Chapter-4
Non-Performing Assets and Capital Adequacy Norms: An Outline

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Indian banking system has undergone a radical change with positive support in economic development of the country in order to ensure balance between social banking and profitability and to earn a fair return to defend their survival. Based on this, the previous chapter has presented the background of commercial banks in the present scenario. The chapter here is an outline of non-performing assets and capital adequacy norms of commercial banks in India. This has highlighted the quality of assets, the calculation and accounting aspects of NPAs, capital adequacy of banks which covered prudential norms by commercial banks in respect of income recognition, assets classification etc.

1. Introduction:

In the pre-reform period, Indian commercial banks operated under a system of financial repression, whereby their lending activities were subjected to a variety of regulatory controls. The risk management got little emphasis in the commercial banking sector. The position, however, changed drastically during the financial post reform period following the introduction of prudential operational guidelines and modern supervisory practices (Poongavanam, 2011)[1]. Non-performing assets of banks is an important criterion to assess the financial health of banking sector. It reflects the asset quality, credit risk and efficiency in the allocation of resources to productive sectors (Agarwal and Mittal, 2012)[2]. Since the reform regime there have been various initiatives to contain growth of NPAs of banks to improve the asset quality of banking sector. The commercial banks have envisaged the greatest renovation in their operation with the introduction of new concepts like income recognition, prudential accounting norms and capital adequacy ratio etc which placed them in a new platform (Pati, 1999)[3]. The banks have stepped forward mainly in expansion of bank branches, mobilization of deposits and channelization of credit. Further the paradigm shift of attitude of financial institutions towards the short term financing has also changed the complexion of scheduled commercial banks. The growing

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[1] Poongavanam, S. (2011) "Non Performing Assets: Issues, Causes and Remedial Solution," *Asian Journal of Management Research.* Online Open Access publishing platform for Management Research, 2 (1).

[2] Agarwal, S and Mittal, P. (2012) "*Non-Performing Asset: Comparative Position of Public and Private Sector Banks in India*", International Journal of Business and Management Tomorrow, Vol.2 (1).

[3] Pati, A.P. (1999) "Non-Performing Assets-Causes, Consequences and Cures", *The Management Accountant*, (November).

competition from internal and external constituents and sluggish growth in economy coupled with poor credit-deposit ratio, the large volume of non-performing assets in the balance sheet and lack of automation and professionalization in operation have been flaring up the banking situation in the country.

Indian banks and financial institutions are believed to hold a whopping Rs.1,10,000 crores as non-performing assets. The question of NPA in banks is a cause of worry to all concerned. The management is seriously concerned about the growing NPA menace, which is taking its toll on efficiency and profitability. NPAs are serious strain on the profitability because the banks can not book income on such accounts. Further they are required to charge the funding cost and provision requirement to their profits. High level of NPAs adversely affects the financial strength of banks and enforces the government to recapitalize the weak banks from time to time. On the other hand, the banks have failed to conform to stringent international standard.

The Narasimham Committee has rightly expressed concern over the erosion in the quality of assets of which non-performing advances constitutes the bulk. The fund lock up in the NPAs is not available for productive use. When banks write them off, it becomes a charge on their profits. In order to write off NPAs, banks are compelled to charge higher rate of interest on productive loans. In the present scenario, NPAs have been the most vexing problem faced by public sector banks (Reddy et al., 2006)[4]. The Govt. of India and Reserve Bank of India have initiated various measures to control NPAs in the post reform years. But banks are still unable to solve the dilemma. This needs to be remedied. With this

[4] Reddy, B.K., Babu, P.P., Mullikarjuna, V. and Viswanathan, P. (2006) "Non-Performing Assets of Public Sector Banks: An Investigation", *ICFAI Journal of Financial Economics*, iv(1) pp-69-79.

backdrop, an attempt has been in this chapter made to examine the prudential norms by commercial banks in respect of income recognition, assets classification etc which painted with the calculation and accounting practices of NPAs of commercial banks in India.

2. Definition of Non-Performing Assets (NPAs):

The loan/advances of banks are assets. The loan, which is not meeting its stated interest or principal repayment of the secured debt to the designated lender, is called as a non-performing asset. The NPAs means an asset or account of a borrower, which has been classified by a bank or financial institution as substandard, doubtful or loss asset. The borrower has not paid any previously-agreed payments or the principal amount, making the loan account non-performing (Unny, 2011)[5]. After the introduction of Narasimham Committee recommendations all advances and loans are classified into two categories ie, performing assets and non-performing assets. Generally an asset became NPA when it ceases to generate income for the bank. When a borrower fails to repay the installment of principal and interest within the first quarter, it becomes non-performing in the next quarter (GoI, 1991)[6]. If the past due amount of advance remains outstanding for the second quarter, it becomes non-performing in the third quarter and the past due amount remaining un-recovered for the last quarter the amount would be classified as NPA for the whole year. However, it may so happen that a past due amount remaining non-performing in first

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[5] Unny, P. M. (2011) "A Study on the Effectiveness of Remedies Available For Banks in a Debt Recovery Tribunal - A Case Study on Ernakulam DRT", *Centre for Public Policy Research*. Kochi, Kerala, Retrieved from, http://www.cppr.in/.(Date of visit-5-2-2012).

[6] Govt. of India.(1991) "*Report of the Committee on Financial System 1991*" (Narasimham Committee), Ministry of Finance, P-54.

quarter or second quarter may become performing in the next quarter. It is thus required to compute and report the segregated amount of NPA for each quarter and then assign specified percentage for provisioning in accounts (Sikidar,1997)[7]. The Narasimham Committee in this respect recommended uniform accounting practices for banks particularly in respect of income recognition, classification of assets and provisioning of bad-debt. The committee on Financial System (GoI, 1991)[8] holds that a proper system of income recognition and provisioning is fundamental to the preservation of strength and stability of banking system. In this context, it recommended international practice of recognizing an asset as "non-performing" as "when interest was overdue for at least two quarters and where interest was not recognized on accrual basis but was booked as income only when actually received". An NPA would thus be considered as an advance where as on the balance sheet date:

- In respect of term loans, interest remains past due when it remains outstanding 30 days beyond the due date for a period of more than 180 days;
- In respect of overdraft and cash credits, accounts remain out of order for a period of more than 180 days;
- In respect of bills purchased and discounted, the bill remains overdue and unpaid for a period of more than 180 days.
- In respect of other accounts, any amount to be received remains past due when it remains outstanding 30 days beyond the due date for a period of more than 180 days.

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[7] Sikidar, S. (1997) "Computation of NPA, Income Recognition and Impact on Reporting of Bank Account", *The Management Accountant*, (November) pp - 811.

[8] Govt. of India.(1991) "*Report of the Committee on Financial System 1991*" (Narasimham Committee), Ministry of Finance, P-54.

The committee recommended a transition period of three years, commencing from the year 1991-92, to be given to the banks and financial institutions to harmonize their accounting practices with the new norms. The banks and financial institutions were advised to classify their assets into four categories, namely standard assets, substandard assets, doubtful assets and loss assets for the purpose of provisioning (Shajahan, 1998)[9]. The broad categories were defined as follows:

- Sub-standard assets are those assets that exhibit problems and would include assets classified as non-performing for a period not exceeding two years.
- Doubtful assets are those NPAs which remain as such for a period exceeding two years and would also include loans in respect of which installments are overdue for a period exceeding two years.
- Loss assets are accounts where loss has been identified but the amounts have not been written off.

An asset is considered to have gone bad when the borrower has defaulted on principal and interest repayments for more than two quarters or 180 days. Globally this cut off has been set at 90 days and RBI is trying to implement the same (RBI, 2001)[10]. With effect from April 2004, an asset will become NPA if a borrower fails to pay interest for 90 days. With effect from March31, 2005 banks will have to classify assets as 'doubtful', if they remained under the sub-standard category for 12 months (currently at 18 months). To help banks to overcome extra provisioning of a minimum of 20 per cent year is allowed over four years. Banks may, however, go for an aggressive provisioning with an immediate effect.

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[9] Shajahan, K.M. (1998) "Non-Performing Assets of Banks; Have They Really Declined? And on Whose Account", *Economic and Political Weekly*, (March-21), p – 671.

[10] RBI Tightens NPA Recognition Norm, *The Economic Times,* (November, 2001).

In order to push lending to the infrastructure loans, the RBI are in favour of relaxation of the asset classification norms for this sector (Dey, 2008)[11]. The asset classification norms relate to the period in which banks classify their loans and advances as standard or performing assets or non-performing. This move has been triggered by the fear that several gas-based power projects in the South are likely to turn into non-performing assets on bank books. For classifying an infrastructure project in the performing category, it is not only essential for the customer to service the interest payments but also ensure that the commercial production has also kicked off. The central bank had earlier already extended the period for NPA classification from six months to one year. However, the banks under the aegis of the Indian Banks' Association (IBA) have represented to RBI to increase the time for classification of such loans into NPA.

According to Reserve Bank of India (RBI, 2010)[12], an asset including a leased asset, becomes non-performing when it ceases to generate income for the bank. Since “the NPA of banks is an important criterion to assess the financial health of banking sector” (Ahmed, 2010)[13], identification of potential problem accounts and their close monitoring assumes importance. Though most banks have Early Warning Systems (EWS) for identification of potential non-performing assets (NPAs), the actual processes followed varies from bank to bank. The major components or processes of a EWS followed by banks in India as brought out by a study conducted by Reserve Bank of India at the instance of the Board of Financial Supervision are as follows:

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11 Dey, A. (2008)“RBI May Relax NPA Norms for Infra Loans”, *Business Standard*, Mumbai (April 26), 3:25 .

12 Reserve Bank of India (RBI) (2010) “Master Circular - Prudential Norms on Income Recognition, Asset Classification and Provisioning pertaining to Advances”

13 Ahmed, J. U. (2010) “An Empirical Estimation of Loan Recovery and Asset Quality of Commercial Banks”, *The NEHU Journal*, VIII (1).

- Designating Relationship Manager / Credit Officer for monitoring account/s
- Preparation of 'know your client' profile
- Credit rating system
- Identification of watch-list/special mention category accounts
- Monitoring of early warning signals

The finance ministry has recently asked government banks to shift to a system where non-performing assets (NPAs) are identified by technology. This will help the banks to avoid human interference. The ministry advised the government banks to put the system in place by March 2011. However, after requests by public sector banks, the government has given a six-month extension for classifying non-performing assets (NPAs) using technology. The deadline was extended by six months to September 30, 2011. The country's largest lender, State Bank of India (SBI), and large banks like Union Bank of India, have said the ministry that they calculate NPAs on the Core Banking Solution (CBS) platform. Punjab & Sind Bank has recently started the CBS rollout. Currently, only Indian Bank and SBI have started calculating NPA under the technological platform called the Core Banking Solution system. Most other PSU banks are in the final stages of migrating to CBS and calculating NPAs under the CBS system. Taori (2000)[14] has dealt with NPAs management of banks and stated that the surest way of containing NPAs is to prevent their occurrences. He suggests proper risk management, strong and effective credit monitoring, co-operative working relationship between banks and borrowers etc as tenets of NPAs management policy. Since, management quality of credit risk by the banks is a reason for ballooning NPAs, banks concerned are continuously monitoring loans to identify

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[14] Taori, K.J. (2000) "Management of NPAs in Public Sector Banks", *Banking Finance*, (August Issue) pp.98-101.

accounts that have potential to become non-performing as banks need to maintain have adequate capital to support all the risks. Under the Basel II Norms, banks should maintain a minimum capital adequacy requirement of 8 per cent of risk assets. All commercial banks in India excluding Regional Rural Banks and Local Area Banks have become Basel II compliant. For India, the Reserve Bank of India has mandated maintaining of 9 per cent minimum Capital Adequacy Ratio (CAR) or Capital to Risk Weighted Assets Ratio (CRAR). The major challenge the country's financial system faces today is to bring informal loans into the formal financial system. By implementing Basel II norms banks involved significant changes in business model in which potential economic impacts can be carefully monitored. It is important to note that RBI has introduced stringent policy norms for Indian banks with the purpose of making Indian banking business at par with global standards and make it more reliable, transparent and safe. These norms are necessary since India is a developing economy and it is witnessing increased capital flows from foreign countries and there is increasing international economic and financial transactions.

3. Calculation of NPAs:

According to RBI directives, banks are required to maintain two sets of NPAs figure in the annual account from 1995-96. They are also required to calculate two categories of figures on gross and net basis for easy reference by the RBI. While gross NPA will be of NPAs both on the gross and net basis as a percentage of bad-loans to the total advances. On the other hand, net NPA would be arrived at after deducting provisions and claims received from the Deposit Insurance and Credit Guarantee Corporation (DICGC) from the gross NPA figure. It can be calculated as under-

$$\text{Non Performing Assets} = \frac{\text{Gross/Net NPA}}{\text{Total advances}} \times 100$$

Where,

Net NPA = Gross NPA – Provision for NPAs

Total advances = Total advances are taken as per the amount shown in the assets side of the balance sheet.

It was argued that the ratio of NPAs in foreign countries is less than 2-3 per cent and Indian banking should aim at reaching a ratio of at least 5 per cent and below. It is mention-worthy, that the ratio is designated as "non-performing assets" to total assets but in reality it is worked out in the case of 'credit' only i.e. non-performing credit is related to total credit.

Generally, in India, credit forms only about 55 per cent of total assets, remaining 45 per cent of assets are held with RBI (10 per cent), govt. securities (25 per cent) and other investments (10 per cent). It shows that 35 per cent of other assets are in the performing category and used for commercial purpose. Therefore, while calculating the ratio of NPAs to total assets, banks should consider investments in the total volume of assets. In such a case, the ratio of non-performing assets will be considerably lower than the present ratio as it is confined only to total credit and not to total assets. In foreign countries, there are no compulsory pre-emption for a high level of CRR and SLR. As a result, their non-performing credit gets related to total assets and possibly therefore, the ratio is much lower. The NPAs emanating from priority sectors have often been exaggerated, while the number of NPAs accounts in the priority sector is less than that of non-priority sector. In Indian financial system, willful defaulters [15] are protected by the lethargic legal system. In international banking, while working out NPAs, collateral security is deducted for arriving at the NPA. These aspects of NPAs should carefully be reckoned with in the calculation and its comparison with international banks' NPAs.

4. Accounting Practices of NPAs:

The impact of reform measures on NPAs can be traced from the procedure of its recognition. In the pre-reform era, the banks and financial institutions were supposed to follow Health Code (HC) system introduced by RBI in 1985. The Health Code (HC) system consisted of eight code such as (i) satisfactory (ii) irregular (iii) sick (viable/under nursing) (iv) sick (non-viable/sticky) (v) advances recalled (vi) suit filed accounts (vii) decreed debts and (viii) debt classified by bank as bad/doubtful. The advances classified under HC (v) to (viii) mentioned above were to be considered as NPAs. The Reserve Bank of India directed the banks, in May 1989, not to charge and take into their income account, interest on loans classified under HC-(vi), (vii) and (viii) from the quarter in which the individual accounts were so classified. In October 1990, the RBI advised banks that while advances classified as HC (v) were also to be similarly treated as income recognition for advances under HC (iv). The application of interest was left to the discretion of banks, which is based on

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15 A willful defaulter is one -

- Where either the unit has defaulted in meeting its loan obligations despite having the capacity to honor the obligations or.
- The units have defaulted in its obligations and has not used funds for the purpose for when finance was availed of, but has diverted funds or.
- The units have defaulted in obligations and have siphoned off funds and the funds are not available with the units in the form of other assets

availability of adequate security aspects against the advances. The non-performing advances classified under HC: iv, v, vi, vii and viii as a percentage of total outstanding domestic advances of public sector banks stood at 13.59 per cent at the end of March 1991 and increased to 14.46 per cent in March 1992. There has been a drastic reduction of NPAs of public sector banks during 1996-2006. The gross NPAs as per cent of advances of PSBs have been reduced to 3.7 per cent in March 2006 (RBI, 2005-06)[16] from 18.0 per cent in March 1996. It is to be noted that the replacement of old definition by new definition of NPAs i.e., an asset where in the borrower has defaulted on principal and interest repayments for more than two quarters, recommended by Narasimham Committee was made without considering its quantitative implications. In March 1991 NPAs were found to account for 13.59 per cent of the total advances of PSBs under old definition.

The Reserve Bank of India initiated implementation of the new definition from the financial year 1991-92. However, Narasimham Committee recommended the international practice of NPA i.e. any advances should turned into sour when interest was overdue for at least two quarters. RBI directed the banks to introduce this norm by phasing it over three years, starting with the target of four quarters for 1992-93, three quarters for 1993-94 and two quarters for 1994-95. In the line of the recommendation of the committee on financial system, the RBI had advised the banks to classify their advances into four groups viz. Standard assets, Sub standard assets, Doubtful assets, and Loss assets. In the context of practical difficulties faced by banks in the implementation of the new prudential norms set for classification and provisioning, RBI set an informal group to

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[16] Reserve Bank of India, *Trend and Progress of Banking in India*, (2005-2006).

examine the relaxation criteria in this respect. The working group recommended relaxation in the following respect:

- An amount under any credit facility should be treated as 'past due' only when it remains outstanding for 30 days beyond the due date;
- Bank should adopt agricultural season as the basis for treatment as NPA of advances granted for agricultural purposes where interest payment is on half yearly basis synchronizing with harvest;
- For the purpose of considering an advance as NPA, net worth of borrower/guarantor need not be taken into account;
- If the salvage value of security is negligible, it may not be considered while providing for loss assets;
- In the case of project financing, reckoning of past due shall commence only from the due date for payment;
- The NPA should be treated on the basis of the nature of the borrowers ;
- Only credit facilities with an outstanding balance of Rs. 25,000/- and above need be considered while calculating NPAs; and
- Aggregate provisioning against advances with an outstanding balance of less than Rs. 25.000/- has to be of 2.5 per cent of the total outstanding amount.

The banks were advised to phase the provisioning against NPAs over a specified period. The income from NPAs of banks is not recognized on accrued basis but is booked as income only when, it is actually received. RBI has also tightened red the provisioning norms against asset classification. It ranges from 0.25 per cent to 100 per cent from standard asset to loss asset respectively.

5. Capital Adequacy Ratio (CAR):

The CAR is the parameter to reflect the financial soundness of banks. Banks maintain capital to cushion the risk of loss in value of exposure, businesses etc. so as to protect the depositors and general creditors against losses. Bank has a well defined Internal Capital Adequacy Assessment Policy (ICAAP) to comprehensively evaluate and document all risks and substantiate appropriate capital allocation so as to evolve a fully integrated risk/capital model for both regulatory and economic capital.

In line with the guidelines of the Reserve Bank of India, the bank has adopted Standardised Approach for Credit Risk, Basic Indicator Approach for Operational Risk and Standardized Duration Approach for Market Risk for computing CRAR.

The capital requirement is affected by the economic environment, the regulatory requirement and by the risk arising from bank's activities. The purpose of capital planning of the bank is to ensure the adequacy of capital at the times of changing economic conditions, even at times of economic recession. In capital planning process the bank reviews:

- Current capital requirement of the bank.
- The targeted and sustainable capital in terms of business strategy and risk appetite.
- The future capital planning is done on a three-year outlook.

The capital plan is revised on an annual basis. The policy of the bank is to maintain capital as prescribed in the Internal Capital Adequacy Assessment Policy. At the same time bank has a policy to maintain capital to take care of the future growth in business so that the minimum capital required is maintained on continuous basis. On the basis of the estimation bank raises capital in Tier-1 or Tier-2 with the approval of Board of Directors of the Bank. The Capital Adequacy position of the bank is reviewed by the Board of the Bank on quarterly basis.

Capital Adequacy Ratio (CAR) or Capital to Risk Weighted Asset Ratio (CRAR) is the ratio of capital fund to risk weighted assets. Capital reserves and tier II bonds are components of capitals fund. On the other hand risk weighted assets include fund based loans and non fund based credit exposure of the banks. Higher NPAs require higher provisions to be made out of profits, resulting in lower reserves, leading to lower CRAR, keeping other things to be same. The CAR was introduced from 1992 after acceptance of Narasimham Committee Report, which recommended observance of prudential norms by commercial banks and financial institutions, in respect of income recognition, assets classification, prescribed by Bank of International Settlement (BIS). The motive behind was that the banks should attain its competitiveness as well as remain sound in their operation. They have to maintain minimum capital funds against their risk-weighted assets and other exposure on their risk-weighted assets and other exposure on an ongoing basis. The Basle Committee prescribed minimum 8 per cent capital adequacy standard with a view to regulate banking operation on a global basis in 1987. However, it was open to national authorities to adopt more stringent requirements. Banks in India were required to attain this ratio on an incremental basis in phased manner 9 per cent with effect from 31st March, 2000 to 10 per cent from March 2001. The CAR is derived as under:

$$\text{CAR} = \frac{\text{Capital fund of the bank}}{\text{Risk weighted Assets (RWA)}} \times 100$$

Capital fund: Capital inclusive of tier-1 and supplementary capital respectively. Tier-1 capital comprises; issued capital; subscribed and paid up capital; statutory reserves, capital reserves, share premium, revenue and other reserves including investment fluctuation reserve and balance in profit and loss account. Tier-II capital comprises; Unsecured, Redeemable and Non-Convertible debentures. The BIS in 1996, proposed to incorporate Tier – III capital in the current definition of capital fund i.e., Tier-I and - II capital, though RBI did not implement it.

However, the proposed accord, Basel – II, June 1949 revised January, 2000, will effect by 2005, has added operational risk in the RWA. It is defined as the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events. However, it has been observed that operational risk will constitute approximately 20 per cent of overall capital requirements. Thus under the new method, RWA constitutes credit risk along with market risk and operational risk.

$$CAR = \frac{\text{Tier - I} + \text{Tier - II} + \text{Tier - III}}{\text{Credit risk} + \text{market risk} + \text{operational risk}}$$

Risk weighted Assets and other exposures may be calculated as -

(Assets * Risk weight) + (Off balance sheet items i.e., contingent credit exposure * conversion factors)

Nevertheless, the capital level considered adequate only to cover credit risk i.e, the amount of capital that the bank will need to protect itself against default of any of its assets. This ratio is incorporates different risk weightage for different asset types. For instance, investments in government securities carry zero risk weightage (i.e., they are credit risk free), which means that an institutions does not need to earmark any capital against holdings of government securities. While investment in corporate debt securities carry 10 per cent risk weight-age, which means that the institutions has to maintain capital of 10 per cent of total such investment in that security against risk of this investment turning sour.

This apart, any investment is subject to market risk while risk free assets can lose value in the regime of rising interest rate. The RBI, therefore, announced guidelines for primary dealers (whose portfolios are purely risk-free securities) to maintain 7 per cent capital against their holdings of government securities (Mecklai, 2001)[17]. This 7 per cent however, is an adhoc number and would be vetted by the RBI. When portfolio risk is low, the institution could increase its portfolio and make much more return. Conversely high market volatility would only bring more risks.

The Basel -II norms address three types of risks, *viz.,* credit risk, market risk and operational risk for minimum capital requirements and have a three pillar structure with minimum capital requirements as the first pillar, supervisory review process as the second pillar and market discipline as the third pillar. In terms of the provisions of the final guidelines on the revised framework, all commercial banks in India (excluding local area banks and regional rural banks) migrating to Basel II are required to adopt Standardized Approach (SA) for credit risk and Basic Indicator Approach (BIA) for operational risk, while continuing to apply the Standardized Duration Approach (SDA) for computing capital requirement for market risks. While foreign banks operating in India and Indian banks having operational presence outside India are expected to migrate

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[17] Mecklai, J. (2001) "what's Capital Adequacy?" *The Economic Times:* Kolkata, (January, 18).

to the revised framework with effect from March 31, 2008, all other commercial banks (excluding local area banks and regional rural banks) are encouraged to migrate to these approaches under Basel II in any case not later than March 31, 2009. Banks are required to obtain prior approval of the Reserve Bank in case they intend to migrate to the advanced approaches for computing risk weights. The pre-requisites and procedure for approaching the Reserve Bank for seeking such approval would be issued in due course.

The commercial banks are required to maintain a minimum capital to risk-weighted assets ratio (CRAR) of 9 per cent on an ongoing basis. However, taking into account the relevant risk factor and internal capital adequacy assessments of each bank, the Reserve Bank may prescribe a higher level of minimum capital to risk-weighted asset ratio to ensure that the capital held by a bank is commensurate with its overall risk profile. Banks are encouraged to maintain, at both solo and consolidated level, a minimum Tier I ratio of at least 6 per cent. Banks below this level must achieve this ratio on or before March 31, 2010. For ensuring smooth transition to the revised framework and providing opportunity to banks to streamline their systems and strategies, banks were advised to have a parallel run of the revised framework. The parallel run consists of the following:

- The banks are required to apply the prudential guidelines on capital adequacy – both current guidelines and the guidelines on the Revised Framework – on an on-going basis and compute their CRAR under both the guidelines.
- An analysis of the bank's CRAR under both the guidelines is required to be reported to the Board at quarterly intervals. While reporting the above analysis to the Board, banks should also furnish a comprehensive

assessment of their compliance with the other requirements relevant under the Revised Framework, which include the following, at the minimum:

(a) Board approved policy on utilization of the credit risk mitigation techniques, and collateral management;

(b) Board approved policy on disclosures;

(c) Board approved policy on internal capital adequacy assessment process (ICAAP) along with the capital requirement as per ICAAP;

(d) Adequacy of bank's management information system (MIS) to meet the requirements under the New Capital Adequacy Framework, the initiatives taken for bridging gaps, if any, and the progress made in this regard;

(e) Impact of the various elements/portfolios on the bank's CRAR under the revised framework;

(f) Mechanism in place for validating the CRAR position computed as per the New Capital Adequacy Framework and the assessments / findings / recommendations of these validation exercises;

(g) Action taken with respect to any advice/guidance/ direction given by the Board in the past on the above aspects.

A copy of the quarterly report to the Board is required to be submitted to the Reserve Bank. The minimum capital maintained by banks on implementation of Basel II norms is subject to a prudential floor computed with reference to the requirement as per Basel -I framework for credit and market risks. The floor has been fixed at 100 per cent, 90 per cent and 80 per cent for the position as at end-March for the first three years of implementation of the revised framework.

Hence in the context of the robust capital adequacy of Indian banks, there were some emerging concerns with regard to NPAs which need to be remedied.

Indian banks, on average, are well placed to meet the new regulatory requirements of Basel III[18]. This agreement calls for much higher minimum basic capital, whose definition will be restricted to common equity. The ratio of core to risk-weighted assets will rise to 4.5 per cent from 2.0 per cent. However, the RBI has always insisted on a higher level of common equity and, as outlined above, the banks have chosen to have a much larger common equity capital base than demanded by the RBI. As a result, Indian banks, as a group, currently have enough capital to ensure compliance with the requirements for common equity capital and for the conservation buffer (Herd, Koen, Patnaik and Shah 2011)[19]. Their existing capital is also sufficient to cope with the average level of the macro-prudential capital requirement (assuming that on average this requirement is halfway between the minimum and maximum levels, rising in expansions and falling in contractions). Considering total capital (which includes general loss reserves, undisclosed reserves and subordinated debt), Indian banks have an even greater margin, on average.

Indian banks are also quite well positioned relative to banks in OECD countries. Core common equity is higher relative to risk-weighted assets than in the euro

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[18] The new regulations as detailed in BIS (2010a and 2010b) include a minimum common equity tier 1 (CET1) ratio of 4.5 percent, the introduction of a conservation buffer of 2.5 percent to all forms of capital such that a bank must restrict payment of earnings as dividends when the ratio is less than 2.5 percent above the requirement, and a designated national authority must monitor credit conditions and add an additional capital requirement of up to 2.5 percent to the capital ratios during periods of excessive credit growth. The latter regulation implies that a bank holding company can be subject to an equity to risk-weighted asset ratio between 7 and 9.5 percent over the credit cycle, while large complex financial institutions (LCFI) would be subject to more stringent regulations. Most of the new regulations are to be phased in over the 2013-2015 period, with the capital conservation buffer to be phased in by end 2018.

[19] Herd,R., Koen,V., Patnaik,I. and Shah,A. (2011) "Financial Sector Reform in India: Time for a Second Wave?", *OECD Economics Department Working Papers*, No. 879, OECD Publishing, retrieved from, http://dx.doi.org/10.1787/5kg8ghvzr2jk-en.(visited on 10-02-2012).

area and even more so than in Japan. The major private banks are even better capitalized and have equity levels above those seen in the United States. The same holds for leverage ratios, *e.g.* the ratio of total assets to core common equity. However, to the extent that the Indian economy and asset prices are more volatile than in the OECD area, capital might need to be commensurately higher. The private banks in India appear to have come to this conclusion, as they maintain a core equity capital ratio that is almost twice that found in public sector banks.

As a result of Basel III, mandatory leverage ratios will be applied to all banks by 2019. The objective of a leverage ratio is to lessen the scope for arbitrage between different risk-weighting factors applicable to different assets. It will be calculated as the ratio of total assets (including off-balance sheet exposure) to Tier 1 capital (which comprises common equity less a number of deductions) and it must be lower than 33 to one. As a group, domestic Indian banks will have little difficulty in meeting this regulation as they have a low exposure to derivatives and high capital ratios.

Although the law governing the RBI does not mention financial stability as a goal, the RBI has been very active in this area. It has developed a series of indicators of financial stress based on measures of the volatility of a number of markets, various types of interest rate differentials, equity prices and exchange rate. From October 2006, this indicator started rising sharply, prompting the RBI to initiate some regulatory changes, raising the provisioning rate for Non performing loans (NPLs) and the risk weights on loans to finance non-bank financial intermediaries and commercial real estate developers. By end-2010, the overall stress indicator was back to its 2006 levels, but house prices were rising rapidly and NPLs started to increase. This led the RBI to introduce a maximum loan-to-value ratio for residential house purchase loans, to raise the risk rating of this type of loan to 125 per cent and to raise the required level of general provisioning to 2.0 per cent. The latter step was taken after the supervisor noted that many banks had not evaluated the ability of borrowers to repay once an initial period of low interest rates on a loan had ended.

The 2007-2009 financial crisis which began in the United States and spread to other developed countries exposed substantial weakness in the Basel II rules for regulating commercial banks. In particular, large bank holding companies suffered large declines in their return on equity from losses on off-balance sheet activities despite maintaining the capital ratios required under Basel II. As a result, the BIS (2010a)[20] developed a new set of regulations, Basel III, designed to alleviate the shortcomings of the previous regulations. There has been much speculation concerning the increase in the cost to banks and borrowers due to these more stringent regulations. Banks' responses will vary considerably from one advanced economy to other reflecting cross-country variations in the tightness of capital constraints, banks' net cost of raising equity, and elasticity of loan demand with respect to changes in loan rates (Cosimano and Hakura 2011)[21]. An additional feature of Basel III is a countercyclical capital requirement which can lead to an additional 2.5 percent increase in the capital ratios under a declaration of 'excessive credit growth'.

6. The Achievement of CAR:

The overall CRAR of all SCBs remained at the previous year's level of 13 per cent, suggesting that the increase in capital kept pace with the sharp increase in

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[20] Bank of International Settlements, (2010a) "Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems." Available at http://www.bis.org/list/basel3/index.htm (Date of visit: 23/3/2011)

[21] Cosimano,F.T. and Hakura,S. D. (2011) "Bank Behavior in Response to Basel III:A Cross Country Analysis" *International Monetary Fund Working Paper* WP/11/119, (May).

risk-weighted assets. The table-4.0 presents component-wise CAR of commercial banks in India. The increase in risk-weighted assets was mainly due to the rapid growth of credit. To an extent, the increase in risk-weighted assets was also on account of increase in the risk weights by the Reserve Bank on certain categories of advances as a prudential measure to protect the balance sheets of banks during the phase of rapid credit expansion. The CRAR at 13 per cent in 2011 was placed significantly above the stipulated minimum of 9.0 per cent.

Table-4.0
Component-Wise CRAR of SCBs Banks in India

(Amount Rs. in Crores)

Items	2005	2006	2007	2008	2009	2010	2011
A. Capital Fund	1, 65, 928	2,21,363	2,96,191	4,06,835	4,88,653	5,72,582	6,74,662
i) Tier-1 Capital *of which:*	1,08,949	1,66,538	2,00,386	2,20,562	3,31,513	3,97,665	4,76,615
Paid-up capital	25,724	25,142	29,462	41,178	46,339	35,325	42,514
Reserves	91,320	1,41,592	1,64,077	2,40,248	2,55,793	2,16,321	2,56,254
Unallocated surplus	6,937	11,075	20,387	23,846	53,336	42,652	51,458
Deductions for Tier-1 capital	15,031	11,271	20,387	21,933	19,576	24,621	28,456
ii)Tier-11 Capital *of which:*	56,979	54,825	95,794	1,23,496	1,57,141	1,74,916	1,98,047
Discounted Subordinated debt	26,291	43,214	63,834	73,297	86,396	96,298	94,256
B. Risk Weighted Assets of which:	12,96,223	17,97,207	24,12,236	31,28,093	37,05,166	42,16,565	51,81,583
Risk weighted loans	9,19,544	12,38,163	17,17,810	21,66,234	25,67,787	33,62,129	41,85,854
C. CRAR *of which:*	12.8	12.3	12.3	13.0	13.2	13.6	13.0
Tier-1	8.4	9.3	8.1	9.1	8.9	9.4	9.2
Tier-II	4.4	3.1	4.0	3.9	4.2	4.1	3.8

Source: *RBI, Trend and Progress of Banking in India, Various Issues.*

The bank group-wise CRAR may be had from the following table- 4.1. A bank group wise appearance of CRAR shows that the CRAR of PSBs particularly nationalized banks and foreign banks was improved, while CRAR of private sector banks and SBI group was declined.

Table-4.1
Bank Group wise CAR (End March)

(Per cent)

Commercial Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Public Sector Banks	11.8	12.6	13.2	12.9	12.2	12.4	12.5	12.3	13.5	13.6
Nationalized Banks	10.9	12.2	13.1	13.2	12.3	12.4	12.1	12.1	13.6	13.9
SBI Group	13.3	13.4	13.4	12.4	11.9	12.3	13.2	12.7	12.7	12.7
Old Private Banks	12.5	12.8	13.7	12.5	11.7	12.1	14.1	14.3	11.5	12.2
New Private Banks	12.3	11.3	10.2	12.1	12.6	12.0	14.4	15.1	13.1	12.4
Foreign Banks	12.9	15.2	15.0	14.0	13.0	12.4	13.1	15.1	15.6	14.9
Overall	12.0	12.7	12.9	12.8	12.3	12.3	13.0	13.2	13.6	13.0

Source: *RBI, Trend and Progress of Banking in India, (2010-11).*

The CRAR of new private sector banks, which had improved in the previous year, declined below the industry average at end-March 2011; the CRAR of old private sector banks remained below the industry average, while that of foreign banks was at/above the industry average. The CRAR of foreign banks, which usually remained much above the other bank groups, declined from 15.6 per cent at end-March 2010 to 14.9 per cent at end-March 2011 to converge with the industry average. The CRAR of SBI group and new private banks declined on account of high growth of risk-weighted assets as they have relatively larger exposure to the sensitive sectors to which higher risk weights are applied.

As per Trend and Progress of Banking in India 2001, in regard to capital adequacy, all public sector banks barring Indian Bank and Dena Bank had attained capital adequacy ratio of above 9 per cent as on March 31st 2001. Further, three banks viz, Canara Bank, United Commercial Bank and Dena Bank fell short of the medium term capital adequacy target of 10 per cent while UCo. Bank, and Indian Bank seems looking to the government for capital, others such as Indian Overseas Bank and Andhra Bank may approach the capital market to strengthen their capital base. As on 2010-11, public sector commercial banks both nationalized and state bank group, has attained capital adequacy ratio of 10 per cent. The bank wise capital adequacy ratios are presented in table-4.2.

Table-4.2
Bank Wise CAR of PSBs in India

(Per cent)

S.L No.	Name of banks	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
A.	**_SBI group (8 Banks)**						
1	State Bank of India	11.9	12.3	13.5	13.0	13.1	14.2
2	State Bank of Bikaner & Joipur	12.1	12.9	13.5	13.2	13.0	13.8
3	State Bank of Hydrabad	12.1	12.5	12.4	10.6	10.7	11.5
4	State Bank of Indore	11.4	11.8	11.3	11.8	11.9	12.2
5	State Bank of Mysure	11.4	11.5	12.3	12.4	12.6	13.1
6	State Bank of Patiiala	13.6	12.4	12.5	11.4	11.3	10.8
7	State Bank of Saurastra	12.1	12.6	12.5	12.2	12.4	11.9
8	State Bank of Travancore	11.2	12.7	12.7	12.1	12.5	13.1
B.	**Nationalized Group (19 Banks)**						
9	Allahabad Bank	13.4	12.5	NA	NA	12.1	12.9
10	Andra Bank	14.0	11.3	11.6	12.4	12.7	13.2
11	Bank of Boroda	13.7	11.8	12.9	12.9	13.1	13.6
12	Bank of India	10.8	11.8	13.0	13.2	13.4	13.9
13	Bank of Maharastra	11.3	12.1	10.9	10.8	11.5	12.2
14	Canara Bank	11.2	13.5	NA	NA	14.2	13.5
15	Central Bank of India	11.0	10.4	10.4	11.8	12.1	12.8
16	Corporation Bank	13.9	12.8	12.1	13.7	13.8	12.5
17	Dena Bank	10.6	11.5	11.1	10.7	11.2	12.1
18	Indian Bank	13.2	14.1	12.7	13.3	14.2	13.6
19	Indian Overseas Bank	13.0	13.3	11.9	12.7	13.6	12.9
20	Oriental Bank of Commerce	12.5	12.5	12.1	12.0	11.9	11.6
21	Punjab & Sind Bank	12.8	12.9	11.6	11.9	11.2	12.3
22	Punjab National Bank	11.9	12.3	13.0	12.6	13.6	13.1
23	Syndicate Bank	11.7	11.7	11.2	11.4	11.9	12.2
24	UCO Bank	11.1	11.6	10.1	9.8	10.5	11.5
25	Union Bank of India	11.4	12.8	12.5	12.0	12.6	11.9
26	United Bank of India	13.1	12.0	NA	NA	11.9	12.5
27	Vijaya Bank	11.9	11.2	11.2	13.1	13.7	12.4

Source : *RBI Trend & Progress in India, Various issues.*

Banks' capital raising efforts had kept pace with the asset growth and risk profile of new assets. The capital to risk-weighted asset ratio of commercial banks, a measure of the capacity of the banking system to absorb losses, as a result was estimated at 13 per cent at the end of March 2011.

Although the commercial banks in general have succeeded in reducing NPAs, or loans defaulted by borrowers, the private sector banks, the new generation private sector banks, especially, have witnessed an increase in 2010-11. The gross NPAs of 26 private sector banks have increased from Rs. 7,791 crore in 2005-06 to Rs. 18,240 crores in 2010-11. On the other hand the total NPA of ICICI Bank alone has increased to Rs. 9,816 crores in 2010-11, and that of Kotak Mahindra Bank, HDFC Bank and Axis Bank Ltd. has to Rs. 603 crores, Rs. 1,660 crores and Rs.1,587 crores respectively during this period (RBI, 2010-11)[22].

7. Conclusion:

The pressing problem that banks all over the world are facing in recent times is spiralling of NPAs. It adversely affects lending activity of banks as non-recovery of loan instalment and the interest on the loan harms the usefulness of loan-disbursement process. As a matter of fact, considerable importance has been given, in recent times, to strengthen the capital adequacy requirements like the measure of CRAR to measure the capacity of banks to absorb losses arising from non-performing assets. Regarding capital adequacy, public sector banks in India have been able to manage high level of CRAR to provide adequate cushion for any unexpected losses. However, increase of NPAs in recent years remain an

[22] Reserve Bank of India, (2011-12) Off-site Returns of Banks, Trend and Progress of Banking in India

area of concern and should be addressed with earnest efforts during the periods of disbursement of loans and recovery of the same.

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