; the private shareholding in as many as 12 PSBs at present ranges from 30 per cent to 49 per cent.

6.26 Over the period 1993-2004, the Government injected around Rs.22,516 crore for strengthening the capital base of nationalised banks. Several banks, which were recapitalised, have since returned substantial amount of capital to the Government. The total amount returned till end-March 2004 aggregated Rs.1,303 crore. No recapitalisation or return of capital was effected during 2004-05.

6.27 The surge in retail lending is a relatively recent phenomenon in India. Evidence, however, suggests that high growth in retail credit can often be the precursor to mutually reinforcing imbalances in the real estate market and the financial sector, with implications for financial stability. In view of the above, as a prudent measure, the risk weight on housing loans was increased from 50 per cent to 75 per cent and from 100 per cent to 125 per cent in the case of consumer credit, including personal loans and credit cards.

6.28 A sound and stable financial system requires that banks' assets are appropriately

classified based on an objective delinquency criteria. Accordingly, income recognition, asset classification and provisioning norms instituted in April 1992, have been gradually strengthened in the light of growing maturity of the financial system. In keeping with the international best practice, the 90-day delinquency norm for the identification of NPLs was adopted from March 2004. As a major step towards tightening of prudential norms, banks are required to classify an asset as doubtful from March 2005 if it remains in the sub-standard category for 12 months as against the earlier norm of 18 months.

6.29 Banks are required to make a general provision of a minimum of 0.40 per cent for standard assets (for direct advances to agricultural and SME sectors, provisioning requirements remain at 0.25 per cent for standard assets). Provisioning for sub-standard assets will continue at 10 per cent for secured exposures and 20 per cent for unsecured exposures. The provisioning requirements for doubtful assets are graded depending on the period for which an asset has remained doubtful. The provisioning, at present, varies in the range of 20 per cent and 100 per cent on the secured portion, whereas it would be 100 per cent on the unsecured portion. In another initiative towards tightening of provisioning norms, banks were advised to make 100 per cent provision for the net debit position in their inter-branch accounts in respect of unreconciled entries outstanding for more than six months, with effect from March 31, 2004, as against the earlier period of one year.

6.30 Management of NPLs has been very important from the financial stability perspective. The strengthening of prudential measures was, therefore, followed by concerted efforts on the part of the Central Government and the Reserve Bank to resolve the NPL problem by initiating several institutional measures. These included establishment of Debt Recovery Tribunals, *Lok Adalats* (people's courts), Asset reconstruction companies (ARCs) and Corporate Debt Restructuring (CDR) mechanism. Settlement Advisory Committees were also constituted at regional and head office level of commercial banks to expedite the recovery of NPLs. Enactment of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 has helped in improving the recovery climate in the country. Total recoveries under various schemes during 2004-05 aggregated over Rs.20,000 crore.

6.31 Excessive exposure can derail financial stability by making banks' operations vulnerable to the vicissitudes of a particular sector. Keeping this in view, the Reserve Bank has prescribed regulatory limits on banks' exposure to individual and group borrowers and the capital market to avoid concentration of credit. However, a close watch is maintained on exposures to other sensitive sectors such as housing and realty loans.

6.32 The stability of a financial system stands enhanced when institutions and markets function on the basis of informed decisions. Adequate disclosures act as a deterrent to excessive risk-taking and minimise adverse selection and moral hazard problems. Market discipline is known to increase with interest from outside stakeholders, *viz*., depositors, creditors and investors. It is, therefore, desirable that stakeholders have adequate information to be able to independently monitor the institutions. Transparency in operations can go a long way in strengthening market discipline. It is now widely perceived that greater market discipline is an important ingredient in the pursuit of financial stability (Box VI.3).

6.33 The Reserve Bank has issued guidelines to banks to enhance the level of transparency and disclosures with respect to their financial position. The disclosures made as part of 'Notes on Accounts' to bank balance sheets provide greater information to market participants. These disclosures presently encompass capital adequacy (Tier-I and Tier-II separately) ratio and financial ratios, movements in NPLs and movements in provisions for NPLs and depreciation on investment. Taking the process further, a minimum framework for disclosure by banks on their risk exposures in derivatives as part of 'Notes on Accounts' was advised to banks.

6.34 Detailed guidelines have been issued from time to time to ensure banks' compliance with the accounting standards issued by the Institute of Chartered Accountants of India (ICAI). In pursuance of the recommendations made by the Working Group to recommend steps to eliminate/ reduce gaps in compliance by banks with accounting standards (Chairman: Shri N.D. Gupta), detailed guidelines were issued in March 2003 on certain accounting standards. Subsequently, detailed guidelines were issued to ensure banks' compliance with these standards in April 2004. Banks have been advised to ensure

### Box VI.3: Market Discipline and Financial Stability

The interest in market information and market discipline is based on the inherent ability of markets to process information and aggregate this information rapidly into market prices. It is important to distinguish between two variants of market discipline. First, the increased cost of raising new debt or equity in the primary capital markets could exert *direct* market discipline on banks. This could occur through higher financing costs, constraints on the availability of new finance or through direct influence on the bank's operations (for instance, discussion at the shareholders meetings). Second, the prices of banks' listed securities could provide an indication of banks' financial condition to supervisors, rating agencies and central banks. The monitoring and potential corrective actions in response to adverse signals, especially by supervisors, are referred to as *indirect* market discipline. In particular, supervisors may use signals from the secondary markets as screening devices or inputs into early warning models geared towards identifying those banks that need closer scrutiny.

For market discipline to be effective in ensuring financial stability, four pre-requisites have to be met. First, market participants need to have timely, appropriate and accurate information. Second, participants must have the ability to process the information correctly. Third, they need to have the right incentives. Fourth, they need to have the right mechanisms to exercise discipline.

In reality, however, these conditions might not be satisfied. The costs of producing information may be concentrated, leading to a tendency to under-supply information relative to what is necessary for effective discipline. Likewise, the ability to process information might be limited. Collective misjudgements resulting from interactions of individual behaviour might lead to 'herding,' leading typically to a boom-bust cycle. Additionally, mechanisms through which discipline is exercised, may not always operate with sufficient timeliness, inducing generalised defensive action *a la* bank runs.

These limitations of market discipline can by themselves be sufficient to result in an excessive degree of financial instability. Ill-designed safety nets, by keeping benefits private while socialising costs, without putting in place adequate safeguards, can exacerbate the problems. They do so by numbing incentives to gather and act on information in a responsible and prudent fashion.

Notwithstanding its limitations, there is merit in supervisors incorporating market prices into early warning models. Market indicators have three important advantages over accounting data: (i) they represent the views of a large number of market participants condensed into one convenient measure; (ii) they are inherently forward-looking; and (iii) they are generally available with a relatively high frequency. This underlines the need to rely on multiple indicators and sources of information while attempting an assessment of the stability of financial institutions.

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Baumann, U. and E. Nier (2003), 'Market Discipline and Financial Stability: Some Empirical Evidence', *Financial Stability Review*, Bank of England, June.

that there are no qualifications by the auditors in their financial statements for non-compliance with any accounting standards.

*Risk Containment Measures*

6.35 In view of the rapid growth of financial innovations and increasing complexity of financial transactions, in consonance with international best practices, the Reserve Bank has decided to adopt the Basel II approach to implementation of capital adequacy standards with suitable adaptations with effect from March 2007. Banks have been advised that increased capital should not be viewed as the only option for addressing increased risks confronting them. Other means of addressing risk such as strengthening of risk management systems, applying prudent internal limits, strengthening of level of provisions and reserves and improving internal controls should also be actively followed by banks.

6.36 In order to prepare banks for this process, several measures have been initiated by the Reserve Bank (see Chapter II for details). The thrust of these measures has been three-fold. First, measures have been initiated which permit banks to augment their capital base. This has been supported by a series of regulatory initiatives to develop and strengthen the risk management framework in banks. Second, the market discipline process in banks is being gradually enhanced through increased disclosures, so as to have greater transparency in their financial position. Finally, measures have been initiated to develop capacity building so as to reinforce the regulator's ability for identifying and permitting eligible banks to adopt Internal Ratings Based (IRB)/Advanced Measurement approaches.

6.37 Corporate governance for banks is crucial for promoting effective risk management and financial stability. The governance in banks is an outcome of a combination of legal, regulatory and supervisory policies. Factors that enhance corporate governance within the bank are sound business strategies, strict internal control procedures and a competent and responsible senior management. Detailed guidelines on corporate governance for implementation by

banks, both public sector and private sector, were issued in June 2002. The guidelines on ownership and governance for private sector banks were released on February 28, 2005. These guidelines underscored the role of the Board of Directors in corporate governance on the lines suggested by the Ganguly Committee. The Board of Directors should ensure that the responsibilities of directors are well defined. Banks should arrange need-based training for the directors in this regard. Private sector banks were advised: (i) to undertake a process of due diligence to determine the suitability of the person for appointment/ continuing to hold appointment as a director on the Board, based upon qualification, expertise, track record, integrity and other 'fit and proper' criteria; (ii) to obtain necessary declaration and undertaking from the proposed/existing directors in the prescribed format; and (iii) to constitute Nomination Committees to scrutinise such declarations.

6.38 A second important development has been the improvement in the governance framework in banks. Most banks now explicitly state their governance philosophy in their Annual Reports as part of 'Notes on Accounts' to their balance sheets and also provide information on the number of Board meetings, the functions and workings of the sub-committees of the Board, price performance of bank shares (if listed) along with auditors' certification on the procedures and implementation for ensuring compliance. The governance standards are even more stringent for listed banks. They are required to disclose quarterly financial results to the stock exchanges as part of the listing requirements. Besides, with effect from November 1, 2004, banks are also required to disclose the penalty in the 'Notes on Accounts' to the balance sheets in their next Annual Reports.

6.39 A Master Circular on risk management and inter-bank dealings was released on July 1, 2004 whereby banks were advised to put in place necessary risk management systems. The analysis of market risks reflects the interest rate risk, foreign exchange risk and the risk arising from the exposure of banks and financial institutions to the commodities and the capital market.

6.40 To take into account the risks faced by banks out of foreign exchange exposure of their clients, foreign currency loans above US $ 10 million (or such lower limits as may be deemed appropriate *vis-à-vis* the banks' portfolios of such exposures), can be extended only on the basis of a well laid out policy with regard to hedging of such foreign currency loans. The draft Guidance Note on management of operational risk was placed on the website on March 11, 2005 for wider access and feedback.

6.41 An efficient credit information system enhances the quality of credit decisions and improves the asset quality of banks, apart from facilitating faster credit delivery. The compilation and dissemination of credit information covering data on defaults to the financial system was undertaken by Credit Information Bureau of India Ltd. (CIBIL) set up in 2001. With a view to giving an impetus to data reporting to CIBIL, banks/FIs were advised in June 2004 that their Boards should review the measures for furnishing credit information in respect of borrowers to CIBIL and for reporting compliance to the Reserve Bank. The progress of banks/FIs in obtaining consent from all the borrowers was, however, unsatisfactory. They were, therefore, again advised to take immediate steps in this regard. They were also advised that the Reserve Bank would be constrained to examine other penal measures, if the compliance in this regard remained unsatisfactory. The Credit Information Companies (Regulation) Bill, which was passed by the Parliament in May 2005, received the assent of the President in June 2005. The Bill empowers CIBIL to collect information relating to all borrowers and confers upon the Reserve Bank the power to determine policy in relation to functioning of credit information companies and also giving directions to credit information companies. The Credit Information Companies Act, 2005 is expected to contain informational asymmetries and curb the incidence of NPLs.

6.42 The events in the last few years have underlined a sense of urgency in defining, developing and universally accepting standards on integrity. Integrity of the financial system enables firms to access the external finance. It also allows firms to make credible commitments to creditors, employees and others. Achieving economies of scale, undertaking risky ventures, engaging in projects with more distant payoffs and employing innovative work and organisational structure require the institutional certainty and trust that high standards of integrity provide. The relevance of the integrity of the financial system has thus assumed an added significance in the changed environment (Box VI.4).

### Box VI.4: Integrity of the Financial System

The integrity of the financial system needs to be understood in the context of certain preconditions and principles that are found in key financial standards. The pre-conditions include: (i) a sound legal and accounting system; (ii) a body of professional accountants and auditors; (iii) ethical and professional lawyers and judges; (iv) a reasonably efficient court system whose decisions are enforceable; (v) financial transparency; and (vi) effective corporate governance. The principles of integrity, on the other hand, comprise the following components: (i) independence of supervisor; (ii) legal protection for supervisor; (iii) internal controls; (iv) internal audit; (v) risk management; (vi) board and senior management oversight; (vii) accounting standards; (viii) external audit; (ix) corporate governance; (x) disclosure and transparency; (xi) fit-and-proper vetting/due diligence/individual integrity; (xii) customer due diligence; (xiii) connected lending/related party transactions;(xiv) fraud prevention; and (xv) channel to report suspicious activity.

There are two major strands to ensure integrity of the financial system. While integrity elements of the Anti-Money Laundering (AML) standard comprise a comprehensive regime for preventing abuse of the financial system by outsiders, the evolving standards of supervision of financial institutions and those for corporate governance deter abuse of financial firms and public companies by insiders.

The FATF-40 Recommendations on Anti-Money Laundering and the Nine Special Recommendations on Terrorist Financing are recognised as the international standard for AML/combating financing of terrorism (CFT). The key components of the AML/CFT standards are:

- Criminalisation of money laundering and terrorist financing.
- Establishment of a regime of preventive measures to be adopted by financial institutions and others.
- Adoption of a regime for reporting suspicious transactions, including operations of a financial intelligence unit.
- Standards for prosecution and punishment of money laundering offenses and the freezing and confiscation of criminal proceeds.
- International cooperation, including exchange of information among supervisors and law enforcement agencies.

A noteworthy feature of AML/CFT regime is that the measures are expected to be implemented not just by the prudentially regulated financial sector, but also by a range of non-financial businesses and professions such as casinos, money service providers, lawyers, accountants, dealers in high-valued goods, *etc*. The U.K. Proceeds of Crime Act (2002) has gone beyond the FATF Recommendations and has defined the money laundering offense to include the laundering of proceeds of all crimes.

Prevention of misuse of the financial system by insiders requires more intricate and delicate measures. The operational risk measures required under Basel II are, in essence, measures to protect and enforce the internal integrity of banking organisations. This means that assessments will need to incorporate integrity risk concepts, including more emphasis on internal controls and corporate governance. Similarly, the revised insurance International Association of Insurance Supervisors (IAIS) Core Principles include a general review of integrity elements. The International Organisation of Securities Commissions (IOSCO) Core Principles in respect of securities include review of more or less same elements. However, the emphasis is on rights and equitable treatment of shareholders, information disclosure and accounting framework.

As a by-product of corporate scandals, the integrity requirements for public companies are becoming substantially more demanding. While some countries have enacted legislations such as Sarbanes-Oxley Act in the United States, there has also been an attempt at codification of corporate governance principles at the international level such as the OECD Principles of Corporate Governance.

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6.43 The Reserve Bank has always been at the forefront of international initiatives towards anti-money laundering and combating financing of terrorism. With the operationalisation of Prevention of Money Laundering Act, 2002 on July 1, 2005, establishment of Financial Intelligence Unit (FIU-IND) and issuance of comprehensive 'Know Your Customer' (KYC) norms for banks by the Reserve Bank on November 29, 2004, the Government and the Reserve Bank have taken necessary steps towards the establishment of anti-money laundering regime in India.

6.44 It may be recalled that in terms of the guidelines on KYC norms issued in August 2002, banks were advised to follow certain customer identification procedure for opening of accounts and monitoring transactions of a suspicious nature for the purpose of reporting it to the appropriate authority. These KYC guidelines were revisited in the context of the recommendations made by the Financial Action Task Force (FATF) on anti-money laundering (AML) standards and on combating financing of terrorism (CFT). These standards have become the international benchmark for framing anti-money laundering

and combating financing of terrorism policies by the regulatory authorities. Compliance with these standards by banks/financial institutions and the country, in general, has become necessary for international financial relationships. Accordingly, detailed guidelines based on the recommendations of the FATF and the paper issued on Customer Due Diligence (CDD) for banks by the Basel Committee on Banking Supervision, with indicative suggestions wherever considered necessary, were issued to banks in November 2004. Banks were advised to ensure that a proper policy framework on KYC and anti-money laundering measures were formulated and put in place with the approval of their respective Boards within three months. They were also advised to ensure that the provisions of the revised guidelines were fully complied with before December 31, 2005.

6.45 While framing operational guidelines, banks were also advised to keep in view the instructions issued in terms of the guidelines issued in May 2004, whereby banks were advised to treat the information collected from the customer for the purpose of opening of account as confidential. Banks should continue to ensure that any remittance of funds by way of demand draft, mail/ telegraphic transfer or any other mode and issue of travellers' cheques for value of rupees fifty thousand and above is effected by debit to the customer's account or against cheques and not against cash payment. In order to ensure that the inability of persons belonging to low income groups to produce documents to establish their identity and address does not lead to their financial exclusion and denial of banking services further, simplified procedure has been provided for opening of accounts for those persons who do not intend to keep balances above Rs.50,000 and whose total credit in one year is not expected to exceed Rs.1 lakh.

*Supervisory Measures*

6.46 The supervisory strategy of the Reserve Bank, apart from on-site inspections, involves three complementary approaches: off-site surveillance, ensuring adequate internal controls in banks and use of external auditors.

6.47 The on-site financial inspection system for domestic and foreign banks is based on a well-defined methodology covering the major parameters of banks' operations (see Chapter II for details). In view of the envisaged introduction of Basel II with its focus on market discipline, higher levels of transparency have been emphasised. Accordingly, banks were advised that all cases of penalty imposed by the Reserve Bank as also strictures/directions on specific matters including those arising out of inspection would be placed in the public domain.

6.48 Off-site Monitoring and Surveillance (OSMOS) framework for banks instituted by the Reserve Bank in 1995 has served well and is being used as a part of crisis management framework for Early Warning System (EWS) and as a trigger for on-site inspections of vulnerable institutions.

6.49 Based on the recommendations of the Working Group (Chairman: Shri Rashid Jilani), detailed instructions were issued to banks for updating their internal control systems for implementation which, *inter alia*, included: (i) co-ordination between inspection and operation wings to bring about synergic efforts to improve overall functioning of the bank; (ii) programming and performance monitoring; (iii) ensuring security of data/inputs; and (iv) fixing accountability of inspectors/auditors for their failure to detect and report serious irregularities.

6.50 External auditors, who are entrusted with the responsibility of statutory audit of annual accounts of banks, are being increasingly used as an extended arm of the supervisory system. They are also required to verify and certify certain other aspects such as adherence by banks to statutory liquidity requirements and adherence to prudential norms. A system of concurrent 'on line' audit of business transactions of banks, intended to cover at least 50 per cent of the business of the bank and 100 per cent audit of risk sensitive portfolios such as foreign exchange and investments, is in place.

6.51 Draft guidelines on a scheme of Prompt Corrective Action (PCA) were issued to banks in 2003 as a structured early intervention system. A schedule of corrective actions was suggested based on three parameters, *i.e.,* capital adequacy (CRAR), asset quality (Net NPLs to net advances) and profitability (return on assets). The scheme was reviewed by the Board for Financial Supervision (BFS) in 2004, and it was decided to continue the PCA framework.

6.52 Owing to growing complexity of banking business, traditional monitoring tools are becoming increasingly less relevant. Drawing upon international best practices, the Reserve Bank has been gradually switching towards a risk-based supervision (RBS) approach which entails monitoring of banks, by allocating supervisory

resources and focusing supervisory attention according to the institution-specific risk profile. Currently, 23 commercial banks are covered under this approach.

6.53 Guidelines on consolidated accounting and supervision were issued to banks advising them to ensure strict compliance commencing from the year ended March 31, 2003. Furthermore, banks were advised to prepare and submit consolidated prudential reports (CPR) to enable supervisory assessment of risks and adherence to certain prudential regulations on a group basis. These reports are being reviewed by the Reserve Bank on a half-yearly basis.

*Inter-Regulatory Co-ordination*

6.54 The issue of inter-regulatory co-ordination has assumed critical importance in the wake of emergence of financial conglomerates and the integration of financial services and markets. In response to this development, a Joint Forum was constituted in June 2004 based on the recommendations of an inter-agency Working Group of three supervisory bodies, *i.e.*, the Reserve Bank, the Securities and Exchange Board of India (SEBI) and the Insurance Regulatory and Development Authority (IRDA). A monitoring system was instituted by the Joint Forum for capturing intra-group transactions and exposures amongst such conglomerates and developing an enabling mechanism for inter-regulatory exchange of information in respect of financial conglomerates. As part of operationalisation of the monitoring mechanism, a pilot process was initiated: (i) envisaging the principal regulators corresponding with the respective designated entities; and (ii) obtaining information in the prescribed format in respect of financial conglomerates (Box VI.5).

6.55 A High Level Co-ordination Committee on Financial and Capital Markets (HLCCFCM)

**Box VI.5: Supervision of Financial Conglomerates**

The emergence of financial conglomerates offering a range of financial services – banking, insurance, securities - on a global basis presents significant challenges to the supervisors for effective discharge of their responsibilities. Financial conglomerates have emerged in India as well. Several important players in the country's financial system have presence in more than one market segment. The Working Group on Financial Conglomerates (Convenor: Smt. Shyamala Gopinath), in its Report submitted in May 2004, *inter alia,* suggested criteria for identifying financial conglomerates, a monitoring system for capturing intra-group transactions and exposures and a mechanism for inter-regulatory exchange of information in respect of financial conglomerates. The Working Group identified certain groups as financial conglomerates on the basis of set criteria.

As a follow-up measure, the Reserve Bank constituted the Financial Conglomerate Cell (FCC) within the Department of Banking Supervision. The FCC is the nodal agency, which co-ordinates with the two other domestic regulators (SEBI and IRDA) on matters of supervision of financial conglomerates. The Reserve Bank has put in place an oversight framework, which envisages periodic sharing of information amongst regulators on: (i) concerns arising out of analysis of data received from the conglomerates; and (ii) sharing of any other materially significant information in the possession of principal regulator, which might have a bearing on the group as a whole. The Reserve Bank's recent initiative to hold half-yearly discussion meeting with the Chief Executive Officer of the conglomerate in association with other principal regulators to address outstanding issues/supervisory concerns would further strengthen the system of sharing information among the domestic supervisors.

There is regular consultation and exchange of information on important regulatory/supervisory matters concerning capital, liquidity management, build-up of disproportionate exposure of an entity to other group entities/other financial market segments and group-wide risk management systems.

Operations of financial conglomerates with overseas presence also raise concerns. The cross-border supervision in order to be effective requires that the supervisors be posted with significant material information pertaining to unregulated entities of the conglomerate and joint action is initiated in concert with the Ministry of Finance in concerned countries to avert potential systemic crisis. This will not only facilitate early detection of financial sector vulnerabilities, but also discourage regulatory arbitrage.

There is no legislation in India which provides for collaborative arrangements among the supervisors or authorises/obliges for sharing of information among the supervisors. Till such time a legal framework for cross-border supervision is enacted, supervisory co-ordination could be initiated by executing general/specific MoUs to address risks associated with financial conglomerates and promote systemic stability.

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consisting of Governor of the Reserve Bank, Chairman, SEBI and Chairman, IRDA along with the Secretary, Department of Economic Affairs, Government of India, serves as a forum for ironing out differences on policy matters. In order to provide a focused inter-agency forum for sharing of information and intelligence, the HLCCFCM has constituted three standing technical committees in respect of entities regulated by the Reserve Bank, SEBI and IRDA, respectively, with cross representations from all the three regulators. All the three standing Committees have been meeting at regular intervals. The concerns emanating out of deliberations are being addressed by the concerned regulators.

6.56 The primary responsibilities of the Technical Committee on RBI Regulated Entities include: (i) to review exposure of the Reserve Bank's regulated entities in the capital market with a view to identifying any unusual movements in the exposure of any individual entity or a group; (ii) to decide on the information to be shared with investigative agencies in case of suspected market misconduct; (iii) to develop benchmarks that serve as 'early warning indicators' for emerging irregularities relating to banks' exposure to the capital market; and (iv) to co-ordinate with other regulators based on signals thrown up by the early warning indicators. In case a policy issue of wider interest requires inter-agency co-ordination, the Committee may refer the matter to the RBI-SEBI Technical Committee or the HLCCFCM.

6.57 The conflict of interest in the financial sector might have a negative impact on investor confidence, efficacy of the regulatory framework and, above all, the credibility of the financial service providers. Keeping these in view, the Reserve Bank proposed to constitute a Working Group in consultation with SEBI and IRDA to identify the sources and nature of potential conflicts of interest and make recommendations to avoid such conflicts.

6.58 Various measures initiated by the Reserve Bank have brought about refinement in regulatory norms and supervisory process, while providing increased operational flexibility to financial institutions. It has been the endeavour of the Reserve Bank to put in place best prudential risk management practices and global standards through a transparent and consultative process. The move towards a mechanism for inter-regulatory coordination would provide a further support to the financial system.

### Other Financial Institutions

6.59 Apart from the scheduled commercial banks, other financial institutions in India include regional rural banks (RRBs), cooperative banks, financial institutions (FIs) and non-banking finance companies (NBFCs).

*Regional Rural Banks and Rural Co-operatives*

6.60 The RRBs play an important role in extending credit to the poorer sections of the rural society even as they constitute a small segment with their assets being just about three per cent of total assets of the financial system. Several policy initiatives have been taken over the last few years to strengthen the RRBs and impart greater flexibility to their operations. These include recapitalisation of weak RRBs, deregulation of deposits and lending rates and relaxation in lending norms to non-target groups. With a view to strengthening the RRBs, sponsor banks are being encouraged to amalgamate the RRBs sponsored by them State-wise (see Chapter II for details). The thrust of the measures has been to strengthen RRBs in order to contain any incipient vulnerabilities arising from this sector.

6.61 The rural co-operatives are very important for the rural economy. The Task Force (Chairman: Prof. A. Vaidyanathan) in its Report has made several recommendations to strengthen the short-term rural co-operative credit structure in the country, which have been accepted by the Government of India in principle. The Committee is now looking into the long-term co-operative credit structure for agriculture and rural development (see Chapter IV for details).

*Urban Co-operative Banks*

6.62 The co-operative banking institutions face the challenge of reconciling their democratic character with financial discipline and modernising systems and procedures. Failure of a few co-operative banks in the recent past has had an adverse impact on the entire segment. The Deposit Insurance and Credit Guarantee Corporation (DICGC) had to settle claims for large magnitude over the last few years due to the failure of banks in this sector. The performance of this sector has been a cause for concern with high levels of delinquent loans (see Chapter IV for details). In view of these concerns, a structured approach for the restructuring of this segment has been adopted by the Reserve Bank. As regards scheduled

UCBs, it was decided to draw up a programme for their restructuring in a time-bound manner. Discussions are underway among the various constituencies to institute a package that can ensure their turnaround within a reasonable time frame. At the same time, a cautious approach is being adopted for granting licenses for new banks and branches of urban co-operative banks (UCBs), while focussing on consolidation within the sector through mergers and amalgamations. In addition, initiatives have been undertaken to gradually tighten the prudential regulatory norms and supervision of UCBs. This is being buttressed with improvements in their governance structure through the institution of at least two directors with suitable professional qualifications or adequate banking experience on their boards. In the interest of financial stability, it has been the endeavour of the Reserve Bank that the co-operative banking segment emerges as a sound and healthy network of democratically-controlled and ethically-managed banking institutions, providing need-based quality banking services to the poor and weaker sections of the society. To address the problem of UCBs, MoUs have already been signed with three State Governments, *viz*., Andhra Pradesh, Gujarat and Karnataka. MoUs would facilitate proper and co-ordinated regulation and supervision of UCBs.

6.63 As a prelude to revamping the sector, a Draft Vision Document for UCBs released by the Reserve Bank underscored the importance of a differentiated regulatory regime for the sector. As a follow up to the Draft Vision Document, a medium-term framework has been evolved and MoUs are being signed between the Reserve Bank and the State Governments having a large network of UCBs. As a follow-up measure, the Reserve Bank has constituted a State Level Task Force for Urban Co-operative Banks with representatives from the Registrar of Co-operative Societies of the State, concerned State Governments, the State and National Federation of UCBs as well as from the Reserve Bank to identify and draw up a time bound action plan for the revival of potentially viable UCBs and recommend non-disruptive exit for non-viable ones.

6.64 The Task Force on Revival of Rural Co-operative Credit Institutions was constituted by the Government in December 2004 to propose a suitable revival plan for this sector. The Government has accepted the recommendations of the Task Force 'in principle' and would consult the State Governments before implementing them in the States that show willingness to accept them.

*Financial Institutions*

6.65 Financial Institutions (FIs) are going through a phase of restructuring marked by conversion of two major FIs into banking entities. With a view to strengthening FIs, the Reserve Bank has been focusing on imparting greater operational flexibility, while strengthening the regulatory and supervisory framework. Prudential norms for FIs have been broadly brought on par with commercial banks. Recently, a modified approach for supervisory assessment of these institutions has been introduced, wherein only four FIs, *viz*., NABARD, SIDBI, NHB and EXIM Bank are subjected to full-fledged regulation and supervision by the Reserve Bank. FIs not accepting public deposits, but having asset size of Rs.500 crore and above, are subjected to only limited off-site supervision by the Reserve Bank. At present, the major AIFIs are in the nature of refinance institutions, which do not have significant exposure to direct finance. To that extent, they pose less of a supervisory concern in comparison with FIs undertaking direct finance.

*Non-Banking Financial Companies*

6.66 Non-Banking Financial Companies (NBFCs) encompass an extremely heterogeneous group of intermediaries. The Reserve Bank's supervisory thrust has been on deposit taking companies with focus on protection of depositors' interest. One of the main area of concern has been the substantial growth in deposits of the Residuary Non-Banking Companies (RNBCs), with just two companies accounting for more than 80 per cent of total public deposits held by NBFCs. With a view of enhancing protection available to depositors, the Reserve Bank announced a number of measures to improve the quality of the assets held by RNBCs (See Chapter V for details). The focus of these measures has been to rationalise the norms for investments by RNBCs and lay out a roadmap to phase out discretionary investments by these companies by April 1, 2006. Concurrently, their corporate governance mechanisms has also sought to be strengthened by prescribing 'fit and proper' criteria for evaluating the suitability of directors appointed to their boards. A stricter 'know your customer' (KYC) regime has been introduced which makes RNBCs responsible for their agents also. A new monitoring arrangement for large non-deposit taking companies has also been introduced with a view to strengthening the supervisory focus from the systemic point of view. Reporting mechanism for frauds perpetrated in NBFCs/RNBCs have also been introduced on the

lines of one already in existence for banks. The measures initiated by the Reserve Bank have contributed to further consolidation in this sector.

6.67 Various measures initiated by the Reserve Bank over the last decade-and-a half have significantly strengthened the commercial banking sector in terms of profitability, asset quality and capital position. The focus of various measures during 2004-05 was on further strengthening prudential norms, improving disclosures and governance practices and strengthening of risk management practices. While there has been a significant improvement in the financial position and soundness of commercial banks, the need is felt to streamline the rural and co-operative banking segment and make it efficient conduit of credit delivery. The thrust of policy initiatives by the Reserve Bank/Government of India during the year was on strengthening the rural banking segment.

## 3. Benchmarking of the Indian Banking Sector

6.68 In an increasingly integrated world, disruptions anywhere may have repercussions for the banking system. Weak and unsound financial system may also find it difficult to compete in the global marketplace. It is, therefore, important from the financial stability perspective that banks are sound by international standards. In this section, therefore, an attempt is made to place the Indian banking system in international perspective by comparing various financial and soundness indicators with banks in other countries. The focus of analysis in this Section is on scheduled commercial banks, which constitute more than 75 per cent of total assets of the Indian financial system, and hence, most important from the systemic point of view.

6.69 Significant strengthening of prudential supervision coupled with wide-ranging measures undertaken by the Government and the Reserve Bank has significantly improved the health of the banking sector. After initiation of reforms in the early 1990s, financial performance, especially of PSBs, has improved markedly. Several balance sheet and profitability indicators suggest that the Indian banking sector now compares well with the global benchmarks.[1]

*Funding Volatility Ratio*

6.70 The funding volatility ratio (FVR), an important aspect of banks' balance sheet, measures the extent to which banks rely on volatile liabilities to finance their assets.[2] The smaller the ratio, the better the bank's liquidity profile. Accordingly, it is preferable to have $FVR \leq 0$ (whereby volatile liabilities are either exactly or more than fully covered by liquid assets).

6.71 Globally, the FVR has hovered in the range of -0.71 and 0.11, the ratio being primarily negative for most countries (Table VI.3). In the Indian case, the dependence of the banking sector on volatile liabilities to finance their assets is quite limited. The ratio for various bank groups was in the range of -0.11 to -0.23 at end-March 2005, which compares favourably with the global range.

*Return on Assets*

6.72 The return on total assets (RoA) of banks, defined as the ratio of net profit to total assets, is one of the most widely employed measure of profitability. A bank performing on sound

**Table VI.3: Funding Volatility Ratio – Indian Banks *vis-à-vis* Global Range**

(per cent)

| Bank Group | 2002-03 | 2003-04 | 2004-05 |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| Public sector banks | -0.25 | -0.26 | -0.19 * |
| Private banks | -0.27 | -0.23 | -0.15 |
| Old private banks | -0.27 | -0.30 | -0.23 |
| New private banks | -0.26 | -0.20 | -0.12 |
| Foreign banks | -0.25 | -0.18 | -0.11 |
| Scheduled Commercial Banks | -0.25 | -0.25 | -0.17 * |
| *Memo :* | | | |
| **Global range for 1998: [-0.71 to 0.11]** | | | |

*: Excluding the impact of conversion of a non-banking entity into a banking entity.

Source : IMF Working Paper (2000)[3].

[1] Globally, the financial year for banks typically pertains to the calendar year (January-December), while in India, the financial year spans from the first day of April of a particular year to the last day of March of subsequent year. Hence, cross-country data are not strictly comparable.

[2] The FVR is calculated as FVR=[(VL-LA)/(TA-LA)]: where VL=volatile liabilities (savings and demand deposits), TA=on-balance sheet asset and LA=liquid asset (cash in hand and balances with RBI plus balances with banks and money at call and short notice plus investments in Government and other approved securities).

[3] C. Dziobek, J. Hobbs and D. Martson (2000), Towards a Framework for Systemic Liquidity Policy, IMF Working Paper No.34.

commercial lines is expected to exhibit a healthy RoA. Globally, the RoA of the banking sector for 2004 ranged between -1.2 per cent and 6.2 per cent (Table VI.4). The RoA of SCBs in India for 2004-05 was 0.9 per cent. The ratio was highest for foreign banks, followed by new private sector banks. The RoA of public sector banks was close to the industry level within the country and the international benchmark.

*Net Interest Margin*

6.73 The net interest margin (NIM) of a bank reflects the efficiency of its intermediation process, a lower margin being indicative of higher efficiency. Most countries in developed and even several emerging economies have NIM of around 2 per cent of total assets. Globally, net interest margin for the banking sector generally varies markedly (Table VI.5). In the Indian context, NIM for scheduled commercial banks was 2.9 per cent in 2004-05. Among bank-groups, NIM of new private sector banks was the lowest in 2004-05, while it was slightly higher for old private sector banks. The ratio in the case of public sector banks was close to 3 per cent. Foreign banks had the highest NIM.

**Table VI.4: Return on Assets – Indian Banks *vis-à-vis* Banks in Select Countries**

(per cent)

| Bank Group | As at end-March** | |
|---|---|---|
| | 2004 | 2005 |
| 1 | 2 | 3 |
| Public sector banks | 1.1 | 0.9 * |
| Private banks | 0.9 | 0.8 |
| Old private banks | 1.2 | 0.4 |
| New private banks | 0.8 | 1.1 |
| Foreign banks | 1.7 | 1.3 |
| Scheduled Commercial Banks | 1.1 | 0.9 * |
| *Memo:* | | |
| **Emerging Markets** | | |
| Argentina | -0.3 | 1.0 |
| Brazil | 1.8 | .. |
| Mexico | 1.5 | 2.0 |
| Korea | 0.9 | .. |
| South Africa | 1.2 | 1.3 |
| **Developed Countries** | | |
| US | 1.4 | .. |
| UK | 0.6 | 0.8 |
| Japan | 0.1 | 0.3 |
| Canada | 0.8 | 0.8 |
| Australia | 1.1 | 1.2 |
| **Global range for 2004: [-1.2 to 6.2]** | | |

* : Excluding the impact of conversion of a non-banking entity into a banking entity.
** : Data relating to developed countries relate to the 2003 and 2004, respectively
Source : Global Financial Stability Report (GFSR), various issues.

**Table VI.5: Net Interest Margin – Indian Banks *vis-à-vis* Global Range**

(per cent)

| Bank Group | 2002-03 | 2003-04 | 2004-05 |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| Public sector banks | 2.9 | 2.9 | 3.0 * |
| Private banks | 1.9 | 2.2 | 2.3 |
| Old private banks | 2.5 | 2.6 | 2.7 |
| New private banks | 1.7 | 2.0 | 2.2 |
| Foreign banks | 3.4 | 3.6 | 3.3 |
| Scheduled Commercial Banks | 2.8 | 2.9 | 2.9 * |
| *Memo:* | | | |
| **Global range: [1.2 to 11.6]**** | | | |

* : Excluding the impact of conversion of a non-banking entity into a banking entity.
**: Average over the period 1995-99.
Source : World Bank Working Paper (2003)[4].

*Cost-Income Ratio*

6.74 The cost-income ratio (CIR) is commonly employed as an indicator of bank efficiency. It is calculated as the ratio of operating expense to net total income (total income less interest expense); a lower ratio being indicative of a more efficiently managed bank. Globally, the cost-income ratio for 2004 varied between 0.46 per cent and 0.68 per cent (Table VI.6). According to data reported in *The*

**Table VI.6: Cost-Income Ratio – Indian Banks *vis-à-vis* Global Range**

(per cent)

| Bank Group | 2002-03 | 2003-04 | 2004-05 |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| Public sector banks | 0.5 | 0.5 | 0.5 * |
| Private banks | 0.5 | 0.5 | 0.5 |
| Old private banks | 0.4 | 0.4 | 0.5 |
| New private banks | 0.5 | 0.5 | 0.5 |
| Foreign banks | 0.5 | 0.5 | 0.5 |
| Scheduled Commercial Banks | 0.5 | 0.5 | 0.5 * |
| *Memo :* | | | |
| **Global range for 2004: [0.46 to 0.68]** | | | |

*: Excluding the impact of conversion of a non-banking entity into a banking entity.
Source : The Banker, 2004.

[4] A. Demirguc, L. Laeven and R. Levine (2003), The Impact of Bank Regulations, Concentration and Institutions on Bank Margins, World Bank Working Paper No.3030.

*Banker* 2004, the CIR of the world's largest banks varied markedly from a low of 0.48 to a high of 1.16. However, normally a CIR of around 0.60 is an indicative benchmark. In the case of Indian banks, the CIR in 2004-05 was comparable internationally.

*Non-Performing Loans (NPLs) Ratio*

6.75 A common measure of banks' asset quality is the ratio of gross non-performing advances to gross advances. Banks with adequate credit risk management practices are expected to have lower non-performing loans. Globally, non-performing loan ratio varies widely from a low of 0.3 per cent to 3.0 per cent in developed economies to over 10.0 per cent in several Latin American economies. Consequent upon several measures undertaken, as part of financial sector reforms, non-performing loans ratio of Indian banks declined steadily over the years. The ratio of NPLs to total loans of SCBs, which was at a high of 15.7 per cent at end-March 1997, declined steadily to 5.2 per cent by end-March 2005 (Table VI.7).

**Table VI.7: Non-Performing Loans Ratio – Indian Banks *vis-à-vis* Banks in Select Countries**

(per cent)

| Bank Group | As at end-March** | |
|---|---|---|
| | 2004 | 2005 |
| 1 | 2 | 3 |
| Public sector banks | 7.8 | 5.7 * |
| Private banks | | |
| Old private banks | 7.6 | 6.0 |
| New private banks | 5.0 | 3.6 |
| Foreign banks | 4.6 | 2.8 |
| Scheduled Commercial Banks | 7.2 | 5.2 * |
| *Memo:* | | |
| **Emerging Markets** | | |
| Argentina | 18.6 | 17.1 |
| Brazil | 3.9 | .. |
| Mexico | 2.5 | 2.4 |
| Korea | 1.7 | .. |
| South Africa | 1.8 | 1.8 |
| **Developed Countries** | | |
| US | 1.1 | 0.8 |
| UK | 2.5 | 2.2 |
| Japan | 5.2 | 2.9 |
| Canada | 1.2 | 0.7 |
| Australia | 0.4 | 0.3 |
| **Global range for 2004: [0.3 to 30.0]** | | |

* : Excluding the impact of conversion of a non-banking entity into a banking entity.

**: Data relating to developed countries relate to the 2003 and 2004, respectively.

Source : Global Financial Stability Report (GFSR), various issues.

*Provisioning to NPLs Ratio*

6.76 The ratio of provisioning to NPLs reflects the ability of a bank to withstand losses in asset value. The vulnerability of a bank's balance sheet is mitigated to the extent non-performing loans are fully covered by loan loss provisions. Globally, banks exhibit wide variations in the provisioning to NPLs ratio from less than 10 per cent to over 200 per cent (Table VI.8). However, emerging markets with a high quantum of NPL tend to have higher provisions. The provisioning to NPLs ratio by Indian banks was around 60 per cent at end-March 2005, which was within the global range.

*Capital Adequacy Ratio*

6.77 The capital to risk weighted assets ratio (CRAR) is the most widely employed measure of soundness of a bank. The CRAR of the bank reflects its ability to withstand shocks in the event of adverse developments. The global range for capital

**Table VI.8: Provisions to Non-performing Loans Ratio – Indian Banks *vis-à-vis* Banks in Select Countries**

(per cent)

| Bank Group | As at end-March** | |
|---|---|---|
| | 2004 | 2005 |
| 1 | 2 | 3 |
| Public sector banks | 57.5 | 62.1 * |
| Private banks | | |
| Old private banks | 47.1 | 52.2 |
| New private banks | 53.4 | 48.0 |
| Foreign banks | 61.9 | 62.8 |
| Scheduled Commercial Banks | 56.6 | 60.3 * |
| *Memo:* | | |
| **Emerging Markets** | | |
| Argentina | 102.9 | 104.9 |
| Brazil | 161.7 | .. |
| Mexico | 201.8 | 199.6 |
| Korea | .. | .. |
| South Africa | 82.0 | .. |
| **Developed Countries** | | |
| US | 140.4 | 167.8 |
| UK | .. | .. |
| Japan | 43.6 | 43.9 |
| Canada | 47.7 | 47.6 |
| Australia | 131.8 | 175.7 |
| **Global range for 2004: [7.8 to 266.2]** | | |

* : Excluding the impact of conversion of a non-banking entity into a banking entity.

** : Data relating to developed countries (except Canada) relate to the 2003 and 2004, respectively.

Source : Global Financial Stability Report (GFSR), various issues.

**Table VI.9: Capital Adequacy Ratio – Indian Banks *vis-à-vis* Banks in Select Countries**

(per cent)

| Bank Group | As at end-March** | |
|---|---|---|
| | 2004 | 2005 |
| 1 | 2 | 3 |
| Public sector banks | 13.2 | 12.9 * |
| Private banks | | |
| Old private banks | 13.7 | 12.5 |
| New private banks | 10.2 | 11.8 |
| Foreign banks | 15.0 | 14.1 |
| Scheduled Commercial Banks | 12.9 | 12.8 * |
| *Memo:* | | |
| **Emerging Markets** | | |
| Argentina | 11.2 | 11.6 |
| Brazil | 18.2 | .. |
| Mexico | 14.1 | 13.7 |
| Korea | 11.3 | .. |
| South Africa | 13.3 | 12.9 |
| **Developed Countries** | | |
| US | 13.0 | 13.2 |
| UK | 12.4 | 12.3 |
| Japan | 11.1 | 11.6 |
| Canada | 13.4 | 13.3 |
| Australia | 10.1 | 10.5 |
| **Global range for 2004: [8.8 to 37.1]** | | |

* : Excluding the impact of conversion of a non-banking entity into a banking entity.

** : Data relating to developed countries relate to the 2003 and 2004, respectively.

Source : Global Financial Stability Report (GFSR), various issues.

**Table VI.10: Capital to Asset Ratio – Indian Banks *vis-à-vis* Banks in Select Countries**

(per cent)

| Bank Group | As at end-March** | |
|---|---|---|
| | 2004 | 2005 |
| 1 | 2 | 3 |
| Public sector banks | 5.8 | 5.6 * |
| Private banks | | |
| Old private banks | 6.6 | 6.0 |
| New private banks | 6.8 | 7.7 |
| Foreign banks | 10.6 | 12.3 |
| Scheduled Commercial Banks | 6.3 | 6.3 * |
| *Memo:* | | |
| **Emerging Markets** | | |
| Argentina | .. | .. |
| Brazil | 16.0 | 15.9 |
| Mexico | 11.5 | .. |
| Korea | 4.8 | 4.9 |
| South Africa | 7.0 | 7.4 |
| **Developed countries** | | |
| US | 9.2 | 10.3 |
| UK | 6.8 | .. |
| Japan | 3.9 | 3.9 |
| Canada | 4.4 | 4.7 |
| Australia | 5.9 | 6.0 |
| **Global range for 2004: [2.7 to 20.2]** | | |

* : Excluding the impact of conversion of a non-banking entity into a banking entity.

**: Data relating to developed countries (except Canada and Australia) relate to the 2003 and 2004, respectively.

Source : Global Financial Stability Report (GFSR), various issues.

adequacy ratio lies between 8.8 per cent and 37.1 per cent (Table VI.9). In the Indian context, banks have improved their capital adequacy ratio. The overall capital adequacy ratio of SCBs at end-March 2005 was 12.8 per cent as against the regulatory requirement of 9 per cent, which itself is higher than the Basel norm of 8 per cent. The capital adequacy ratio was broadly comparable with the global range. Most banks, including the systematically important, satisfy the regulatory capital adequacy requirements. The CRAR of 78 banks out of 88 was above 10 per cent. Only two banks had capital adequacy ratio below the regulatory minimum. However, their share in total banking sector assets was less than 0.5 per cent.

*Capital to Asset Ratio*

6.78 The simple capital to asset ratio of banks indicates the extent of leverage enjoyed by the banking sector. The lower the ratio, the higher the leverage and the more vulnerable is the bank. Globally, the ratio varies between 2.7 per cent and 20.2 per cent. The leverage of the Indian banking sector compares favourably with the global range. Bank-group wise, public sector banks had the lowest leverage, while foreign banks had the highest (Table VI.10).

## 4. Financial Markets

6.79 Financial markets play an important role in allocating resources among competing uses and diversifying risk. Financial markets have a direct impact on the health of financial institutions through portfolio holdings. Stability in the financial markets is thus an important condition for the stability of the financial system. The money market, apart from being vital for effective execution of monetary policy, is important for banks to tide over their day-to-day liquidity mismatches. In an open economy, the foreign exchange market assumes critical importance. Heightened volatility in the foreign exchange market can impair the balance sheets of corporates and banks with serious implications for financial stability. As banks hold

large portfolio of Government securities, deep and liquid Government securities market is extremely important for generating liquidity during times of stress. A well-developed Government securities market is also necessary to develop a yield curve, which could provide a credible benchmark for pricing of securities in other markets. Capital markets (equity and private corporate debt) provide additional financing options for companies and investment avenues for savers. They could, therefore, help in reducing the excessive reliance on the banking system. The capital market, by enabling evaluation of companies on a continuous basis through a transparent process, plays an important role in the governance of the corporate sector. In several countries, banks also hold large exposure in the capital market. Conditions in the capital market, therefore, have a direct bearing on the health of the banking institutions in those countries. A sharp decline in share prices could also have implications for the value of collaterals held by banks (Box VI.6). In view of increasing integration of domestic capital markets with international capital markets, unstable conditions in the capital market could also result in disorderly conditions in the foreign exchange market. Developed and efficient capital market would thus reduce the risk of financial instability.

6.80 As disturbances and wide fluctuations in financial markets could have adverse effects on confidence and pose a major threat to financial stability, developments in financial markets need to be continuously appraised with a view to identifying potential risks to financial stability. Financial market data also contain forward-looking information about potential sources of vulnerabilities in the financial system. Market indicators, therefore, could be used to complement traditional analysis based on balance sheet indicators.

6.81 The Reserve Bank continuously monitors developments in the financial markets. Recognising the importance of financial markets in ensuring the stability in the financial system, the Reserve Bank has initiated a wide range of

### Box VI.6: Asset Prices and Financial Stability

The increased incidence and macroeconomic costs of financial instability since the late 1970s in industrial and emerging markets have led to focussed attention on the behaviour of asset prices. The sharp fluctuations in the prices of real and financial assets led to severe losses to the banking sector during the late 1980s. The role of asset markets in influencing financial behaviour has, therefore, gained far greater prominence in recent times.

Crashes in asset markets, and more specifically in property markets, have had more severe impact on financial stability than the equity market. This is mainly because real estate serves as collateral in many economies. Large movements in asset prices could also pose a threat to price stability. Therefore, the role of monetary policy on financial stability *via* its impact on asset prices assumes significance.

The cross-country empirical evidence on asset price cycles and financial stability is limited to housing and equity prices. From a practical standpoint, the issue of various imbalances interacting with each other may have a joint impact on financial stability. A single factor of asset prices by itself may pose only a little risk to financial stability but a combination of events occurring simultaneously (such as rapid credit growth, over-investment and rapid increase in asset prices) may increase the likelihood of financial instability. In general, financial systems encounter crisis when many institutions operate as a 'herd', and collectively fail to foresee a common macroeconomic threat.

Financial intermediaries as well as regulators of the financial system at times fail to take adequate account of emerging imbalances, and remain unprepared due to a false sense of security by the apparent strength of asset prices, as illustrated by the evidence of the East Asian economies in 1997. It, nonetheless, remains true that although high inflation might act as a driver for high asset prices and consequently, financial instability, the converse may not necessarily be true. There are numerous examples of periods when price stability provided fertile ground for excessive optimism.

Another important feature is that one asset price may have an impact on other asset price. For instance, bond price may impact equity and real estate prices. Changes in asset prices may directly impact aggregate demand, feeding through, for instance, *via* investments, corporate balance sheets, liquidity or even through household wealth.

The challenge, therefore, remains for policymakers to enhance risk management practices at private institutions, adopt rigorous supervisory practices and raise the level of transparency in the financial sector.

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measures to develop the money market, the Government securities market and the foreign exchange market along sound lines, while the Securities and Exchange Board of India (SEBI) has been engaged in the development of the capital market. The thrust of reforms in the financial markets has been on removal of restrictions on pricing of assets, building institutional and technological infrastructure, strengthening the risk management practices and fine-tuning of the market microstructure. In order to provide greater focus to market surveillance, a separate Financial Markets Department (FMD) has been constituted in the Reserve Bank which will concentrate exclusively on monitoring of markets. The market development efforts have been supported by appropriate changes in the legal framework to remove structural rigidities and bring improvements in the regulatory design to ensure smooth functioning of markets. With a view to widening and deepening the financial markets, new players and instruments have also been introduced.

6.82 Various reform measures introduced since the early 1990s have changed the character of the financial markets in India. Liquidity and depth in various segments have increased significantly which are important from a financial stability viewpoint. It may, therefore, be useful to assess key financial market developments during 2004-05 from the standpoint of financial stability in a historical perspective.

*Money Market*

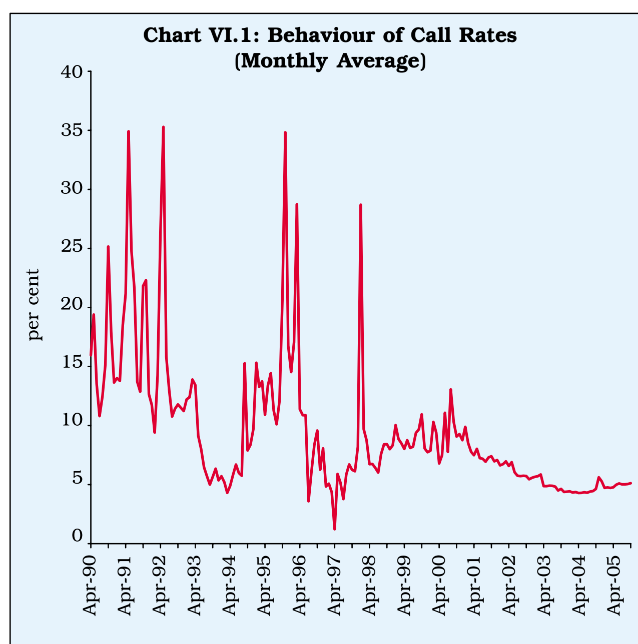
6.83 The call/notice money market, which deals in overnight funds and up to 14 days, is a key segment of the money market in India. The full-fledged Liquidity Adjustment Facility (LAF), which was introduced on June 5, 2000, with a view to modulating short-term liquidity under diverse market conditions, has emerged as an effective instrument to provide a corridor for the overnight call rate movement. This has resulted in stable and orderly market conditions through clear signalling. The LAF combined with strategic open market operations (OMOs) has mitigated shortfalls and excesses of liquidity in the system so as to keep the short-term interest rates reasonably stable.

6.84 Recognising that the large exposure in the call/notice money market by some participants relative to the balance-sheet size had the potential to cause systemic instability and impede the orderly development of other segments of the money market, prudential limits were placed on the borrowing and lending by banks and PDs in the call/notice money market. This was also aimed at reducing the default risk and making the money market safer. With the phasing out of non-bank participants, except PDs, the call/notice money market has evolved as a pure inter-bank market with asset-liability management (ALM) discipline for participants and prudential limits for borrowing and lending. With the proper development of other segments of the money market, non-banks have been able to switch over smoothly from the call/notice money market to the other segments.

6.85 Interest rate deregulation and the consequent flexibility in the market-determined rates exposed the market participants to interest rate risk. This necessitated the development of derivative products for hedging risks by participants. Accordingly, banks and financial institutions were allowed in July 1999 to adopt risk management tools such as forward rate agreements (FRAs) and interest rate swaps (IRS) for their balance sheet management and hedging of interest rate risks as alluded to in Section 2.

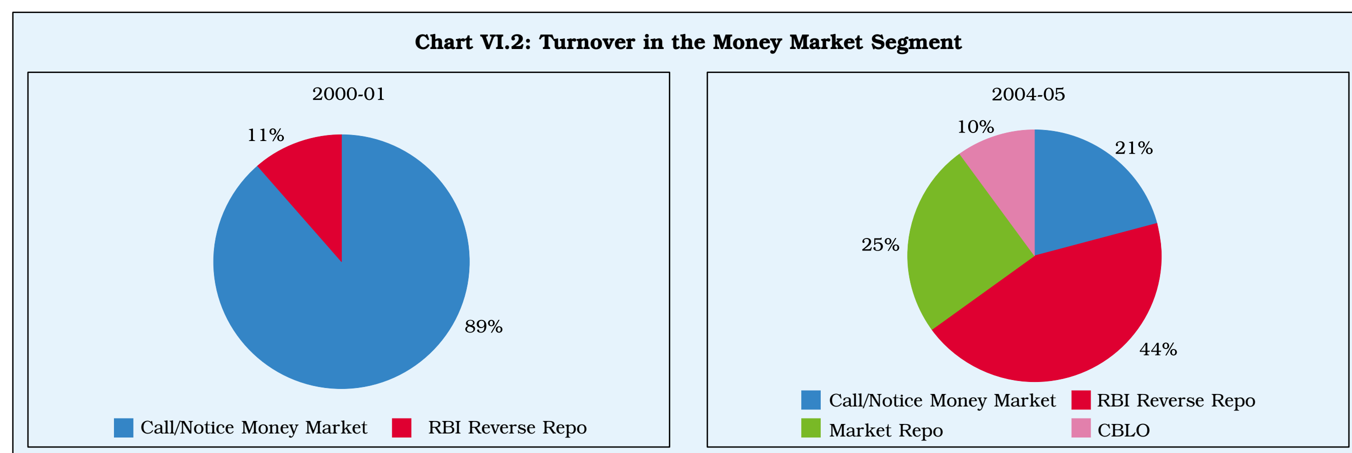
6.86 The Reserve Bank has been emphasising expansion and diversification of the repo market under regulated conditions so that repos become very active in enabling smooth adjustment of liquidity in the system. The essential reason to promote repos as against the call/notice money market was its collateralised nature. It is mandatory to actually hold the securities in the portfolio before undertaking repo operations. To further develop and widen the repo market, the Reserve Bank introduced regulatory safeguards such as delivery *versus* payments (D*v*P) system. The operationalisation of the Negotiated Dealing System (NDS) and the Clearing Corporation of India Ltd. (CCIL) also contributed to the stability of the market. The emergence of deep collateralised market in the form of market repo and collateralised borrowing and lending obligations (CBLOs) *vis-à-vis* uncollateralised call/notice market has helped in reducing the systemic risk in the market. The CBLO market has also added depth to the market. In view of increase in depth and liquidity in the money market, market participants were advised in May 2005 to use only domestic rupee benchmarks for interest rate derivatives. Market participants were, however, given a transition period of six months for using MIFOR as a benchmark, subject to review.

6.87 Various reform measures initiated since the early 1990s have resulted in more orderly conditions and increased liquidity in the money market, which are important from financial stability perspective. The call/notice money markets witnessed orderly conditions during the 1990s, barring a few episodes of volatility (May 1992, November 1995 and January 1998) (Chart VI.1).




6.88 Depth and liquidity in various money market segments has also improved over the years. During the first half of the 1990s, volumes in the call money market remained more or less steady. The turnover increased sharply between 2001-02 and 2002-03, but declined steadily thereafter. The average daily turnover rose from Rs.23,221 crore in 1999-2000 to Rs.30,423 crore in 2000-01 and further to Rs.35,144 crore in 2001-02, before declining to Rs.14,170 crore by 2004-05. Banks' share of borrowing from the call market has declined gradually over the years till 2003-04 because of the overall reduction in the need to borrow in the wake of excess liquidity in the economy, substantial scaling down of CRR and generally higher Reserve Bank reverse repo rate *vis-à-vis* those in other money market segments, viz., call market, repo and CBLO. An obvious consequence of this situation has been higher placement of funds in reverse repo window of the Reserve Bank. Thus, in a scenario of shrinking turnover in the call money market, PDs, whose demand was guided by the volume of market borrowing programme, emerged as the largest borrower as a class in this market till 2003-04. The situation changed after 2004-05 when banks emerged as the largest borrower as a class following pick-up in credit in the economy, increase in CRR maintenance and reduction in market borrowing programme of the Government following which borrowing by PDs declined. On the lending side, the share of non-bank entities declined during 2001-02 and 2002-03, following the commencement of the process of their phasing out from call/notice market. Thereafter, their share increased during 2003-04 in relative terms essentially because of market shrinkage in the aggregate turnover of call market. The share of the banking sector has been rising particularly from September 2004 till date, on account of gradual phasing out of non-banks from the call/notice money market. On the whole, while the relative share of uncollateralised call/notice money market has declined, that of repo, market repo and CBLO has improved significantly over the years (Chart VI.2).

6.89 A sharp increase was also observed in volumes in the FRAs/IRS market. The notional



principal amount under FRA/IRS contract moved up from Rs.2,065 crore during the fortnight ended January 14, 2000 to Rs.13,15,306 crore in September 2005.

6.90 Money market conditions remained broadly stable during 2004-05, reflecting comfortable liquidity conditions. The average daily call money borrowing rates remained below the reverse repo rate, barring the period from mid-September 2004 to December 2004, when the call rates ruled above the reverse repo rate. The call rate firmed up to rule above the repo rate on some occasions in November 2004 due mainly to tightening of liquidity conditions. The injection of liquidity by the Reserve Bank under the LAF assuaged the market sentiment (Chart VI.3). The difference between the uncollateralised call money rate and the collateralised repo rate is an indication about counterparty credit risk, which is important from the standpoint of orderly conditions in the market. The uncollateralised call rate ruled below or close to the collateralised reverse repo rate, other than on a few occasions, suggesting that perception of money market participants about counterparty credit risk remained stable. However, volatility in the call money market (measured by co-efficient of variation) was somewhat higher at 0.10 per cent during 2004-05 than 0.06 per cent in the preceding year mainly on account of fluctuations in call rates during November-December 2004.

6.91 In the face of large capital flows, a new facility in the form of Market Stabilisation Scheme (MSS) was instituted in April 2004. The MSS, by absorbing liquidity of a more enduring nature by way of sterilisation, provided greater flexibility to the Reserve Bank in managing market liquidity and imparted stability to the financial markets.

*Foreign Exchange Market*

6.92 With the gradual opening of current and capital account transactions in the 1990s, capital flows have had a direct bearing on the stability of the exchange rate. There have been intermittent periods of excessive capital inflows, followed by episodes of ebbing of capital inflows and subsequent recovery in capital inflows. On the whole, however, the foreign exchange market witnessed fairly stable conditions during the 1990s and from 2000-01 to 2004-05, barring some occasions, when the market came under pressure. Effective policy responses, however, were able to quickly restore the orderly conditions in the market. The coefficient of variation of the Indian Rupee against the US dollar, which is a measure of volatility, moved in a narrow range, except on a few occasions, *i.e.*, between September 1995-February 1996 and again in mid-October 1997 to April 1998 (Chart VI.4).

6.93 As a result of various liberalisation measures, the foreign exchange market in India grew rapidly during the 1990s. The turnover, both in merchant and inter-bank segments, increased manifold between 1990-91 and 2004-05. The ratio of inter-bank to merchant turnover ratio declined from 8.5

**Chart VI.3:Call Rate, Repo Rate and Reverse Repo Rate**

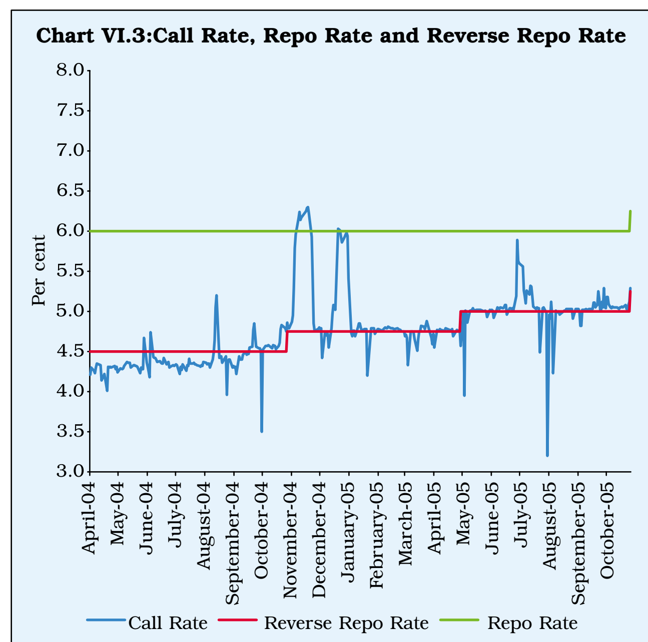
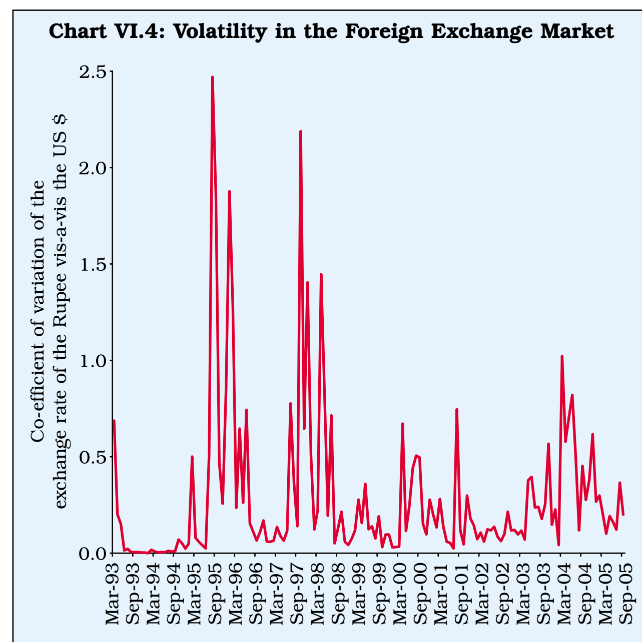



**Chart VI.4: Volatility in the Foreign Exchange Market**



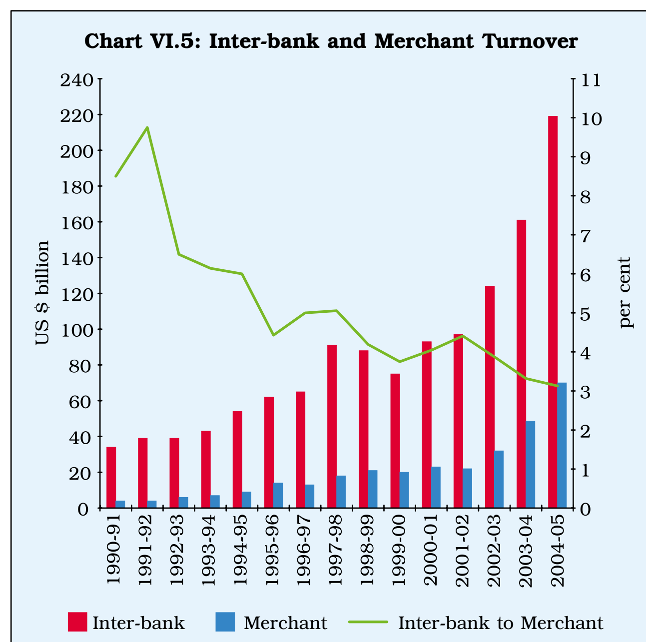



**Chart VI.5: Inter-bank and Merchant Turnover**

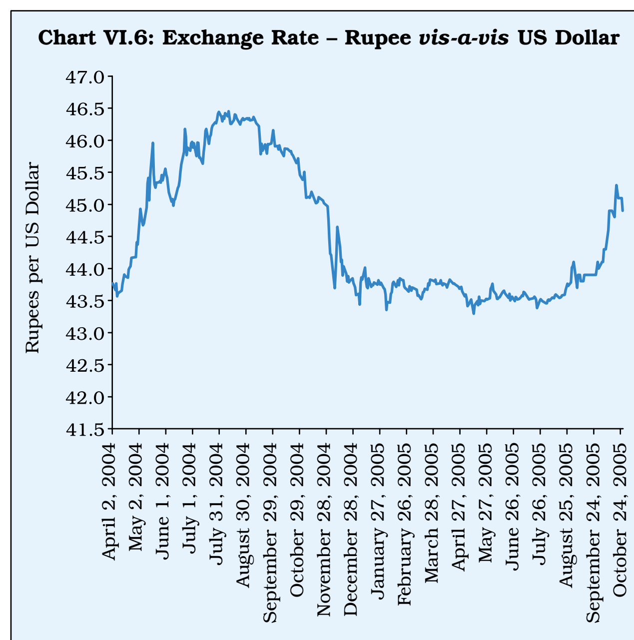



**Chart VI.6: Exchange Rate – Rupee *vis-a-vis* US Dollar**

in 1990-91 to 3.1 in 2004-05 (Chart VI.5). A Bank for International Settlements survey of the foreign exchange and derivatives market activity (2004) reveals that India's share in global foreign exchange turnover increased from 0.1 per cent in 1998 to 0.2 per cent in 2001 and further to 0.3 per cent in 2004.

6.94 The conditions in the foreign exchange market remained broadly stable during 2004-05. The foreign exchange market witnessed excess supply conditions in April 2004, driving the forwards into discounts. However, turbulence in the equity market in mid-May leading to outflows by FIIs and rising global oil prices exerted some pressure on the Rupee. The two-way movement in the Rupee encouraged corporates to hedge foreign currency exposures and moved forwards into premia in June 2004. The pressure on the Rupee started easing from September 2004 reflecting increased FII flows, step-up in trade credit, higher recourse to ECBs and surge in export receipts. Despite outflow of FII investment in January 2005, the Rupee remained strong due to weakening of the US dollar in the international market.

6.95 The Rupee remained firm against the US dollar between end-March 2005 and mid-May 2005, despite outflows by FIIs and higher merchandise trade deficit. Subsequently, however, the Rupee depreciated due to strengthening of the US dollar in the international markets. With the revaluation of Chinese Yuan on July 21, 2005, there were appreciation pressures that continued till the third week of August. Reflecting the impact of soaring oil prices, which touched a peak of US $ 70.80 per barrel in the international market with the hurricane Katrina disrupting oil and gas production in the Gulf of Mexico, the Rupee depreciated to Rs. 44.12 per US dollar on September 1, 2005. The Rupee again came under pressure from the first week of October 2005 in the face of sharp increase in current account deficit, FII outflows and strengthening of the US dollar in the international markets (Chart VI.6). Forward premia in general declined in tandem with narrowing of interest differential following the further hikes in the US interest rate.

6.96 The turnover in the foreign exchange market (both merchant and inter-bank), which had dropped sharply to US $ 223.6 billion in April 2005 (from US $ 305.7 billion in March 2005), recovered in the subsequent months to reach US $ 349.3 billion in August 2005. It fell again to US $ 292.8 billion in September 2005. The ratio of inter-bank to merchant turnover hovered within a range of 2.32 to 2.60 during the first half of the current financial year, reflecting orderly market conditions. The Clearing Corporation of India (CCIL) has started forex segment operations with settlement of spot and forward inter-bank US dollar-Rupee deals from November 2002. Subsequently, from February 2004, CCIL commenced settlement of Cash and Tom deals.

*Government Securities Market*

6.97 Various reform measures have imparted liquidity and depth to the Government securities market. With the aligning of coupons on

Government securities with market interest rate, the Government securities market has gradually widened with the participation of several non-bank players. Presently, apart from banks and insurance companies, investor base includes private corporate sector, mutual funds, finance companies as also individuals. The recent decision to allow trading at negotiated dealing system (NDS) through order-driven system is expected to give a further impetus to the development of the Government securities market.

6.98 A policy of reissuance/reopenings through price-based auctions (as opposed to earlier yield-based auctions) was introduced in 1999 to improve market liquidity and enable the emergence of benchmark securities in the market. However, the ability to 'reissue' or 'reopen' loans is limited by the maximum outstanding amount that is perceived as 'manageable' from the viewpoint of redemption.

6.99 There is now a wide range of securities available to market participants for investment and hedging of financial risk. These include 364-day, 182-day, 91-day and 14-day Treasury Bills. In the long-term segment, the *vanilla* or the fixed coupon bonds are the most commonly used instruments. Floating Rate Bonds (FRBs) were introduced in September 1995. Two FRB issues were made in November and December 2001, with tenors of 5 years (Rs.2,000 crore) and 8 years (Rs.3,000 crore), benchmarked to the 364-day Treasury Bill yield. FRBs were also issued during 2002, 2003 and 2004. At present, the outstanding amount of FRBs stands at Rs.46,000 crore. In July 2002, the Government issued a 10-year loan with embedded call and put options exercisable on or after 5 years from the date of issue. The Reserve Bank is also actively pursuing the creation and development of the Separate Trading of Registered Interest and Principal of Securities (STRIPS) market. The enabling legal provisions for STRIPS will come into effect with the passage of the Government Securities Bill. In the interregnum, the Reserve Bank has been undertaking issuance of securities to realign the coupon payment dates with four identified dates to create a critical mass for issue of coupon STRIPS. A large number of securities, by facilitating better risk-return trade-off, have enhanced the stability of the market.

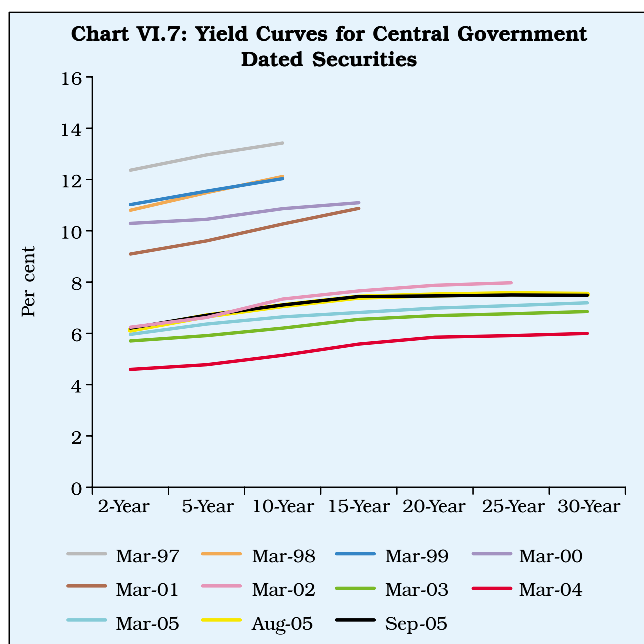
6.100 Major institutional developments include the establishment of a system of well-capitalised primary dealers (PDs) committed to participate in primary auctions and operationalisation of the Clearing Corporation of India Limited (for clearing and settlement of transactions in Government securities). The delivery versus payment system (DvP) introduced in 1995 for the settlement of transactions in Government securities has mitigated the settlement risk and facilitated the growth in volume of transactions in the secondary market for Government securities. The technological developments include screen-based trade reporting system with the use of VSAT communication network complemented by a centralised Subsidiary General Ledger (SGL) accounting system. The NDS, operationalised from February 2002, provides on-line electronic bidding facility in the primary auctions of Central/State Government securities, Open Market Operations (OMO)/LAF auctions, screen-based electronic dealing and reporting of transactions in money market instruments, including repo. It facilitates information on trades with minimal time lag. A screen-based trading system was operationalised in the NDS from August 1, 2005.

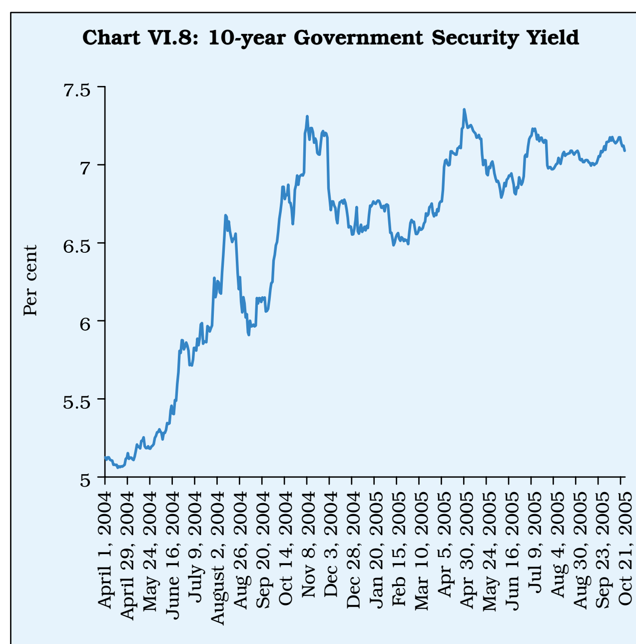
6.101 As a result of a series of structural and institutional reforms, a deep, wide and vibrant gilt market has emerged. The character of the Government securities market has changed from a captive to a broad-based market. The Reserve Bank's absorption of primary issues has come down drastically. The increased depth and liquidity of the Government securities has enabled the Reserve Bank to pursue its monetary policy through marked-based instruments. The secondary market turnover of Government securities in India has been rising steadily, reflecting increased liquidity in the market and increased trading activity by market participants. However, the reversal in the declining trend of interest rates has had an impact on the trading activity in respect of outright transactions (Table VI.11).

**Table VI.11: Secondary Market Transactions in Central Government Securities**

(Amount in Rs. crore)

| Year | Outright | Repo | Total |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 1999-2000 | 4,56,493 | 82,739 | 5,39,232 |
| 2000-01 | 5,72,145 | 1,25,976 | 6,98,121 |
| 2001-02 | 12,11,941 | 3,61,932 | 15,73,873 |
| 2002-03 | 13,78,160 | 5,63,515 | 19,41,675 |
| 2003-04 | 16,83,711 | 9,55,533 | 26,39,244 |
| 2004-05 | 11,60,632 | 15,62,990 | 27,23,622 |
| 2005-06 (Apr.-Sep.) | 5,51,162 | 7,73,211 | 13,24,373 |




6.102 The yield curve has also emerged over the years. Up to 1997-98, the curve was limited up to 10 years. Gradually, with the elongation of maturity of Government bond issuance, the yield curve has got extended up to 30 years (Chart VI.7). Government securities are now emerging as a benchmark for pricing private debt instruments.

6.103 The Government securities market during 2004-05 displayed firm conditions. The yield on 10-year benchmark security hardened steadily from 5.15 per cent at end-March 2004 to 6.68 per cent by August 12, 2004. Hardening of the yield during this period reflected the upturn in the international interest rate cycle, rise in international crude oil prices and increase in inflation rate. After sliding to 5.91 per cent on September 4, 2004, the yield edged up to peak at 7.31 per cent on November 8, 2004 due to tightening of liquidity conditions and increase in CRR in September 2004. Although the yield softened thereafter to 6.65 per cent on March 31, 2005, it was still higher by 150 basis points from the end-March 2004 level. The yield moved up sharply to touch 7.35 per cent on April 30, 2005 and remained range-bound. Yields, however, have since stabilised, *albeit* at higher levels (Chart VI.8).

6.104 The hardening of sovereign yield during 2004-05 significantly impacted the trading profits of financial institutions, especially scheduled commercial banks (see Chapter III for details). The hardening of yield combined with increased credit demand from industry and other sectors led to significant portfolio adjustments by banks (see Chapter III for details). Banks have been able to weather the upturn in interest rate cycle so far, although the hardening of yield resulted in decline in profits from securities trading and higher marked to market depreciation. The increase in yield induced banks to take various steps to immunize the interest rate risk inherent in their investment portfolio. Many banks have made a significant proportion of investments immune to future interest rate risk by shifting SLR securities to 'HTM' category, by incurring a one-time cost upfront. There has also been a conscious effort by some banks to reduce the residual maturity of their investments portfolio.

## *Capital Market*

6.105 From a financial stability perspective, it is necessary to have a balanced financial system whereby both financial markets and financial institutions play an important role. Notwithstanding a long history, the capital market in India remained on the periphery of the financial system. However, a series of reforms introduced since the early 1990s has brought about a structural transformation of the capital market.

6.106 Free pricing in the primary capital market has allowed corporates to price their issues based on their fundamentals and conditions in the market. In the secondary market, the move to an electronic trading system has resulted in transparency in trades, better price discovery and lower transaction costs. The efficiency of the market has improved through faster execution of

trades. The operational efficiency of the stock market has also been strengthened through improvements in the clearing and settlement practices and the risk management process. Almost the entire delivery of securities now takes place in dematerialised form. During the last ten years or so, there has been no instance of postponement or clubbing of settlements at two major stock exchanges (BSE and NSE), despite defaults by brokers. The cases of bad deliveries have become almost nil. The setting up of trade/ settlement guarantee funds has considerably reduced the settlement risk. The integrity and transparency of the market has improved with the wider availability of information regarding the corporates' performance at quarterly intervals, which has improved the price discovery process. The trading and settlement framework in the Indian stock exchanges now compares favourably with the international best frameworks.

6.107 The resources raised by the private sector companies from the public issues equity market rose sharply in the first half of the 1990s to touch a peak of Rs.26,417 crore in 1994-95 (Chart VI.9). The resource mobilisation from the public issues market, however, tapered off in the second half of the 1990s due to a variety of reasons such as high premium charged by some companies not justified by their fundamentals, disappearance of some companies after raising resources, tightening of disclosure norms, slowdown of the industrial sector and subdued secondary market.

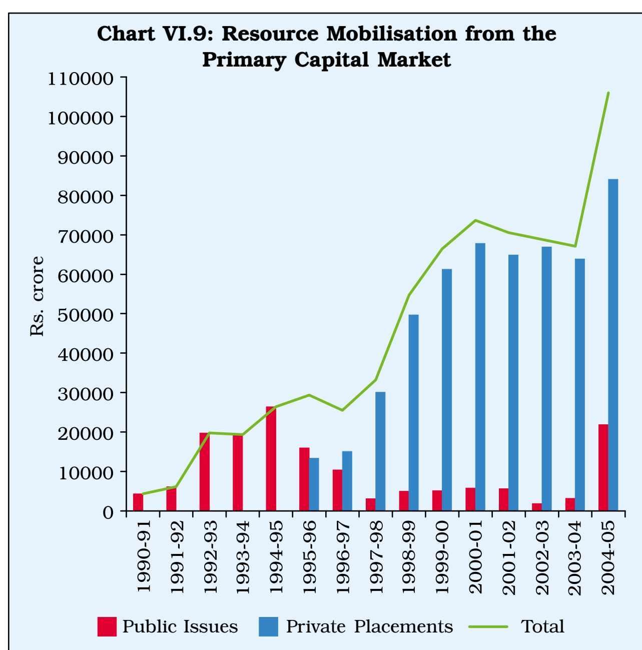



**Table VI.12: Mobilisation of Resources from the Primary Capital Market**

(Amount in Rs. crore)

| Item | 2003-04 | 2004-05 |
|---|---|---|
| 1 | 2 | 3 |
| Prospectus and Rights Issues | 7,851 | 21,892 |
| Private Placements | 63,901 | 84,052 |
| **Total** | **71,752** | **1,05,944** |

During this period, however, the private placement segment started gaining prominence. Although this segment lacked transparency, it provided an alternative mechanism for raising resources by the corporates in a cost effective and time saving manner. As the unbridled growth of the private placement segment, to which several banks also had significant exposure, posed some systemic risk, the SEBI brought this segment under its regulatory purview to ensure its orderly growth.

6.108 The financing conditions, however, improved significantly during 2004-05 with the revival of the public issue segment. Resource mobilisation from the primary market by way of public issues increased by three times during 2004-05. All the equity issues generated a good response. Resources raised by way of equity issues constituted 82.3 per cent of total resource mobilisation through public issues during 2004-05 as compared with 43.7 per cent in the previous year. Resource mobilisation from the private placement market also increased (Table VI.12).

6.109 Although the share of capital market related instruments in total funds raised by non-financial public limited companies has remained more or less unchanged in the post-reform period *vis-à-vis* pre-reform period, the share of financial intermediaries has declined significantly. This is a significant development from the financial stability perspective as this reflects the reduced reliance of the corporates on the banking sector. Another important development has been the deleveraging of balance sheets by the corporate sector through issuance of equity and internal generation of funds, as reflected in the decline in the debt-equity ratio. The ratio, which was above 90 per cent in the early 1990s, steadily declined to 57.0 per cent by end-March 2004. This is reflected in the sharp decline in the average debt-equity ratio in the post-reform period (Table VI.13).

**Table VI.13: Sources of Funds for Non-Government Non-Financial Public Limited Companies**

(per cent)

| Item | 1984-85 to 1992-93 | 1993-94 to 2003-04 |
|---|---|---|
| 1 | 2 | 3 |
| Share of Internal Sources in Financing | 32.5 | 44.5 |
| Share of External Sources in Financing | 67.5 | 55.5 |
| *of which :* | | |
| Capital Market Related Instruments (Debentures and Equity Capital) | 18.8 | 17.6 |
| Shares of Financial Intermediaries | 21.7 | 18.1 |
| Debt-Equity Ratio (including debentures and long-term borrowings) | 90.7 | 65.2 |

Source : Finances of Public Limited Companies, Reserve Bank of India Bulletin (various issues).

6.110 The reduced leverage has reduced the vulnerability of the corporate sector to shocks (Box VI.7).

6.111 Mutual funds are an important vehicle for investment by retail investors and thus play an important role in the development of the capital market. Growing investor interest in the equity market could also be gauged from the resource mobilisation by mutual funds. Although net resource mobilisation by mutual funds was of a much lower order during 2004-05 as compared with the previous year, it was entirely on account of net outflows from income/debt-oriented schemes. Net inflows in the growth/equity-oriented schemes were more or less of the same order as that of the previous year (Table VI.14). Increased mobilisation from the primary capital market and continuing interest by investors in the growth-

**Box VI.7: Corporate Leverage and Financial Stability**

It is widely acknowledged that the quality of loan portfolios of financial institutions is directly dependent upon the financial health and profitability of their borrowers, particularly the non-financial enterprise sector. The key role played by the corporate sector in exacerbating financial distress in Korea during the Asian crisis is well documented. Following from this episode, there has been a renewed interest as to whether and how the corporate sector can engender financial stability.

Recent theoretical and empirical work on the corporate sector and financial distress has examined how firms respond to macro-economic shocks and whether this response, in turn, impacts the financing and investment decisions of the corporate sector and through these decisions, the macro economy. A major part of this literature has focused on two aspects that are key to ensuring the repayment of corporate obligations: corporate net worth and cash flows, and marketable collateral. The first approach, the “financial accelerator” approach emphasises the role of micro-economic rigidities that occur due to informational asymmetries, where corporate net worth plays the role of collateral and helps to overcome incentive problems in lending. In these studies, macro-economic shocks affect the real sector through corporate balance sheet effects. The alternate approach, known as the “collateral” approach, stresses macro-economic rigidities in the form of underdeveloped domestic financial markets and paucity of internationally acceptable collateral. In these studies, crisis susceptibility is driven by shortfall in collateral need to obtain domestic and foreign financing.

Through these two channels of corporate balance sheets and collateral, the corporate sector becomes susceptible to shocks. Levels of corporate leverage influence the ability of firms to withstand these shocks. The more leveraged and less liquid the corporate sector, the greater the vulnerability to shocks.

Prolonged distress in the corporate sector negatively affects firms’ repayment capacity and credit-worthiness and results in a worsening of bank asset quality, and ultimately, results in higher non-performing loans (NPLs). A macro-economic shock reduces corporate equity and increases non-performing loans, with the size of the increase depending on the composition of corporate debt *(i.e.,* importance of non-bank financed debt).

Available research in this area points to a strong link between macro-economic developments and corporate leverage and between the corporate leverage and the probability of financial crises. Stone and Weeks (2001), for example, analyse the financial crises of the 1990s by dividing them into two stages: pre- and post-crisis equilibria. In the first stage, poor corporate governance, accelerated capital inflows and in many cases, overheating of the economy results in a build up of corporate balance sheet stress, making the economy susceptible to financial shocks. A shock, when it occurs, triggers a sudden crisis, or a shift into a new contractionary equilibrium. Cross-country research at the IMF (IMF, 2003) comprising 47 countries and ten years of annual data finds a lagged, but significant effect of leverage on NPL. The point estimate indicates that a 10 percentage point increase in corporate leverage, raises banks’ non-performing loans by 1.6 percentage points, on average, with a one-year lag. Empirical results suggest that both corporate leverage and aggressive bank lending can be significant indicators of the probability of a crisis. The econometric research indicates that financial crises have a greater and more consistent negative impact on corporate sectors in emerging as compared with advanced economies.

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Davis, E.P. and M.R.Stone (2004), ‘Corporate Financial Structure and Financial Stability’, *Journal of Financial Stability*, Vol. 1, 65-91.

Stone, M.R. (2000), ‘The Corporate Sector Dynamics of Systemic Financial Crises’, IMF Working Paper No.114, Washington DC.

Stone, M.R. and M.Weeks (2001), ‘Systemic Financial Crises, Balance Sheets and Model Uncertainty’, IMF Working Paper No.162, Washington DC.

**Table VI.14: Funds Mobilised by Mutual Funds – By Type of Scheme**

(Rs. crore)

| Scheme | 2003-04 | | 2004-05 | |
|---|---|---|---|---|
| | Gross Mobilisation | Net Mobilisation@ | Gross Mobilisation | Net Mobilisation@ |
| 1 | 2 | 3 | 4 | 5 |
| A. Income/Debt Oriented Schemes | 5,60,972 | 39,603 | 7,98,674 | -5,244 |
| B. Growth/Equity Oriented Schemes | 26,695 | 7,219 | 37,280 | 7,100 |
| C. Balanced Schemes | 2,523 | -13 | 3,755 | 345 |
| D. Fund of Funds Scheme | 1,189 | 777 | 1,827 | 59 |
| **Total** | **5,91,379** | **47,586** | **8,41,536** | **2,260** |

@ : Net of redemptions.

oriented equity schemes is indicative of growing investor confidence in the equity market, suggesting that the investor is becoming increasingly willing to provide risk capital, which would enable corporates to keep the leverage within the reasonable limit.

6.112 In line with the general hardening of yield on Government securities and firming up of other interest rates, the cost of funding increased with the yield on 5-year triple 'A' rated corporate bond increasing from 5.61 per cent at the beginning of the year to 7.14 per cent by end-March 2005 and further to 7.17 per cent by end-August 2005. However, the yield spread between 5-year triple-A rated corporate bond and 5-year Government security narrowed (Chart VI.10). More or less, the same trend was observed in respect of 10-year triple A rated corporate bond and 10-year Government security (Chart VI.11). This is indicative of decline in uncertainty and stable outlook about counterparty credit risk, which is important from the financial stability perspective.

**Chart VI.10: 5-year Government Security and Corporate Bond Yields**

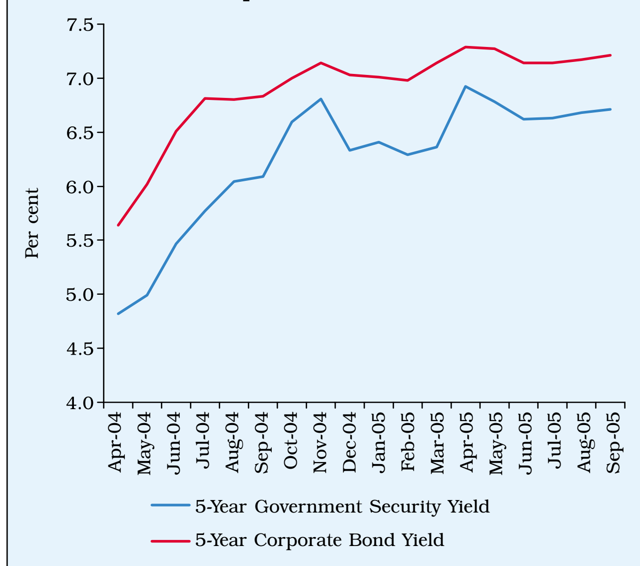
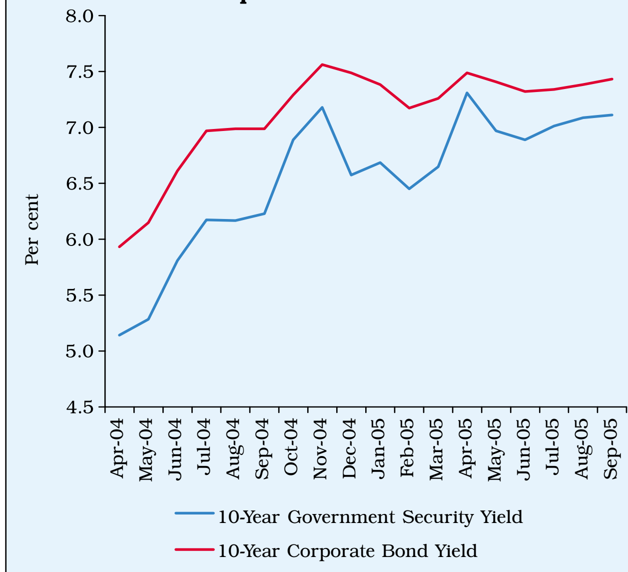



**Chart VI.11: 10-year Government Security and Corporate Bond Yields**




6.113 Conditions in the secondary market remained extremely buoyant during 2004-05 and first half of 2005-06 with the stock indices reaching new highs. The rally in the secondary market was widespread encompassing mid-cap and small-cap companies from all sectors. The hardening of interest rates did not possibly impact the equity valuations as investors focussed on improved growth prospects and expected increase in corporate earnings. Recently, the domestic stock market has witnessed some correction due mainly to profit booking at higher levels, slowdown in FII inflows, downtrends in the major industrial markets and declaration of lower than expected second quarter

Chart VI.12: Movements in the Stock Market Indices

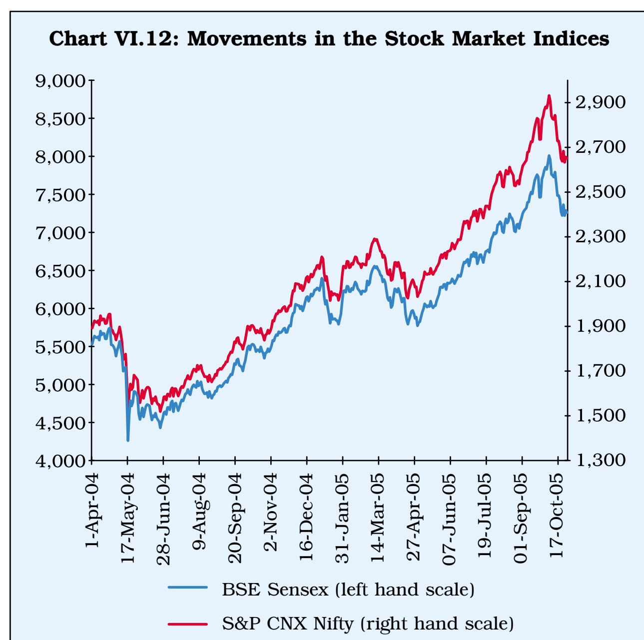
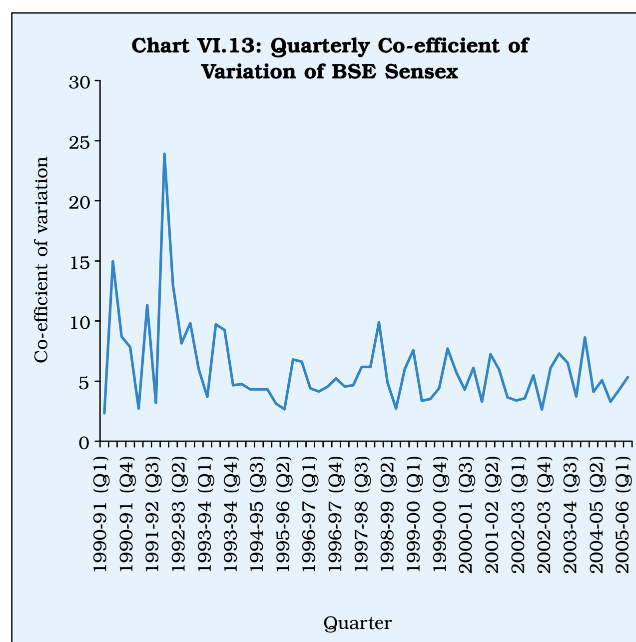



Chart VI.13: Quarterly Co-efficient of Variation of BSE Sensex




results by some companies which dampened the market sentiment. (Chart VI.12).

6.114 As a result of various measures, the liquidity in the stock market has improved over the years as reflected in the traded value and turnover ratios (Table VI.15).

6.115 The volatility in the Indian stock markets has declined in recent years (Chart VI.13). Although volatility in the stock markets increased during 2004-05 and first half of 2005-06, it was mainly due to a sharp decline in share prices in mid-May 2004. The steady decline in volatility over the years would suggest that investors are becoming less concerned about the uncertainty of stock prices in the future, which is important from the point of view of stability of the market.

6.116 With the progressive integration of various segments of financial markets, the Reserve Bank keeps a close watch on the activity in the equity market to guard against any possible spillover of disturbances to other financial markets. Accordingly, when the stock market turned volatile on May 17, 2004, the Reserve Bank closely monitored major settlement banks and stock exchanges concerned to ensure that the payment obligations in the exchanges were met. The Reserve Bank also announced publicly its readiness to provide sufficient liquidity to banks for meeting their payment obligations and intra-day requirements so that the payments system was carried out smoothly. A Task Force was constituted under the Executive Director, Financial Markets Committee for providing clarifications and liquidity assistance. The Financial Market Committee decided that as soon as there is a circuit breaker in the stock markets, there should be a trigger within the Reserve Bank to monitor different market segments and ensure adequate liquidity.

**Table VI.15: Indicators of Stock Market Liquidity**

| Year | Traded Value Ratio | Turnover Ratio |
|---|---|---|
| 1 | 2 | 3 |
| 1995-96 | 19.14 | 39.7 |
| 2000-01 | 13.83 | 50.6 # |
| 2004-05 | 53.68 | 98.1 # |

#: Market capitalisation is estimated assuming that the BSE accounts for 95 per cent of all-India market capitalisation.

Note : Ratios are worked out on the basis of all-India turnover.

Traded value ratio: ratio of turnover to GDP.

Turnover ratio: ratio of turnover to market capitalisation.

## 5. Payment and Settlement Systems

6.117 A secure and efficient payment and settlement systems is a major pre-condition for the stability of the financial system. An assessment of financial stability, therefore, needs also to focus on the functioning of the payment and settlement systems. The area of large-value payments which involve systemic risk is particularly important. It is the large-value payment systems that link various financial institutions through intra-locking of claims. A disturbance in large-value systems in any form could

### Box VI.8: Sources of Systemic Risk

An important facet of the concept of financial stability has been the issue of systemic risk. A systemic risk is the risk that affects several institutions or markets at the same time. The process of systemic risk comprises two elements: shocks and the propagation mechanism. Systematic shocks such as a general business cycle fluctuation can have a large and significant effect on financial systems. The other key aspect of the process is the propagation mechanism that includes interactions between real and financial sectors. For instance, a cyclical downturn may trigger a wave of failures by corporate firms, not only rendering many loans by banks as non-performing, but also inducing them to cut back lending. This, in turn, can deepen the cyclical downturn.

Systemic risk can impinge on institutions, financial markets and the payment system. The most common systemic risk occurs in banking, wherein due to their high leveraging, banks become susceptible to 'runs'. On occasions, such runs can spill over to other parts of the sector, potentially leading to a full-scale panic. There are two distinct channels through which contagion in banking markets work: the 'real' channel and the 'informational' channel. The former relates to the potential for 'domino effects' through real exposures in the inter-bank market and/or in payment systems. The information channel, on the other hand, relates to contagious withdrawals when depositors are imperfectly informed about the shocks affecting banks.

The second source of systemic risk occurs through financial and commodities markets. The two markets in which risk can have serious repercussion are the foreign exchange and equity markets. These apart, instability in the real estate market has been an important factor for the transmission of distress in the financial system, as was evident from the East-Asian crisis. A sudden and sharp decline in asset values could lead to defaults. It could have a serious impact on consumer and business confidence and, thus, on aggregate demand with serious implications for the economy as a whole.

Systemic risk in forex markets is typically of two main types. The first type, usually described as a currency crisis, takes place when market participants lose confidence in the sustainability of the currency's current exchange rate and seek to reduce their exposure denominated in that currency. The second type of exchange market instability occurs in a floating exchange rate situation, when the amplitude of fluctuations in the market exchange rate exceeds that which can be explained on the basis of underlying fundamentals. Systemic risk in equity markets is often traced to speculative excesses.

Another significant source of instability lies in fluctuations in commodity prices. The most striking example of this has been the two rounds of oil price increases in the 1970s. More recently, continually increasing global demand and lags in exploiting new supply sources have kept oil prices high and at elevated levels. In addition, speculative positions, which often react disproportionately to minor supply shocks, have imparted a great deal of volatility in oil prices. Continuing rise in oil prices poses a significant threat, since a permanent increase of US $5 per barrel in crude oil prices is estimated to increase inflation by 60-70 basis points in major developing countries (IMF, 2004).

The third source of systemic risk is the cascades, which occur due to inter-linkages among banks in the payment system. Given the inter-locking of claims of various participants, the payment network has become one of the most likely channels of transmission of a generalised shock throughout the financial system. As a result, central banks in most countries take a keen interest in regulating the payment and settlement system. Most countries have switched over to Real Time Gross Settlement system in the face of vulnerabilities in order to contain the potential for systemic risk. At the same time, the phenomenal growth in banks' off-balance sheet activities, through the use of derivative instruments, has meant that credit exposures in settlement systems have increased at a much faster pace than the real economic activity. These exposures, which often amount to a multiple of a bank's capital, have become an important concern in the quest for containing systemic risk.

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De Bandt, O. and P. Hartmann (2000), 'Systemic Risk: A Survey', ECB Working Paper No. 35, Frankfurt.

International Monetary Fund, *Global Financial Stability Report*, April 2004.

generate a serious systemic risk and threaten the stability of the financial system (Box VI.8).

6.118 It has been the endeavour of the Reserve Bank to reduce the risks associated with payment and settlement systems. A wide range of measures have been initiated to improve the payment and settlement systems in recent years (see also Chapter II). As a part of the initiative, the Board for supervision and regulation of Payment and Settlement Systems (BPSS) has been constituted. The BPSS is expected to provide an impetus to closer monitoring of all types of payment and settlement systems, especially the systemically important ones, which would act as an early warning system for the financial sector as a whole. As a follow-up to the process, a new department – Department of Payment and Settlement Systems – has been constituted to provide an exclusive focus on the smooth functioning of the payment and settlement system as well as provide secretarial support to the BPSS.

6.119 A major development from the perspective of financial stability was the introduction of the RTGS in large-value funds transfer systems. As final settlement of individual inter-bank funds transfers is effected on a gross real time basis during the processing day, a major source of systemic risk in the financial system has been reduced substantially. RTGS transactions, both in terms of volume and value, have increased sharply in a short span of its operation (Table VI.16). The value of transactions

**Table VI.16: Paper-based *versus* RTGS Transactions**

(Amount in Rs. crore)

| Quarter Ended | Instrument-based Inter-bank transactions | | RTGS Inter-bank transactions | | RTGS Customer transactions | | Total RTGS transactions | |
|---|---|---|---|---|---|---|---|---|
| | Volume | Value (Rs. crore) | Volume | Value (Rs. crore) | Volume | Value (Rs. crore) | Volume | Value (Rs. crore) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| June 2004 | 2,61,796 | 4,74,268 | 23,996 | 2,05,806 | 955 | 3,370 | 24,951 | 2,09,175 |
| September 2004 | 2,14,921 | 2,41,786 | 86,744 | 7,13,990 | 6,258 | 29,148 | 93,002 | 7,43,138 |
| December 2004 | 1,69,298 | 1,83,600 | 1,30,223 | 13,46,674 | 20,455 | 67,334 | 1,50,678 | 14,14,008 |
| March 2005 | 1,63,397 | 1,50,482 | 1,50,968 | 15,50,051 | 40,824 | 1,49,811 | 1,91,792 | 16,99,862 |
| June 2005 | # | # | 2,04,290 | 18,39,311 | 67,504 | 2,06,796 | 2,71,794 | 20,46,107 |
| September 2005* | — | — | 2,54,498 | 21,18,816 | 1,29,678 | 5,46,397 | 3,84,176 | 26,65,213 |

# : Since discontinued.

* : Instrument-based inter-bank clearing was discontinued at all the centres by June 30, 2005.

being settled in the RTGS system is more than total amount of cheques, which were being settled earlier by the individual inter-bank clearings held in different centres.

6.120 Apart from containing the systemic risk, the RTGS system has benefited the Indian financial system in several other ways such as (i) enhanced customer service by facilitating instantaneous and irrevocable funds transfer as against a day's lag in the case of instrument based inter-bank clearing; (ii) straight-through processing of payment transactions which include customer transactions; and (iii) mitigation of payment system risks inherent in deferred net settlement systems such as high value clearing and MICR clearing (Box VI.9).

6.121 The RTGS system has been build on a secure and fail-safe technology platform with a robust business continuity planning. The RTGS has worked smoothly so far and there has not been any interruption. Even during the record rainfall in Mumbai on July 26 and 27, 2005 and its aftermath, the central system of RTGS was totally unaffected. The RTGS remained fully operational and banks were able to transfer funds to one another through the accounting system of the Reserve Bank. Several banks shifted their RTGS interface to their disaster recovery sites when the main site could not function on account

**Box VI.9: RTGS Operations - Impact on the Financial Sector**

The RTGS system has brought about some significant benefits to the Indian financial system. Apart from enhancing the stability of the financial system, it has improved the efficiency of the system in terms of efficient cash management by banks, immediate transfer to the customer's account and reduction in transactions cost. In the pre-RTGS regime, banks settled their inter-bank obligations by issue of paper-based instruments which used to be cleared in a net clearing system called 'inter-bank clearing'. Efficiency of the inter-bank clearing was highly dependent on efficient transportation of paper instrument and use of a good number of staff either to collect or to handover the instruments. Fragmented inter-bank clearing settlement taking place at different centres in the country also interfered with efficient cash management systems in banks and placed an additional burden of pooling of funds at a centralised account. The RTGS system ensures settlement finality in the books of the Reserve Bank on a real time basis, thereby providing a confidence to the sending bank as well as the receiving bank that the payment transaction has been completed and the receiving bank can make use of the funds so received immediately. The RTGS also altered the scenario by providing a platform of settling all inter-bank transactions at Mumbai. The time window for settling inter-bank transactions has also been widened from the earlier position of 'within the banking hours' to the RTGS operating hours of '9.00 a.m. to 5.00 p.m. on week days and 9.00 am to 2.30 p.m. on Saturday'.

The RTGS system is also used for customer transactions. No minimum or maximum limit has been fixed on such transactions so far. Technically, time critical transactions of smaller value can also be routed through the RTGS. In terms of RTGS Operating Guidelines, the receiving banks are required to apply credit to the customers account as quickly as possible or return the transaction within two hours, if the credit cannot be applied for some reason. Thus, banks are supposed to credit the beneficiary's account within two hours. Utilising this RTGS infrastructure, a good number of banks have developed payment products for their customers. Customers of internet enabled banks making requests for funds transfer through internet within the RTGS hours can find the beneficiary's account credited within a few minutes if the receiving banks have also built straight-through-processing engines at their end. One bank has developed a product which facilitates remittance of funds from Gulf countries in a straight-through-processing mode from end to end facilitating credit to customers' accounts within two hours.

of water seepage caused by heavy rains. Banks could provide uninterrupted RTGS service to their customers all over the country. It is thus reassuring that the RTGS has stood the test of business continuity planning.

6.122 In addition, the Government securities clearing effected through the NDS, the foreign exchange clearing and the CBLO of the Clearing Corporation of India Ltd., are all fully guaranteed systems, which have reduced the settlement risks in such systems. Notwithstanding the increasing recourse to RTGS, all retail payment systems, paper-based as well as electronic-based, are settled on a deferred net settlement (DNS) basis. In order to minimise settlement risks and to provide for enhanced efficiency in retail DNS, the Reserve Bank has taken steps to ensure that 'same-day' accounting is achieved in respect of the settlement relating to the presentation as well as the return clearings. This has been implemented in most of the clearing houses of the country. DNS settlement involves credit, liquidity and operational risks that could lead to settlement failures. In order to put in place an appropriate risk mitigation mechanism for the retail payment systems as also to examine the operational implications of such a mechanism, a Working Group was constituted by the Reserve Bank with representatives from the Reserve Bank, Indian Banks' Association (IBA) and banks. The Group has recommended the need for setting up of a Guarantee Fund for large-value systems among the retail systems, with a specific focus on the high-value clearing system.

6.123 In India, which depends heavily on cash transactions, the use of e-money can be beneficial in terms of reduced miscellaneous costs such as cost of printing and minting of smaller denomination notes and coins and transportation and storage costs. However, the setting up of network infrastructure to operate nationwide electronic payment systems entails heavy cost. On the flip side, the use of e-finance also poses several challenges from the financial stability point of view (Box VI.10).

**Box VI.10: E-finance - Challenges**

Rapid advances in communication technology in recent years have led to several innovations in the delivery of financial services through the internet and other electronic media (collectively known as e-finance).

**Table: E-finance: Select Indicators**

| Country | Internet users as percentage of inhabitants | Mobile phones per 1000 inhabitants | Per cent bank customers using on-line banking |
|---|---|---|---|
| | 2000 | 2000 | 1999 |
| 1 | 2 | 3 | 4 |
| **Developed Countries** | | | |
| Australia | 34 | 45 | 4 |
| Germany | 29 | 59 | 12 |
| Italy | 23 | 74 | n.a. |
| UK | 30 | 73 | 6 |
| US | 35 | 40 | 6 |
| **Emerging Markets** | | | |
| Brazil | 3 | 14 | 4 |
| Malaysia | 16 | 21 | Less than 1 |
| South Africa | 5 | 19 | n.a. |
| South Korea | 40 | 57 | n.a. |
| Indonesia | 1 | 2 | n.a. |
| India | Less than 1 | Less than 1 | n.a. |
| Thailand | 4 | 5 | n.a. |

n.a.: not available

In developing economies, the use of e-finance is low in comparison with the advanced industrial economies (Table). However, in some respects, developing countries have an advantage. They can learn from the experience of advanced economies. It may even be possible for them to 'leapfrog' straight to the most advanced technologies.

The growth of e-finance raises several important challenges. First, security concerns are important factors which often discourage many internet users from using e-banking. Supervisors will need to be assured that banks have conducted adequate assessments of the vulnerability of their operating systems, back-up facilities, firewalls and emergency procedures. The complexity of internet-related activity encourages outsourcing, which often raises the problem of concentration risk when several banks depend on the same service provider. Another challenge for both providers of financial services and those who supervise them is the sheer uncertainty. It is difficult to predict which technologies will work best and what would be the response of customers and competitors. In an attempt to maintain profitability, banks might adapt poorly to e-banking (which could involve either under or over-spending on new technology), prompting them to move into riskier business to maintain returns.

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## 6. Overall Assessment

6.124 The multi-pronged approach followed for the development of financial institutions, financial markets and financial instruments has resulted in well-functioning financial system in India. Banks' balance sheets have strengthened considerably, financial markets have deepened and widened and, with the introduction of the RTGS, the payment system has also become robust.

6.125 The banking sector, which is most important from a systemic viewpoint, has made a significant progress in improving its financial and soundness indicators such as profitability, asset quality and capital position. Profitability of the banking sector has improved in recent years, with return on asset trending at around 1 per cent, which is comparable with international levels. Loan classification norms in India are now on par with international best practices. The difference between gross and net NPL has gradually narrowed, reflecting improved recovery management by the banking sector. The CRAR of the banking sector has been improving steadily and is now significantly above the international norm of 8.0 per cent. Notwithstanding the poor health of some of the co-operative banks and FIs, the financial system, on the whole, has become resilient.

6.126 There are, however, some short to medium-term risks to which banks are exposed. The major risks facing the banks are credit risk and market risk. As loans and advances constitute the bulk of the assets of the banking system, credit risk is the primary source of risk for banks. There has been a significant improvement in the credit risk environment in India in recent years as reflected in the sharp decline in NPLs of the banking sector.

6.127 It is expected that the credit risk environment would continue to be favourable in the near-term. Macroeconomic fundamentals of the economy continue to be robust. The economy is expected to grow at a robust rate of 7-7.5 per cent during 2005-06. The industrial sector, in particular, is performing very well and is expected to maintain the momentum in the near future. Inflation rate continues to be low, despite rise in oil prices. India's external sector has been a source of major strength. Financing conditions for the corporates have improved significantly with the capital market exhibiting buoyant conditions. Corporates are also able to raise resources from the international capital market at competitive rates. Profitability of the corporate sector has improved. The corporate sector has been deleveraging its balance sheet through issuance of equity and internal generation of funds. This has reduced both the outstanding debt and debt-servicing burden. The corporate sector is expected to take further advantage of favourable financing conditions and reduce its leverage further.

6.128 Although the credit has increased sharply in the last one and half years, broad-basing of bank's credit portfolio has reduced the concentration risk. The growing share of retail and mortgage loans in the portfolio of banks may also have a positive impact on credit risk in the books of banks. These loans, being small, do not involve large exposures to a single borrower. Also, in the case of mortgage loans, it is easier to determine the realistic sale value of housing collaterals, unlike commercial property in the case of corporate loans. As a result, the average risk associated with retail lending is lower. On the whole, banks are now operating in a much better credit risk environment than in the past. It is expected that credit risk environment would continue to be benign in the near future. However, credit risk could turn adverse through a deterioration in the market risk as explained below.

6.129 Banks are exposed to market risk by way of interest rate and exchange rate changes. Exposure to interest rate risk is directly through trading and investment positions and indirectly through the possible impact on credit risk of any unforeseen interest rate hikes. Absolute exposure to the market risk by banks has increased as reflected in their increased investments in Government securities, even as the share of such investments in total assets has declined. Market risk facing the banks could increase due to two major global risks in the form of financial imbalances and high and volatile oil prices.

6.130 Global financial imbalances continue to grow with the US current account deficit now ruling above 6.0 per cent of its GDP. There is a risk of currency readjustments which could cause heightened volatility in the financial markets through changes in exchange rate and interest rate. Abrupt and sharp readjustment of currencies and consequent rise in interest rates increases the risk of the economy to reversal of capital flows with its attendant implications for the exchange rate and asset prices and the banks' balance sheets.

6.131 In the event of a sharp rise in interest rate, banks may suffer significant marked to market losses on their investment portfolio. Banks may also face increased risks on account of their exposure to the asset market. Banks have been extending credit for investment in the asset market. There is a risk that rise in interest rates, in general, could impact the housing prices and expose the balance sheets of the households to interest rate risk. This, in turn, could impact banks' balance sheets through increase in loan losses. Likewise, the equity market has also seen a sustained uptrend. Reversal of capital flows could impact the equity market and some of the advances extended for investments in the equity market might turn non-performing. Some banks' also have a direct exposure to the equity market. Although decline in asset prices could cause loan losses and capital losses, they may not make any significant impact to the banks' balance sheets, given their limited exposures to the asset markets.

6.132 International oil prices continue to remain high and volatile. Rise in oil prices could affect the Indian economy directly as India is dependent heavily on oil imports. Although the impact has been moderate so far, further sharp rise in prices could affect inflationary expectations and interest rates with its attendant implications. Also, industries with high intensity of oil use are exposed to high oil prices which could generate some credit losses for banks.

6.133 Although disruptions in global financial and commodity markets might have some impact, main risk to the corporate sector and banks' balance sheets emanate from their domestic operations. In this context, the near-term outlook continues to be positive. Business confidence is high, suggesting that corporates are optimistic about near-term prospects. Rising share prices of banking stocks is also an indication of growing confidence in the Indian commercial banking system. Strong growth prospects in the current year, improved corporate sector's profitability and other indicators suggest that credit risk environment is expected to remain favourable. Notwithstanding some uncertainties about market risk, given the increased resilience, the banking system should be able to cope with the evolving situation.