RISK MANAGEMENT IN BANKING: A STUDY WITH REFERENCE TO STATE BANK OF INDIA (SBI) AND ASSOCIATES

*Dr. C. MAHADEVA MURTHY, **Prof. S.N. PATHI

* Chairman & Associate Professor, Department of Studies and Research in Management, Karnataka State Open University, Mukthagangotri, Mysore-570006, Karnataka, India.
** Professor, Department of Business Administration, Berhampur University, Berhampur- 760007, Odisha, India.

ABSTRACT

In everyday life, risk is about undesired unpleasant, and at times disastrous prospective events associated with human action or inaction. Banking is becoming complex, compounded by exploding technological capabilities expanding product offerings and deregulation of competition. In other words, banking is a business of risk. For this reason, efficient risk management is extremely required. The Indian banking system is better prepared to adopt Basel II than it was for Basel I. The Basel II Accord had led the banks to new prudential norms like capital adequacy and identification of bad debts. Recently many banks have appointed senior managers to oversee a formal risk management function. The effective risk management lies with the ability to gauge the risks and to take appropriate measures. In the light of this, an analysis was carried out to highlight the NPAs position of SBI and associates and also capital adequacy ratio after the implementation of Basel II Accord to focus on the risk management practices in State Bank of India (SBI) and associates for the period of six years from 2007-08 to 2012-13. Hence an efficient risk management system is the need of time.

Keywords: Risk management, Credit risk, prudential norms, bad debts, credit portfolios, Basel.

THE PROLOGUE

The financial system is the lifeline of the economy. Liberalization and de-regulation process started in 1991-92 has made a sea change in the banking system. The financial sector reforms carried out so far have made the balance sheets of banks look healthier and helped them move towards achieving global benchmark in terms of prudential norms and best practice. The competitive environment in the banking sector is likely to result in individual players working out differentiated strategies based on their strengths and market niches. In the last ten years we have seen
transformation in terms of consistently higher growth rates adoption of core banking solutions, transformation in the payments systems and greater integration with the global economy. In the light of the recent global financial crisis, risk measurement and management in the Indian Banking Sector is gaining importance. Banks generally face various risks such as credit risk, operational risk and liquidity risk etc. The implementation of Basel II Accord is likely to lead to a sharper focus on the risk measurement and management at the institutional level. Basel II also suggests that banks can develop their own internal risk management procedures but advises that such approach be disclosed to the regulatory body, in the light of that the present study is undertaken to analyze the credit risk. Risk management evolved from a strictly banking activity, related to the quality of loans, to a very complex set of procedures and instruments in the modern financial environment. Risk management in banking reflects the entire set of risk management process and models allowing banks to implement risk based policies and practices. In the recent past varieties of modules and risk management tools were emerged for quantifying and monitoring risks. Bank risks are of many types i.e., Financial Risks and Non-Financial Risks, under financial risk we have seen Credit risk and Market risk, on the other hand operational risk, Business risk, and Strategic risk and above risks are divided into many risks. In this study we have deliberate only on credit risk management of SBI and associates and we focuses on how the SBI and associates identify and manage the credit risk.

CREDIT RISK MANAGEMENT

Credit risk involves the inability or unwillingness of borrower or counter party to meet its obligations in accordance to the agreed terms. There is always scope for the borrower to default from his/her comments for one or other reason resulting in crystallization of credit risk to the bank. Credit risk is possibly the most important risk faced by banks. This section aims to identify the different sources of credit risk within a banks’ balance sheet, how these risks can be managed, mitigated against and quantified. The section analyses with a study of the treatment of credit risk for regulatory capital from Basel I through to Basel III

Identifying and quantifying the risk

a) Importance of credit risk and relation to other risks,  
b) Categories of credit risk,  
   • Risk types: lending, issuer, contingent, pre-settlement, settlement, transfer /country risk  
   • Methodologies for quantifying the exposures (particularly pore-settlement risk)

Managing credit risk

a) Limits and safeguards – policy, process and procedures,  
b) Credit approval authorities and transaction approval process Aggregating exposure limits by customer, sector correlations,  
c) Credit mitigation techniques: collateral, termination clauses, re-set clauses, cash settlement, netting agreements,  
   o Applications and risks of mitigation : wrong way trades,  
   o Documentation : covenants, ISDA / CSA and other collateral,  
d) Credit portfolio management techniques: syndication, sub-participation, whole loan sales, credit derivatives, securitization,  
e) Fundamentals of credit risk capital measurement: probability of default, exposure, loss given default and correlation,
f) Capital treatment of credit risk under Basel I and II and III,
   - Standardized approach,
   - Foundation and advanced internal ratings based approaches,
   - Recognition of credit mitigation techniques,
   - Regulatory capital treatment for derivatives,

Measurement of Credit Risk

To measure the credit risk Reserve Bank of India (RBI) implementing advanced approach under Basel II, Viz., Internal Rating Based (IRB) Approach. In addition to implementing the standardized approach, well defined credit risk practices such as use of Credit Risk Assessment (CRA) Models, Industry Exposure Norms, Counterparty Exposure Limits, Substantial Exposure Norms, Macro Economic Stress Test etc., have also been put in place to improve credit risk management. The bank has now set in process a project to migrate to Internal Rating Based (IRB) Approach. By measuring the “Expected loss”, credit is quantitatively measured.

\[
    \text{Expected Loss} = \text{Probability of Default (PD)} \times \text{Loss Given at Default (LGD)} \times \text{Exposure at Default (EAD)}
\]

In the data repository, historical data of clients, credit details is available, from which normal probability distribution curve will be plotted. Above three variables (PD, LGD, EAD) will be calculated from the normal distribution curve.

REVIEW OF RESEARCH LITERATURE

Review of literature has vital relevance with any research. The review helps researcher to remove limitation of existing work or may assist to extend prevailing study, the review of literature presented below covers credit risk, NPAs, Basel II and operational risk.

Angbazo (1997). In this study, banks with a larger risky loan portfolio appear to require higher net interest margin to compensate the higher risk of default. This result suggests the significant relationship between net interest margin and credit risk. The findings of Hassan, (1994) support the earlier findings that Size and Diversification are negatively related to risk. Brewer et al. (1996) find that loan sectors have a significant association with risk. Fixed-rate mortgage loans, investment in service corporations and real estate loans are found to be significantly negatively related to credit risk. However, non-fixed rate mortgage loan is significant and positively related to risk.

Bratanovic and Greuning (2000) recommended that credit risk ratios can be used as a measure of the credit risk associated with the banking sector and highlighted the usefulness of such ratios for banks to internally lower the ratio and avert any catastrophic failures.

Bhattacharya (2001) rightly points to the fact that in an increasing rate regime, quality borrowers would switch over to other avenues such as capital markets, internal accruals for their requirement of funds. Under such circumstances, banks would have no option but dilute the quality of borrowers thereby increasing the probability of generation of NPAs.

Rajaraman and Vasishtha (2002) is an empirical study provided an evidence of significant bivariate relationship between an operating inefficiency indicator and the problem loans of public sector banks.

Sathe (2003), while studying the performance of Indian commercial banking sector found that the public sector banks performed better than their private sector counterparts with regards to
their overall efficiency. He also raised concern over the higher level of Non-performing assets (NPAs) in the banking system and suggested that policies be implemented to reduce the bad loans.

Safakli (2007) did an extensive study of credit risk associated with the banking sector and Northern Cypress and found that the credit risk ratios were indicative of the credit risks associated with the banking sector and correlated the risk ratios with key macroeconomic indicators.

Radhakrishnan and Ravi (2009) state that capital requirements not only protect investors but also safeguard them against the possibility of failure of big banks. They also improve market discipline.

Kumar (2010) conducted a study in Delhi to find out the various methodologies used by the banks in their operational risk management activity complaining the rules and regulations. The study reveal that the operational risk management functions is predominantly gaining importance in banking operations in India along with credit risk. He concluded that the banks are ready to improve their existing risk management framework in accordance with Basel II to deal with risks more effectively.

Ayyappan and Ramachandran (2011) conducted a study of 22 public sector and 15 private sector banks to predict the determinants of the credit risk in the Indian Commercial banking sector by using an econometric model. The outcome of the study is the non-performing assets had a strong and statistically significant positive influence on the current non-performing assets. They opined that the problem of NPA is not only affecting the banks but also the whole economy.

Gupta and Meera (2011) feel that Basel II regulations have led to a significant improvement in the risk structure of banks because their capital adequacy has improved. Also, there exists an inverse relation between CAR and Non-Performing Assets (NPAs), which clearly indicates that due to capital regulation, banks have to increase their CAR which leads to decrease in NPAs.

Choudhary Navin (2011) designed to develop an internal credit rating model for banks which improves their current predictive power of financial risk factors. He highlights how banks assess the creditworthiness of their borrowers and how can they identify the potential defaulters so as to improve their credit evaluation. He concluded that the business of lending has given rise to credit risk, which is the risk of default.

OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To study the summary of risk management in banking sector;
2. To access the various study conducted in risk management in banking sector;
3. To analyze the Basel I, Basel II and Basel III accord in bank credit risk management.
4. To highlight the trends of NPAs position in SBI and associates;
5. To analyze the status of capital adequacy ratio of SBI and associates; and
6. To offer findings, recommendations and conclusion in the light of the study.

RESEARCH METHODOLOGY

The present study is based on data gathered from secondary sources. The relevant secondary data were collected by making reference to the Government publications, Bulletins of the RBI, Bulletins of the Indian Banks Association, Mumbai, National Institute of Bank Management (NIBM), Pune. The Journal of Indian Institute of Banking and Finance, RBI issues like reports on Trend and Progress of Banking in India. Annual Reports of various banks, Apart from these different editions of daily newspapers such as Financial Express, Business Line and Business Standard were also used for the purpose of collection of data. The data relevant to the study was also collected from
websites. In addition to above listed secondary sources, various reports of SBI were also widely used. In this study we have analyzed the credit risk management of SBI and associates. For this study we have divide the components of credit risk management of NPAs and capital adequacy ratio of SBI and associates. The methodology used to analyze the NPAs of SBI and associates in three categories:

1. Priority sector;
2. Non-priority sector; and
3. Public sector.
Ratio analysis is used to analyze the data.

The study also divides the components of Capital Adequacy Ratio (CAR) of SBI and associates in two categories:

1. Basel I; and
2. Basel II.
Capital Adequacy Ratio is a measure of bank’s capital and it is expressed as a percentage of a bank’s risk weighted credit exposures.

STATE BANK OF INDIA – AN OVERVIEW

On 1st July State Bank of India was constituted under the State Bank of India Act 1955, for the purpose of taking over the undertaking and business of the Imperial Bank of India. On September 1959, the State Bank of India (subsidiary bank act was passed). On October State Bank of Hyderabad become the first subsidiary of SBI. In 1960 State Bank of Jaipur, State Bank of Bikaner, State Bank of Indore, State Bank Travancore, State Bank of Mysore, State Bank of Patiala, State Bank of Saurashtra become subsidiaries of the bank. SBI is that country’s largest commercial bank. The government controlled bank, the Indian government maintains a stake of nearly 60 per cent in SBI through the Central Reserve Bank of India and also operates the world’s largest branch network. As of March 31st 2012 the bank had a network of 20193 branches, including 5096 branches of its five associate banks. In addition to banking, the company through its various subsidiaries provides a range of financial services, which includes life insurance, merchant banking, mutual funds, credit card, factoring, security trading, pension fund management, custodian services, general insurance (non life insurance) and primary dealership in the money market.

SBI and Associates


Risk Management in SBI

From the chart it is clear that an independent risk governance structure is in place for integrated risk management covering enterprise, credit, market, operational and group risks. This frame work visualizes empowerment of business units at the operating level with technology being the key driver enabling identification and management of risk at the place of origination.
Risk Management Structure of SBI

Chart – 1
Risk Management Structure

Source: IBA Bulletin

Basel Implementation

In accordance with RBI guidelines, the Bank has migrated to the Basel II framework, with standardized Approach for Credit Risk and Basic Indicator approach for Operational Risk w.e.f. March 31, 2008, having already implemented the Standardized Measurement Method for Market Risk w.e.f. March 31, 2006. RBI has issued Guidelines on Implementation of Basel III Capital Regulations in India on 2nd May, 2012. These Guidelines will become effective from January 1, 2013, Bank is in the process of putting in place appropriate mechanism to comply with these guidelines.

Non-Performing Assets (NPAs) Position in SBI and Associates

Non-Performing Assets (NPAs) are the primary indicators of credit risk. Capital Adequacy Ratio (CAR) is another measure of credit risk. CAR is supposed to act as a buffer against credit loss, which is set at 9 per cent under the RBI stipulation companies against the Basel Committee stipulation of 8%.
Table No. 1 highlights the NPAs position of SBI and associates. The total amount of

<table>
<thead>
<tr>
<th>Years</th>
<th>Priority Sector</th>
<th>Non-priority Sector</th>
<th>Public Sector</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>% to total</td>
<td>Amount</td>
<td>% to total</td>
</tr>
<tr>
<td>2007-08</td>
<td>7175</td>
<td>57.15</td>
<td>5193</td>
<td>41.36</td>
</tr>
<tr>
<td>2008-09</td>
<td>8902</td>
<td>58.49</td>
<td>6222</td>
<td>40.88</td>
</tr>
<tr>
<td>2009-10</td>
<td>8447</td>
<td>47.76</td>
<td>9250</td>
<td>51.75</td>
</tr>
<tr>
<td>2010-11</td>
<td>10940</td>
<td>50.11</td>
<td>10646</td>
<td>48.77</td>
</tr>
<tr>
<td>2011-12</td>
<td>15567</td>
<td>55.32</td>
<td>12567</td>
<td>44.66</td>
</tr>
<tr>
<td>2012-13</td>
<td>23900</td>
<td>52.30</td>
<td>21800</td>
<td>47.70</td>
</tr>
</tbody>
</table>

Source: Report on Trend and Progress in India.

NPAs was increased from ₹12556 crores to ₹45700 crores from 2007-08 to 2012-13. The percentage of NPAs in priority sector was decreased from 57.15 per cent to 52.30 per cent from 2007-08 to 2012-13. In non-priority sector the NPAs percentage was increased from 41.36 per cent to 47.70 per cent from 2007-08 to 2012-13. In the year 2011-12 the public sector NPAs was minimum and stood at 0.02 per cent. To conclude, NPAs in public sector was less when compared to other sectors.

Chart No. 2

NPAs of SBI & Associates (Amount Based) (Fig in Crores)
Chart No. 3

NPAs of SBI & Associates (% Based)

Chart No. 4

NPAs of SBI & Associates of Priority, Non Priority & Public Sector (Total amount) (Fig in Crores)
Trends in Capital Adequacy Ratio (CAR) of SBI and Associates

A measure of a bank’s capital and it is expressed as a percentage of a bank’s risk weighted credit exposures. Also known as “Capital to Risk Weighted Assets Ratio (CRAR)

\[
\text{CAR} = \frac{\text{Tier one Capital} + \text{Tier Two Capital}}{\text{Risk Weighted Assets}}
\]

Ever since its introduction in 1988, capital adequacy ratio has become an important benchmark to assess the financial strength and soundness of banks.

Table No. 2 examined the CAR of SBI and associates for the years 2008 to 2013 as per Basel norms I and II. In the year 2008 the Basel I remained well compared to Basel II. In the years 2009, 2010 and 2011 Basel II remained well compared to Basel I above the stipulated regulatory norm of 9.00 per cent.

<table>
<thead>
<tr>
<th>Banks</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Bank of Indore</td>
<td>11.31</td>
<td>11.29</td>
<td>11.81</td>
<td>13.46</td>
<td>12.08</td>
<td>13.53</td>
</tr>
<tr>
<td>State Bank of Mysore</td>
<td>12.34</td>
<td>11.73</td>
<td>12.41</td>
<td>12.99</td>
<td>12.12</td>
<td>12.42</td>
</tr>
</tbody>
</table>

Source: Report on Trend and Progress in India.

In the year 2008 the State Bank of Bikaner and Jaipur CRAR ratio was highest in Basel I when compared to State Bank of Patiala which stood at 13.56 per cent in Basel II. In 2009 the State Bank of Bikaner and Jaipur CRAR ratio in Basel I and Basel II was highest and stood at 13.18 per cent and 14.52 per cent respectively. In the years 2010 and 2011 State Bank of Hyderabad CRAR ratio was highest when compared with other associates of SBI. In the year 2012 and 2013 Basel II remained well compared to Basel I. To conclude, the performance of SBI and its associates in relation to CAR was satisfactory.
FINDINGS OF THE STUDY

1. The study reveals that SBI and associates sanctioned less credit to agriculture as compared to other components.
2. Recovery of credit is satisfactory in the study period. SBI’s recovery policy is very good, and this reduces NPAs.
3. Total advance of SBIs is increased year by year.
4. The NPA position of SBIs increases year by year.
5. SBI is granting credit in all sectors in an equated monthly instalment, so that anybody can borrow money easily.
6. SBI and associates is expanded its credit in the following focus areas: (i) SBI term deposits; (ii) SBI recurring deposits; (iii) SBI housing loan; (iv) SBI car loan; (v) SBI education loan; (vi) Personal Loan etc.,
7. The performance of SBI and associates in relation to CAR is satisfactory.
RECOMMENDATIONS

1. The bank should keep on revising its credit policy which will help banks effort to correct the course of the policies.
2. The bank officials should make modifications to the procedural guidelines for implementation of the credit policy as they may become necessary from time to time on account of organizational and situational needs.
3. Bank as to grant the loans to the borrower at a moderate rate of interest that will help the borrower to repay the loan amount to bank regularly and promptly.

CONCLUSION

Risk management is not something new. Every employee joining a bank starts learning about the risk inherent in banking operations from day one. Risk management is one of the most important practices to be used especially in banks. Risk is threats of banks of course, RBI is issuing guidelines from time to time to maintain solvency of each and every bank. From this view, internal management of SBI and associates should be checked frequently against this possible risk. And it is also important that the external credit and risk management agencies should be consulted by each other regularly so that risk can be controlled and managed. An efficient risk management system is the need of time.

This paper has provided an overview of 1) the conceptualization of risk management, 2) the management of credit risk by SBI and associates, 3) The components of credit risk management in SBI and associates were analyzed i.e., Non-performing Assets for the period of six years and capital adequacy ratio for the period from 2008 to 2013 (six years period). Due to time and study constraint we have covered only credit risk management. Credit risk management is a vast subject and it is very difficult to cover all the aspects of credit risk management in SBI and associates.

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