Credit Risk Evaluation of Scheduled Commercial Banks in India

By

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(14PCO014)

Under the guidance of

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Thesis submitted to

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CERTIFICATE

Department of Commerce

Avinashilingam Institute for Home Science and Higher Education for Women

Coimbatore – 641043

Certificate

This is to certify that the project entitled,

"Credit Risk Evaluation of Scheduled Commercial Banks in India"

is a bonafide work done by

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Submitted in partial fulfilment of the requirement for the Degree of Master of Commerce

Signature of the Dean **Signature of the Head of the Department**

Viva voce examination held on _____

Signature of the Supervisor **Signature of the External Examiner**

DECLARATION

DECLARATION

I hereby declare that the work entitled "**Credit Risk Evaluation of Scheduled Commercial Banks in India**" is submitted in partial fulfillment of the requirement for the award of the degree of Master of Commerce, under the supervision and guidance of Mrs.A.R.Rihana Banu, Assistant Professor, Department of Commerce, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641043.

Place : COIMBATORE

Date :

Signature of the Candidate **Signature of the Guide**

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CONTENTS

CONTENTS

LIST OF TABLES

LIST OF TABLES

SYNOPSIS

SYNOPSIS

The Indian banking system has undergone significant transformation since the early 1990s. It is adopting international best practices with a vision to strengthen the banking sector. But, risk exposure has increased due to fierce competition, changing socioeconomic patterns, market flexibility, and increased foreign exchange business and cross border activities. These have resulted into various types of banking risks such as credit risk, liquidity risk, interest risk, market risk, operational risk and management risk etc. Apart from these risks the very important risk is credit risk which emerged as a big challenge for the banking sector in India. Non-performing assets (NPAs) is primary indicator of credit risk and one of the major concerns for banks in India. NPAs reflect the performance of banks where a high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks and also erodes the value of the asset.

With the view to analyse in-depth of credit risk over the performance of banks, Hence, an attempt has been made to evaluate the credit risk of scheduled commercial banks in India. The objectives of the study are to assess and compare the loan assets of public sector banks, private sector banks and foreign banks, examine their recovery rate of NPA through various channels such as Lok Adalats, DRT and SARFAESI ACT and the impact of NPAs which affects the profitability of the banks. Several prudential and provisioning norms have been introduced, and these are pressurizing banks to improve efficiency and the financial health in the banking system.

The study is based on the secondary data retrieved from Report on Trend and Progress of Banking in India for 10 years (2005-2006 to 2014-2015). The data has been analysed by taking sector- wise classification of banks and have applied statistical tools such as mean, standard deviation, co-efficient of variation, correlation, multiple regression and ANOVA to evaluate the credit risk of the banks. The study observed that the entire banking sectors are affected by NPAs, mainly public sector banks compared to other banking sectors in India. To improve their efficiency and profitability, RBI has taken innumerable steps to reduce the volume of NPAs of the scheduled commercial banks in India.

INTRODUCTION

CHAPTER – I
INTRODUCTION

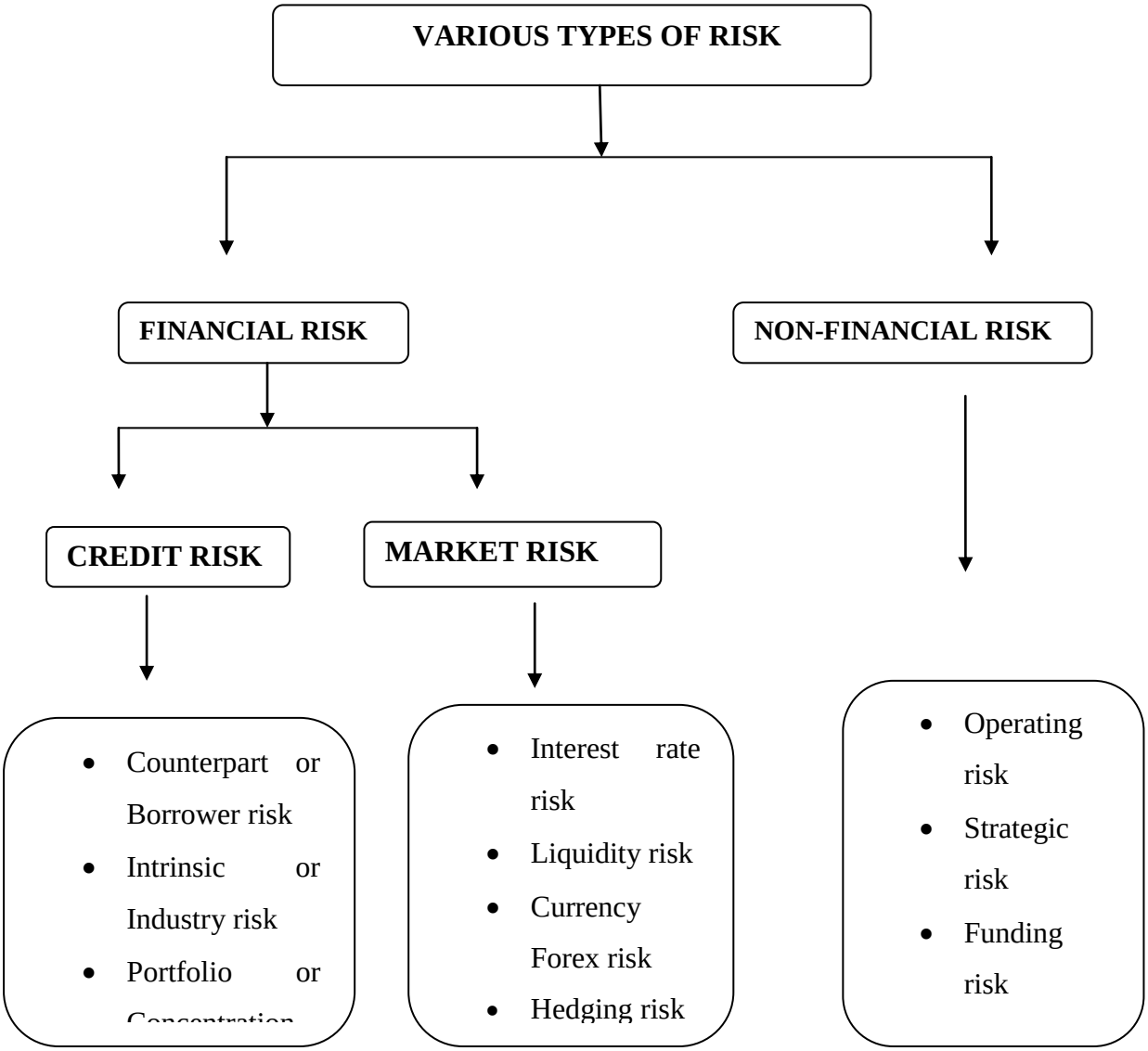
Banking in India originated in the last decade of the 18th century. Private Sector Banks and Public Sector Banks occupy a major part of the banking in India. They are the oldest form of banking institution having large volume of operations over a vast area. They are having very good net-work of branches even in rural and semi-urban areas. Now they are not only engaged in their traditional business of the accepting and lending money but have diversified their activities into new fields of operations like merchant banking, leasing, housing finance, mutual funds and venture capital. They have introduced a number of innovative schemes for mobilizing deposits. In addition to the above they are providing valuable services to their customers, issuing drafts, traveller cheques, gift cheques, accepting valuables for safe custody and modern banking facilities. Since the process of liberalization and reform of the financial sector were set in motion in 1991, banking has undergone significant changes.

Risk Analysis and Risk Management has got much importance in the Indian Economy during this liberalization period. The foremost among the challenges faced by the banking sector today is the challenge of understanding and managing the risk. The very nature of the banking business is having the threat of risk imbibed in it. Banks' main role is intermediation between those having resources and those requiring resources. For management of risk at corporate level, various risks like credit risk, market risk or operational risk have to be converted into one composite measure.

Therefore, it is necessary that measurement of credit risk should be in tandem so that the requisite composite estimate can be worked out. So, regarding to international banking rule (Basel Committee Accords) and RBI guidelines the investigation of risk analysis and risk management in banking sector is being most important.

TYPES OF RISK IN BANKING SECTOR

In view of growing complexity of banks, business and the dynamic operating environment, risk management has become very significant, especially in the financial sector. Risk at the apex level may be visualized as the probability of banks, financial health being impaired due to one or more contingent factors. While the parameters indicating the banks, health may vary from net interest margin to market value of equity, the factor which can cause the important are also numerous. For instance, these could be default in repayment of loans by borrowers, change in value of assets or disruption of operation due to reason like technological failure. The above two factors may be classified as credit risk and market risk in banks.



I.FINANCIAL RISK

Financial risk arises from any business transaction undertaken by a bank, which is exposed to potential loss. This risk can be further classified into Credit risk and Market risk.

A. CREDIT RISK

Credit risk is the potential that a bank borrower/ counter party fails to meet the obligations on agreed terms. There is always scope for the borrower to default from his commitments for one or the other reasons resulting in crystallization of credit risk to the bank. These losses could take the form outright default or alternatively, losses from changes in portfolio value arising from actual or perceived deterioration in credit quality that is short of default. Credit risk is inherent to the business of lending funds to the operations linked closely to market risk variables. The objective of credit risk management is to minimize the risk and maximize bank's risk adjusted rate of return by assuming and maintaining credit exposure within the acceptable parameters. Credit risk management includes

- Measurement through credit rating/ scoring,
- Quantification through estimation of expected loan losses,
- Pricing on a scientific basis and
- Controlling through effective review mechanism and portfolio management.

(i) Counterparty Risk

It comes from non-performance of a trading partner. The non-performance may arise from counterparty's refusal to perform due to an adverse price movement caused by systematic factors, or from some other political or legal constraint that was not anticipated by the principals. Diversification is the major tool for controlling non-systematic counterparty risk. Counterparty risk is like credit risk, but it is generally viewed as a more transient financial risk associated with trading than standard creditor default risk. In addition, counterparty's failure to settle a trade can arise from other factors beyond a credit problem.

(ii) Intrinsic Risk

It focuses on the risk inherent in certain lines of business and loans to certain industries. Commercial real estate construction loans are inherently more risky than

consumer loans. Intrinsic risk addresses the susceptibility to historic, predictive, and lending risk factors that characterize an industry or line of business. Historic elements address prior performance and stability of the industry or line of business. Predictive elements focus on characteristics that are subject to change and could positively or negatively affect future performance. Lending elements focus on how the collateral and terms offered in the industry or line of business affect the intrinsic risk.

(iii) Concentration Risk

Concentration risk is the aggregation of transaction and intrinsic risk within the portfolio and may result from loans to one borrower or one industry, geographic area, or lines of business. Bank must define acceptable portfolio concentrations for each of these aggregations. Portfolio diversify achieves an important objective. It allows a bank to avoid disaster. Concentrations within a portfolio will determine the magnitude of problems a bank will experience under adverse conditions.

CREDIT RISK MANAGEMENT

Credit risk management is the process of managing the capital assets of banks and the loss of loan reserves. Managing credit risk is a way of improving efficiency and attaining a competitive edge. An analysis should be made to establish the extent to which the bank's existing processes and procedures need to be enhanced to meet the demands of the regulations. For this purpose, there is need to train the team of bankers and develop and strategic models and solutions with the help of experts or outside agencies. It is essentially to maintain record of every activity of the bank to manage the credit risks. The process provides a framework to ensure consistence between strategy and implementation that reduces potential volatility in earnings and maximize shareholders wealth. Beyond and over riding the specifics of risk modelling issues, the challenge is moving towards improved credit risk management lies in addressing banks' willingness and openness to accept change to a more transparent system, to rapidly changing markets, to more effective and efficient ways of operating and to meet market requirements and increased answerability to stake holders. There is a need for strategic approach to Credit Risk Management (CRM) in Indian Commercial Banks, particularly in view of NPAs level, CAR (Capital Adequacy Ratio) norms and Basel Capital Accord.

Techniques for Management of Credit Risk

The instruments and tools, through which credit risk management is carried out, are detailed below

- ✓ **Exposure Ceilings**

Prudential Limit is linked to Capital Funds where 15 per cent for individual borrower entity, 40 per cent for a group with additional 10 per cent for infrastructure projects undertaken by the group, Threshold limit is fixed at a level lower than Prudential Exposure; Substantial Exposure, which is the sum total of the exposures beyond threshold limit should not exceed 600 per cent to 800 per cent of the Capital Funds of the bank (i.e. six to eight times).

- ✓ **Review/Renewal**

Multi-tier Credit Approving Authority, constitution wise delegation of powers, Higher delegated powers for better-rated customers; discriminatory time schedule for review/ renewal, Hurdle rates and Bench marks for fresh exposures and periodicity for renewal based on risk rating, etc are formulated.

- ✓ **Risk Rating Model**

Set up comprehensive risk scoring system on a six to nine point scale. Clearly define rating thresholds and review the ratings periodically preferably at half yearly intervals. Rating migration is to be mapped to estimate the expected loss.

- ✓ **Risk based scientific pricing**

This is a tool used to calculate the interest rates on loans given based on the probability of default, or the risk on the loan. Link loan pricing is too expected for loss. High-risk category borrowers are to be priced high. Build historical data on default losses. Allocate capital to absorb the unexpected loss. Adopt the RAROC (Risk Adjusted Rate of Return on Capital) framework.

- ✓ **Portfolio Management**

The need for credit portfolio management emanates from the necessity to optimize the benefits associated with diversification and to reduce the potential adverse impact of concentration of exposures to a particular borrower, sector or industry. Stipulate quantitative ceiling on aggregate exposure on specific rating categories, distribution of borrowers in various industry, business group and conduct rapid portfolio reviews. The existing framework of tracking the non-performing loans around the balance sheet date does not signal the quality of the entire loan book. There should be a proper & regular on-going system for identification of credit

weaknesses well in advance. Initiate steps to preserve the desired portfolio quality and integrate portfolio reviews with credit decision-making process.

- ✓ **Loan Review Mechanism**

This should be done independent of credit operations. It is also referred as Credit Audit covering review of sanction process, compliance status and review of risk rating, pick-up of warning signals and recommendation of corrective action with the objective of improving credit quality. It should target all loans above certain cut-off limit ensuring that at least 30 per cent to 40 per cent of the portfolio is subjected to LRM in a year so as to ensure that all major credit risks embedded in the balance sheet have been tracked. This is done to bring about qualitative improvement in credit administration. It should identify loans with credit weakness, determine adequacy of loan loss provisions and also ensure adherence to lending policies and procedures. The focus of the credit audit needs to be broadened from account level to overall portfolio level. Regular, proper & prompt reporting to Top Management should be ensured. Credit Audit is conducted on site, i.e. at the branch that has appraised the advance and where the main operative limits are made available. However, it is not required to visit borrowers' factory/office premises.

RBI Guidelines on Management of Credit Risk

The central bank, Reserve Bank of India (RBI) was established in April 1935 with a share capital of Rs 5 crores on the basis of the recommendations of Hilton Young Commission. One of the important functions of the RBI is controller of credit, i.e., it has the power to influence the volume of credit created by banks in India. It can do so through changing the Bank rate or through open market operations. RBI suggests that each bank should have an effective Credit Management Framework which comprises; Credit Risk Policy, Organization Structure and Operation/System. The board of directors of each bank shall be responsible for approving and periodically reviving credit risk strategy and significant credit risk policies. The policy should include risk identification, risk measurement, risk grading/ aggregation techniques, reporting and risk control/ mitigation techniques, documentation, legal issues and management of problem loans. These policies shall further be communicated to branches and controlling offices. A sound organization structure is outcome for successful implementation of an effective credit risk management system. Each bank should constitute a high level Credit Risk Management Committee

(CRMC). Concurrently, each bank should also set up Credit Risk Management Department (CRMD), independent of the Credit Administration Department.

B.MARKET RISK

Market risk may be defined as the possibility of loss to bank caused by the changes in the market variables. It is the risk that the value of on-/off-balance sheet positions will be adversely affected by movements in equity and interest rate markets, currency exchange rates and commodity prices. Market risk is the risk to the bank's earnings and capital due to changes in the market level of interest rates or prices of securities, foreign exchange and equities, as well as the volatilities, of those prices. The following are types of market risks as

(i) Interest Rate Risk

Interest Rate Risk is the potential negative impact on the Net Interest Income and it refers to the vulnerability of an institution's financial condition to the movement in interest rates. Changes in interest rate affect earnings, value of assets, liability off-balance sheet items and cash flow. Earnings perspective involves analyzing the impact of changes in interest rates on accrual or reported earnings in the near term. This is measured by measuring the changes in the Net Interest Income (NII) equivalent to the difference between total interest income and total interest expense.

(ii) Liquidity Risk

Bank Deposits generally have a much shorter contractual maturity than loans and liquidity management needs to provide a cushion to cover anticipated deposit withdrawals. Liquidity is the ability to efficiently accommodate deposit as also reduction in liabilities and to fund the loan growth and possible funding of the off-balance sheet claims. The cash flows are placed in different time buckets based on future likely behaviour of assets, liabilities and off-balance sheet items.

(iii) Forex Risk

Foreign exchange risk is the risk that a bank may suffer loss as a result of adverse exchange rate movement during a period in which it has an open position, either spot or forward or both in same foreign currency. Even in case where spot or forward positions in individual currencies are balanced the maturity pattern of forward transactions may produce mismatches. There is also a settlement risk

arising out of default of the counter party and out of time lag in settlement of one currency in one centre and the settlement of another currency in another time zone. Banks are also exposed to interest rate risk, which arises from the maturity mismatch of foreign currency position.

(iv) Country Risk

This is the risk that arises due to cross border transactions that are growing dramatically in the recent years owing to economic liberalization and globalization. It is the possibility that a country will be unable to service or repay debts to foreign lenders in time. It comprises of Transfer Risk arising on account of possibility of losses due to restrictions on external remittances; Sovereign Risk associated with lending to government of a sovereign nation or taking government guarantees; Cross border risk arising on account of the borrower being a resident of a country other than the country where the cross border asset is booked.

II. NON - FINANCIAL RISK

Non- financial risk refers to those risks that may affect a bank's business growth, marketability of its product and services, likely failure of its strategies aimed at business growth etc. These risks may arise on account of management failures, competition, non- availability of suitable products/services, external factors etc. In these risk operational and strategic risk have a great need of consideration.

(i) Operational Risk

Always banks live with the risks arising out of human error, financial fraud and natural disasters. The recent happenings such as WTC tragedy, Barings debacle etc. has highlighted the potential losses on account of operational risk. Exponential growth in the use of technology and increase in global financial inter-linkages are the two primary changes that contributed to such risks.

Operational risk, though defined as any risk that is not categorized as market or credit risk, is the risk of loss arising from inadequate or failed internal processes, people and systems or from external events. In order to mitigate this, internal control and internal audit systems are used as the primary means. Risk education for familiarizing the complex operations at all levels of staff can also reduce operational risk. Insurance cover is one of the important mitigators of operational risk. Operational risk events are associated with weak links in internal control procedures. The key to management of operational risk lies in the bank’s ability to

assess its process for vulnerability and establish controls as well as safeguards while providing for unanticipated worst-case scenarios.

Operational risk involves breakdown in internal controls and corporate governance leading to error, fraud, performance failure, compromise on the interest of the bank resulting in financial loss. Putting in place proper corporate governance practices by itself would serve as an effective risk management tool. Bank should strive to promote a shared understanding of operational risk within the organization, especially since operational risk is often intertwined with market or credit risk and it is difficult to isolate.

(ii) Strategic Risk

Strategic risk is the risk arising from adverse business decisions, improper implementation of decisions or lack of responsiveness to industry changes. This risk is a function of the compatibility of an organisation's strategic goals, the business strategies developed to achieve those goals, the resources deployed against these goals and the quality of implementation.

(iii) Funding risk

Funding Risk is defined as the inability to obtain funds to meet cash flow obligations. For banks, funding liquidity risk is crucial. This arises from the need to replace net outflows due to unanticipated withdrawal/ non-renewal of deposits (wholesale and retail).

(iv) Political Risk

It is a type of risk in banking sector which is faced by investors, corporations and governments. When political environment or legislative process of country leads to government taking over the assets of the financial entity (like nationalization, etc) and preventing discharge of liabilities in a manner that had been agreed to earlier. The risk that investor's return would suffer as a result of political change or instability in a country. Instability affecting investment return could stem from a change in government, legislative bodies, other foreign policy makes or military control.

(v) Legal Risk

Legal risk is the risk of loss caused by penalties or sanctions originating from court disputes due to breach of contractual and legal obligations and penalties and sanction pronounced by a regulatory. It is common in financial contracting and are

separate from the legal ramifications of credit, counterparty and operational risks. New statutes, court opinions and regulations can put formerly well-established transactions into contention even when all parties have previously performed adequately and are fully able to perform in the future. For example, environmental regulations have radically affected real estate values for older properties and imposed serious risks to lending institutions in this area. A second type of legal risk arises from the activities of an institution's management or employees. Fraud, violations of regulations or laws, and other actions can lead to catastrophic loss, as recent examples in the thrift industry have demonstrated.

The future of banking will undoubtedly rest on risk management dynamics. Only those banks that have efficient risk management system will survive in the market in the long run. Credit risk is the oldest and biggest risk that bank, by virtue of its very nature of business, inherits. Credit risk or counterparty risk is increasingly faced by banks in their product assortment (not only lending) and can be considered as the oldest and largest risk in banking. It is important that banks deal with customers with sound reputation and creditworthiness. Therefore banks need not only manage the credit risk in their credit portfolio but also that in any individual credit or transaction. The relationship between credit risk and other risks should also be considered by banks. Effective credit risk management process is a way to manage portfolio of credit facilities. Credit risk management encompasses identification, measurement, monitoring and control of the credit risk exposures. The corner stone of credit risk management is the establishment of a framework that defines corporate priorities, loan approval process, credit risk rating system, risk-adjusted pricing system, loan-review mechanism and comprehensive reporting system.

The underlying objective has been to make the system more competitive, efficient and profitable. A strong banking sector is important for flourishing economy. The failure of the banking sector may have an adverse impact on other sectors. In recent times the banks have become very careful in extending loans, the reason being rising non-performing assets. Non-Performing Assets (NPAs) are the primary indicators of credit risk. Capital Adequacy Ratio (CAR) is another measure of credit risk and one of the major concerns for banks in India. NPAs reflect the performance of banks where a high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks and also erodes the

value of the asset. The NPA growth involves the necessity of provisions, which reduces the overall profits and shareholders' value.

NON- PERFORMING ASSETS

A Non-Performing Asset (NPA) is defined as a credit facility in respect of which the interest and/or instalment of principal has remained "past due" for a specified period of time.

In India, the definition of NPAs has changed over time. According to the Narasimham Committee Report (1991), those assets (advances, bills discounted, overdrafts, cash credit etc.) for which the interest and/or instalment of principal remains due for a period of four quarters (180 days) should be considered as NPAs.

With an aim of moving towards the international best practices and ensuring greater transparency, a standard criterion of "90 days" overdue norm was fixed for identification of NPA from the financial year ending March, 2004 in the Indian financial system. Thus, as per present convention, a non-performing asset refers to a loan or an advance where

- Interest and/or instalment of principal remain overdue for a period of more than 90 days in respect of a term loan,
- The account remains "out of order" for a period of more than 90 days, in respect of an Overdraft/Cash Credit (OD/CC),
- The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted,
- Interest and/or instalment of principal remains overdue for two harvest seasons but for a period not exceeding two half years in the case of an advance granted for agricultural purposes, and
- Any amount to be received remains overdue for a period of more than 90 days in respect of other accounts.

CLASSIFICATION OF NPA

The loan accounts in banks are classified into four categories.

a) Standard Assets

Standard asset is one which does not disclose any problem and which does not carry more than normal risk attached to business. Thus, in general, all the current

loans, agricultural and non-agricultural loans which have not become NPA may be treated as standard asset.

b) Sub-standard Assets

Before 31 March 2001, sub-standard asset was classified as NPA for a period not exceeding two years but with effect from 31 March 2001, a sub-standard asset which has remained NPA for a period less than or equal to 18 months. With effect from 31 March 2005 the norms have been further squeeze and a sub-standard asset would be one, which has remained NPA for a period less than or equal to 12 months. In such cases, the current net worth of the borrower/ guarantor or the current market value of the security charged is not enough to ensure recovery of the dues to the banks in full.

c) Doubtful Assets

Before 31 March 2001, doubtful asset was remained NPA for a period exceeding two years but with effect from 31 March 2001, it had remained NPA for a period exceeding 18 months. With effect from March 31, 2005, the norms have been further squeeze, and an asset would be classified as doubtful if it remained in the sub-standard category for 12 months.

d) Loss Assets

A loss asset is one where loss has been identified by the bank or internal or external auditors or the RBI inspection but the amount has not been written off wholly. In other words, such an asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted although there may be some salvage or recovery value.

However, only those advances are classified as loss assets where no security is available. In accounts where some security / ECGC /DICGC cover is available, these accounts are not reported under loss assets.

According to the RBI guidelines, as and when an asset becomes a NPA, such advances would be first classified. However, it needs to be noted that the asset classification is only for the purpose of computing the amount of provision that needs to be made with respect to bank advances.

GROSS NPA

Gross NPAs are the sum total of all loan assets that are classified as NPAs as per RBI guidelines as on balance sheet date. Gross NPA reflects the quality of the loans made by banks. It consists of all the non-standard assets like sub-standard, doubtful and loss assets. It can be calculated with the help of following ratio

$$\textbf{Gross NPA Ratio} = \frac{\textbf{Gross NPAs}}{\textbf{Gross Advances}}$$

NET NPA

Net NPAs are those type of NPAs in which the bank has deducted the provisions regarding NPAs.Net NPAs shows the actual burden of banks. Since in India, bank balance sheets contain a huge amount of NPAs and the process of recovery and written off of loans is very time consuming, the provisions the banks have to make against the NPAs according to the central bank guidelines, are quite significant. That is the reason where there is a difference between gross and net NPAs is quite high. Net NPAs are obtained from gross NPAs after deduction of the following

- Interest due but not received (i.e. balances in interest suspense account).
- Claims received from credit guarantors and kept in suspense accounts pending final settlement.
- Part payment received and kept in suspensions
- Total provisions held.

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$$\textbf{Net NPA} = \frac{\textbf{Gross NPAs – Provisions}}{\textbf{Gross Advances - Provisions}}$$

CAUSES FOR NPA

The causes for NPA are tabulated into three categories i.e., Borrower, Bank and other factors

CAUSES FOR NON-PERFORMING ASSET (NPA)

BORROWER	BANK	OTHER
• Too ambitious project • Heavy borrowing • Poor credit collection • Poor quality management • Wilful default • Depend on single customer • Fail to bring required fund • Lack of proper planning	• Poor credit appraisal • Non inspection of unit • Defective lending process • Lack of trained staff • Lack of commitment to recovery • Lack of technical support • Inefficient recovery system • System overloaded	• Lack of infrastructure • Lack of Government support • Government policies • Changes related to Banking amendments • Natural calamities • Recession and variation in economic conditions

RECOVERY CHANNELS

Some measures are designed to maximize the NPAs recoveries in Indian banking. The Central government and RBI have taken steps for controlling incidence of fresh NPAs and creating legal and regulatory environment to facilitate the recovery of existing NPAs of banks. They are

1. One Time Settlement Schemes

Banks have been advised to devise one- time compromise settlement schemes for resolution of NPAs. The RBI issued guidelines for this Scheme in March 2000.This scheme covers NPAs classified as doubtful and sub-standard, which have

subsequently become doubtful or less. All cases on which the banks have initiated action under the SRFAESI Act and also cases pending before Courts/DRTs/BIFR, subject to consent decree being obtained from the Courts/DRTs/BIFR are covered. However cases of willful default, fraud and malfeasance are not covered. As per the OTS scheme, for NPAs up to Rs. 10 crore, the minimum amount that should be recovered should be 100 per cent of the outstanding balance in the account. The RBI has allowed the board of directors to evolve policy guidelines regarding one-time settlement of NPAs as a part of their loan recovery policy. The amount arrived for settlement is to be paid in lumpsum. If not, borrowers should pay at least 25 per cent upfront and the balance within one year with interest at the existing PLR.

2. Lok Adalats

Lok Adalats constituted under the Legal Services Authority Act, 1987. They have been set up to help banks to settle disputes involving accounts in "doubtful" and "loss" category with an outstanding balance of Rs. 20 lakh. Lok Adalats help in resolving disputes between the parties by conciliation, mediation, compromise or amicable settlement and thereby reduce burden on courts. They were conferred judicial status and every award of the Lok Adalats shall be deemed to be a decree of a civil court and no appeal can be made to any court against the award made by the Lok Adalats. Debt recovery tribunals have been empowered to organize Lok Adalats to decide on cases of NPAs of Rs. 10 lakh and above. This mechanism has proved to be quite effective for speedy justice and recovery of small loans. The progress through this channel is expected to pick up in the coming years.

3. Debt Recovery Tribunals (DRTs)

The Debt Recovery Tribunals have been established by the Government of India under an Act of Parliament (Act 51 of 1993) for expeditious adjudication and recovery of debts due to banks and financial institutions. Under the act, two types of tribunals are set up as Debt Recovery Tribunals and Debt Recovery Appellate Tribunal. The order passed by a DRT is appealable to a DRAT but no appeal shall be entertained by the DRAT unless the applicant deposits 75 per cent of the amount due from him. DRTS have been empowered to decide on cases of advances of Rs. 10 lakh and above. Recoveries valued below Rs. 10 lakh are sent to civil courts, while those above Rs.10 lakh are referred to the DRTs. After the enactment of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, borrowers could become first applicants before the DRTs. The recovery

of debts due to banks and financial institution passed in March 2000 has helped in strengthening the function of DRTs. Provision for placement of more than one recovery officer, power to attach defendant's property/assets before judgment, penal provision for disobedience of tribunal's order or for breach of any terms of order and appointment of receiver with power of realization, management, protection and preservation of property are expected to provide necessary teeth to the DRTs and speed up the recovery of NPAs in the times to come.

DRTs which have been set up by the Government to facilitate speedy recovery by banks/DFIs, have not been able make much impact on loan recovery due to variety of reasons like inadequate number, lack of infrastructure, under staffing and frequent adjournment of cases. It is essential that DRT mechanism is strengthened and vested with a proper enforcement mechanism to enforce their orders. Non observation of any order passed by the tribunal should amount to contempt of court, the DRT should have right to initiate contempt proceedings. The DRT should empowered to sell asset of the debtor companies and forward the proceed to the winding – up court for distribution among the lenders.

4. Securitization and SARFAESI Act

Securitization is a relatively new concept that is taking roots in India of late. It is still in its infancy with only a few market players. Securitization is considered an effective tool for improvement of capital adequacy. It is also seen as a tool for transferring the reinvestment risk, apart from credit risk helping the banks to maintain proper match between assets and liabilities. Securitization can also help in reducing the risk arising out of credit exposure norms and the imbalances of credit exposure, which can help in the maintenance of healthy assets. The SARFAESI Act intends to promote Securitization, pool together NPAs of banks to realize them and make enforcement of Security Interest Transfer. The SARFAESI Act-2002 is seen as a booster, initially, for banks in tackling the menace of NPAs without having to approach the courts. With certain loopholes still remaining in the act, the experiences of banks were that the Act in its present form would not serve the envisaged objective of optimum recovery of NPAs, particularly with the hard-core NPA borrowers dragging the banks into endless litigation to delay the recovery process. The Supreme Court decision in regard to certain proviso of the SARFAESI Act also vindicated this view. This section deals with the features of Securitization and its resourcefulness in tackling NPAS and about the SARFAESI Act, its

resourcefulness and limitations in tackling the NPA borrowers and the implication of the recent Supreme Court judgment. With the steady sophistication of the Indian Financial Services Sector, the structured finance market is also growing significantly, of which Securitization occupies a prominent place.

With Basel II norms imminently being implemented by 2008, banks are required to pool up huge capital to offset the credit risk and operational risk components. Securitization, therefore, is seen to be an effective and vibrant tool for capital formation for banks in future.

5. Asset Reconstruction Company (ARC)

The SARFAESI Act, 2002 paved the way for setting up ARCs under Section 30 of the act. ARC is set up to help the banks and financial institutions to clean up their balance sheets. ARC is also known as Securitization Company (SC) or Reconstruction Company (RC) which tries and restricts bad loans into good ones. ARCIL (Asset Reconstruction Company of India Limited) is the first asset reconstruction company of India. It is sponsored by the State Bank of India, ICICI Bank Ltd, Industrial Development Bank of India, Housing Development Finance Corporation Ltd and HDFC Bank Ltd. ARCIL was incorporated as a public limited company on February 11, 2002 and obtained its certificate of commencement of business on May 7, 2003. In pursuance of Section 3 of the Securitization Act 2002, it holds a certificate of registration dated August 29, 2003, issued by the RBI and operates under power conferred under the Securitization Act, 2002. ARCIL is also a "financial institution" within the meaning of Section 2 (h)of the Recovery of Debts due to Banks and Financial Institutions Act, 1993 (the "DRT Act"). ARCIL is the first ARC in the country to commence business of resolution of non-performing assets (NPAs) upon acquisition from Indian banks and financial institutions. As the first ARC, ARCIL has played a pioneering role in setting standards for the industry in India.

(A) Unlocking capital for the banking system and the economy the primary objective of ARCIL is to expedite recovery of the amounts locked in NPAs of lenders and thereby recycling capital. ARCIL thus, provides relief to the banking system by managing NPAs and help them concentrate on core banking activities thereby enhancing shareholders value.

(B) Creating a vibrant market for distressed debt assets / securities in India offering a trading platform for Lenders ARCIL has made successful efforts in funnelling investment from both from domestic and international players for

funding these acquisitions of distressed assets, followed by showcasing them to prospective buyers. This has initiated creation of a secondary market of distressed assets in the country besides hastening their resolution. The efforts of ARCIL would lead the country's distressed debt market to international standards.

(C) To evolve and create significant capacity in the system for quicker resolution of NPAs by deploying the assets optimally With a view to achieving high delivery capabilities for resolution, ARCIL has put in place a structure aimed at outsourcing the various sub-functions of resolution to specialized agencies, wherever applicable under the provision of the Securitization Act, 2002. ARCIL has also encourage, groomed and developed many such agencies to enhance its capacity in line with the growth of its activity.

6. Corporate Debt Restructuring (CDR)

Corporate Debt Restructuring (CDR) framework is to ensure timely and transparent mechanism for restructuring of the corporate debts of viable entities facing problems, outside the purview of BIFR, DRT and other legal proceedings, for the benefit of all concerned. In particular, the framework will aim at preserving viable corporate that are affected by certain internal and external factors and minimize the losses to the creditors and other stakeholders through an orderly and coordinated restructuring programme. CDR system in the country will have a three-tier structure as

A. CDR Standing Forum

B. CDR Empowered Group

C. CDR Cell

(A)CDR Standing Forum

The CDR Standing Forum would be the representative general body of all financial institutions and banks participating in CDR system. All financial institutions and banks should participate in the system in their own interest. CDR Standing Forum will be a self-empowered body, which will lay down policies and guidelines, guide and monitor the progress of corporate debt restructuring.

(B) CDR Empowered Group

The CDR Empowered Group would be mandated to look into each case of debt restructuring, examine the viability and rehabilitation potential of the Company and prove the restructuring package within a specified time frame of 90 days, or at best 180 days of reference to the Empowered Group.

(C) CDR Cell

The CDR Standing Forum and the CDR Empowered Group will be assisted by a CDR Cell in all their functions. The CDR Cell will make the initial scrutiny of the proposals received from borrowers / lenders, by calling for proposed rehabilitation plan and other information and put up the matter before the CDR Empowered Group, within one month to decide whether rehabilitation is prima facie feasible, if so, the CDR Cell will proceed to prepare detailed Rehabilitation Plan with the help of lenders and if necessary, experts to be engaged from outside. If not found prima facie feasible, the lenders may start action for recovery of their dues.

The Mechanism of the CDR

CDR will be a Non-statutory mechanism. CDR mechanism will be a voluntary system based on debtor-creditor agreement and inter-creditor agreement. The scheme will not apply to accounts involving only one financial institution or one bank. The CDR mechanism will cover only multiple banking accounts/ syndication / consortium accounts with outstanding exposure of Rs.20 crore and above by banks and institutions. The CDR system will be applicable only to standard and sub-standard accounts. However, as an interim measure, permission for corporate debt restructuring will be made available by RBI on the basis of specific recommendation of CDR "Core-Group", if a minimum of 75 per cent (by value) of the lenders constituting banks and FIs consent for CDR, irrespective of differences in asset classification status in banks/ financial institutions. There would be no requirement of the account / company being sick NPA or being in default for a specified period before reference to the CDR Group.

This approach would provide the necessary flexibility and facilitate timely intervention for debt restructuring. Prescribing any milestone(s) may not be necessary, since the debt restructuring exercise is being triggered by banks and financial institutions or with their consent. In no case, the requests of any corporate indulging in willful default or misfeasance will be considered for restructuring under CDR.

7. Circulation of Information of Defaulters

The RBI has put in place a system for periodical circulation of details of willful defaulters of banks and financial institutions. The RBI also publishes a list of borrowers (with outstanding aggregate Rs.1 crore and above) against whom banks and financial institutions in recovery of funds have filed suits as on 31st March every year. It will serve as a caution list while considering a request for new or additional credit limits from defaulting borrowing units and also from the directors, proprietors and partners of these entities.

8. Credit Information Bureau

The institutionalization of information sharing arrangement is now possible through the newly formed Credit Information Bureau of India Limited (CIBIL). It was set up in January 2001, by SBI, HDFC, and two foreign technology partners. This will prevent those who take advantage of lack of system of information sharing amongst leading institutions to borrow large amount against same assets and property, which has in no measures contributed to the incremental of NPAs of banks.

NEED FOR THE STUDY

Indian banking industry, which was in glory phase once upon a time, has been facing a lot of challenges on non performing assets at present scenario. Many banks have kept their NPAs under the control but some banks are not able to control their NPA levels and this faces lots of operational problems. There can be various reasons behind this NPA. Non-performing assets has been hitting the profitability of the banks or it can be said that due to NPA, the profitability of the banks are going down day by day and the soaring NPAs have adverse impact upon the progress of any economy, and hence a matter of great concern for the Indian financial system. The subsidiary for this is the functioning of Debt Recovery Tribunal (DRT) which is a judiciary for the bank for recovery amount from the default customers.

In this context, credit risk evaluation of scheduled commercial banks in India have been undertaken to understand the NPAs in the Indian Banking Sector and how the profitability of the banks are affected by Non-Performing Assets and the recovery of NPAs through various channels.

OBJECTIVES OF THE STUDY

The study aims to gain insights into the concepts of Non-Performing Assets (NPAs) of Indian Scheduled commercial banks. The following broad objectives are laid down for the purpose of the study.

- To assess and compare the loan assets of three sectors of scheduled commercial banks in India.
- To examine the recovery rate of NPAs through various recovery channels.
- To identify the impact of NPA on profitability.

HYPOTHESIS

H0: There is no significant difference in Gross NPAs among three sectors of the scheduled commercial banks in India.

H1: There is a significant difference in Gross NPAs among three sectors of the scheduled commercial banks in India.

LIMITATIONS OF THE STUDY

The following are the main limitations of the study

- In the present study, the components of various NPAs of scheduled commercial banks in a threefold type's namely public sector banks, private sector banks and foreign banks only were considered except regional rural banks which should also be involved in knowing the entire Non-Performing Assets of the scheduled commercial banks in India.
- This study was based on secondary data namely from RBI publications and other reports. Thus, the data is based on historical accounting concept, which sometimes ignores the impact of inflation.
- It is confined only to the selected indicators and limited only for the period of ten years.

CHAPTER SCHEME

The present study is categorized tabulate into five main chapter which are given below

Chapter	Name of the Chapter
I	Introduction
II	Review of Literature
III	Research Methodology
IV	Analysis and Interpretation
V	Finding, Suggestion and Conclusion
-	Bibliography

In the first Chapter – *Introduction* deals with the introductory aspects of different types of risk faced by the scheduled commercial banks in India, need for the study, objectives, hypothesis and the limitations of the study. The second chapter – *Review of Literature* provides the various Literature work carried since 2007. The third chapter – *Research Methodology* deals with the selection of the sample, the period of the study, sources of data and the statistical tools used for the study. The fourth chapter – *Analysis and Interpretation* depicts the credit risk of scheduled commercial banks in India which is to compare the loan assets, their recovery rate of NPAs and the impact of NPAs on profitability of all banking sectors. The fifth chapter – *Findings, Suggestions and Conclusion* provides a comprehensive idea of the entire research work.

REVIEW OF LITERATURE

CHAPTER – II
REVIEW OF LITERATURE

A review of literature is utmost important in any research as it offers an explanation for the necessity of the current research initiatives. The literature focused mainly on a review of NPA among different bank groups and its management since the post-liberalization period. It offers an in-depth view on the treatment of NPA in Indian banking sector over the years. It helps to determine the nature of research, the review of literature related to the research study are thoroughly scrutinized and presented here.

Eliana Angelini (2008) described the case of a successful application of neural networks to credit risk assessment. The Basel Committee on Banking Supervision proposes a capital adequacy framework that allows banks to calculate capital requirement for their banking books using internal assessments of key risk drivers. Hence, the need for system is to assess credit risk. The author developed two neural network systems, one with a standard feed forward network, while the other with special purpose architecture. The application is tested on real-world data, related to Italian small businesses. The study revealed that neural networks can be very successful in learning and estimating the in default tendency of a borrower, provided that careful data analysis, data pre-processing and training are performed.

Justin Nelson Michael, et.al, (2008) discussed about the effect of non-performing assets on operational efficiency of central co-operative banks**.** Credit risk stands out as the most detrimental risk to which banking business is exposed to. Co-operative banks which have proved to be vessels of rural development and financial inclusion, which have been susceptible to credit risk throughout their history. The prudential norms of income recognition and asset classification were implemented for Co-operative Banks in India in 1996-1997 in order to strengthen them and improve their quality. Non-performing Assets (NPA) in the loan portfolio affect the operational efficiency which in turn influences profitability, liquidity and solvency position of co-operative banks. It is based on theoretical analysis of the effect of non-performing assets on the operational efficiency of central co-operative banks.

Gunjan M. Sanjeev (2010) discussed about the bankers' perceptions on causes of bad loans in banks. It attempted to identify the critical factors, which are responsible for the loans to go bad in the Indian commercial banking system non-performing assets (NPAs) or bad loans, as they are commonly called, have been a menace for the banking sector across the world. The Indian environment is no different. Non-performing assets (NPAs) have been detrimental to the performance of the Indian banks. The study used primary data collected from credit mangers of banks operating in India. It revealed that the external factors have a higher influence compared to the internal factors. Economic downturn and wilful default have been found to be most critical. Poor credit scoring skills of managers, absence of suitable administrative penalties and target completion have been found to have a significant influence amongst factors related with the loan appraisal mechanism. Seizure and disposal of collateral have been found to be the toughest challenges amongst the factors related with the loan monitoring and controlling mechanism. Loan managers' level of motivation, manpower, skills to appraise collateral, efforts to reduce costs, government and political intervention and soft budget constraints have been found to have a lower influence.

Kanika Goyal (2010) examined the state of affairs of the NPAs of public sector banks in India. The study was analytical in nature, and the scope of the study is limited to the analysis of NPAs of the public sector banks for the period 2002-03 to 2008-09. It examined trend of NPAs, quality of assets, health of several loan assets and sector wise NPAs etc. The data has been analyzed by statistical tools such as descriptive statistics, correlation, regression analysis, one-way ANOVA, and post-hoc Tukey HSD procedure. The study observed that increase in gross as well as net NPAs in absolute terms and improved asset quality of banks. The study observed increase in gross as well as net NPAs in absolute terms and improved asset quality of banks. Therefore, the public sector banks have managed its assets proficiently by reducing the NPAs levels.

Meenakshi Rajeev and H P Mahesh (2010) examined the trends of NPAs in India from various dimensions and explain mere recognition of the problem and self-monitoring has been able to reduce it to a great extent. It also shows that public sector banks in India, which function to some extent with welfare motives, have as good a

record in reducing NPAs as their counterparts in the private sector. It revealed that the role of joint liability groups (JLGs) or self help groups (SHGs) in enhancing the loan recovery rate.

Sharon Sophia (2010) attempted to identify the application and implementation of credit risk management in banks and it identifies whether banks implementation of credit risk management policy helps banks to take wise decision about selection of their borrower. Credit risk management is becoming increasingly important element in Indian banks as its regulatory framework by BASEL II which makes banks compulsory to implement credit risk management. It is based on Survey method and MANOVA analysis is done to evaluate and identify the implementation of credit risk management. The study concluded that when banks follows the regulatory framework can able to reduce all types of risk.

Josiah Aduda, et.al, (2011) explained about the relationship between credit risk management and profitability in commercial banks in Kenya Banks operates in an environment of considerable risks and uncertainty. Credit risk has always been a vicinity of concern not only to bankers but to all in the business world because the risks of a trading partner not fulfilling his obligations in full on due date can seriously jeopardize the affairs of the other partner. Credit risk management in banks has become more important not only because of the series of financial crisis that the world has experienced in the recent past, but also the introduction of Basel II Accord. The study used both qualitative and quantitative methods in order to fulfil the main purpose of the study. A regression model was used to do the empirical analysis. The results obtained from the regression model show that there is an effect of credit risk management on profitability at a reasonable level. It revealed that credit risk management has an effect on profitability in all the commercial banks.

Mahipal Singh Yadav (2011) explained about the concept of non-performing assets, its magnitude and impact on ROA. One fourth credit of total advances was in the form of doubtful asset in the initial year of the nineties and has an adverse impact on profitability of public banks at aggregate level indicating high degree of riskiness in credit portfolio and raising question mark on the credit appraisal. The

profitability of all public sector banks affected at very large extent when non-performing assets (NPAs) work with other banking strategic variables and also affect productivity and efficiency.

Pacha Malyadri, S. Sirisha (2011) examined the state of affair of the Non performing Assets (NPAs) of the public sector banks and private sector banks in India with special reference to weaker sections. The study is based on the secondary data and NPAs pertaining to only weaker sections for the period seven years from 2004-2010. The study was conducted by comparing between nationalized banks and State bank group NPAs pertaining to weaker section and has been analyzed by statistical tools such as percentages and Compound Annual Growth Rate (CAGR).The study observed that the scheduled commercial banks have achieved a greater penetration compared to the private sector banks vis-à-vis the weaker sections.

Chandan Chatterjee, et.al., (2012) discussed about the causes and consequences of NPAs, policy directives of RBI, initiatives of Indian Government, scenario of NPAs sector wise and bank group wise and finally the curative measures for NPAs in India. The study revealed that to improve efficiency and trimming down the NPAs to improve the financial health of the banking sector various norms has been introduced. NPA involves the necessity of provisions, any increase in which bring down the overall profitability of banks is the indicator of banking health in a country. The issue of mounting non-performing assets is giving jitters to banking sector particularly in many a developing economy.

Ravi Prakash and Sharma Poudel (2012) discussed about various parameters pertinent to credit risk management as it affect banks' financial performance. The parameters covered in the study were default rate, cost per loan assets and capital adequacy ratio. The study was based on secondary data and the study selected 31 banks were analysed for eleven years (2001-2011) by comparing the profitability ratio to default rate, cost of per loan assets and capital adequacy ratio which was presented in descriptive, correlation and regression. The study revealed that all these parameters have an inverse impact on banks' financial performance. However, the default rate is the most predictor of bank financial performance. The

recommendation to advice banks to design and formulate strategies that will not only minimize the exposure of the banks to credit risk but will enhance profitability.

Asha Singh (2013) explained about credit risk management of Commercial banks in India. Risk is inherent part of bank's business. Effective risk management is critical to any bank for achieving financial soundness. In view of this, aligning risk management to bank's organisational structure and business strategy has become integral in banking business. Credit risk is the bank's risk of loss arising from a borrower who does not make payments as promised. Another term for credit risk is default risk. The risk of loss of principal or loss of a financial reward stemming from a borrower's failure to repay a loan or otherwise to meet a contractual obligation is termed as credit risk. Credit risk arises whenever a borrower is expecting to use future cash flows to pay a current debt. Banks are compensated for assuming credit risk by way of interest payments from the borrower or issuer of a debt obligation.

B.S. Bodla (2013) attempted to identify the key determinants of profitability of public sector banks in India. Banking sector reforms have changed the phase of Indian banking industry. The reforms have led to the increase in resource productivity, increasing level of deposits, credits and profitability and decrease in non-performing assets. However, the profitability, which is an important criteria to measure the performance of banks in addition to productivity, financial and operational efficiency, has come under pressure because of changing environment of banking. An efficient management of banking operations aimed at ensuring growth in profits and efficiency requires up-to-date knowledge of all those factors on which the bank's profit depends. The analysis is based on step-wise multivariate regression model used on temporal data from 1991-92 to 2003-04. The study has indicated that the variables such as non-interest income, operating expenses, provision and contingencies and spread have significant relationship with net profits.

D.Ganesan, et.al, (2013) discussed about non - performing assets of State bank of India and banks plays an important role in the economic development of a country. Banks are growth-driver and the banking business is exposed to various risk, such as credit risk, liquidity risk, interest risk, market risk, operational risk and management risk. Apart from these risks the very important risk is loan recovery. The sound financial position of a bank depends upon the recovery of loans or its

level of Non-performing assets (NPAs). Reduced NPAs generally gives the impression that banks have strengthened their credit appraisal processes over the years and growth in NPAs involves the necessity of provisions, which bring down the overall profitability of banks. The Indian banking sector is facing a serious problem of NPA. The magnitude of NPA is comparatively higher in public sectors banks. To improve the efficiency and profitability of banks the NPA need to be reduced and controlled.

Priyanka Mohnani, et.al, (2013) discussed about the analysis of profitability indicators with a focal point on non-performing assets (NPAs) of public and private sector banks. Non-performing assets are one of the major concerns for banks in India and it reflects the performance of banks. The earning capacity and profitability of the banks are highly affected because of the existence of NPAs. The study revealed that a high level of NPAs causes a large number of credit defaults that affect the profitability and net-worth of banks. The study made an effort to evaluate operational performance of the selected PSBs & Private bank in India and analyzed how efficiently Public and Private sector banks can manage NPA levels. The study concluded that the magnitude of NPA was comparatively higher in public sectors banks compared to private banks but managed the number at lower end.

Rohit R. Manjule (2013) attempted to analyze how efficiently public sector banks have been managing their NPA. The study showed that for public sector banks, Non Performing Assets (NPA) is great challenge and has enough capital in hand to deal with future contingencies. In order to analyse the data, least square method for projection of trend is used. It revealed that Gross NPA and net NPA as percentage of advances are continuously declining which shows the efficiency of public sector banks. An efficient management information system should be developed. The bank staff involved in sanctioning the advances should be trained about the proper documentation and charge of securities and motivated to take measures in preventing advances turning into NPA and constant following up and monitoring of loans after disbursement.

Samir and Deepa Kamra (2013) analysed about the position of NPAs in selected banks namely State Bank of India (SBI), Punjab National Bank (PNB) and

Central Bank of India (CBI) and also analyzed the trends in NPAs in terms of values, gross and net NPAs as a percentage of gross advances and net advances, gross and net NPAs as a percentage of Total Assets. The study revealed that sector-wise classification of NPAs, reasons for their occurrence, the effects of NPAs on banks, and frequency distribution of public sector banks by ratio of net NPAs to net advances. The study span is from 1996-1997 to 2009-2010.It also highlighted the policies pursued by the banks to tackle the NPAs and suggests a multi-pronged strategy for speedy recovery of NPAs in banking sector.

Swaranjeet Arora (2013) identified the factors that contribute to credit risk analysis in Indian banks and also compare credit risk analysis practices followed by Indian public and private sector banks. Risk exposure in banking system has increased due to fierce competition, changing socioeconomic patterns, market flexibility, and increased foreign exchange business and cross border activities. These developments have resulted into various types of banking risks. Credit risk, earlier present in the banking system has also increased and credit risk analysis has emerged as a big challenge for the Indian commercial banks. The empirical study has been conducted and views of employees of various banks have been tested using statistical tools. The study explored the phenomenon from different perspectives and revealed that credit worthiness analysis and collateral requirements are the two important factors for analyzing credit Risk. From the descriptive and analytical results, the study concluded that Indian banks efficiently manage credit risk and indicated that there is significant difference between the Indian public and private sector banks in analyzing credit risk.

Thirupathi Kanchu, et.al, (2013) identified about the risks faced by the banking industry and the process of risk management. The different techniques adopted by banking industry for risk management. To achieve the objectives of the study data has been collected from secondary. It concluded that the banks should take risk more consciously, anticipates adverse changes and hedges accordingly. It becomes a source of competitive advantage, and efficient management of the banking industry.

C.S.Balasubramaniam (2014) analyzed the trend of the NPA of the banks in recent decade since 2000. It assumes significance with the recent proposal by RBI to introduce Basel III norms in the banking sector from January 2013. Basel III framework of guidelines formulated by Bank for International Settlements (BIS) in consultation with central banks operating in a number of countries all over the world expect the participating banks in their respective economies to be following healthy financial and operational management policies. It explained the concept of NPA in the context of identification and control procedures, impact of NPA on profitability and financial soundness of banks in general and the impact of restructuring of advances by banks on the basis of asset classification. It concluded that certain issues and perspectives/ challenges on the performance of banking sector and financial stability of the economy.

Fan Li and Yijun Zou (2014) investigated if there is a relationship between credit risk management and profitability of commercial banks in Europe and to investigate if the relationship is stable or fluctuating. In the research model, ROE and ROA are defined as proxies of profitability while NPLR and CAR are defined as proxies of credit risk management. The research collects data from the largest 47 commercial banks in Europe from 2007 to 2012. A series of statistical tests are performed in order to test if the relationship exists. Other statistical tests are performed to investigate if the relationship is stable or not. The finding revealed that credit risk management does have positive effects on profitability of commercial banks and between the two proxies of credit risk management, NPLR has a significant effect on the both ROE and ROA while CAR has an insignificant effect on both ROE and ROA. However, from 2007 to 2012, the relationships between all the proxies are not stable but fluctuating.

Idowu Abiola, et.al, (2014) explained about the impact of credit risk management on the performance of commercial banks in Nigeria. Credit risk management in banks has become more important not only because of the financial crisis that the industry is experiencing currently, but also a crucial concept which determine banks' survival, growth and profitability. Financial reports of seven commercial banking firms were used to analyze for seven years (2005 – 2011). The panel regression model was employed for the estimation of the model. In the

model, Return on Equity (ROE) and Return on Asset (ROA) were used as the performance indicators while Non-Performing Loans (NPL) and Capital Adequacy Ratio (CAR) as credit risk management indicators. The findings revealed that credit risk management has a significant impact on the profitability of commercial banks' in Nigeria.

M.Kumaraswamy (2014) discussed the credit management practices in public sector banks and management of retail loans and advances. Trend analysis and percentage methods have been used to analyse data. The study revealed that retail banking, which is a part of the modern banking service, has undergone tremendous changes mainly to keep pace with fast changing global business. Indian banking is fully controlled by the Government of India under its code. The economic reforms paved the way for the competition as the mantra for the survival of the banks in particular and all other concerns in general. The private banks, foreign banks, and public sector banks are forced to compete with each other mainly to grab the opportunity besides accelerating the retail banking market share. The profit in public sector banks was declining trend due to competition, lack of diversity of banking services and stringent rules of RBI before economic reforms. The profit was declining initial period due to operation was not linked with profit and lack of diversity in the banking services.

Proshenjit Ghosh (2014) explained about credit risk management in BRAC Bank holds a positive relationship with credit monitoring, reliability and assurance factors. All these factors play vital role in the mitigation process of credit risks. Risk mitigation process starts from sourcing loan applications and the loan application goes through several screening process where reliability and assurance factors are very much important. Here, knowledge of practical world and product program are very much essential to identify risks associated with loan proposals. With the centralized banking system BRAC, bank deals with a systematic lending procedure which follows a straightforward policy. This type of policy helps the analysts to analyze loan proposals very easily. But there are some weak points of this straightforward policy and guidelines. This procedure denies any type of exceptional proposals which may have better creditworthiness and repayment capacity. Business is lost in this situation which is treated as opportunity cost. In a word, credit risk management is all about

ensuring repayment capability of the customers who are provided loans and advances. Minimizing credit risk is subject to proper framework of risks and justification with historical trend and other assurance factors.

Renu Arora, **et.al, (2014)** discussed about the problems and obstacles in credit risk management in Indian public sector banks and evaluated the credit risk management (CRM) practices in grant of commercial loans to find the grey areas which need review and restructuring to improve banks' asset quality. The study was based on a conceptual model of credit risk management systems for commercial loans, of Indian public sector banks, has been developed. This model has been used to show the problem areas and obstacles in credit risk management through comparison of large and small banks. The empirical comparison of CRM practices of Indian public sector banks has resulted into emergence of various grey areas, like insufficient training, data management, inappropriate IT support, and system disintegration, inconsistent rating approaches, which need immediate attention and if tackled properly, can reduce their non-performing assets.

In support of the literature review, the different types of risk faced by the banking sector have been identified and the credit risk is considered to be of prime importance. Out of which, NPA is an important credit risk indicator that affects the performance and profitability of the banks. Thus, the study based on credit risk evaluation of scheduled commercial banks in India was carried out. Based on these reviews, the objectives has framed as to assess and compare the loan assets of scheduled commercial banks in India and their recovery rate of NPAs through various channels. In addition, the fierce steps taken by the Reserve Bank of India and Government of India to control the menace of NPAs has been presented.

RESEARCH METHODOLOGY

CHAPTER – III
RESEARCH METHODOLOGY

Research commonly refers to search for knowledge. Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. Research consists of various steps that are generally adopted by a researcher in studying the research problem along with the logic behind them.

Methodology adopted for the study consists of the following

3.1 Selection of the samples

3.2 Period of the study

3.3 Sources of data

3.4 Tools for the study

3.1 SELECTION OF THE SAMPLES

The study was conducted by taking Scheduled Commercial Banks in India namely Public Sector Banks, Private Sector Banks and Foreign Banks except Regional Rural Banks.

3.2 PERIOD OF THE STUDY

To analyse the credit risk evaluation of scheduled commercial banks in India, data related to the period of ten years commencing from 2005-2006 to 2014-2015 have been collected and analysed.

3.3 SOURCES OF DATA

The main source of data is secondary in nature. Group-wise data of banks was collected from the statistical tables relating to banks in India published by RBI. Additionally data was collected from the annual reports of the banks, relevant journals and reports.

3.4 TOOLS FOR THE STUDY

- Average
- Standard Deviation
- Coefficient of Variation
- Correlation
- Regression Analysis
- ANOVA

AVERAGE

It is the most common measures of central tendency and defined as a value which is typical or representative of a set of data. In other words, it is defined as the value which will get by dividing the total of values of various given items in a series by the total number of items.

$$\textbf{Average or Mean} = \sum X_i / n$$

STANDARD DEVIATION

Standard deviation is most widely used measure of dispersion of a series. According to Drummond & Jones (2006), a standard deviation "is the numerical value that describes the spread of scores away from the mean and is expressed in the same units as the original scores. The wider the spread of scores, the larger will be the standard deviation. Standard Deviation is the root mean square deviation of the values from their arithmetic mean.

$$\textbf{Standard Deviation} = \sqrt{\sum (X_i - \overline{X})^2 / n}$$

CO-EFFICIENT OF VARIATION

Coefficient of Variation is the percentage variation in mean, standard deviation being considered as the total variation in the mean. In order to compare the variability of two or more series, the coefficient of variation were used. The series of data for which the coefficient of variation is large indicates that the group is more variable and it is less stable or less uniform. If a coefficient of variation is small it indicates that the group is less variable and it is more stable or more uniform.

$$\textbf{Coefficient of Variation (C.V)} = \frac{\sigma}{\overline{X}} * 100$$

CORRELATION ANALYSIS

The term correlation refers to the relationship between the variables and simple correlation refers to the relationship between two variables. There may be fluctuation or co variation between the values of the variables.

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

REGRESSION ANALYSIS

Regression analysis is adopted where there is one dependent variable that is presumed to be a function of two or more independent variables. In multiple regressions, a linear composite of explanatory variables is formed, in such a way that it has maximum correlation with an active criterion variable. The main objective of using this technique is to predict the variability of the dependent variable, based on its co-variance with all the independent variables. It is useful to predict the level of dependent phenomenon through multiple regression model, if the level of independent variables are given, the formula

$$Y=a+b_1x_1+b_2x_2+....+b_kx_k$$

Where, Y is the value of the dependent variable, what is being predicted.

X= the value of the independent variable that is explaining the variables

a (α) = the constant or intercept, b1 is the slope (β ce-efficient) for x_1

ANOVA (ANALYSIS OF VARIANCE)

ANOVA stands for analysis-of-variance, a statistical model meant to analyze data. Generally the variables in an ANOVA analysis are categorical, not continuous. The term main effect is used in the ANOVA context. The main effect of x seems to mean the result of an F test to see if the different categories of x have any detectable effect on the dependent variable on average. ANOVA is applied to test the significant difference in Gross NPAs among three sectors of the scheduled commercial banks in India.

The ANOVA test is the initial step in identifying factors that are influencing a given data set. After the ANOVA test is performed, the analyst is able to perform further analysis on the systematic factors that are statistically contributing to the data set's variability. ANOVA test results can then be used in an F-test on the significance of the regression formula overall.

Defining formulas for sums of squares in one-way ANOVA

$$SST = \sum(x - x)^2$$

$$SSTR = \sum nj\ (xj - x)^2$$

- One-way ANOVA identity: SST =SSTR+SSE
- Computing formulas for sums of squares in one-way ANOVA

$$SSE = \sum(nj - 1)s^2_j$$

$$SST = \sum x^2 - (x)^2/n$$

$$SSTR = \sum(T^2_j / n_j) - (x)^2/n$$

$$SSE = SST - SSTR$$

- Mean squares in one-way ANOVA

$$MSTR = SSTR/k - 1 \ , \ MSE = SSE/n - k$$

- Test statistic for one-way ANOVA (independent samples, normal populations, and equal population standard deviations)

$$F = MSTR/\ MSE \ \ ,\text{with df} = (k - 1, n - k).$$

- Notation in one-way ANOVA

k = number of populations

n = total number of observations

x = mean of all n observations

n_j = size of sample from Population j

x_j = mean of sample from Population j

s^2_j = variance of sample from Population j

T_j = sum of sample data from Population j

ANALYSIS AND INTREPRETATION

CHAPTER –IV

ANALYSIS AND INTERPRETATION

The major risk banks face is credit risk. Credit risk management encompasses identification, measurement, monitoring and control of the credit risk exposures. The primary indicator of credit risk is Non-Performing Assets (NPAs) and considered as one of the important parameters of analyzing financial performance of banks. The data were analysed to assess the loan assets of scheduled commercial banks, their recovery rate of NPAs through various channels. The impact of NPAs which affects profitability of all banking sector are also been stated in this chapter.

I. To Assess and Compare the Loan Assets of the Scheduled Commercial Banks in India.

The quality of loan assets of scheduled commercial banks is assessed through average, standard deviation and co-efficient of variation. In order to compare the quality of assets of scheduled commercial banks, sector- wise classification of assets was made.

The standard assets of scheduled commercial banks in India from 2005-2006 to 2014-2015 is shown in Table 1.

TABLE-1

STANDARD ASSETS OF SCHEDULED COMMERCIAL BANKS IN INDIA

(AMOUNT IN BILLIONS)

Year	Public Sector Banks		Private Sector Banks		Foreign Banks	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
2005-2006	10926	96.4	3099	97.6	969	97.9
2006-2007	14262	97.4	4109	97.8	1255	98.1
2007-2008	17786	97.8	5129	97.5	1599	98.1
2008-2009	22378	98.0	5681	97.1	1624	95.7
2009-2010	26735	97.8	6265	97.3	1603	95.7
2010-2011	32718	97.8	7936	97.8	1943	97.5
2011-2012	38255	97.0	9629	98.1	2284	97.3

Continued...

(AMOUNT IN BILLIONS)

Year	Public Sector Banks		Private Sector Banks		Foreign Banks	
	Amount	**Percentage**	**Amount**	**Percentage**	**Amount**	**Percentage**
2012-2013	43957	96.4	11384	98.2	2610	97.0
2013-2014	49887	95.6	13371	98.2	2880	96.1
2014-2015	53382	95.0	15750	97.9	3259	96.8
MEAN	31028.6	96.92	8235.3	97.75	2002.6	97.02
S.D	15023.68	1.04	4193.33	0.37	737.35	0.93
C.V (%)	48.42	0.012	50.92	0.004	36.82	0.01

Source: Compiled and Calculated from Statistical data relating to Banks in India, 2015**.**

Table 1 shows the standard assets of scheduled commercial banks in India. The standard assets of public sector banks showed an increasing trend from 2005-2006 to 2008-2009, also decreased from 2009-2010 to 2014-2015. Whereby, the standard assets of private sector banks showed a decreasing trend from 2005-2006 to 2008-2009 and increased from 2009-2010 to 2013-2014 but decreased in 2014-2015. In case of foreign banks, the standard assets shows an increasing trend from 2005-2006 to 2007-2008 and decreased from 2010-2011 to 2014-2015. The standard assets of all the banks shows an increasing trend from 2005-2007 but after the financial crisis, the standard assets of all banking sectors shows a decreasing trend during the study period.

The average standard assets of public sector banks stood at 96.92 per cent which deviated at 1.04 per cent and the co-efficient of variation was 48.42 per cent. While the average standard assets of private sector banks was 97.75 per cent, deviated at 0.37 per cent and the co-efficient of variation was 50.92 per cent. In case of the foreign banks, the average standard assets showed 97.02 per cent which deviated at 0.93 per cent and the co-efficient of variation of standard assets was 36.82 per cent. The private sector banks among scheduled commercial banks maintain high standard assets.

The sub-standard assets of scheduled commercial banks in India from 2005-2006 to 2014-2015 is shown in Table 2.

TABLE-2

SUB-STANDARD ASSETS OF SCHEDULED COMMERCIAL BANKS IN INDIA

(AMOUNT IN BILLIONS)

Year	Public Sector Banks		Private Sector Banks		Foreign Banks	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
2005-2006	113	1.0	24	0.8	9	1.0
2006-2007	143	1.0	44	1.0	14	1.1
2007-2008	173	1.0	73	1.4	20	1.2
2008-2009	203	0.9	106	1.8	59	3.5
2009-2010	288	1.1	89	1.4	49	2.9
2010-2011	350	1.1	45	0.6	19	0.9
2011-2012	623	1.6	52	0.5	21	0.9
2012-2013	815	1.8	64	0.6	29	1.1
2013-2014	958	1.8	86	0.6	43	1.4
2014-2015	1054	1.9	108	0.7	23	0.7
MEAN	472	1.32	69.1	0.94	28.6	1.47
S.D	359.47	0.40	28.16	0.45	16.33	0.94
C.V (%)	76.16	0.30	40.75	0.48	57.10	0.63

Source: Compiled and Calculated from Statistical data relating to Banks in India, 2015**.**

It is exhibited from Table 2 that sub-standard assets of public sector banks were constant at 1.0 per cent from 2005-2006 to 2007-2008 but increased from 2008-2009 to 2014-2015. While the sub-standard assets of private sector banks indicated an increasing trend from 2005-2006 to 2008-2009, also decreased from 2009-2010 to 2011-2012 and increased thereafter. The sub-standard assets of foreign banks showed a fluctuating trend throughout the study period. The sub-standard assets of all sectors of banks are trying to control it at 1.0 per cent from 2005-2006 but after 2007-2008, the sub-standard assets shows an increasing trend during the study period.

The average sub-standard assets of public sector banks stood at 1.32 per cent which deviated at 0.40 per cent and the co-efficient of variation was 76.16 per cent. While the average sub-standard assets of private sector banks was 0.94 per cent, deviated at 0.45 per cent and the co-efficient of variation was 40.75 per cent. In case

of the foreign banks, average sub-standard assets showed 1.47 per cent which deviated at 0.94 per cent and the co-efficient of variation was 57.10 per cent. The foreign banks among scheduled commercial banks showed high sub-standard assets and the banks need to take measures to control this asset.

The doubtful assets of scheduled commercial banks in India from 2005-2006 to 2014-2015 is shown in Table 3.

TABLE-3

DOUBTFUL ASSETS OF SCHEDULED COMMERCIAL BANKS IN INDIA

(AMOUNT IN BILLIONS)

Year	Public Sector Banks		Private Sector Banks		Foreign Banks	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
2005-2006	246	2.2	44	1.4	7	0.7
2006-2007	198	1.4	39	0.9	6	0.5
2007-2008	192	1.1	45	0.9	8	0.5
2008-2009	206	0.9	50	0.9	10	0.6
2009-2010	254	0.9	66	1.0	14	0.9
2010-2011	332	1.0	108	1.3	21	1.1
2011-2012	490	1.2	104	1.1	22	1.0
2012-2013	761	1.7	112	1.0	27	1.0
2013-2014	1216	2.3	114	0.8	43	1.4
2014-2015	1630	2.9	176	1.1	54	1.6
MEAN	552.5	1.56	85.8	1.04	21.2	0.93
S.D	500.67	0.69	44.37	0.19	16.23	0.37
C.V (%)	90.62	0.44	51.71	0.18	76.56	0.40

Source: Compiled and Calculated from Statistical data relating to Banks in India, 2015**.**

Table 3 shows the doubtful assets of scheduled commercial banks in India. The doubtful assets of public sector banks showed a decreasing trend from 2005-2006 to 2009-2010 and increased thereafter. While the doubtful assets of private sector banks were constant at 0.9 per cent from 2006-2007 to 2008-2009 and showed a fluctuating trend thereafter. In case of foreign banks, the doubtful assets showed a decreasing trend from 2005-2006 to 2007-2008 and increased from 2008-2009 to

2014-2015. The doubtful assets of all the banking sector shows a decreasing trend from 2005-2006 but after the financial crisis, it shows an increasing trend during the study period.

The average doubtful assets of public sector banks stood at 1.56 per cent which deviated at 0.69 per cent the co-efficient of variation was 90.62 per cent. While the average doubtful assets of private sector banks was 1.04 per cent, deviated at 0.19 per cent and the co-efficient of variation at 51.71 per cent. In case of foreign banks, the average doubtful assets showed 0.93 per cent which deviated at 0.37 per cent and the co-efficient of doubtful assets was 76.56 per cent. The public sector banks among scheduled commercial banks showed high doubtful assets and this bank have to take measures to control this asset.

The loss assets of scheduled commercial banks in India from 2005-2006 to 2014-2015 is shown in Table 4.

TABLE- 4

LOSS ASSETS OF SCHEDULED COMMERCIAL BANKS IN INDIA

(AMOUNT IN BILLIONS)

Year	Public Sector Banks		Private Sector Banks		Foreign Banks	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
2005-2006	55	0.5	9	0.3	4	0.4
2006-2007	48	0.3	9	0.2	4	0.4
2007-2008	40	0.2	12	0.2	4	0.2
2008-2009	41	0.2	13	0.2	4	0.3
2009-2010	58	0.2	22	0.3	8	0.5
2010-2011	65	0.2	29	0.4	11	0.6
2011-2012	60	0.2	29	0.3	20	0.8
2012-2013	68	0.2	32	0.3	23	0.9
2013-2014	99	0.2	42	0.3	29	1.0
2014-2015	100	0.2	52	0.3	30	0.9
MEAN	63.4	0.24	24.9	0.28	13.7	0.6
S.D	21.16	0.10	14.65	0.06	10.76	0.29
C.V (%)	33.38	0.42	58.84	0.23	78.54	0.48

Source: Compiled and Calculated from Statistical data relating to Banks in India, 2015**.**

Table 4 shows the loss assets of public sector banks shows a decreasing trend from 2005-2006 to 2007-2008 and thereafter remain constant at 0.2 per cent. While the loss assets of private sector banks showed a decreasing trend from 2005-2006 to 2008-2009, also increased from 2009-2010 to 2010-2011 and thereafter remained constant at 0.3 per cent. In case of foreign banks, the loss assets showed decreasing trend from 2005-2006 to 2008-2009 and increased from 2009-2010 to 2013-2014 but decreased to 0.9 per cent in 2014-2015. The loss assets of public sector banks and private sector banks shows a decreasing trend and the foreign banks were constant at 0.4 per cent from 2005-2006 but after 2007-2008, the public sector banks and private sector banks were trying to maintain the loss assets but foreign shows a fluctuating trend during the study period.

The average loss assets of public sector banks stood at 0.24 per cent were deviated at 0.10 per cent and the co-efficient of variation was 33.38 per cent. While the average loss assets of private sector banks was 0.28 per cent, deviated at 0.06 per cent and the co-efficient of variation at 58.54 per cent. In case of the foreign banks, the average loss assets showed 0.60 per cent which deviated at 0.29 per cent and the co-efficient of variation was 78.54 per cent. The foreign banks among scheduled commercial banks have more loss assets and this sector have to take measures to control this asset.

To test the significant difference in gross NPAs of the public sector banks, private sector banks and foreign banks, 'One Way ANOVA' has been performed. The hypothesis framed is as follows

H0: There is no significant difference in Gross NPAs among three sectors of the scheduled commercial banks in India.

H1: There is a significant difference in Gross NPAs among three sectors of the scheduled commercial banks in India.

TABLE –5

ANOVA ON GROSS NPAS OF SCHEDULED COMMERCIAL BANKS IN INDIA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6315476	2	3157638		
Within Groups	6865552.88	27	254279.7	12.42	.000
Total	13181028.88	29			

Source: Computed Data.

Table 5 shows the ANOVA on Gross NPAs of Scheduled Commercial Banks in India. The calculated F-value is 12.42 which are greater than table value (3.35) at 5 per cent level of significant. Since, the calculated value is greater than the table value it is inferred that there is significant difference in Gross NPAs of Scheduled Commercial banks in India. So, null hypothesis is rejected.

II.To Examine the Recovery Rate of NPAs Through Various Recovery Channels.

To manage the NPAs, many tools have been executed. The scheduled commercial banks saddled with bad loans have multiple options like direct settlement, legal resources in the form of approaching the high court or debt recovery tribunal, enforcement of new securitization law (where securities are pledged with them could be attached and subsequently sold) and lastly selling it to asset reconstruction companies (ARCs). To assess the recovery rate of NPAs through various channels such as Lok Adalats, Debt Recovery Tribunals and SARFAESI Act (Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act) based on the following

- Number of Cases for Recovery through various channel
- Amount involved in recovery of NPA through various channels by Scheduled commercial banks
- Amount recovered of NPAs through various channel by Scheduled commercial banks
- Percentage of amount recovered in respect of amount involved in recovery of NPAs.

The number of cases for recovery of NPAs through various channels for the period from 2005-2006 to 2014-2015 is shown in Table 6.

TABLE –6

NUMBER OF CASES FOR RECOVERY OF NPAs THROUGH VARIOUS CHANNELS

Year	LOK ADALATS	DRT	SARFAESI ACT	TOTAL
2005-2006	181547	3524	38969	22404
2006-2007	160368	4028	60178	224574
2007-2008	186535	3728	83942	274205
2008-2009	548308	2004	61760	612072
2009-2010	778833	6019	78366	863218
2010-2011	616018	12872	118642	747532
2011-2012	476073	13365	140991	630429
2012-2013	840691	13408	190537	1044636
2013-2014	1636957	28258	194707	1859922
2014-2015	9131199	171113	1241086	10543398
MEAN	1455653	25831.9	220917.8	1682239

Source**:** Compiled and Calculated from Report on Trend and Progress in India 2005-2015

Table 6 shows the Number of Cases for recovery of NPAs through various channels. The Number of cases in Lok Adalats increased at a rate of 50.3 times, whereby DRT increased at 48.56 times and SARFAESI Act at 31.85 times.

The average cases of NPAs from all channels are 1682239 cases during the period 2005-2006 to 2014-2015. The average rate of cases in Lok Adalats stood at 1455653 cases whereby DRT showed at an average of 25831.9 cases and SARFAESI Act is 220917.8 cases which shows the growth of NPA in scheduled commercial banks in India.

The amount involved in recovery of NPAs through various channels by scheduled commercial banks for the period from 2005-2006 to 2014-2015 is shown in Table 7.

TABLE – 7
AMOUNT INVOLVED IN RECOVERY OF NPA THROUGH VARIOUS CHANNELS BY SCHEDULED COMMERCIAL BANKS

(IN BILLIONS)

Year	LOK ADALATS	DRT	SARFAESI ACT	TOTAL
2005-2006	11.01	61.23	98.31	170.55
2006-2007	7.58	91.56	90.58	189.72
2007-2008	21.42	58.19	72.63	152.24
2008-2009	40.23	41.30	120.67	202.20
2009-2010	72.35	97.97	142.49	312.81
2010-2011	52.54	140.92	306.04	499.50
2011-2012	17.00	241.00	353.00	611.00
2012-2013	66	310	681	1057
2013-2014	232	553	953	1738
2014-2015	887	3789	4705	9381
MEAN	140.71	538.42	752.27	1431.40

Source: Compiled and Calculated from Report on Trend and Progress in India 2005-2015.

Table 7 depicts the amount involved in recovery of NPA through various channels of all scheduled commercial banks. In case of Lok Adalats the amount involved for recovery of NPA increased at 80.56 times whereby DRT increased at a rate of 61.88 times and the SARFAESI Act at 47.86 times.

The average rate of total NPA amount involved for recovery through various channels is Rs.1431.40 billion during the study period. The average rate of amount involved in recovery of NPA through Lok Adalats is Rs.140.71 billion while DRT stood at Rs.538.42 billion and average amount involved in SARFAESI Act is Rs.752.27 billion. Comparing the average rate of amount involved in recovery of NPAs through various channel, the SARFAESI Act shows highest amount of NPA involved followed by DRT and Lok Adalats.

The amount recovered of NPAs through various channels by scheduled commercial banks for the period from 2005-2006 to 2014-2015 is shown in Table 8.

TABLE –8

AMOUNT RECOVERED OF NPAs THROUGH VARIOUS CHANNELS BY SCHEDULED COMMERCIAL BANKS

(IN BILLIONS)

Year	LOK ADALATS	DRT	SARFAESI ACT	TOTAL
2005-2006	2.23	47.10	34.23	77.48
2006-2007	1.06	34.63	37.49	73.18
2007-2008	1.76	30.20	44.29	76.25
2008-2009	0.96	33.48	39.82	74.26
2009-2010	1.12	31.33	42.69	75.14
2010-2011	1.51	39.30	115.61	156.42
2011-2012	2.00	41.00	101.00	144.00
2012-2013	4	44	185	233
2013-2014	14	53	253	320
2014-2015	43	531	1152	1726
MEAN	7.16	88.504	200.51	296.57

Source: Compiled and Calculated from Report on Trend and Progress in India 2005-2015.

Table 8 depicts the recovered amount of NPAs through various channels. In case of Lok Adalats, the recovered amount increased at 19.28 times, whereby DRT increased at 11.27 times and SARFAESI Act increased at 33.65 times.

The average rate of total NPAs amount that recovered by Lok Adalats, DRT, SARFAESI Act is Rs.296.57 billion during the period from 2005-2006 to 2014-2015. The average rate of recovered amount of NPAs through Lok Adalats is Rs.7.16 billion, whereby DRT stood at Rs.88.504 billion and average rate of SARFAESI Act is Rs. 200.51 billion. It shows lower recovery of NPAs throughout the study period.

Comparing the average rate of recovered amount of NPAs through various channels, the SARFAESI Act shows highest recovery followed by DRT and Lok Adalats.

The percentage of amount recovered in respect of amount involved in recovery of NPAs for the period from 2005-2006 to 2014-2015 is shown in Table 9.

TABLE –9

PERCENTAGE OF AMOUNT RECOVERED IN RESPECT OF AMOUNT INVOLVED IN RECOVERY OF NPAs

(IN PERCENTAGE)

Year	LOK ADALATS	DRT	SARFAESI ACT	TOTAL
2005-2006	20.25	76.92	34.82	50.28
2006-2007	14.0	37.8	41.4	38.57
2007-2008	8.2	51.9	61.0	50.09
2008-2009	5.4	81.1	33.0	36.73
2009-2010	1.55	32.0	30.0	24.02
2010-2011	2.87	27.89	37.78	31.32
2011-2012	11.76	17.01	28.61	23.57
2012-2013	6.1	14.1	27.1	21.9
2013-2014	6.2	9.5	26.6	18.4
2014-2015	4.8	14.0	24.5	18.4
MEAN	8.11	36.22	34.48	31.33

Source: Compiled and Calculated from Report on Trend and Progress in India 2005-2015**.**

Table 9 depicts the rate of amount recovered with respect to amount involved in recovery of NPAs. In case of Lok Adalats, the percentage of amount recovered with respect to amount involved shows a decreasing trend during the study period while DRT shows a fluctuating trend and SARFAESI Act shows an increasing trend from 2005-2006 to 2007-2008 and decreased from 2008-2009 to 2014-2015.

The average rate of recovery of NPAs through Lok Adalats is 8.11 per cent, whereby DRT stood at 36.22 per cent and average rate of SARFAESI Act at 34.48 per cent. Comparing the average rate of amount recovered in respect of amount involved in recovery of NPAs through various channels, the DRT shows highest recovery followed by SARFAESI Act and Lok Adalats.

III. TO IDENTIFY THE IMPACT OF NPA ON PROFITABILITY.

Managing NPAs has a lot to do with managing productive assets and ensuring effective corporate governance. If performing assets are turning into NPAs, it is because there is lot that happens to change the quality of assets. As of now, NPAs in most of the banks are within the permissible limits. However, they have not been able to bring additional capital for expanding their business operations through internal generations, but have done so through the equity market. Banks have taken recourse to the debt market or by pleading their case with the government for recapitalization. It becomes very important to understand the relationship of non-performing assets and profitability, whether decrease in NPAs leads to increase in profitability or not. This information is very vital in monitoring, regulating and policy formulation. The data are analyzed with the help of SPSS software and to find the impact of NPAs on profitability of all scheduled commercial banks in India using regression model.

- **To identify the impact of NPA on profitability of Public Sector Banks.**

In order to identify the impact of NPA on profitability of public sector banks, regression analysis was employed by taking ROA as the dependent variable and Gross NPA and Net NPA as independent variables.

Correlation between the dependent and independent variables was found to identify the relationship between the indicator of NPAs namely Gross NPA and Net NPA with ROA.

The correlation of NPA and ROA of public sector banks for the period from 2005-2006 to 2014-2015 is shown in Table 10.

TABLE –10

CORRELATION OF NPA AND ROA OF PUBLIC SECTOR BANKS

VARIABLES		ROA	GROSS NPA	NET NPA
ROA	**R**	1.00		
	Sig	-		
Gross NPA	**R**	-0.912	1.00	
	Sig	.000	-	
Net NPA	**R**	-0.974	0.899	1.00
	Sig	.000	.000	-

Source: Computed Data

Table 10 depicts the correlation of NPA and ROA of public sector banks and it is identified that there is a high degree of negative correlation between Gross NPA Ratio with ROA (-0.912) and Net NPA Ratio with ROA (-0.974). By comparing both gross NPA and net NPA with ROA, the profitability of banks is mainly affected by Net NPA. Here, minimum correlation between the Gross NPA and Net NPA with ROA increases the profitability of the bank.

The model summary of ROA and NPA of public sector banks is shown in Table 11.

TABLE – 11

MODEL SUMMARY

VARIABLE	R	R^2	Adjusted R^2	Sig
GROSS NPA	.912	.831	.807	.001
NET NPA	.974	.948	.941	.001

Source: Computed Data

It is inferred from the model summary of public sector banks that by including the variables Gross NPA Ratio and Net NPA ratio, the variation caused by independent variables in the value of ROA is significant and cannot be left to chance factors. The value of Correlation Coefficient (R) and Coefficient of Determination (R square and Adjusted R square) are less than one which shows the relationship of NPA and profitability is significant at 5 per cent level. Therefore, it is evidently proved that NPAs (GNPAs and NNPAs) has an inverse impact on ROA or profitability of banks that means the bank can have an increasing trend of ROA by the effect of the declining trend of GNPAs and NNPAs ratios. This analysis would help in improving the quality of assets of banks and in turn the requirement for provisioning would automatically come down which will directly add to the profit of banks.

The regression analysis for NPA and ROA of public sector banks is shown in Table 12.

TABLE – 12

REGRESSION ANALYSIS FOR NPA AND ROA OF PUBLIC SECTOR BANKS

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig
	B	Std. Error	Beta		
Constant	1.318	.055		23.94	.000
Gross NPA	-0.037	.038	-.189	-.956	.037
Net NPA	-0.234	.057	-.804	-4.076	.007
Dependent Variable: ROA					

Source: Computed Data

Table 12 shows the β coefficient value for Gross NPAs was -0.037 units, indicating that one unit change in Gross NPA will negatively affects the ROA by -0.037 units and the β coefficient value of Net NPAs was -0.234 units shows that one unit change in Net NPA will negatively affects the ROA by -0.234 units were found to be significant at 5 per cent level .The Gross NPA and Net NPA will decrease the dependent variable (ROA), whereby the banks are under force to shrink NPA for improving its business operations.

The equation formed for the dependant variable ROA is

$\mathbf{Y_1 = 1.318\text{-}0\ .037X_1\ \text{-}0\ .234X_2}$

Where,

Y_1 = ROA

X1 = GROSS NPA

X2 = NET NPA

- **To Identify the Impact of NPA on Profitability of Private Sector Banks.**

In order to identify the impact of NPA on profitability of private sector banks, regression analysis was employed by taking ROA as the dependent variable and Gross NPA and Net NPA as independent variables.

Correlation between the dependent and independent variables was found to identify the relationship between the indicator of NPAs namely Gross NPA and Net NPA with ROA.

The correlation of NPA and ROA of private sector banks for the period from 2005-2006 to 2014-2015 is shown in Table 13.

TABLE –13

CORRELATION OF NPA AND ROA OF PRIVATE SECTOR BANKS

VARIABLES		ROA	GROSS NPA	NET NPA
ROA	**R**	1.00		
	Sig	-		
Gross NPA	**R**	-0.626	1.00	
	Sig	0.026	-	
Net NPA	**R**	-0.777	0.647	1.00
	Sig	.004	0.022	-

Source: Computed Data

Table 13 depicts the correlation of NPA and ROA of private sector banks and it is identified that there is a high degree of negative correlation between GNPA Ratio with ROA (-0.626) and NNPA Ratio with ROA (-0.777). By comparing both Gross NPA and Net NPA with ROA, the profitability is mainly affected by Net NPA. If Non-Performing assets are controlled, it increases the profitability of the banks.

The model summary of ROA and NPA of private sector banks is shown in Table 14.

TABLE – 14

MODEL SUMMARY

VARIABLE	R	R^2	Adjusted R^2	Sig
GROSS NPA	.626	.392	.316	.053
NET NPA	.777	.603	.554	.008

Source: Computed Data

It is inferred from the model summary of private sector banks that by including the variables Gross NPA Ratio and Net NPA ratio, the variation caused by independent variables in the value of ROA is significant and cannot be left to chance factors. The value of Correlation Coefficient (R) and Coefficient of Determination (R square and Adjusted R square) which shows the relationship of NPA and profitability is significant at 10 per cent level. Therefore, it is evidently proved that NPAs (GNPAs

and NNPAs) has an opposite impact on ROA or profitability of banks, which means the bank can have an increasing trend of ROA by the effect of the declining trend of GNPAs and NNPAs ratios.

The regression analysis for NPA and ROA of private sector banks is shown in Table 15.

TABLE – 15

REGRESSION ANALYSIS FOR NPA AND ROA OF PRIVATE SECTOR BANKS

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig
	B	Std. Error	Beta		
Constant	2.140	.340		6.301	.000
Gross NPA	-0.132	.187	-.213	-0.705	.064
Net NPA	-0.547	.258	-.639	-0.639	.072
Dependent Variable: ROA					

Source: Computed Data

Table 15 shows the β coefficient value for Gross NPAs was -0.132 units, indicating that one unit change in Gross NPA will negatively affects the ROA by -0.132 units and the β coefficient value of Net NPAs was -0.547 units shows that one unit change in Net NPA will negatively affects the ROA by -0.547 units were found to be significant at 10 per cent level .The Gross NPA and Net NPA will decrease the dependent variable (ROA), whereby the banks are under force to shrink NPA for improving its business operations.

The equation formed for the dependant variable ROA is

$$\mathbf{Y_1 = 2.140 - 0.132X_1 - 0.547X_2}$$

Where,

Y_1 = ROA

X1 = GROSS NPA

X2 = NET NPA

- **To identify the impact of NPA on profitability of Foreign Banks.**

In order to identify the impact of NPA on profitability of foreign banks, regression analysis was employed by taking ROA as the dependent variable and Gross NPA and Net NPA as independent variables.

Correlation between the dependent and independent variables was found to identify the relationship between the indicator of NPAs namely Gross NPA and Net NPA with ROA.

The correlation of NPA and ROA of foreign banks for the period from 2005-2006 to 2014-2015 is shown in Table 16.

TABLE –16

CORRELATION OF NPA AND ROA OF FOREIGN BANKS

VARIABLES		ROA	GROSS NPA	NET NPA
ROA	**R**	1.00		
	Sig	-		
Gross NPA	**R**	-0.793	1.00	
	Sig	.005	-	
Net NPA	**R**	-0.474	0.819	1.00
	Sig	.099	.003	-

Source: Computed Data

Table 16 depicts the correlation of NPA and ROA of foreign banks and it is identified that there is a high degree of negative correlation between Gross NPA Ratio with ROA (-0.793) and Net NPA Ratio with ROA (-0.474). By comparing both Gross NPA and Net NPA with ROA, the profitability is mainly affected by Gross NPA. If Non-Performing assets are controlled, it increases the profitability.

The model summary of ROA and NPA of Foreign Bank is shown in Table 17.

TABLE – 17

MODEL SUMMARY

VARIABLE	R	R^2	Adjusted R^2	Sig
GROSS NPA	.793	.628	.575	.011
NET NPA	.474	.225	.114	.198

Source: Computed Data

It is inferred from the model summary of foreign banks that by including the variables Gross NPA Ratio and Net NPA ratio, the variation caused by independent variables in the value of ROA is significant and cannot be left to chance factors. The value of Correlation Coefficient (R) and Coefficient of Determination (R square and Adjusted R square) are less than one which shows the relationship of Gross NPA and profitability is significant at 5 per cent level but Net NPA is found to be insignificant. Therefore, it is evidently proved that there is an opposite impact on ROA or profitability of banks, which means the bank can have an increasing trend of ROA by the effect of the declining tendency of GNPAs and NNPAs ratios.

The regression analysis for NPA and ROA of foreign bank is shown in Table 18.

TABLE – 18

REGRESSION ANALYSIS FOR NPA AND ROA OF FOREIGN BANKS

Model	**Unstandardized Coefficients**		**Standard Coefficients**	**t**	**Sig**
	B	**Std. Error**	**Beta**		
Constant	2.631	.212		12.409	.000
Gross NPA	-0.401	.122	-1.231	-3.277	.017
Net NPA	0.357	.251	.534	1.423	.205
Dependent Variable: ROA					

Source: Computed Data

Table 18 shows the β coefficient value for Gross NPAs was -0.401 units, indicating that one unit change in Gross NPA will negatively affects the ROA by -0.401 units which is found to be significant at 10 per cent level but the β coefficient value of Net NPAs was 0.357 units is found to be insignificant. The Gross NPA and Net NPA will decrease the dependent variable (ROA), whereby the banks are under force to shrink NPA for improving its business operations.

The equation formed for the dependant variable ROA is

$$\mathbf{Y_1 = 2.631 - 0.401X_1 + 0.357X_2}$$

Where,

Y_1 = ROA

X1 = GROSS NPA

X2 = NET NPAs

Using multiple regression models, it is identified that Gross NPA and Net NPA negatively influences the ROA of three sectors of scheduled commercial banks in India. In case of public sector banks and private sector banks, their profitability is affected mainly by Net NPA than Gross NPA but in foreign banks, the profitability is affected mainly by Gross NPA than Net NPA. Hence, all three sectors of scheduled commercial banks in India must take strong steps to control their NPA levels.

FINDINGS, SUGGESTIONS AND CONCLUSION

CHAPTER – V

FINDINGS, SUGGESTIONS AND CONCLUSION

FINDINGS

The summary of the major findings that emerged from the analysis are given in the following heads

- Classification of Loan Assets of Scheduled Commercial Banks in India.
- Recovery rate of NPAs through various recovery channels.
- Impact of NPAs on profitability of Scheduled commercial banks in India.
- Analysis of variance on Gross NPAs of Scheduled Commercial Banks in India.

(i) Classification of Loan Assets of Scheduled Commercial Banks in India.

- The average standard asset of private sector banks is higher at 97.75 per cent followed by foreign banks at 97.02 per cent and public sector banks at 96.92 per cent.
- The average sub-standard asset is high in foreign banks at 1.47 per cent and lower is the private sector banks at 0.96 per cent.
- The average doubtful assets are observed to be high in public sector banks at 1.56 per cent followed by private sector banks at 1.04 per cent and foreign banks at 0.93 per cent.
- The average loss assets of foreign banks is high at 0.6 per cent, while the average loss assets of private sector banks was 0.28 per cent and public sector banks stood at 0.24 per cent.
- In standard assets, the coefficient of variation of foreign banks shows lower degree of variation, which is considered as more consistent banking sector and the degree of variation is found to be high in private sector banks.
- In sub-standard assets based on the coefficient of variation, the private sector bank shows lower degree of variation and found to be more consistent, whereby the public sector banks shows higher degree of variation in sub-standard assets.
- The degree of variation in doubtful assets is low in private sector banks, which is more consistent, while coefficient of variation of public sector banks shows higher degree of variation in this asset.

- In loss assets, the coefficient of variation of public sector banks shows low degree of variation and found to be more consistent, while the foreign banks shows higher degree of variation in loss assets.

(ii) Recovery Rate of NPAs through Various Recovery Channels

- The average number of cases for recovery of NPAs is found to be high in the Lok Adalats at 1455653 case followed by cases filed in SARFAESI ACT at 220917.8 case and DRT at 25831.9 case.
- The average rate of amount involved in recovery of NPAs through various channels is observed to be high in SARFAESI ACT at Rs.752.27 billion, whereby DRT at Rs.538.42 billion and Lok Adalats at Rs.140.71 billion.
- The average rate of recovered amount of NPAs through various channels, SARFAESI ACT shows higher recovery of Rs.200.51 billion, followed by DRT at Rs.88.504 billion and Lok Adalats at Rs.7.16 billion.
- The average rate of amount recovered with respect to amount involved in recovery of NPAs, DRT shows higher recovery at 36.22 per cent, followed by SARFAESI ACT at 34.48 per cent and Lok Adalats at 8.11 per cent.

(iii) Impact of NPA on Profitability of Scheduled Commercial Banks in India.

- Using regression analysis, to know the impact of NPAs on profitability of public sector banks, both Gross NPA and Net NPA negatively influences the ROA at 5 per cent significant level.
- The profitability of private sector banks was affected by Gross NPA and Net NPA at 10 per cent significant level.
- In case of foreign banks, the impact of Gross NPA negatively influences the ROA at 5 per cent significant level, while the net NPA is found to be insignificant.

(iv) Analysis of Variance on Gross NPAs of Scheduled Commercial Banks in India.

The calculated F-value is 12.42 which are greater than table value (3.35) at 5 per cent level of significant. Since, the calculated value is greater than the table value it is inferred that there is significant difference in Gross NPAs among the three sectors of scheduled commercial banks in India. So, null hypothesis is rejected.

SUGGESTIONS

The banking sectors are facing many challenges against various risks where credit risk is one of the important types of risk and its main indicator is Non-Performing Assets. Hence, banking sector must take steps to improve the quality of assets and profitability by declining the Non-Performing Assets. Suggestion to control the NPA based upon the study and those proposed in general and by RBI are presented as under

Suggestions based on the study

The study which helps to give suggestion to improve the quality and reduce the NPA which is an indicator of credit risk as

- ✓ Sound credit appraisal on well-settled banking norms with emphasis on reduction in Gross NPAs rather than Net NPAs.
- ✓ Bank management may possess specialized credit rating agencies to finalize the borrowing capacity of the potential borrowers before offering credit to the needy people.
- ✓ Banks should ensure credibility of the borrower and appropriate SWOT analysis should be done before disbursement of the advance.
- ✓ The act(s) should be judiciously and selectively applied so that NPAs should be converted into performing assets.

RBI Suggestions

In order to control the menace of NPA of scheduled commercial banks in India, the suggestions given by RBI are

- ✓ RBI set up a Central Repository of Information on Large Credits (CRILC) to collect, store, and disseminate credit data to lenders. The credit information would also include all types of exposures as defined under RBI norms and will include data on lenders' investments in bonds/debentures issued by the borrower/obligor. Banks will have to furnish credit information to CRILC all their borrowers having aggregate fund-based and non-fund based exposure of Rs.5 crore and above.
- ✓ The RBI should identify incipient stress in the account by creating a new sub-asset category, 'Special Mention Accounts' (SMA). Within the SMA category, there should be three sub-categories: SMA-NF non-financial (NF) signals of incipient

stress; SMA-1 principal or interest payment overdue between 31-60 days, SMA-2 principal or interest payment overdue between 61-90 days.

- ✓ RBI informed to reporting of an account as SMA-2 by one or more lending banks/NBFC-SIs will trigger the mandatory formation of a joint lenders' forum (JLF) and formulation of corrective action plan (CAP).
- ✓ With a view to limiting the number of JLFs to be formed, it is proposed that JLF formation would be made mandatory for distressed corporate borrowers, engaged in any type of activity, with aggregate fund based and non-fund based exposure of Rs.100 crore and above.
- ✓ The lenders in the JLF would sign an inter creditor agreement (ICA) and also require the borrower to sign the debtor creditor agreement (DCA), which would provide the legal basis for any restructuring process. The decisions agreed upon by a minimum of 75 per cent of creditors by value and 60 per cent of creditors by number in the JLF would be considered as the basis for proceeding with the restructuring or recovery action of the account, and will be binding on the lenders under the terms of the ICA.
- ✓ RBI set up a new methodology for lending rate by commercial banks under the name "Marginal Cost of Funds based Lending Rate" which will be the internal bench mark lending rates. The concept was announced by RBI on July 1, 2015 and renewed on August 4, 2015. All the commercial banks in India shall implement MCLR for all rupee loans or credit limits sanctioned or renewed by them. The existing loans and credit limits linked to the Base Rate may continue till repayment or renewal as the case may be. Existing borrowers will also have the option to move to MCLR linked loan at mutually acceptable terms. Banks will continue to review and publish Base Rate as hitherto.

General Suggestions

The general suggestion given to all banking sector in order to reduce the NPAs are

- ✓ Proper identification of the guarantor should be checked by the bank including scrutiny of wealth. Framing reasonably well documented loan policy and rules.
- ✓ Position of overdue accounts is reviewed on a weekly basis to arrest slippage of fresh account to NPA.

- ✓ Adopting market intelligence for deciding the credibility of the borrowers and creation of a separate "Recovery Department" with Special Recovery Officer There surely is a need to distinguish between wilful and non wilful defaulters. In case of the latter category of defaulters, the law should not be as harsh as in case of former category.
- ✓ Banks should ensure that there is no diversion of funds disbursed to the borrower. Bank officials should frequently visit the unit and should assess the physical conditions of the assets, receivables and stocks therein.
- ✓ Banks should critically examine and analyze the reasons behind time overrun. The banks should ensure that latest technology is being used by the borrower, to avoid obsolescence and banks should ensure that the assets are fully insured.
- ✓ Banks are able to seize the mortgaged properties but their liquidation is difficult at a time when auctions are not attracting buyers. The build-up of pressure on profit-ability of banks still remains. Auction is turning out to be just a publicity gimmick.
- ✓ Bankers should understand market reality and act accordingly with borrowers. Bank should initiate legal action against only chronic defaulters who play trick. Other defaulters should be handled with care and compassion and advised to deal with their financial mess.
- ✓ Bank officers should not work on the bases of their seniority in banks. They should cooperate with each other for saving the public money in banks. To recover the NPA by banks, the mutual understanding between the bankers and borrowers is very necessary.

CONCLUSION

The Scheduled Commercial Banks in India are facing global competition and the credit risk poses to be greater challenge that affects its business operations. Therefore, the banks should mainly focus on NPAs which is one of the indicators of credit risk. The NPA reduces quality of assets and also affects the profitability of all banking sector in India. So, there must be a proper evaluation of credit risk to prevent the banks from suffering unacceptable loss that may affects their sound financial position. The banks thus recommended establishing sound and competent credit risk management units which are considered as essential for long-term success of a banking institution. The study also showed that there was a less recovery of NPAs through various channels and therefore, the banks must strengthen their recovery channels.

Hence, the credit risk must be handled in such a manner that would not ruin the financial positions and affect the image of the banks. Further, to improve the efficiency and profitability, the RBI and Government of India have taken innumerable steps to reduce the volume of NPAs of the scheduled commercial banks in India.

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