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A STUDY OF RECENT DEVELOPMENT IN CREDIT RISK MANAGEMENT PRACTICES IN BANKING SECTOR

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Abstract
The pandemic situation in India has increased the credit risk for the profiles of borrowers. This highlights the importance of credit risk management practices. Recent study by RBI officers exhibits that banks are facing the problems of high Non-Performing Assets over last few years. This increased losses of failure of recovery and resulted in increase in interest rates which further lead to negative effect on credit growth of banks. This indirectly affects the magnitude of loans to be procured by borrowers. In order to resolve these situations it is necessary for banks to develop proper risk evaluation and administration process. It can be big challenge for banks to implement the credit risk management practices under the stringent regulations given by Basel Committee. A Basel III accord explains the various reforms for credit risk management to be implemented by banks. In this paper the various types of credit risks and different tools and techniques of credit risk managements are discussed which will be helpful to reduce risk. These tools and techniques include technological innovation and development. In order to avoid the deterioration in the expected returns due to expected losses, banks have to carefully implement these techniques.

Keywords: Basel Committee, Credit Risk, Credit Growth, Credit Risk Management, Non-Performing Assets

I. INTRODUCTION

The credit standing of bank’s counterparties declined due to lenient credit standards by banker for borrowers and counterparties, substandard risk management techniques and ignorance for changes in economic conditions. These are common causes for banking problems. The possibility that the bank borrower or counterparty fails to comply the agreed terms regarding borrowing obligations is termed as Credit risk. Credit risk faced by banks in lending activities as well as in treasury activities. Inability or unwillingness of borrower or counterparty to observe commitments in various financial matters of banks brings losses and value of the Bank’s Investment diminishes in portfolio. Thus credit risk is sum of default risk and portfolio risk.

Credit Risks are classified as under
i]*Default Risk*-: When the borrower fails to repay the full amount it is known as default risk. Also if 90 days past due date of repayment and borrower is unable to make payment, is default risk. All credit transaction relating to bonds, loans, securities and derivatives influence default risk.
ii]*Concentration Risk*-: If financial institutions exhibits risk due to risk faced by particular industry, it is concentration risk. The financial institutions rely on particular industry which suffers setback, results in heavy losses.

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iii] *Country Risk*-: Due to political unrest or unstable economic conditions in other countries, the possibilities of default in financial obligations cause country risk. This risk depends on macroeconomic performance of country.
iv] *Down grade risk*-: Considering credit rating, assumption regarding scope of growth and efficiency level is assumed by the market analyst. The loss caused by declining of credit rating is down grade risk.
v] *Institutional Risk*-: If the borrowers do not comply with the contractual provisions and negligent about regulations it is institutional risk. These risks can be caused by intermediaries.
Thus the credit risks faced by bankers are due to degradation of credit ratings, failure of repayment and noncompliance of transaction settlement process. Pre-settlement risks and collateral risk also forms part of credit risk. Hence credit risk is depends on the credit quality of borrower as well as amount of credit transactions. Banks has to consider interconnection of credit risks and other risks. The most apparent source of credit risk for bank is Loans. The other sources of credit risks are through the activities of banks including on and off the balance sheet. Other than loans, there are financial instruments such as acceptances, trade financing, futures, swaps, bonds, options and equities, banks are facing credit risk. Credit risk also exhibits due to extension of commitments and guarantees.

II. LITERATURE REVIEW

A lot of research work has been done and research papers are published on risk management in banking sector. There is sufficient scope for research in credit risk management for Indian Banking system. According to study of previous work done and related literature it can be observed that the practices used for credit risk management for banks differs globally. The few of the relevant study on credit risk management can discussed as below
Altman, Caouette, & Narayanan (1998) concluded that credit scoring procedures, assessment of negative events probabilities, and the consequent losses given these negative migrations or default events, are all important factors involved in credit risk management systems.
Campbell (2007) explained that most studies have been inclined to focus on the problems of developing an effective method for the disposal of bad debts, rather than for the provision of a regulatory and legal framework for their prevention and control.
Das and Ghosh (2007) examined the macroeconomic and microeconomic factors influencing bad loans in state-owned banks in India for the period 1994-2005. It was suggested that at the macro level, GDP growth, and at the bank level, actual loan growth, operating expenses, and the size of banks have a significant impact on bad loans.
Bhaumik and Piesse (2007) applied a portfolio choice model and bank-level data from India during the period 1996 to 2004. This study involve the banks' credit market behavior. According to study there was little evidence on the credit risk management practices of Indian PSBs and PVBs.
Sanjeev (2007) concluded that there is presence of internal and external factors of a risk which matters more than its nature. As per his studies external factors affecting bad loans are more significant than the internal factors
Sarwar et al. (2020), found that credit risk is a significant predictor of bank margins. It is usually a key indicator of the bank's level of efficiency in terms of its fundamental role of financial intermediation.

III. RESEARCH METHODOLOGY AND SCOPE OF STUDY

The present study is based on previous research work conducted regarding the credit risk management in Indian Banking sector. Hence it is descriptive in nature and based on secondary data. As per the Basel norms the affirmations on credit risk assessment in Indian banks are limited hence the establishment of functional relationship between credit risk components and its performance is not observed.

IV. OBJECTIVES OF STUDY

1. To study in detail the concept of credit risk in banking sector.
2. To understand the concept of credit risk management.

3. To understand the various techniques of credit risk management in banks.
4. To know the challenges in implementation to credit risk management practices.

V. CREDIT RISK MANAGEMENT

There should be realization with regards to identification, measurement, monitoring and controlling of credit risks by the bankers. They also have to determine the amount of adequate capital required to compensate the credit risks to be occurred. To measure the probable risks and negative circumstances a vigorous credit risk management is required. For managing credit risks by the bankers, effective practices are to be promoted. The Basel committee issues documents to identify, monitor and control credit risks. Basel III Accords explains the various reforms to reduce credit risks. Considering financial credit risk management, Basel III Accords focuses on developing the strength of banking sector. It ensures stress testing to strengthen banks in extreme situations of financial distress. Most of the banks depend on technological applications to manage the credit risks but these are extravagant in nature.

Financial risk divisions have to conduct the qualitative and quantitative evaluation of counterparties for establishing the risk conditions. It has to sets provisions and credit limits on the basis of credit quality of borrowers. Exhaustive credit risk management programs have to recommend the vital four areas.

i] Establishment of appropriate credit risk environment
ii] Performance with reference to sound credit granting process
iii] Appropriate credit administration, measurement and maintaining monitoring process
iv] Adequate control over credit risk is ensured.

Specific credit risk management practices may vary according to the nature and complexity of credit transactions of bankers. The above four practices should be implemented simultaneously with practices which have been mentioned in recent Basel Committee documents such as measurement of asset quality, sufficiency of provisions and reserves and disclosure of credit risks. To ascertain the reliability of borrower, lenders apply "The 5Cs of Credit risk"

i] Credit history of borrower by checking his past records and credit scores.
ii] Capacity to repay by considering the debt to income ratio which indicates his repayment ability from his earning
iii] Capital or net worth of borrower. It is difference between the overall assets and liabilities of borrowers.
iv] Conditions of credit should be suitable to a particular borrower.
v] Collateral security reduces the lender's risk, provided value is assessed by lender.

In order to determine the feasible amount of lending, the financial institutions apply credit risk models. Lenders use various models for evaluating risk such as Financial Statement Analysis, Machine Learning and Probability of default.

VI. TECHNIQUES AND TOOLS FOR CREDIT RISK MANAGEMENT

i] *Credit Approving Authority*-: A multi-tier credit approving mechanism should be generated for reviewing the borrower's creditworthiness before sanctioning loan. The officers can work on multiple levels of the organisation. Periodical review is necessary to establish the good quality of credit decisions. New age Lending CRMs can be implemented by bankers to analyse credit profiles of prospective borrowers.

ii] *Prudential Limit-:* With reference to concentration risk, banks can benchmark certain prudential limits on various Key Performance Indicators (KPI). These may be debt equity ratio, profitability ratios and other important solvency ratios. For every industrial sector banks can set the limits separately. These prudential limits have to revised and reviewed frequently. These prudential limits will be applicable in other market related issues and helps in controlling the credit risks.

iii] *Risk Rating*-: It is an established practice of rating borrower's creditability before lending. Banks can generate separate risk rating methods for their internal purposes. Rating helps the banker to evaluate the credit behaviour of individual and risk factor within portfolio. There are quantitative and

qualitative factors for risk rating such as financial ratios and other operating parameters. Rating models should be revised and rechecked so that those remain relevant and consistent. This will help banker to predict future credit losses and assessed them immediately.
iv] *Risk Pricing*-: Based on expected probability of default banks should calculate the price of credit risk. The mathematical approach to calculate the expected loss due to credit risk can be given by the formula

Expected Loss= PD x EAD x LGD

PD denotes 'probability of default', EAD denotes 'exposure at default', the amount if any repaid by borrower should not be consider in EAD, LGD is 'loss given default'. In the absence of information about LGD it is taken as '1 (-) Recovery percentage'.
The RAROC mechanism is applied by large banks internationally. It is Risk Adjusted Return on Capital frameworks which adjust the interest rates based on expected loss due to credit risk. It helps to provide better loan pricing to borrowers.
v] *Analytics for Risk Detection and control*-: In order to predict the changes in credit behaviour of borrower banks have to analyse the credit history. This can be performed through Artificial Intelligence and Machine Learning techniques. Effective credit decisions can be taken by bankers on the basis of any changes in the risk profile of borrower. This will provide the real time insight into borrower's behaviour and accordingly measures can be taken. To evaluate credit weakness and stressful environment of lending process, data analytics should be practiced.
vi] *Portfolio Management*-: Banks can have better insight regarding the quality of their loan books and have better portfolio management. In addition banks can put ceiling on credit on the basis of risk rating of borrower and estimate the industry wise distribution of credit rating. Also banks can decide the limit to segment based on their current financial status.
vi] *Loan Review Mechanism* (LRM)-: LRM has vital role to study the quality of loan books and to establish qualitative improvements in credit related decisions. LRM is helpful to banks to point out the large value of loans which can bring the credit weakness, recognise the adequacy of loan procedures and policies, compliance with Government Laws and to facilitate the credit risk management.
vii] *Credit Risk Analysis Model*-: In the scenario of technological development banks are exploring the operative ways of credit risk modelling. These models are helpful to exhibit the information about the credit risk rating at any point of time. Banks can rely on verification given by credit risk analysis model to make key lending decisions.

VII. CHALLENGES TO SUCCESSFUL CREDIT RISK MANAGEMENT

i] *Data management*-: It is difficult to manage big data which is multiplying exponentially and much complex in nature. This may result to inefficient data management and unable to access the right data at right time. This will create the problematic delay for banks in taking decisions.
ii] *Risk Modelling Framework*-: Absence or insufficient group wide risk modelling framework not provide the banker to estimate the complex and meaningful big picture of risks.
iii] *Possibility of rework*-: one of the technical issue is that analyst can't revise the credit rating and model parameters. This will result in duplication of work by analyst and affects efficiency.
iv] *Insufficient risk tools*-: Banks cannot develop and re-grade the portfolios in absence of scientific implementation of risk tools.
v] *Burdensome reporting*-: Analyst and IT gets overburden with manual spread sheets reporting.

VIII. CONCLUSION

Credit risk management exercised for reducing losses by considering the suitability of bank's capital and loan loss reserves at a particular point of time. Thus to have effective credit risk management, it begins with credit profile of borrower and resumed till recovery and also post recovery. This has been the prominent challenge for banks. In the conditions of global financial crisis and credit crunch, it is expected that banks should have updated knowledge of borrowers' credit behaviour and credit rating. For that purpose there should be more transparency in the LRM. Basel III accord provides more regulatory burden for bankers. As a result many banks revamping their tools and techniques of credit risk management. This will help the banks to abide more stringent regulations and adjust their high capital cost of credit risk. Banks have to develop vigorous lending procedure along with related credit rating mechanism which will help to assess creditworthiness and charge suitable interest rates. With the use of machine learning languages such as Python and other AI analytics it becomes feasible to create credit risk models. This models establish an accurate and scientific data. In order to improve performance of banks and to gain competitive benefits implementation of effective credit risk management is essential. But it should be noted that every tool and technique has its own limitations hence banks have to believe their point of view.

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