

**EFFECT OF NON-PERFORMING ASSETS ON THE  
PROFITABILITY OF COMMERCIAL BANKS IN NEPAL**

A Dissertation Submitted to the Office of the Dean, Faculty of Management in Partial  
Fulfillment of the Requirements for the Master of Business Studies (M.B.S.)

**Submitted By:**

**Puja Regmi**

Shanker Dev Campus

TU Regd. No.7-2-39-389-2013

Campus Roll No.: 137/074

Exam Roll No: 5943/18

**Kathmandu**

**July, 2024**

## **CERTIFICATE OF AUTHORSHIP**

I hereby corroborate that I have not researched and submitted the final draft of dissertation entitled **EFFECT OF NON-PERFORMING ASSETS ON THE PROFITABILITY OF COMMERCIAL BANKS IN NEPAL** work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

.....

**Puja Regmi**

Shanker Dev Campus

## REPORT OF RESEARCH COMMITTEE

Ms. Puja Regmi has defended research proposal entitled **EFFECT OF NON-PERFORMING ASSETS ON THE PROFITABILITY OF COMMERCIAL BANKS IN NEPAL** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidelines of supervisor Prof. Dr. Keshav Raj Joshi and submit the thesis for evaluation and viva-voce examination.

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Prof. Dr. Keshav Raj Joshi  
Dissertation Supervisor

Dissertation Proposal Defended Date: .....
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Dissertation Submitted Date : .....
--

Asso. Prof. Dr. Sajeeb Kumar Shrestha  
Head, Research Department  
Signature .....

Dissertation Viva-voce Date: .....
---------------------------------------

## APPROVAL SHEET

We, the undersigned, have examined the thesis entitled **EFFECT OF NON-PERFORMING ASSETS ON THE PROFITABILITY OF COMMERCIAL BANKS IN NEPAL** by **Puja Regmi** a candidate for the degree of Master of Business Studies (MBS Semester) and conducted the Viva- Voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

.....  
Dissertation Supervisor

.....  
Internal Examiner

.....  
Internal Expert

.....  
External Expert

.....  
Asso. Prof. Dr. Sajeeb Kumar Shrestha  
Chairperson Research Committee

.....  
Asso. Prof. Krishna Prasad Acharya  
Campus Chief

## **ACKNOWLEDGEMENTS**

First of all, I would like to thank Tribhuvan University for giving chance to prepare the thesis for a partial requirement to the fulfillment of Master Degree of Business Studies program held under Tribhuvan University. After many months of hard work and sincere effort from my side, this research has been conducted.

I would like to acknowledge the following notable personalities who have contributed their valuable efforts in different ways in creation of this research. I would express my profound gratitude to my thesis supervisor Prof. Dr. Keshav Raj Joshi of Shanker Dev Campus for his valuable guidance and kind support to me all the way through this thesis his co-operation in the revision of this thesis has precisely helped me to groom and bring it in this form. I also owe deep gratitude to all reputed authors whose writings have provided me the necessary guidance and invaluable materials for the enrichment of my research papers in all possible ways. My special appreciation goes to my colleague and to all my family members, teachers and friends for their continuous encouragement and help to complete this work directly or indirectly. Perfection is anything can hardly be thought of knowing the universal fact "Human is Error", I Have taken utmost care to avoid errors, but I know they are inescapable, so I shall be obliged if they are forgiven.

**Puja Regmi**  
Shanker Dev Campus

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## ABBREVIATIONS

BL	: Bad Loan
DL	: Doubtful Loan
EBL	: Everest Bank Limited
F/Y	: Fiscal Year
HBL	: Himalayan Bank Limited
KBL	: Kumari Bank Limited
NPA	: Non-Performing Assets
NRB	: Nepal Rastra Bank
PA	: Performing Assets
PE	: Probable Error
PL	: Pass Loan
RL	: Restructured Loan
ROA	: Returns on Assets
SCBNL	: Standard Chartered Bank Nepal Limited
SE	: Standard Error
SL	: Sub-standard Loan
TA	: Total Assets
TD	: Total Deposit
TL	: Total Lending

## ABSTRACT

This study aims to evaluate the profitability position of commercial banks in Nepal and analyze the relationship between profitability and non-performing assets (NPAs). Four commercial banks, Himalayan Bank Limited, Kumari Bank Limited, Standard Chartered Bank Nepal Limited, and Everest Bank Limited were selected as samples from a population of 20 commercial banks in Nepal. Correlation and regression analyses were conducted using Return on Assets (ROA) and Return on Equity (ROE) as dependent variables and Non-Performing Loan Ratio (NPLR), Interest Rate Spread (IRS), Loan and Advance Ratio (LAR), and Cash Reserve Ratio (CRR) as independent variables. The findings revealed a negative correlation between ROA and ROE, attributed to heavy accumulated profit and optimal capital among sample banks. Additionally, CRR exhibited a positive correlation with ROA, indicating effective asset management. However, there was a negative correlation between CRR and ROA. Regression analysis confirmed these relationships, with an increase in ROE leading to a decrease in the average influence on ROA. Conversely, an increase in CRR resulted in a higher average influence on ROA, with statistically significant findings. ANOVA further supported the negative correlation between ROA and ROE, and model summary results indicated no multicollinearity among independent variables. The study concludes by highlighting the importance of understanding these relationships for assessing bank performance in Nepal.

*Keywords: Return on Assets (ROA), Return on Equity (ROE), Non-Performing Loan Ratio (NPLR), Interest Rate Spread (IRS), Loan and Advance Ratio (LAR), and Cash Reserve Ratio (CRR).*

# **CHAPTER-I**

## **INTRODUCTION**

### **1.1 Background of the Study**

Non Performing Assets affect not only the finance institution but also the total financial system. Thus, a selective study has been done on selected commercial banks in Nepal to evaluate the effect of Non Performing Assets on the profitability of banks. Banks today are not judged only based on number of branches and volume of deposits but also based on standard of assets. NPAs negatively affect on the profitability, liquidity and solvency of the banks. To start with, performance in terms of profitability is a benchmark for any business enterprise including the banking industry. However, increasing NPAs have a direct impact on profitability of banks as legally banks are not allowed to book income on such accounts and at the same time, banks are forced to make provision on such assets. Non-performing asset is a vital factor in the examination of financial performance of a bank.

Non Performing Asset is the key term for the banking corporations. Non Performing Assets show the competence of the performance of the banks. To define NPA first of all meaning of Assets should be understood. Assets mean the property of a person or a company. This indicates that assets are the property of a company accumulated with the help of sources. Non Performing Assets (NPA) means the amount of loan that the individual commercial banks had provided and the customer has not paid it until the time already matured. The distributed loan is not returned timely by clients and becomes overdue then, it is known as Non Performing assets for the banks.

The NPA ratio is one of the most important ratios in the banking sector. It helps identify the quality of assets that a bank possesses. NPA is a critical indicator of efficiency in credit risk management. Banks need to bring down fresh additions to NPAs to improve the quality of their asset portfolio. The Non Performing Assets (NPA) is an important prudential indicator to assess the financial health of the banking sector. Besides asset quality, NPAs epitomize the credit risk management and efficacy in the allocation of resources. There is a near unanimity in the literature that asset quality is a critical determinant of sound functioning of the banking system.

NPAs affect the operational efficiency, which in turn affects profitability, liquidity and solvency position of banks. The consequences of NPAs would be reduction in interest income, high level of provisioning, stress on profitability, gradual decline in ability to meet steady increase in cost, increased pressure on net interest margin (NIM) thereby reducing competitiveness, steady erosion of capital resources and increased difficulty in augmenting capital resources.

NPAs affect profitability, liquidity, and solvency of the bank. Continuous decline in profitability due to increase in NPAs would ultimately jeopardize the viability of the bank. Mounting NPAs reduce the interest spread of the bank. The presence of NPAs in the bank balance sheet corrodes the average earnings from loan assets and total assets. The loss of income from NPAs not only brings down the level of income of the banks but also hinders them from quoting finer Prime Lending Rates (PLR).

### **1.1.1 Introduction to Selected Banks**

**i. Himalayan Bank Limited (HBL)** is one of the largest private banks of Nepal. The Bank was incorporated in 1992 by a few eminent individuals of Nepal in partnership with the Employees Provident Fund and Habib Bank Limited of Pakistan. The bank commenced its operations in January 1993. Himalayan Bank is also the first commercial bank of Nepal with most of its shares held by the private sector of Nepal. Besides commercial banking services, the bank also offers industrial and merchant banking service.

**ii. Kumari Bank Limited (KBL)** came into existence as the fifteenth commercial bank of Nepal by starting its banking operations from Chaitra 21, 2057 B.S (April 03, 2001) with an objective of providing competitive and modern banking services in the Nepalese financial market.

**iii. Standard Chartered Bank Nepal Limited (SCBNL)** has been in operation in Nepal since 1987 when it was initially registered as a joint-venture operation. Today the Bank is an integral part of Standard Chartered Group having an ownership of 70.21% in the company with 29.79% shares owned by the Nepalese public. The Bank enjoys the status of the largest international bank currently operating in Nepal.

**iv. Everest Bank Limited (EBL)** established in 1994, Everest Bank Limited started its operations with an objective of extending its professionalized and efficient banking services to the various segments of the society. It is a joint venture with Punjab National bank.

### **1.2 Statement of the Problem**

Nepalese commercial banking industry is still under the developing condition. They have to follow all the rules and regulations or the directives issued by the Rastra Bank of Nepal, the central bank of the country. The core banking business is mobilizing the deposits and utilizing it for lending to industry. Lending business is generally encouraged because it has the effect of funds being transferred from the system to productive purposes, which results into economic growth. However, lending also carries credit risk, which arises from the failure of borrowers to fulfill its contractual obligation during the course of transaction. It is well known that the bank and financial institutions in Nepal face the problem of swelling non-performing assets and the issue is becoming more and more unmanageable. Nepalese banking sector has been becoming a victim of huge NPAs.

Most of commercial bank invest is going to lower production sector due to lack of supervision and unhealthy competition whither they have utilized their loan in proper sector or not and lack of long term policy formulation and absence of strong commitment toward its proper implementation. The rules and regulations are only tool of NRB to supervise and monitor the financial institution. Through loans and advances in the largest items of the bank in the asset side, but negligence in administering this asset could be the main cause of a liquidity crisis in the bank and one of the main reasons of bank failure. It can be clearly seen on two largest government owned banks, Nepal bank limited (NBL) and Rastriya Banijya Bank (RBB). Nowadays, in most of the national daily newspaper not only they two banks, but also other commercial banks and financial institutions are publishing names of borrows who defaulted in making payment of banks loans. In recent days, not only government owned banks but some of the banks under private ownership are also suffering from NPA burden. It is a matter of debate amongst the entire banking sector regarding the real cause of NPA increment through private sector bank has less

nonperforming assets in comparison to NBL and RBB. Below report shows that the Nepalese commercial banks have more or less some non-performing loan.

Nepalese banking sector has been becoming a victim of huge NPAs. This study is directed to resolve following issues:

- What is the existing profitability position of the commercial banks of Nepal?
- What is the relationship between profitability and non performing assets of commercial banks of Nepal?
- What is the impact of non-performing assets on the profitability of commercial banks in Nepal?

### **1.3 Objectives of the Study**

The main objectives of the study are to investigate the effect of non- performing assets on the profitability of Nepalese commercial banks in Nepal and other specific objectives are as follows.

- To assess the existing profitability position of commercial banks in Nepal.
- To analyze the relationship between profitability and non-performing assets of commercial banks in Nepal.
- To examine the impact of non-performing assets on the profitability of commercial banks in Nepal.

### **1.4 Rationale of the Study**

The success and prosperity of bank depends upon the successful implementation of collected resources, which develops the economy of the country. Good lending of the banks has positive effect on economic development of the country and vice versa. Increasing non-performing loan is one of the challenges faced by commercial bank in the present context. The proper mobilization and utilization of domestic resources become indispensable for suitable economic development and there is no doubt that commercial banks have pivotal role for the collection of dispersed small savings of Nepalese people and transferring them into meaningful investment. The success and prosperity of the bank relies heavily upon the important sectors of economy as well as to generate more profit by investing in consumer's demand. The main aim of the present study is to find out what

sorts of tools and techniques have been used to overcome the problem of conversion of performing assets into the non-performing assets, by the commercial banks in the country and to analyze what other kinds are being used in the present world that the corresponding banks can adopt, if found, under the study.

Loans and advances are the most profitable of all the assets of a bank. These assets constitute primary sources of income to the bank. It means interest earned from such loan and advances occupy major space in income statement of the bank. As a business institute, a bank aims at making huge profit. Since loan and advances are more profitable than any of other assets, the bank is willing to lend as much as its fund as possible. But it has to be careful about the safety of such loans and advances. So it is very important to be reminded that most of the banks failures in the world are due to shrinkage on the value of loans and advances. Hence loan is known as risky assets.

Risk of non-repayment of loan is known as credit risk or default risk. Performing loan/assets has multiple benefits while non-performing loan/assets erode even existing capital. Therefore, success of any bank doesn't depend upon how much money at a bank is able to lend, but it depends upon the quality of the loan. So success of a bank depends upon the amount of performing assets/loan. Performing assets are those loans that repay principal and interests to the bank from the cash flow it generates. It is well known fact that bank and financial institutes in Nepal has been facing the problem of swelling non-performing assets and issues is becoming more and more unmanageable. Unfortunately, nowadays banks have been becoming the victims of high level of NPA, which has been the subject of headache to the banking sector and Nepalese banking industry is not also exception from this truth.

The total NPA of Nepalese banking sector is about 35 billion rupees, and it is worse case of the two largest banks of Nepal, Nepal Bank Limited and Rastriya Banijya Bank Limited. The NPA level in these two banks is above 50% of the total deposits of the bank. This present study mainly concern with the analysis the level of NPAs in total assets, total deposits and total lending of different commercial banks of Nepal. Therefore, it is significant to find out the level of NPA and to find out whether the banks maintained loan loss provision in accordance to NRB's directives or not. It also examines the effects

of NPA in ROE and ROA of the bank. In addition, point out the defects inherent in it and provide package of suggestion for its improvement if found any. Apart from above, this study will be a matter of interest for the students, academicians and other professionals.

### **1.5 Limitation of the Study**

This study is simply a partial study for the fulfillment of MBS Degree. This is not far from several limitations, which weakens the study from the viewpoint of reliability and validity. The following are some limitations of the study:

- Profitability of an organization is caused by very many factors but here we study only those factors, which are directly affected by the non-performing assets of the commercial banks.
- The whole study is mainly base on secondary data, provided by the concerned banks; the reliability is up to the available data.
- The whole study is based on the data of only ten years (F/Y 2016/017 to 2022/023).
- The study covers only four commercial banks of the Nepalese banking industry.

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Conceptual Review**

In general, a bank is referred to as an institution that deals with money, currency and bullion. It collects the deposits in the form of currency and gold from the savers and supplies to the people in demand of money with different terms and conditions as to the interest and repayment. Hence, it pays interest to the depositors as consideration to the money received and charges different levies in the form of processing fees, commissions, interests etc., from the people who have taken loan from it. At the same time it in the request of its customers, discounts the bills, gives guarantee, issues letter of credit, investing in different securities, underwriting of securities etc. The word Bank has been derived from Italian word, “Banco” which in Italian means a BENCH. Since the people who dealt in money used to do their work while sat on bench the trade that they were carrying was called as ‘Banco’, which in the due course got modified into Bank.

Now a day the function of banks are changing which has induced their principle competitors to change. The principle competitors such as other financial institutions including security dealers, brokerage firms and insurance companies are trying to be similar to bank in the services they offer. Sayers defined the bank as, “Ordinary banking business consists of changing cash for deposits and bank deposits for cash, transferring bank deposits from one person or corporation to another, giving bank deposits in exchange for bills of exchange, government bonds, the secured of unsecured promises of businessmen to repay etc.” Walter Leaf defined the bank as, “A bank is that institution or individual who is always ready to service money on deposits to be returned against the cheque of their depositors.” And Horace White puts bank in his words as, “Bank is a manufacturer of credit and machine for facilitating exchanges.” G. Crowther says, “A banker is a dealer in debt in his own and other people’s. The bankers business in then to take the debt of other people to offer his own in exchange and thereby to credit money.” Dr. H. L. Hart exclaims, “A banker is one who, in the ordinary course of his business, receives money which he repays by honoring cheques of persons from whom or who account receives it.” The first renowned bank was called the “Bank of Venice”, set up in

Venice, Italy in the year 1157 A.D. The Bank of Barcelona and the Bank of Geneva were established in the year 1401 A.D. and 1407 A.D. respectively. In England the banking embarked on with English Goldsmith only after 1640 A.D. The Bank of Amsterdam was the grandest bank during the 17<sup>th</sup> Century.

### **2.1.1 Concepts of Commercial Banks and Banking Activities**

Commercial banks are the heart of the financial system. The commercial banks are those banks that pool together the savings of the community and arrange for their productive use. In the process of such intermediation, commercial bank plays funds raised from different sources into different assets with a prime objective of profit generation and administrative assistance. According to Commercial Bank Act 2031, commercial banks are those banks which are established under this act to perform commercial function.”The commercial banks pool together the savings of the community and arrange for their productive use. The supply financial needs of modern business. They hold deposits of many persons, government establishments and business units. They make funds available through their lending and investing activities to borrowers, individuals, business firms, and government units in doing so they assist both the flow of goods and services from the producers to consumers. They dispense the large portion of medium through which monetary policy is affected. This shows the consequential role in the smooth functioning of the economy.

The commercial bank has its own role and contribution in the economic development. It is a resource for the economic development; it maintains economic confidence of various segments and extends credit to people. Those banks are established to improve people’s economic welfare and facility, to provide loan to offer banking services to the people and the country. It provides internal resources for developing countries economic. It collects diversified capital from different parts of country through its own branches. Commercial bank is a corporation, which accepts demand deposits subject to check and makes short term loans to business enterprises, regardless of the scope of its other services. Commercial banks play the most important role in the modern economic organization. Their businesses mainly consist of receiving deposits, giving loans and financing the trade of a country. They provide short-term credit i.e., lend money for short period.

According to the American Institute of Banking, “Commercial Banks is a corporation that accepts demand deposits subject to check and makes short-term loans to business enterprise regarding of the scope of its other services.” In the Nepalese context, the Nepal Commercial Bank Act, 2031 B.S. (1974A.D.) defines, “A commercial bank is one which exchanges money, deposits money, accepts deposits, grant loans and performs commercial banking functions.”

In the likely manner, various writers on banking have defined the bank in different ways. Since a modern bank performs number of functions. So, it has become very difficult to give a precious definition of a commercial bank.

### **2.1.2 Evolution of Banking System in Nepal**

There are several types of banks but among them commercial banks play significant contribution in the financial system of the country. They pool together the savings of the community and arrange for their productive use. They supply the financial needs of modern business by various means. They accept deposits from public on condition that they are repaid on demand or on short notice. Their business is confined to financing the short-term and medium term needs of trade and industry such as working capital financing. Commercial Bank Act, 2031 B.S. (1974A.D.) of Nepal has defined the commercial banks as an organization, which exchanges money, accepts, grants loans and performs commercial banking functions and which is not a bank meant for co-operative, agriculture, industries or for such specific purpose. (Bank and Financial Institution Ordinance 2005).It is the fact that financial sector plays a vital role for the economic development of a country. Even before the establishment of a banking system in Nepal, financial transactions were in practice as undertaken by some moneylenders like sahu-mahajans, zamindars, relatives, friends, and few informal organizations limited to ethnic group such as Guthi. The borrowing from the other and the informal organization was limited and based on personal understanding. At that time people deposit their gold, silver and valuable goods for the sake of security. Thus, the private moneylenders can be taken as forerunner of the concept of financial institution.

However, the private money lenders supported the economic development of a country, the transactions undertaken by them was totally based on their personal understanding.

No legal restriction was against them and their monopolies in transactions were the reasons for covering the interest in personal understandings and exploiting the people. Thus, it was then realized the need to establish financial intermediaries in supporting the economic development of a country.

Nepal has been ruled over by many rulers like Kirati, Lichchhavi, Malla, Ranas, and Shahs. Mostly, Kirati, Lichchhavi and Malla regimes, who were concerned with the construction of temples, pati-pouwa, chautaris, etc. At that period neither the people nor the government need to think about the economic development of the country. According to ancient “Vanshawali” in fourteenth century, the ruler of the Kathmandu Jayasthiti Malla segregated the local domiciles into 64 different classes according to profession they had undertaken. Tankadhari was one of those classes who used to deal in coins and precious metals such as gold. These Tankadhari’s were said to have carried out the borrowing and lending of money (coins). Hence, Tankadharis can be regarded as the traditional bankers of Nepal.

After long time, during the Rana regime, only handfuls prime minister thought about the economic development of the country. They established some offices in 1993 B.S. (1936A.D.) ‘Tejarath Adda’ was established during the tenure of Prime Minister Ranoddip Singh Rana as a first institutionized credit house. Tejarath Adda provided loans under the security of gold and silver to the government employees and public. The government established its various branches and sub-branches at different places of the country for the sake of benefits of people. In the overall development of the banking system in Nepal, the Tejarath Adda may be regarded as the father of modern banking institution and for a quite long time it rendered a good service to the government employees as well as to the public. The government also implemented the rules against the vast interest rate taken by moneylenders. Thus, the government financial institution occupies an important role in the banking history of Nepal. No financial institutions were established over a long period due to political reasons. To fulfill the growing need of economy in Nepal, banking activities were performed only after the establishment of Nepal Bank Limited in 1994 B.S. (1937A.D.) as the first commercial bank in Nepal. This bank was established under the Nepal Bank Act 1994 B.S. (1937A.D.).

At beginning, 49% of the ownership belongs to the promoters as well as general public and remaining belongs to government. The incorporation of Nepal Bank Ltd. is the real starting of the banking institution in Nepal. The bank started the act of consolidating the scattered capital since its establishment in order to mobilize it in productive sector. It developed systematic tradition in culture of modern banking system in Nepal. Such system could be able to establish a strong base for the enlistment of national economy. Besides, it also acted as central bank for more than three decades. Nepal Rastra Bank was established in Baisakh 14, 2013 B.S. (26 April 1956 A.D.) under Nepal Rastra Bank Act, 2012 B.S. (1955 A.D.), the central bank of Nepal. It is totally owned by government. NRB is heavily assisting for the development of the whole economy. It is giving timely directives to all financial institutions operating and conducting in all over the country.

After a long period, the second commercial bank namely Rastriya Banijya Bank (RBB) has been established in 2022 B.S. (1965 A.D.) with cent percent government ownership. This bank has been established under the Rastriya Banijya Bank Act 2021 B.S. (1964 A.D.) Both, Nepal Bank Limited (NBL) and Rastriya Banijya Bank (RBB) have made a remarkable contribution by providing reliable banking services to the Nepalese people. Its contribution is well noted in terms of capital formation to the small dispersed saving into meaningful capital investment in order to flourish industry, agriculture, and commercial sector in the country. The government introduced Commercial Bank Act in Nepal in 2033 B.S. (1976 A.D.) to cover the vast field of financial sector. This act has helped to emerge number of commercial bank with a view to maintain economic interest in comfort of the public in general facilitated to provide loan for agriculture, industry, trade and make a available banking services to the country and people.

Among vacuum in the banking sector got some rays of hope only when the government forwarded the economic liberalization policy in 2039 B.S. (1982 A.D.) In addition, decided to allow foreign banks to operate their activities in Nepal in “joint venture model”. Joint Venture Banks can be defined as an association of two or more parties having common objectives and goals to get maximum satisfaction. At that time, it was envisioned that joint venture banks (JVBs) would support the country in various ways.

In Nepalese context, the main purpose of joint venture is to develop economic forces in order to achieve distinguished result, which the partners separately could not achieve. Nowadays, joint venture banks (JVBs) are playing dynamic and vital role in economic development of the country. With the satisfactory result of joint venture banks, Nepalese promoters are highly encouraged and as a result, commercial banks are introduced with cent percent domestic investment.

At present, Nepal Industrial and Commercial Bank (NIC), Lumbini Bank Ltd., Machhapuchhre Bank Ltd., Bank of Kathmandu, Nepal Credit and Commerce Bank Ltd., Laxmi Bank Ltd., Siddhartha Bank Ltd., Kumari Bank Ltd. came into operation with cent percent domestic investment by Nepalese promoters which are the plus point of development of banking sector of Nepal. Now, there is a strong competition between commercial bank for the existence so that the growing needs of the customers can easily achieve.

### **2.1.3 Function of Commercial Banks**

Banks can be defined according to the functions they perform. A bank is established with the prime objective of profit maximization. To achieve this, the bank carries out functional activities, “Principally, commercial banks accepts deposits, provide loan, primarily to business firms thereby facilitating the transfer of funds in the economy”. Although, banks were viewed as acceptor of deposits then provider of loan, but modern commercial banks have to perform overall development of trade, commerce, industry, agriculture including supports for priority and deprived sectors. The growing bank needs and habits of people and competitive environment has made the banking sector challenging and their operation cannot be underemphasized in present context of market globalization. Hence, a bank is a commercial institution licensed as a taker of deposits, concerned mainly with the making and receiving payments on behalf of their customers, accepting deposits, creating money and making short-term loans to private individuals, companies and other organization. Although profit maximization is a major objective of commercial bank, to achieve this objective commercial bank performs various functions under the mandatory rules and regulations and directives of NRB and the Commercial Bank Act 2031 B.S. (1974 A.D.).

## **Primary Functions**

### **Accepting Deposits**

Accepting a deposit is the most important function of commercial banks. Commercial banks collect money from those who want to deposit in different types of accounts such as:

- Fixed Deposit Account
- Current Deposit Account
- Saving Account

### **Advancing of Loans**

Commercial banks provide the loans required or credit to various sectors of economy such as industry, trade, agriculture, business-deprived sector etc. In this way bank creates credit facilities. It provides loans from various procedures in different form such as:

- Overdraft
- Cash Credit
- Direct loan with collateral
- Discounting of bills of exchange
- Loans of money at call and short notice

### **General Utility Functions**

Commercial banks also perform general utility functions such as:

- Issuing letter of credit to its customers.
- Issuing of bank drafts and traveler's cheque etc., for transfer of funds from one place to another.
- Dealing in foreign exchange and financing foreign trade by accepting or collecting foreign bills of exchange.
- Serving as referred to the financial standing and credit worthiness of its customers.
- Underwriting loans to be raised by public bodies and corporations.
- Providing safety vaults of lockers for the safe custody of valuables and securities of the customers.

- Acting as a trustee and executing the will of the deceased.
- Remittance of money
- Providing Automatic Teller Machine (ATM) service for easy access of money.

### **Agency Function**

Apart from the functions mentioned above, commercial banks also perform agency functions wherein they act as agents and claim commission on certain facilities. They are as:

- Collection of customer's money from other banks.
- Receipt and payment of dividend, interest.
- Security brokerage service.
- Financial advisory service.
- To underwrite the government and private securities.

#### **2.1.4 Concept of Loan and advances**

Loan is defined as a thing that is lent esp. a sum of money. Likewise, debt means a sum of money owed to somebody. However, in financial terms loan or debt means principal or interest available to the borrower against the security. Debt means the money that bank owes or will lend to individual or person. Likewise, the term loan is defined as a lending. Delivery by one party to and receipt by another party of sum of money upon agreement expressed to implied, to repay it with or without interest. Anything furnished for temporary use to a person at his request on condition that it shall be returned, or its equivalent in kind, with or without compensation for its use. Loan includes:

- The creation of debt by lender's payment of or agreement to pay money to the debtor or to a third party for the account of the debtor.
- The creation of debt by a credit to an account with the lender upon which the debtor is entitled to draw immediately.
- The creation of debt pursuant to a lender credit card or similar arrangement.
- The forbearance of debt arising from a loan (Koirala, Subash, 2006 : 35 - 36)

The supreme court of India has defined the debt during the decision of the case of United Bank of India vs. DRT. Sudhir Gupta states that "In the case in hand, there cannot be any

dispute that the expression 'debt' has to be given the widest amplitude to mean any liability which is alleged as dues from any person by a bank during the course of any business activities undertaken by the bank either in cash or otherwise, whether secured or unsecured, whether payable under a decree or other any court or otherwise and legally recoverable on the date of the application.

### **2.1.5 Concepts of Non-Performing Assets**

Non Performing Assets (NPA) means the amount of loan that the individual commercial bank had provided and the consumer has not paid it until the time is already matured. Once the distributed loan is not returned timely by clients and becomes overdue then, it is known as Non Performing Assets for the bank. Reduction of NPA has always been a significant problem for every commercial bank. NPA may be defined broadly as the Bad Debt; however, it in terms of banking sector consists of those loans and advances which are not performing well and likely to be turn as bad debt. NPA as per the current directives of Nepal Rastra Bank, NRB, has been categorized as classified loans and advances. NPA has severe effect on the financial institutions. On the one hand, the Investment becomes worthless as expected return cannot be realized and on the other, due to the provision required for the risk mitigation the profitability is directly affected. The existence of the bank can be questioned in this situation. Thus, interest along with principal has to be recovered timely and without any obstacles.

To start with performance in terms of profitability in a benchmark for any business enterprises, including the banking industry, however increasing nonperforming assets have a direct impact on banks profitability as legally banks are not allowed to book income on such assets. Loans and Advances dominate the assets side of balance sheet of any bank. Similarly, earning from such loans and advances occupy major space in income statement of the banks. However it is very important to be reminded that most of the bank failures in the world are due to shrinkage in the value of the loan and advances. Hence loan is known as risky assets. Risk of non-repayment of loan is known as credit risk or default risk. Performing loans have multiple benefits to the society while non-performing loans erodes even existing capital.

Performing assets are those loans that repay principal and interest to the bank from the cash flow it generates. Loans are risky assets, though a bank invests most of its resources in granting loans and advances. If an individual bank has around 10% non-performing assets or loans, it sounds the death knell of that bank other remaining the same. The objectives of sound loan policy are to maintain the financial health of the banks, which result in safety of depositor's money increases in the returns to the shareholders. Since the loan is a risky asset there is inherent risk in every loans, however, the bank should not take risk above the certain degree irrespective of the returns prospects.

### **2.1.6 Effects of NPA on Profitability of Banks**

Under the circumstances, assets that do not earn any income to the bank affect the profits in a number of ways, which are explained as follows (Koirala, Subash, (2006): 38–40):

#### **2.1.6.1 Profitability Effect**

- The resources locked up in NPA are borrowed at a cost and have to earn a minimum returns to service this cost.
- NPA on the one hand do not earn any income but on the other hand drain the profits earned by performing assets through the claim on provisioning requirements.
- Since they do not earn interest they bring down the yield on advances and the net interest margin or spread.
- NPA have a direct effect on assets and returns on equity, the two main parameters for measuring profitability of the commercial banks.
- Return on assets will be affected because while the total assets include the NPA they do not contribute to profits, which are the numerators in the ratio.
- Return on equity is also affected as provisioning have more and more into profits earned.
- The cost of maintaining these include administration costs, legal costs and cost of procuring the resources locked in them.
- NPA bring down the profits, affects the shareholders value and thus, adversely affect the investor confidence.

As a whole, the effect of NPA can be assessed with the following:

- Lower ROE and ROA
- Lower image and rating of banks
- Disclosure reduces investor's confidences.
- Increases costs/difficulties in raising capital.
- NPA do not generate income.
- They require provisioning.
- Borrowing cost of resources locked in
- Opportunity loss due to non-recycling of funds.
- 100% risk weight on net NPA for CRR.
- Capital gets blocked in NPA.
- Utilizes capital but does not generate income to sustain the capital that is locked.
- Recapitalization by government comes with string.
- Administration and recovery costs of NPA.
- Effects in employee morale and decision.

#### **2.1.6.2 Causes and Measures of NPA**

Reddy (2005) studied a comparative study of NPA in India in the global context. He has found noticeable improvements in the financial health of Indian banks in terms of asset quality. Further, pre and post reform NPA levels are not strictly comparable as a result of significant tightening of accounting norms. He found that the regulation made by RBI to build provision up to at least a level of 50% of their gross NPAs save decreased the level of NPA. In his paper he has conducted country wise analysis and pointed out the causes and measures of NPA. Summary of his finding has been presented to gain deep understanding of causes NPAs and measure adopted by those countries.

#### **CHINA**

##### **Causes**

- **Moral Hazard:** The state owned enterprise believe that there the government will bail them out in case of trouble and so they contribute to take high risks and have not really strived to achieve profitability and to improve operational efficiency.

- Bankruptcy laws favors borrowers and law courts are not reliable enforcement vehicles.
- Political and social implications of restructuring bi state-owned enterprise force the government to keep them afloat.
- Banks are reluctant to lend to the private enterprises due to
  - a. Non standard accounting practices.
  - b. While an NPA of a state owned enterprise is financially undesirable. An NPA of a private enterprise is both financially and politically undesirable.

### **Measures**

- Reducing risk by strengthening banks, raising disclosure standards and spearheading reforms of the state owned enterprise by reducing their level of debt.
- Laws were passed allowing the creation of assets management companies, foreign equity participation in securitization and asset- backed securitization.
- The government, which bore the financial loss of debt ‘discounting’ debt/equity swaps were allowed in case of a growth opportunity, existed.
- Incentives like tax breaks, exemption from administration fees and clear cut assets evaluation norms were implemented.

## **THAILAND**

### **Causes**

- Liberalized capital and current account and external borrowings with inaccurate assessment of exchange rate risk of capita flight in crises.
- A legal system that made credit recovery time consuming and difficult.
- Real estate’s speculators took massive loans projecting high growth in demand and prices of properties. When this did not materialize all the loans went bad.
- Steep interest rate rise turned a list of loans into NPAs.
- Inability to correctly assess credit risk.

### **Measures**

- Amendments were made to the Bankruptcy Act.

- Corporate Debt Restructuring Plan (1998) focused on capital support facilities for bank recapitalization and setting up of AMC'.
- New rules governing NPA exit procedures based on international standards were introduced.
- Privatization of government entity was mooted but faced strong political oppositions for fear of a social backlash.
- Adoption of international standards for loan classification and provisioning.
- Caps on foreign equity ownership in financial institutions were removed.

## **KOREA**

### **Causes**

- Directed Credit: Protracted periods of interest rates control and selective credit allocations gave rise to an inefficient distribution of funds. The Chaebol's focus on increasing market share and pursuing diversification with little attention to profitability caused tremendous stress on the economy.
- The "compressed growth" policy via aggressive, leveraged expansion worked well as long as the economy was growing and the ROI exceeded the cost of capital. This strategy backfired when slowing demand and rising inputs costs placed severe stress on the profitability.
- Lack of Monitoring- Banks relied on collaterals and guaranteed in the allocation of credit, and little attention was paid to earnings performance and cash flows.
- Contagion effect from South East Asia coincided with a period of structural adjustment as well as a cyclical downturn in Korea.

### **Measures**

- Speed of action: The speedy containment of systematic risk and the domestic credit crunch problem with the injection of large public funds for banks recapitalization were critical steps towards normalizing financial system.
- Corporate restructuring vehicles (CRVs) and debt/equity swaps were used to facilitate the resolution of bad loans.

- Creation of Korea Asset Management Corporation (KAMCO) and NPA fund to finance the purchase of NPA's.
- Securitization KAMCO's recoveries came through asset-backed securitization and outright sales. International investors like loan star fund participated in the process.
- Strengthening of provision norms and loan classification standards based on forward looking credit (like future cash flow) were implemented.
- The objectives of the central bank were solely defined as maintaining price stability. The Financial Supervisory Commission (FSC) was created (1998) to ensure an effective supervisory system in line with universal banking practices.

## **JAPAN**

### **Causes**

- Investments were made Real Estate at high price during the boom. The recession caused prices to crash and turned a lot of these loans bad.
- Legal mechanisms to dispose bad loans were time consuming and expensive and NPA's remained in the balance sheet.
- Expansionary fiscal policy measures administered to stimulate the economy supported industrial sectors like construction and real estate, which may have further exacerbated the problem.
- Crony capitalism to the Keirets us
- Weak corporate governance coupled with a non-bankruptcy doctrine was a moral hazard in Japanese economy.
- Inadequate accounting systems and information flow makes assessment of loan performance outside a bank in Japan difficult.

### **Measures**

- Amendment of foreign exchange control law (1997) and the threats of suspension of banking business in case of failure to satisfy the capital adequacy ratio prescribed. Legislation to improve information flow has been passed.
- Accounting standards: - Major business groups established a private standard setting vehicle for Japanese accounting standards (2001) in line with international standards.

- Government supports: The government's committee public funds to deal with banking sector weakness.

## **2.2 Legislative Provision on Non Performing Loan and Interest Rate Spreads**

### **2.2.1 NRB Directives**

NRB issued directives to run commercial banks in a healthy competitive manner to ensure the sustainable development of the overall banking system. The financial sector reform of Nepal was initiated in mid 1980s. Since then NRB has been playing pioneer role in regulation, supervision and monitoring of commercial banks by issuing directives. At present the number of guidelines issued by NRB to commercial bank reaches sixteen, which are as follows:

The provision of minimum capital fund to be maintained by the commercial bank.

- The provision of loan classifications and loan loss provisioning on the credit. The provision relating to limit on credit exposure and facilities to a single borrower, group of related borrowers and single sector of the economy. The provision relating to accounting policy and the structure of financial statements to be followed by the commercial banks. Regulation relating to minimization of risk inherent in the activities of commercial banks. The provision of institutional good governance to be followed by commercial banks. Time frame of implementation of regulatory directives issued in connection with inspection and supervision of commercial banks. Regulation relating to investment in shares and securities by commercial banks. The provision of submission of statistical data to the NRB. Banking management division and inspection & supervision division. Regulation relating to sale and ownership transfer of promoters shares. Regulation relating to stringent blacklisting procedure for loan defaulters. The provision relating to compulsory deposited amount of NRB.
- Regulation relating to develop the branch office of commercial banks. Provision relating to interest rates. Provision relating to consortium financing.

## **1. NRB directives relating to Loan classification and Loan Loss Provision**

### **A. Classification of Loan & Advances and provisioning**

Effective from FY 2058/59 (2001/02) banks shall classify outstanding principal amount of loan and advances based on aging. As per the directives issued by NRB, all loans and advances shall be classified into the following four categories:

Table 1

*Classification of Loan Loss Provision*

<b>Classification of Loan</b>	<b>Minimum Loan Loss Provision</b>
Pass loan	1%
Sub- standard loan	25%
Doubtful loan	50%
Bad loan	100%

*Source: Nepal Rastra Bank, Directives for commercial banks.*

**a. Pass Loan**

Loans and advances whose principal amount are not past due and past due for a period up to 3 months shall be included in this category. These are classified and defined as performing loans.

**b. Sub-Standard Loan**

All loans and advances that are past due for a period of 3 months to 6 months shall be included in this category.

**c. Doubtful Loan**

All loans and advances which are past due for a period of 6 months to 1 year shall be included in this category.

**d. Bad Loan**

All loans and advances which are past due for a period of more than 1 year as well as advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category.

Auditor has to correctly rate the credit and ensure that accurate credit loss provision has been made. The auditor should examine whether the bank has obtained complete

documentation so that banks interest is secured. In addition audit is made to inspect compliance of terms and conditions laid down.

## **B. Provision for extending Advances & Investment in productive, priority and Deprived sector**

- **Productive sector**

Productive sector include advances to priority sector and other productive sector which includes advances and investment in shares and debentures of small, medium and large industries as defined in industrial enterprises act; pre- shipment loan like purchase of merchandise, processing, assembling, packaging etc. The export bill financing, advances for purchase of public transport like truck, bus, tempo etc. and agricultural/farm equipment; investments on shares and debentures of government or semi government or private sector, agricultural insurance, go-down, banking or like companies etc. As per NRB regulation, commercial banks are required to extend 40% of the total advances to productive sector, which also include 12% to priority sector deprived sector.

- **Priority sector Loan program**

“Priority sector” is defined to include micro and small enterprises, which help to increase production, employment and income as, prioritized under the national development plans with an objective to uplift the living standard of general public particularly the deprived and low income people by progressively reducing the prevalent unemployment, poverty, economic inequality and backwardness. Micro and small enterprises are classified into agricultural enterprises, cottage and small industries and services. In addition, other types of business as specified by NRB from time to time are also included under Micro and small enterprises. All credits extended to priority sector up to the limit specified by NRB are termed as “priority sector credit”. NRB has provided the requisite proportion of priority sector lending as follows:

Table 2

*NRB Requirement of Priority Sector Investment*

<b>Fiscal Year</b>	<b>Minimum percent of Total loan to be invested in priority sector</b>
2016/017	2%

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2017/018	2%
2018/019	4%
2019/020	4%
2020/021	6%
2021/022	6%

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*(Source: NRB Directives 2022)*

Effective from FY 2021/022, investment in priority sector shall not compulsory. Before FY 16/17, the commercial banks were directed to invest 8% of their total loan to priority sector.

- **Derived sector Lending**

“Derived sector” includes low income and particularly socially backward women, tribes, lower caste, blind, hearing impaired and physically handicapped persons and squatters (sukumbasi) family. All loans extended for the operation of self-employment oriented micro-enterprises for the upliftment of economic and social status of deprived sector up to the limit specified by NRB is termed as “Deprived sector Loan”. “Deprived sector Loan” is considered as integral part of priority sector loan and this loan comprise micro-credit programs and projects also.

The business under the priority sector loan program has been classified under the following four major heads:

- Agriculture and Agro-based business
- Cottage and small industries
- Services
- Other business

Lending in Deprived sector will be included in priority sector for the purpose of compliance test for 12%. Deprived sector loan is advances up to Rs. 50,000 per borrower family meant for weak, poor and deprived people extended in the following manner by the commercial banks shall qualify to be included under deprived sector loan:

- Direct investment made by the commercial banks themselves in income generation employment oriented programs.
- Investments made by commercial banks in share capital of Rural Development Banks established with an objective to extend loan to deprived sector.
- Advances to the Rural Development Banks and other Development Banks engaged in the similar poverty alleviation programs.
- Advances to Cooperative, Non-government organization and small farmers cooperatives approved by NRB for carrying out banking transactions.
- Advances to Micro-Finance Institutions / (Rural Development Banks and other financial institutions, cooperatives and non-governmental organizations approved by NRB for intermediation) stipulating the condition to disburse such loan to deprived sector only.

Loans extended by commercial banks to development banks engaged in micro credit activities with stipulated condition to disburse the loan to the deprived sector up to Rs.30,000 a family shall be eligible for the purpose of inclusion under deprived sector loan. Effective from FY 2000/01, NBL and HBL shall compulsorily extend advances to the deprived sector by 3% of its total while new commercial banks are required to invest 0.25% of total outstanding loan to deprived sector.

### **C. Regulation relating to Loan Classification and loan loss provisioning**

With an objective to minimize the possible loss of credits extended by commercial banks as provided under section 23 (1) of Nepal Rastra Bank Act 2012 (with amendment) relating to development and regulation and banking system. This directive in respect of loan classification & provisioning has been issued in exercised of authority under section 56 of bank and financial institutions act 2063.

#### **2.2.2 Basel III - Pillar 3 Disclosures Definition of Non-Performing Assets**

The Bank follows extant guidelines of the RBI on income recognition, asset classification and provisioning. A Non Performing Asset is a loan or an advance where:

- a) Interest and / or installment of principal remain overdue for a period of more than 90 days in respect of a term loan.

- b) The account remains out of order, in respect of an overdraft / cash credit. An account is treated as out of order if the outstanding balance remains continuously in excess of the sanctioned limit / drawing power or where there are no credits continuously for 90 days as on the date of balance sheet or credits are not enough to cover the interest debited during the same period.
- c) The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted.
- d) The installment of principal or interest thereon remains overdue for two crop seasons for short duration crops.
- e) The installment of principal or interest thereon remains overdue for one crop season for long duration crops.
- f) Any amount to be received remains overdue for a period of more than 90 days in respect of other accounts.
- g) The amount of liquidity facility remains outstanding for more than 90 days, in respect of a securitization transaction undertaken in terms.
- h) In respect of derivative transactions, the overdue receivables representing positive mark-to-market value of a derivative contract, if these remain unpaid for a period of 90 days from the specified due date for payment.

Any amount due to the Bank under any credit facility is 'overdue' if it is not paid on the due date fixed by the Bank. The Bank will classify an account as NPA if the interest due and charged during any quarter is not serviced fully within 90 days from the end of the quarter. When a particular facility of a borrower has become non-performing, the facilities granted by the Bank to that borrower (whether a wholesale or retail borrower) will be classified as NPA and not the particular facility alone which triggered the NPA classification for that borrower. Credit facilities backed by the Central Government though overdue may be treated as NPA only when the Government repudiates its guarantee when invoked. State Government guaranteed advances and investments in State Government guaranteed securities would attract asset classification and provisioning norms if interest and / or principal or any other amount due to the Bank remains overdue for more than 90 days. A loan for an infrastructure project will be classified as NPA during any time before commencement of commercial operations as

per record of recovery (90 days overdue), unless it is restructured and becomes eligible for classification as 'standard asset' in terms of conditions laid down in the related RBI guidelines. A loan for a non-infrastructure project (other than commercial real estate exposures) will be classified as NPA during any time before commencement of commercial operations as per record of recovery (90 days overdue), unless it is restructured and becomes eligible for classification as 'standard asset' in terms of conditions laid down in the related RBI guidelines. A loan for commercial real estate project will be classified as NPA during any time before commencement of commercial operations as per record of recovery (90 days overdue), or if the project fails to commence commercial operations within one year from the original if the loan is restructured. Non-performing assets are classified into the following three categories:

**i. Substandard Assets**

A substandard asset is 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. In other words, such an asset will have well defined credit weaknesses that jeopardize the liquidation of the debt and are characterized by the distinct possibility that banks will sustain some loss, if deficiencies are not corrected.

**ii. Doubtful Assets**

A doubtful asset is one, which remained NPA for a period exceeding 12 months. A loan classified as doubtful has all the weaknesses inherent in assets that were classified as substandard, with the added characteristic that the weaknesses make collection or liquidation in full, based on currently known facts, conditions and values, highly questionable and improbable.

**iii. Loss Assets**

A loss asset is one where the Bank or internal or external auditors or the RBI inspection has identified loss 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.

Interest on non-performing assets is not recognized in the profit / loss account until received. Specific provision for non-performing assets is made based on Management's assessment of their degree of impairment subject to the minimum provisioning level prescribed by NRB.

Table 3

*Amount of NPAs (Both Gross and Net) Rs. In '000*

S. No.	Particulars	Gross NPA (Rs.)	Loan-Loss Provision (Rs.)	Net NPA (Rs.)
a.	Restructured/Reschedule Loan	158,959	19,870	139,089
b.	Substandard	504,772	126,193	378,579
c.	Doubtful	338,440	169,220	169,220
d.	Loss	1,352,074	1,352,074	-
<b>e.</b>	<b>Total</b>	<b>2,354,245</b>	<b>1,667,357</b>	<b>686,888</b>

*(Source: Basel III, 2022, NBL)*

## 2.3 Empirical review

### 2.3.1 Articles on International Context

Kryzanowski, Liu and Zhang (2023) examined on effect of COVID-19 on non-performing loans in China. It is examine the resilience of Chinese banks during the COVID-19 pandemic by investigating non-performing loan (NPL) ratios. It was find that despite the reduction in the growth rate of total bank lending, bank NPL ratios significantly increase during the COVID-19 crisis. Banks with high-quality capital are more effective in controlling their NPL ratios during the Crisis. Big Five banks, state-owned banks and domestic banks have lower NPL ratios than their counterparts during the Crisis. Unlike previous macro-economic and financial crises, COVID-19 is a public health shock that has had a major impact on most national economies. Using Chinese data, we find that the NPL ratios of Chinese banks increase when COVID cases rise. Banks with high equity ratios and high Tier 1 capital ratios significantly lower NPL ratios during the COVID crisis. The NPL ratios are significantly lower for Big Five versus non-Big five domestic banks, for domestic versus foreign banks, and for state-owned

domestic versus non-state-owned domestic banks. The findings have important implications for both banks and their regulatory authorities seeking guidance on the nature and diffusion of any negative impact on the NPL ratios of banks during an unprecedented health crisis. The results regarding equity ratio and Tier 1 capital ratio versus total regulatory capital ratio suggest the importance for policy makers and practitioners to distinguish between high-quality capital and low-quality capital. The results of ownership indicate the vulnerability of foreign banks and non-state-owned banks when facing a negative shock. This research makes a significant contribution to the growing literature on COVID-19.

Saliba, Farmanesh and Athari (2023) explained on does country risk impact the banking sectors' non-performing loans? Evidence from BRICS emerging economies. This study aims to fill the gap in the literature by specifically investigating the impact of country risk on the credit risk of the banking sectors operating in Brazil, Russia, India, China, and South Africa (BRICS), emerging countries. More specifically, we explore whether the country-specific risks, namely financial, economic, and political risks significantly impact the BRICS banking sectors' non-performing loans and also probe which risk has the most outstanding effect on credit risk. To do so, we perform panel data analysis using the quintile estimation approach covering the period 2004–2020. The empirical results reveal that the country risk significantly leads to increasing the banking sector's credit risk and this effect is prominent in the banking sector of countries with a higher degree of non-performing loans. Furthermore, the results underscore that an emerging country's political, economic, and financial instabilities are strongly associated with increasing the banking sector's credit risk and a rise in political risk in particular has the most positive prominent impact on the banking sector of countries with a higher degree of non-performing loans. Moreover, the results suggest that, in addition to the banking sector specific determinants, credit risk is significantly impacted by the financial market development, lending interest rate, and global risk. The results are robust and have significant policy suggestions for many policymakers, bank executives, researchers and analysts.

Kiran and Jones (2022) explained on effect of non-performing assets on the profitability of banks, as elective study. Nonperforming asset is the key term for the banking corporations. Non Performing Assets show the efficiency of the performance of the banks. Non Performing Assets is the amount which is not received by the bank in return of loans disbursed. The amount of Non Performing Assets affects not only the banking industry but the total financial system and there by the economy of the country. Thus a selective study has been done on public sector banks in India to evaluate the effect of Non Performing Assets on the profitability of banks. SBI and 5 nationalized banks were selected for the study and the relation between their gross Non Performing Assets and net profit was measured. The result shows that except for SBI all the other banks exhibit a negative correlation between their gross Non Performing Assets and net profits. But for SBI the net profit is not at all affected by Gross Non Performing Assets and it is in continuous profits only.

Naaz (2022) examined the effect of non-performing assets on the profitability of the public sector banks. After the first phase of economic liberalization, the Indian banking industry underwent a significant change, and the role of credit management became widely recognized. The banks have become more cautious and careful when lending money to borrowers because of the rising number of non-performing assets. This study makes an effort to comprehend the reasons for an asset to become a non-performing asset (NPA) and various corrective steps that can be taken to reduce the amount of NPA in banks. The purpose of this study is to analyze the effect of nonperforming assets (NPAs) on the profitability of public sector banks (PSUs). Non-performing assets (NPAs) are the most pressing issue that the banks face today, and they are not only a liability for the banks but a challenge for the entire financial system. Rising non-performing assets (NPAs) have an impact on operating performance; which eventually has an impact on the bank's profitability, liquidity and solvency. The rising number of non-performing assets (NPAs) puts a strain on fund recycling and limits banks' ability to lend further, resulting in lower interest income. NPAs must be reduced and regulated in order for banks to improve their performance and profitability. This study attempts to determine the relationship between NPAs and bank's profitability, taking into account major public sector banks that are dealing with the mounting NPAs. With the aid of the RBI, banks are

now taking proactive steps to manage non-performing assets. To boost bank profitability, the level of NPA must fall, and banks must take various steps to achieve this.

Gaur and Mohopatra (2021) explained the Non-performing Assets and Profitability: Case of Indian Banking Sector. At present, the Indian banking sector is facing an arduous time in the form of an increasing trend in non-performing assets (NPAs), which is testing its strength and resilience. The present study aims to explore the NPA–profitability relationship for the Indian banking sector, so as to determine the gravity of the impact that NPAs have on bank profitability. Further, other bank-specific, industry-specific and macroeconomic factors impacting banking profits have been taken under consideration. A balanced panel data set comprising 37 scheduled commercial banks of India over a time frame of 14 years (2006–2019) has been used for the purpose of required analysis. Conclusions have been drawn employing fixed effect and random effect panel regression models. Due to the presence of heteroske causticity, results for robust standard error have been reported. A highly negative correlation exists between NPA and the two profitability measures return on assets (ROA) and return on equity (ROE). The results of this study have established NPA as the major detractor of banking industry’s profits because NPA carries the most negative regression coefficient which is highly significant. It implies that declining credit quality hampers banks’ performance and leads to their collapse.

Sharma, Kothari and Rathore (2020) analyzed the profitability and non-performing asset of selected Indian public and private sector banks. It is analyze the improving the efficiency and profitability. To analyze the NPA affect the operational efficiency. The research methods used in the analysis of the data is the descriptive statistics, graphical presentation, the correlation between two variables and then a statistical t-test is applied to find out the significance of the correlation between two variables. The mounting NPAs put stress on recycling of funds and minimize the ability of banks for lending more and thus results in lesser interest income. For improving the efficiency and profitability of banks, NPA needs to be minimized and controlled. NPA is not only increasing in Public sector banks but also in the Private sector banks as well. In this study an effort has been made to know the co-relation between NPAs and Profitability of banks for which major Public and Private sector banks have been considered who are facing the problem of

mounting NPAs. The present study is a causal analysis in which a relationship between the Gross NPA and Net Profit of a bank is established. The sample consists of eight Public sector banks- State Bank of India, United Bank of India, Central Bank of India, Punjab and Sind Bank, Punjab National Bank, Indian Overseas Bank, IDBI Bank, Bank of Baroda and three Private sector banks-ICICI Bank, Axis Bank and Dhanlaxmi Bank. The analysis is done on the basis of secondary data for the period of 13 years from the financial year 2006-2019.

Nachimuthu and Veni (2020) analyzed the impact of non-performing assets on the profitability in Indian scheduled commercial banks. To measure the impact of NPAs on the profitability of Indian scheduled commercial banks for the period of ten years. The study discusses the impact of NPA on the profitability in India scheduled commercial banks for the past ten years from 2007-2008 to 2016-2017. The ratio analysis, regression analysis, tests. Banks are considered as the nerve-centers of economics and finance of any nation and the barometer of its economic prospective. Since the banks have stupendous investment potential, they can make a significant contribution in eliminating poverty and problem of unemployment. It can bring about a progressive reduction in inter-regional/ state, inter-sect oral and inter-personal disparities in India. The banking sector is facing the problem of rising NPAs at present. The purpose of the study is to measure the impact of NPAs on the profitability of Indian scheduled commercial banks for the period of ten years.

Gaur and Mohapatra (2020) analyzed the non-performing assets and profitability: case of Indian banking sector. It is explore the NPA–profitability relationship for the Indian banking sector. A balanced panel data set comprising 37 scheduled commercial banks of India over a time frame of 14 years (2005–2018) has been used for the purpose of required analysis. Conclusions have been drawn employing fixed effect and random effect panel regression models. The Indian banking sector is facing an arduous time in the form of an increasing trend in non-performing assets (NPAs), which is testing its strength and resilience. The present study aims to explore the NPA–profitability relationship for the Indian banking sector, so as to determine the gravity of the impact that NPAs have on bank profitability. Further, other bank-specific, industry-specific and macroeconomic factors impacting banking profits have been taken under consideration.

William and Hegan (2019) analyzed the bank non-performing assets. Only demand variables affect corporate credit for a broad set of firms. Balance sheet weakness reduced credit only for a narrow subset of indebted firms in a difference-in-difference type analysis. Even so, sales remained the dominant variable. From the bank panel, the asset quality review (AQR) did have a strong negative effect on advances but gross NPAs did not. While high interest rates and low growth raised NPAs, so did past credit. Low demand not only reduced credit, it also increased NPAs. That the capital adequacy ratio (CAR) significantly reduces NPAs points to the productivity of fund infusion. When other determinants are controlled, bank ownership does not affect NPA ratios, again supporting external shocks as causal. The results suggest that apart from structural reform to clean balance sheets, recovery of demand is necessary for revival of credit growth. That the capital adequacy ratio (CAR) significantly reduces NPAs points to the productivity of fund infusion. When other determinants are controlled, bank ownership does not affect NPA ratios, again supporting external shocks as causal. The results suggest that apart from structural reform to clean balance sheets, recovery of demand is necessary for revival of credit growth. Results for robust standard error have been reported. A highly negative correlation exists between NPA and the two profitability measures return on assets (ROA) and return on equity (ROE).

Banu and Vepa (2018) analyzed the impact of non-performing asset on profitability and efficiency of banking sector in India. It is analyze the adverse effect of non-performing assets on the performance and profitability of the banking sector. The t-test is executed to test the hypothesis. It is observed that there exists an imperative inverse relationship between the non-performing asset and the return on asset and return on equity across all banking sectors. The sound fundamentals of banking are required to be met for its growth. The standard assets are turning into non-performing assets at an alarming rate, with a steep rise in sub-standard, doubtful and loss assets categories. The high rising levels of non-performing assets have brought to light the need to manage and keep them well under control. The major challenge lies in the assessment of credit risk for disbursement of loans and advances to corporate and individuals. It seeks to analyze the compounded growth of asset classification as well as the impact of Non-Performing Assets on the profitability proxies, namely, return on assets (ROA) and return on equity

(ROE). It identified a high-level rising trend over a ten-year period from 2008-2017 across the public sector, private sector, foreign and all scheduled commercial banks.

Bhardwaj and Chaudhary (2018) analyzed the non-performing assets of commercial banks and its recovery in India. This study was to examine the status of Non Performing Assets of Indian Scheduled Commercial Banks in India, the objectives of the study the impact of NPAs on Banks. It is know the recovery of NPAS through various channels. It makes appropriate suggestions to avoid future NPAs and to manage existing NPAs in Banks. The study is based on secondary data. The paper discusses the conceptual framework of NPA and it also highlights the trends, status and impact of NPA on scheduled commercial banks during the period of 10 years i.e. from 2004 to 2014. Trend and Progress of Banking in India for various years, websites and a book on banking has been referred during the study. The NPAs growth has a direct impact on profitability of banks. Non- performing assets are one of the major concerns for scheduled commercial banks in India. It has been taken to solve the problem of old NPAs in the balance sheets of the banks. It continues to be expressed from every corner that there has rarely been any systematic evaluation of the best way of tackling the problem. There seems to be no unanimity in the proper policies to be followed in resolving this problem. NPAs reflect the performance of banks. 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. NPAs affect the liquidity and profitability, in addition to posing threat on quality of asset and survival of banks. The problem of NPAs is not only affecting the banks but also the whole economy.

Suvitha and Gayathri (2018) examined the non-performing assets of Indian commercial banks: a critical evaluation. It is find out the sector which has higher NPAs (Public/Private sector banks), causes and control measures for rising NPAs. Financial and Statistical tools are used. There is secondary data were collected. Majority of the articles deals with the level and controlling measures of NPAs. Out of the total articles we analyzed, we find out that the level of NPAs is higher in Public Sector Banks comparing with Public Sector Banks. 3% of articles dealing with the study of causes of Non-Performing Assets (NPAs), 14% of article focused on the controlling measures of NPAs, 12% of articles deals with the study of both analysis of level and causes of NPAs in

commercial banks, 28% of articles deals with the focused on both cause and control measures of NPAs, 36% of articles deals with the study of both level and control measures of NPAs, 7% of articles deals with all the three components like ( level, cause and control). The root of the issue of rising NPAs lies in the nature of overseeing credit chance by the banks and willful defaulters.

Watt and Williams (2018) analyzed the leveraging technologies to redefine business. The main reason for such an initiative is the mounting issues of non-performing assets (NPAs). A loan asset is considered as non-performing asset when it ceases to generate income for the bank. From 31st March, 2004 NPA was defined as a credit facility in respect of which the interest or installation of principal has remained past due for a specified period of time which was four quarters. NPA in public sector banks is increasing year after year and thus this is becoming a debatable topic. So considering this angled paper is undertaken to analyze the reasons for advances becoming NPA in Public sector banks and intends to give suitable suggestions to overcome NPA. The results of this study have established NPA as the major detractor of banking industry's profits because NPA carries the most negative regression coefficient which is highly significant. It implies that declining credit quality hampers banks' performance and leads to their collapse.

Bhatia and Dahiya (2016) examined the nonperforming assets (NPA's) of public sector banks in India-an intersectional comparison. This studies the trends and position of NPAs of public sector banks in priority and non priority sector, examine the steps taken by RBI for recovery of NPA accounts. The methodology for this research is designed considering the above facts. Features of both descriptive and analytical research designs. The method typically used is secondary data analyzed in a quantitative manner. Statistics on NPA of public sector banks in agriculture sector during the period (from 2009-10 to 2013-14) were utilized in order to study the position and trends in movement of NPA, its relationship with bank's performance, and efficiency of management of NPA. This role is performed by banks by extending credit to several deficit sectors for their expansion and development. This process of credit creation leads to credit risk which in turn leads Non-Performing Assets (NPA's). While the prime function of banks is to lend funds to various sectors such as agriculture, industry, personal loans, etc., but in recent times the banks

have become very vigilant in extending loans. With the introduction of income recognition, asset classification and provisioning norms in the banking sector, managing NPAs has emerged as one of the major challenges facing public sector banks in India. In today's competitive scenario banks are judged not only on the basis of number of branches and volume of deposits but also on quality of assets. Non-performing assets form a major part of Banks portfolio and hence are an inexorable burden on the banking industry.

Mohammed and Srivenkataramana (2013) examined the non-performing assets of Indian commercial banks: A Critical Evaluation. To study the performance of commercial banks in India to examine the asset quality for commercial banks in India, find out the health of various categories of loan assets that contributes of NPA and it is suggest some measures for NPA management. The analysis is done on the basis of secondary data The NPA (both gross and net) of public sector banks shows a marked rising trend during the 5 year period 2008-13. Clearly, this is an undesirable and disturbing aspect. The private sector banks particularly those which are now have the NPA often less than one percent, which points to their efficiency of NPA management. On pooling the figures, the GPA for all scheduled banks (figure 2) shows a steadily rising trend with an exception for the year 2010-11; when it was marginally lower than that in the previous year. The group-wise sub-standard loan assets of the banks show an upward trend for public sector banks. The trend is reverse for the private sector banks, a feature in keeping with the contrasting positions regarding NPAs. The group-wise doubtful loan assets have recorded an increasing trend in the case of public sector banks as a group.

Table 4

*Summary of Empirical Review*

<b>Year and Author</b>	<b>Topic</b>	<b>Objectives</b>	<b>Methodology</b>	<b>Findings</b>
Kryzanowski, Liu and Zhang (2023)	Effect of COVID-19 on non-performing loans in China.	To examine the resilience of Chinese banks during the COVID-19 pandemic by investigating non-performing loan (NPL) ratios	Regression and correlation analysis has been applied. There was descriptive and casual research design used.	It was found that despite the reduction in the growth rate of total bank lending, bank NPL ratios significantly increase during the COVID-19 crisis. Banks with high-quality capital are more effective in controlling their NPL ratios during the

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Saliba, Farmanesh and Athari (2023)	Does country risk impact the banking sectors' non-performing loans? Evidence from BRICS emerging economies.	To examine impact of country risk on the credit risk of the banking sectors.	The methods of the study perform panel data analysis using the quantile estimation approach covering the period 2004–2020.	Crisis. The results underscore that an emerging country's political, economic, and financial instabilities are strongly associated with increasing the banking sector's credit risk and a rise in political risk in particular has the most positive prominent impact on the banking sector of countries with a higher degree of non-performing loans. Credit risk is significantly impacted by the financial market development, lending interest rate, and global risk. The results are robust and have significant policy suggestions for many policymakers, bank executives, researchers and analysts.
Kiran and Jones (2022)	Effect of non-performing assets on the profitability of banks, a selective study	To evaluate the effect of Non Performing Assets on the profitability of banks	SBI and five nationalized banks were selected for the study and the relation between their gross Non Performing Assets and net profit was measured through regression and correlation analysis.	The result shows that except for SBI all the other banks exhibit a negative correlation between their gross Non Performing Assets and net profits. But for SBI the net profit is not at all affected by Gross Non Performing Assets and it is in continuous profits only.
Naaz (2022)	Effect of the Non-Performing Assets on the Profitability of the Public Sector Banks.	To analyze the effect of nonperforming assets (NPAs) on the profitability of public sector banks (PSUs).	Regression and correlation analysis has been applied. There was descriptive and casual research design used.	The rising number of non-performing assets (NPAs) puts a strain on fund recycling and limits banks' ability to lend further, resulting in lower interest income. NPAs must be reduced and regulated in order for banks to improve their performance and profitability.
Gaur and Mohopatra (2021).	Non-performing Assets and Profitability: Case of Indian Banking Sector.	To explore the NPA–profitability relationship for the Indian banking sector,	A balanced panel data set comprising 37 scheduled commercial banks of India over a time frame of 14 years (2005–2018) has been used for the purpose of required analysis.	A highly negative correlation exists between NPA and the two profitability measures return on assets (ROA) and return on equity (ROE). The results of this study have established NPA as the major detractor of banking industry's profits because

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Sharma, Kothari and Rathore (2020)	Causal analysis of profitability and non-performing asset of selected Indian public and private sector banks.	To analyze the improving the efficiency and profitability, analyze the NPA affect the operational efficiency.	Random effect panel regression models.  The research methods used in the analysis of the data is the descriptive statistics, graphical presentation, the correlation between two variables and then a statistical t-test is applied	NPA carries the most negative regression coefficient which is highly significant.  The efficiency and profitability of banks, NPA needs to be minimized and controlled. NPA is not only increasing in Public sector banks but also in the Private sector banks as well. In this study an effort has been made to know the correlation between NPAs and Profitability of banks for which major Public and Private sector banks have been considered who are facing the problem of mounting NPAs.
Nachimuthu and Veni (2020)	Impact of non-performing assets on the profitability in Indian scheduled commercial banks.	To measure the impact of NPAs on the profitability of Indian scheduled commercial banks for the period of ten years.	The study discusses the impact of NPA on the profitability in India scheduled commercial banks for the past ten years from 2007-2008 to 2016-2017. The ratio analysis, regression analysis, tests.	Banks are considered as the nerve-centres of economics and finance of any nation and the barometer of its economic prospective. Since the banks have stupendous investment potential, they can make a significant contribution in eliminating poverty and problem of unemployment. It can bring about a progressive reduction in inter-regional/ state, inter-sectoral and inter-personal disparities in India. The banking sector is facing the problem of rising NPAs at present. The purpose of the study is to measure the impact of NPAs on the profitability of Indian scheduled commercial banks for the period of ten years.
Gaur and Mohapatra (2020)	Non-performing Assets and Profitability: Case of Indian Banking Sector.	To explore the NPA–profitability relationship for the Indian banking sector.	A balanced panel data set comprising 37 scheduled commercial banks of India over a time frame of 14 years (2005–2018) has been used for the purpose of required analysis. Conclusions have been drawn	The Indian banking sector is facing an arduous time in the form of an increasing trend in non-performing assets (NPAs), which is testing its strength and resilience. The present study aims to explore the NPA–profitability relationship for the Indian banking sector, so as to determine the gravity of the impact that

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			employing fixed effect and random effect panel regression models.	NPAs have on bank profitability. Further, other bank-specific, industry-specific and macroeconomic factors impacting banking profits have been taken under consideration.
William and Hegan (2019)	Demand or Bank Non-performing Assets	To analyze the impact of nonperforming assets on profitability.	There were descriptive and casual research designs used. Regression analysis, co-relations and hypothesis tests were used.	Due to the presence of heteroskedasticity, results for robust standard error have been reported. A highly negative correlation exists between NPA and the two profitability measures return on assets (ROA) and return on equity (ROE).
Banu and Vepa (2018)	Impact of Non-Performing Asset on Profitability and Efficiency of Banking Sector in India	to analyze the adverse effect of non-performing assets on the performance and profitability of the banking sector	The t-test is executed to test the hypothesis. It is observed that there exists an imperative inverse relationship between the non-performing asset and the return on asset and return on equity across all banking sectors.	The sound fundamentals of banking are required to be met for its growth. The standard assets are turning into non-performing assets at an alarming rate, with a steep rise in sub-standard, doubtful and loss assets categories. The high rising levels of non-performing assets have brought to light the need to manage and keep them well under control. The major challenge lies in the assessment of credit risk for disbursement of loans and advances to corporate and individuals. It seeks to analyze the compounded growth of asset classification as well as the impact of Non-Performing Assets on the profitability proxies, namely, return on assets (ROA) and return on equity (ROE). It identified a high-level rising trend over a ten-year period from 2008-2017 across the public sector, private sector, foreign and all scheduled commercial banks.
Bhardwaj and Chaudhary (2018)	A Study of Non-Performing Assets of Commercial	To study the status of Non Performing Assets of Indian Scheduled	The study is based on secondary data. The paper discusses the conceptual framework of NPA	The NPAs growth has a direct impact on profitability of banks. Non-performing assets are one of the major concerns for

	Banks and its Recovery in India.	Commercial Banks in India To study the impact of NPAs on Banks. To know the recovery of NPAS through various channels. To make appropriate suggestions to avoid future NPAs and to manage existing NPAs in Banks.	and it also highlights the trends, status and impact of NPA on scheduled commercial banks during the period of 14 years i.e. from 2000 to 2014. Trend and Progress of Banking in India for various years, websites and a book on banking has been referred during the study	scheduled commercial banks in India. The recommendations of Narasimham committee and Verma committee, some steps have been taken to solve the problem of old NPAs in the balance sheets of the banks. It continues to be expressed from every corner that there has rarely been any systematic evaluation of the best way of tackling the problem. There seems to be no unanimity in the proper policies to be followed in resolving this problem. NPAs reflect the performance of banks. 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. NPAs affect the liquidity and profitability, in addition to posing threat on quality of asset and survival of banks. The problem of NPAs is not only affecting the banks but also the whole economy.
Suvitha and Gayathri (2018)	Non-Performing Assets of Indian Commercial Banks: A Critical Evaluation.	To find out the sector which has higher NPAs (Public/Private sector banks), causes and control measures for rising NPAs.	Financial and Statistical tools are used. There is secondary data were collected.	Majority of the articles deals with the level and controlling measures of NPAs. Out of the total articles we analyzed, we find out that the level of NPAs is higher in Public Sector Banks comparing with Public Sector Banks. 3% of articles dealing with the study of causes of Non-Performing Assets (NPAs), 14% of article focused on the controlling measures of NPAs, 12% of articles deals with the study of both analysis of level and causes of NPAs in commercial banks, 28% of articles deals with the focused on both cause and control measures of NPAs, 36% of articles

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Watt and Williams (2018)	Leveraging Technologies to Redefine Business	To analyze the impact of non-performing assets (NPAs) on profitability.	Financial and Statistical tools are used. There is secondary data were collected.	deals with the study of both level and control measures of NPAs, 7% of articles deals with all the three components like (level, cause and control). The root of the issue of rising NPAs lies in the nature of overseeing credit chance by the banks and willful defaulters. The results of this study have established NPA as the major detractor of banking industry's profits because NPA carries the most negative regression coefficient which is highly significant. It implies that declining credit quality hampers banks' performance and leads to their collapse
Bhatia and Dahiya (2016)	A Study of Non Performing Assets (NPA's) of Public Sector Banks in Indian Intersectional Comparison	To study the trends and position of NPAs of public sector banks in priority and non priority sector. To study sector wise projections GNPA's in the upcoming years. To identify the reasons for occurrence of NPAs in public sector banks. To examine the steps taken by RBI for recovery of NPA accounts. To suggest measures for efficient management of NPAs in public sector banks.	The methodology for this research is designed considering the above facets. Features of both descriptive and analytical research designs. The method typically used is secondary data analyzed in a quantitative manner. Statistics on NPA of public sector banks in agriculture sector during the period (from 2009-10 to 2013-14) were utilized in order to study the position and trends in movement of NPA, its relationship with bank's performance, and efficiency of management of NPA.	This role is performed by banks by extending credit to several deficit sectors for their expansion and development. This process of credit creation leads to credit risk which in turn leads Non-Performing Assets (NPA's). While the prime function of banks is to lend funds to various sectors such as agriculture, industry, personal loans, etc., but in recent times the banks have become very vigilant in extending loans. With the introduction of income recognition, asset classification and provisioning norms in the banking sector, managing NPAs has emerged as one of the major challenges facing public sector banks in India. In today's competitive scenario banks are judged not only on the basis of number of branches and volume of deposits but also on quality of assets. Non-performing assets form a major part of Banks portfolio and hence are an

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Mohammed, and Srivenkataramana, (2013).	Non-Performing Assets of Indian Commercial Banks: A Critical Evaluation.	To study the performance of commercial banks in India To examine the asset quality for commercial banks in India To find out the health of various categories of loan assets that contributes of NPA To suggest some measures for NPA management.	The analysis is done on the basis of secondary data The NPA (both gross and net) of public sector banks shows a marked rising trend during the 5 year period 2008-13. Clearly, this is an undesirable and disturbing aspect.	inexorable burden on the banking industry. The private sector banks particularly those which are now have the NPA often less than one percent, which points to their efficiency of NPA management. On pooling the figures, the GPA for all scheduled banks (figure 2) shows a steadily rising trend with an exception for the year 2010-11; when it was marginally lower than that in the previous year. The group-wise sub-standard loan assets of the banks show an upward trend for public sector banks. The trend is reverse for the private sector banks, a feature in keeping with the contrasting positions regarding NPAs. The group-wise doubtful loan assets have recorded an increasing trend in the case of public sector banks as a group.
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### 2.3.2 Review Nepalese Context

Pradhan (2022) examined the growth of NPA is kept in control; it has the potential to cause systematic crisis. He has mentioned that a dream of globalization led to huge investment, which unfortunately could not be utilized properly due to hesitant liberalization policies. Large corporate bodies misused the credits, delayed payments, and contributed indirectly for enhancing NPA ratio. It argues that lack of vision in appraisal of proposal while loan sanctioning, reviewing or enhancing credit limits, absence of risk management policy of financing, concentration of credit in few group of parties and sector. The further pointed out that most crucial reason for the increase in the NPA is the shabby and defaulter friendly legal system.

Gnawali (2021) analyzed the non-performing asset and its effects on profitability of Nepalese commercial banks. To assess the relationship between non-performing loans and firm's financial performance in Nepalese commercial banks. It examines the impact of non-performing loan to total loan, total loan to total deposit, capital adequacy ratio,

loan loss provision, firm size on return on assets and return on equity. This study is based on the secondary data that were collected from 13 banks of Nepal including Government Bank and non-government banks. The main sources of data are Banking and Financial Statistics, Bank Supervision Report published by Nepal Rastra Bank and annual reports of the banks. The regression models were estimated to test the significance and impact of non-performing loan on profitability on Nepalese commercial banks. The credit function of banks enhances the ability of investors to exploit desired profitable ventures. Credit risk plays an important role on banks' profitability since a large chunk of banks' revenue accrues from loans from which interest is derived. The issue of non-performing loans (NPL) has gained increasing attentions in the last few decades. The immediate consequence of large amount of NPLs in the banking system is bank failure.

Pokharel (2020) conducted a research impact of non-performing assets on profitability in Nepalese Commercial Banks. The degree of non-performing assets (NPA) best demonstrates the adequacy of the financial part of a nation. The amount of non-performing assets affects not only the banking industry but also the total financial system and the economy of the country. The motivation behind this investigation is a push to evaluate the effect of Non Performing Assets on the profitability of Nepalese commercial banks. Further, the examination is made to investigate the impact of various gatherings of banks. In particular, Government owned bank and private area banks on the financial business in such manner. Five out of twenty four individual private division banks and one out of three, government claimed banks have been considered with the end goal of the investigation for as sample. The investigation depends on optional information gathered from the Nepal Rastra Bank's site just as yearly report of concern banks. To beat the examination objective clear measurements are utilized to portray the essential highlights of the information in the investigation, and inferential insights have been utilized to get to the effect of non-performing assets on profitability of the banks. Besides, credit deposit ratio, employee expenses over all out operating expenses and gross non-performing assets have been taken in to thought as free factor and Return on assets and earnings per share. The appraisal of private part banks uncovers that the development pace of NPAs is low when contrasted with the administration claimed Agriculture Development Bank. The administration claimed bank has neglected to deal

with the issue of unsecured loan adequately because of which the Development in such loans has been marvelously high. Besides, the effect of NPA on profitability has been done as positive in relationship.

Adhikari (2020) analyzed the non performance be justifiable in favor of the businessman. He says businessmen are not only helpful for the country but also the major taxpayer to the government. Recently Nepal government has introduced the policy to seize the passport of the international defaulter but it is difficult to identify the intentional defaulter. Due to the years of crises in the country, they are the most affected group and if the salutation is not considered capital, may fight to the neighboring country, which is ultimately loss for the nation.

Shrestha (2019) analyzed the non-performing loan and loan loss provisioning of commercial banks, i.e. Nepal Bank Ltd, NABIL Bank ltd. and Standard Chartered Bank Nepal ltd. The main objectives of the study is to find out the proportion of non-performing loan, factors lending to accumulation of non-performing loan, relationship between loan and loan loss provision and impact of loan loss provision on profitability of the commercial bank. Hence all the three banks are recommended to be more cautious and realistic while granting loans and advances. The banks to initiate training and development program for the employees to make them efficient and professional in credit appraisal, monitoring and proper risk management. The regulation regarding loan classification and provisioning is stringent and tighter than the previous. Hence, NRB should not only impose directives but also create supportive environment for the commercial banks. NRB is recommended to strength credit information bureau (CIB) so that banks can get required credit information about the borrowers on time. This help in reducing NPL.

Shrestha (2018) explained the management of bad loan is high Former second vice president; the management of bad loan is high-prioritized exercised into country for past 10 years. However, the remarkable achievements have not been signed yet. Handover of management of two big government banks is an example of financial sector reform action in the country. It has been almost 4 years of handover of management of two big government banks to the foreign expert but the achievement is not satisfactory. This

research identifies not only government banks but private sector banks are also slowly affected but the non-performing loan. Therefore, a strong focus should be made by the management to reduce the level of NPL. The reported nonperforming loan consists of loan of some such business houses whose business has been suspended a decade ago but the bank is carrying the loan as non-performing loan, which ultimately going to increase the NPL of such banks.

Bhattarai (2017) explained the implementation of directives issued by Nepal Rastra bank: A comparative study of Nepal SBI Bank Ltd. and Nepal Bangladesh Ltd. The objectives of the study were analyzed the various aspects of NRB directives such as capital adequacy and loan classification and loan provisioning. The findings of the study were the loan classification helps to the banks to monitor the quality of their loan and advances and to take step towards the remedial action in the credit quality of their loan and advances. It concludes that the new provision of the banks will have its provision amount increasing in coming years and subsequently profitability of the banks will come down. However, the true picture of the quality of the assets will be painted in the coming year. The banks should be very careful while analyzing the paying capacity of its credit clients. With longer period of past due, the bank will end up increasing its provisions, which will keep the bottom line low, if the bank is not careful.

Khadka (2016) conducted the non-performing assets of Nepalese commercial banks, the objectives to study and examine the level of NPAs in total assets, total deposits and total lending of commercial banks of the banking industry of Nepal. The sample banks are Nepal SBI Bank Limited, Nepal Investment Bank Limited, Nepal Bangladesh Bank Limited, Bank of Kathmandu Limited, Nabil Bank Limited. It is found that the level of NPA of Nepal Bangladesh Bank Limited seemed greater than all of the other banks under his study. Similarly, Nepal SBI Bank and Bank of Kathmandu stand at second and third position respectively. The position of Nabil Bank Limited seemed to be quite satisfactory because, the bank has been reducing its NPA every year. NPA of Nepal Investment Bank reducing it at minimum than that of all the other banks. Despite of the outstanding success in managing the NPA the loan loss provision made by Nepal Investment Bank is not considerable. It meant the loan loss provision of Nepal Investment Bank is very less than the requirement.

Suneja (2015) explained the causes of NPA that the risk connected with lending to business depends on an enormous number of factors. The cause of NPA that the risk connected with lending to business depends on an enormous number of factors. For any particular type of business, the risk failure is affected. The state of economy trend in demand for the project or service provided competition from any other suppliers, financial resources are too limited and management skills are lacking. Reiterating the difficulties, that says probably the most difficult decision facing a banker is to determine when it becomes necessary to recall a loan and to begin the process of liquidating the security. Further she suggests that if a customer fails to make repayment on the due date, the bank has to consider what steps need be taken to recover the debt.

Ghimire (2014) conducted the non-performing assets of commercial banks; the main objectives are evaluating the impact of NPA on the profitability of the commercial banks. It has studied that the internal and the external factors that affect the non-performing assets to increase from the loan and advances. The internal factors that influence the effective management of the NPA and its increment. Similarly, weak legal provision and credit concentration are also found as the least preferred factors in turning good loans into bad loans. Some factors such as lack of portfolio analysis, not having effective credit policy and shortfall on security were identified as having average effect on NPA growth. It has been concluded in the study that Nepalese Commercial Banks gave must priority to trade sector for lending its resources, at the same time it is found that service sectors are not being given that much emphasis. It is recommend to the sample banks, Nepal Bangladesh Bank Ltd. Nepal SBI Bank Ltd and Bank of Kathmandu Ltd. as on different headings, subject matter such as financial strength, personal integrity and security, monitoring and control system, avoidance of credit concentration, strong legal system, assets management company, avoidance of undue pressure, etc.

## **2.4 Research Gap**

In view of past empirical studies, it has found that increasing Non-performing assets is one of the major challenges faced by Nepalese commercial banks in the present context. Some researchers were done in which matter relating to loan loss provision for Non-performing assets or not. The degree of non-performing assets (NPAs) best demonstrates

the adequacy of the financial part of a nation. The amount of non-performing assets affects not only the banking industry but also the total financial system and the economy of the country. The motivation behind this investigation is a push to evaluate the effect of Non Performing Assets on the profitability of Nepalese commercial banks. The study cover the period 2013 July 16 to 2018 July 16. Further, the examination is made to investigate the impact of various gatherings of banks. In particular, Government owned bank and private area banks on the financial business in such manner. Five out of twenty four individual private division banks and one out of three, government claimed banks have been considered with the end goal of the investigation for as sample. The investigation depends on optional information gathered from the Nepal Rastra Bank's site just as yearly report of concern banks Hence, this thesis had attempted to fill this research gap by taking the reference, Everest Bank Limited, Himalayan bank, Standard Chartered Bank Nepal Limited and Everest Bank Limited. This research will be able to deliver some of the present issue, latest information and data relating to Non-performing assets.

The Return on Assets ratio of the HBL, KBL is being lower than the standard level 2 but SCBNL and is slightly higher than standard level. Hence, the management should take steps to properly utilize the assets. The above descriptive statistics as presented that the SCBNL and of weighted average interest spread became maximum. The Coefficient of variation point of views, SCBNL and seen more uniforms than HBL and KBL. The HBL and KBL profitability ratios found more haphazard than SCBNL and EBL. The sample banks are sufficient to meet the current obligation of the bank, which shows the sound profitability position. Similarly, Regression point of views, The return on assets and Non performing loan of sample banks seen positive trends to each other while, return on assets and Weighted average interest rate spread of sample banks seen negative trends. Comparatively, the HBL and KBL bank should make efforts to increase the earnings per share and profitability ratio for its further business growth and development to compare SCBNL and EBL. On studying the impact of non- performing Assets on the profitability of HBL, KBL, SCBNL and EBL for a period of ten years from 2013/014 to 2022/023, the study reveals that the profitability performances of sample banks are better.

## **CHAPTER- III**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

This study is based on analytical and descriptive research design. The descriptive writing focuses on clear descriptions of facts or things that have happened, while analytical writing provides additional analysis. This study analyses the non performing loan and loan loss provision maintained by commercial banks. In order to achieve the predetermined objectives of the study, secondary data have been used. The collected data are analyzed by using financial as well as statistical tools such as profitability ratios, arithmetic mean, standard deviation etc.

#### **3.2 Population and Sample**

Population refers to the entire group, people, events or things of interest that a researcher wishes to investigate. As this study is about loan classification and loan loss provisioning of commercial banks, all 20 commercial banks of Nepal are taken into accounts as population. Out of total population i.e. 20 banks, 4 commercial banks are selected as samples.

The following are the banks, taken as sample for the study.

- Himalayan Bank Limited
- Kumari Bank Limited
- Standard Chartered Bank Nepal Limited
- Everest Bank Limited

#### **3.3 Sources of Data**

The main sources of information are the concerned banks and their published documents, NRB and its published documents, experts' views, newspaper, and many others if possible. The major sources of data may be the secondary sources of data are the information received from the books, journals, newspapers, published reports etc. The major sources of secondary data are:

- Economic survey, Ministry of Finance

- Nepal Rastra Bank Directives
- Nepal Rastra Bank Samachar
- Annual General Reports of the concerned commercial banks.
- National and international newspaper, journals, magazines etc.
- NEPSE journals
- And many other books as far as possible.
- Different websites

### **3.4 Tools for Analysis**

Few statistical packages such as SPSS 20 version, Excel are used to process and analyze information. Secondary information collected from annual general reports of the sample banks was first tabulated in Excel spreadsheet and then analyzed using formula and of the same software. For these statistical tools such as correlation, analysis is done and in some cases, financial tools such as returns on assets have been made. Suitable tools such as descriptive statistics, mean, standard deviation, co-efficient of variation, regression and correlation analysis are done wherever necessary.

#### **3.4.1 Descriptive Statistics**

Financial tools are not only enough to analyze the relation between variables therefore statistical tools are also used to have better understanding and interpret the result. Statistical tools are the mathematical technique used to analyze and interpret the result. It is used to describe the relationship between variables and interpret the result. Following statistical tools have been used to facilitate the study.

- **Percentage**

A percentage is a number of hundredth parts of one number to another. It is simplest statistical tools used to interpret of phenomenon. Percentage is calculated as follows.

$$\text{Percentage (P)} = \frac{B}{A} \times 100$$

Where,

A= Base used to compare

B= given data to be compared with the base

- **Average**

Average is the simple and mostly used statistical tool to measure the central value. Average is a single figure, which describes the entire distribution. It is the best possible value of a group of variables that singly represents to whole group. In the statistical analysis the central value falls within the approximately middle value of the whole data. Among the several tools of measuring central value, the mean has been used in this analysis where and when necessary. Average is calculated as follows.

$$\text{Average (mean)} \quad \bar{X} = \frac{\sum X}{N}$$

- **Standard Deviation**

Standard deviation is the most popular and useful measure of dispersion. It indicates the range and size of deviation from the middle of mean. It measures the absolute dispersion. Higher the value of standard deviation, higher is the variability and vice-versa. Standard deviation is calculated as follows.

$$\text{Standard Deviation (S.D.)} = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

- **Coefficient of Variation (C.V.)**

The percentage measures of coefficient of standard deviation is called coefficient of variation. The less is the C.V the more is the uniformity and consistency and vice-versa. Standard deviation gives an absolute measure of dispersion. Hence, where the mean value of the variable is not equal it is not appropriate to compare two pairs of variables based in S.D. only. The coefficient of variation measures the relative measure of dispersion. It is the relative measurement of risk with return. It measures the risk per unit of return. It provides a more meaningful basis for comparison when the expected returns on two alternatives are not the same. The higher coefficient of variation, higher the risk, hence, capable to compare two variables independently in terms of their variability.

$$\text{Coefficient of Variation (C.V.)} = \frac{\text{Standard Deviation}}{\text{Mean}}$$

### 3.4.2 Correlation Analysis

Correlation analysis is the one of the inferential statistics, which is used to show the relationship among study variables. The result of Pearson correlation coefficient may be found in between +1 and -1. The result of correlation coefficient indicates the strength of the relationship between variables. In this study the correlation coefficient have been estimated among the study variable like ROA, NPLR and IRS etc.

### 3.4.3 Multiple Regression Analysis

The regression analysis is one of the inferential statistics, which is used to estimate the effect of one of more independent variable on a dependent variable. The model used in this study has been outline as follows:

$$ROA_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 IRS_{it} + \beta_3 LAR_{it} + \beta_4 CRR_{it} + \epsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 IRS_{it} + \beta_3 LAR_{it} + \beta_4 CRR_{it} + \epsilon_{it}$$

Where,

NPL = Non-performing loan defined as ratio of non- performing loan to total loan of firm.

IRS<sub>it</sub> = Interest Rate Spread of bank.

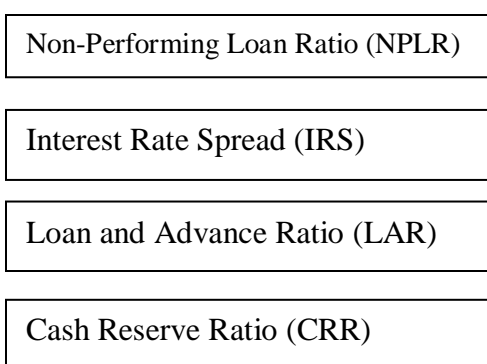
LAR<sub>it</sub> = Loan and Advance ratio.

CRR<sub>it</sub> = Interest Rate Spread of bank.

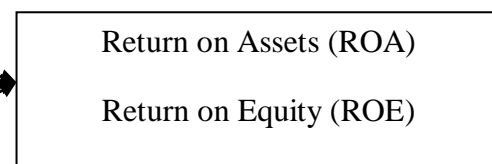
E<sub>it</sub> = Error

### 3.5 Conceptual Framework

#### Independent Variable



#### Dependent Variable



*Figure 1: Research Framework*

(Farmanesh & Athari, 2023)

### **3.6 Study Variable and Definition**

#### **A. Dependent Variable**

The dependent variable is what is being studied and measured in the experiment. It is what changes because of the changes to the independent variable.

##### **i. Return on Assets (ROA)**

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives a manager, investor, or analyst an idea as to how efficient a company's management is at using its assets to generate earnings. Return on assets is displayed as a percentage and it's calculated as:  $ROA = \text{Net Income} / \text{Total Assets}$

##### **ii. Return on Equity (ROE)**

Return on equity (ROE) is the measure of a company's net income divided by its shareholders' equity. ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The higher the ROE, the better a company is at converting its equity financing into profits. Return on equity is displayed as a percentage and it's calculated as:  $ROE = \text{Net Income} / \text{Shareholder's Equity}$

#### **B. Independent Variable**

The independent variable is the variable whose change isn't affected by any other variable in the experiment. Either the scientist has to change the independent variable herself or it changes on its own; nothing else in the experiment affects or changes it.

##### **i. Non-Performing Loan Ratio (NPLR)**

Banks depend on borrowers to maintain their scheduled loan repayments as a major source of revenue. When a borrower has not made regular payments for at least 90 days, the loan is considered a nonperforming loan, or NPL. The nonperforming loan ratio, better known as the NPL ratio, is the ratio of the amount of nonperforming loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The NPL ratio measures the effectiveness of a bank in receiving repayments on its loans.

**ii. Interest Rate Spread (IRS)**

A difference or spread between two related interest rates occurs in many types of business or finance transactions. As it relates to your business, a spread could be relevant if you are borrowing money or if your business involves lending or arranging for loans for your customers. As it relates to small business, a rate spread could be an expense or source of profit.

**iii. Loan and Advance Ratio (LAR)**

An amount that is in the form of debt given out by a financial organization to another firm or an individual in exchange for the future repayment of the same amount along with interest over a period. The terms of a loan are mutually agreed by each party involved in the transaction before any exchange of funds take place. The source of financing provided by the banks to the companies, to meet their short-term requirements. Contrasting to loans, advances are a credit facility. The terms of the advances are decided by the central bank and the bank lending the amount.

**iv. Cash Reserve Ratio (CRR)**

Cash reserve ratio (CRR) is the percentage of a bank's total deposit that it needs to maintain as liquid cash. This is an NRB requirement, and the cash reserve is kept with the NRB. A bank does not earn interest on this liquid cash maintained with the NRB and neither can it use this for investing and lending purposes.

## **CHAPTER-IV**

### **RESULT AND DISCUSSION**

This chapter analyzes the various financial indicators and study variables. Therefore, this chapter is based on the presentation and analysis of the secondary data, which help to conclude and draw some recommendations.

#### **4.1 Descriptive Statistics of Study Variables**

The relationship of Non Performing Loan, Interest Rate Spreads, Loan and Advance and Cash Reserve Ratio of banks with the main elements of Return on Assets and Non Performing Loan are determined separately to each of the sampled listed Banks in this section. For their analytical purpose, the ROA and ROE are assumed to be influenced with the fluctuation occurred. Hence, ROA and ROE are taken as dependent variable whereas NPL, IRS, LAR, CRR are taken as independent variable. The correlation analysis is performed to determine the relationship of Non Performing Loan, Interest Rate Spreads, Loan and Advance and Cash Reserve Ratio with ROA and ROE. To determine the effect of Non Performing Loan, Interest Rate Spreads, Loan and Advance and Cash Reserve Ratio of Banks on ROA and ROE, simple correlations as well as their coefficient of determination are calculated. For the test of hypothesis of multiple coefficient correlation are calculated. To determine the magnitude of the effects of the independent variables to the dependent variable, multiple regression analysis are made and the magnitude is identified after determining the regression equations. In addition to that, multiple correlation coefficient, multiple coefficient of determination are analysed during the correlation and regression analysis. In this study, descriptive statistics includes the information of return on assets, Return on equity, NPL, IRS, LAR and CRR of banks of three commercial banks, for the period of 2012/013 to 2021/022. With the help of descriptive analysis, the mean value, S.D. C.V. maximum, minimum of every sectors are computed.

Table 5  
*Descriptive Analysis*

<b>Variables</b>	<b>ROA</b>	<b>ROE</b>	<b>NPL</b>	<b>IRS</b>	<b>LAR</b>	<b>CRR</b>
Average (Mean)	1.6417	28.26	65.93	80.29	0.92	0.85
Std. Deviation	28.152	5.35	11.61	5.41	0.38	0.46
C.V.	17.148	42.12	12.30	6.23	0.32	0.49
Minimum	1.19	31.58	.81	61.68	36.80	45.20
Maximum	2.03	61.82	1.76	83.95	62.20	68.17

*Source: Annual report of selected banks*

Table 5 shows that the descriptive statistics depicts that, ROA show the considerable variability with a mean of 1.6417%. The standard deviation of 28.152% indicates significant dispersion around the mean, suggesting fluctuating performance over the study period. ROE averages at 28.26, with a relatively high standard deviation of 5.35. This indicates variability in equity returns across the observed period, with the coefficient of variation (42.12%) highlighting the dispersion relative to the mean. NPL averages 65.93, with a standard deviation of 11.61. The coefficient of variation (12.30%) indicates moderate variability around the mean, reflecting fluctuating levels of non-performing loans. IRS averages 80.29, with a standard deviation of 5.41. The coefficient of variation (6.23%) suggests relatively low variability around the mean, indicating stable interest rate spreads over the study period. LAR averages 0.92, with a standard deviation of 0.38. The coefficient of variation (0.32%) indicates low variability around the mean, suggesting a relatively stable lending ratio across the observed period. CRR averages 0.85, with a standard deviation of 0.46. The coefficient of variation (0.49%) indicates moderate variability around the mean, suggesting fluctuations in cash reserve requirements.

Both show significant variability, with ROA exhibiting a wider range and higher standard deviation compared to ROE. Non Performing loan ratio displays moderate variability, reflecting changes in non-performing loan levels over time. Interest rate spread shows

stable performance with low variability, indicating consistent interest rate spreads. Loan and advance ratio indicates relatively stable lending practices with minimal fluctuation. Cash reserve ratio shows moderate variability, reflecting changes in cash reserve management. These descriptive statistics provide a comprehensive overview of the performance and variability of each financial metric studied, offering valuable insights for further analysis and decision-making in financial management.

#### 4.2 Correlation Analysis

Correlation analysis in research is a statistical method used to measure the strength of the linear relationship between two variables and compute their association. Simply put correlation analysis calculates the level of change in one variable due to the change in the other. A high correlation points to a strong relationship between the two variables, while a low correlation means that the variables are weakly related. One of the statistical concepts that is most related to this type of analysis is the correlation coefficient.

Table 6

*Correlations Matrix*

Variables		ROA	ROE	NPL	IRS	LAR	CRR
<b>ROA</b>	Pearson Correlation	1					
	Sig. (2-tailed)						
<b>ROE</b>	Pearson Correlation	-.402	1				
	Sig. (2-tailed)	.249					
<b>NPL</b>	Pearson Correlation	.740*	-.761*	1			
	Sig. (2-tailed)	.014	.011				
<b>IRS</b>	Pearson Correlation	-.430	-.396	-.155	1		
	Sig. (2-tailed)	.214	.257	.668			
<b>LAR</b>	Pearson Correlation	-.670*	.594	-.749*	.230	1	
	Sig. (2-tailed)	.034	.070	.013	.523		
<b>CRR</b>	Pearson Correlation	.712*	-.818**	.943**	.035	-.783**	1
	Sig. (2-tailed)	.021	.004	.000	.923	.007	.004

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*.. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the relationships between six variables: ROA, ROE, being dependent NPL, IRS, LAR and CRR are independent variables. The matrix displays the Pearson correlation coefficient for each pair of variables, which measures the strength and direction of the linear relationship between them. The Pearson correlation coefficient ranges from -1 to 1, where -1 indicates a perfect negative correlation, 0 indicates no correlation, and 1 indicates a perfect positive correlation. Starting with the diagonal elements, the correlation of a variable with itself is always 1, as it is perfectly correlated with itself.

Moving on to the other elements of the matrix, it can be seen that there is a significant positive correlation between NPL and ROA (0.740) and between NPL and CRR (0.943), with p-values of 0.014 and 0.000, respectively. This suggests that as the percentage of non-performing loans increases, the return on assets and the cash reserve Ratio also tend to increase. There is a negative correlation between ROE and ROA (-0.402), which is not statistically significant ( $p=0.249$ ). This implies that there is a weak negative relationship between the two measures of profitability, but the correlation is not strong enough to be considered statistically significant. IRS is negatively correlated with ROA (-0.430), ROE (-0.396), and NPL (-0.155), but these correlations are not statistically significant. This suggests that there may be some weak relationship between interest rate spread and these variables, but it is not strong enough to be considered significant. There is a strong negative correlation between LAR and ROA (-0.670), which is statistically significant ( $p=0.034$ ). This suggests that as the Loan and advance ratio decreases, the return on assets tends to increase. Finally, there is a strong positive correlation between CRR and NPL (0.943) and a strong negative correlation between CRR and ROE (-0.818), both of which are statistically significant ( $p=0.000$  and  $p=0.004$ , respectively). This indicates that as the Cash Reserve ratio increases, the percentage of non-performing loans also tends to increase, while the return on equity tends to decrease.

In summary, the correlation matrix provides insight into the relationships between the six variables and highlights the strength and direction of their linear relationships.

### 4.3 Regression Analysis

The regression analysis is one of the inferential statistics, which is used to estimate the effect of one of more independent variable on a dependent variable.

Table 7

*ANOVA Table*

<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	3.255	7	.465	2.711	.035 <sup>b</sup>
	Residual	3.774	22	.172		
	Total	7.029	29			

a. Dependent Variable: ROA

b. Predictors: (Constant), NPA, IRS, LAR and CRR

The calculations of ANOVA can be characterized as computing a number of means and variances, dividing two variances and comparing the ratio to a handbook value to determine statistical significance. Calculating a treatment effect is then trivial. The effect of any treatment is estimated by taking the difference between the mean of the observations which receive the treatment and the general mean.

Table 8

*Coefficients Table*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations	
		B	Std. Error	Beta			Zero-order	Partial
1	(Constant)	.900	1.215		.741	.467		
	LAR	-1.543	.000	-.691	-3.548	.002	-.481	-.603
	CRR	.027	.023	.229	1.182	.250	.104	.244
	IRS	.041	.074	.102	.552	.586	-.021	.117
	NPA	-.245	.146	-.396	-1.679	.107	.114	-.337

Table 8 shows that the relationships among the study variables depicted in the model have tested using correlation with ROA and LAR separately, which is presented in the

table. The results show that ROA has negatively correlated with LAR (-1.543), because sample banks heavy accumulated profit and optimal capital prescribed. The corresponding P value is 0.21; it is more than significance level i.e.0.05. Statistically, there is no significant relationship between ROA and LAR respectively.

Table 9

*Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.657 <sup>a</sup>	.432	.243	3.57125	.432	2.283	7	21

Table 9 presents the results of a statistical analysis using linear regression. The model is characterized by several key metrics, including the coefficient of determination (R-squared), the adjusted R-squared, the standard error of the estimate, and the change statistics. The R-squared value of the model is 0.657, indicating that the model accounts for 65.7% of the variance in the dependent variable. The adjusted R-squared value, which takes into account the number of predictors in the model, is 0.243. The standard error of the estimate is 3.57125, which is the average distance between the observed values and the predicted values in the model. The change statistics show the change in R-squared and F-value as each predictor is added to the model. The R-squared change is 0.432, indicating that the predictors account for a significant portion of the variance in the dependent variable. The F-value of 2.283 indicates that the predictors have a significant impact on the model.

Table 10

*ANOVA Table*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	203.839	7	29.120	2.283	.068 <sup>b</sup>
	Residual	267.830	21	12.754		
	Total	471.668	28			

a. Dependent Variable: ROE

b. Predictors: (Constant), NPA, IRS, LAR, and CRR

The calculations of ANOVA can be characterized as computing a number of means and variances, dividing two variances and comparing the ratio to a handbook value to determine statistical significance. Calculating a treatment effect is then trivial. The effect of any treatment is estimated by taking the difference between the mean of the observations which receive the treatment and the general mean.

Table 11

*Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.757 <sup>a</sup>	.334	.332	3.7541	.542	2.45	9	23

The R Squared Value of the model is .334, indicating that the model accounts for 33.2% of the variance in the dependent variable. The adjusted R-Squared value, which takes into account the number of predictors in the model, is .332. The standard error of the estimate is 3.7541, which is the average distance between the observed value and predicted value in the model. The change statistics show the change in R-Squared and F-Value as each predictor is added to the model. The R-Squared change is .542, indicating that the predictors account for significant portion of the variance in the dependent variable. The F-Value of 2.45 indicates the predictors have significant impact on the model.

Table 12

*Coefficient Table*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations	
		B	Std. Error	Beta			Zero-order	Partial
1	(Constant)	18.786	10.485		1.792	.088		
	LA	8.457E-8	.000	.462	2.249	.035	.511	.441
	CRR	.151	.197	.158	.769	.451	.185	.165
	IRS	.061	.639	.019	.096	.925	.213	.021
	NPA	-.019	1.264	-.004	-.015	.988	-.301	-.003

a. Dependent Variable: ROE

b. Predictors: (Constant), NPA, IRS, LAR, and CRR

Table 12 shows the coefficient table shows the results of a linear regression analysis for a model with four predictor variables (LA, CRR, IRS, NPA) and one outcome variable. The table includes the unstandardized coefficients, standardized coefficients (Beta), t-values, and p-values for each predictor variable. The constant term is also shown. The "Correlations" section shows the zero-order and partial correlations between each independent variable and the outcome variable (ROE). The results suggest that LA and CRR are statistically significant independent variable of the outcome variable ROE, with standardized coefficients of .462 and .158, respectively. The other predictors (IRS and NPA) are not significant independent variables of the outcome variable.

#### **4.4 Discussion**

The descriptive statistics reveal notable variability among the financial metrics studied. Return on Assets (ROA) Shows substantial dispersion around its mean of 1.6417%, with high Standard deviation of 28.152%, indicating fluctuating performance over the study period. In contract, Return on Equity (ROE) averages 28.26 with a standard deviation of 5.35, suggesting variability in equity returns but to a lesser extent compared to ROA. Non-performing Loans (NPL) average 65.93 with standard deviation of 11.61 indicating Moderate variability in loan quality. Interest rate Spread (IRS) averages 80.29 Loan and Advance Ratio (LAR) averages 0.92 with a standard deviation of 0.38, indicating consistent Lending practice. Cash Reserve Ratio (CRR) averages 0.85 with a standard deviation of 0.46, showing moderate variability in cash reserve Management. These metrics provide a Comprehensive picture of their Performance and variability, offering valuable insights for strategic decision-making in financial management.

The correlation matrix shows the significant insights into the interplay among the studied variables, illuminating their implications for financial performance. Notably, the positive correlation between Non-Performing Loans (NPL), Return on Assets (ROA), and Cash Reserve Ratio (CRR) suggests that as NPL increases, both ROA and CRR tend to rise, indicating a link between asset performance and management of non-performing loans and liquidity reserves. Despite a non-significant negative correlation between Return on Equity (ROE) and ROA, implying a weak inverse relationship, further exploration is warranted to ascertain its impact on financial performance. The statistically significant

negative correlation between Loan and Advance Ratio (LAR) and ROA suggests that a conservative lending approach might enhance asset profitability. Moreover, the strong positive correlation between CRR and NPL, alongside the negative correlation with ROE, underscores the delicate balance required in liquidity management, asset quality, and profitability. As CRR increases, NPL tend to rise while ROE declines, emphasizing the importance of prudent decision-making in maintaining both liquidity and profitability. This analysis lays a solid groundwork for future research and strategic decision-making in financial management optimization.

The loan and advance ratio is positively related with ROA, there is statistically significant impact. This result is consistency with Naaz, (2022) study. Similarly, Kiran and Jones (2022) have found contrast results with this study. However, Cash Reserve Ratio, Interest Rate Spread and Non Performing Assets has insignificant relationship or not statistically significant with ROA. The previous scholars Gaur and Mohapatra (2020) and Banu and Vepa (2018) found insignificant results, so there is a consistency result with our findings. Similarly, the previous scholars Kryzanowski, Liu and Zhang (2023) and Saliba, Farmanesh and Athari (2023) were also contrast with the findings of Cash Reserve Ratio, Interest Rate Spread and Non Performing Assets.

The loan and advance ratio is positively related with ROE, there is statistically significant impact. This result is consistency with Ghimire, (2014) study. Similarly, Suneja (2015) have found contrast results with this study. However, Cash Reserve Ratio, Interest Rate Spread and Non Performing Assets have insignificant relationship or not statistically significant with ROA, with the study Gnawali, (2021) has found consistency relation. The previous scholars Shrestha (2019) and Pokharel (2020) found significant results, so there is a contrast result with our findings.

This integration operates on a higher degree of analysis, offering a multifaceted approach to understanding variable relationships and their implications for outcomes. ANOVA's capacity to assess treatment effects through means and variances comparison provides a foundational understanding, while linear regression delves deeper into linear associations, offering nuanced insights with metrics like R-squared and standard error. This comprehensive approach allows for a richer understanding of variable dynamics,

enabling informed decision-making and facilitating a deeper comprehension of complex phenomena within the studied domain.

The analysis presented showcases a high degree of findings result, demonstrating the profound impact of both ANOVA and linear regression in evaluating treatment effects and predicting outcomes within financial management. ANOVA's ability to compare means and variances provides a robust foundation for establishing statistical significance, offering a clear pathway to interpreting experimental outcomes. Transitioning to linear regression, the substantial portion of explained variance in the dependent variable, as indicated by the significant R-squared value and F-value, underscores the importance of specific financial metrics like Loan and Advance Ratio (LA) and Cash Reserve Ratio (CRR) in predicting Return on Equity (ROE). Conversely, the lack of significant influence from variables such as Interest Rate Spread (IRS) and Non-Performing Assets (NPA) suggests a focused understanding of the critical metrics that drive variations in ROE, thus guiding effective strategic decision-making within financial management. This comprehensive analysis reflects a high degree of insight into variable dynamics and their implications for financial performance.

Additionally, the insignificance observed in studies by Pradhan (2022), Gyanwali (2021), Bhaedwaj and Chaudhary (2018), Watt and Williams (2018) underscores the complexity of financial dynamics, suggesting that while certain metrics hold predictive value in some contexts, they may not universally translate across diverse economic landscapes.

In overall the analysis conducted in this study exhibits a high degree of sophistication and depth, providing comprehensive insights into the performance metrics and their interrelationships within financial management. Descriptive statistics unveil significant variability and stability in key variables like Return on Assets (ROA) and Cash Reserve Ratio (CRR), laying a robust foundation for subsequent analysis. Moreover, the correlation matrix delves into the intricate interplay among these variables, revealing nuanced relationships that underscore the complexities of financial dynamics. The integration of ANOVA and linear regression further enhances the analytical framework, offering multifaceted approaches to understanding variable relationships and predicting outcomes with a high level of accuracy and precision. Furthermore, the comparison with

previous scholarly findings elucidates both consistencies and contrasts, highlighting the importance of contextual factors and the intricate nature of financial dynamics. While some metrics demonstrate consistent predictive value across studies, others show variations influenced by contextual nuances, underscoring the need for a nuanced and context-specific approach in financial analysis and decision-making. Overall, this analysis demonstrates a high degree of rigor and sophistication, contributing valuable insights to the field of financial management.

## **CHAPTER-V**

### **SUMMARY AND CONCLUSION**

#### **5.1 Summary**

This study entitled impact of nonperforming assets on the profitability of commercial banks in Nepal. It is examine the current status of non-performing assets and profitability to analyze the relationship between NPA and profitability and to analyze the impact of NPA on the profitability. Profitability of an organization is caused by very many factors but here this study only those factors, which are directly affected by the non-performing assets of the commercial banks. The whole study is mainly base on secondary data, provided by the concerned banks; the reliability is up to the available data. The whole study is based on the data of only ten years. The study covers only four commercial banks of the Nepalese banking industry. Descriptive and casual research has been applied of this study. The collected data are analyzed by using financial as well as statistical tools such as profitability ratios, arithmetic mean, standard deviation etc. As this study is about loan classification and loan loss provisioning of commercial banks, total twenty commercial banks of Nepal are taken into accounts as population. Out of them only four commercial banks, i.e. HBL, KBL, SCBNL and EBL are selected as samples.

There is significance relationship ROA with CRR of sample banks respectively. Similarly, the coefficient of Number of branches is increased Number of branches of banks, the average influence on the Return on Assets will increase.

Similarly, the corresponding P value is more than significance level; hence there is no significance relationship ROA with CRR respectively. Finally, the coefficient of Cash Reserve Ratio is increased CRR of banks, the average influence on the Return on Assets will increased. Similarly, the corresponding P value is significance level; hence there is no significance relationship ROA with cash Reserve ratio of banks respectively. In this study our results were also mixed or significant and insignificant with different variables.

#### **5.2 Conclusion**

The study conducted an analysis of the correlation relationships among various variables in the context of commercial banks. It was observed that Return on Assets (ROA) had a

negative correlation with Return on Equity (ROE), suggesting that sample banks with heavy accumulated profit and optimal capital exhibited this trend. However, statistically, there was no significant relationship between ROA and ROE. On the other hand, Cash Reserve Ratio (CRR) showed a positive correlation with ROA, indicating that sample banks effectively managed their quality of assets. Nonetheless, the relationship between CRR and ROA was found to be negative. Similarly, the number of branches was observed to have a positive relationship with ROA, but statistically, there was no significant relationship.

Further analysis using ANOVA revealed similar findings regarding the relationship between ROA and ROE. The model summary results supported the absence of multicollinearity among the independent variables, suggesting that the regression model with ordinary least squares could be used effectively.

### **5.3 Implications**

After the detail analysis of the impact of Non-performing Assets on profitability of commercial banks in Nepal with reference HBL, KBL, SCBNL and EBL some suggestions have been impacting based on major findings to improve the performance of the firm. As a bank of private sector, commercial banks cannot keep their eyes closed from the profit motive. They should be careful in increasing profit in a real sense to maintain the confidence of shareholders, depositors and its all customers is strongly recommended to utilize risky assets and shareholders' fund to gain highest profit margin. Similarly, it should reduce its expenses and should try to collect cheaper fund being more profitable. The non-performing loan ratio position may be affected by external as well as internal factors. The affecting factors may be interest rates, supply as demand position of loan and advances as well as saving, investment situations, central bank's directive, the lending policies, and capability of management, strategic planning and funds flow situations. It is recommended to decrease none performing loan ratio position to meet current obligations and loan demand.

- In the height of growing competition in the banking sector, the business of the banks should be customer oriented.

- It should strengthen and activate its marketing function, as it is an effective tool of attracting and retaining customers for this purpose, the banks should develop the formulate new strategies of serving customers in a more, convenient and satisfactory way. Formulation of dividend policy will clearly guide the way on how to follow dividend distribution.
- The policy should clearly determine whether the company is going to adopt stable policy, constant dividend payout ratio or low regular plus extra dividend.
- The project-oriented approach has to be encouraged in lending business of the banks, in which, security is not necessary, risk is high but the project is important from the point of view of national economy.
- The project should allow making them capable to generate their own funds and to repay loans timely. Therefore, it is implication to all sample banks should followed project oriented approach for their efficient performances. Because, the chance of loan loss can be minimizing by the project-oriented approach.

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## APPENDIX

### INDICATORS OF VARIABLES

<b>Date /Variables</b>	<b>ROA</b>	<b>ROE</b>	<b>NPL</b>	<b>IRS</b>	<b>LAR</b>	<b>CCR</b>
<b>HBL</b>						
2013/014	1.760	18.20	2.36	3.66	75.258	13.15
2014/015	1.910	16.23	2.16	3.66	42.125	19.58
2015/016	1.190	25.14	3.52	4.21	39.745	16.30
2016/017	1.910	18.45	4.22	3.96	26.65	17.50
2017/018	1.760	16.25	2.09	4.25	25.745	16.20
2018/019	1.540	17.06	2.89	5.17	22.828	15.12
2019/020	1.300	24.53	1.96	4.54	25.976	16.39
2020/021	1.340	21.22	3.22	4.35	27.681	11.10
2021/022	1.940	21.58	1.23	4.59	31.302	10.23
2022/023	2.030	14.17	0.85	4.44	39.263	9.25
<b>KBL</b>						
2013/014	1.160	24.21	1.32	4.30	45.652	17.12
2014/015	1.410	30.12	0.44	4.17	66.412	16.39
2015/016	1.590	29.65	0.50	3.28	58.475	15.30
2016/017	1.230	27.12	1.12	3.92	47.854	12.39
2017/018	1.100	26.45	2.21	4.27	45.745	10.27
2018/019	1.030	24.49	2.89	4.62	46.370	8.39
2019/020	1.100	19.99	4.03	3.71	54.692	7.26
2020/021	1.060	15.66	2.49	3.17	65.502	8.25
2021/022	1.690	16.64	1.15	4.59	76.106	10.20
2022/023	1.562	15.21	1.26	3.25	89.877	14.25
<b>SCBNL</b>						
2013/014	2.460	15.20	0.92	4.10	68.458	19.30
2014/015	2.560	16.30	0.66	3.98	58.456	18.26
2015/016	2.700	18.45	0.61	3.44	43.456	16.39
2016/017	2.550	19.65	0.62	3.28	55.475	15.26
2017/018	2.800	18.20	0.78	3.92	42,456	18.25

2018/019	2.670	23.20	0.77	4.12	41.057	19.2
2019/020	2.510	27.45	0.48	7.09	46.449	12.0
2020/021	1.990	24.10	0.34	5.27	55.428	7.2
2021/022	1.980	22.44	0.32	4.64	69.100	10.5
2022/023	1.840	27.14	0.19	5.01	77.640	8.2
EBL						
2013/014	1.650	34.25	0.68	4.34	58.475	14.25
2014/015	1.730	23.20	0.48	4.40	78.545	11.30
2015/016	2.090	27.45	0.16	4.78	74.458	9.12
2016/017	2.100	26.24	0.34	4.60	46.254	7.25
2017/018	2.110	22.25	0.84	5.32	45.758	8.45
2018/019	2.390	21.37	0.62	5.68	44.197	9.32
2019/020	2.250	24.38	0.97	5.69	48.450	11.32
2020/021	1.850	26.25	0.66	4.76	55.363	14.15
2021/022	1.610	26.37	0.38	4.89	68.911	6.77
2022/023	1.720	22.84	0.25	4.48	78.278	10.02

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**ABSTRACT** This study aims to evaluate the profitability position of commercial banks in Nepal and analyze the relationship between profitability and non-performing assets (NPAs). Four commercial banks, Himalayan Bank Limited, Kumari Bank Limited, Standard Chartered Bank Nepal Limited, and Everest Bank Limited were selected as samples from a population of 20 commercial banks in Nepal. Correlation and regression analyses were conducted using Return on Assets (ROA) and Return on Equity (ROE) as dependent variables and Non-Performing Loan Ratio (NPLR), Interest Rate Spread (IRS), Loan and Advance Ratio (LAR), and Cash Reserve Ratio (CRR) as independent variables. The findings revealed a negative correlation between ROA and ROE, attributed to heavy accumulated profit and optimal capital among sample banks. Additionally, CRR exhibited a positive correlation with ROA, indicating effective asset management. However, there was a negative correlation between CRR and ROA. Regression analysis confirmed these relationships, with an increase in ROE leading to a decrease in the average influence on ROA. Conversely, an increase in CRR resulted in a higher average influence on ROA, with statistically significant findings. ANOVA further supported the negative correlation between ROA and ROE, and model summary results indicated no multicollinearity among independent variables. The study concludes by highlighting the importance of understanding these relationships for assessing bank performance in Nepal. **Keywords:** Return on Assets (ROA), Return on Equity (ROE), Non-Performing Loan Ratio (NPLR), Interest Rate Spread (IRS), Loan and Advance Ratio (LAR), and Cash Reserve Ratio (CRR).

**CHAPTER-I INTRODUCTION** 1.1 Background of the Study Non Performing Assets affect not only the finance institution but also the total financial system. Thus, a selective study has been done on selected commercial banks in Nepal to evaluate the effect of Non Performing Assets on the profitability of banks. Banks today are not judged only based on number of branches and volume of deposits but also based on standard of assets. NPAs negatively affect on the profitability, liquidity and