coordinated reductions in policy-determined short-term interest rates leading to mutually-timed announcements of monetary policy actions helped in managing banking system liquidity and to a large extent in restoring confidence. Thus, apart from taking action at an individual level, central banks in advanced economies also initiated collective measures in a collaborative manner to ease liquidity stress in financial markets. Over the past one year or so, central banks have used both their published frameworks and innovative operations to support the implementation of monetary policy and respond to financial stability concerns.

7.104 In parallel, the scope and depth of international cooperation in financial regulation have also grown as financial markets have become more integrated globally. The European Union (EU) has introduced wide-ranging new frameworks for financial regulation, while international standard-setting bodies such as the Basel Committee on Banking Supervision (the Basel Committee) are increasingly laying the basis for regulation of financial institutions across the world. The Financial Stability Forum (FSF), along with the International Monetary Fund (IMF), has a key role in assisting these developments and in monitoring market developments. In an unprecedented move to prevent a mushrooming financial crisis from becoming a global economic meltdown, the Federal Reserve and five other major central banks, *viz.,* Bank of England, European Central Bank, Canada, Sweden, and Switzerland, cut their key rates in a co-ordinated manner on October 8, 2008.

7.105 The Reserve Bank has been closely following the developments in the international financial regulation and supervision and in the Annual Policy for 2008-09, released in April 2008 indicated its status *vis-à-vis* the action plan devised by the FSF for implementation by the countries affected by the recent financial turbulence (Annex VII.1). The Reserve Bank has already put in place regulatory guidelines covering many of the aspects highlighted in the policy recommendation by the FSF. In certain cases, actions have to be considered as work-in-progress. In the short to medium term, the approach is to keep a close watch on the unfolding macrofinancial conditions - both domestic and international, with a view to taking corrective measures as and when required.

7.106 Although the central banks are entrusted with a central role in maintaining financial stability, the current crisis has made it essential to revisit the respective roles of central banks, regulators, supervisors, and fiscal authorities, and also to bring about close co-operation among all the agencies entrusted with the task of maintaining financial stability. Apart from coordinated reduction in policy rates by major central banks, the initiatives to address financial stress in advanced economies invariably included programmes to purchase distressed assets, use of public funds to recapitalise banks and provide comprehensive guarantees. With a view to reducing the probability of future crises in a long-term perspective, the Reserve Bank and the Government would need to jointly continue with the approach to adopt the global best practices for prudential supervision and regulation of financial institutions, while tailoring them to meet country-specific requirements at the current stage of institutional developments. Consequently, the role of fiscal space in promoting financial stability has once again come into prominence (Box VII.7).

7.107 The global financial system is in a crisis of unprecedented dimensions since August-September 2008. With the collapse of major financial institutions, credit markets appear to be drying up in the developed world. Across the world, there have been severe disruptions

Box VII.7: Fiscal Space and Financial Stability

The existence of a two-way relationship between financial instability and macroeconomic instability is well recognised in literature. Macroeconomic instability is usually a major factor in financial difficulties, often because an unsustainable expansion induces unwise lending. On the other hand, when the financial system encounters difficulties, problems can quickly worsen macroeconomic performance. Empirical evidence suggests that difficulties in the financial sector have an important bearing on fiscal and macroeconomic stability. The recent bailout of Freddie Mac and Fannie Mae by the US Fed, and the subsequent issuing of debt by the United States Treasury, at the request of the Federal Reserve, to replenish the central bank's balance sheet have highlighted the issue of fiscal space and stability. The concept of 'fiscal space' which has been defined as room in a government´s budget that allows it to provide resources for a desired purpose without jeopardising the sustainability of its financial position or the stability of the economy, has become popular (Heller, 2005). The idea is that fiscal space must exist or be created if extra resources are to be made available for worthwhile government spending. A government can create fiscal space by raising taxes, securing outside grants, cutting lower priority expenditure, borrowing resources (from citizens or foreign lenders), or borrowing from the banking system (and thereby expanding the money supply).

There is ample empirical evidence to suggest that fiscal stress could pose challenges to the macroeconomic stability, and thereby to financial stability. The Asian crisis of 1997-98 demonstrated that while a responsible fiscal policy does not guarantee macroeconomic stability, imprudent fiscal policies would increase vulnerability and become a source of economic instability. When fiscal imbalances are large, they create credibility problems for the Government regarding the repayment capacity of the public sector. In case credibility takes a hit, the Government would be compelled to undertake fiscal adjustment or inflationary finance. In the case of Latin America in the late 1990s, the most important challenge faced by them was insolvency, although debts and deficits were manageable in a favourable growth environment. Problems arise when growth decelerates, and revenues decline which lead to manageable deficits turning into unmanageable.

Bank crisis may lead to some fiscal costs because of the need to deal with the inherited bad debt. The public policy concerns, in case of difficulties in the financial institution, could arise on account of several reasons, *viz.,* (i) losses to depositors and other creditors may be exacerbated because of unique vulnerability of financial institutions to 'runs'; (ii) the scope for losses to spread to other financial institutions through contagion or direct exposure is high; (iii) there may be budgetary costs from the perceived need to protect depositors or bail out troubled institutions; (iv) there may be more widespread macroeconomic consequences from instability in the financial sector; and (v) a loss of confidence in financial intermediation may lead to financial repression resulting in sub-optimal levels of savings and misallocations in investments.

Studies have indicated that while Central and Eastern European countries have incurred substantial fiscal costs to rehabilitate their banks by injecting capital into banks, in the case of East Asia, measures undertaken for financial stability in terms of fiscal policy were not clear. The bank bailouts were financed mainly through off-budget mechanisms such as the issuance of recapitalisation bonds, which later comprise a substantial portion of total public sector debt and entail significant direct on-budget costs as this debt is serviced. Blanket guarantees of depositors and financial institution creditors have created large contingent liabilities. The economic recoveries which are consumption-led rather than production-led, could result in greater fiscal stress because of lower tax revenue and unsustainable public sector expenditure levels. Fiscalisation of the 1997 East Asian financial crisis did not precipitate a fiscal crisis, but failure to complete fundamental financial sector reforms could have resulted in fiscal stress.

There is a clear unanimity on the involvement of both the Government and the central bank in macroeconomic management. The approach relates to the intertemporal debt sustainability that calls for an aggregate budget constraint between fiscal surplus and seigniorage revenue. As a matter of fact, as Sargent and Wallace pointed out way back in 1981, the fiscal surplus must be large enough to pay out public debt services. They framed it as a necessary condition for a consistent reduction in the rate of inflation over time.

In India, the management of public finances during the last four years, mandated under the FRBM Act, 2003, has been broadly on track so far. Under the rule-based fiscal consolidation programme, public sector savings witnessed a turnaround, underpinned by a steady increase in the tax-GDP ratio and steady improvement in savings of non-departmental undertakings. This enabled a narrowing of public sector saving-investment gap in recent years, thereby releasing greater resources for the private sector. Finances of the Government, however, are under some stress on account of several factors such as increased pressures from oil, fertilizers and food subsidies, the farm loan waiver scheme and the hike in wages following the implementation of the Sixth Pay Commission recommendations.

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in money markets, sharp declines in stock markets and extreme risk aversion in financial markets. As discussed earlier, Indian financial markets also felt the tremors of the adverse developments in the international financial markets. Money markets have experienced unusual tightening of liquidity in recent weeks as a result of global developments which were amplified by transient local factors such as advance tax payments. The foreign exchange market has experienced pressure on account of portfolio outflows by FIIs and the enhanced foreign exchange requirements of oil and fertilizer companies. Constraints in access to external financing as also repricing of risks and higher spreads resulted in additional demand from corporates for domestic bank credit with attendant hardening of interest rates across the spectrum. The Reserve Bank has been monitoring developments in the financial markets closely and continuously and has indicated its resolve to respond swiftly and even pre-emptively to any adverse external developments impinging on domestic financial stability, price stability and inflation expectations. The Reserve Bank has been effectively able to manage domestic liquidity and monetary conditions consistent with its monetary policy stance (Box VII.8). Following the unfolding of events since September 2008 reflected in the form of portfolio outflows by FIIs, sharp decline in the stock markets, lack of liquidity in the market with the inter-bank rates soaring to high levels and depreciating rupee, the Reserve Bank stepped in to restore public confidence by putting in place immediate corrective measures during September to December 6, 2008 (refer Chapter II, Box II.2).

7.108 With a view to fostering a more rapid recovery of lending and demand as well as to meet the emerging financial stability

Box VII.8: Liquidity Management by the Reserve Bank

Active liquidity management is a key element of the current monetary policy stance. The Reserve Bank manages liquidity through appropriate use of the cash reserve ratio (CRR), open market operations (OMO)and market stabilisation scheme (MSS) and policy instruments at its disposal flexibly, as and when the situation warrants. In the context of the uncertain and unsettled global situation and its indirect impact on the domestic economy in general and the financial markets in particular, the Reserve Bank closely and continuously monitors the situation to respond swiftly and effectively to developments, employing both conventional and unconventional measures.

The Indian experience with liquidity management has been unique in several ways. First, unlike in several countries, the RBI Act 1934 does not permit the monetary authority to float its own securities. Second, a combination of several instruments, *viz.,* the LAF window, outright open market operations, MSS and CRR is used for liquidity management. The Reserve Bank has now assigned the task of day-to-day liquidity management to LAF, while using MSS for addressing semi-durable liquidity mismatches. Third, liquidity management is presently done on a burden sharing basis where the cost of sterilisation operations are shared by all stakeholders, *i.e.,* the Government in case of MSS, the Reserve Bank in case of LAF reverse repo and the banking system in case of CRR. Fourth, monetary measures are supplemented by regulatory and prudential measures whereby calibrated deceleration in credit to sensitive sectors were brought about through changes in risk weight and provisioning norms. Fifth, by adopting a more gradual and a phased approach towards capital account liberalisation, it has been possible to sustain capital inflows on a more stable basis even with the imposition of temporary capital controls.

While LAF and MSS have been able to bear a large part of the burden, some modulations in CRR and SLR have also been resorted to in order to meet the liquidity mismatches. For instance, on September 16, 2008, in regard to SLR, the Reserve Bank permitted banks to use up to an additional one per cent of their NDTL, for a temporary period, for drawing liquidity support under LAF from the Reserve Bank, which was made a permanent reduction by one per cent to 24 per cent of NDTL with effect from the fortnight beginning November 8, 2008. The CRR which had been gradually increased from 4.5 per cent in 2004 to 9 per cent by August 2008 was cut by 350 basis points during October 11 to Nov 9, 2008) on review of the liquidity situation in the context of global and domestic developments. Thus, as the very recent experience shows, in the prudential ratios such as CRR and SLR combined with flexible use of the MSS, could be considered as a vast pool of back-up liquidity that is available for liquidity management as the situation may warrant for relieving market pressure at any given time. The recent innovation with respect to SLR for combating temporary systemic illiquidity is particularly noteworthy.

challenges, the significance of appropriate regulatory and supervisory response as well as the need for a vibrant mechanism to deal with stress in the system cannot be over-emphasised.

Regulation and Supervision

7.109 In India, the regulatory and supervisory framework is already on the lines of international best practices in several respects. As detailed in earlier Chapters, India has a well laid down regulatory framework for all the segments of the banking sector as well as the non-banking financial companies.

Changes in the Role and Uses of Credit Ratings

7.110 Credit rating agencies (CRAs), specialising in analysing and evaluating the credit-worthiness of corporate and sovereign issuers of debt securities, play a key role in financial markets by helping to reduce the information asymmetry between lenders and investors on the one side, and issuers on the other, about the creditworthiness of companies/countries. The global financial turmoil brought into sharp focus the role of credit rating agencies in better risk assessment and measurement. The Reserve Bank has undertaken a detailed process of identifying the eligible credit rating agencies whose ratings may be used by banks for assigning risk weights for credit risk. However, this accreditation process is neither a regulatory prescription nor a supervisory requirement. It has the limited purpose of using ratings for assigning risk weights within the framework of the Basel II. So far, four rating agencies have been granted accreditation on the basis of the six parameters, *viz.*, objectivity, independence, international access, transparency/disclosure credibility and resources. Banks have been advised to use the chosen credit rating agencies and their ratings consistently for each type of claim, for both risk weighting and risk management purposes. Norms have been prescribed to ensure consistency in selection of credit rating agencies by banks and application of their rating while disallowing banks to 'cherry pick' the assessments provided by different credit rating agencies. The names of the credit rating agencies, the risk weights associated with the particular rating grades and aggregated risk weighted assets, are required to be disclosed. Further, in India, complex structures like synthetic securitisations have not been permitted so far. As and when such products are to be introduced, the Reserve Bank need put in place the necessary enabling regulatory framework, including calibrating the role of the rating agencies.

7.111 In the United States, rating agencies have to be registered with the SEC. Following the experience with ratings in the recent financial crisis, the current practice of having only a non-binding IOSCO code of conduct is generally perceived to be in need of reform. The rating agencies themselves are in the process of reviewing their internal procedures and rating methods (Box VII.9).

Corporate Governance and Corporate Social Responsibility

7.112 In order to highlight the developments that are taking place worldwide regarding sustainable development as also to raise the level of awareness, the Reserve Bank issued guidelines introducing the concepts of corporate social responsibility (CSR), sustainable development (SD) and non-financial reporting (NFR). CSR entails the integration of social and environmental concerns by companies in their business operations as also in interactions with their stakeholders. SD essentially refers to the process of maintenance of the quality of environmental and social systems in the pursuit of economic development. NFR is basically a system of reporting by

Box VII.9: Role of Credit Rating Agencies

Credit rating agencies (CRAs), specialising in analysing and evaluating the creditworthiness of corporate and sovereign issuers of debt securities, play a key role in financial markets by helping to reduce the information asymmetry between lenders and investors, on the one side, and issuers on the other, about the creditworthiness of companies or countries. The CRAs thus contribute to solving principal agent problem. The CRAs vary considerably in their size, focus and methodologies. In addition to issuing credit ratings, some CRAs also offer ancillary business services, or are themselves affiliates of larger corporations offering broader business services. These ancillary services determine how their credit rating might be affected by a proposed business activity under various hypothetical scenarios. Other services may include risk management and consulting services to help financial institutions and other firms manage credit and operational risk. Where CRAs are part of larger business enterprises, the services provided by the larger group may or may not be directly related to the credit rating business. CRAs' role has increased with financial globalisation and has received an additional boost from Basel II which incorporates the ratings of CRAs into the rules for setting weights for credit risk.

In September 2003, the Technical Committee of the International Organisation of Securities Commissions (IOSCO) published a Statement of Principles regarding the activities of CRAs. The Principles were designed to be a useful tool for securities regulators, rating agencies and others wishing to articulate the terms and conditions under which CRAs operate and the manner in which opinions of CRAs should be used by market participants. Further, in December 2004, the IOSCO released the Code of Conduct Fundamentals for CRAs that offers a set of robust and practical measures for improving investor protection, ensuring the fairness, efficiency and transparency of securities markets and reducing systemic risk.

There is a view that ratings tend to be sticky, lagging market movements, and overreact during market meltdown. This overreaction has contributed to aggravating financial crises in the recent past. The recent sub-prime crisis has illustrated inadequacies of the existing methodologies adopted by CRAs for structured products, given their multiple tranches and their susceptibility to rapid, multiple-notch downgrades. The complexity of these instruments led to an over-reliance on credit ratings by investors, supported by investor mandates and regulatory requirements. Major concerns about the role of the CRAs that have come to the fore include: barriers to entry, conflict of interests, transparency and accountability. Accordingly, there is active discussion on the need for CRAs to clearly differentiate the ratings for structured products, improve their disclosure of rating methodologies, and assess the quality of information provided by originators, arrangers, and issuers of structured products.

Following a public consultation process involving regulators, CRAs and financial market stakeholders, the IOSCO published amendments to the Code of Conduct in May 2008. The following major changes were indicated:

Quality and Integrity of the Rating Process - CRA analysts have been prohibited from making proposals or recommendations regarding the design of structured finance products that the CRA rates. They have been asked to adopt reasonable measures so that the information they use is of sufficient quality to support a credible rating. CRAs should ensure that the decision-making process for reviewing and potentially downgrading a current rating of a structured finance product is conducted in an objective manner.

CRA Independence and Avoidance of Conflicts of Interest - CRAs should discourage "ratings shopping", and should disclose whether any one issuer, originator, arranger, subscriber or other client and its affiliates make up more than 10 per cent of its annual revenue.

CRA Responsibilities to the Investing Public and Issuers - A CRA should publish verifiable and quantifiable historical information about the performance of its rating opinions in a manner that assists investors in drawing performance comparisons between different agencies.

Disclosure of the Code of Conduct and Communications with Market Participants - A CRA should publish, in a prominent position on its home webpage, links to its code of conduct, a description of the methodologies it uses and information about its historic performance data.

Notwithstanding the above, the regulatory aspect also needs to be revisited. There is scope to improve approval and licensing procedures to strengthen the integrity and diversity of the CRA industry. This could boost the transparency and disclosure of rating methodologies and processes, improve the clarity on the purposes and limitations of credit ratings, and reduce barriers to entry. However, care needs to be exercised to avoid over-regulation. Dictating rating methodologies, standards, and other technical criteria could stifle innovation and exacerbate moral hazard problems, including by conveying to market participants the impression of a public sector guarantee of the quality of ratings and underlying methodologies, and by discouraging proactive risk management by the private sector. There may be a merit in multilateral approaches to reform the role and use of credit ratings, *inter alia*, to reconsider the significant prudential role that credit ratings have been provided with.

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organisations on their activities, especially with regard to the triple bottomline, *i.e.,* the environmental, social and economic accounting. Global warming and climate change are particularly important in the context of sustainable development.

7.113 Since the market control is not sufficient to ensure proper governance in

banks, the Reserve Bank and the Government, *inter alia*, oversee it by regulating and controlling the nature of activities, the structure of bonds, the ownership pattern, capital adequacy norms, liquidity ratios, disclosure and transparency, *etc.* (Box VII.10). Some initiatives in the area of improving corporate governance in banking have been taken by the Reserve Bank. 'Fit and proper' criteria for the elected directors on the boards of nationalised banks and associate banks of State Bank of India have been laid down by the Reserve Bank. With a view to reducing the burden on boards of banks on account of the

Box VII.10: Corporate Governance in Indian Banks

The importance of governance process lies in its contribution both to business prosperity and accountability. Good governance ensures that the shareholders/stakeholders are taken into confidence on matters concerning the company's business and activity. Given the important role of banks in financial intermediation in the economy and the need to safeguard depositors' money, corporate governance is of great significance for banking entities. The issues relating to corporate governance and corporate control have come to the forefront of business practice the world over in the recent past.

An increase in corporate failures, collapses and financial irregularities in countries such as the US and the UK in the late 1980s and early 1990s led shareholders and banks to worry about their investments. In May 1991, the London Stock Exchange set up a Committee (Cadbury Report) to help raise the standards of corporate governance and the level of confidence in financial reporting and auditing. The Cadbury Report clearly spelt out the methods of governance needed to achieve a balance between the essential powers of the Board of Directors, their proper accountability and provided the basic framework of governance, reporting and control. The stipulated guidelines included that the Board of Directors meet regularly, retain full and effective control over the company and monitor the executive management. It was felt that a clear division of responsibilities at the head of the company would ensure balance of power and authority so that no individual had unfettered powers of decision.

The issue of corporate governance in banks is not exactly the same as that of manufacturing corporations. In the case of traditional manufacturing corporations, the issue has been that of safeguarding and maximising the shareholders' value. In the case of banking, the risk involved for depositors and the possibility of contagion assumes greater importance than that of consumers of manufactured products. Further, the involvement of Government is discernibly higher in banks due to importance of stability of financial system and the larger interests of the public. A large part of the Indian banking institutions is mostly Government owned and the interests of other stake holders appear more important to it than in the case of non-banking and non-finance organisations.

Clause 49 of the Listing Agreement deals with the corporate governance aspect for listed companies across all sectors in India. In addition, the Banking Regulation Act, 1949 (BR Act) remains the basic foundation for corporate governance framework for banks in India. Public sector banks, in addition, are governed by the statutes under which they were incorporated, *viz.,* State Bank of India under the State Bank of India Act, 1955; the associate banks of SBI under the State Bank of India (Subsidiary Banks) Act, 1959; and nationalised banks under the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970/80. Public sector banks are exempted from some of the provisions of the BR Act in view of the separate statutes governing them.

The Basel Committee on Banking Supervision principles have been adopted for Indian banks after adjusting for local rules, regulations and the governance standard requirements. In February 2005, the Reserve Bank released a roadmap for the presence of foreign banks in India and also guidelines on ownership/governance in private sector banks. The recommendations of the Ganguly Committee on Corporate Governance also serve as a regulatory framework on corporate governance for banks. The Committe highlighted the role and responsibility of independent non-executive directors, qualification and other eligibility criteria ('fit and proper' criterion) for their appointment, training the directors and keeping them up-to-date with the latest developments. The philosophy of corporate governance was set at a level much higher than just compliance with legal and regulatory requirements. Besides effective management and control, it expressed the need to maintain business ethics and maximise value for all stakeholders. The board of directors were empowered to constitute various committees to oversee specific operational areas. Some of the committees included the audit committee, board governance and remuneration committee, credit approval committee, customer service committee, fraud monitoring committee, risk monitoring committee and shareholders/investors' grievance committee. Some of these committees are formed as per the guidelines of the Reserve Bank. For example, the risk management committee is expected to develop bank's credit and market risk policies and procedures, verify adherence to various risk parameters and prudential limits for treasury operations and reviews its risk monitoring system. It also ensures that the bank's credit exposure to any one group or industry does not exceed the internally set limits and that the risk is prudentially diversified. Therefore, appropriate functioning of these committees is critical for the overall performance of the bank.

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calendar of reviews to be undertaken by them and to ensure that the calendar of reviews reflects the present day concerns, the calendar items were revised in April 2008. The above calendar outlines the critical minimum requirements of review and the bank boards would have the discretion to prescribe additional reviews to suit their requirements. The revised schedule, which was required to be in force with effect from June 2008, would be under the two heads, *viz.,* 'review of operations' and 'review of strategy'. Banks were also advised that in every board meeting a separate time slot should be allocated for taking up strategy review for business plan - targets and achievement, review of non-fund business, human resources management, training and industrial relations, new prospective business/products lines and closure of existing business/products lines.

7.114 Based on their Annual Report 2007-08, some of the critical corporate governance indicators of select large commercial banks in India are presented in Table VII.7. It can be seen therefrom that Indian banks do not have a uniform pattern in terms of size of boards and the number of meetings conducted by the boards and other committees during the year. A review of the common and recurring deficiencies brought out in the annual financial inspection of banks over the last few years revealed weaknesses in the corporate governance in banks. It was, therefore, decided to examine bank-wise discomfort/ governance issues and communicate the deficiencies to the Chairman and Managing Directors/Chief Executive Officers of banks. It was also decided that the concerns in respect of public sector banks may be brought to the notice of the Government of India stressing that total transformation of policy was desired for an effective impact on the efficiency levels and governance aspects. Accordingly, two sets of formats (separately for public sector and private sector banks) have been devised to enable the Principal Inspecting Officers (PIO) of the Reserve Bank to assess/evaluate banks' performance in the area of corporate governance in a comprehensive manner during on-site inspection. The formats evolved are comprehensive covering all the issues as covered under the Banking Regulation Act, 1949, Clause 49 of the Listing Agreement as prescribed by the Securities and Exchange Board of India, guidelines issued from time to time, and norms laid by the Ganguly Committee. The formats would be used by the PIOs initially for two inspection cycles for assessment of the corporate governance environment in the banks and based on the feedback received from them, further amendments to the formats would be considered.

Table VII.7: Corporate Governance in Banks - Select Indicators (2007-08)

Bank Name	Board of Directors			No. of Audit & Compli-ance Meeting	Shareholders'/Investors Grievance Committee			No. of Risk Monitoring Committee Meeting	No. of Credit Approval Committee Meeting	No. of Fraud Monitoring Committee Meeting	No. of Customer Service Committee Meeting
	Size of the Board	No. of Board Meeting	Average attendance in Board Meeting (per cent)		No. of Committee Meeting	No. of complaints from share-holders	Pending complaints (per cent)				
1	2	3	4	5	6	7	8	9	10	11	12
State Bank of India	11	11	89.3	6	4	3288	0.58	4	NA	3	4
Bank of Baroda	14	12	76.1	11	4	10029	0.49	4	NA	NA	2
ICICI Bank	16	5	78.8	6	12	19248	0.04	5	21	9	4
HDFC Bank	12	10	87.5	7	11	142	0.00	5	2	4	4

NA : Not available.

Arrangements for Dealing with Stress in the Financial System

7.115 In one isolated case of a private sector bank facing large withdrawal of cash at its ATMs and branches in some locations, the Reserve Bank immediately clarified that the bank had sufficient liquidity, including in its current account with the Reserve Bank of India, to meet the requirements of its depositors. The Reserve Bank also kept a vigil on the developments and arranged to provide adequate cash to meet the demands of its customers at its branches/ATMs. The Reserve Bank also assured depositors about the soundness of the bank and its subsidiary banks abroad.

Early Warning System

7.116 The early warning systems (EWS) are generally used by central banks/regulators as a prediction tool for timely identification of any imminent problems in banks, especially the inadequacy of capital, which reflects financial distress that may often lead to failure of the bank and consequent contagion effect. Thus, by implication, the EWS models can be used to provide a timely signal of the impending problems in banks to supervisory agencies (Box VII.11). The Reserve Bank has also instituted off-site monitoring and surveillance system (OSMOS) for banks in 1995, which provides for Early Warning System as also a trigger for on-site inspections of vulnerable institutions.

7.117 To a large extent, the Reserve Bank relies on its existing supervisory process for risk assessments and early warnings of distress. The Reserve Bank employs an approach that is a combination of the on-site inspection process, targeted appraisals, off-site surveillance system through a set of structured returns and an information system which is based on discussions with the Top Management of banks at quarterly intervals. The on-site inspection that is carried out under CAMELS (capital adequacy, asset quality, management, earnings, liquidity and systems and controls) model also evaluates risk management systems in the banks. Financial ratio analysis forms part of both the on-site and the off-site supervisory systems. In off-site supervisory system, a peer group analysis is also done. An attempt is also being made towards developing an off-site rating

Box VII.11: Early Warning Systems

The Early Warning System models used around the world could be divided into four broad groups: (i) supervisory rating system; (ii) financial ratios and peer group analysis system; (iii) detailed risk assessment system (such as, risk profile templates) and (iv) statistical models. Supervisory rating system is based on on-site examination of a bank and reflects the state of affairs or the riskiness of the bank in one single letter or number. Financial data, qualitative data on management, internal controls, systems, etc. are factored into the rating mechanism. The financial ratio and peer group analysis system uses the set of ratios which include capital adequacy, asset quality, earnings and liquidity. These ratios of individual banks are compared with their peer groups to assess the performance of individual banks. The bank risk profile assessment model is used under the risk based supervision framework. This model assesses the risk profile of a bank based on a wide range of business and risks *vis-a-vis* the control environment available in the bank. Based on the degree of risk and control environment, the bank is rated on a matrix reflecting the risk profile of the bank. The assessment of risk is dynamic and can be updated with periodic off-site data. The model is extremely resource intensive and time consuming, but compared to other methods of EWS, it is forward looking, factors in a wide range of quantitative and qualitative data both internal and external to the bank. The statistical models are based on rigorous quantitative analysis. However, these do not consider qualitative factors like management, internal controls, etc., and require large historical database; are often difficult to interpret, and hence, need expert analysts.

Irrespective of the approaches and models adopted for institutionalising an early warning system, EWS should primarily capture signals on solvency and liquidity of the banks. It should also look at leading indicators for banks *viz.,* asset quality, earnings, internal controls and risk limits, and corporate governance standards. Stress testing may serve as a complementary tool to the model adopted for EWS.

Reference:

BIS. 2000. "Supervisory Risk Assessment and Early Warning Systems." Basel Committee on Banking Supervision Working Papers.

system (ORS) for banks, based on an assessment of capital, asset quality, earnings and liquidity (CAEL) parameters. The macro prudential indicator approach currently in use is being broad based into vulnerability assessment exercise for the economy. It is intended to build econometric models in due course, with experience gained in the vulnerability exercise.

7.118 Based on the inspection findings and marks allotted under the CAMELS components, a supervisory rating is allotted to banks in the scale of 'A' to 'D' in descending order. For further granularity in the rating, three rating scales each have been introduced under A, B and C making a total of ten rating scales including D. In addition, the risk based supervision has also been taken up on a pilot basis in respect of certain select banks and based on the feedback from this exercise, the framework is being further fine tuned to suit the present supervisory system. The off-site supervision methodology is a 'continuous surveillance' process and involves the detection of incipient weaknesses and early warning signals in the banks. Comprehensive financial data covering all items of balance sheet, asset quality, exposure to certain specific sectors, structural liquidity and interest rate sensitivity analysis, *etc.*, are submitted by banks under the system. This reporting arrangement for banks was devised after an exhaustive study of the prudential requirements and international best practices. The information received through the off-site monitoring is useful in micro as well as macro analysis of the banks. The current off-site monitoring mechanism involves banks, bank groups, peer groups and all bank level monitoring.

7.119 In the case of micro analysis, the focus is on changes in critical parameters of individual banks such as balance sheet growth, liquidity gaps, interest rate sensitivity, asset-liability management, risk concentration (funding/raising), capital adequacy, asset quality, profitability, connected lending and group risk. The thrust of such micro analysis is on the approach being forward-looking based on risk information available from off-site returns, that provide information about the business strategy, risk appetite and direction of the risk profile of banks. Similarly, asset quality, sectoral exposure, profitability, net interest margin, capital adequacy, among others, provide significant clues on the health of the bank. These may be considered as the leading indicators. Though there are no specific triggers for identifying the outliers in this case, a view is taken based on past trends, peer group ratios and industry averages.

7.120 In the case of macro analysis, the banking sector as a whole is a subject of examination. The macro-prudential indicators (MPIs) comprise both aggregated micro-prudential indicators (AMPIs) of the health of individual financial institutions and macroeconomic indicators (MEIs) associated with financial system soundness. Interest rate sensitivity analysis is undertaken to capture the interest rate sensitivity of investments held by banks in held for trading (HFT) and available for sale (AFS) categories for assumed rise in yields by 100, 125 and 150 basis points, respectively, based on the last reporting Friday of the concerned month. The resultant impact under the above three scenarios is related to regulatory capital (Tier I + Tier II Capital) to ascertain the likely erosion in capital funds of the banks on account of an increase in interest rate. Similarly, modified duration analysis is applied with the objective to assess the likely impact on the investment portfolio of banks for a 100 basis point increase in interest rate and the extent of cushion available to the banks to absorb the erosion in their economic value. The interest rate sensitivity analysis is done applying the modified duration approach as

per the methodology suggested by the BIS. Another method used is the identification of outliers for various parameters, based on which, outlier banks are identified. The outlier banks are thereafter sensitised through supervisory letters, focused meetings, *etc.*

Deposit Insurance

7.121 Deposit insurance forms an integral component of the financial safety net. With the current threats to financial stability looming large, deposit insurance of individual retail accounts has once again come into prominence as a confidence building mechanism. However, expansion of deposit insurance beyond normal limits, or use of a blanket guarantee, in extreme conditions, should only be undertaken as a temporary, emergency measure and that too in a coordinated fashion across countries. Coordination among safety net players is, therefore, important in all aspects of the management of financial system stability (Box VII.12). An important area for co-operation is the sharing of information on the financial condition of banks under surveillance, supervisory action taken to revitalise them and the results thereof. Such information should be timely, accurate, and relevant with due importance to maintaining confidentiality, where required. It is highly desirable to formalise information sharing arrangements, either through legislation or Memorandum of Understanding (MoU) or legal agreements or a combination of these arrangements. These arrangements may also be helpful in providing a general framework for safety net participants to coordinate their related activities. It is preferable to spell out the arrangement for sharing of critical information in the law/by-laws.

7.122 In the recent past, several countries have taken extraordinary measures to stabilise financial markets and restart the flow of credit. In particular, recent plans by the European and US Governments to recapitalise their banking systems and guarantee bank borrowings in the wholesale markets have improved confidence. This was followed by a similar announcement in several jurisdictions to guarantee bank deposits with the objective of counteracting the impact of the recent international market turmoil on their banking systems, and removing any uncertainty on the part of counterparties and customers of the credit institutions, The announcement by a few jurisdictions in the area of Government guarantees for bank deposits set off a dynamics that has put pressure on other jurisdictions to respond, or else risk disadvantaging and potentially weakening their own financial institutions and financial sectors (Box VII.13).

7.123 In India, the Deposit Insurance and Credit Guarantee Corporation (DICGC) has been extending insurance cover to small depositors with an objective of maintaining the confidence of small investors in the banking system of the country as also promoting financial stability. The number of registered insured banks as on October 2008 was 2,354 comprising 78 commercial banks, 92 RRBs, 4 LABs and 2,180 co-operative banks. Indian depositors enjoy a high degree of protection. About 93 per cent of deposit accounts and 61 per cent of total assessable deposits were fully protected at end-March 2008 (Table VII.8). This was more than the IMF's recommended limits of 80-90 per cent and 20 per cent, respectively.

7.124 Deposit Insurance Fund (DIF) created for meeting insurance claims is built out of the premium paid by the insured banks and the coupon income received from the Central Government securities in which DIF is invested. Inflow of small amounts also occurs into this fund out of the recoveries made by the liquidator/administrator/transferee

Box VII.12: Inter-relationships among Financial Safety Net Players (SNPs)

Deposit insurance is a component of financial safety net, which also includes prudential regulation and supervision, and the lender-of-last-resort function. The inter-relationship among these players, which are largely influenced by the institutional, economic and financial situation of a country as also its history, can vary significantly. Irrespective of the specific structure of a country's financial safety net, however, smooth cooperation and goodwill among the various components are key to an effective deposit insurance system.

The need for coordination and goodwill among the various safety-net participants is directly related to the possibility of conflicting mandates. When dealing with bank crises, for example, it is particularly important to establish precisely which safety-net participant(s) has the power to formally declare an institution to be insolvent (or formally initiate the liquidation procedure of a failed institution). If, for instance, there is more than one institution dealing with different phases of the resolution, co-ordination among them assumes even greater significance. In order to reconcile potentially conflicting mandates, prior discussion and a high degree of transparency must be a requirement when establishing the co-ordination framework to facilitate information sharing and effective communication.

Information sharing is one of the vital areas in the relationship of the deposit insurer and other safety net players. Owing to its specific powers and responsibilities, the supervisory authority is usually the only safety-net agency able to assess accurately and influence the quality of information provided by financial institutions. Therefore close co-ordination in collection and sharing of information between supervisory authority and other SNPs becomes imperative. For information to be useful to the deposit insurer, it should be timely, accurate and relevant to facilitate an effective system of ongoing evaluation of individual insured institutions as well as the banking industry as a whole. Further, it is important to balance the need of the deposit insurer for supplemental information against the additional burden that it may put on the banking industry. Depending on its institutional mandate and powers, the need for relevant information by the deposit insurer can vary significantly. In the case of a simple pay-box system, the deposit insurer would need the basic information to calculate insurance premium and to reimburse depositors in a timely and efficient manner, when required to do so. Such information would relate to data on banks' deposit base, including information on the amount of assessable and insured deposits held by individual depositors. The nature of information required by the deposit insurer will vary from normal times to that in a crisis. A risk-minimising deposit insurer would however, have greater need for information given, its broader mandate.

Although informal arrangements for information sharing and co-ordination can work well in certain circumstances, given the sensitivity of institution-specific information and the challenge of maintaining open communication channels, it may be useful to formalise arrangements in this regard either through legislation, Memoranda of Understanding (MoUs), formal agreements or a combination of these arrangements. If formal information-sharing arrangements are relied upon, they should clearly acknowledge the roles and responsibilities of the respective parties, set out what is to be shared and by whom, as well as the type, level of detail and frequency of information to be exchanged. Apart from these specifics, formal agreements may also be useful in providing a general framework for safety-net participants to coordinate their related operational and policy-making activities by promoting regular meetings and opportunities for consultation. The experience of various deposit insurance systems around the world shows that strong coordination, information-sharing and exchange arrangements are essential. In some of the countries, the functions and responsibilities of the deposit insurer and the central bank in the areas of examination, monitoring, prompt corrective action, and failure resolution, are defined in their respective charters and/or circulars, rules and regulations and MoUs. In some other countries, a statutory committee composed of representatives of the central bank, deposit insurance system, ministry of finance and supervisory authority has been established to facilitate information sharing and to coordinate regulatory policy. In a few countries, the inter-relationship between DIS and the Central Bank is through Strategic Alliance Agreement entered into between the key safety net players, complementing each other towards their common goals of promoting financial stability.

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banks. The size of the DIF (including surplus) was Rs.13,362 crore as on March 31, 2008 implying a designated reserve ratio (DRR) of 0.74 per cent. Under the Federal Deposit Insurance Reform Act of 2005, the Federal Deposit Insurance Company (FDIC) in the US must by regulation set the DRR for the DIF within a range of 1.15 per cent to 1.50 per cent of estimated insured deposits. In 1989, a 1.25 per cent DRR requirement was introduced in the US by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA). In Indian context, while Advisory Group (Capoor Committee) on Reforms in

Box VII.13: Recent Announcements relating to Deposit Guarantee

To assuage the excessive reactions to the current financial crisis, some countries announced guarantee for bank deposits for a short period and earmarked funds for the purpose. Even though the banking system continued to be sound and resilient, some governments decided to take precautionary action to avoid an erosion of banks' deposit base and ensure a level international playing field for banks in their jurisdiction.

US

On October 3, 2008, the Congress temporarily increased Federal Deposit Insurance Corporation (FDIC) deposit insurance from $100,000 to $250,000 per depositor up to December 31, 2009. With effect from October 14, 2008, all non-interest bearing transaction deposit accounts at an FDIC-insured institution, including all personal and business checking deposit accounts that do not earn interest, have been fully insured for the entire amount in the deposit account. This unlimited insurance coverage is temporary and will remain in effect for participating institutions until December 31, 2009.

Europe

The UK: With effect from October 7, 2008, the Financial Services Authority (FSA) of UK increased the compensation limit on deposits with failed banks, building societies and credit unions from £35,000 to a total of £50,000 per depositor under the Financial Services Compensation Scheme (FSCS). Customers with joint accounts will be eligible to claim up to £100,000 between them.

Denmark: The Danish Financial Supervisory Authority guaranteed all bank deposits with effect from October 6, 2008 as part of a deal with banks to set up a 3.5 billion DKK Liquidation Fund. Earlier the guarantee cover was available up to 300,000 DKK per depositor, net of all loans and other liabilities to the bank.

Germany: On October 6, 2008, the German Government offered a blanket guarantee for bank deposits, which would cover some 568 billion euros ($785 billion) in savings and chequing accounts as well as time deposits, or CDs. Prior to this, compensation scheme of German Banks covered 90 per cent of the outstanding deposits and was limited to 20,000 Euros per depositor.

Ireland: The Government of Ireland decided to put in place a guarantee arrangement to safeguard all deposits (retail, commercial, institutional and interbank), covered bonds, senior debt and dated subordinated debt (lower tier II), with six banks and such specific subsidiaries as may be approved by the Government following consultation with the central bank and the financial regulator. The guarantee is being provided at a charge to the institutions concerned and will be subject to specific terms and conditions so that the taxpayers' interest can be protected. The guarantee will cover all existing afore mentioned facilities with these institutions and any new such facilities issued from midnight on 29 September 2008, and will expire at midnight on September 28, 2010. The Government's objective in taking this decisive action is to maintain financial stability for the benefit of depositors and businesses and is in the best interests of the Irish economy.

Austria: Austria's Parliament approved a 100-billion-euro (US $196.8 billion) bailout plan on September 20, 2008 to stabilise the country's banking sector in the fallout from the global financial crisis. The package, *inter alia*, includes unlimited protection to individuals' bank deposits until December 31, 2009. After that, the State guarantee will be available only up to 100,000 Euros per account. Bank deposits for business account holders will be guaranteed up to 50,000 Euros. Before the law was passed, just 20,000 Euros per individual / business account was protected.

Sweden: The Swedish government announced on October 6, 2008 that it will raise the limit for deposit insurance to 500,000 Kronor (US $71,000) in a move to retain confidence in the country's banks. Sweden previously had a deposit insurance for savings of up to 250,000 Kroner.

Greece: The Greek Finance Minister submitted a bill to Parliament on October 6, 2008 to raise the legal limit of deposit insurance to 100,000 Euros from the current 20,000 Euros. The guarantee is proposed to be in force for the next three years.

Governments of Czech Republic, Slovakia and Spain have also announced that they would consider enhancing the deposit insurance cover. Italy already provides deposit insurance cover up to 1,03,000 euros per depositor, which was till recently the highest in Europe. The Euro laws required the member countries to extend a minimum deposit insurance of 20,000 Euros, which has now (in the meeting of EU Finance Ministers held on October 7, 2008) been revised to 50,000 Euros. It has also been decided to abandon co-insurance. All countries in the EU Zone have taken / are taking action accordingly.

Asia

Philippines: A bill proposing to double the deposit insurance cover from Peso 250,000 to Peso 500,000 is pending in the Congress, but it has been reported in the press that the cabinet wants to further raise (four-fold) the insurance cover to one million pesos. No additional premium is proposed, but the government proposes to inject additional funds for the purpose.

Indonesia: The Government increased the deposit insurance cover to Indonesian Rupiah two billion.

Malaysia: It was decided on October 30, 2008 to extend blanket Government guarantee through the Malaysia Deposit Insurance Corporation (PIDM) on all ringgit and foreign currency deposits with commercial, Islamic and investment banks, and deposit taking development financial institutions regulated by Bank Negara Malaysia, until December 2010. The guarantee extends to all domestic and locally incorporated foreign banking institutions; and access to Bank Negara Malaysia's liquidity facility will be extended to insurance companies regulated and supervised by the Bank. Additional premium will be charged to all members for the guarantee.

Singapore: The Singapore Government decided to guarantee all Singapore Dollar and foreign currency deposits of individual and non-bank customers in banks, finance companies and merchant banks licensed by the Monetary Authority of Singapore (MAS). The guarantee will take immediate effect and will remain in place until December 31, 2010. All depositors, big and small, corporates and individuals, including those under the current Deposit Insurance Scheme administered by the Singapore Deposit Insurance Corporation would enjoy protection from the Government on the full amount of their deposits for the duration of the guarantee. The Government guarantee would also be extended to deposits placed with credit co-operatives registered with the Registry of Co-operative Societies. Given that Singapore's financial sector is sound and robust, the MOF and MAS have assessed that a guarantee of up to S$150 billion would be well in excess of possible liabilities arising from the failure of any financial institution. The guarantee will be backed by S$150 billion of the reserves of the Singapore Government.

Hong Kong: The Hong Kong Monetary Authority (HKMA) on October 14, 2008 stepped up its efforts to enhance financial stability, issuing a blanket guarantee for customer deposits and offering to re-capitalise its banks. The HKMA would use its Exchange Fund to guarantee all customer deposits held in authorised institutions in Hong Kong.

Others

Australia: On October 12, 2008, the Australian Government announced a blanket guarantee for all bank deposits, covering around A$700bn. This has been widely criticised by the financial sector, including the Governor of the RBA, as it has triggered withdrawal of funds from cash management trusts and mortgage funds. An example being Australia's largest mortgage fund, Challenger Howard Mortgage Fund, which had to freeze redemptions after jittery investors sought to secure their investments. Taking note of these developments, the Government has indicated that it was considering modifying the scheme with a limit for the government guarantee and stipulating an "insurance" premium for large depositors to qualify for the full guarantee.

New Zealand: The Government had announced a blanket guarantee for bank deposits on the same lines as Australia. On Oct 10, 2008 however, it revised the "Crown Retail Deposit Guarantee Scheme" fixing a cap on the size of deposit covered by the guarantee at A$1 million per depositor per guaranteed institution. Australia guaranteed all bank deposits for three years, while New Zealand guaranteed all deposits for two years.

Source: Websites of respective central banks.

Table VII.8: Insured Deposits @

(Accounts in million and amount in Rupees crore)

	2006-07	2007-08
1. Total No. of Accounts	716.89	1,038.91
2. Fully protected accounts	682.90	961.72
Percentage of 2 to 1	95.26	92.57
3. Assessable deposits	23,44,351.21	29,84,799.81
4. Insured deposits	13,72,596.97	18,05,080.83
Percentage of 5 to 4	58.55	60.48

@ : Based on returns as on last working day of September of the previous years.
Source : Annual Report 2007-08, DICGC.

Deposit Insurance in India, 1999, had recommended DRR of 2.0 per cent, the internal working group of DICGC had recommended DRR at 1.5 per cent level.

7.125 In India, the DICGC Act, 1961 provides a mechanism for inter-agency co-ordination between the DICGC and the Reserve Bank. DICGC is empowered to have free access to the records of an insured bank and to call for copies of such records. On DICGC's request, the Reserve Bank is required to undertake/ cause the inspection/investigation of an insured bank. By the same token, the DICGC is bound to furnish to the Reserve Bank such statements and information relating to the business or affairs of itself or of an insured bank as the Reserve Bank may consider necessary or expedient. Under normal circumstances, this provision of the Act is hardly put into practice. For improving coordination on matters relating to UCBs with its regulators, the following initiatives have been taken: (i) a co-ordination committee at the level of chief executive officer/chief general manager of DICGC and regulator of UCBs meets regularly and discusses issues of importance; (ii) DICGC is an invitee in the Standing Advisory Committee for UCBs; and (iii) representative of DICGC is invited to interact in local boards and central board of the Reserve Bank as also Board for Financial Supervision, on issues concerning the DICGC, as and when required. Representative of DICGC is invited at the meetings of the sub-committee of the TAFCUB. The coordination committee has helped solve many issues relating to UCBs with the support of the Reserve Bank.

7.126 The basic objective of deposit insurance is to ensure prompt reimbursement to the depositors, particularly small depositors. The DICGC has taken certain initiatives to eliminate delay in settlement of claims of the depositors by formulating policy guidelines to mitigate hardship to the depositors of insured banks due to delay on account of liquidation order having been challenged in court of law. Further, in extraordinary situations where the DICGC has issued advertisement in local newspapers informing the depositors about the non-receipt of claims, it has been observed that though this has yielded the desired results in some cases, in many other cases the response has been poor. An on-site pilot study was conducted by the DICGC in respect of four such banks in one of the States. Findings of the study reveals that: (i) the main reason for non-submission of claim list is pendency of audit of the books of accounts of the banks as on the cut off date and that for the earlier periods – inadequate and improper maintenance of records, unauthenticated entries in the books of the banks, *etc.,* are causing delay in the audit by the Government Auditors; (ii) some of the liquidators were having liquid funds sufficient to make payment to depositors, in accordance with the provisions of the DICGC Act, 1961, but they had utilised the funds for payment of deposits which were not eligible for settlement of claims, such as, deposits of the banks/Government and those exceeding Rs.1 lakh; (iii) the liquidators also resorted to adjustment of deposits against the loan amounts of third parties.

7.127 On the basis of observations made in the study report, it has been decided that if a

bank under liquidation is having liquid funds which are adequate to make payment to depositors, the liquidator may approach DICGC for its in-principle approval to pay the small depositors up to Rs.1 lakh as per the provisions of DICGC Act 1961. DICGC would consider such requests for payment to depositors subject to the condition that the liquidator would not submit any claim to the Corporation, or if the payment is made in part to eligible depositors, submit the claim for net amount after adjustment of such payment.

7.128 In a special situation where claim list has not been submitted by the liquidator even after a long period because of delay in audit of accounts, DICGC has suggested for appointment of a chartered accountant firm by the Registrar of Co-operative Societies (RCS) to assist the liquidator in completing the audit and/or preparation of the claim list. On being satisfied about the authenticity of claims, DICGC may waive, as a special case, the submission of audited balance sheet as on the cut-off date. It has been suggested by DICGC that chartered accountant for the above purpose may be appointed by the RCS on the recommendation of the sub-committee of the TAFCUB and they should carry out audit as per the terms approved by the sub-committee. The DICGC would also consider request in other genuine circumstances on a case-to-case basis.

7.129 The cumulative impact of the above policies relating to settlement of claims during the pendency of court cases, issue of advertisement by DICGC regarding non-receipt of claim list and decisions taken in the light of the findings of the pilot study, has been encouraging and DICGC has settled such claims of 14 banks for a total amount of Rs.132 crore in respect of 1,93,873 depositors.

5. Overall Assessment

7.130 The ongoing financial crisis has had a deep impact on the existing framework for measuring, assessing and maintaining financial stability. The crisis has become more widespread. Although international financial markets had started showing some signs of improvements by mid-2008 in response to the co-ordinated policy responses, developments since September 2008 further precipitated the crisis. Emerging markets, which had earlier escaped the direct impact of the financial turmoil, increasingly became vulnerable to the international financial contagion. With the crisis extending to new areas and instruments, it has become extremely difficult to gauge its magnitude and implications, thereby rendering any assessment of financial stability extremely difficult at the current juncture.

7.131 The assessment of the Indian financial system during 2007-08 indicates that the banking sector in India continues to be healthy, sound and resilient. The profitability of the banking sector, which has shown remarkable resilience in the last few years, improved further during the year. Their capital position is also strong and they are less leveraged than they were a few years ago. The performance indicators such as operational efficiency, asset quality and soundness indicators of the Indian banking system currently compare well with the global standards. Although non-performing loans in absolute terms increased during the year, showing a reversal of the trend observed during the last few years, the gross NPA ratio (gross NPAs as percentage of gross advances) continued to decline. Even though the credit risk environment is becoming somewhat uncertain, highlighting the significance of NPA management, banks with comfortable capital buffers appear to be in a better position to withstand any shock on their balance sheets arising out of evolving macro-economic environment.

7.132 Urban co-operative banks have responded well to the restructuring and

streamlining based on the Vision Document 2005. The issues in respect of rural co-operative sector are far more extensive and complex, and are being addressed in terms of the recommendations of the two task forces set up for the short-term and long-term institutions (Chairman: Prof. A. Vaidyanathan). Urban co-operative banks and RRBs have been strengthened.

7.133 Some of the major stability oriented measures for the markets and the financial infrastructure include setting up of the Clearing Corporation of India Limited to act as a central counterparty for facilitating payment and settlement systems relating to fixed income securities, money market instruments and foreign exchange transactions; setting up of Indian Financial Network (INFINET) as the communication backbone for the financial sector; introduction of negotiated dealing system (NDS) for screen-based trading in Government securities; and introduction of the RTGS system. It has been the endeavour of the Reserve Bank to foster financial stability through strengthening of financial institutions, increasing the depth and liquidity of the various segments of the financial market and improving the efficiency of the payment and settlement systems. Well calibrated liberalisation of macroeconomic and financial policy environment, in which banks operate, has promoted growth and provided newer business opportunities to banks and non-bank institutions.

7.134 Recent adverse developments and uncertainties following the failure/merger of some big international banks, have, however, posed new challenges for policy action. Global financial market developments since August 2008 have had some impact on domestic liquidity conditions and interest rates in the inter-bank market. The NBFCs and mutual funds faced resource crunch, affecting the CDs and CPs market significantly. Owing to increased risk aversion, portfolio flows reversed in recent months causing sharp correction in the equity market and depreciation of the rupee in the foreign exchange market. On the other hand, with merchandise imports running ahead of exports, the trade deficit continued to widen. There has also been tightening of external financing conditions due to the ongoing global financial turmoil.

7.135 In response to emerging global developments, the Reserve Bank initiated a number of measures beginning mid-September 2008. The aim of these measures was to augment domestic and forex liquidity and enable banks to continue to lend for productive purpose while maintaining credit quality so as to sustain the growth momentum. With a view to dealing with reversal of portfolio flows, the Reserve Bank continued to sell foreign exchange (US dollar) from its existing stock of foreign exchange reserves to meet the demand supply mismatch. The Reserve Bank's operations in the foreign exchange market however impacted the domestic liquidity conditions. To ease the liquidity condition, the Reserve Bank initiated several measures including reduction in the CRR by 350 basis points during October-November 2008 to 5.5 per cent level. The repo rate was also reduced by 250 basis points to 6.5 per cent and the reverse repo rate by 100 basis points to 5.0 per cent by December 6, 2008. The external commercial borrowings (ECBs) policy was eased with permission for up to US $ 500 million per borrower per financial year under the automatic route, and allowing banks to borrow funds from their overseas branches and correspondent banks up to a limit of 50 per cent of their unimpaired Tier 1 capital as at the close of the previous quarter or US $ 10 million, whichever was higher, as against the earlier limit of 25 per cent. Systemically

important non-deposit taking NBFCs were temporarily permitted to raise short-term foreign currency borrowings under the approval route, subject to their complying with the prudential requirements of capital adequacy and exposure norms.

7.136 The Reserve Bank instituted a mechanism of special market operations (SMO) for public sector oil marketing companies in June-July 2008 taking into account the extraordinary situation then prevailing in the money and forex markets. It also provided liquidity support to the lending institutions to pay instalment under the Agricultural Debt Waiver and Debt Relief Scheme. In view of the current macroeconomic, monetary and credit conditions and consistent with the practice of dynamic provisioning, the provisioning requirement for all types of standard assets was reduced to a uniform level of 0.40 per cent except in the case of direct advances to agricultural and SME sector which continues to attract provisioning of 0.25 per cent, as hitherto. Similarly, risk weights on banks' exposures to certain sectors, which had been increased counter cyclically, were revised downward. The Government also recently announced that it would recapitalise seven public sector banks so as to raise their CRAR to the level of more than 12 per cent.

7.137 The overall long-term macroeconomic outlook continues to be favourable with moderation of growth being the current policy concern. The overall GDP growth has moderated, reflecting recent slackening of growth in the manufacturing sector and some of the services sectors. The industrial sector growth during 2008-09 (April-September) has remained volatile. Cumulatively, the IIP growth during April-September 2008 slowed down to 4.9 per cent as against 9.5 per cent last year. The slowdown in the industrial sector has the potential to adversely affect the profitability of the corporate sector, and thereby credit risk. Another factor which may adversely impact the credit risk is the elevated level of real estate prices. However, as banks maintain sufficient margins (loan to value ratio), the overall impact of such losses may not be significant. Moreover, banks' capital position is very strong and they should be able to easily absorb the loan losses, should they materalise.

7.138 Equity markets in India as in many other economies have fallen sharply since January 2008. However, banks' direct and indirect exposure to the equity market is limited and the sharp correction in the equity market should not have any significant impact on banks' balance sheets. With the domestic equity market having declined by more than 60 per cent from its peak level, valuations have also become quite attractive. Once calm and orderliness are restored, India should again become an attractive destination for portfolio flows.

7.139 Some useful lessons for the regulators and supervisors have emerged from the recent financial turmoil. Apart from liquidity risk, leveraging of financial institutions, valuation norms and securitisation practices, the entire framework for regulation and supervision is being reviewed by national authorities and international bodies. Apart from several regulatory and supervisory issues, international response to the turbulence has also highlighted the issue of the institutional structure for financial stability, and international financial architecture. The relevance of universal banking, the separation of central banking functions from regulation and supervision of banking entities are some of the topics being debated intensely.

7.140 The US banks bailout plan, guarantees, deposit insurance and other emergency measures have raised the issue of

public *versus* private initiatives. It is being recognised that finance and financial institutions must be subject to a higher degree of official oversight than is necessary for virtually all other forms of commercial enterprises. However, official supervision is not a substitute for effective management of financial institutions which is - and should remain - a private function. The respective roles of central banks, regulators, supervisors, and fiscal authorities regarding financial stability need to be revisited and reinforced. Private sector organisations have recommended improvements to industry practices to establish frameworks for rigorously monitoring and reporting on their timely implementation.

7.141 The experience around the world over the past two decades suggests that banking crises have systemic and disruptive effects on the financial system as well as the real economy. A lasting stabilisation of the financial system calls for a holistic policy approach which links the microprudential base - the perspective on the individual institutions - with the macroprudential perspective and which simultaneously integrates the macroeconomic background and developments in the financial markets.

7.142 International co-operation in regulation and supervision has intensified. A comprehensive strategy for regulation, supervision and risk management of internationally active banks was announced by the Basel Committee on Banking Supervision on November 20, 2008 which focuses on strengthening capital buffers and help contain leverage in the banking system arising from both on- and off-balance sheet activities. It also highlights the need for promoting stronger risk management and governance practices to limit risk concentrations at banks so as to ensure that the banking sector serves its traditional role as a shock absorber to the financial system, rather than amplifies risk between the financial sector and the real economy. The Financial Stability Forum has also scaled up its follow up on implementation of the five principles for enhancing market and institutional resilience announced in April 2008. The G-20 Summit held in Washington on November 15, 2008 announced some immediate steps including, *inter alia*, providing liquidity to help unfreeze credit markets and ensuring that the IMF, World Bank and other multilateral development banks (MDBs) have sufficient resources to assist developing countries affected by the crisis, as well as provide trade and infrastructure financing. In an era of heightened financial globalisation, India needs to be an active participant in the international fora.

7.143 The Reserve Bank has developed a capacity to monitor the health of the nation's overall financial system, expanding its oversight and supervisory responsibilities well beyond commercial banks and payments systems to include the major segments of the market. With a view to reducing systemic risks, and keeping in view the inter-dependencies among financial agents, it is important that the initiatives towards inter-regulatory co-ordination are continued across the complex array of regulatory and supervisory arrangements with SEBI as the capital market regulator, IRDA as insurance regulator, and other government agencies, so as to maintain domestic financial stability. The vulnerability of financial intermediaries can be addressed through prudential regulations and supervision. Risk management of non-financial entities could be addressed through further development of the financial markets, which enable them to manage their risks using appropriate products.

7.144 Financial stability in India has been achieved through perseverance of prudential

policies which prevent institutions from excessive risk taking, and financial markets from becoming extremely volatile and turbulent. The policy stance of the Reserve Bank is aimed at assuring financial stability, while maintaining the growth momentum at reasonable levels and giving a high priority to price stability. The relative stability in domestic financial markets, despite extreme turmoil in the global financial markets, is reflective of prudent practices, strengthened reserves and the strong growth performance in recent years in an environment of flexibility in the conduct of policies. Active liquidity management is a key element of the current monetary policy stance. Liquidity modulation through a flexible use of a combination of instruments has, to a significant extent, cushioned the impact of the international financial turbulence on domestic financial markets by absorbing excessive market pressures and ensuring orderly conditions. India, with its strong drivers of growth, may escape the worst consequences of the global financial crisis. Once the global situation is stabilised, and calm and confidence are restored, India would return to the high growth trajectory.