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1. Abstract

The purpose of the study is to identify the status of Credit Risk Management practices in the Indian banks. It intends to explain the benchmark practices as defined by the RBI in its guidance note on credit risk management practices in coordination with Basel-II norms and evaluate current practices to identify the reasons for gaps.

It is an attempt to identify credit risk management approaches followed by the Indian banks and how these approaches are reflected in their performance efficiency. The research aims to relate the credit risk management practices and its impact on the financial performance of the banks in India.

The proposed research study is an effort to list the elements, techniques, tools that are currently not deployed or are inappropriately employed in credit risk management framework of the commercial banks in India as per Basel-II accord.
2. Problem Statement

A study of Credit Risk Management Practices and its impact on the performance of Indian Banking Industry post Basel-II implementation
3. Executive Summary

Effective credit risk management has gained an increased focus in recent years, largely due to the fact that inadequate credit risk policies are still the main source of serious problems within the banking industry. The chief goal of an effective credit risk management policy must be to maximize a bank's risk-adjusted rate of return by maintaining credit exposure within acceptable limits. Moreover, banks need to manage credit risk in the entire portfolio as well as the risk in individual credits or transactions. This executive summary seeks to investigate how much progress banks are making in the development and deployment of a successful credit risk management strategies.

The recent finalization of the new minimum regulatory capital requirements drafted by the Basel Committee on Banking Supervision (known as Basel II) has generated significant debate among academics, policy makers and industry practitioners. This interest stems both from the importance of these rules on banking systems around the world, as well as from the fact that the new rules represent a radical departure from the existing (Basel I) framework. Several different strands in the literature have recently emerged, focusing on the framework’s theoretical merits, on specific parts of the Accord on the potential impact on banking systems, and on practical implementation issues.

This research study mainly focuses exclusively on credit risk management practices under Basel II, and is motivated by a desire to assess the new credit capital rules and to discuss its process of adoption and some practical implementation issues in Indian banking Industry.

In particular, the broad objectives of this research study are threefold:

- to describe some of the theoretical and empirical developments in credit risk Management practices
- to summarize the treatment of credit risk in Basel II
- to identify implementation issues, problems, prospects and some policy implications for Indian banks on their performance
Credit risk refers to the loss because of the debtor's non-payment of loans or other forms of credit. Credit risks are faced by lenders to consumers, lenders to business, businesses and even individuals. Credit risks, nevertheless, are most encountered in the financial sector particularly by the institutions such as banks. Credit risk management therefore is both a solution and a necessity in the banking setting.

The Basel Committee on Banking Supervision assert that loans are the largest and most obvious source of credit risk while others are found on the various activities that the bank involved itself with. Therefore, it is a requirement for every bank worldwide to be aware of the need to identify, measure, monitor and control credit risk while also determining how credit risks could be lowered. This means that a bank should hold adequate capital against these risks and that they are adequately compensated for risks incurred. This is stipulated in Basel II which regulates a bank about how much capital banks need to put aside to guard against the types of financial and operational risks banks face. The advanced approaches for credit risk in India under the Basel II Framework in the days to come, could be expected to provide an impetus for adopting more sophisticated credit risk management techniques in banks.

*However these guidelines and recommendations only provide broad parameters and leave a lot of scope for the individual banks to exercise their discretion and judgment. Each bank may evolve their own systems compatible to their risk architecture and expertise.*

The research study envisage that although the revised credit capital adequacy rules represent a dramatic change compared to the Basel I framework, Basel II merely seeks to codify existing good practices in bank risk measurement. However, its effective implementation in many developing countries is hindered by fundamental weaknesses in financial infrastructure that will need to be addressed as a priority. The research work entails to emphasis on a brief overview of the Basel I and II frameworks and describes the key building blocks for managing credit risk. It summarizes the new credit capital rules of Basel II, and discusses practical implementation issues and measures/analyses the performance of select Indian banks and attempts to draw relevant policy implications.
4. Literature Review

4.1 The Basel Accord:

It is Capital Adequacy Framework developed by Basel Committee. In 1988 the BCBS decided to introduce a capital measurement system commonly referred to as Basel- Capital Accord. This system provided for the implementation of a credit risk measurement framework with a minimum capital standard of 8% by end 1992, which is known as “Basel-I”. Since 1988, this framework has been progressively introduced not only in member countries but also in virtually all other countries.

Basel-II is also a capital adequacy related standard framed by Basel Committee. BCBS reached an agreement on a number of important issues for promoting best and uniform banking practices as well as setting standards and guidelines for supervisory functions. Following extensive interactions with banks, industry groups and supervisory authorities that are not members of the committee, the revised framework was issued on 26 June 2004.

4.2 Basel Committee on Banking Supervision (BCBS)

The G-10 countries (the G-10 is today 13 countries: Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Spain, Sweden, Switzerland, United Kingdom and United States) initiated to form, towards the end of 1974, the Basel Committee on Banking Supervision (BCBS), under the auspices of the Bank for International Settlements (BIS), comprising of Central Bank Governors from the participating countries.

BCBS has been instrumental in standardizing bank regulations across jurisdictions with special emphasis on defining the roles of regulators in cross-jurisdictional situations. The committee meets four times a year. It has around 30 technical working groups and task forces that meet regularly.

The 1988 Basel Accord focused primarily on credit risk. Bank assets were classified into five risk buckets i.e. grouped under five categories according to credit risk carrying risk weights of zero, ten, twenty, fifty and one hundred per cent. Assets were to be classified into one of these risk buckets based on the parameters of counter-party (sovereign, banks, public sector enterprises or others), collateral (e.g. mortgages of residential property) and maturity. Generally, government debt was categorised at zero per cent, bank debt at twenty per cent, and other debt at one hundred per cent. 100%. OBS exposures such as performance guarantees and letters of credit
were brought into the calculation of risk weighted assets using the mechanism of variable credit conversion factor. Banks were required to hold capital equal to 8% of the risk weighted value of assets. Since 1988, this framework has been progressively introduced not only in member countries but also in almost all other countries having active international banks. The 1988 accord can be summarized in the following equation:

\[
\text{Total Capital} = 0.08 \times \text{Risk Weighted Assets (RWA)}
\]

4.3 The New Accord (Basel II)

In June 1999 BCBS issued a proposal for a New Capital Adequacy Framework to replace the 1988 Accord. The proposed capital framework consists of three pillars: minimum capital requirements, which seek to refine the standardized rules set forth in the 1988 Accord; supervisory review of an institution's internal assessment process and capital adequacy; and effective

\[
\text{Basel II Capital Accord}
\]

Basel II is a much more comprehensive framework of banking supervision. It not only deals with CRAR calculation, but has also got provisions for supervisory review and market discipline. Thus, Basel II stands on three pillars:

1. **Minimum regulatory capital (Pillar 1):** This is a revised and extensive framework for capital adequacy standards, where CRAR is calculated by incorporating credit, market and operational risks.

2. **Supervisory review (Pillar 2):** This provides key principles for supervisory review, risk management guidance and supervisory transparency and accountability.

3. **Market discipline (Pillar 3):** This pillar encourages market discipline by developing a set of disclosure requirements that will allow market participants to assess key pieces of information on risk exposure, risk assessment process and capital adequacy of a bank.
In 2007, more than 100 countries are following Basel I norms. As far as Basel II is concerned, a survey by Financial Stability Institute (FSI) of the Bank for International Settlement in 2006 revealed that 95 countries intended to adopt Basel II, in some form or the other, by 2015. Out of these countries, the 13 BCBS member countries have initiated.

4.4 Credit Risk Management

Credit management is the challenging functional area in a commercial bank. It calls for expert handling, assessing risk exposure at every stage and securing adequately the safety of funds exposed. In spite of best efforts there can be no full-proof safety standards, resulting in the unpreventable emergence of sticky or overdue credit periodically. Credit management is therefore a continuous search for more secure de-risking (effective risk-management) standards, and Asset-Liability Management strategies. Such risk-management expertise built and implemented helps at not eliminating risk altogether, but minimizing the same.

Credit risk has been traditionally defined as default risk, i.e. the risk of loss from a borrower/counterparty’s failure to repay the amount owed (principal or interest) to the bank on a timely manner based on a previously agreed payment schedule. A more comprehensive definition would actually include value risk, i.e. the risk of loss of value from a borrower migrating to a lower credit rating (opportunity cost of not pricing the loan correctly for its new level of risk) without having defaulted. In order to protect themselves against volatility in the level of default/value losses (as well as other types of risk), banks have adopted methodologies that allow them to quantify such risks and thereby derive the amount of capital required to support their business – what is referred to as economic capital.

Pillar I sets out the mechanism for calculating minimum regulatory capital. Under Basel I this calculation related only to credit risk, with a calculation for market risk added in 1996. Basel II adds a further charge to allow for operational risk.

*With the entire financial sector across the globe working on the implementation of the 2004 Basel II Accord in some form and intensity there is much work to be done at bank level. Credit Risk Management gives you the means to put in place the credit risk measurement and management framework, policies, procedures and practices that are needed.*
While Basel I offered a single approach to calculating regulatory capital for credit risk, one of the greatest innovations of Basel II is that it offers lenders a choice between:

1. **The standardised approach.** This follows Basel I by grouping exposures into a series of risk categories. However, while previously each risk category carried a fixed risk weighting, under Basel II three of the categories (loans to sovereigns, corporates and banks) have risk weights determined by the external credit ratings assigned to the borrower. Amongst the other categories that continue to have fixed risk weights applied by Basel II, loans secured on residential property will carry a risk weight of 35% against 50% previously, as long as the loan-to-value (LTV) is up to 80%. This lower weighting is a recognition of the historically low rate of losses typically incurred on residential mortgage loan portfolios across different countries and over a range of economic environments.

2. **Foundation internal ratings based (IRB) approach.** Lenders will be able to develop their own models to determine their regulatory capital requirement using the IRB approach. Under the foundation IRB approach, lenders will estimate a probability of default (PD) while the supervisor provides set values for loss given default (LGD), exposure at default (EAD) and maturity of exposure (M). These values are plugged into the lender's appropriate risk weight function to provide a risk weighting for each exposure or type of exposure.

3. **Advanced IRB approach.** Lenders with the most advanced risk management and risk modelling skills will be able to move to the advanced IRB approach, under which the lender will estimate PD, LGD, EAD and M. In the case of retail portfolios only estimates of PD, LGD and EAD are required and the approach is known as retail IRB.

Given that a key objective of Basel II is to improve risk management culture, it is unsurprising that the regime encourages lenders to move towards the IRB approach and ultimately, the advanced or retail IRB approach. To this end, it is expected that banks will see a modest release of regulatory capital in moving from the standardised to foundation IRB approach and on to the advanced or retail IRB approach. Three alternate approaches for measurement of credit risk have been proposed.

These are
• Standardized

• Internal Ratings Based (IRB) Foundation

• Internal Ratings Based (IRB) Advanced

The standardised approach is similar to the current accord in that banks are required to slot their credit exposures into supervisory categories based on observable characteristics of the exposures (e.g. whether the exposure is a corporate loan or a residential mortgage loan). The standardised approach establishes fixed risk weights corresponding to each supervisory category and makes use of external credit assessments to enhance risk sensitivity compared to the current accord. The risk weights for sovereign, inter-bank, and corporate exposures are differentiated based on external credit assessments. An important innovation of the standardised approach is the requirement that loans considered ‘past due’ be risk weighted at 150 per cent unless, a threshold amount of specific provisions has already been set aside by the bank against that loan.

Credit risk mitigants (collaterals, guarantees, and credit derivatives) can be used by banks under this approach for capital reduction based on the market risk of the collateral instrument or the threshold external credit rating of recognised guarantors.

Reduced risk weights for retail exposures, small and medium size enterprises (SME) category and residential mortgages have been proposed. The approach draws a number of distinctions between exposures and transactions in an effort to improve the risk sensitivity of the resulting capital ratios.

The IRB approach uses banks’ internal assessments of key risk drivers as primary inputs to the capital calculation. The risk weights and resultant capital charges are determined through the combination of quantitative inputs provided by banks and formulae specified by the Committee. The IRB calculation of risk weighted assets for exposures to sovereigns, banks, or corporate entities relies on the following four parameters:

• **Probability of default (PD)**, which measures the likelihood that the borrower will default over a given time horizon.

• **Loss given default (LGD)**, which measures the proportion of the exposure that will be lost if a default occurs.
• **Exposure at default (EAD),** which for loan commitment measures the amount of the facility that is likely to be drawn in the event of a default.

• **Maturity (M),** which measures the remaining economic maturity of the exposure.

The differences between foundation and advanced IRB approaches are captured in the table below based on who provides the inputs on the various parameters:

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>FOUNDATION IRB</th>
<th>ADVANCED IRB</th>
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</thead>
<tbody>
<tr>
<td>PD</td>
<td>Bank</td>
<td>Bank</td>
</tr>
<tr>
<td>LGD</td>
<td>Supervisor</td>
<td>Bank</td>
</tr>
<tr>
<td>EAD</td>
<td>Supervisor</td>
<td>Bank</td>
</tr>
<tr>
<td>M</td>
<td>Bank or Supervisor</td>
<td>Bank</td>
</tr>
<tr>
<td>Risk Weight</td>
<td>Function provided by the committee</td>
<td>Function provided by the committee</td>
</tr>
<tr>
<td>Data Requirements</td>
<td>Historical data to estimate PD (5 years)</td>
<td>Historical loss data to estimate LGD (7 years) and historical exposure data to estimate EAD (7 years) plus that for PD estimation</td>
</tr>
</tbody>
</table>

The major area of research is concentrated on Credit Risk Management hence the researcher has confined only to Pillar –I of new Basel Accord.

**4.5 Basel II Implementation and India:**

*The Narasimhan Committee endorsed the internationally accepted norms for capital adequacy standards, developed by the Basel Committee on Banking Supervision (BCBS).* BCBS initiated Basel I norms in 1988, considered to be the first move towards Risk-weighted capital adequacy norms. In 1996 BCBS amended the Basel I norms and in 1999 it initiated a complete revision of the Basel I framework, to be known as Basel II. In pursuance of the Narasimhan Committee recommendations, India adopted Basel I norms for commercial banks in 1992, the market risk amendment of Basel I in 1996 and has committed to implement the revised norms, the Basel II, from March 2008.

The final RBI guidelines on Basel II implementation were released on April 27, 2007. According to these guidelines, banks in India will initially adopt SA for credit risk and RBI has provided the
specifics of these approaches in its guidelines. After adequate skills are developed, both by banks and RBI, some banks may be allowed to migrate towards more sophisticated approaches like IRB. Under the revised regime of Basel II, Indian banks will be required to maintain a minimum CRAR of 9% on an ongoing basis. Further, banks are encouraged to achieve a tier I CRAR of at least 6 per cent by March 2010. In order to ensure a smooth transition to Basel II, RBI has advised the banks to have a parallel run of the revised norms along with the currently applicable norms.

4.6 Literature survey

Rajgopalan (1996) made an attempt to overview the banks risk management and suggested a model for pricing the products based on credit risk assessment of the borrowers. He concluded that good risk management is good banking, which ultimately leads to profitable survival of the institution. A proper approach to risk identification, measurement and control will safeguard the interests of banking institution in long run.

Froot and Stein (1998) found out that credit risk management through active loan purchase and sales activity affects banks investments in risky loans. Bank that purchase and sell loans hold more risky loans (credit risk and loss loans and commercial estate loans) as a percentage of the balance sheet than other banks. These results are striking because banks that manage their credit risk (by buying and selling loans) hold more risky loans than banks that merely sell loans (but don’t buy them) or banks that merely buy loans (but don’t sell them).

Treacy and Carey (1998) examined the credit risk rating mechanism at US banks. The paper highlighted the architecture of Bank Internal Rating System and Operating Design of rating system and made a comparison of bank system relative to the rating agency system. They concluded that banks internal rating system’s help in managing credit risk, profitability analysis and product pricing.

Duffee and Zhou (1999) model the effects on bank due to the introduction of a market for credit derivatives; particularly, credit-default swaps. Their paper examined that a bank can use swaps to temporarily transfer credit risks of their loans to others, reducing the likelihood that defaulting loans trigger the banks financial distress. They concluded that the introduction of credit
derivatives market is not desirable because it can cause other markets for loan risk-sharing to break down.

Ferguson (2001) analyzed the models and judgments related to credit risk management. The author concluded that proper risk modeling provides a formal systematic and disciplined way for firms to measure changes in the riskiness of their portfolio and help them in designing proper strategic framework for managing changes in their risk.

Bagchi (2003) examined the credit risk management in banks. He examined risk identification, risk measurement, risk monitoring, risk control and risk audit, as basic considerations for credit risk management. The author concluded that the proper credit risk architecture, policies and framework of credit risk management, credit rating system, monitoring and control contributes in success of credit risk management system.

Muninarayananappa and Nirmala (2004) outline the concept of credit risk management in banks. They highlighted the objectives and factors that determine the direction of banks policies on credit risk management. The challenges related to the internal and external factors in credit risk management are also highlights. They concluded that success of credit risk management require maintenance of proper credit risk environment, credit strategy and policies. Thus the ultimate aim should be to protect and improve the loan quality.

Louberge and Schlesinger (2005) aim to propose a new method for credit risk allocation among economic agents. Their paper considers a pool of bank loans subject to credit risk and develops a method for decomposing the credit risk into distinctive and systematic components. The paper shows how financial contracts might be redesigned to allow for banks to manage the distinctive components for their own account, while allowing systematic component to be retained, passed off to capital market or shared with borrower.

Dash 2006 (2006) outlined the concept of CAR in India. The study examined the CAR of Indian banks related to CRAR as per the Basel accord. It was concluded that to meet the Basel II requirement of capital adequacy norms, banks in India would need to raise additional capital.

Arindam Bandyopadhya (2007) aims at developing an early warning signal model for predicting corporate default in emerging market economy like India. He also presented the method for
directly estimating probability of default using financial anon-financial variables. For predicting corporate bond default multiple discriminate analysis is used and logistic regression model is employed for estimating probability of default. The author concluded that by using ‘Z’ score model, banks and investors in emerging markets like India can get early warning signals about the firms solvency status and reassess the magnitude of default premium they require on low grade securities. The PD estimate from logistic analysis would help banks to estimate credit risk capital and set corporate pricing on a risk adjusted return basis. This model has high classification power of sample and high prediction power in terms of its ability to detect bad firm in the sample.

Gambhire (2007) presented a comparative study of Basel-II gains for Indian banks. This study initially described the Basel-II norms and the risks ie., credit risk, operational risk, and market risk.

Raghvan (2008) outlined the concept of Basel- II norms for Indian Banks. The study concluded that Basel-II principles should be viewed more from the angles of fine-tuning one’s risk management capabilities through constant mind searching rather than regulatory guidelines to be complied with.

Anju Arora (2008) outlines the concept of credit risk management practices and found the most common and conventional approaches adopted by the commercial banks in India and concluded that commercial banks in India are looking for new approaches techniques, and tools to reshape, mitigate and transfer the credit risk.

Meng-Fen Hsieh – Chien Chiang Lee (2009) in this paper the author examined the relationship between bank completion and profit, using bank level date for 61 countries over a period of 1992-2006. The study envisaged that reducing banks competition can improve their profits.

Michael R. Guglielmo (2010) has highlighted on the role of regular enhance regulatory scrutiny in respect of banks ability to manage and measure the growing risk. It address the recent trends in balance sheet management, evolution of the tools used to measure and manage risk, regulatory insights and what processes and controls institutions are implementing. To ensure that model risk is adequately quantifies understood and managed.
Indranarain Ramlall (2010) attributed the state of repayment capacity of borrowers and delved into the credit risk state of Mauritian firms, the research study emphasized on devising a credit risk model to sieve out the impact of firms attributes on their debt servicing matrix specifying the need of leverage analysis of loans and leases.

Brenuer, M. Jandacka, K. Rheinberger, M. Summer (Feb. 2011) this research paper challenges the traditional approach of dividing risk into market risk and credit risk and argued that this approach is conceptually problematic as many portfolios are not separable into market sub portfolio and credit sub portfolio. Further argues that as a consequence separate risk assessment can be seriously a flaw and concluded on the issue that if separate portfolio for market risk and credit risk are calculated separately that would be a wrong portfolio valuation and leads to a wrong assessment of true portfolio risk.

4.7 Gaps

- Majority of the studies that focused studies focus on credit risk management practices in banks as per Basel-II norms for Indian banks provided the conceptual framework and little attention has been made towards assessing the effectiveness of regulations

- Hence, empirical studies on credit risk management practices framework of banks in India are yet to be effected

- No study has identified the Basel-II prescribed norms applicability and the status report of the statistical measures in estimating, and monitoring process of credit risk management.

- The literature is inadequate related to the issues problems and prospects in the application of credit risk practices as per new adequacy norms

- Moreover no study has made a size wise and sector wise comparison of credit risk practices among the banks in India collecting and representing the facts on the problems, issues, and pros.
5. Research Objectives

Credit Risk Management

– To assess the present status of the credit risk management practices and the framework of lending of banks

– To investigate the extent of change in the practices, models, of identifying, estimating, and monitoring the credit risk of Indian banks

Performance of Indian Banking Industry

– To ascertain the impact of credit risk management framework under Basel-II on the financial performance of the banks

– To undertake a period study (of 5 years from 2007-2012) to analyze the detailed impact of the above over the performance of the Indian Banking industry
6. Research Methodology

The research Methodology adopted for the study is as follows

6.1 Research Calendar:

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Research activity</th>
<th>No. of days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Desk research (currently on-going)</td>
<td>60</td>
</tr>
<tr>
<td>2.</td>
<td>Questionnaire construction</td>
<td>15</td>
</tr>
<tr>
<td>3.</td>
<td>Pilot study and testing of the questionnaire</td>
<td>45</td>
</tr>
<tr>
<td>4.</td>
<td>Finalization of questionnaire</td>
<td>15</td>
</tr>
<tr>
<td>5.</td>
<td>Data collection</td>
<td>180</td>
</tr>
<tr>
<td>6.</td>
<td>Data preparation</td>
<td>35</td>
</tr>
<tr>
<td>7.</td>
<td>Data analysis and interpretation</td>
<td>180</td>
</tr>
<tr>
<td>8.</td>
<td>Compilation of results and Report writing</td>
<td>120</td>
</tr>
<tr>
<td>9.</td>
<td>Submission of progress reports, various</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>statements, final report etc.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Contingency days</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>735</td>
</tr>
</tbody>
</table>

6.2 Research Design:

Descriptive research will be used for the purpose of the study. Descriptive research design is concerned with describing the characteristics of a particular individual or a group. It would include (surveys, case studies, documentary analyses, developmental studies, correlation studies).

Steps involved:

- conducting a pilot study, writing cover letters, sending the questionnaire, following up, analyzing the results, and preparing the report temperament
• determining objectives: preparing the list of objectives and anticipating the kind of response to be received to value the entire study
• Delimiting the sample: distribute questionnaires to the select representative sample i.e., 30% of the population.
• constructing the open-ended and close ended questionnaire

6.3 Sources of Data Collection

The research desires to use both Primary and Secondary data sources. Primary sources of data will enable information that researcher is able to gather first hand. The tools proposed to be used for Primary Data collection include the following

Sources of data and tools: Data will be collected from both primary as well as secondary sources for the purpose of the study.

a) Primary data: The primary data for the study purpose will be collected through
   - Questionnaire using In-depth interview
   - Observation

b) Secondary data: Will be collected through various sources like Books, Magazines, Newspapers, Journals, RBI, Bank for International Settlements(BIS), Annual Reports of Banks and other government websites like Indian Banking Association (IBA), etc.

6.4 Sampling Plan: The sampling plan for the research is as follows

- Population Definition: Public Sector Banks (27 in number including 19 Nationalized Banks and 7 State Bank of India and its subsidiaries) in India.
- Sampling Frame: Reserve Bank of India Documents and Database, Banks Data, Bank for International Settlement (BIS)data Base
- Sampling Unit:
  - Nationalized Banks – 19 in number
  - SBI group along with its 07 in number
- Sample size: 30% of the Population
- Sample design: Non-probability Judgement Sampling
• The Respondents would be in the rank of General manager, Deputy general manager, Assistant General Manager, Executive Director who has the primary job responsibility of the development of credit risk management framework in their banks

• The responding Indian banks would be classified on the basis of size as measure by value of total advances
  Ownership – public private
  Geographical spread as measured by no. of branches made by these branches till the year 2011-12

(Respondents to be chosen for the study subject to their exposure to strategic and operational issues related to Credit risk management system and practices in Commercial Banks)

6.5 Tools for Data Analysis

The study aims at using Descriptive statistical tools using SPSS software. This will enable,

• Graphical displays of the data in which graphs summarize the data or facilitate comparisons.
• Tabular description in which tables of numbers summarize the data.
• Summary statistics (single numbers) which summarize the data

The data collected through the various sources will be analyzed by using various statistical tools like Chi-square test, t-test, ANOVA, correlation, multiple regression analysis and discriminate analysisand Graphical techniques like bar diagram, Pie, Charts, etc.

All Statistical analysis of the data will be done using SPSS version 18.0 and Microsoft Excel.
7. Extension /Further Scope for Research

1. Restricted to Indian Banks (Public Sector Banks)

2. Credit Risk Practices of Private Sector & Foreign banks operating in India are not into the coverage of the study

3. Select parameters are considered to study the impact on banks performance (Profitability, NPA, Credit Deposit ratios, Interest Margins etc)

4. Period study
8. Research outcomes

The contribution of the study lies in both the identification of benchmark practices and the credit risk management practices and the same being followed presently. The study would make a horizontal review of Credit risk practices across the banks in India.

Such review will help banks management and bank supervisors both by revealing the range of credit risk management practices followed in Indian Banking industry and shall provide useful information about the strength and weakness of alternative practices.

The study would enable to identify the gaps between benchmark practices and the present credit risk management practices of banks in emerging market like India, that has undergone significant changes due to reforms and that has not found in the existing literature.

The research study would contribute to existing empirical analysis in through

- Examining the extensive array of credit risk management practices
- An investigation of degree of credit risk management practices and its impact on the financial performance of banks in India
- And the financial performance of Indian banks would be through the time series dimension of data

8.1 Beneficiaries

The proposed research study would be beneficial to

- The banking Industry as a whole
- The Commercial Banks
- Academicians, Academic Researchers
- Banking Training Institutions ad Organizations
- Educational institutions
9. Conclusion

The research study on the Basel-II credit Risk Management practices would underscore the present progressive refinement and sophistication of the risk management configuration of the banking system in India. The banks with better risk management skills would not only have competitive advantage in the market place but would also be better positioned to capitalize on the opportunities for organic and inorganic growth. While the Basel II framework creates an enabling environment for enhancing the risk management capability in the banks by providing the right incentives, it is entirely up to the banks adoptability, risk appetite and competitiveness to grasp the nettle and upgrade the risk governance in their organization to achieve a sharper risk-reward profile. The research study efforts in acknowledging the new paradigm in Risk Management, Supervision and corporate governance of commercial banks in India.
10. Bibliography


2. A Preliminary Study on Credit Risk Management Strategies of Selected Financial Institutions in Malaysia; Jurnal Pengurusan, 28(2009) by Catherine Soke Fun Ho Nurul Izza Yusof

3. V Leeladhar: Basel II and credit risk management

   Inaugural address by Mr V Leeladhar, Deputy Governor of the Reserve Bank of India, at the program on Basel II and Credit Risk Management, organized by the Centre for Advanced Financial Learning for the whole-time directors of the commercial banks, Goa, 15 September 2007.

4. Challenges and implications of Basel II for Asia Speech by Dr. Y.V. Reddy, Governor, Reserve Bank of India at Asian Development Bank's 39th Annual Meeting in Hyderabad on May 3, 2006


10. Advisory panel on regulation set up, Our Banking Bureau / Mumbai November 21, 2003 By Business Standard

11. The Basel II Capital Accord, www.bis.org,


