

# **IMPACT OF NON-PERFORMING ASSETS ON PROFITABILITY OF NEPALESE COMMERCIAL BANKS**

**A Thesis  
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## **CERTIFICATION OF AUTHORSHIP**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the reference section of the thesis.

.....

Sonali Nag

July, 2018

## **RECOMMENDATION LETTER**

It is certified that thesis entitled **Impact of Non-Performing Assets on Profitability of Nepalese Commercial Banks** submitted by Sonali Nag is an original piece of research work carried out by the candidate under my supervision. Literary presentation is satisfactory, and the thesis is in a form suitable for publication. Work evinces the capacity of the candidate for critical examination and independent judgment. Candidate has put in at least 60 days after registering the proposal. The thesis is forwarded for examination.

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## **APPROVAL SHEET**

We, the undersigned, have examined the thesis entitled **IMPACT OF NON-PERFORMING ASSETS ON PROFITABILITY OF NEPALESE COMMERCIAL BANKS** presented by **Sonali Nag**, a candidate for the degree of **Master of Business Studies (MBS)** and conducted the viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

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## LIST OF ABBREVIATIONS

a	=	Constant Number
ADBL	=	Agriculture Development Bank Limited
b	=	Regression Coefficient
C.V.	=	Coefficient of Variation
CC	=	Cash Credit
d. f.	=	Degree of Freedom
e.g.	=	For example
Ed.	=	Edition
EVA	=	Economic Value Added
F/Y	=	Fiscal Year
GDP	=	Gross Domestic Product
i.e.	=	That is
LATAR	=	Loans and Advances to Total Assets Ratio
LATDR	=	Loans and Advances to Total Deposit Ratio
LLPLAR	=	Loan Loss Provision to Loans and Advances Ratio
LLPNPLR	=	Loan Loss Provision to Non-Performing Loan Ratio
MBL	=	Machhapuchchhre Bank Limited
MBS	=	Master of Business Studies
NABIL	=	Nepal Arab Bank Limited
NBA	=	Non-Banking Asset
NCB	=	Nepalese Commercial Banks
NEPSE	=	Nepal Stock Exchange
NIBL	=	Nepal Investment Bank Limited
NPA	=	Non-Performing Asset
NPL	=	Non-Performing Loan
NPLTAR	=	Non-Performing Loan to Total Assets Ratio
NPLTLAR	=	Non-Performing Loan to Total Loans and Advances Ratio
NRB	=	Nepal Rastra Bank
OD	=	Overdraft
r	=	Correlation Coefficient

ROA	=	Return on Assets
ROE	=	Return on Equity
ROI	=	Return on Investment
Rs.	=	Rupees
S.D.	=	Standard Deviation
S.N.	=	Serial Number
SBL	=	Siddhartha Bank Limited
SCB	=	Standard Chartered Bank
SI	=	Suspend Interest
UA	=	Unutilized Asset
USA	=	United State of America
Vol.	=	Volume
www	=	World Wide Web

## ABSTRACT

*This research seeks at investigating the impact of non-performing assets on profitability of Nepalese Commercial Banks during the time period (2012-2016). Profitability indicators return on assets and return on shareholders' equity are the dependent variables, while non-performing loan to total loans and advances ratio, non-performing loan to total assets ratio, loan loss provision to loans and advances ratio and loan loss provision to non-performing loan ratio are the independent variables representing NPA indicators. The data are collected from the annual reports of selected banks, report of NRB and official and non-official publications. Data are analyzed by using appropriate financial and statistical tools and the descriptive and analytical research designs are used. The multiple regression models are used to test the impact and relationship between the NPA indicators and profitability indicators and then testing hypothesis. The empirical results show that an increase in the NPLTLAR and LLPLAR lead to an increase in the profitability, while an increase in NPLTAR and LLPNPLR lead to decrease in the profitability of sampled Nepalese commercial banks as measured by ROA and ROE. This study shows that non-performing loans in ADBL and SBL is in increasing trend even though it has decreasing ratio of NPLTLAR. Similarly, the trend of NPL is in fluctuating trend in case of NIBL and in decreasing trend in case of Nabil, MBL and SCB. Thus, this study has concluded that non-performing loan is higher in government owned banks and lower in joint venture and private banks. Since, the NPL is declining, it has given positive indication that joint venture and private banks are able to mobilize their deposit in productive sector in the comparison to government owned banks. Hence, selection of right borrower, viable economic activity, adequate provisioning and timely disbursement, correct end use of funds and timely recovery of loans is absolutely necessary pre-conditions for preventing or minimizing the incidence of new NPAs.*

# **CHAPTER I**

## **INTRODUCTION**

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

For a sound economy, one should have sound banking system. One of the important parameters for judging the performance of banking system is the NPA's. These are an inevitable burden of the banking industry. Banks need to monitor their standard asset regularly in order to prevent any account becoming an NPA. Today the success of bank depends upon the proper management of NPA's and keeping them within the controlled level. NPA causes serious strain on the profitability as, on the one hand banks cannot book income on such accounts and in second way, charge for funding cost is required and provision required for the profits. In order to keep debtors friendly, we keep provision of NPA's.

An asset is classified as non- performing assets if the borrower does not pay dues in the form of principal and interest. To define NPA first of all meaning of assets should be understand. Asset means the property of a person or a company. This indicates that assets are the property of company accumulated with the help of sources. Non-performing loan means an outstanding loan that is not repaid, i.e. neither payment on interest nor principal are made. In case of the bank, the loans and advances are the assets as the banks flow loans from the funds generated through shareholders equity, money deposited by the people and fund having through the borrowing. Hence the term of NPA means the loan and advances that are not performing well. Thus, all the irregular loans and advances can be turned as NPA.

With a view to moving towards international best practices and to ensure greater transparency, it has been decided to adopt the '90 days' overdue norm for identification of NPA, from the year ending from March 31, 2004. Accordingly, with effect from March 31, 2004, a non-performing asset (NPA) is a loan or an advance where;

1. Interest and/ or installment of principal remain overdue for a period of more than 91 days in respect of a term loan,
2. The account remains 'out of order' for a period of more than 90 days, in respect of an Overdraft/ Cash Credit (OD/CC),
3. The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted,
4. Interest and/ or installment of principal remains overdue for two harvest seasons but for a period not exceeding two half years in the case of an advance granted for agricultural purpose, and
5. Any amount to be received remains overdue for a period of more than 90 days in respect of other accounts,
6. No submission of Stock Statements for 3 continuous Quarters in case of Cash Credit Facility,
7. No active transactions in the account (Cash Credit/ Over Draft/ EPC/PCFC) for more than 91 days.

The non-performing loans (NPL) of financial institutions are considered as a significant issue in the context of Nepal for last few decades. The immediate consequence of large amount of NPLs in the banking system is bank failure. Many researches on the cause of bank failures find that asset quality is a statistically significant predictor of insolvency and that failing banking institutions always have high level of non-performing loans prior to failure (Barr & Siems, 1994).

There is no standard form to define non-performing loans globally. Variation may exist in terms of the classification system, the scope, and contents as per country. Nepal Rastra Bank (the Central Bank of Nepal), as a regulatory financial institution of the country, has classified the loan basically into the pass loan, watch list, sub-standard loan, doubtful loan and loss or bad loan.

According to new requirements of NRB, a lender must classify loans which have not serviced for three months as 'pass' loans. Watch list also includes loans which have not been serviced for three months. But 'watch list' includes loans whose principal and interest have not been paid within the repayment period. Non-performing loans

not serviced for three to six months will have to be classified as 'Sub-standard' loans. Similarly, loans not service for six months to one year will have to be classified as 'Doubtful' loan. The 'Loss' loans are those whose interest and/or installment of principal has not been paid for more than one year. The central bank has also defined 'Pass' and 'Watch list' loans as performing loan and restructured sub-standard, doubtful and loss loans as non-performing loans.

Considering these facts, it is necessary to control non-performing loans for the economic growth in the country, otherwise the resources can be jammed in unprofitable projects and sectors which not only damages the financial stability but also the economic growth. In order to control the non-performing loans, it is necessary to understand the root causes of these non-performing loans in the particular financial sector (Rajaraman & Visishtha, 2002).

It is important to understand the phenomena and nature of non-performing loans; it has many implications, as fewer loan losses is indicator of comparatively more firm financial system, on the other hand high level of non-performing loans is an indicator of unsecure financial system and a worrying signal for bank management and regulatory authorities. If we look into the causes of great recession 2007-2009 which damaged not only economy of USA but also economies of many countries of the world find that non-performing loans were one of the main causes of great recession (Richard, 2011).

The success of commercial banks depends on profitability. Loan is the major component of earning assets of commercial banks. However, the profitability will be more if the bank has less non-performing loan. On the other hand, if the non-performing loan is high the banks may not be able reap profit instead they may be in loss because the bank need to put reserves for the amount of non-performing loans (Farhan, Sattar, & Chaudhary, 2012). The three letters NPA strike terror in banking sector and business circle today. The dreaded NPA rule says simply this: when interest or other due to a bank remains unpaid for more than 90 days, the entire bank loan automatically turns a non-performing asset (Barth, Caprio, & Levine, 2004).

In Nepal, commercial banks have a mushrooming growth in the last two decades. The numbers of commercial bank have risen to 28 at present. Nepal is also facing banking crisis and some of the bank and financial institutions have already failed during last few years and are in the process of liquidation (Sapkota, 2011). Studies show that the failure of banks in Nepal was also the result of the high non-performing assets due to and the result of lending without differentiating markets, products and borrowers' credit worthiness and excessive loan exposure to real estate (Sapkota, 2011).

The amount of non-performing loan is one of the indicators of its performance. Less the NPL, better the financial health of the economy. If the non-performing loan is more, there will be poor financial health and crisis may result in the economy. In the past before 2001, Nepal bank limited and RBBL nearly collapsed. The main reason behind it was the non-performing loan in a larger chunk of over fifty percent.

It is observed that the bank credit depends upon the activity. As economy grows bank credit accelerates while the slow growth of the economic activity or the decline in economic activity results decline in bank credit. Hence it is widely accepted that bank credit exhibits pro-cyclicality (Dash & Kabra, 2010). The pro-cyclical trend of the bank credit can be explained with the help of many factors. The supplier of the credit (bankers) may feel high credit risk during the slowdown of the economy and may provide less score. While during expansionary situation the banks may evaluate credit with high score and may find less risky and there will be higher expansion of credit.

Since "The NPA of banks is an important criterion to assess the financial health of banking sector" (Ahmed, 2010), identification of the potential problem and close monitoring is paramount importance for the better performance of this sector. Banking crisis exists in the country if the non-performing assets (NPAs) touch 10 percent of GDP. The loss of income from NPAs not only brings down the level of income of the banks but also hinders them from quoting better lending rates (Khan & Bishnoi, 2001).

The share of non-performing loans in total bank loans is an important indicator of banking and financial institutions' health. The high share of NPAs in the Nepalese banking sector in aggregate has been of concern in the past.

The NPAs are considered as an important parameter to judge the performance and financial health of banks. The growing NPAs have been a cause of concern for the entire banking industry. As a result of the inappropriate credit appraisal and inefficient recovery mechanism, several banks have been reeling under high level of bad debts. The ever increasing NPAs of Nepalese Banking Industry arises due to faulty lending policy and making compulsion lending to priority sector by banks.

Faulty credit management like defective credit in recovery mechanism, lack of professionalism in workforce, improper selection of Borrowers/activities, unscientific repayment schedule and misutilization of loans by the users cause the emergence of the NPAs. Untimely communication to the borrowers regarding their due date and lack of sponge legal mechanism, weak credit appraisal system, industrial problems and recession in market etc. also causes NPAs to rise in the banking industry.

If NPAs not controlled timely will reduce the earning capacity of assets and badly affect the ROI. The cost of capital will go up, the assets liability mismatch will widen, higher provisioning requirement on mounting NPAs adversely affect capital adequacy ratio and banks profitability. EVA by banks will get upset because EVA is equal to the net operating profit minus cost of capital. NPAs cause to decrease the value of share sometimes even below the book value in the capital market and affect the risk facing ability of banks.

In spite of the overall growth in business of Nepalese commercial banking sector, particularly in advancing loan in much liberal manner, the number of defaulters is also increasing from time to time. So, it seems highly important to have a study on the management of NPAs in banking sector. Thus, a need arises to study the concept, determinants of NPA, impacts and its trend over a period of years for commercial banks in Nepal.

## 1.2 Statement of the Problems

After the economic liberalization of the country in 1980, the quantity of the Nepalese Financial sector has increased tremendously. Center bank introduced prudent regulatory measures for some progress of financial sectors. However, the actual performance of the financial institution could not improve. Non- performing assets is one of the major problems in Nepalese financial institution facing today.

NPLs not only stop the banks from generating income but also require them to allocate funds as a provision that only reduces the profit. Overdue ageing of 3 month, more than 3 months, 6 months and one year requires provisioning of 1% for 'pass', 5% for 'watch list', 25% for 'sub-standard', 50% for 'doubtful' and 100% for 'loss' loans as per the NRB directives.

Similarly, borrowing cost of resources locked in NPL and opportunity loss due in none recycling of funds are other effects. It also increases the administrative and recovery cost and legal cost as well. Effect on employee morale and decision-making, lower image and rating of bank and reduce investor's confidence are some of the main effects. The major problem on this topic is;

Banks are in constant pressure to increase their investment in priority sector on one hand and on the other hand they are burdened with increasing volume of non-performing assets.

The evaluation of the banks' performance is essential to understand their health. In this connection, following research questions are developed to deal with this study:

1. Does the NPA guidelines instructed by the NRB Directives are followed in making provision relate to NPA?
2. What is the impact of NPA on ROA of the Nepalese Commercial banks?
3. What is the impact of NPA on ROE of the Nepalese commercial banks?

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

The main objectives of the study are to figure out the determinants and impact of non-performing assets on commercial banks. However the specific objectives are as follows:

1. To analyse whether the NPA guidelines instructed by the NRB Directives are followed in making provision relate to NPA or not.
2. To examine the impact of NPA on ROA of the Nepalese commercial banks.
3. To examine the impact of NPA on ROE of the Nepalese commercial banks.

### **1.4 Significance of the Study**

Apart from aiming to gain knowledge, research itself adds new to the existing literature. The significance of this study lies mainly in filling a research gap on the study of profitability analysis of banking and financial institutions with respect to non-performing assets of Nepalese commercial banks.

This study contributes significantly to solve the problem related to NPA existing in the commercial bank and helps to formulate the policies and strategies to the concern people to improve the commercial bank's performance effectively.

Through the literature of review, it has been found that few research have been conducted on the analysis and impact of the non-performing assets on commercial banks. This is expected that this study provides some of the present issues, latest information and data regarding non-performing loan and loss provisioning which may help the bankers, professional, readers and related parties interested there in.

Finally, this study is helpful for other researchers as a source of reference and as a stepping stone for those who want to make further study on the area afterwards.

## **1.5 Limitations of the Study**

The main limitations of the study are as follows:

1. The study analyzes only the impact of non-performing assets on the profitability of Nepalese commercial banks and hence does not cover the other financial aspects.
2. This study focuses only six banks, namely Agriculture Development Bank Limited, Nabil Bank Limited, Standard Chartered Bank Nepal Limited, Nepal Investment Bank Limited, Siddhartha Bank Limited, and Machhapuchchhre Bank Limited.
3. The study has been conducted using secondary data only. The validity of the secondary data totally depends upon the reliability of the annual reports of the bank.
4. Limited scholarly works on the subject is available to the researcher.
5. This research has been conducted only by getting five years data of popular commercial banks in Nepal. Hence, it cannot be generalized to other small sized banks.

## **1.6 Chapter Plan**

Considering the objectives in mind, the study has been planned into the following five chapters.

Chapter I: Introduction

Introduction chapter includes background of the study, statement of the problems, objectives of the study, significance of the study, limitation of the study and organization of the study.

Chapter II: Literature Review

This chapter includes the relevant previous writing and studies to find the existing gap; review of textbook, dissertation, theoretical framework, hypothesis and research gap.

### Chapter III: Methodology

This chapter contains research design, population and sample size, sources of data, data collection procedure, tools used for analysis and regression model.

### Chapter IV: Results

This chapter analyzes various data gathered and tries to find out relationship between various factors identified for the research and present the same with the help of diagrams. It further includes the interpretation of finding.

### Chapter V: Conclusions

This chapter includes the summary, conclusion and implication of the study and recommendation for further research.

## **CHAPTER II**

### **LITERATURE REVIEW**

The review of literature is a very important part of the research. This chapter highlights upon the existing literature. For this, several books, dissertation, reports, handouts and articles published in journals and newspapers are reviewed.

#### **2.1 Conceptual Review**

##### **2.1.1 Concept of Non-Performing Assets/Loan (NPA/NPL)**

An asset is classified as non-performing assets if the borrower does not pay dues in the form of principal and interest. Non-performing loan means an outstanding loan that is not repaid, i.e. neither payment on interest nor principal are made. In case of the bank, the loans and advances are the assets as the banks flow loans from the funds generated through shareholders equity, money deposited by the people and fund having through the borrowing. Hence the term of NPA means the loan and advances that are not performing well. Thus, all the irregular loans and advances can be turned as NPA. NPA can be computed as below:

$$\text{NPA} = (\text{NPL} + \text{NBA} + \text{RNPL} + \text{SI} + \text{UA})$$

Generally, NPLs are loans that are outstanding both in its principal and interest for a long period of time contrary to the terms and conditions under the loan contract. Any loan facility that is not up to date in terms of payment of principal and interest contrary to the terms of the loan agreement is NPLs. Thus, the amount of nonperforming loan measures the quality of bank asset (Tseganesh, 2012).

##### **2.1.2 Concept of Loan Loss Provision**

Loan loss provision is the accumulated fund that is provided as a safeguard to cover possible losses upon classification of risk inherited by individual loans. There is risk inherent in every loan. Hence provisioning is made as cushion against possible losses and to reflect the true picture of the bank's assets. Hence there is practice of showing

net loan (Total Loans – Loan Loss Provision) in financial statement. The amount required for provisioning depends upon the level of NPAs and their quality. High amount of provision is an indication of that bank's credit portfolio needs serious attention. 1% provision of total credit is an ideal position as it is the minimum requirement for all good loans. In Nepal, 1% for 'pass', 5% for 'watch list', 25% for 'sub-standard', 50% for 'doubtful' and 100% for 'loss' loans should be made as per the NRB directives.

### 2.1.3 Five Cs of Non-Performing/Bad Loans

As noted by MacDonald (2006), there are five Cs of bad credits that represent the issues used to guard against/prevent bad loans. These are:

**Complacency:** refers the tendency to assume that because of the things were good in the past, they will be good in the future. For instance, assuming the past loan repayment success since things have always worked out in the past.

**Carelessness:** indicates the poor underwriting typically evidenced by inadequate loan documentation, lack of current financial information or other pertinent information in the credit files, and lack of protective covenants in the loan agreement. Each of these makes it difficult to monitor a borrower's progress and identify problems before they are unmanageable.

**Communication ineffectiveness:** inability to clearly communicate the bank's objectives and policies. This is when loan problem can arise. Therefore, the bank management must clearly and effectively communicate and enforce the loan policies and loan officers should make the management aware of specific problems with existing loans as soon as they appear.

**Contingencies:** refers the lenders' tendency to play down/ignore circumstances in which loan might in default. It focuses on trying to make a deal work rather than identifying down side risk.

**Competition:** involves following the competitors` action rather than monitoring the bank`s own credit standards.

Banks, however, still have required expertise, experiences, and customer focus to make them the preferred lender for many types of loan. Lending is not just a matter of making loan and waiting for repayment. Loan must be monitored and closely supervised to prevent loan losses (MacDonald, 2006).

#### **2.1.4 Factors Causing Rise in Non-performing Assets (Outer Factor)**

The following factors cause rise in non-performing assets:

1. Unproductive or failed legitimate.
2. Deficiency of needs/ inflation.
3. Government and Central bank of Nepal policies or budget changes.
4. Intentional default by customer of the bank.
5. Political disturbances.
6. Overhanging components.
7. Natural calamities

#### **2.1.5 Factors Causing Rise in Non-performing Assets (Inside Factor)**

The following factors cause rise in non-performing assets:

1. Bad lending practices.
2. No proper utilization of technology.
3. Inappropriate (Strengths, weakness, opportunity, threat) SWOT analysis.
4. Deficient consideration system.
5. Insufficiency of management.
6. Lack of monitoring and check of unhealthy accounts.
7. Corruption by regulatory and parties.
8. Bad communication and linkage among banks.

### **2.1.6 Impact of NPA on the Operations of Banks**

NPA has the following impact on the operations of banks:

#### **Profitability**

NPA means booking of money in terms of bad asset, which occurred due to wrong choice of client. Because of the money getting blocked the prodigality of bank decreases not only by the amount of NPA but NPA lead to opportunity cost also as that much of profit invested in some return earning project/asset. So NPA does not affect current profit but also future stream of profit, which may lead to loss of some long-term beneficial opportunity. Another impact of reduction in profitability is low ROI, which adversely affect current earning of bank.

#### **Liquidity**

Money is getting blocked, decreased profit lead to lack of enough cash at hand which lead to borrowing money for shortest period of time which lead to additional cost to the company. Difficulty in operating the functions of bank is another cause of NPA due to lack of money.

#### **Involvement of Management**

Time and efforts of management is another indirect cost which bank has to bear due to NPA. Time and efforts of management in handling and managing NPA would have diverted to some fruitful activities, which would have given good returns. Now days, banks have special employees to deal and handle NPAs, which is additional cost to the bank.

#### **Credit Loss**

If a bank is facing problem of NPA, then it adversely affects the value of bank in terms of market for credit. It will lose its goodwill and brand image and credit which have negative impact to the people who are putting their money in the banks.

### **2.1.7 Management Strategies for Non-performing Assets**

Variety of strategies can be applied to control NPAs, which can be studied under two broad categories:

#### **Preventive Management**

1. Monitoring early warning signals.
2. Installing proper credit assessment and risk management mechanism.
3. Reduced dependence on interest.

#### **Curative Management**

1. Repurchase of loan.
2. Pursuing corporate debt restructuring.

### **2.1.8 Concept of Profitability**

Profitability means ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It shows how efficiently the management can make profit by using all the resources available in the market. According to Harward & Upton, “profitability is the ability of a given investment to earn a return from its use.”

However, the term ‘Profitability’ is not synonymous to the term ‘Efficiency’. Profitability is an index of efficiency; and is regarded as a measure of efficiency and management guide to greater efficiency. Though, profitability is an important yardstick for measuring the efficiency, the extent of profitability cannot be taken as a final proof of efficiency. Sometimes satisfactory profits can mark inefficiency and conversely, a proper degree of efficiency can be accompanied by an absence of profit. The net profit figure simply reveals a satisfactory balance between the values receive and value given. The change in operational efficiency is merely one of the factors on which profitability of an enterprise largely depends. Moreover, there are many other factors besides efficiency, which affect the profitability.

## **2.1.9 Determinants of Commercial Banks Profitability**

### **Internal Determinants**

According to Husni (2011) the internal determinants of banks profitability are normally consisting of factors that are within the control of commercial banks. They are the factors which affect the revenue and the cost of the banks. They are as below:

1. Income
2. Loan quality
3. Deposit
4. Capital ratio
5. Liquidity ratio
6. Non-interest income
7. Expenses
8. Taxation

### **External Determinants**

External factors are said to be the factors that are beyond the control of the management of commercial banks. The external determinants of commercial banks' profitability are indirect factors, which are uncontrollable, but have an enormous impact on bank's profitability. They are as below:

1. GDP
2. Interest rate
3. Inflation rate
4. Competition (Market share/market growth rate)
5. Market share/ Bank size

### **2.1.10 NRB Directives Relating To NPA**

#### **Credit Information Bureau**

CIB was established to function as an intermediate between banks and financial institutions for credit information whereby customers availing credit facilities of Rs. 1 million and above and not repaying the loan by the stipulated time and / or violating other terms and conditions of the credit would be listed on the black list.

Individual, firms/companies listed in the black list (expected directors of government company) or shareholders/ shareholding company holding 15% or more shares of such companies should not be extend credit facilities unless a notice is issued by CIB regarding the released of firm/ company or individual from the black list.

#### **Condition for Blacklisted:**

1. Conditions under which borrowers are black listed/ defaulter listed
  - a. Principal and/or interest is even after one year of maturity/ expiry of loan, or if the bank/ financial institution feels necessary to list the borrower even before that
  - b. If the value of goods or assets pledged/ hypothecated as security for loans were found as misused.
  - c. Borrower is declared as bankrupt.
  - d. Borrowers diverts/ disutilize the loans, or
  - e. If the borrower is absconding.

Any other condition in which the bank/financial institution deems it necessary to list the borrower.

2. Condition beyond the control of Borrowers

Due to unusual circumstances beyond the control of the borrower, if the borrower fails to repay the principal/ interest of the loan, and bank feels that the difficult situation faced by the borrower is genuine, then it may decide not to consider the borrower for black listing.

### 3. Provision Regarding New Loans

Banks will not provide new loans to a black listed borrower. Banks can avail the list/ information regarding such borrower from CIB before processing the loan application of new customers.

### 4. Release from Black/ Defaulter List

If the bank decided to request CIB to release a borrower from the list upon full repayment of loan by the borrower, improvement in the account to the bank's satisfaction then as per the request CIB will release the borrower from the list and inform all banks accordingly.

### 5. CIB provides information to bank on borrower giving certain details from its database in strict confidence.

In this way, we conclude that the NRB Directives also play great role to decrease the NPA. The NPL increases the NPA. But at the same time credit defaulters are not allowed by making dissemination of information to other banks and FIS not provide credit unless they are removed their names from the list of black listed clients.

## **2.2 Empirical Review**

### **2.2.1 Review of Books**

Vaidya (1998), in his book "Project Failure and Sickness in Nepal, challenges to investors for investment Risk Management" has discussed about the early warning system for investment risk management. In this book the author has also envisaged number of example about crisis created by banks in the world. As per his view, banking sector cannot ignore any sector of the economy and the basis of its good and bad, there is vital role of financial institution in regard to bad accounts.

He concluded "in order to safeguard the banks from the financial crisis likely to be arose from the project failure and sick units, that is , non-performing loans, the government needs to do a number of things and fast, it must bring a broad rules for poor financial institution, transferring bad loans to bridge bank or loan recovery

agency, remove any non-performing loans from even healthier bank's balance sheets, beef up regulation, supervision and disclosure, improve ability to banks to sell the collateral that backs soured loans and recapitalize the banking system.

### **2.2.2 Review of Research Articles**

Realizing the importance of banking sector for an economy, NPAs as an area of research has attracted the attention of many researchers all over the world. Numerous researches have been carried out from time to time in the arena of NPAs. This section covers a snapshot of the previous studies on impact of NPAs on the profitability of the banks.

Tiwari (2004), the article titled "Financial sector hobbled with chaos, fragility" was published in the Himalayan times. He states that Nepal's financial sector is moving like a 'sinking boat'. According to him, financial institution have failed in delivering beneficial services to needy people by developing credit giving centers in rural areas without which sustained economic growth is impossible. On the other hand banks and financial institution have enough liquidity but they are finding it difficult to find suitable places for investment.

Bhattarai (2003) had presented an article about the "Non-Performing Assets (NPA) Management". According to him, a loan is very easy term for a borrower when he has already taken and for a lender not availed. It is equally difficult for a borrower to avail and for lender to recover. From a banker's view, it is just like a stone to roll down from the top of the hill sanctioning, but too difficult to roll back the same stone to the top of the hill while recovering. A loan not recovered within the given timeframe either in the form of interest servicing or principal repayment is called non-performing loan. There are other parameters as well to quantify a NPL. Security not to the extent of loan amount with specified safety margin, value of security not realizable, possession not as per the requirement of bank, conflict of charges are some of the reasons which causes difficulties while recovering the loan.

Meenakshi (2010) studied banking sector reforms and NPA'S in Indian commercial banks to examine the trends of NPA'S in India from various dimensions and to explain how immediate recognition and self-monitoring has been able to reduce it to a great extent. The study analyzed the different aspects of NPAs like NPA in India comparative to other countries, NPAs of Indian banks as per the different sectors and recovery of NPAs through various channels. It was found that NPAS in the contributory factor for crisis in the economy and root cause of the recent global financial crisis. It was observed that NPAs in priority sector is still higher than that of the non-priority sector due to socio economic objectives of banks.

Sudhakar (2012) investigated the NPA management in public sector banks-a case study of Canara bank and state bank of India to analyze the NPA of former mentioned banks. Data was collected for a period of ten years between 2000 and 2010.It is concluded that if the proper management of the NPAs is not undertaken it would be hampers the business of the banks. The NPAs would affect business cycles, legal framework, ethical standards, regulatory and supervisory system and bank specific factors like credit appraisal system, credit recovery procedures risk management system and the motivational level of employees. It is found that there is down trend in NPAs of selected banks by establishing appropriate systems internally to reduce and eliminate at the earliest.

Aggrawal and Mital (2012) analyzed the comparative position of nonperforming assets of selected public and private sector banks in India to find their efficiency through comparative study. Data has been collected from various secondary sources for period of 10 years and analyzed with descriptive statistics and ANOVA. All the banks are making polices trying for the containment of NPAs for improving their asset quality and profitability. PNB and HDFC banks are found superior in management of NPAs comparative to SBI and ICICI and private sector banks are much comfortable and efficient comparative to public sector banks.

Srivastava & Bansal (2012) did "A study of trends of non-performing assets in private banks in India" to find out whether there is positive trend and control of NPAs by the private sector banks in India. The data were collected for a period of five years from

2007-2012 from various secondary sources and analyzed by average and comparative percentage analysis. It was found that the level of NPAs is alarming with public sector banks in India but there is slight improvement in the asset quality reflected by decline in the NPA percentage. The banks should take timely action against degradation of good performing assets.

Chatterjee, Mukherjee and Das (2012) in their study on management of non-performing assets, a current scenario has concluded that banks should find out the original reasons/purposes of the loan required by the borrower. Proper identification of the guarantor should be checked by the bank including scrutiny of his/her wealth. Framing reasonably well documented loan policy and rules and sound credit appraisal on well-settled banking norms with emphasis on reduction in Gross NPAs rather than Net NPAs Position of overdue accounts is reviewed on a weekly basis to arrest slippage of fresh account to NPA. Half yearly balance confirmation certificates should be obtained from the borrowers.

Yadav (2011) in the research article on the impact of NPAs on profitability and productivity of PSBs in India, examined various micro variables affecting productivity and efficiency of banks. Using simple linear regression analysis on financial data between 1994-95 to 2005-06, the author explained that the level of the NPAs of PSBs affected fifty percent profitability of the banks and its impact has increased at very large extent with other strategic banking variables. Also, the high coefficient value explained a high degree of variability in productivity and efficiency of PSBs in terms of business per employee and operating profit per employee.

Poongavanam (2011) examined various literatures on issues, causes and remedial solution to manage NPA in Indian banking sector. The article explained the significant changes in Indian banking during the liberalization period and indicated the need to further enhance measures to manage the NPA. The author concluded the study stating the need to provide more importance for NPA management and proper remedial solutions.

Kakker (2005) studied "Role of Asset Reconstruction Company in NPA Management". The author stressed the need for management of the NPA by stating that a high level of NPAs severely affects the economy in many ways. The study was concluded by stating that ARC's with statutory/ regulatory powers are likely to emerge as nodal resolution agencies coexisting with CDR mechanisms for management of NPA.

Michael (2006) in his study "Effect of the NPA in Co-operative Banks" explained the importance of central co-operative banks in rural development and financial inclusion. The study addressed the threat posed by alarming level of NPA for cooperative banks. The study focused on a theoretical assessment of the effect of NPA on the operational efficiency of Central Co-operative Banks in India. The study suggested the need for effective recovery strategy and prompt, preventive and curative measures to curb the menace of NPA.

H.S. (2013) in her study "A study on causes and remedies for non-performing assets in Indian public-sector banks with special reference to agricultural development branch, state bank of Mysore" studied that bankers can avoid sanctioning loans to the non-creditworthy borrowers by adopting certain measures. There should be careful appraisal of the project which involves checking the economic viability of the project. A banker must consider the return on investment on a proposed project. If the calculated return is sufficiently higher than the credit amount he can sanction the loan. Secondly, he can constantly monitor the borrower in order to ensure that the amount sanctioned is utilized properly for the purpose to which it has been sanctioned. This involves the post sanction inspection by the banker.

Kumar (2013) in his study on "A Comparative study of NPA of Old Private Sector Banks and Foreign Banks" said that Non-performing Assets (NPAs) have become a nuisance and headache for the Indian banking sector for the past several years. One of the major issues challenging the performance of commercial banks in the late 90s adversely affecting was the accumulation of huge non-performing assets (NPAs). The quality of loan portfolio is very crucial for the health and existence of the banks. High

level of (NPAs) has many implications on profitability, productivity, liquidity, solvency, capital adequacy and image of the bank.

Selvarajan & Vadivalagan (2013) in “A Study on Management of Non-Performing Assets in Priority Sector with reference to Indian Bank and Public-Sector Banks (PSBs)” their research paper studied that the growth of Indian Bank’s lending to Priority sector is more than that of the Public-Sector Banks as a whole. Indian Bank has slippages in controlling of NPAs in the early years of the decade. Therefore, the management of banks must pay special attention towards the NPA management and take appropriate steps to arrest the creation of new NPAs, besides making recoveries in the existing NPAs. Timely action is essential to ensure future growth of the Bank.

Singh (2013) in his paper entitled “Recovery of NPAs in Indian Commercial Banks” said that the origin of the problem of burgeoning NPAs lies in the system of credit risk management by the banks. Banks are required to have adequate preventive measures in fixing pre-sanctioning appraisal responsibility and an effective post-disbursement supervision. Banks should continuously monitor loans to identify accounts that have potential to become non-performing. Banks have to be given powers of inspection of the use of loans and the loan should be disbursed on the point of purchase by the borrowers to ensure proper utilization of deposits. Banks may also be given powers to recover loans from the guarantor of the borrower.

Gupta (2012) in her study “A Comparative Study of Non-Performing Assets of SBI & Associates & Other Public-Sector Banks” concluded that each bank should have its own independence credit rating agency which should evaluate the financial capacity of the borrower before than credit facility. An effective committee can be formed for management of NPA comprising of financial experts who have wide knowledge in this field. Banks can appoint professionals to identify the genuine borrowers & can analyze their profile. NPA can be considered as a crucial rating factor for any bank; it should continuously monitor the borrower’s A/C to prevent NPA. The credit rating agencies should regularly evaluate the financial condition of the clients. Special accounts should be made of the clients where monthly loan concentration report should be made.

Khanna (2012) in her research paper entitled "Managing NPA in Commercial Banks" said that the primary function of banks is to lend funds as loans to various sectors such as agriculture, industry, personal loans, housing loans etc., but in recent times the banks have become very cautious in extending loans. The reason being mounting non-performing assets (NPAs) and nowadays these are one of the major concerns for banks in India. 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.

Kaur and Singh (2011) in their study on "Non-performing assets of public and private sector banks (a comparative study)" studied that NPAs are considered as an important parameter to judge the performance and financial health of banks. The level of NPAs is one of the drivers of financial stability and growth of the banking sector. The Financial companies and institutions are nowadays facing a major problem of managing the Non-Performing Assets (NPAs) as these assets are proving to become a major setback for the growth of the economy.

Karunakar (2008), in his study Are non -Performing Assets Gloomy or Greedy from Indian Perspective, studied the important aspect of norms and guidelines for making the whole sector vibrant and competitive. The problem of losses and lower profitability of Non-Performing Assets (NPA) and liability mismatch in Banks and financial sector depend on how various risks are managed in their business. The lasting solution to the problem of NPAs can be achieved only with proper credit assessment and risk management mechanism. It is better to avoid NPAs at the market stage of credit consolidation by putting in place of rigorous and appropriate credit appraisal mechanisms.

Xu (2005) examined the resolution of NPA in China. The alarming level of NPA, despite the economic growth of the nation, was the focus point of the study. Using ratio analysis, the study asserted that NPA resolution progress is not satisfactory because of the bulk disposal which requires regulatory approval. The results of the study recommended further strengthening of the legal and regulatory framework that includes implementation of securitization law, the acceleration of the transfer process

from banks to AMC and provision for banks to sell NPA below book value to third parties.

Balasubramaniam (2001) in Non-performing assets and profitability of commercial banks in India: assessment and emerging issues said that the level of NPAs is high with all banks currently and the banks would be expected to bring down their NPA. This can be achieved by good credit appraisal procedures, effective internal control systems along with their efforts to improve asset quality in their balance sheets. However, maintaining profitability is a challenge to commercial banks especially in a highly competitive era and opening up of banking business to NBFC and foreign banks in general.

### **2.2.3 Review of Related Thesis**

Ojha (2002), had carried out research on “Lending Practices: A study in Nabil Bank, Standard Chartered Bank, and Himalayan Bank Limited”. The main objectives of the study are to analyze the various aspects of bank’s lending in various sector of economy, the individual bank’s performance regarding lending quantity, quality, efficiency and its contribution in total income.

The researcher concluded “The highest growth rate, proportionately high volume of loans and advances, the best contribution in priority and agricultural sector and the high level of deposits mobilization of HBL has put this bank in the top position in the lending function. However, the better activity ratio of SCBNL has proved this bank the best in managing the lending according to the demand of profit-oriented business. The high volume of lending activities and high volume of productive sector loan of NABIL has put the bank in the top position in absolute terms. The increasing provision on loan loss and high volume of non-performing assets in NABIL& HBL certainly attracts the high attention of any person interested with these banks. The high volume of NPA of HBL may have caused due to the failure of industrial and agricultural sector. NABIL’s increased NPA may have caused due to the accumulated bad debts that is kept behind the curtain to show the high efficiency of management”.

Shrestha (2004), had carried out research on “A study on Non-Performing Loan and Loan Loss Provisioning of Commercial Banks: with reference to Nepal Bank Limited, Nabil Bank Limited and Standard Chartered Bank Limited”. In this study, main objectives are to find out the proportions of non- performing loan, relationship between loan loss provision and loan and loss provision and profitability factors that affects to accumulate the non-performing loans in selected banks.

The researcher concluded that ineffective credit policy, political pressure to lend to unaccountable borrowers, overvaluation of collateral are the major causes of mounting non-performing assets in government owned bank NBL. Other factors leading to accumulation of NPAs are weak loan sanctioning process, ineffective credit control review and classification of loan enables banks to monitor quality of their loan portfolios and to take remedial action counter deterioration in credit quality. In addition to these, establishing recovery cell, hiring asset management company are also measures to resolve the problem on NPL. The researcher found that NBL has very high portion of non-performing loan resulting higher provision on comparison to NABIL and SCBNL. Even the NBL has highest investment in the most income generating assets i.e. Loans higher non-performing loans and provision which is higher than acceptable during the study period.

Bhattarai (2004), made a study in “Implementation of Directives issued by Nepal Rastra Bank, A comparative study of Nepal SBI Bank Limited and Nepal Bangladesh Bank Limited”, to analyze various aspects of NRB Directives with respect to capital adequacy and loan classification and provisioning.

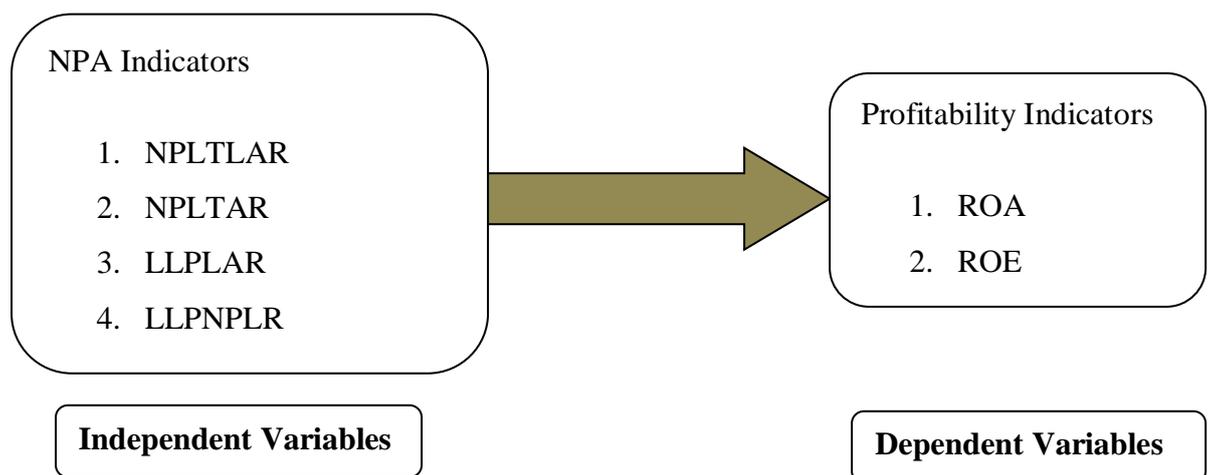
The researcher concluded that with the new provisions the banks will have its provision amount increasing in coming years and subsequently profitability of the banks will also come down. However, the true picture of the quality of the assets will be painted in the coming years to come. The researcher recommended that 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.

## 2.3 Theoretical Framework

In this research, profitability of commercial bank is the dependent variable and independent variables are non-performing loan to total loans and advances ratio, non-performing loan to total assets ratio, loan loss provision to loans and advances ratio and loan loss provision to non-performing loan ratio.

Depending upon the existing theoretical and empirical evidences on the impact of non-performing assets/loans on the performance, profitability of banks, the conceptual framework of this study is portrayed in Figure 1.

*Figure 2.1* Conceptual Framework



## 2.4 Hypothesis

Based on the review of literature given in chapter II, some variables have been identified as determinant of factors influence on profitability. This research tests the following null and alternative hypothesis to determine the relationship between the various variables:

H<sub>0</sub>: There is no significant relationship between the dependent variables (ROA and ROE) and the independent variables(NPLTLAR, NPLTAR, LLPLAR and LLPNPLR) of sampled banks.

H<sub>1</sub>: There is significant relationship between the dependent variables (ROA and ROE) and the independent variables (NPLTLAR, NPLTAR, LLPLAR and LLPNPLR) of sampled banks.

## **2.5 Research Gap**

From the above study, it can be said that the NPA is one of the challenging problem of commercial banks in Nepal, which is followed by increasing loan loss provisioning. It is found that some research in the related topic, but no research was found in detail research and analysis on impact of non-performing assets. Hence, this research has attempted to fill the gap by taking reference of Agriculture Development Bank Limited, Nabil Bank Limited, Nepal Investment Bank Limited, Standard Chartered Bank Nepal Limited, Machhapuchchhre Bank Limited, and Siddhartha Bank Limited. This study tries to show the present issues, latest information on bank's NPAs and other ratios, data and real picture of loan and advance of Nepalese Commercial Bank.

## **CHAPTER III**

### **METHODOLOGY**

This chapter deals with the research design and methodology. This chapter hence provides information about research design, population and sampling, sources of data, data collection procedures, tools of analysis and regression model.

#### **3.1 Research Design**

This study seeks at investigating the impact of the non-performing assets on profitability of the six Nepalese commercial banks during the time period (2012/13 – 2016/17) by applying the data issued by commercial banks for every fiscal year. Descriptive and analytical research design has been used for conducting this research.

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

The population for this study comprises all commercial banks operating in Nepal. There are 28 commercial banks currently operating in Nepal. Among the population, six commercial banks are taken as a sample that meets five years data (2012/13-2016/17) that is required for the purpose of analysis. The sample includes six Nepalese Commercial Banks. The sampled banks are Agriculture Development Bank Limited, Nabil Bank Limited, Nepal Investment Bank Limited, Standard Chartered Bank Nepal Limited, Machhapuchchhre Bank Limited, and Siddhartha Bank Limited.

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

The study is based on secondary data. For the purpose of study, the annual report of selected sample banks is used as the major sources of data. Besides the annual reports of selected sample banks, required data and information is collected from the following sources:

1. NRB reports, directives and bulletins and its website.

2. Various publications dealing in the subject matters of study.
3. Browsing of official website of sample banks.

### **3.4 Data Collection Techniques**

Since the study is based mainly on the secondary data, required facts and figures are obtained from the annual reports collected from the corporate office of the respective banks. The data have been obtained from browsing the official websites of sample banks, and NRB.

### **3.5 Tools of Analysis**

Data analysis is performed using SPSS software. The collected data were entered into the database software Microsoft Excel and were coded in the statistical software SPSS such that the various analytical tools could be used to obtain the information. The coded data were rerecorded and transformed as per the requirement of the study. Various statistical tools are used from SPSS to represent, tabulate and analyze the data

To comply with the objective, the report is primarily based on secondary data, which is collected through bank's annual reports. The data is analyzed using descriptive statistics. The correlation analysis is performed to check the relation between the independent and dependent variables.

Non-performing assets and its impact on profitability of the bank, is analyzed with two important tools. The first most important tool is the financial tool, which includes ratio analysis, and another is a statistical tool.

#### **3.5.1 Financial Tools**

The following financial ratios are analyzed under the NPA and profitability position analysis of selected three commercial banks.

## **A) NPA Indicators**

### **1. Loan and Advances to Total Assets Ratio (LATAR)**

The loan and advances to total assets ratio measures the amount of loan and advances in the total assets. High degree of loan and advances indicates the good position of the organization that of good mobilization of deposits of fund.

Loan is the risky assets. Thus, higher loan and advances to total assets ration shows high risk and inversely low loan and advances to total assets ratio shows low risk.

### **2. Loan and Advances to Total Deposit Ratio (LATDR)**

It shows how much funds of deposit are provided as loan and advance. This ratio is used to find out how successfully the bank are utilizing their deposit fund in credit or loan for profit generating purpose as loan and advances yield high rate of return. Higher CD ratio implies the better utilization of total deposits and better earning.

### **3. Non-Performing Loan to Total Loans and Advances Ratio (NPLTLAR)**

This ratio determines the non-performing assets in the total loan & advances portfolio. Greater ratio implies the bad quality of loan of the bank, hence lower ration is preferable. As per international standard and in Context of Nepal only 5% NPA is acceptable.

### **4. Loan Loss Provision to Loans and Advances Ratio (LLPLAR)**

This ratio describes the proportion of provision held to loans and advances of the bank. It measures up to what extent of risk inherent in loans and advances is covered by the total loan provision. Higher ratio signifies the poor and ineffective credit policy, higher proportion on non-performing loans and poor performance of the bank.

### **5. Loan Loss Provision to Non-Performing Loan Ratio (LLPNPLR)**

This ratio describes the proportion of provision held to non-performing assets of the bank. It measures up to what extent of risk inherent in NPA is covered by the total

loan provision. Higher ratio signifies that the banks are safeguard against future contingencies that may create due to non-performing assets. So, higher the ratio better is the financial strength of the bank.

## **6. Non-Performing Loan to Total Assets (NPLTAR)**

It indicates the ratio between the non-performing assets and total assets. Higher ratio implies the bad effect in bank's performance and it decreases the profitability of the bank and lower ratio implies the better performance of the bank and it increases the profitability of bank.

## **B) Profitability Indicators**

### **1. Return on Total Assets Ratio (ROA)**

Return on total assets explains the contribution of assets to generating net profit. This ratio indicates efficiency towards of assets mobilization. In other words, return on total assets ratio is an overall profitability rate, which measures earning power and overall operation efficiency of a firm. This ratio helps the management in identifying the factors that have a bearing on overall performance of the firm.

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

Equity shareholders are the real owners of a company and are the risk-bearers and are entitled to total profits earned by the company after preference dividend. Return on equity relates the profitability of a company to equity shareholders' equity. ROE measures the company's profitability in terms of return to equity shareholders.

## **3.5.2 Statistical Tools**

### **1. Arithmetic Mean**

Arithmetic Mean is the sum of the given observation divided by the number of observations. In such as case all the items are equally important. Simple Arithmetic Mean is used in this study as per necessary for analysis

## 2. Standard Deviation (S.D.)

“The standard deviation usually denoted by the letters ( $\sigma$ ). Karl Pearson suggested it as a widely used measure of dispersion and defined as the given observations from their arithmetic mean of a set of value. It is also known as root mean square deviation. Standard deviation, in this study has been used to measure the degree of fluctuation of interest rate and that of other variables as per the necessity of the analysis.

## 3. Coefficient of Variation (C.V.)

The relative measure of dispersion based on standard deviation is called coefficient of standard deviation and 100-time coefficient of standard deviation is called coefficient of variation. It is denoted by C.V.

## 4. Correlation (r)

The value of coefficient of correlation as obtained shall always lie between  $\pm 1$ , a value of  $-1$  indicating a perfect negative relationship between the variables, of  $+1$  a perfect positive relationship, and of no relationship when correlation coefficient is zero. The zero-correlation coefficient means the variables are uncorrected.

## 5. Regression Analysis

Regression is a statistical method for investigating relationships between the variables by the establishment of an approximate functional relationship between them. It is considered as a useful tool for determining the strength of relationship between two (Simple Regression) or more (Multiple regression) variables. It helps to predict or estimate the value of one variable when the value of other variable/variables is known. The regression line of dependent variable (Y) on independent variable (X) is given by;

$$Y = a + bX \dots \dots \dots (i)$$

Where, a = constant

b = regression coefficient

### 3.6 Regression Model

Most sophisticated multiple regression techniques have been applied to study the joint influence of all the selected ratios indicating banks' NPA and profitability and the regression coefficients have been tested with the help of the most popular f-test. In this study, non-performing asset to total loan and advance ratio, non-performing loan to total assets ratio, loan loss provision to loans and advances ratio and loan loss provision to non-performing loan ratio have been taken as the explanatory variables and return on assets and return on equity have been used as the dependent variables. The regression models used in this analysis are:

$$\text{ROA} = a + b_1 \text{NPLTLAR} + b_2 \text{NPATAR} + b_3 \text{LLPLAR} + b_4 \text{LLPNPLR} \dots \dots \dots (i)$$

$$\text{ROE} = a + b_1 \text{NPLTLAR} + b_2 \text{NPATAR} + b_3 \text{LLPLAR} + b_4 \text{LLPNPLR} \dots \dots \dots (ii)$$

Where,

ROA= Return on assets

ROE= Return on equity

NPLTLAR= Non-performing loan to total loan and advance ratio

NPLTAR= Non-performing loan to total assets ratio

LLPLAR= Loan loss provision to loans and advances ratio

LLPNPLR= Loan loss provision to non-performing loan ratio

And 'a' represents the constant value and 'b<sub>1</sub>', 'b<sub>2</sub>', 'b<sub>3</sub>' and 'b<sub>4</sub>' represent the regression coefficient.

The first model measures the effect of the NPA indicators on profitability in Nepalese commercial banks, where return on asset (ROA) is the proxy for profitability.

The second model measures the effect of the NPA indicators on profitability in Nepalese commercial banks, where return on equity (ROE) is the proxy for profitability.

## CHAPTER IV

### RESULTS

This chapter aims to obtain the objective of the study for critically examining both the qualitative and quantitative data. It contains the analysis, discussion and interpretation of the results based on data collected.

#### 4.1 Analysis of Financial Indicators and Variables

##### 4.1.1 NPA Indicators

##### 4.1.1.1 Loans and Advances to Total Assets Ratio

Table 4.1

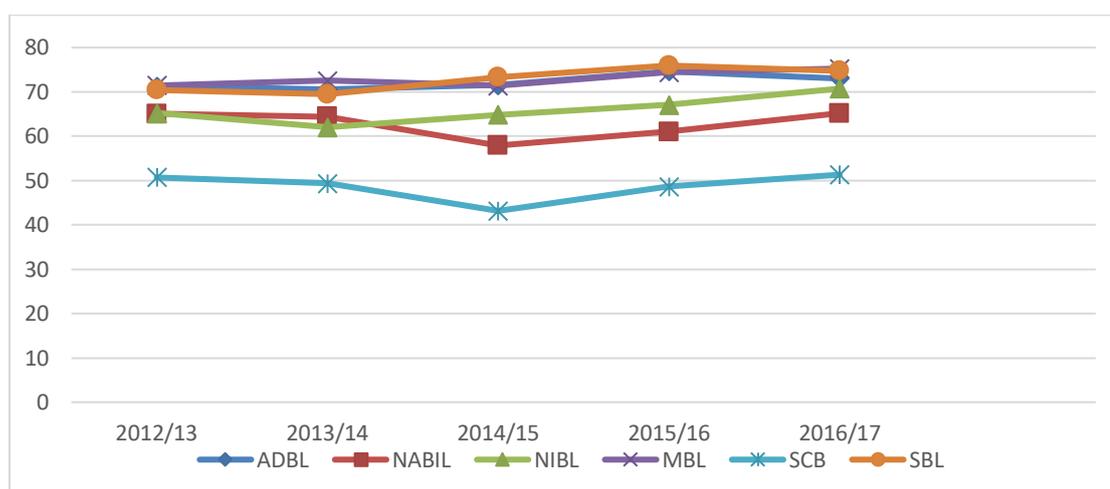
*Loans and advances to total assets ratio (In %)*

<b>FY</b>	<b>ADBL</b>	<b>Nabil</b>	<b>NIBL</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	71.23	65.05	65.21	71.47	50.71	70.49
2013/14	70.58	64.40	62.04	72.54	49.37	69.48
2014/15	71.57	57.91	64.87	71.42	43.16	73.35
2015/16	74.62	61.06	67.04	74.39	48.63	75.95
2016/17	73.09	65.19	70.74	75.25	51.33	74.82
Mean	72.22	62.72	65.98	73.02	48.64	72.82
S.D	1.63	3.18	3.21	1.74	3.24	2.77
C.V	2.26	5.06	4.86	2.38	6.67	3.80

*(Sources: Appendix 1)*

The Table 4.1 shows the loans and advances to total assets of six banks for the five consecutive years. Here, ratios of all six banks are in fluctuating trend. The mean ratio of ADBL, Nabil, NIBL, MBL, SCB and SBL are 72.22%, 62.72%, 65.98%, 73.02%, 48.64% and 72.82% respectively. The overall combined mean of these six banks is 65.90%. Among the six banks MBL has highest proportion of loans and advances in total assets structure than followed by other sampled bank. This refers that SCB has the lowest degree of investment in risky assets. The low ratio shows low productivity and high degree of safety in liquidity and vice versa.

Similarly, ADBL, NABIL, NIBL, MBL, SCB and SBL have the standard deviation of 1.63%, 3.18%, 3.21%, 1.74%, 3.24% and 2.77% and C.V. of 2.26%, 5.06%, 4.86%, 2.38%, 6.67% and 3.80% respectively. Through this it can be interpreted that SCB has higher variation as well as higher deviation.



**Figure 4.1:** Loans and advances to total assets ratio (In %)

#### 4.1.1.2 Loans and Advances to Total Deposit Ratio

Table 4.2

*Loans and advances to total deposit ratio (In %)*

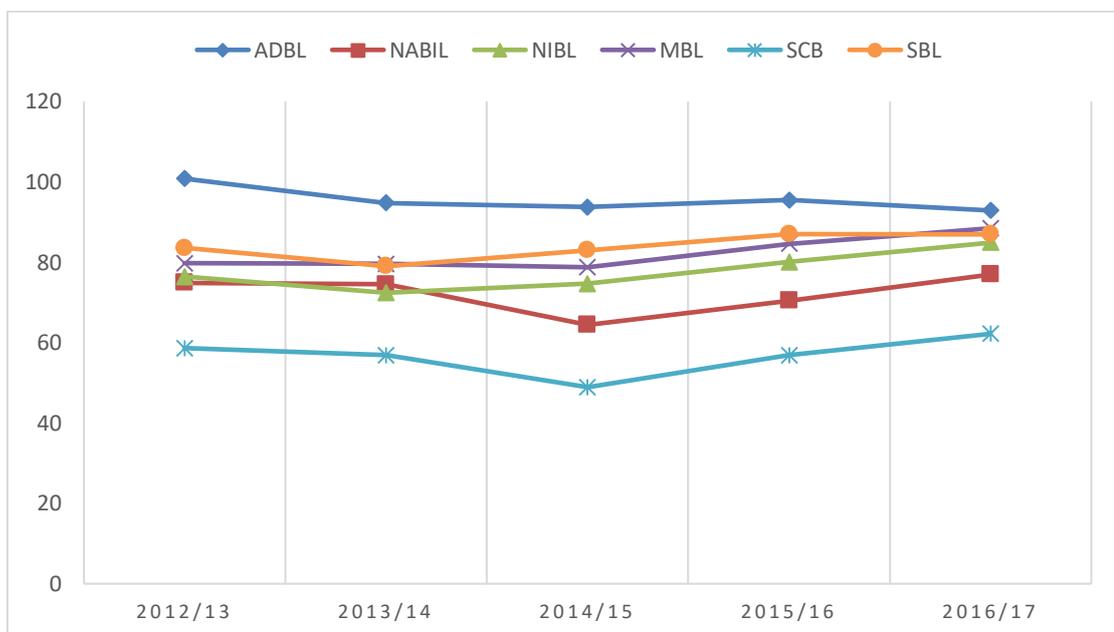
FY	ADBL	Nabil	NIBL	MBL	SCB	SBL
2012/13	100.81	74.90	76.41	79.79	58.63	83.55
2013/14	94.80	74.55	72.41	79.56	56.87	79.02
2014/15	93.77	64.43	74.69	78.77	48.92	83.04
2015/16	95.46	70.49	80.10	84.59	56.88	87.02
2016/17	92.90	76.95	84.89	88.47	62.20	87.00
Mean	95.55	72.27	77.70	82.23	56.70	83.93
S.D	3.10	4.97	4.91	4.17	4.86	3.32
C.V	3.25	6.88	6.31	5.07	8.58	3.95

*(Sources: Appendix 1)*

The Table 4.2 exhibits the loans and advances to total deposit of six sampled banks for five consecutive years'. This ratio shows the fluctuating trend in all sampled bank

except ADBL. It is in decreasing trend in ADBL but in 2015 its ratio slightly increased from 93.77% to 95.46%. The mean ratio of ADBL, NABIL, NIBL, MBL, SCB and SBL are 95.55%, 72.27%, 77.70%, 82.23%, 56.70% and 83.93% respectively. The overall combined mean of these six banks is 78.06%. If we compare these six banks, ADBL has highest ratio, and SCB has lowest ratio.

The standard deviation of ADBL, Nabil, NIBL, MBL, SCB and SBL are 3.10%, 4.97%, 4.91%, 4.17%, 4.86% and 3.32% and C.V. are 3.25%, 6.88%, 6.31%, 5.07%, 8.58% and 3.95% respectively. Here, SCB has higher variation whereas Nabil has higher deviation.



**Figure 4.2 :** Loans and advances to total deposit ratio (In %)

#### 4.1.1.3 Loan Loss Provision to Loans and Advances Ratio

Table 4.3

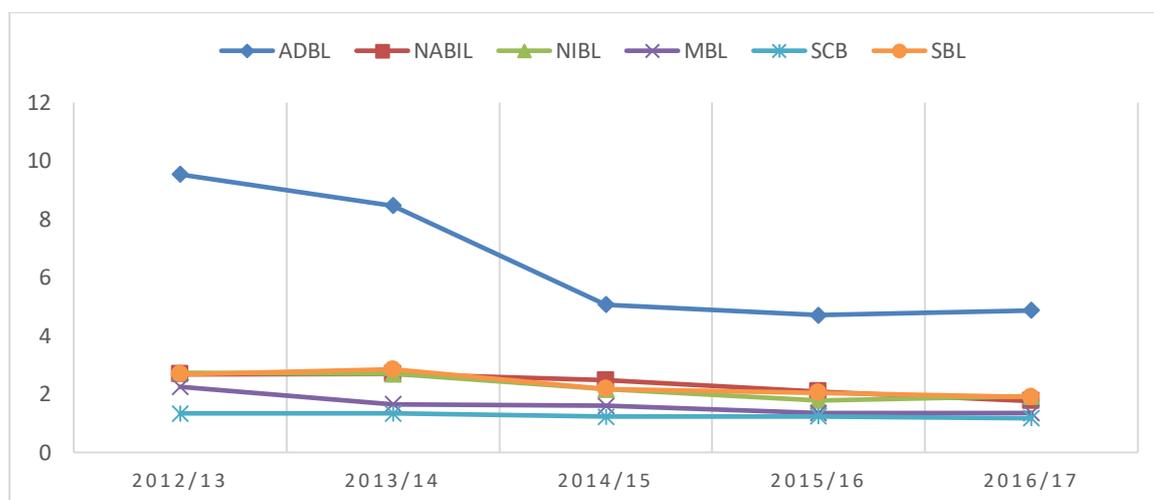
*Loan loss provision to loans and advances ratio (In %)*

<b>FY</b>	<b>ADBL</b>	<b>Nabil</b>	<b>NIBL</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	9.53	2.68	2.73	2.25	1.34	2.68
2013/14	8.46	2.69	2.69	1.65	1.34	2.85
2014/15	5.07	2.47	2.17	1.60	1.22	2.18
2015/16	4.71	2.09	1.78	1.35	1.24	2.05
2016/17	4.87	1.76	1.93	1.35	1.17	1.90
Mean	6.53	2.34	2.26	1.64	1.26	2.33
S.D	2.29	0.40	0.43	0.37	0.07	0.41
C.V	35.03	17.20	19.16	22.47	5.74	17.72

*(Sources: Appendix 1)*

The Table 4.3 exhibits the ratio of loan loss provision to loans and advances of the six banks for the five consecutive years'. The table shows that ratio of NIBL, MBL and SCB is in decreasing trend. The same trend is of ADBL, NABIL and SBL but its ratio is slightly increased from 4.71% to 4.87% in 2015, from 2.68% to 2.69% and from 2.68 to 2.85 in 2013 respectively. Higher LLP is indicative of poor and ineffective credit policy, higher proportion on non-performing assets and poor performance of the bank. Hence in the comparison of these sampled banks, the greater ratio of ADBL is 6.53%, suggest that there is higher proportion of NPL in the total loans and advances. But decreasing trend of loan loss provision to loans and advances ratio of ADBL explains that they successfully reducing its non-performing loan resulting to decrease LLPLAR ratio. The overall combined mean of these three banks is 2.73%.

The standard deviation of ADBL, NABIL, NIBL, MBL, SCB and SBL are 2.29%, 0.40%, 0.43%, 0.37%, 0.07% and 0.41% and their C.V. are 35.03%, 17.20%, 19.16%, 22.47%, 5.74% and 17.72% respectively. Here, we can clearly see that ADBL has the higher deviation and variation.



**Figure 4.3:** Loan loss provision to loans and advances ratio (In %)

#### 4.1.1.4 Non-Performing Loans to Total Loans and Advances Ratio

Table 4.4

*Non-performing loans to total loans and advances ratio (In %)*

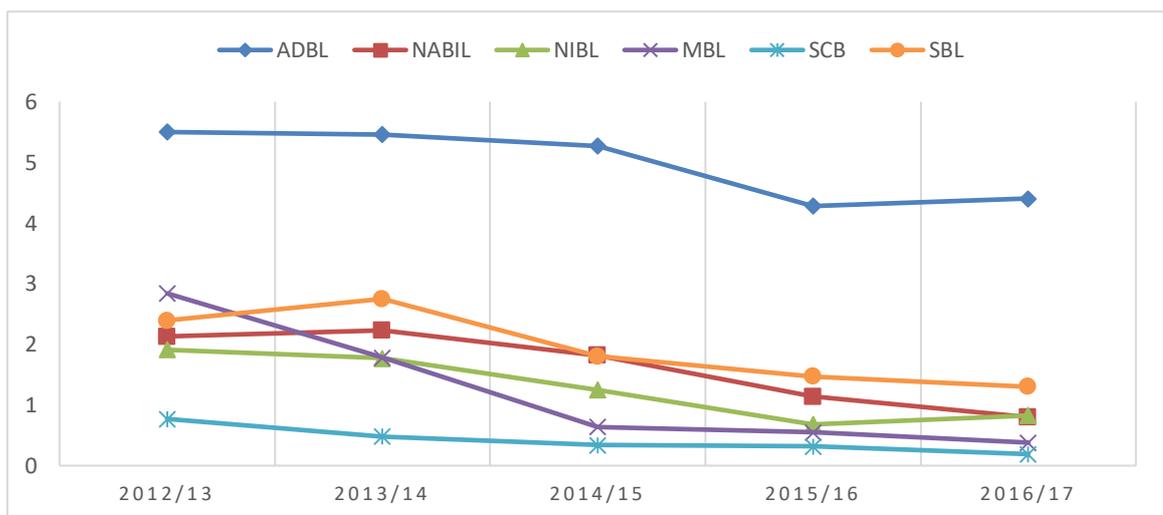
FY	ADBL	Nabil	NIBL	MBL	SCB	SBL
2012/13	5.50	2.13	1.91	2.84	0.77	2.39
2013/14	5.46	2.23	1.77	1.78	0.48	2.75
2014/15	5.27	1.82	1.25	0.64	0.34	1.80
2015/16	4.28	1.14	0.68	0.55	0.32	1.47
2016/17	4.40	0.80	0.83	0.38	0.19	1.30
Mean	4.98	1.62	1.29	1.24	0.42	1.94
S. D	0.59	0.63	0.55	1.05	0.22	0.61
C.V	11.92	38.64	42.53	84.98	52.62	31.62

*(Sources: Appendix 1)*

The Table 4.4 exhibits the ratio of non-performing loan to loans and advances of six banks for five consecutive years'. The figure represented in the table 4.4 shows that MBL and SCB have decreasing trend of NPLTLAR, is the result of effective credit management of bank and its effort of recovering bad debts through establishment of recovery cell. The trend of NPLTLAR in NABIL and SBL is also decreasing except in 2013/14. Similarly, the trend of NPLTLAR in ADBL and NIBL is also decreasing

except in 2016/17. The mean ratio of ADBL, NABIL, NIBL, MBL, SCB and SBL are 4.98%, 1.62%, 1.29%, 1.24%, 0.42% and 1.94% respectively and the combined mean is 1.92%. The NPLTLAR of ADBL is slightly high in comparison to other sampled banks but it is in decreasing trend. All six banks have the NPL below than the acceptable standard of 5%.

S.D. of ADBL, NABIL, NIBL, MBL, SCB, and SBL are 0.59%, 0.63%, 0.55%, 1.05%, 0.22% and 0.61% and C.V. are 11.92%, 38.64%, 42.53%, 84.98%, 52.62% and 31.62% respectively. Thus, it signifies that MBL has higher degree of variation and ADBL has least variability ratio among six banks during the study period. Since NPL is one of the causes of banking crisis, bank should give serious attention to this matter.



**Figure4.4 :**Non-performing loans to total loans and advances ratio (In %)

#### 4.1.1.5 Non-Performing Loan to Total Assets Ratio

Table 4.5

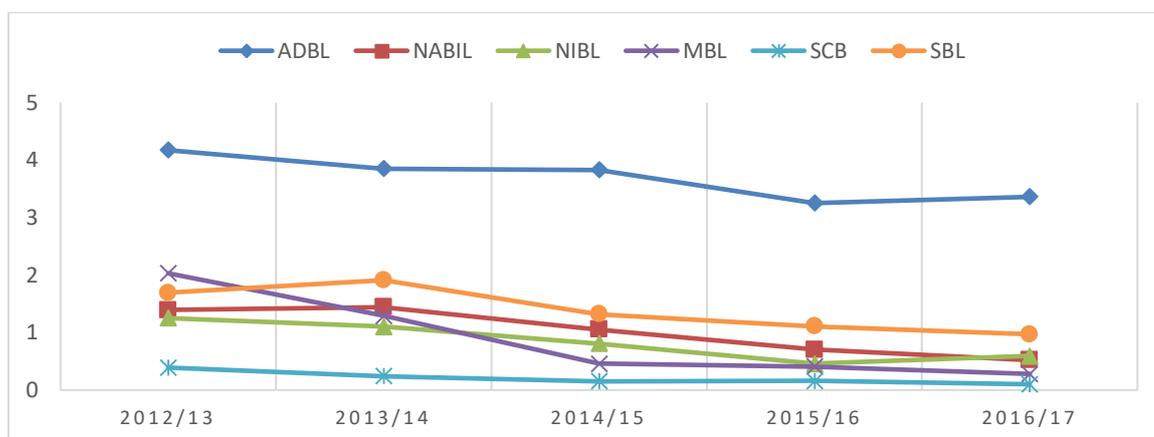
*Non-performing loan to total assets ratio (In %)*

<b>FY</b>	<b>ADBL</b>	<b>Nabil</b>	<b>NIBL</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	4.17	1.39	1.25	2.03	0.39	1.69
2013/14	3.85	1.44	1.11	1.29	0.24	1.91
2014/15	3.82	1.10	0.81	0.46	0.15	1.32
2015/16	3.25	0.70	0.45	0.41	0.16	1.11
2016/17	3.36	0.52	0.59	0.28	0.02	0.97
Mean	3.69	1.02	0.84	0.89	0.21	1.40
S.D	0.38	0.41	0.33	0.75	0.11	0.39
C.V	10.24	40.03	39.70	83.90	55.36	27.97

*(Sources: Appendix I)*

The Table 4.5 exhibits the ratio of NPLTAR of six banks for five consecutive years<sup>7</sup>. The figure represented in the table 4.5 shows that MBL has decreasing trend. Similarly, the same trend is of ADBL, NIBL, NABIL and SCB but its ratio is slightly increased from 3.25% to 3.36%, from 0.45% to 0.59% in 2016, from 1.39% to 1.44% in 2013 and from 0.15% to 0.16% in 2015 and 1.69% to 1.91% in 2013 respectively. The mean ratio of ADBL, NABIL, NIBL, MBL, SCB and SBL are 3.69%, 1.02%, 0.84%, 0.89%, 0.21% and 0.39% respectively and combined mean is 1.34%. As compared to sampled banks, ADBL has higher ratio which implies the bad effect in bank's performance and it decreases the profitability of the banks, but it is in decreasing trend.

S.D. of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.38%, 0.41%, 0.33%, 0.75%, 0.11% and 0.39% and C.V. are 10.24%, 40.03%, 39.70%, 83.90%, 55.36% and 27.97% respectively. Thus, it signifies that MBL has higher deviation and variation.



**Figure 4.5:**Non-performing loan to total assets ratio (In %)

#### 4.1.1.6 Provision Held to Non-Performing Loan Ratio

Table 4.6

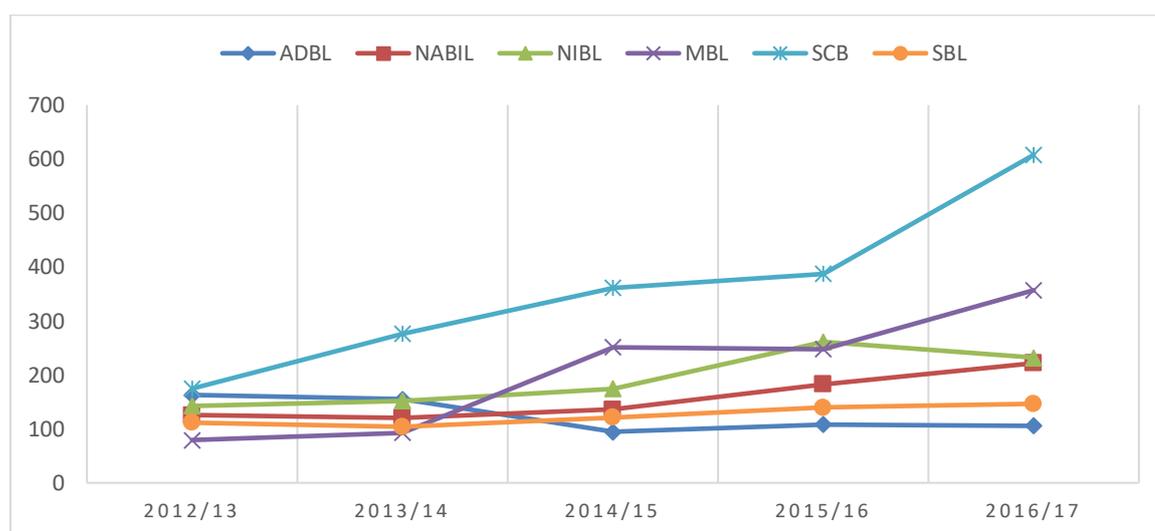
*Provision held to non-performing loan ratio (In %)*

FY	ADBL	Nabil	NIBL	MBL	SCB	SBL
2012/13	162.88	125.66	142.44	79.36	174.61	111.83
2013/14	155.08	120.33	151.90	92.93	276.23	103.97
2014/15	94.75	135.95	174.26	251.22	361.41	121.21
2015/16	108.09	182.71	261.17	247.64	387.35	139.55
2016/17	105.92	221.70	231.84	356.89	607.59	146.50
Mean	125.34	157.27	192.32	205.61	361.44	124.61
S.D	31.24	43.64	51.84	117.65	160.80	18.05
C.V	24.92	27.75	26.96	57.22	44.49	14.48

*(Sources: Appendix 1)*

The Table 4.6 exhibits the ratio of provision held to non-performing loan of six banks for five consecutive years. Here, we can see that SCB shows increasing trend and ADBL has the fluctuating trend. Similarly, SBL and Nabil have the increasing trend except in 2013 where the ratio decrease to 103.97% from 111.83% and to 120.33 from 125.66 respectively. The mean ratios of six sampled banks are 125.34%, 157.27%, 192.32%, 205.61%, 361.44% and 124.61% of ADBL, NABIL, NIBL, MBL, SCB, and SBL respectively and the combined mean is 194.43%. Higher mean ratio indicates banks have adequate provision against non-performing loan. Comparatively, among these sampled banks SCB has highest ratio, SBL has least ratio.

The standard deviation of ADBL, NABIL, NIBL, MBL, SCB and SBL are 31.24%, 43.64%, 51.84%, 117.65%, 160.80% and 18.05% and C.V. are 24.92%, 27.75%, 26.96%, 57.22%, 44.49% and 14.48%. It signifies that SCB has highest deviation whereas MBL has highest variation in ratio.



**Figure 4.6:** Provision held to non-performing loan ratio (In %)

#### 4.1.2 Profitability Indicators

##### 4.1.2.1 Return on Total Assets Ratio (ROA)

Table 4.7

*Return on Total Assets Ratio (In %)*

FY	ADBL	NABIL	NIBL	MBL	SCB	SBL
2012/13	2.97	3.25	2.6	0.49	2.67	1.43
2013/14	1.76	2.65	2.3	1.12	2.51	1.74
2014/15	3.12	2.06	1.9	1.26	1.99	1.51
2015/16	2.32	2.32	2	1.51	1.98	1.69
2016/17	2.15	2.7	2.1	1.89	1.84	1.54
Mean	2.464	2.596	2.18	1.254	2.198	1.582
SD	0.57	0.45	0.28	0.52	0.37	0.13
CV	23.15	17.28	12.73	41.28	16.70	8.16

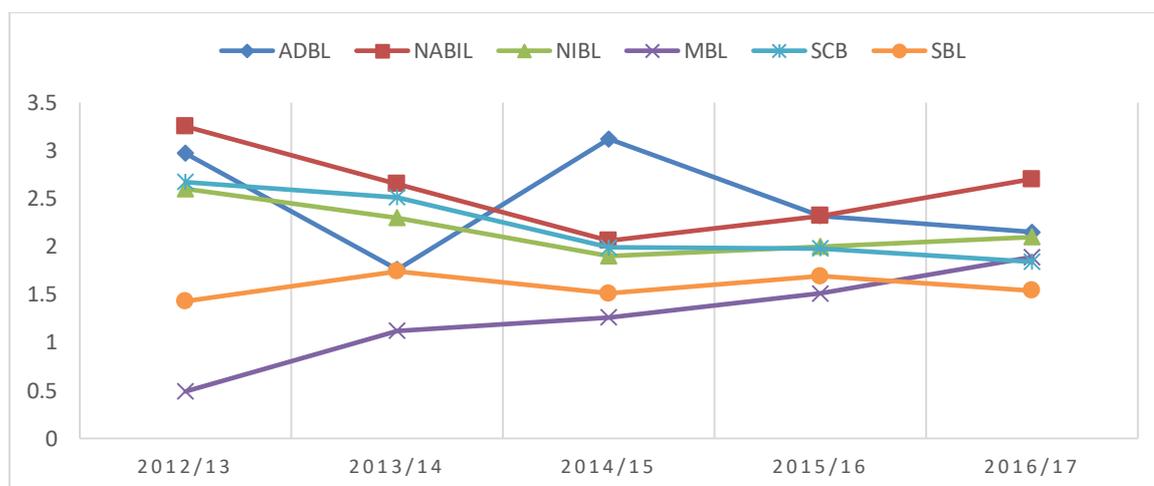
(Sources: Appendix I)

The Table 4.7 shows that the ROA of ADBL and SBL are in fluctuating trend. The average ROA indicated that ADBL is able to yield Rs.2.46 net profit from Rs.100 investment in total assets. Similarly, the average ROA of SBL indicates that the bank is able to yield Rs.1.58 net profit from Rs.100 investment in total assets. The coefficient of variation of both banks are 23.15% and 8.16% respectively.

Likewise, the ROA of both NABIL and NIBL are in decreasing trend up to 2014/15 and then increasing trend. The average ROA of NABIL indicates that the bank is able to yield Rs.2.6 net profit from Rs.100 investment in total assets. Similarly, the average ROA of NIBL indicates that the bank is able to yield Rs.2.18 net profit from Rs.100 investment in total assets. The coefficient of variation of NABIL and NIBL in the ratio are 17.28% and 12.73%.

Likewise, the ROA of MBL is in increasing trend. The average ROA of MBL indicates that the bank is able to yield Rs.1.25 net profit from Rs.100 investment in total assets. Similarly, the ROA of SCB is in decreasing trend. The average ROA of SCB indicates that the bank is able to yield Rs.2.20 net profit from Rs.100 investment in total assets. And the coefficient of variation of MBL and SCB are 41.28% and 16.70% respectively.

Comparing the banks on the basis of ROA, it can be concluded that the NABIL is most successful to optimally mobilize the total assets in generating maximum net profit than other sampled bank, since the ROA of NABIL is highest.



**Figure 4.7:** Return on Total Assets Ratio (ROA)

#### 4.1.2.2 Return on Shareholders' Equity (ROE)

Table 4.8

*Return on Shareholders' Equity (In %)*

FY	ADBL	NABIL	NIBL	MBL	SCB	SBL
2012/13	16.09	32.78	31.7	5.31	26.38	19.29
2013/14	11.67	27.91	27.6	14.05	26.27	23.35
2014/15	22.21	22.73	24.8	15.44	21.69	20.47
2015/16	13.6	25.61	26	16.82	17.18	20.11
2016/17	11.77	26.65	19.18	15.86	11.98	14.03
Mean	15.07	27.14	25.84	13.50-	20.7	19.45
SD	4.38	3.69	4.58	4.68	6.18	3.39
CV	29.05	13.59	17.73	34.70	29.85	17.45

*(Sources: Appendix 1)*

The Table 4.8 has indicated the efficiency of the banks in generating profit through mobilizing the shareholders' property. The table showed that ROE of ADBL is in fluctuating trend. In average, the ROE in ADBL is 15.07%, which indicated that ADBL is able to generate Rs.15.07 as net income from the mobilization of Rs.100 of shareholders' equity. The coefficient of variation is 29.05%.

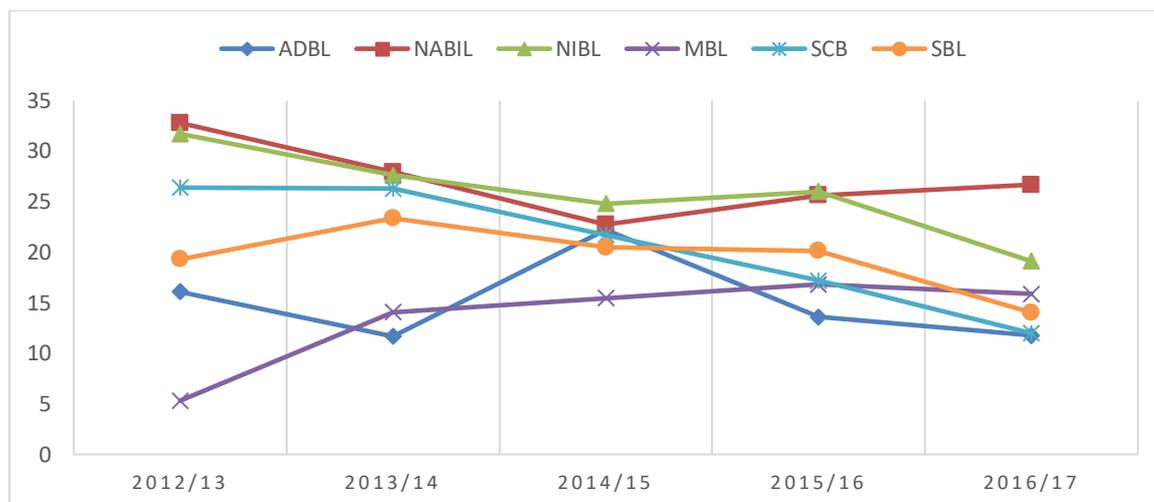
Similarly, the ROE in MBL followed increasing trend except in 2016 where ROE is decreased from 16.82% in the fiscal year 2015/16 to 15.86% in the fiscal year 2016/17. In average, MBL earned Rs.13.50 as net income from Rs.100 investment of shareholders' equity.

Likewise, the ROE of SBL followed increasing trend for the first years, i.e. from 19.29% in the fiscal year 2012/13 to 23.35% in the fiscal year 2013/14, and then decreasing trend. In average, SBL earns Rs.19.45 as net income from Rs.100 investment of shareholders' equity.

Likewise, the ROE of NABIL followed decreasing trend up to 2014/15 and then increasing trend. In average, NABIL earns Rs.27.14 as net income from Rs.100 investment of shareholders' equity. Similarly, the ROE of NIBL is in decreasing trend except in 2015/16. In average, NIBL earns Rs.25.84 as net income from Rs.100 investment of shareholders' equity.

Similarly, the ROE in SCB followed decreasing trend during all five consecutive years. In average, SCB earns Rs.20.70 as net income from Rs.100 investment of shareholders' equity.

Comparing all sampled banks, it can be concluded that NABIL is effective in optimally mobilizing the shareholders' equity, since average ROE of NABIL (27.14%) is highest in comparison with other banks. Since, the C.V. of MBL is highest, MBL has higher variation in ratio and SCB has higher deviation in ratio.



**Figure 4.8:** Return on Shareholders' Equity

## 4.2. Analysis of Statistical Indicators and Variables

In statistical analysis, mainly correlation and multiple regression between different related variables have been analyzed.

### 4.2.1. Correlation between NPLTLAR and ROA

The correlation between NPLTLAR and ROA measures the degree of relationship between these two variables.

Table 4.9

*Simple Correlation between NPLTLAR and ROA*

Banks	R	Relationship	r <sup>2</sup>	Sig. value	Remarks
ADBL	0.699	+ve	0.49	0.189	Insignificant
NABIL	0.209	+ve	0.044	0.736	Insignificant
NIBL	0.637	+ve	0.41	0.248	Insignificant
MBL	-0.894	- ve	0.80	0.041	Significant
SCB	0.866	+ve	0.75	0.05	Significant
SBL	-0.412	- ve	0.17	0.491	Insignificant

*(Sources:Appendix 2)*

The Table 4.9 shows that ADBL, NIBL and SCB have high degree of positive correlation, NABIL has low degree of positive correlation, and MBL and SBL have high degree and low degree of negative correlation between NPLTLAR and ROA respectively. Moreover, the coefficient of determinant ( $r^2$ ) of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.49, 0.044, 0.41, 0.80, 0.75 and 0.17 respectively.

#### 4.2.2. Correlation between NPLTLAR and ROE

The correlation between NPLTLAR and ROE explains the degree of relationship between these two variables.

Table 4.10

*Simple Correlation between NPLTLAR and ROE*

<b>Banks</b>	<b>r</b>	<b>Relationship</b>	<b>r<sup>2</sup></b>	<b>Sig. value</b>	<b>Remarks</b>
ADBL	0.352	+ve	0.12	0.562	Insignificant
NABIL	0.366	+ve	0.13	0.545	Insignificant
NIBL	0.764	+ve	0.58	0.132	Insignificant
MBL	-0.925	- ve	0.86	0.024	Significant
SCB	0.889	+ve	0.79	.048	Significant
SBL	0.725	+ve	0.53	0.166	Insignificant

*(Sources: Appendix 2)*

The Table 4.10 describes that NIBL, SCB and SBL have high degree of positive correlation, ADBL and NABIL have low degree of positive correlation and MBL has high degree of negative correlation between NPLTLAR and ROE. Moreover, the coefficient of determinant ( $r^2$ ) of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.12, 0.13, 0.58, 0.86, 0.79, and 0.53 respectively.

#### 4.2.3. Correlation between NPLTAR and ROA

The correlation between NPLTAR and ROA describes the degree of relationship between these two variables.

Table 4.11

*Simple Correlation between NPLTAR and ROA*

<b>Banks</b>	<b>R</b>	<b>Relationship</b>	<b>r<sup>2</sup></b>	<b>Sig. value</b>	<b>Remarks</b>
ADBL	0.737	+ve	0.54	0.155	Insignificant
NABIL	0.321	+ve	0.103	0.598	Insignificant
NIBL	0.684	+ve	0.47	0.203	Insignificant
MBL	-0.890	- ve	0.79	0.043	Significant
SCB	0.865	+ve	0.75	0.05	Significant
SBL	-0.410	- ve	0.17	0.493	Insignificant

(Sources: Appendix 2)

The Table 4.11 exhibits that ADBL, NIBL, and SCB have high degree of positive relationship, NABIL and SBL have low degree of positive and negative relationship respectively and MBL has high degree of negative relationship between the NPLTAR and ROA. Moreover, the coefficient of determinant of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.54, 0.103, 0.47, 0.79, 0.75 and 0.17 respectively.

**4.2.4. Correlation between NPLTAR and ROE**

The correlation between NPLTAR and ROE measures the degree of relationship between these two variables.

Table 4.12

*Simple Correlation between NPLTAR and ROE*

<b>Banks</b>	<b>R</b>	<b>Relationship</b>	<b>r<sup>2</sup></b>	<b>Sig. value</b>	<b>Remarks</b>
ADBL	0.378	+ve	0.14	0.530	Insignificant
NABIL	0.472	+ve	0.22	0.422	Insignificant
NIBL	0.752	+ve	0.57	0.143	Insignificant
MBL	-0.922	- ve	0.85	0.026	Significant
SCB	0.852	+ve	0.73	0.05	Significant
SBL	0.745	+ve	0.56	0.148	Insignificant

(Sources: Appendix 2)

The Table 4.12 shows that NIBL, SCB and SBL have high degree of positive relationship, ADBL and NABIL have low degree of positive relationship and MBL has high degree of negative relationship between NPLTAR and ROE. Moreover, the coefficient of determinant of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.14, 0.22, 0.57, 0.85, 0.73 and 0.56 respectively.

#### 4.2.5. Correlation between LLPLAR and ROA

The correlation between LLPLAR and ROA explains the degree of relationship between these two variables.

Table 4.13

*Simple Correlation between LLPLAR and ROA*

<b>Banks</b>	<b>r</b>	<b>Relationship</b>	<b>r<sup>2</sup></b>	<b>Sig. value</b>	<b>Remarks</b>
ADBL	0.307	+ve	0.094	0.615	Insignificant
NABIL	0.131	+ve	0.017	0.833	Insignificant
NIBL	0.602	+ve	0.36	0.283	Insignificant
MBL	-0.967	- ve	0.935	0.007	Significant
SCB	0.935	+ve	0.87	0.020	Significant
SBL	-0.467	- ve	0.22	0.428	Insignificant

*(Sources: Appendix 2)*

The Table 4.13 shows that ADBL and NABIL have low degree of positive relationship, NIBL and SCB have high degree of positive relationship and MBL and SBL have high and low degree of negative correlation between LLPLAR and ROA respectively. Moreover, the coefficient of determinant of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.094, 0.017, 0.36, 0.935, 0.87 and 0.22 respectively.

#### 4.2.6. Correlation between LLPLAR and ROE

The correlation between LLPLARA and ROE tells the degree of relationship between these two variables.

Table 4.14

*Simple Correlation between LLPLAR and ROE*

<b>Banks</b>	<b>R</b>	<b>Relationship</b>	<b>r<sup>2</sup></b>	<b>Sig. value</b>	<b>Remarks</b>
ADBL	-0.165	- ve	0.03	0.791	Insignificant
NABIL	0.358	+ve	0.13	0.554	Insignificant
NIBL	0.737	+ve	0.54	0.155	Insignificant
MBL	-0.981	- ve	0.96	0.003	Significant
SCB	0.899	+ve	0.81	0.038	Significant
SBL	0.707	+ve	0.50	0.181	Insignificant

*(Sources: Appendix 2)*

The Table 4.14 exhibits that NIBL, SCB and SBL have high degree of positive relationship, NABIL has low degree of positive relationship and MBL and ADBL have high and low degree of negative correlation between LLPLAR and ROE. Moreover, the coefficient of determinant of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.03, 0.13, 0.54, 0.96, 0.81 and 0.50 respectively.

**4.2.7. Correlation between LLPNPLR and ROA**

The correlation between LLPNPLR and ROA measures the degree of relationship between these two variables.

Table 4.15

*Simple Correlation between LLPNPLR and ROA*

<b>Banks</b>	<b>r</b>	<b>Relationship</b>	<b>r<sup>2</sup></b>	<b>Sig. value</b>	<b>Remarks</b>
ADBL	0.101	+ve	0.01	0.871	Insignificant
NABIL	-0.043	- ve	0.002	0.945	Insignificant
NIBL	-0.538	- ve	0.29	0.350	Insignificant
MBL	0.865	+ve	0.75	0.05	Significant
SCB	-0.872	- ve	0.76	0.049	Significant
SBL	0.396	+ve	0.16	0.503	Insignificant

*(Sources: Appendix 2)*

The Table 4.15 shows that ADBL and SBL have low degree of positive correlation, NIBL and SCB have high degree of negative correlation. Similarly, NABIL and MBL have low degree of negative and high degree of positive relationship between LLPNPLR and ROA respectively. Moreover, the coefficient of determinant of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.01, 0.002, 0.29, 0.75, 0.76 and 0.16 respectively.

#### 4.2.8. Correlation between LLPNPLR and ROE

The correlation between LLPNPLR and ROE represents the degree of relationship between these two variables.

Table 4.16

*Simple Correlation between LLPNPLR and ROE*

<b>Banks</b>	<b>R</b>	<b>Relationship</b>	<b>r<sup>2</sup></b>	<b>Sig. value</b>	<b>Remarks</b>
ADBL	-0.367	+ve	0.13	0.543	Insignificant
NABIL	-0.262	- ve	0.07	0.670	Insignificant
NIBL	-0.649	- ve	0.42	0.236	Insignificant
MBL	0.869	+ve	0.76	0.05	Significant
SCB	-0.943	- ve	0.89	0.016	Significant
SBL	-0.874	+ve	0.76	0.049	Significant

*(Sources: Appendix 2)*

The Table 4.16 explains that NIBL, SCB and SBL have high degree of negative correlation whereas ADBL and NABIL have low degree of negative correlation. Similarly, MBL has high degree of positive correlation between LLPNPLR and ROE. Moreover, the coefficient of determinant of ADBL, NABIL, NIBL, MBL, SCB and SBL are 0.01, 0.002, 0.29, 0.75, 0.60 and 0.16 respectively.

Correlation coefficient(r) between ROA and independent variables and significance value.

Independent variables	ADBL		NABIL		NIBL	
	R	Sig. value	R	Sig. value	R	Sig. value
NPLTLAR	0.699	0.189	0.209	0.736	0.637	0.248
NPLTAR	0.737	0.155	0.321	0.598	0.684	0.203
LLPLAR	0.307	0.615	0.131	0.833	0.602	0.283
LLPNPLR	0.101	0.871	-0.043	0.945	-0.538	0.350

Independent variables	MBL		SCB		SBL	
	R	Sig. value	R	Sig. value	R	Sig. value
NPLTLAR	-0.894	0.041	0.866	0.05	-0.412	0.491
NPLTAR	-0.890	0.043	0.865	0.05	-0.410	0.493
LLPLAR	-0.967	0.007	0.935	0.020	-0.467	0.428
LLPNPLR	0.865	0.05	-0.872	0.049	0.396	0.503

Correlation coefficient(r) between ROE and independent variables and significance value:

Independent variables	ADBL		NABIL		NIBL	
	R	Sig. value	R	Sig. value	R	Sig. value
NPLTLAR	0.352	0.562	0.366	0.545	0.764	0.132
NPLTAR	0.378	0.530	0.472	0.422	0.752	0.143
LLPLAR	-0.165	0.791	0.358	0.554	0.737	0.155
LLPNPLR	-0.367	0.543	-0.262	0.670	-0.649	0.236

Independent variables	MBL		SCB		SBL	
	R	Sig. value	R	Sig. value	r	Sig. value
NPLTLAR	-0.925	0.024	0.889	0.048	0.725	0.166
NPLTAR	-0.922	0.026	0.852	0.05	0.745	0.148
LLPLAR	-0.981	0.003	0.899	0.038	0.707	0.181
LLPNPLR	0.869	0.05	-0.943	0.016	-0.874	0.049

### 4.3. Regression Analysis

#### 4.3.1. The Multiple Regression Model of ROA on NPLTLAR, NPLTAR, LLPLAR and LLPNPLR

Table 4.17

*Multiple Regression Line of ROA on NPLTLAR, NPLTAR, LLPLAR and LLPNPLR*

Model	Regression Coefficient	Sig.	R	Coefficient Determination ( $R^2$ )	of P- Value	F-test
Constant	1.544	0.003				
NPLTLAR	2.164	0.05	0.797	0.635	0.0495	3.743
NPLTAR	-3.161	0.043				
LLPLAR	0.181	0.344				
LLPNPLR	-0.001	0.732				

*(Sources: Appendix 3)*

The Table 4.17 represents the linear relationship of ROA, with NPLTLAR, NPLTAR, LLPLAR and LLPNPLR of concerned banks. The constant (a) is 1.544, which is positive in average. Two important indicators of NPA, NPLTLAR and LLPLAR, increased by 1%, lead to increase in ROA by 2.164 and 0.181 respectively. Out of them, NPLTLAR is statistically significant and LLPLAR and LLPNPLR is statistically insignificant at 5% significant level. Similarly, 1% increment in NPLTAR and LLPNPLR decreases the ROA by 3.161 and 0.001 respectively. Out of them, NPLTAR is statistically significant and LLPNPLR is insignificant at 5% significant level.

The multiple correlations among the dependent variable ROA and the independent variables taken together is 0.797. It indicates that the profitability is highly responded by its independent variables. It is also evident from the value of  $R^2$  that 63.5 percent of variation in ROA is accounted by the joint variation in independent variables and the remaining 36.5 percent is accounted by the variation in other variables.

Similarly, the test of P-value aid to conclude that the relationship between ROA and NPLTLAR, NPLTAR, LLPLAR, LLPNPLR of sampled banks, is significant. Since, P-value is 0.0495, which is less than 5% significant level, null hypothesis is rejected. In other words, there is significant relationship between ROA and NPLTLAR, NPLTAR, LLPLAR, LLPNPLR.

The regression equation that estimates the relationship between profitability and NPA is as below:

$$\text{ROA} = 1.544 + 2.164\text{NPLTLAR} - 3.161\text{NPLTAR} + 0.181\text{LLPLAR} - 0.001\text{LLPNPLR}$$

#### 4.3.2. The Multiple Regression Model of ROE on NPLTLAR, NPLTAR, LLPLAR, LLPNPLR

Table 4.18

*Multiple Regression Line of ROE on NPLTLAR, NPLTAR, LLPLAR and LLPNPLR*

Model	Regression Coefficient	Sig.	R	Coefficient Determination ( $R^2$ )	P-Value	F-test
Constant	24.737	0.001				
NPLTLAR	30.843	0.003	0.878	0.7709	0.001	6.651
NPLTAR	-46.131	0.001				
LLPLAR	0.728	0.604				
LLPNPLR	-0.22	0.05				

*(Sources: Appendix 3)*

The Table 4.18 represents the linear relationship of ROE, with NPLTLAR, NPLTAR, LLPLAR and LLPNPLR of concerned banks. The constant (a) is 24.737, is positive in average. Two important indicators of NPA, NPLTLAR and LLPLAR, increased by 1% lead to increase in ROE by 30.843 and 0.728 respectively. Out of them, NPLTLAR is statistically significant and LLPLAR is statistically insignificant at 5% significant level. Similarly, another two indicators of NPA, NPLTAR and LLPNPLR, increased by 1%, ROE decreased by 46.131 and 0.22 respectively which are statistically significant at 5% significance level.

The multiple correlations among the dependent variable ROE and the independent variables taken together is 0.878. It indicates that the profitability is highly responded by its independent variables. It is also evident from the value of  $R^2$  that 77.09 percent of variation in ROE is accounted by the joint variation in independent variables and the remaining 22.91 percent is accounted by the variation in other variables.

Similarly, the test of P-value aid to conclude that the relationship between ROE and NPLTLAR, NPLTAR, LLPLAR, LLPNPLR of sampled banks is significant. Since, P-value is 0.001, which is less than 5% significant level, null hypothesis is rejected. In other words, there is significant relationship between ROE and NPLTLAR, NPLTAR, LLPLAR and LLPNPLR.

The regression equation that estimates the relationship between profitability and NPA is as below:

$$\text{ROE} = 24.737 + 30.843\text{NPLTLAR} - 46.131\text{NPLTAR} + 0.728\text{LLPLAR} - 0.22\text{LLPNPLR}$$

#### **4.4 Major Findings**

As per the analysis of data, following major findings have been obtained:

1. The average loans and advances to total asset ratio of ADBL, NABIL, NIBL, MBL, SCB and SBL during the study period are 72.22%, 62.72%, 65.98%, 73.02%, 48.64% and 72.82% respectively and combined mean is 65.90 %. Relatively low ratio of SCB is the indication of risk averse attitude of the management or in other word we can say that they are investing low in the risky assets, i.e. loans and advances. They have higher proportion of their investment on risk free asset like Treasury bill and so on. Here, MBL has highest ratio in term of loans and advances. SCB has higher deviation and variation during.
2. The average loans and advances to total deposit ratio of ADBL, NABIL, NIBL, MBL, SCB and SBL are 95.55%, 72.27%, 77.70%, 82.23%, 56.70% and 83.93% respectively. The overall combined mean is 78.06%. Here, ADBL has higher ration in comparison to other sampled banks whereas SCB has lowest

ratio. In case of deviation Nabil has highest deviation and SCB has highest variation. From the above it is clear that ADBL is ahead in mobilizing its funds in a proper and efficient way in the comparison of other sampled banks.

3. Loan loss provision to loans and advances ratio indicates that ADBL has significantly higher ratio which is 6.53% and SCB has lowest ratio which is 1.26% in average. Higher ratio is an indication of higher non-performing loan in the total loans and advances. Here, ADBL has higher ratio which is the result of higher proportion of NPL in the total loan, SCB has least ratio in comparison to other sampled banks. In case of deviation ADBL has highest deviation and variation.
4. The analysis of non-performing loans to total loans and advances ratio reveals average NPL of ADBL, NABIL, NIBL, MBL, SCB and SBL are 4.98%, 1.62%, 1.29%, 1.24%, 0.42% and 1.94% respectively and the combined mean is 1.92%. Here, ADBL has significantly higher proportion of the non-performing loan in the total loans portfolio but its trend is in decreasing. ADBL should have effective credit management and should make effort in recovering bad debt through the establishment of recovery cell. During the study period MBL has highest deviation and variation among six sampled banks. From the above fact we can say that SCB has lowest proportion of NPL in the total loans whereas ADBL has highest proportion of NPL in the total loans among six banks.
5. The analysis of NPLTAR reveals average ratio of ADBL, NABIL, NIBL, MBL, SCB and SBL are 3.69%, 1.02%, 0.84%, 0.89%, 0.21% and 1.40% respectively and the combined mean is 1.34%. ADBL has higher ratio in comparison to other sampled banks which implies the bad effect in bank's performance and it decreases the profitability of the bank. MBL has higher deviation and higher variation.
6. The average ratio of provision held to non-performing loan of ADBL, NABIL, NIBL, MBL, SCB and SBL are 125.34%, 157.27%, 192.32%, 205.61%, 361.44% and 124.61% respectively. Here, SCB has higher ratio in comparison to other five banks which shows that the bank has adequate provision against

non-performing loan whereas this ratio of SBL is comparatively lower. In case of deviation and variation SCB has higher ratio and MBL has higher variation.

7. Since, the average ROA of NABIL is highest, NABIL is most successful to optimally mobilize the total assets with compare to other sampled banks. The average ROA of ADBL, NABIL, NIBL, MBL, SCB and SBL are 2.46%, 2.60%, 2.18%, 1.25%, 2.20% and 1.58% respectively.
8. The mobilization of shareholders' equity by NABIL is most effective than that of other sampled banks. The average ROE of NABIL, 27.14%, is highest and ROE of MBL, 13.50%, is lowest.
9. Correlation between ROA and NPLTLAR, is highly positive in case of ADBL, NIBL, SCB, high degree of negative correlation for MBL. Similarly, NABIL and SBL have low degree of positive and negative correlation between ROA and NPLTLAR respectively.
10. There is high degree of positive correlation between ROE and NPLTLAR in case of NIBL, SCB and SBL and high degree of negative correlation in case of MBL. Similarly, ADBL and NABIL have low degree of positive correlation between ROE and NPLTLAR.
11. Correlation between ROA and NPLTAR is highly positive in case of ADBL, NIBL, SCB and low degree of positive correlation in case of NABIL. Similarly, there is high and low degree of negative correlation between ROA and NPLTAR in case of MBL and SBL respectively.
12. There is high degree of positive correlation between ROE and NPLTAR in case of NIBL, SCB and SBL and high degree of negative correlation in case of MBL. Similarly, ADBL and NABIL have low degree of positive correlation between ROE and NPLTLAR.
13. There is high and low degree of positive correlation between ROA and LLPLAR in case of NIBL, SCB and ADBL, NABIL respectively. Similarly, MBL and SBL have high and low degree of negative correlation between ROA and LLPLAR respectively.
14. Correlation between ROE and LLPLAR is highly positive in case of NIBL, SCB, SBL and low degree of positive correlation in case of NABIL. Similarly,

there is high and low degree of negative correlation between ROE and LLPLAR in case of MBL and ADBL respectively.

15. There is high degree of negative correlation between ROA and LLPNPLR in case of NIBL, SCB and low degree of negative correlation in case of NABIL. Similarly, ADBL and SBL have low degree of positive correlation and MBL has high degree of positive correlation between ROA and LLPNPLR respectively.
16. Correlation between ROE and LLPNPLR is highly positive in case of MBL. Similarly, there is high degree of negative correlation in case of NIBL, SCB, SBL and low degree of negative correlation between ROE and LLPNPLR in case of ADBL and NABIL respectively.
17. In average, the multiple correlation indicates that the relation of ROA with NPLTLAR, NPLTAR, LLPLAR and LLPNPLR is 0.797, highly positive. Similarly, the relation of ROE with NPLTLAR, NPLTAR, LLPLAR, and LLPNPLR is 0.878 which is also highly positive.
18. The coefficient of determinant of the equation (i) is 0.635, indicates that 0.635 per cent of variation in ROA is accounted by the joint variation in independent variables and remaining 0.365 is accounted by the variation in other unexplained variables.
19. The test of P-value explains that the relationship between ROA and NPLTLAR, NPLTAR, LLPLAR, LLPNPLR of sampled commercial banks is significant.
20. The coefficient of determinant of the equation (ii) is 0.7709, indicates that 0.7709 per cent of variation in ROE is accounted by the joint variation in independent variables and remaining 0.2291 is accounted by the variation in other unexplained variables.
21. The test of P-value explains that the relationship between ROE and NPLTLAR, NPLTAR, LLPLAR, LLPNPLR of sampled commercial banks is significant.

# **CHAPTER V**

## **CONCLUSIONS**

This chapter includes the summary, conclusions, implication and recommendation for further research.

### **5.1 Summary**

Financial institutions are the backbone of the economic development of any country. National development of any country depends upon the economic development of that country and economic development is supported by financial infrastructure of that country. Bank came to existence mainly with the objective of collecting the idle fund and mobilizing them to productive sector causing overall economic development.

This research is mainly aimed to study the impact of non-performing asset on profitability of Nepalese Commercial Banks. Out of total population of 28 commercial banks, six major banks are taken as sample. The sampled banks are Agriculture Development Bank Limited from government owned banks, NABI Land Standard Chartered Bank from joint venture commercial banks and Siddhartha Bank Limited, Nepal Investment Bank Limited, and Machhapuchchhre Bank Limited from state order commercial banks. Secondary data has been used in the study. Annual general report and different websites has been considered as the source of secondary data. To come in the conclusion, descriptive and analytical research design is adopted. Collected data are recorded systematically and presented in appropriate forms of tables and charts with appropriate mathematical, statistical, financial and graphical tools to analyze the data. Here, the data of five consecutive years from 2012/13 to 2016/17 of six commercial banks has been analyzed. Although, the study is limited to only ADBL, NABIL, NIBL, MBL, SCB and SBL, however there is a significant impact on the performance of other commercial banks.

All six banks have the NPLTLAR ratio below the acceptable standard i.e. 5%. There is the system of classifying loans and advances into five categories i.e. pass loan,

watch list, sub-standard, doubtful and loss loan and making the provision for such loan. Adequate provision against NPL is maintained by all six sampled banks which is indicated by LLPNPLR. So from this study, it is clear that sampled banks are aware and have followed the NRB Directives regarding classification of loans and advances and making provision relate to NPA.

From the multiple regression model (i), beta coefficient of NPLTLAR, NPLTAR, LLPLAR and LLPNPLR are 2.164, -3.161, 0.181 and -0.001 respectively. There is positive relation of ROA with NPLTLAR, LLPLAR and negative relation with NPLTAR and LLPNPLR. Similarly, from multiple regression (ii), beta coefficient of NPLTLAR, NPLTAR, LLPLAR and LLPNPLR are 30.843, -46.131, 0.728 and -0.22 respectively. It indicates that there is positive relation of ROE with NPLTLAR and LLPLAR but negative relation with NPLTAR and LLPNPLR.

The P-value for regression model (i) and (ii) are 0.0495 and 0.001 respectively. Since, the P-value for both models is less than 5% significance level, null hypothesis is rejected. In other words, there is significant relationship of ROA and ROE with NPLTLAR, NPLTAR, LLPLAR and LLPNPLR.

## **5.2 Conclusion**

The banking sector is facing various problems. One of them, the banking has been becoming huge victim of huge non-performing assets (NPAs). It is just not only problem for the banks but for the economy too. The money locked up in NPAs has a direct impact on the profitability and financial performance of the bank as Nepalese Banks are highly dependent on income from interest on funds landed. This study shows that extent of NPA is comparatively high in government banks as compared to joint venture and private bank due to weak credit policy. Although government bank covers large market, these banks are facing vicious circle of NPL resulting high provision. Various steps have been taken by government to reduce the NPA but still a lot needs to be done to curb this problem.

Due to instable political condition, insecurity, ineffective credit policy, and political pressure to lend to non-viable project, over-valuation of collateral and without collateral disbursement are the major factors causing of mounting non-performing assets in banks mainly in government owned banks. Commercial banks' investment has been found lower productivity due to the lack of supervision regarding whether there is proper utilization of their investment or not. Lack of farsightedness in policy formulation and absence of strong commitment towards its proper implementation has also caused many problems to commercial banks.

As the landed money to the borrowers is blocked, it creates shortage in the bank's fund and liquidity crisis. Not only the interest income from the loan is stopped but also provisioning against NPL has to be made. So, NPA does not affect current profit but also future stream of profit, which may lead to loss of some long term beneficial opportunity. It also loses the goodwill, brand image and credit worthiness which negatively affects to the depositors as well.

To overcome these negative impacts due to NPA, bank should have proper and strict credit policy. Proper classification and close review of loans enables banks to monitor loan portfolio and take remedial step to safe guard deterioration of its credit quality. Furthermore, establishment of proper rules and laws are also essential to solve the problem on NPL. The guidelines in themselves are not important unless properly implemented. The rules and regulation are only the tools of NRB to supervise and monitor the financial institution. NRB need to monitor the concerned authorities in order to ensure that they are being followed. So the problem of NPA needs lots of serious efforts otherwise NPAs will keep killing the profitability and financial performance of banks which is not good for the growing Nepalese economy at all.

From the findings of this study, the following conclusions are drawn.

1. There is significant relationship between the ROA with NPLTLAR, NPLTAR, LLPLAR and LLPNPLR.
2. There is significant relationship between the ROE with NPLTLAR, NPLTAR, LLPLAR and LLPNPLR.

### 5.3 Implications

Based on the above findings and conclusion, following recommendations have been forwarded:

During the study period ADBL has higher rate of non-performing loan accompanied by higher provision as compared to other five banks. The NPL should be decreased by taking remedial action such as implementation of proper laws to recover the bad loans especially by big and willful defaulter, hiring Assets Management Company to break the vicious circle of non-performing loan. It is the necessity situation for the bank to undertake systematic and effective approach to mitigate the burden of NPA.

Similarly, MBL needs to generate more return on shareholders' equity to retain the existing shareholder and fascinate the potential investor as well as needs effective mobilization of total assets to generate more income.

Following points are recommended for reducing the volume of NPA.

1. A good credit policy is the key to the success of a loan function of a bank. The root cause for a loan to turn bad is a bad credit appraisal from the bank. Thus a sound credit appraisal has to be done especially by the credit department.
2. During credit analysis, the major focus should be on the 'character' of the client and the purpose of him for the loan rather than the collateral, he is supposed to pledge.
3. Timely decision on genuine requirement of a genuine client should be done and the bank should be willing to help the client to explore his business.
4. The trend of disbursing a loan merely on the recommendation from the higher management staff and political influence should be stopped.
5. Since banking is also a business, customer satisfaction should always be the first concern for the bank.

Lastly, the ethical policy of "giving life is better than killing" should not be forgotten. In other words, recovering loan is better than auction should be kept in mind.

## **5.4 Recommendation for Further Research**

This study is based on analyzing the impact of NPA on the profitability of the Nepalese commercial banks. There are several researches conducted on NPA but it is very difficult to find out the research related to impact of NPA on the profitability of bank sector wise. Burning scenario of NPA motivated the author to conduct this research to identify the factor responsible for turning the loans into NPA, and its impact on the profitability of banking sector.

However, there are lots of areas which need further study. This study has focused only on impact of NPA on profitability from the prospective of ROA and ROE. Further study can be carried out focusing on liquidity, revenue, return on investment (ROI), cash flow etc. as performance measurement variables.

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## APPENDICES

### Appendix - 1

#### Arrangement & Tabulation of Available Financial Data of Sampled NCB

##### 1. Total Loans and Advances of ADBL, NABIL, NIBL, MBL, SCB and SBL (In Rs.)

<b>FY</b>	<b>ADBL</b>	<b>Nabil</b>	<b>NIBL</b>
2012/13	54,918,507,832	47,645,529,877	47,700,628,308
2013/14	62,472,929,711	56,203,076,407	53,458,469,658
2014/15	72,238,515,320	67,161,670,913	67,690,198,649
2015/16	83,418,263,170	77,730,401,536	87,009,791,973
2016/17	92,725,212,976	91,491,252,370	106,683,876,991

<b>FY</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	21,652,440,706	23,138,370,328	23,721,618,779
2013/14	29,541,409,026	26,328,361,464	27,985,729,627
2014/15	34,819,452,293	28,023,823,007	37,151,310,701
2015/16	44,234,231,644	31,697,344,583	56,507,714,836
2016/17	51,866,770,489	39,729,835,900	67,263,283,015

*(Sources: Annual report of respective Bank)*

##### 2. Total Assets of ADBL, NABIL, NIBL, MBL, SCB and SBL (In Rs.)

<b>FY</b>	<b>ADBL</b>	<b>Nabil</b>	<b>NIBL</b>
2012/13	77,097,348,840	73,241,259,671	73,152,154,761
2013/14	88,519,685,712	87,274,619,480	86,173,927,574
2014/15	100,928,514,481	115,985,701,411	104,345,436,413
2015/16	111,786,100,812	127,300,195,373	129,782,705,314
2016/17	126,866,600,103	140,332,060,182	150,818,033,554

<b>FY</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	30,296,203,445	45,631,100,342	33,653,855,758
2013/14	40,723,957,096	53,324,102,172	40,277,752,199
2014/15	48,753,495,062	64,926,805,120	50,647,295,616
2015/16	59,455,467,829	65,185,732,479	74,402,915,402
2016/17	68,925,737,686	77,408,597,693	89,901,512,010

*(Sources: Annual report of respective Bank)*

3. Total Deposit of ADBL, NABIL, NIBL, MBL, SCB and SBL (In Rs.)

<b>FY</b>	<b>ADBL</b>	<b>Nabil</b>	<b>NIBL</b>
2012/13	54,477,651,530	63,609,808,199	62,428,845,372
2013/14	65,898,412,646	75,388,790,862	73,831,375,915
2014/15	77,035,056,186	104,237,910,083	90,631,486,765
2015/16	87,387,154,947	110,267,271,749	108,626,641,994
2016/17	99,816,272,142	118,896,156,802	125,669,354,732

<b>FY</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	27,136,654,448	39,466,453,239	28,392,822,287
2013/14	37,132,092,928	46,298,532,040	35,414,007,591
2014/15	44,205,637,252	57,286,482,037	44,740,731,784
2015/16	52,291,877,270	55,727,178,456	64,934,358,551
2016/17	58,629,076,680	63,872,885,452	77,317,559,299

*(Sources: Annual report of respective Bank)*

4. Loan Loss Provision of ADBL, NABIL, NIBL, MBL, SCB and SBL (In Rs.)

<b>FY</b>	<b>ADBL</b>	<b>Nabil</b>	<b>NIBL</b>
2012/13	5,232,680,624	1,275,695,306	1,300,574,615
2013/14	5,286,676,505	1,511,428,213	1,438,704,555
2014/15	3,660,154,910	1,659,745,749	1,470,966,634
2015/16	3,928,706,938	1,624,384,655	1,548,740,997
2016/17	4,518,663,618	1,614,124,964	2,059,069,281

<b>FY</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	487,530,527	309,531,872	635,055,448
2013/14	488,166,247	351,776,835	798,824,279
2014/15	558,149,452	342,509,751	811,514,252
2015/16	598,045,497	394,394,987	1,156,823,606
2016/17	698,910,407	466,145,614	1,276,916,395

*(Sources: Annual report of respective Bank)*

5. Non-Performing Loan of ADBL, NABIL, NIBL, MBL, SCB and SBL (In Rs.)

<b>FY</b>	<b>ADBL</b>	<b>NABIL</b>	<b>NIBL</b>
2012/13	3,212,599,021	1,015,176,698	913,096,227
2013/14	3,408,954,346	1,256,075,230	947,121,461
2014/15	3,862,823,331	1,220,819,346	844,132,707
2015/16	3,634,792,121	889,035,409	592,992,655
2016/17	4,266,110,478	728,059,005	888,161,356

<b>FY</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	614,303,178	177,268,199	567,868,328
2013/14	525,295,941	127,347,934	768,289,196
2014/15	222,179,730	94,769,956	669,483,580
2015/16	241,496,528	101,819,490	828,956,675
2016/17	195,834,545	76,720,052	871,609,724

*(Sources: Annual report of respective Bank)*

6. ROA of ADBL, NABIL, NIBL, MBL, SCB and SBL (In %)

<b>FY</b>	<b>ADBL</b>	<b>NABIL</b>	<b>NIBL</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	2.97	3.25	2.6	0.49	2.67	1.43
2013/14	1.76	2.65	2.3	1.12	2.51	1.74
2014/15	3.12	2.06	1.9	1.26	1.99	1.51
2015/16	2.32	2.32	2	1.51	1.98	1.69
2016/17	2.15	2.7	2.1	1.89	1.84	1.54

*(Sources: Annual report of respective Bank)*

7. ROE of ADBL, NABIL, NIBL, MBL, SCB and SBL (In %)

<b>FY</b>	<b>ADBL</b>	<b>NABIL</b>	<b>NIBL</b>	<b>MBL</b>	<b>SCB</b>	<b>SBL</b>
2012/13	16.09	32.78	31.7	5.31	26.38	19.29
2013/14	11.67	27.91	27.6	14.05	26.27	23.35
2014/15	22.21	22.73	24.8	15.44	21.69	20.47
2015/16	13.6	25.61	26	16.82	17.18	20.11
2016/17	11.77	26.65	19.1	15.86	11.98	14.03

*(Sources: Annual report of respective Bank)*

## Appendix - 2

### For ADBL

#### 1. Correlation between NPLTLAR and ROA

		ROA	NPLTLAR
ROA	Pearson Correlation	1	.699
	Sig. (2-tailed)		.189
	N	5	5
NPLTLAR	Pearson Correlation	.699	1
	Sig. (2-tailed)	.189	
	N	5	5

#### 2. Correlation between NPLTLAR and ROE

		NPLTLAR	ROE
NPLTLAR	Pearson Correlation	1	.352
	Sig. (2-tailed)		.562
	N	5	5
ROE	Pearson Correlation	.352	1
	Sig. (2-tailed)	.562	
	N	5	5

#### 3. Correlation between NPLTAR and ROA

		ROA	NPLTAR
ROA	Pearson Correlation	1	.737
	Sig. (2-tailed)		.155
	N	5	5
NPLTAR	Pearson Correlation	.737	1
	Sig. (2-tailed)	.155	
	N	5	5

4. Correlation between NPLTAR and ROE

		ROE	NPLTAR
ROE	Pearson Correlation	1	.378
	Sig. (2-tailed)		.530
	N	5	5
NPLTAR	Pearson Correlation	.378	1
	Sig. (2-tailed)	.530	
	N	5	5

5. Correlation between LLPLAR and ROA

		ROA	LLPLAR
ROA	Pearson Correlation	1	.307
	Sig. (2-tailed)		.615
	N	5	5
LLPLAR	Pearson Correlation	.307	1
	Sig. (2-tailed)	.615	
	N	5	5

6. Correlation between LLPLAR and ROE

		ROE	LLPLAR
ROE	Pearson Correlation	1	-.165
	Sig. (2-tailed)		.791
	N	5	5
LLPLAR	Pearson Correlation	-.165	1
	Sig. (2-tailed)	.791	
	N	5	5

7. Correlation between LLPNPLR and ROA

		ROA	LLPNPLR
ROA	Pearson Correlation	1	.101
	Sig. (2-tailed)		.871
	N	5	5
LLPNPLR	Pearson Correlation	.101	1
	Sig. (2-tailed)	.871	
	N	5	5

8. Correlation between LLPNPLR and ROE

		LLPNPLR	ROE
LLPNPLR	Pearson Correlation	1	-.367
	Sig. (2-tailed)		.543
	N	5	5
ROE	Pearson Correlation	-.367	1
	Sig. (2-tailed)	.543	
	N	5	5

**For NABIL**

1. Correlation between NPLTLAR and ROA

		ROA	NPLTLAR
ROA	Pearson Correlation	1	.209
	Sig. (2-tailed)		.736
	N	5	5
NPLTLAR	Pearson Correlation	.209	1
	Sig. (2-tailed)	.736	
	N	5	5

2. Correlation between NPLTLAR and ROE

		ROE	NPLTLAR
ROE	Pearson Correlation	1	.366
	Sig. (2-tailed)		.545
	N	5	5
NPLTLAR	Pearson Correlation	.366	1
	Sig. (2-tailed)	.545	
	N	5	5

3. Correlation between NPLTAR and ROA

		ROA	NPLTAR
ROA	Pearson Correlation	1	.321
	Sig. (2-tailed)		.598
	N	5	5
NPLTAR	Pearson Correlation	.321	1
	Sig. (2-tailed)	.598	
	N	5	5

4. Correlation between NPLTAR and ROE

		ROE	NPLTAR
ROE	Pearson Correlation	1	.472
	Sig. (2-tailed)		.422
	N	5	5
NPLTAR	Pearson Correlation	.472	1
	Sig. (2-tailed)	.422	
	N	5	5

5. Correlation between LLPLAR and ROA

		ROA	LLPLAR
ROA	Pearson Correlation	1	.131
	Sig. (2-tailed)		.833
	N	5	5
LLPLAR	Pearson Correlation	.131	1
	Sig. (2-tailed)	.833	
	N	5	5

6. Correlation between LLPLAR and ROE

		ROE	LLPLAR
ROE	Pearson Correlation	1	.358
	Sig. (2-tailed)		.554
	N	5	5
LLPLAR	Pearson Correlation	.358	1
	Sig. (2-tailed)	.554	
	N	5	5

7. Correlation between LLPNPLR and ROA

		ROA	LLPNPLR
ROA	Pearson Correlation	1	-.043
	Sig. (2-tailed)		.945
	N	5	5
LLPNPLR	Pearson Correlation	-.043	1
	Sig. (2-tailed)	.945	
	N	5	5

8. Correlation between LLPNPLR and ROE

		LLPNPLR	ROE
LLPNPLR	Pearson Correlation	1	-.262
	Sig. (2-tailed)		.670
	N	5	5
ROE	Pearson Correlation	-.262	1
	Sig. (2-tailed)	.670	
	N	5	5

**For NIBL**

1. Correlation between NPLTLAR and ROA

		ROA	NPLTLAR
ROA	Pearson Correlation	1	.637
	Sig. (2-tailed)		.248
	N	5	5
NPLTLAR	Pearson Correlation	.637	1
	Sig. (2-tailed)	.248	
	N	5	5

2. Correlation between NPLTLAR and ROE

		ROE	NPLTLAR
ROE	Pearson Correlation	1	.764
	Sig. (2-tailed)		.132
	N	5	5
NPLTLAR	Pearson Correlation	.764	1
	Sig. (2-tailed)	.132	
	N	5	5

### 3. Correlation between NPLTAR and ROA

		ROA	NPLTAR
ROA	Pearson Correlation	1	.684
	Sig. (2-tailed)		.203
	N	5	5
NPLTAR	Pearson Correlation	.684	1
	Sig. (2-tailed)	.203	
	N	5	5

### 4. Correlation between NPLTAR and ROE

		ROE	NPLTAR
ROE	Pearson Correlation	1	.752
	Sig. (2-tailed)		.143
	N	5	5
NPLTAR	Pearson Correlation	.752	1
	Sig. (2-tailed)	.143	
	N	5	5

### 5. Correlation between LLPLAR and ROA

		ROA	LLPLAR
ROA	Pearson Correlation	1	.602
	Sig. (2-tailed)		.283
	N	5	5
LLPLAR	Pearson Correlation	.602	1
	Sig. (2-tailed)	.283	
	N	5	5

### 6. Correlation between LLPLAR and ROE

		ROE	LLPLAR
ROE	Pearson Correlation	1	.737
	Sig. (2-tailed)		.155
	N	5	5
LLPLAR	Pearson Correlation	.737	1
	Sig. (2-tailed)	.155	
	N	5	5

#### 7. Correlation between LLPNPLR and ROA

		ROA	LLPNPLR
ROA	Pearson Correlation	1	-.538
	Sig. (2-tailed)		.350
	N	5	5
LLPNPLR	Pearson Correlation	-.538	1
	Sig. (2-tailed)	.350	
	N	5	5

#### 8. Correlation between LLPNPLR and ROE

		ROE	LLPNPLR
ROE	Pearson Correlation	1	-.649
	Sig. (2-tailed)		.236
	N	5	5
LLPNPLR	Pearson Correlation	-.649	1
	Sig. (2-tailed)	.236	
	N	5	5

## FOR MBL

### 1. Correlation between NPLTLAR and ROA

		ROA	NPLTLAR
ROA	Pearson Correlation	1	-.894*
	Sig. (2-tailed)		.041
	N	5	5
NPLTLAR	Pearson Correlation	-.894*	1
	Sig. (2-tailed)	.041	
	N	5	5

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

### 2. Correlation between NPLTLAR and ROE

		ROE	NPLTLAR
ROE	Pearson Correlation	1	-.925*
	Sig. (2-tailed)		.024
	N	5	5
NPLTLAR	Pearson Correlation	-.925*	1
	Sig. (2-tailed)	.024	
	N	5	5

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

### 3. Correlation between NPLTAR and ROA

		ROA	NPLTAR
ROA	Pearson Correlation	1	-.890*
	Sig. (2-tailed)		.043
	N	5	5
NPLTAR	Pearson Correlation	-.890*	1
	Sig. (2-tailed)	.043	
	N	5	5

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

4. Correlation between NPLTAR and ROE

		ROE	NPLTAR
ROE	Pearson Correlation	1	-.922*
	Sig. (2-tailed)		.026
	N	5	5
NPLTAR	Pearson Correlation	-.922*	1
	Sig. (2-tailed)	.026	
	N	5	5

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

5. Correlation between LLPLAR and ROA

		ROA	LLPLAR
ROA	Pearson Correlation	1	-.967**
	Sig. (2-tailed)		.007
	N	5	5
LLPLAR	Pearson Correlation	-.967**	1
	Sig. (2-tailed)	.007	
	N	5	5

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

6. Correlation between LLPLAR and ROE

		ROE	LLPLAR
ROE	Pearson Correlation	1	-.981**
	Sig. (2-tailed)		.003
	N	5	5
LLPLAR	Pearson Correlation	-.981**	1
	Sig. (2-tailed)	.003	
	N	5	5

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

7. Correlation between LLPNPLR and ROA

		ROA	LLPNPLR
ROA	Pearson Correlation	1	.865
	Sig. (2-tailed)		.05
	N	5	5
LLPNPLR	Pearson Correlation	.865	1
	Sig. (2-tailed)	.05	
	N	5	5

8. Correlation between LLPNPLR and ROE

		LLPNPLR	ROE
LLPNPLR	Pearson Correlation	1	.869
	Sig. (2-tailed)		.05
	N	5	5
ROE	Pearson Correlation	.869	1
	Sig. (2-tailed)	.05	
	N	5	5

**FOR SCB**

1. Correlation between NPLTLAR and ROA

		ROA	NPLTLAR
ROA	Pearson Correlation	1	.866
	Sig. (2-tailed)		.05
	N	5	5
NPLTLAR	Pearson Correlation	.866	1
	Sig. (2-tailed)	.05	
	N	5	5

2. Correlation between NPLTLAR and ROE

		ROE	NPLTLAR
ROE	Pearson Correlation	1	.889
	Sig. (2-tailed)		.048
	N	5	5
NPLTLAR	Pearson Correlation	.889	1
	Sig. (2-tailed)	.048	
	N	5	5

3. Correlation between NPLTAR and ROA

		ROA	NPLTAR
ROA	Pearson Correlation	1	.865
	Sig. (2-tailed)		.05
	N	5	5
NPLTAR	Pearson Correlation	.865	1
	Sig. (2-tailed)	.05	
	N	5	5

4. Correlation between NPLTAR and ROE

		ROE	NPLTAR
ROE	Pearson Correlation	1	.852
	Sig. (2-tailed)		.05
	N	5	5
NPLTAR	Pearson Correlation	.852	1
	Sig. (2-tailed)	.05	
	N	5	5

5. Correlation between LLPLAR and ROA

		ROA	LLPLAR
ROA	Pearson Correlation	1	.935*
	Sig. (2-tailed)		.020
	N	5	5
LLPLAR	Pearson Correlation	.935*	1
	Sig. (2-tailed)	.020	
	N	5	5

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

6. Correlation between LLPLAR and ROE

		ROE	LLPLAR
ROE	Pearson Correlation	1	.899*
	Sig. (2-tailed)		.038
	N	5	5
LLPLAR	Pearson Correlation	.899*	1
	Sig. (2-tailed)	.038	
	N	5	5

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

7. Correlation between LLPNPLR and ROA

		ROA	LLPNPLR
ROA	Pearson Correlation	1	-.872
	Sig. (2-tailed)		.049
	N	5	5
LLPNPLR	Pearson Correlation	-.872	1
	Sig. (2-tailed)	.049	
	N	5	5

8. Correlation between LLPNPLR and ROE

		LLPNPLR	ROE
LLPNPLR	Pearson Correlation	1	-.943*
	Sig. (2-tailed)		.016
	N	5	5
ROE	Pearson Correlation	-.943*	1
	Sig. (2-tailed)	.016	
	N	5	5

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

**FOR SBL**

1. Correlation between NPLTLAR and ROA

		ROA	NPLTLAR
ROA	Pearson Correlation	1	-.412
	Sig. (2-tailed)		.491
	N	5	5
NPLTLAR	Pearson Correlation	-.412	1
	Sig. (2-tailed)	.491	
	N	5	5

2. Correlation between NPLTLAR and ROE

		ROE	NPLTLAR
ROE	Pearson Correlation	1	.725
	Sig. (2-tailed)		.166
	N	5	5
NPLTLAR	Pearson Correlation	.725	1
	Sig. (2-tailed)	.166	
	N	5	5

### 3. Correlation between NPLTAR and ROA

		ROA	NPLTAR
ROA	Pearson Correlation	1	-.410
	Sig. (2-tailed)		.493
	N	5	5
NPLTAR	Pearson Correlation	-.410	1
	Sig. (2-tailed)	.493	
	N	5	5

### 4. Correlation between NPLTAR and ROE

		ROE	NPLTAR
ROE	Pearson Correlation	1	.745
	Sig. (2-tailed)		.148
	N	5	5
NPLTAR	Pearson Correlation	.745	1
	Sig. (2-tailed)	.148	
	N	5	5

### 5. Correlation between LLPLAR and ROA

		ROA	LLPLAR
ROA	Pearson Correlation	1	-.467
	Sig. (2-tailed)		.428
	N	5	5
LLPLAR	Pearson Correlation	-.467	1
	Sig. (2-tailed)	.428	
	N	5	5

6. Correlation between LLPLAR and ROE

		ROE	LLPLAR
ROE	Pearson Correlation	1	.707
	Sig. (2-tailed)		.181
	N	5	5
LLPLAR	Pearson Correlation	.707	1
	Sig. (2-tailed)	.181	
	N	5	5

7. Correlation between LLPNPLR and ROA

		ROA	LLPNPLR
ROA	Pearson Correlation	1	.396
	Sig. (2-tailed)		.509
	N	5	5
LLPNPLR	Pearson Correlation	.396	1
	Sig. (2-tailed)	.509	
	N	5	5

8. Correlation between LLPNPLR and ROE

		LLPNPLR	ROE
LLPNPLR	Pearson Correlation	1	-.874
	Sig. (2-tailed)		.049
	N	5	5
ROE	Pearson Correlation	-.874	1
	Sig. (2-tailed)	.049	
	N	5	5

### Appendix – 3

#### 1. Multiple Regression Model of ROA on NPLTLAR, NPLTAR, LLPLAR and LLPNPLR

##### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.797 <sup>a</sup>	.635	.093	.678

a. Predictors: (Constant), LLPNPLR, LLPLAR, NPLTAR, NPLTLAR

##### ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.206	4	.801	3.743	.0495 <sup>b</sup>
	Residual	11.494	25	.460		
	Total	14.700	29			

a. Dependent Variable: ROA

b. Predictors: (Constant), LLPNPLR, LLPLAR, NPLTAR, NPLTLAR

##### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.544	.465		3.318	.003
	NPLTLAR	2.164	1.279	.4976	1.692	.05
	NPLTAR	-3.161	1.625	-.5308	-1.945	.043
	LLPLAR	.181	.188	.508	.964	.344
	LLPNPLR	-.001	.002	.088	.346	.732

a. Dependent Variable: ROA

2. Multiple Regression Model of ROE on NPLTLAR, NPLTAR, LLPLAR and LLPNPLR

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.878 <sup>a</sup>	.7709	.438	4.989

a. Predictors: (Constant), LLPNPLR, LLPLAR, NPLTAR, NPLTLAR

**ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	662.101	4	165.525	8.651	.001 <sup>b</sup>
	Residual	622.199	25	24.888		
	Total	1284.300	29			

a. Dependent Variable: ROE

b. Predictors: (Constant), LLPNPLR, LLPLAR, NPLTAR, NPLTLAR

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.737	3.425		7.223	.001
	NPLTLAR	30.843	9.409	.7589	3.278	.003
	NPLTAR	-46.131	11.957	-.8289	-3.858	.001
	LLPLAR	.728	1.384	.218	.526	.604
	LLPNPLR	-.022	.012	-.382	-1.915	.05

a. Dependent Variable: ROE