NON-PERFORMING ASSETS AND ITS EFFECT ON COMMERCIAL BANK'S PROFITABILITY: A COMPARATIVE STUDY ON NBL, NABIL AND NIBL

A Thesis

By

Sunita Bhattarai

Central Department of Management

Exam Roll No.: 848/16

T.U Redg. No.: 7-2-876-21-2011

In the partial fulfillment of the requirements for the Degree of

Master of Business Studies (MBS Semester)

In the

Faculty of Management

Tribhuvan University

Kritipur, Kathmandu

December, 2018

CERTIFICATION OF AUTHORSHIP

I certify that the work in this thesis entitled "**Non-Performing Assets and its Effect on Commercial Bank's Profitability**" has not previously been submitted for a degree nor has it been a part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has written by me under the supervision of LecturerDinesh Mani Ghimire. In addition, I certify that all information sources and literatures used are indicated in the reference section of the thesis.

………………….

Sunita Bhattarai

Date:

RECOMMENDATION LETTER

It is certified that thesis entitled "**Non-Performing Assets and its Effect on Commercial Bank's Profitability**" submitted by Sunita Bhattarai 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 the critical examination and independent judgment. Candidate has put in at least 60 days after registering the proposal. The thesis is forwarded for examination.

………………………….

LecturerDinesh Mani Ghimire

Thesis Supervisor

Lecture

Central Department of Management

Tribhuvan University

Kathmandu, Nepal

Date:

APPROVAL SHEET

We, the undersigned, have examined the thesis entitled "**Non-Performing Assets and its Effect on Commercial Bank's Profitability**" presented by Sunita Bhattarai, a candidate for the degree of Master of Business Studies (MBS Semester) and conducted the viva-voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

…………………….
LecturerDinesh Mani Ghimire
Thesis Supervisor

……………………
Internal Examiner

…………………….
External Examiner

………………………..
Prof. Dr. Sanjay Kumar Shrestha
Chairperson, Research Committee
Central Department of Management, Tribhuvan University

………………………..
Prof. Dr. Bhoj Raj Aryal
Head of Department
Central Department of Management, Tribhuvan University
Date:

ACKNOWLEDGEMENT

TABLE OF CONTENENT

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

CV	:	Coefficient of Variation
FY	:	Fiscal Year
i.e.	:	That is
LA	:	Loan and Advances
Ltd	:	Limited
LLP	:	Loan Loss Provision
LLPLAR	:	Loan Loss Provision to Loan and Advance Ratio
LLPNPAR	:	Loan Loss Provision to Non-Performing Assets Ratio
N	:	Number of pairs of Observation
NBL	:	Nepal Bank Limited
NIBL	:	Nepal Investment Bank Limited
NP	:	Net Profit
NPA	:	Non-Performing Assets
NPATAR	:	Non-Performing Assets to Total Assets Ratio
NPATLAR	:	Non-Performing Assets to Total Loan and Advances Ratio
NPL	:	Non-Performing Loans
NRB	:	Nepal Rastra Bank
P.E	:	Probable Error
R	:	Coefficient of correlation
ROA	:	Return on Assets
ROE	:	Return on Equity
ROI	:	Return on Investment
SD	:	Standard Deviation
TDP	:	Total Deposit
www	:	World wide web

Abstract

This study has investigated the Non-performing assets and its effect on commercial bank's profitability. A Comparative study on NBL, NABIL and NIBL. The main objective was to examine the non-performing assets trend and its Impact on banks profitability. Analytical and descriptive research design was used to accomplish research design. The study is based on secondary data and data was collected from website, annual report, economy survey and NRB reports. Correlation analysis respectively were to examine the nature and extent of the relationship between the variables. The study covered three commercial banks over a period of past 7 fiscal years from 2010/11 to 2016/17. Correlation analysis and descriptive statistics were used in the analysis and finding suggest that there is an insignificant relationship between NPA and profitability. Hence, the result show that NBL has high NPA and high amount of LLP which decrease bank's profit.

CHAPTER-I

INTRODUCTION

1.1 Background

Bank simply means a financial institution, which is engaged with in monetary transaction. Basically, banks as intermediaries between depositors and borrowers in an economy which are distinguished from other types of financial firm's offerings deposit and loans products, (Heffeman, 1996). The bank plays an important role in the economy of a country by performing it's the most important function known as credit creation. The bank creates credit in various form such as loans and advances, cash credit; banks over draft etc. in this manner the bank creates money supply into the market. The bank gives these loan and advance, cash credit, bank over draft to the individual, firms, companies, government, etc. in these sense bank play the role of a lender of a money and all these party play the role of borrower. Unfortunately, the credit provided by the bank does not come back to the banks. This creates bad debts, which is known as non-performing assets (NAP) in the terminology of bank. In others word NPA is defined as a loan asset, which has ceased to generate any income for the bank whether in the form of interest or principal repayment. NPA account not only reduces profitability of banks by provisioning in the profit and loss account, but their carrying cost is also increased which results in excess and avoidable management attention. A high level of NPA also puts strain on a bank's net worth because banks are under pressure to maintain a desire level of Capital Adequacy and in the absence of comfortable profit level; banks eventually look towards their internal financial strength to fulfill the norms thereby slowly eroding the net worth. (Raval, 2014)

The banks, in their books, have different kinds of assets such as cash in hands, balance with other banks, investment, loan and advance, fixed assets, and other assets. The Non-Performing Assets (NPA) concept is restricted to loans, advances and investments. As long as an asset generated the income expected form it and does not disclosed any unusual risk other than normal commercial risk, it is treated as performing assets, and when it fails to generated the expected income it become a NPA. In other words, a loan become a nonperforming asset when it ceases to generated income, i.e. interest, fee, commission or

of interest or repayment of installments on principal or both remains unpaid for a period of two quarters or more than and if any have become 'past due'. An amount under any credit facilities is to be treated as past due when it remains unpaid for 30 days beyond due date. Non-performing assets is also known as Non-Performing loans. It is made by a bank or finance company on which repayments or interest payment are not being made in time. A loan is an asset for a bank as the interest payments and the repayment of the principal creates a stream of cash flows. It is from the interest payments that a banks makes its profits. Banks usually treat assets as non-performing if they are not serviced for some time. If payments are late for a short time, a loan is classified as past due and once a payment becomes really late (usually 90 days), the loan is classified as non-performing. A high level of non-performing assets, compared to similar, may be a sing of problems. (Selvarajan and Vadivalagan, 2013).

NPAs are one of the key indicators that gauge the financial strength of any bank or financial institution. NPAs for banks are nothing but loans gone sour. It is a loan that cannot be recovered from the customer within stipulated time, especially those exceeding 90 days of the predetermined period. The NPA does not yield any income to the banks in the form of principal and interest payments. NPAs eat into the income of the financial institutions as the primary sources of income of financial institutions are the interest payments by borrowers. NPA could wreck Banks' profitability both through a loss of interest income and write off the principal loan amount. To start with performance in terms of profitability is a benchmark for any business enterprises including the banking industry, (Abale and Ingale, 2013).

Management of Non-Performing Assets (NPAs) is a burning problem of Nepalese financial sector. In the present banking scenario, NPA is being more headaches of the banking sector. In the general context, a non-performing assets is nothing but those advances that do not generate income. In others words it refers to those unproductive assets of any firms that cannot be converted into cash within specific time limit. If the credit allowed by banks and financial institution turns bad, it creates NPA. NPA percentages in assets portfolio shows health of bank. The performance of any financial institution is greatly measure with the coverage of NPA in the particular institution. Since, the prime sources of income for the

bank are generated through income from loan and advances, increase in non-performing assets may lead bank in verge of collapse. (Nepal Rastra Bank, 2013).

The bank taking different principles for granting loan (i.e. liquidity, profitability, safety & security, social responsibility etc.) but the NPA does not decline. An asset is classified as non-performing assets, if the borrower does not pay dues in the form of principle and interest. If any credit facilities or loan granted by bank to borrower became non-performing. Then the bank will have to treat all the credit facilities or loan granted to that borrower as non-performing assets/loan, non-banking assets, remaining non-performing loan, suspend interest, unutilized assets etc. the notion of non-performing loan or assets is often used as a proxy for assets quality of a particular bank or banking system. Although, there is no uniform definition of NPA, in many countries, including most G-10 countries, assets are considered to be NPA when (a) principal or interest is due and unpaid for 90 days or more; (b) interest payment equal to 90 day or more have been capitalized, refinanced or rolled over. The bottom line in the international manuals concerning non-performing loan, seems to be that loans are good unless there is absolute certainty that a loan is not going to be repaid under existing arrangement. The SAN 1993 and other international statistics manuals are silent on defining non-performing loans. (Dahal,2002:114)

Non-performing assets could wreck bank's profitability both through a loss of interest income and need to write off the principal loan amount. It tackles the subject of an entire starting from the stage of their identification till the recovery of dues in such amount. (Bindani, 2003: 36-38).

In context of Nepal, the history of banking in Nepal dates back to the year 1937 AD with the establishment of Nepal Bank Limited (NBL) as the first commercial bank in Nepal. It was established the semi-government bank with metallic coins worth NRs 10 million as the authorized capital. Banknotes in Nepal were not introduce up until the mid-1940s. In 1945 the earliest banknotes were issued by the treasury "sadar muluki khana". This notes were signed by a "khajanchi", the head of the treasury who also was a high Hindu Priest. In the year of 1955, Nepal Rastra Bank (NRB) Act was formulated for a better banking system and approved by the government. Hence, the Nepal Rastra Bank was established in

1956 A.D. as a central bank of Nepal. After the establishment of NRB, the first fifth plan was introduced in the country. NRB makes various guidelines for the banking sector of the country. The establishment of NRB set a milestone in the history banking in Nepal. After this, the new way thinking and a new sort of sprit arose in the field of banking. NRB was established with an objectives of supervising, protecting and directing the function of commercial banking activities. Government established another commercial bank Rastra Baniijya Bank in public sector on 23rd January 1966 A.D. to provide banking facilities and to help economic development. (www.khalti.com)

Today, the banking sector is more liberalized and modernized and systematic managed. There are various types of bank working in modern banking system in Nepal. It includes central, development, commercial, financial, co-operative and Micro Credit (Grameen) banks. Technology is changing day by day. And changed technology affects the traditional method of the service of bank. There are all 28 commercial banks. However, this study is concerned with Nepal Bank Limited (NBL), NABIL Bank Limited and Nepal Investment Bank Limited (NIBL).

Nepal Bank Limited (NBL)

Nepal Bank Limited, the first bank of Nepal was established in November 15, 1937 A.D (Kartik, 30, 1994). It was formed under the principle of Joint venture (Joint venture between govt. & general public). NBL's authorized capital was Rs. 10 million & issued capital Rs. 2.5 million of which paid-up capital was Rs. 842 thousand with 10 shareholders. The bank has been providing banking through its branch offices in the different geographical locations of the country. (www.nbl.com.np)

NABIL Bank limited

NABIL Bank Limited is the nation's first private sector bank, commencing its business since July 1984. NABIL was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, NABIL provides a full range of commercial banking services through its 74 points of representation. In addition to this, NABIL has presence through over 1500 NABIL Remit agents throughout the nation.

NABIL, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes international standard banking software that supports the E-channels and E-transactions.

NABIL is moving forward with a Mission to be **"1st Choice Provider of Complete Financial Solutions"** for all its stakeholders; Customers, Shareholders, Regulators, Communities and Staff. NABIL is determined in delivering excellence to its stakeholders in an array of avenues, not just one parameter like profitability or market share. It is reflected in its Brand Promise **"Together Ahead"**. The entire NABIL Team embraces a set of Values "C.R.I.S.P", representing the fact that NABIL consistently strives to be Customer Focused, Result Oriented, Innovative, Synergistic and Professional. (www.nabilbank.com)

Nepal Investment Bank Limited (NIBL)

NIBL is one of the leading commercial bank of Nepal. Previously known as Nepal Indosuez Bank Ltd., the bank was established in February 27, 1986 as a joint venture between Nepalese and Credit Agricole Indosuez. Till date it has 77 branches, 7 Extension Counters & information office and 103 ATM location services. NIBl is moving forward with a Mission to be the and visionary management in partnership with competent and committed staff, to achieve sound leading Nepali bank, delivering world class service through the blending of state-of-the-art technology financial health with sustainable value addition to all our stakeholders. We are committed to do this mission while ensuring the highest levels of ethical standards, professional integrity, corporate governance and regulatory compliance. (www.nibl.com.np)

1.2 Statement of Problem

Commercial bank and financial institutions in Nepal have been facing several problems like of smooth functioning of its everyday activities by adopting Nepal Rastra bank guidelines. Financial sector reforms policy and framework is not properly followed by

banking institutions towards creating economic benefit. NPA's can have severe impact on the financial health of the bank. Lending carries risk, which arises from the failure of the borrower to fulfil its contractual obligation droving the course of transaction. Another problem is the 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. Assets are the most critical factor in determining the strength of any bank. The primary factors that can be considered are the quality of the loan portfolio, mix of risk assets and the credit administration system. The lower NPL ratio indicates better risk assessment and robust credit management system are in place and vice-versa. At the same time higher loan loss provisions indicate poor credit management; it also indicates adequate reserve for possible loan loss, protecting the balance sheets of respective banks.

Poor governance was resulted from political and insider-lending lack of independency at the top management weak information system, and weak legal framework and accounting system etc., are the main cause of increasing NPL in government owned banks. Such malpractices further deteriorated the conditions of the banks. Moreover, the board of directors, the apex body in both banks was not able to withstand pressures from outside and virtually failed to chalk out the clear future strategy. Lack of adequate and effective analysis and evaluation in connection with the purposed project or customer, weak legal regularity framework. Lack of effective monitoring and supervision, misuse of loan provided for the particular purpose, unsecured collateral and willful defaulter is the main causes, which may deteriorate the quality of the investment.

Growing NPA is really big problem for the whole nation economic. So the root cause of NPA should be analyzed. The effect of NPA on bank's profitability is to be examined. This research is focused on these areas particularly. This study has identified the following research question regarding NPA with special reference to NBL, NABIL bank Ltd and NIBL:

1. What are the trends of non-performing assets in NBL, NABIL and NIBL?
2. What are the impact of loan loss provision on the profitability of NBL, NABIL and NIBL?
3. What are the effects of NPA on the profitability of NBL, NABIL and NIBL?

1.3 Purpose of the Study

The steadily increasing NPA has been now becoming major issue for every commercial bank. Every bank has now put the NPA management under top priority. Thus in the present context analyzing the cause and implication of NPA obviously shall be useful for banking sector. The basic objective of this study is to examine and identify the trend, factor and consequences of the non-performing assets. The specific objectives of the study are given below.

1. To analyze the trends of the non-performing assets of NBL, NABIL and NIBL.
2. To examine the impact of loan loss provision on the profitability of NBL, NABIL and NIBL.
3. To examine the effect of non-performing assets on the profitability of NBL, NABIL and NIBL.

1.4 Significance of the Study

The significance of the study is theoretical as well as practical or applied. Research itself has own importance because it aims to gain knowledge and to add the new literature to the existing field. This study could fill the gap of knowledge about effect and factors of NPA. This study will contribute significantly to solve the problem existing in the financial institution specially for commercial banks and to formulate the policy and strategies to maintain their activities effectively. The study will important for banks, Board of directors of respective banks, researchers, scholars, investors, students, government as well as other many other parties. So, this study will be helpful to those who want to study in further detail and widely in this field. The study cloud suggest measure for the banks to avoid further NPAs and to reduce exiting NPAs. This study also may be help the government in creating and implementing new strategies to control NPAs.

1.5 Limitation of the Study

Every study is conducted under any constraints and limitations. Likewise, this study is also limited by some constraints.

1. Most of the data are of secondary nature and the calculations, conclusions of the study are fully have depended on the accuracy of the data provided by the respective bank's annual report.
2. Only seven-year data (2010/011 to 2016/017) is uses.

3. Only three banks are chosen under study to represent 28 commercial banks so that the result depends upon representation of population by sample.

4. The result of the study may not be thoroughly applied over all type of commercial bank.

1.6 Organization of the Study

The study is divided into five chapters.

Chapter I: Introduction

This chapter deal with explain background of the study, Statement of the problem, Objectives of the study, Significance of the study and limitation of the study.

Chapter II: Review of Literature

This chapter have been including review of theoretical framework about the study, review of related studies taken over different period of the times in the past in the national international context and the finally it is also deal with focus into the research gap.

Chapter III: Methodology

This chapter deal with research methodology to be adopted for the study to satisfy the objectives of the study. It consists of research design, Population and sample, Nature and Source of Data, Data Collection Procedures, Data Analysis tools and techniques.

Chapter IV: Results

Fourth chapter deal with data presentation and analysis. This chapter includes Data presentation, Data analysis and Major finding of the study.

Chapter V: Conclusion

This chapter consists of summary of the study, conclusion and implications for further improvement.

Finally, reference and appendices are also included at the end of the study.

CHAPTER II

LITERATURE REVIEW

The review of literature is a very important aspect of the research. It is reviewing of research studies of other relevant proposition in related area of the study, so that, all the past studies, their conclusion and deficiencies may be known and further research can be conducted. For this, several books, dissertation, reports, hands out and articles published in journals and Newspapers are reviewed.

2.1 Conceptual Review

The following different categories of assets can be applied to classify them in the category of non-performing assets.

2.1.1 Loan and advance

The term 'loan' refers to the amount borrowed by one person from another. The amount is in the nature of loan and refers to the sum paid to the borrower. Thus, from the view point of borrower, it is 'borrowing' and from the view point of bank, it is 'lending'. Loan may be regarded as 'credit' granted where the money is disbursed and its recovery is made on a later date. It is a debit for a borrower. While granting loans, credit is given for a definite purpose and for a predetermined period. Interest is charged on the loan at agreed rate and intervals of payment. 'Advance' on the other hand, is a 'credit facility' granted by bank. Banks grant advances largely for short-term purpose, such as purchase of goods traded in and meeting other short-term trading liabilities. There is a sense of debt in loan, where as an advance is a facility being availed of by the borrower. However, like loans, advances are also too repaid. Thus a credit facility repayable in installments over a period is termed as loan while a credit facility repayable within one year may be known as advances. Loans and advances granted by commercial banks are highly beneficial to individuals, firms, companies and industrial concerns. The growth and diversification of business activities are effected to a large extent through bank financing. Loans and advances granted by banks help in meeting short-term and long term financial needs of business enterprises. (www.bbmproject.files)

Classification of loans/ advances

Pass Loans: Loans/advances which have not overdue and which are overdue by a period up to three months. Such loans require provisioning of one per cent of the total loan amount.

Watch list Loans: If the borrower's cash flow cannot support the repayments of the loan, then the loan acquired by the firm should be classified as 'watch list'. Also, loans acquired by firms whose working capital, cash flow or net worth have remained negative for two consecutive years have to be classified as 'watch list', even if the firm is making timely principal and interest payments. In addition, Loans should also be categorized as 'watch list' if the credit obtained by the same borrower from another financial institution turns into non-performing asset. Among others, credit obtained by borrowers, who have missed monthly, quarterly or half-yearly installment payment deadlines, should also be categorized as 'watch list', adds the directive. Five per cent of the total loan amount must be provisioned for such credit.

Sub-standard: Loans/advances which are overdue by a period from three months to a maximum period of six months. Such loans require provisioning of 25 per cent of the total loan amount.

Doubtful: Loans/advances which are overdue by a period from six-months to a maximum period of one year. Such loans require provisioning of 50 percent.

Loss: Loans/advances which are overdue by a period of more than one year. Such loans require provisioning of 100 percent. (www.nrb.com.np)

2.1.2 Performing Loan

A loan that is not in or near default. According to the International Monetary Fund, a performing loan is any loan in which: interest and principal are less than 90 days overdue; less than 90 days' worth of interest has been refinanced, capitalized, or delayed by agreement; and continued payment is anticipated. All conditions must be present for a loan to be performing. However, the specific definition is dependent upon the loan's particular terms. In other word, performing loan are the productive assets that generated some profits. Loan have the certain time period to return its principal with its interest. If anyone repays loans with its interest on time, is known as the performing loan. It is the most profitability

assets of banks. Its help of repaid growth of banking sector in this fast pace competitive age. Better performing loan are the symbol of success od banks. (www.imf.com)

2.1.3 Non-performing Assets/Loan (NPAs/NPL)

The banks, in their books, have different kinds of assets such as cash in hands, balance with others banks, investment, loan and advance, fixed assets, and others assets. The Non-Performing Assets (NPA) concept is restricted to loans, advances and investments. As long as an asset generated the income expected form it and does not disclosed any unusual risk other than normal commercial risk, it is treated as performing assets, and when it fails to generated the expected income it become a non-performing assets (NPA). In other words, a loan become a nonperforming asset when it ceases to generated income, i.e. interest, fee, commission or any others dues for the banks for more than 90 days. A NPA is an advance where payment of interest or repayment of installments on principal or both remains unpaid for a period of a two quarters or more than and if any have become 'past due'. An amount under any credit facilities is to be treated as past due when it remains unpaid for 30 days beyond due date, Non-performing assets is also known as Non-Performing loans. It is made by a bank or finance company on which repayments or interest payment are not being made in time. A loan is an asset for a bank as the interest payments and the repayment of the principal creates a stream of cash flows. It is from the interest payments that a banks makes its profits. Banks usually treat assets as non-performing if they are not serviced for some time. If payments are late for a short time, a loan is classified as past due and once a payment becomes really late (usually 90 days), the loan is classified as non-performing. A high level of non-performing assets, compared to similar, may be a sing of problems. (Selvarajan and Vadivalagan, 2013).

A Non-performing asset (NPA) is defined as a credit facility in respect of which the interest and/or installment of Bond finance principal has remained 'past due' for a specified period of time. NPA is used by financial institutions that refer to loans that are in jeopardy of default the so called NPL. Once the borrower has failed to make interest or principal payments for 90 days the loan is considered to be a non-performing asset. Non-performing assets are problematic for financial institutions since they depend on interest payments for income. Troublesome pressure from the economy can lead to a sharp increase in NPLs and often results in massive write-downs. (www.wikipedia.org)

Types of NPA

Gross NPA: Gross NPAs are the sum total of all loan assets that are classified as NPAs as per NRB guidelines as on Balance Sheet date. Gross NPA reflects the quality of the loans made by banks. It consists of all the nonstandard assets like as restructured, sub-standard, doubtful, and loss assets.

It can be calculated with the help of following ratio:

Gross NPAs Ratio = Gross NPAs /Gross Advances

Net NPA: Net NPAs are those type of NPAs in which the bank has deducted the provision regarding NPAs. Net NPA is shows the actual burden of banks.

It can be calculated by following:

Net NPAs = Gross NPAs – Provisions on Gross Advances

2.1.4 Loan loss Provision

There is associated risk in every loan. To minimize the risk from the possible losses of those loans banks has to allocate some fund as a loan loss provision. Loan loss provision is the accumulated funds that are provided as a safeguard to cover possible losses upon classification of risk inherited by individual loans. The amount of required for provisioning depends upon the level of NPAs, trend of repayment loan and economic stage of country. The high quality loan requires low loss provision, whereas bad loan requires high loan loss provision. Provision amount should maintain on the basis of classification of loan. According to the NRB Directives the following loan loss provision should be maintained:

Table 2.1 Provision for Classification of loan/Advances and Loan Losses

Particular	classifications	Provisions	Criteria of Provisioning
Performing loans	pass	1%	Not overdue and overdue by a period up to 3 months
	Watch list	5%	overdue by a period up to 3 months
Non-Performing loans	Sub-standard	25%	Overdue by 3 months to 6 months
	Doubtful	50%	Overdue by 6 months to 12 months
	Loss/bad	100%	Overdue by 1 year and above

Source: NRB,2015

2.1.5 Principles of Lending loans and advances

The major principle of lending loan and advances are as following:

Liquidity

Liquidity is an important principle of bank lending. Bank lend for short periods only because they lend public money which can be withdrawn at any time by depositors. They, therefore, advance loans on the security of such assets which are easily marketable and convertible into cash at a short notice. A bank chooses such securities in its investment portfolio which possess sufficient liquidity. It is essential because if the bank needs cash to meet the urgent requirements of its customers, it should be in a position to sell some of the securities at a very short notice without disturbing their market prices much. There are certain securities such as central, state and local government bonds which are easily saleable without affecting their market prices.

Safety and security

safety is the most important principles of lending. Safety means that the borrower should be able to repay the loan and interest in time at regular intervals without default. The repayment of the loan depends upon the nature of security, the character of the borrower, his capacity to repay and his financial standing. Another guiding factor in bank advance is security. When the banker advances without security he will run the risk of losing the money.

Profitability

This is the cardinal principle for making investment by a bank. It must earn sufficient profits. It should, therefore, invest in such securities which was sure a fair and stable return on the funds invested. The earning capacity of securities and shares depends upon the interest rate and the dividend rate and the tax benefits they carry. It is largely the government securities of the center, state and local bodies that largely carry the exemption of their interest from taxes. The bank should invest more in such securities rather than in the shares of new companies which also carry tax exemption. This is because shares of new companies are not safe investments.

Purpose

A banker should grant advance for productive purposes such as financing trade, commerce and industry. He should not grant advances for unproductive purposes.

Diversification

Another important principle to be followed by the banker is to see that loans and advances are spread to different categories. Diversification aims at minimizing risk of the investment portfolio of a bank. The principle of diversity also applies to the advancing of loans to varied types of firms, industries, businesses and trades. A bank should follow the maxim: "Do not keep all eggs in one basket." It should spread it risks by giving loans to various trades and industries in different parts of the country.

2.2 Review of Related Studies

On the way to prepare this research work some arterials, journals, thesis, NRB Directives and publications have been studied to formulate ideas about the subject matter.

2.2.1 Review of Journal and Articles

Abale, Ingale, (2013), has studies the Non-Performing Asset (NPA) has emerged since over a decade as an alarming threat to the banking industry in country, sending distressing signals on the sustainability and en-durability of the affected 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. The problem of NPAs is not only affecting the banks but also the whole economy.

Selvarajan & Vadivalagan (2013) has studies the magnitude of the problem of bad debts was not taken seriously. Subsequently, following the recommendations of Narasimham committee and Verma committee, some steps have been taken to solve the problem of old NPAs in the balance sheets of the banks. It continues to be expressed from every corner that there has rarely been any systematic evaluation of the best way of tackling the problem. There seems to be no unanimity in the proper policies to be followed in resolving this problem. There is also no consistency in the application of NPA norms, ever since these have been recognized. Non-Performing Assets are also called as Non-Performing Loans. It is made by a bank or finance company on which repayments or interest payments are not being made on time. A loan is an asset for a bank as the interest payments and the

repayment of the principal create a stream of cash flows. It is from the interest payments that a bank makes its profits. The problem of NPA is not limited to only Indian public sector banks, but it prevails in the entire banking industry. Major portion of bad debts in Indian Banks arose out of lending to the priority sector at the dictates of politicians and bureaucrats. If only banks had monitored their loans effectively, the bad debt problem could have been contained if not eliminated. The top management of the banks was forced by politicians and bureaucrats to throw good money after bad in the case of unscrupulous borrowers. Agriculture advances have registered a 7-fold net increase, SSI advances have set a record net increase of 8.5 times and the advances to other priority sector have made a net increase of 4.5 times, that of their respective figures in 2001–02.

Kiran, Jones, (2016), has analyzed the Nonperforming asset is the key term for the banking corporations. Non-Performing Assets show the efficiency of the performance of the banks. Non-Performing Assets is the amount which is not received by the bank in return of loans disbursed. The amount of Non-Performing Assets affects not only the banking industry but the total financial system and there by the economy of the country. Thus a selective study has been done on public sector banks in India to evaluate the effect of Non-Performing Assets on the profitability of banks. SBI and 5 nationalized banks were selected for the study and the relation between their gross Non Performing Assets and net profit was measured. The result shows that except for SBI all the other banks exhibit a negative correlation between their gross Non Performing Assets and net profits. But for SBI the net profit is not at all affected by Gross Non-Performing Assets and it is in continuous profits only.

Rathore, Malpani & Sharma (2016) has studies the Assets which generate income are called performing assets and but those do not generate income are called non-performing assets. A debt obligation where the borrower has not paid any previously agreed upon interest and principal repayments to the designated lender for an extended period of time. The nonperforming asset is therefore not yielding any income to the lender in the form of principal and interest payments. For example, a mortgage in default would be considered non-performing. After a prolonged period of non-payment, the lender will force the borrower to liquidate any assets that were pledged as part of the debt agreement. If no assets were pledged, the lenders might write-off the asset as a bad debt and then sell it at a

discount to a collection's agency. An asset becomes non-performing when it ceases to generate income for the bank. A non-performing asset (NPA) is defined generally as a credit facility in respect of which interest and / or installment of principal has remained "past due" for two quarters or more. An amount due under any credit facility is treated as "past due" when it has not been paid within 30 days from the due date.

Sharifi & Akhter (2016) has analyzed the strong banking sector is important for flourishing economy. Non-performing assets are one of the major concerns for banks in India. The study is based on secondary data. The paper highlights the trends, status and impact of NPA on PSBs profitability during the period of 7 years i.e. from 2009 to 2015. Several research journals including research papers and articles have been stated by the researchers. Moreover, RBI Reports on Trend and Progress of Banking in India for various years and websites have been referred during the study. The data were analyzed using descriptive statistics; simple regression model and correlation by using SPSS software version 20 and the Return on Assets (ROA), Return on equity (ROE) and Net Interest Margin (NIM) were used as financial performance variables and NPA as independent variable. The findings and analysis reveal that the NPA impact negatively on public sector bank's financial performance in the period under study.

Singh (2016) has analyzed the Indian banking sector has been facing serious problems of raising Non- Performing Assets (NPAs). The NPAs growth has a direct impact on profitability of banks. Non- performing assets are one of the major concerns for scheduled commercial banks in India. The recommendations of Narasimham committee and Verma committee, some steps have been taken to solve the problem of old NPAs in the balance sheets of the banks. It continues to be expressed from every corner that there has rarely been any systematic evaluation of the best way of tackling the problem. There seems to be no unanimity in the proper policies to be followed in resolving this problem. NPAs reflect the performance of banks. A high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks and also erodes the value of the asset. NPAs affect the liquidity and profitability, in addition to posing threat on quality of asset and survival of banks. The problem of NPAs is not only affecting the banks but also the whole economy. In fact, high level of NPAs in Indian banks is nothing but a reflection of the state of health of the industry and trade. It is necessary to

trim down NPAs to improve the financial health in the banking system. An attempt is made in this paper to understand NPA, the status and trend of NPAs in Indian Scheduled commercial banks, the factors contributing to NPAs, reasons for high impact of NPAs on Scheduled commercial banks in India and recovery of NPAS through various channels.

Ugoani, (2016), has studies the Huge nonperforming loans portfolio erodes the ability of banks to make profits. In the 1990s and beyond many Nigerian banks became weak and highly unprofitable due to excessive nonperforming loans portfolio accumulated by bank promoters and management that led to their demise. Insider dealing was the major cause of large nonperforming loan portfolio in Nigeria, involving over-extension of loans to promoters, directors and significant others that became bad and irrecoverable. To clean up the mess in the banking sector and return the banks to the paths of sound management and profitability, the CBN had to inject about N700bn in a bailout exercise while purging the system of bad and irresponsible management teams.

Chakraborty, (2017), has analyzed the banking business involves borrowing from the public in the form of Demand and Term Deposits and lending it to the people and business at a premium. Lending of money in the form of short- & long-term Advances involve credit or default risk. When the loans and advances made by banks or financial institutions turn out as non-productive, non-rewarding and non-remunerative, they become Non-Performing Assets (NPA). According to SARFAESI 2002, NPA is an asset or account of a borrower, which is classified by a bank or financial institution as sub-standard asset, doubtful asset and loss asset. Indian banks with enormous amounts of bad loans are in pathetic health and witnessed a sharp jump in their gross NPAs. It is also found that at international level Indian banks are among the banks that have higher percentage of NPAs.

2.2.2 Review of Previous Thesis

Nakarmi (2010) made thesis report on "Non-Performing Assets and profitability of commercial banks in Nepal, a case study of six commercial banks" the objectives of his study were to access the relationship between non-performing assets and the profitability of the commercial banks.

The major finding in his study was increase in profitability is affected by amount on NPA. There is negative relationship between NPA and profitability. NPA is negative for the most

of the banks under his study period. High level of non-performing assets not only decreases the profitability of the banks but also affect the entire financial as well as operational health of the country. If the NPA were not controlled immediately, it would be proved as a curse for the banks in near future.

Kaur (2011), made thesis report on "An overview of "Non - Performing Assets of commercial banks (With reference to Nepal Investment Bank Ltd., NABIL Bank Ltd. & Nepal Bangladesh Bank Ltd.)" has made study with have main objectives impact of NPA on the bank's profitability and proportion of loan and advance, NPA and loan loss provision. And he concludes that the increasing non-performing assets (loan) is the serious problem of the Banking sector in Nepal. Non-performing asset debar the income flow of the Bank while claiming additional resources in the form of provisioning and hinder further gainful investments. NBBl has NBBL has very high portion of non-performing assets resulting to higher provision. Among the three Banks NABIL has the least non-performing assets and thus of collateral are the major causes of mounting non-performing assets in the joint venture the least loan loss provision despite NIB has low average of NPA & LLP under his study period. Ineffective credit policy, political & board executive's pressure to lend to un-creditworthy borrowers, overvaluation Bank like NBBL. Other factors leading to accumulation of NPAs are weak loan sanctioning process, ineffective credit monitoring & supervision system, economic slowdown, borrower's misconduct etc.

2.3 Conceptual Framework

In this research, NPA and loan loss provision of commercial bank is an independent variable and profitability is dependent variables. Here profitability is measured with the help of Return on Assets ratio (ROA) and Return on equity Ratio (ROE). NPA is measured through NPA to Loan and Advance Ratio, NPA to Total Assets Ratio and Loan Loss Provision is measure through loan loss provision to NPA ratio and Loan Loss Provision to Loan and Advance Ratio.

The conceptual framework of the study is portrayed in figure 2.1.

Figure 2.3.1 Conceptual Framework

Independent variable	Dependent variable

LLP indicators

1. LLPLAR
2. LLPNPAR

NPA indicator

1. NPATLAR
2. NPATAR

Profitability indicators

1. ROA
2. ROE
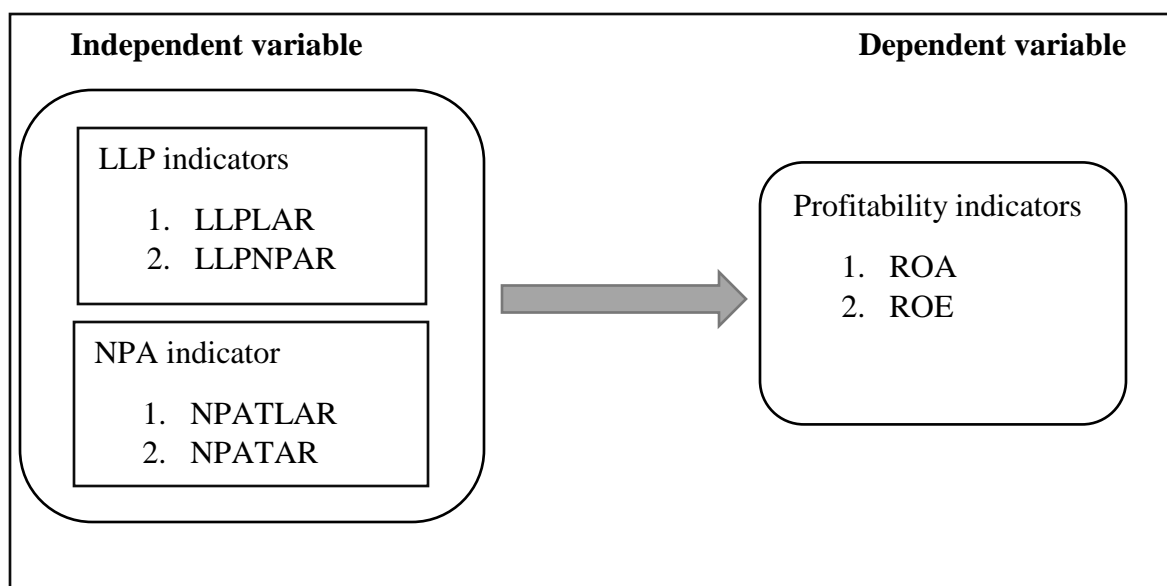
Sources: Hamal thesis, 2016

2.4 Definition of Variables

Profitability measures used in the study

Return on Assets (ROA): The ROA is an important indicator of bank's profitability. It is calculated by dividing net income after tax to total assets. ROA shows the profit earned per Rupees of assets which reflects bank's management ability to utilize the bank's financial and real investment resources to generate profits.

Return on Equity (ROE): The ROE is an important indicator of banks profitability. It is calculated by dividing net income after tax to shareholders equity. ROE reflects how effectively a bank management is utilizing its shareholders funds. A sustainable and increasing ROE over time can mean a bank is good at generating shareholder value because it knows how to reinvest its earnings wisely, to increase productivity and profits.

Loan loss provision measure used in the study

LLPTAR: The proxy used for this variable as loan-loss provisions over total loans. It is calculated by dividing loan loss provision to total loan and advances. It is a measure of capital risk, as well as credit quality of banks. If banks operate in more risky environments and lack the expertise to control their lending operations, it will probably result in a higher

loan-loss provision ratio to cover this risk. Hence, the ratio is expected to have a negative relationship with profitability.

LLPNPAR: The LLPNPAR is an important indicator of LLP. It is calculated by dividing LLP to NPA. The variable measures up to what extent of risk inherent in NPA is covered by the total loan provision. Higher ratio signifies that the Banks are safeguarded against future contingencies that may create due to non-performing. it will probably result in a higher loan-loss provision ratio to NPA. Hence, the ratio is expected to have a negative relationship with profitability.

NPA measure used in the study

NPATLAR: The proxy used of this variable as NPA over total loan and advances. It shows the proportion of NPA in total loan and advances. It measures the bank's assets quality in the form of loan and advances. If bank have idle assets and invested on unproductive sector rather than productive sector. It has negative impact on its profitability.

NPATAR: NPATAR indicated the ratio between NPA and total assets. It is calculated by dividing NPA to total assets. It measures the overall quality of banks assets book. It shows the how much assets are non-performing or idle in total assets of bank. Higher ratio indicates the weak work performing of bank which reduce bank's profitability. Hence this ratio has negative relationship with profitability.

2.5 Research Gap

This study is based on analyzing the impact of NPA on the bank's profitability of Nepalese commercial banks. There are several researches conducted on NPA. 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 banks profitability.

This study has focus only on impact of NPA on profitability from the prospective of ROA and ROE. However, there are lots of area and profitability measurement variables such as net interest margin, return on investment etc.

From the study of previous thesis, it has found that increasing NPA is the one of the major problems and challenge faced by Nepalese commercial banks in the present context. This thesis had attempted to fill this research gap by taking seven-year data. Hence, Previous

thesis were done only taken by five years' data. This thesis taking the reference of NBL, NABIL and Nepal investment Bank limited. This thesis will be able to deliver present issue, latest information and data relating to NPA. The previous research has selected the sample of bank as randomly but in this study, sample has selected basis of first establishment through government, joint venture and domestic private sectors bank.

CHAPTER -III

METHODOLOGY

3.1 Research Approach and Design

This study seeks the examine the non-performing assets on profitability of NBL, NABIL and NIBL provide suggestion of the evaluation. To accomplish research objectives by using analytical and descriptive research approach has been adopted. It tries to describe and analyze all these facts that have been collected for the purpose of the study.

The sample are taken from population by using judgmental sampling method. The secondary data have been used for the research study The data are collect from website, annual reports of respective banks etc. Hence, the research design is made by collecting the information from the different source and data have been tabulated and analyzed by using financial and statistical tools. The financial tool includes NPA indicator ratio and profitability indicator ratio. Similarly, statistical tools including mean, SD, CV and correlation. At the end summary, conclusion and recommendation are set for the purpose of the study.

3.2 Population and Sample

Now 28 commercial banks are operating in Nepal. Due to time, resource and complexity of methodology it is not possible to study all of them regarding the study topic. Therefore, this study relies on sample which are taken from the population by using judgmental sampling methods. Sample of this study is three commercial banks which are chosen first establishment through government, joint venture and domestic private sectors. Which are:

1. Nepal Bank Ltd. (NBL)
2. NABIL Bank Ltd. (NABIL)
3. Nepal Investment Bank Ltd. (NIBL)

3.3 Nature and Sources of Data

The research is mainly based on secondary data which may include. Annual reports, semi-annual reports, quarterly economic bulletin economic survey report, journal of finance,

previous research studies dissertation and articles of the subject, various text books and different related websites.

3.4 Data Analysis Tools

Various financial and statistical tools are used to analysis the data.

3.4.1 Financial Tools

Financial tools are those which are used for the analysis and interpretation of financial data. Here in this study, the financial tools include:

a. Loan and advance to Total Assets Ratio

The ratio of loans and advances to total assets measures the amount of loans and advances in the structure of total assets. The high degree of ratio indicates the good performance of the Banks in mobilizing its fund by way of lending functions. However, in its reverse side, the high degree is representative of low liquidity ratio. The low ratio is indicative of low productivity and high degree of safety in liquidity and vice versa. This ratio is calculated as follows.

$$\text{Loans and advances to total asset ratio} = \frac{\text{Loan and Advance}}{\text{Total Assets}} \times 100\%$$

b. Loan and advance to Total Deposit Ratio

This ratio is calculated to find out how successfully the Banks are utilizing their total deposits on credit or loans and advances for profit generating purpose as loans and advances yield high rate of return. Greater loan and advance to total deposit ratio implies the better utilization of total deposits and better earning, however, liquidity requirements also need due consideration. This ratio is calculated as follow:

$$\text{Loan and advance to total deposit ratio} = \frac{\text{Loan and advance}}{\text{Total deposit}} \times 100\%$$

c. LLP to Loan and Advance Ratio

This ratio shows the relationship between LLP and total loan and advance. This ratio describes the quality of assets in the form of loans and advances. NRB has directed commercial Banks to classify its loans into different categories and accordingly to make provision for probable loss. Loan loss provision signifies the cushion against future contingency created by the default of the borrower in payment of loans and ensures the continued solvency of the Banks. Since high provision has to be made for non-performing loan, higher provision for loan loss reflects increasing non-performing loan in volume of total loans and advances. The low ratio signifies the good quality of assets in the volume of loans and advances. It indicates how efficiently it manages loan and advances and makes efforts to cope with probable loan loss. Higher ratio implies, higher portion of NPL in the total loan portfolio. This ratio is calculated below:

$$\text{LLP to Loan and Advances ratio} = \frac{\text{LLP}}{\text{Loan and Advances}} \times 100\%$$

d. Loan Loss Provision to Non-Performing Assets Ratio

This ratio describes the proportion of provision held to non-performing assets of the bank. This ratio measures up to what extent of risk inherent in NPA is covered by the total loan provision. Higher ratio signifies that the Banks are safeguarded against future contingencies that may create due to non-performing assets or in other words Banks have cushion of provision to cope the problem that may be cause due to NPA. Hence higher the ratio better is the financial strength of the Bank. This ratio is calculated as follow:

$$\text{Loan loss provision to NPA} = \frac{\text{Loan loss provision}}{\text{NPA}} \times 100\%$$

e. Non-Performing assets to Total Loans and advances Ratio

This ratio determines the proportion of non-performing assets in the total loan and advance portfolio. Higher ratio implies the bad quality of assets of Banks in the form of loans and advances. Hence lower NPA to total loan and advance ratio is preferred. This ratio is calculated as follows:

$$\text{NPA to total loan and advance ratio} = \frac{\text{NPA}}{\text{Loan and advance}} \times 100\%$$

f. Non-Performing assets to Total Assets Ratio

This ratio indicates the ratio between non-performing assets and total assets. It measures the overall quality of bank's assets book. Low non-performing assets to total assets ratio is preferred. This ratio is calculated as follow:

$$\text{Non-performing assets to total assets ratio} = \frac{\text{Non- performing assets}}{\text{Total Assets Ratio}} \times 100\%$$

g. ROA

This ratio determines the proportion of total net profit to total assets ratio. ROA measure of the ability of the firm to generate return on its portfolio of assets. Higher the ratio indicates the better utilization of assets and lower the ratio indicates low performance of the bank. It is calculated as under:

$$\text{ROA ratio} = \frac{\text{Net profit}}{\text{Total assets}} \times 100\%$$

h. ROE

This ratio determines the proportion of total net profit to total shareholder's equity. ROE ratio provide insight into how the management is using the financing from equity to grow the business. A sustainable and increasing ROE over time can mean a bank is good at generating shareholder value because it knows how to reinvest its earnings wisely, so as to

increase productivity and profits. In contrast, a declining ROE can mean that management is making poor decisions on reinvesting capital in unproductive assets. It is calculated as follow:

$$\text{ROE Ratio} = \frac{\text{Net profit}}{\text{Shareholder's equity}} \times 100\%$$

3.4.2 Statistical Tools

Statistical tools are the mathematical techniques used to facilitate the analysis and interpretation of numerical data. In this study the following statistical tools have been used to analyze the data;

1. Trend Analysis

Trend Analysis is one of the statistical tools which is used to determine the improvement or deterioration of its financial situation. The Least square method has been adopted to measure the trend behaviors of NBL, NABIL and NIBL. The formula of least square method for the straight line is represented by the following formula.

$Y = a + bx$

here,

Y is dependent variable, a is Y intercept or value of Y when x = 0, b is the slope of the trend line or amount of change that comes in y for a unit change in x.

Where,

Y = Trend value

a = y intercept

b = slope of trend line of the amount of change in y variable that is an associate with change in one unit in X variable

x = time variable

2. Arithmetic Mean ($\overline{X}$)

The arithmetic mean of a given set of observation is the sum of all the observation divided by the number of observation. It is the best possible value of a group of variables that

singly represents to whole group. In the statistical analysis the central value falls within the approximately middle value of the whole data. Mean is the arithmetic average of a variable. If X1, X2, X3……Xn are the given N observations, then their arithmetic mean denoted by ($\overline{X}$) is given by:

$$(\overline{X}) = \frac{X1 + X2 + X3 + \ldots + Xn}{N} = \frac{\sum X}{N}$$

Where,

$\sum X$ = Sum of the observations, and

N = number of years

3. Standard Deviation (S.D.)

In statistics, the standard deviation (S.D.) also represented by the Greek letter sigma σ or the Latin letter s) is a measure that is used to quantify the amount of variation or dispersion of a set of data values. A low standard deviation indicates that the data points tend to be close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the data points are spread out over a wider range of values.

It can be calculated as follows:

$$\text{Standard Deviation} \ (\sigma) = \sqrt{\frac{\sum (X - \overline{X})^2}{N}}$$

Where,

$\sum (X - \overline{X})$ = Sum of the squares of the deviations measured from mean, and

N = Numbers of observations

4. Coefficient of Variation (C.V.)

Standard deviation is the absolute measure of dispersion. The relative measure of dispersion based on the standard deviation is known as the coefficient of variation. C.V.

is compute for the comparing the variability of two distributions. A distribution of similar C.V. is said to be more homogeneous or uniform or less variable than other, and the series with greater C.V. is said to be more heterogeneous or more variable than the other. It is calculating as under:

$$C.V. = \frac{\sigma}{\overline{X}} \times 100$$

5. Coefficient of correlation model (r)

Correlation refers to the degree and direction of relationship between two variables. Correlation coefficient determines the association between the dependent variable and independent variable. If between the variables, increase or decrease in one cause increase or decrease in another, then such variables are correlated variables. The coefficient of correlation denoted by r and computing as under:

$$r = \frac{N \sum XY - \sum X . \sum Y}{\sqrt{N \sum x^2 - (\sum X)^2} \times \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

The Karl Pearson Coefficient always falls between -1 to +1. The value of correlation in negative signifies, the negative correlation and in plus signifies the positive correlation. If,

$r = 0$, there is no relationship between the variables.

$r < 0$, there is negative relationship between the variables.

$r > 0$, there is positive relationship between the variables.

$r = +1$, the relation is perfectively positive.

$r = -1$, the relation is perfectively negative.

6. Probable Errors (P.E.)

The Probable Error of Correlation Coefficient helps in determining the accuracy and reliability of the value of the coefficient that in so far depends on the sampling. In other words, the probable error (P.E.) is the value which is added or subtracted from the coefficient of correlation (r) to get the upper limit and the lower limit respectively, within which the value of the correlation expectedly lies. The probable error of correlation coefficient can be compute by following formula:

$$\text{P.E.} = 0.6745 \; \frac{(1-r^2)}{\sqrt{N}}$$

Where,

r = correlation coefficient

N= No. of pairs of observation.

There is no correlation between the variables if the value of 'r' is less than P.E. This shows that the coefficient of correlation is not at all significant. The correlation is said to be certain when the value of 'r' is six times more than the probable error; this shows that the value of 'r' is significant.

<center>**CHAPTER-IV**</center>

<center>**RESULT**</center>

In this chapter, effort have been made to present, analysis and interpret the collected data from the various sources. The basis objectives of this study is to compare the performance of selected banks in term of NPAs. Data collected from various sources were classified and tabulated as requirement of the study and in accordance to the nature of collected data. This chapter determine the quality of study because how far the collected data are present and analyze with the help of various Financial and statistical tools tables, graphs etc. as of meaningful and clearly. To make easier and make clear to understand, data are presented in the required figure also.

4.1 Trend Analysis

Trend Analysis is one of the statistical tools which is used to determine the improvement or deterioration of its financial situation. Trend analysis informs about the expected future values of various variables. The Least square method has been adopted to measure the trend behaviors of NBL, NABIL and NIBL. In this study, data are presented for seven years from 2010/11 to 2016/17 and forecast for next seven years.

4.1.1 Trend Analysis of NPA

Under this topic, an effort has been made to calculated the trend value of NPA between NBL, NABIL and NIBL for seven years from the 2010/11 to 2016/17 and forecast for next seven years from 2010/11 to 2023/24.

<center>**Table 4.1.1 Trend analysis of NPA**</center>

<div align="right">(Rs in millions)</div>

Years	NBL	NABIL	NIBL
A	1979.29	971	875.71
B	128.25	3.5	-9.14
2010/11	1594.54	960.29	885.13
2011/12	1722.79	963.86	875.99
2012/13	1851.04	967.43	866.85
2013/14	1979.29	971	857.71
2014/15	2107.54	974.57	848.57
2015/16	2235.79	978.14	839.43
2016/17	2364.04	981.71	830.29
2017/18	2492.29	985.28	821.15

2018/19	2620.54	988.85	812.01
2019/20	2748.79	992.42	802.87
2020/21	2877.04	995.99	793.73
2021/22	3005.29	999.56	784.59
2022/23	3133.54	1003.13	775.45
2023/24	3261.79	1006.7	766.31

Sources: Appendix 1

The table 4.1.1 shows that there are increasing trend of NPA for NBL and NABIL and decreasing trend of NPA for NIBL over the years from 2010/11 to 2023/24. The NPA of NBL and NABIL have regularly increasing every year Rs 128.25 million and 3.57 million respectively. Similarly, NPA of NIBL is decreasing every years Rs 9.14 million under the study period. It indicated that NBIL has better credit management and pay-off of outstanding loans. NPA of NBL and NABIL is expected to increasing from Rs 2492.29 to Rs 3261.79 million and from Rs 985.28 to Rs 1006.67 from fiscal year 2017/18 to 2023/24 respectively. Similarly, NPA of NIBL is expected to decreasing from Rs 821.15 to Rs 766.31 million from 2017/18 to 2023/24. The trend line shown as follow:

Figure 4.1.2 Trend analysis of NPA
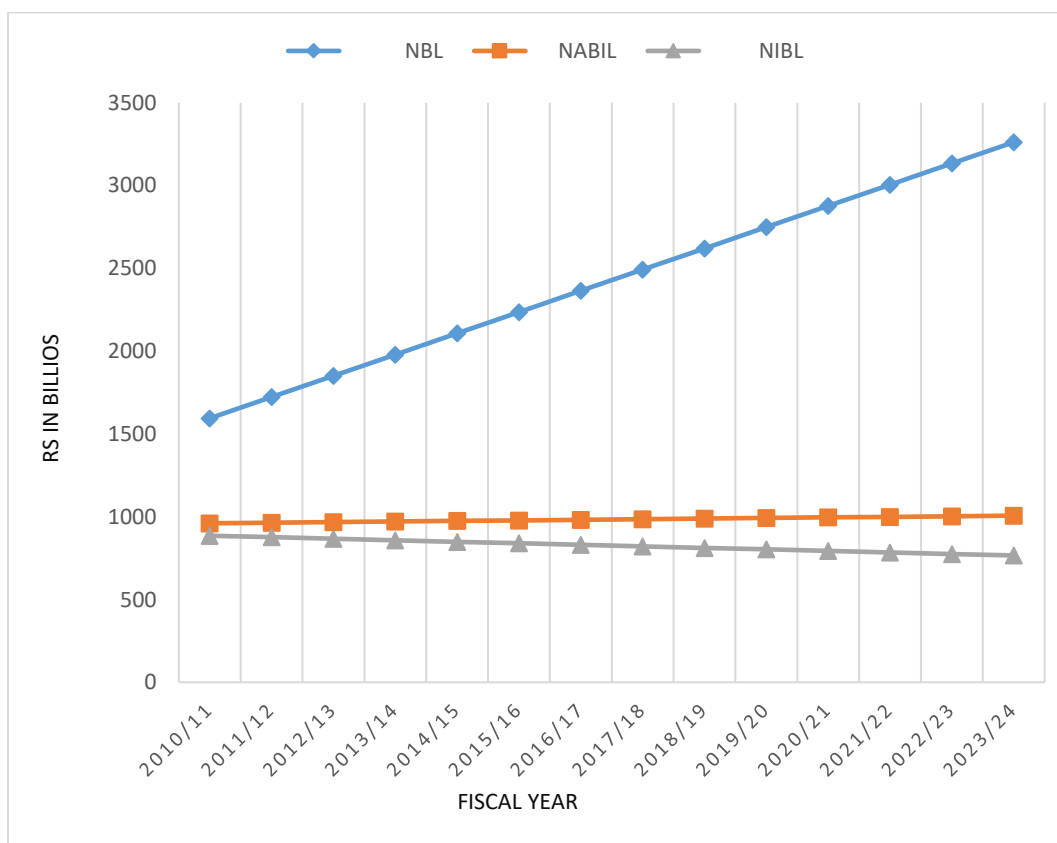
4.1.2 Trend analysis of loan and advances

Hence, the trend value of loan and advances between NBL, NABIL and NIBL have been calculated for seven years from the 2010/11 to 2016/17 and forecast for next seven years from 2010/11 to 2023/24.

Table 4.1.2.1 Trend analysis of loan and advance

(Rs in billion)

Years	NBL	NABIL	NIBL
A	58.43	43.86	62.14
B	8.64	8	10.61
2010/11	32.51	19.86	30.31
2011/12	41.15	27.86	40.92
2012/13	49.79	35.86	51.53
2013/14	58.43	43.86	62.14
2014/15	67.07	51.86	72.75
2015/16	75.71	59.86	83.36
2016/17	84.35	67.86	93.97
2017/18	92.99	75.86	104.58
2018/19	101.63	83.86	115.19
2019/20	110.27	91.86	125.8
2020/21	118.91	99.86	136.41
2021/22	127.55	107.86	147.02
2022/23	136.19	115.86	157.63
2023/24	144.83	123.86	168.24

Sources: Appendix 2

The table 4.1.2.1 shows the trend of loan and advance of NBL, NABIL and NIBL have in increasing trend. The loan and advance of NBL, NABIL and NIBL have regularly increasing every year by Rs 8.64, 8 and 10.14 billion respectively. NIBL has higher increasing trend among three Banks under the study period. From the above analysis, it is clear that all three banks are mobilizing it's collected deposits and other funds in the form of loan and advances. The trend line shown as follow:

Figure 4.1.2.2Trend analysis of loan and advances
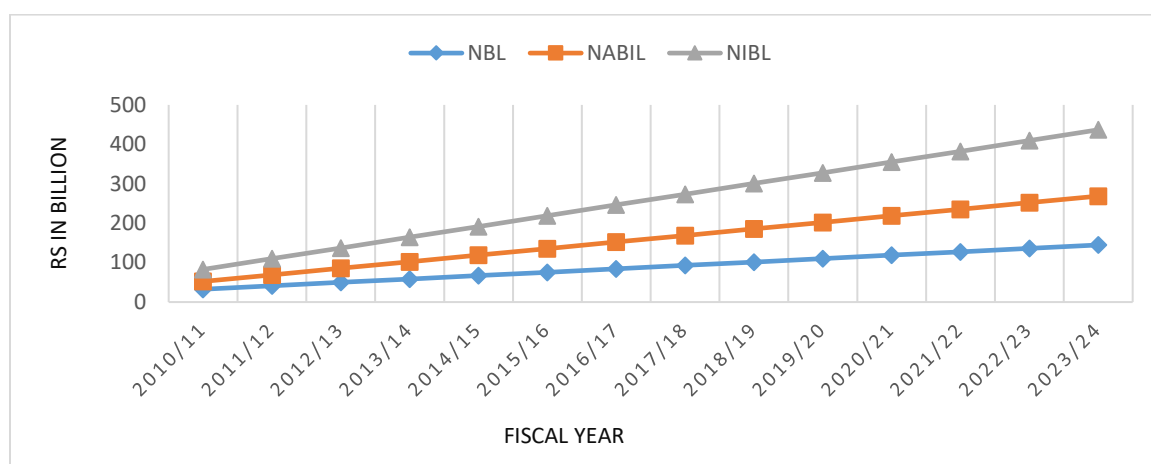
4.1.3 Trend analysis of Loan Loss Provision

Under this topic, an effort has been made to calculated the trend value of LLP between NBL, NABIL and NIBL for seven years from the 2010/11 to 2016/17 and forecast for next seven years from 2010/11 to 2023/24.

Table 4.1.3.1 Trend analysis of loan loss provision   (Rs in million)

Years	NBL	NABIL	NIBL
A	492.71	139.57	537.71
B	14	-33.79	-6.64
2010/11	450.71	240.94	566.63
2011/12	464.71	207.15	556.99
2012/13	478.71	173.36	547.35
2013/14	492.71	139.57	537.71
2014/15	506.71	105.78	528.07
2015/16	520.71	71.99	518.43
2016/17	534.71	38.2	508.79
2017/18	548.71	4.41	499.15
2018/19	562.71	-29.38	489.51
2019/20	576.71	-63.17	479.87
2020/21	590.71	-96.96	470.23
2021/22	604.71	-130.75	460.59
2022/23	618.71	-164.54	450.95
2023/24	632.71	-198.33	441.31

Sources: Appendix 3

The table 4.1.3.1 reveals the trend of loan loss provision of NBL increasing trend. On the other hand, the LPP trend of NABIL and NIBL is decreasing every year. The trend of decreasing value of LLP of NABIL is higher and aggressive than NIBL. NABIL has negative value of LLP in futures it means it recovers all debt. The LLP of NBL is increasing every year by Rs 14. Similarly, LLP of NABIL and NIBL are decreasing by Rs 33.79 and Rs 6.64 every year under the study period. In conclusion, NABIL and NIBL are doing better because of diminishing growth rate in LLP. NBL has higher increasing value, which indicate NPA is increasing every year. The trend line is shown as follow:

Figure 4.1.3.2 Trend analysis of LLP between NBL, NABIL and NIBL
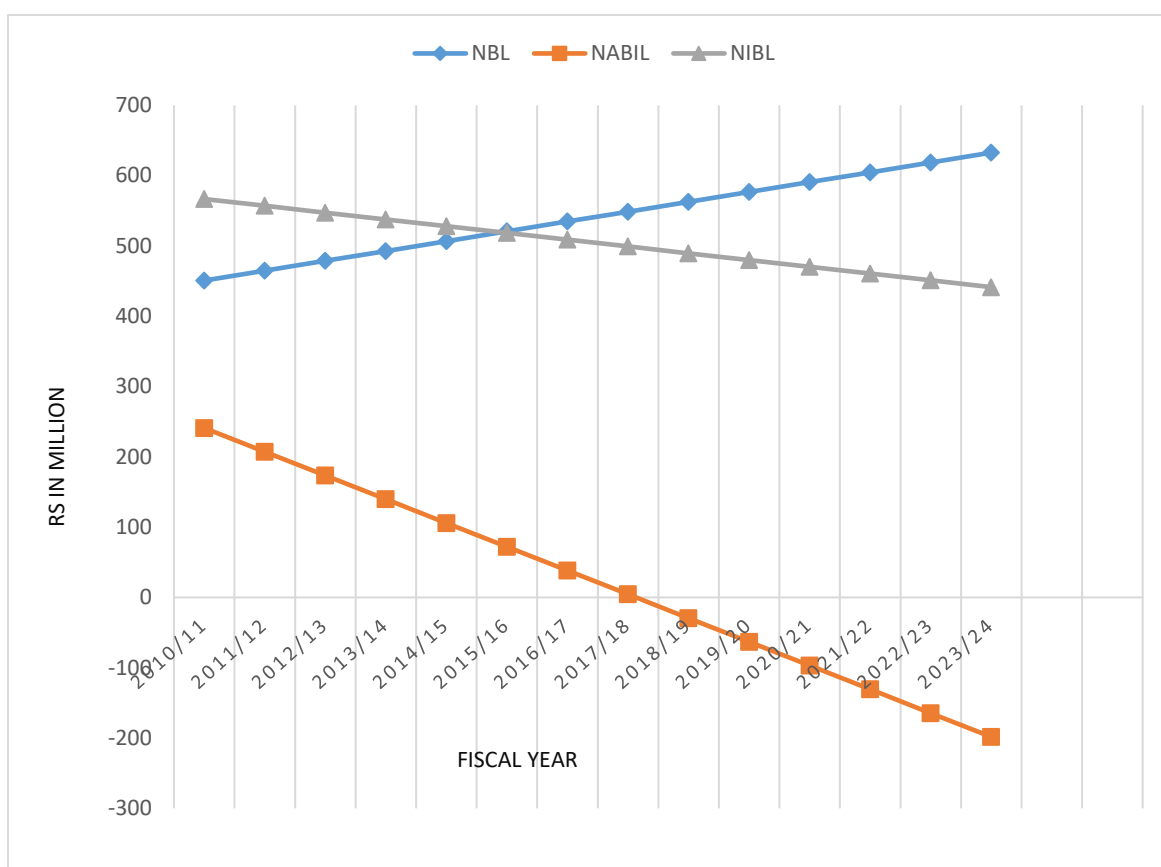
4.1.4 Trend analysis of Net Profit

Hence, the trend value of Net profit between NBL, NABIL and NIBL have been calculated for seven years from the 2010/11 to 2016/17 and forecast for next seven years from 2010/11 to 2023/24.

**Table 4.1.4.1 Trend analysis of net profit**

(Rs in million)

Years	NBL	NABIL	NIBL
A	1179.57	2299.43	1956.29
B	503.82	319.57	317.21
2010/11	-331.92	1340.72	1004.66
2011/12	171.91	1660.29	1321.87
2012/13	675.74	1979.86	1639.08
2013/14	1179.57	2299.43	1956.29
2014/15	1683.4	2619	2273.5
2015/16	2187.23	2938.57	2590.71
2016/17	2691.06	3258.14	2907.92
2017/18	3194.89	3577.71	3225.13
2018/19	3698.72	3897.28	3542.34
2019/20	4202.55	4216.85	3859.55
2020/21	4706.38	4536.42	4176.76
2021/22	5210.21	4855.99	4493.97
2022/23	5714.04	5175.56	4811.18
2023/24	6217.87	5495.13	5128.39

Sources: Appendix 4

The table 4.1.4.1 reveals the trend of net profit of NBL, NABIL and NIBL. Net profit of all three banks are in increasing trend. The trend of increasing value of net profit of NBL is higher and aggressive than NABIL and NIBL. The net profit of NBL, NABIL and NIBL has been increasing every year by Rs 503.83, 319.57 & 317.21 respectively. In conclusion, NBL is doing better in order to generate net profit during the study period. The prospect of

the profit generating capacity of NBL is high than NABIL and NIBL. The trend line shown as follow:

Figure 4.1.4.2 Trend analysis of net profit between NBL, NABIL and NIBL
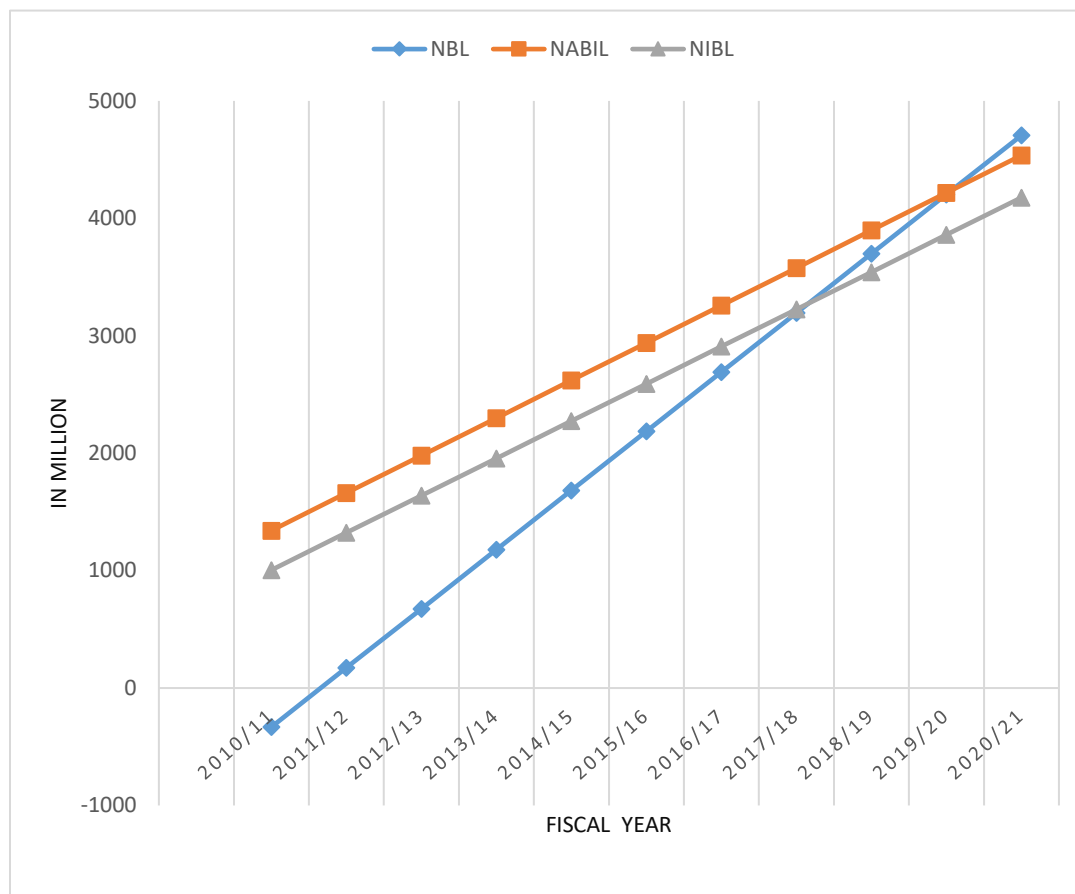
4.2 Ratio Analysis

Ratio analysis is the widely used tool of financial analysis. Financial ratio is the mathematical relationship between two accounting figures.

4.2.1 Loan and Advance to Total Assets Ratio

The ratio of loans and advances to total assets measures the amount of loans and advances in the structure of total assets. The high degree of ratio indicates the good performance of the Banks in mobilizing its fund by way of lending functions. However, in its reverse side, the high degree is representative of low liquidity ratio. The low ratio is indicative of low productivity and high degree of safety in liquidity and vice versa. The following table show loan and advance to total assets ratio of NBL, NABIL and NIBL.

Table 4.2.1.1 Loan and Advances to Total Assets Ratio of NBL, NABIL and NIBL

Years	NBL	NABIL	NIBL
2010/11	45.55%	65.42%	70.42%
2011/12	47.21%	65.83%	63.32%
2012/13	50.32%	63.31%	63.43%
2013/14	50.06%	62.67%	60.37%
2014/15	57.78%	56.47%	63.46%
2015/16	59.19%	59.78%	65.85%
2016/17	64.03%	64.05%	69.37%
Mean	53.45%	62.50%	65.17%
SD	6.39	3.081	3.34
CV	11.96%	4.93%	5.13%

Source: Appendix 5

The table 4.2.1.1 and figure 4.2.1.2 show that the loan and advance to total assets ratio of the three banks for the last seven consecutive years. The loan and advances to total assets ratio of NBL, NABIL and NIBL are found to be in fluctuating trend during the study period. Among the three banks, NIBL has the highest proportion of loan and advances in the total assets structure followed by NBL and NABIL. This infers that NIBL is better at mobilizing of fund as loan and advance and it seems quite successful in generating highest average ratio among the banks under study.

The highest ratio of NBL, NABIL and NIBL were found in the FY 2016/17, 2011/12, 2010/11 with ratio 64.03%, 65.83% and 70.42% respectively. The SD and CV of NBL were 6.39 and 11.96%, similarly NABIL were 3.081 and 4.93% and NIBL were 3.34 and 5.13% respectively. Thus it can be interpreted that NBL has highest deviation and low consistent in terms of variability. The low CV of NABIL shows the more stable or uniform

in the ratio with compare to NBL and NIBL. The loan and advances to total assets ratio of NBL, NABIL and NBL can be presented in bar diagram as follow:

Figure 4.2.1.2 Loan and Advances to Total Assets Ratio of NBL, NABIL and NIBL
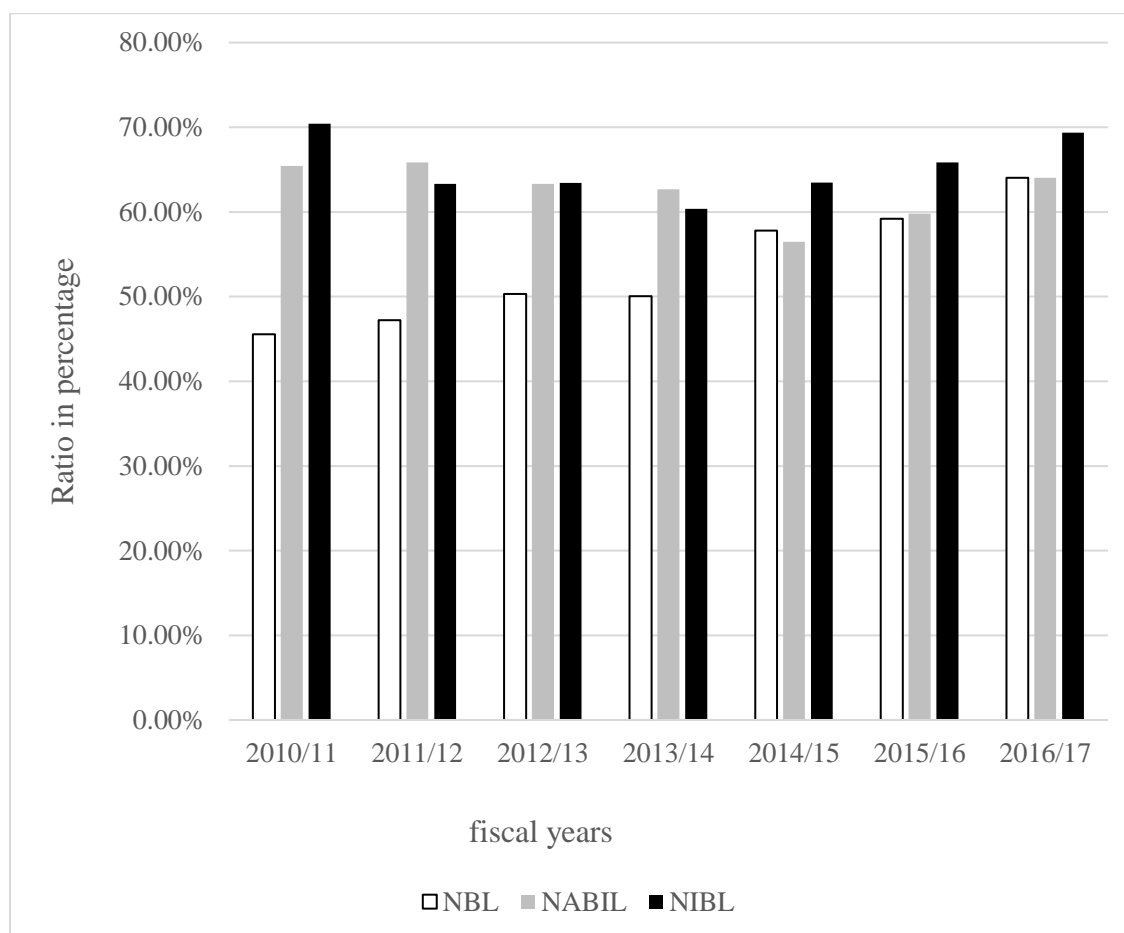
4.2.2 Loan and advance to Total Deposit Ratio

This ratio is calculated to find out how successfully the Banks are utilizing their total deposits on credit or loans and advances for profit generating purpose as loans and advances yield high rate of return. Greater loan and advance to total deposit ratio implies the better utilization of total deposits and better earning with the higher risk however, liquidity requirements also need due consideration. The following table show the loan and advance to total deposit ratio of three Banks.

Table 4.2.2.1 loan and advance to total deposit ratio of NBL, NABIL and NIBL

Years	NBL	NABIL	NIBL
2010/11	52.71%	76.53%	81.96%
2011/12	49.37%	75.61%	73.03%
2012/13	56.54%	72.90%	74.32%
2013/14	56.30%	72.55%	70.46%
2014/15	65.35%	62.84%	73.06%
2015/16	68.50%	69.02%	78.67%
2016/17	76.37%	75.59%	83.25%
Mean	60.73%	72.15%	76.40%
SD	8.92	4.48	4.55
C.V	14.69%	6.21%	5.96%

Source: Appendix 6

The table 4.2.2.1 and figure 4.2.2.2 show the loan and advance to total deposit ratio of three banks for five consecutive years. This ratio shows fluctuation trend of all three banks. The highest loan and advances to total deposit ratio of NBL and NIBL were found in the FY 2016/17 with ratio 76.37% and 83.25% respectively, similarly NABIL banks has highest ratio 76.53% in the fiscal year 2010/2011. The mean of NBL, NABIL and NBL are 60.73%, 72.15% and 76.40% respectively. Among the three banks NIBL has highest mean. It indicated that NBL is better utilizing their total deposits on credit or loans and advances with the objectives to earn profit. This consist that NBL has low investment in the form of loans and advances in comparison to NABIL and NIBL. The management of NABIL is highly concerned over risk, as they have invested higher proportion of their deposit in risk free or nominally risky assets. The SD of NBL, NABIL and NIBL are 8.92, 4.48 and 4.55 respectively. Similarly, CV of NBL, NABIL and NIBL are 14.69%, 6.21% and 5.96% respectively. Thus it signifies that NBL has higher deviation with high degree of variation in this ratio and less stable. NIBL has the most consistent ratio and NABIL has least deviation during the study period. The loan and advances to total deposit ratio can be presented in bar diagram as follow:

Figure 4.2.2.2 Loan and advances to total deposit ratio
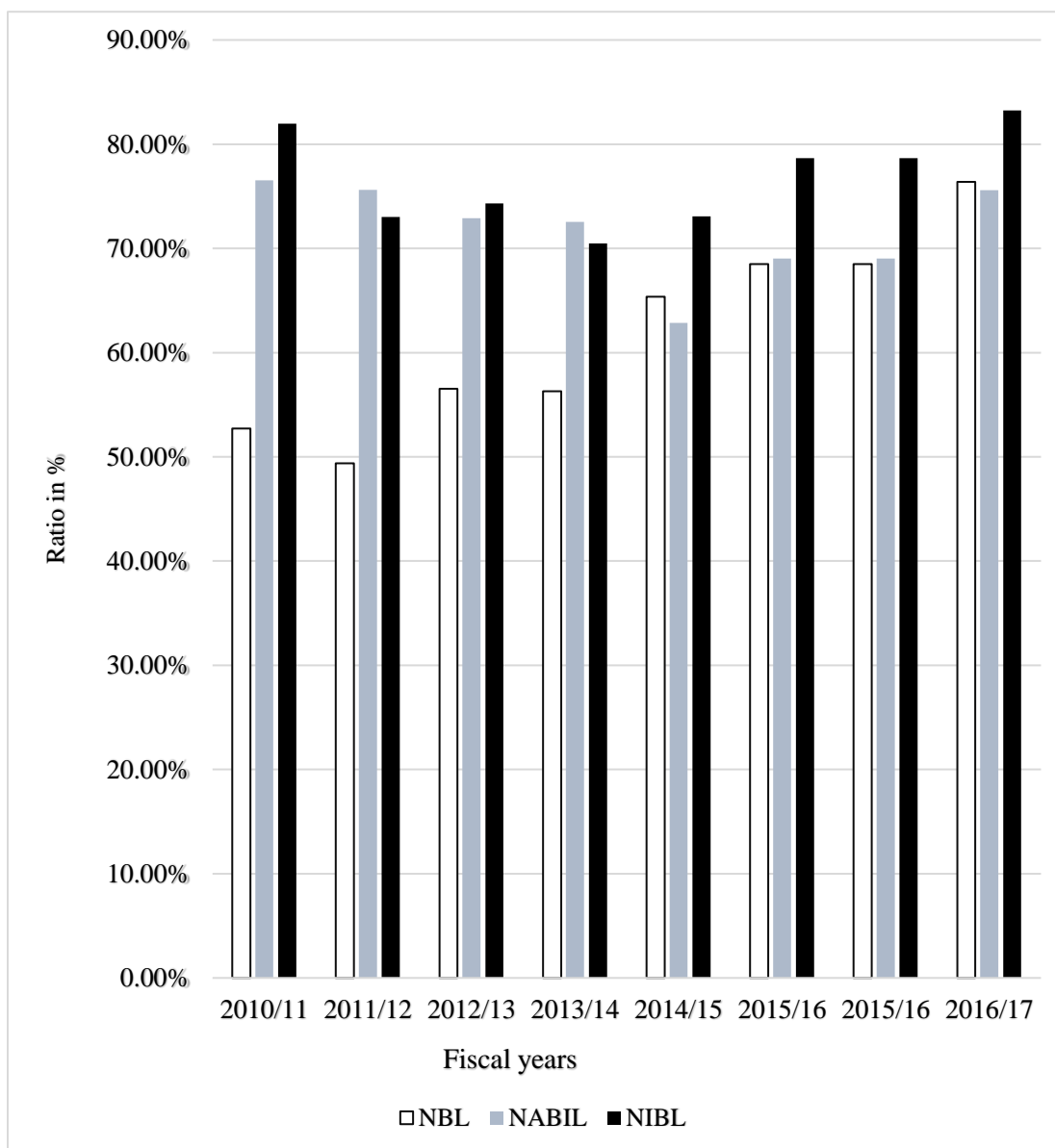
4.2.3 LLP to loan and advance ratio

This ratio shows the relationship between LLP and total loan and advance. This ratio describes the quality of assets in the form of loans and advances. The low ratio signifies the good quality of assets in the volume of loans and advances. It indicates how efficiently it manages loan and advances and makes efforts to cope with probable loan loss. Higher ratio implies, higher portion of NPL in the total loan portfolio.

Table 4.2.3.1 LLP to Loan and advances Ratio

Years	NBL	NABIL	NIBL
2010/11	2.87%	0.29%	0.65%
2011/12	0.91%	0.99%	1.79%
2012/13	1.59%	0.06%	2.07%
2013/14	0.65%	0.44%	0.53%
2014/15	0.89%	0.26%	0.87%
2015/16	0.83%	0.01%	0.51%
2016/17	0.99%	0.02%	0.49%
Mean	1.25%	0.29%	0.99%
SD	0.72	0.32	0.61
C.V	57.58%	109.33%	61.96%

Sources: Appendix 7

The table 4.2.3.1 exhibits the ratio of loan loss provision to loans and advances of NBL, NABIL and NIBL for the seven consecutive years. The table shows NBL has the highest ratio throughout the study period and also shows increasing trend. NABIL shows the least ratio during the study period, however, NABIL has been performing well from last seven years among the three banks. The mean loan loss ratio of NBL, NABIL and NIBL are 1.25%, 0.29%, and 0.99% respectively. This ratio of NBL is significantly high in comparison to other two Banks. Higher LLP is indicative of poor and ineffective credit policy, higher proportion of non-performing asset and poor performance of the economy. Hence the greater ratio of NBL suggest that there is high proportion of NPA in the total loans and advances. NABIL has been successful to reduce its non-performing loan resulting to decreasing LLP. The standard deviation of NBL, NABIL and NIBL are 0.72,0.32 & 0.61 and C.V.s are 57.58%, 109.33% & 61.96% respectively. Thus it signifies that NBL has higher deviation with higher degree of variation. Among the three Banks, NBL has more consistency, NIBL is moderate in terms of variability and NABIL has the least consistency of ratio during the study period. The LLP to Loan and advances ratio can be presented in bar diagram as follow:

Figure 4.2.3.2 LLP to Loan and Advances Ratio
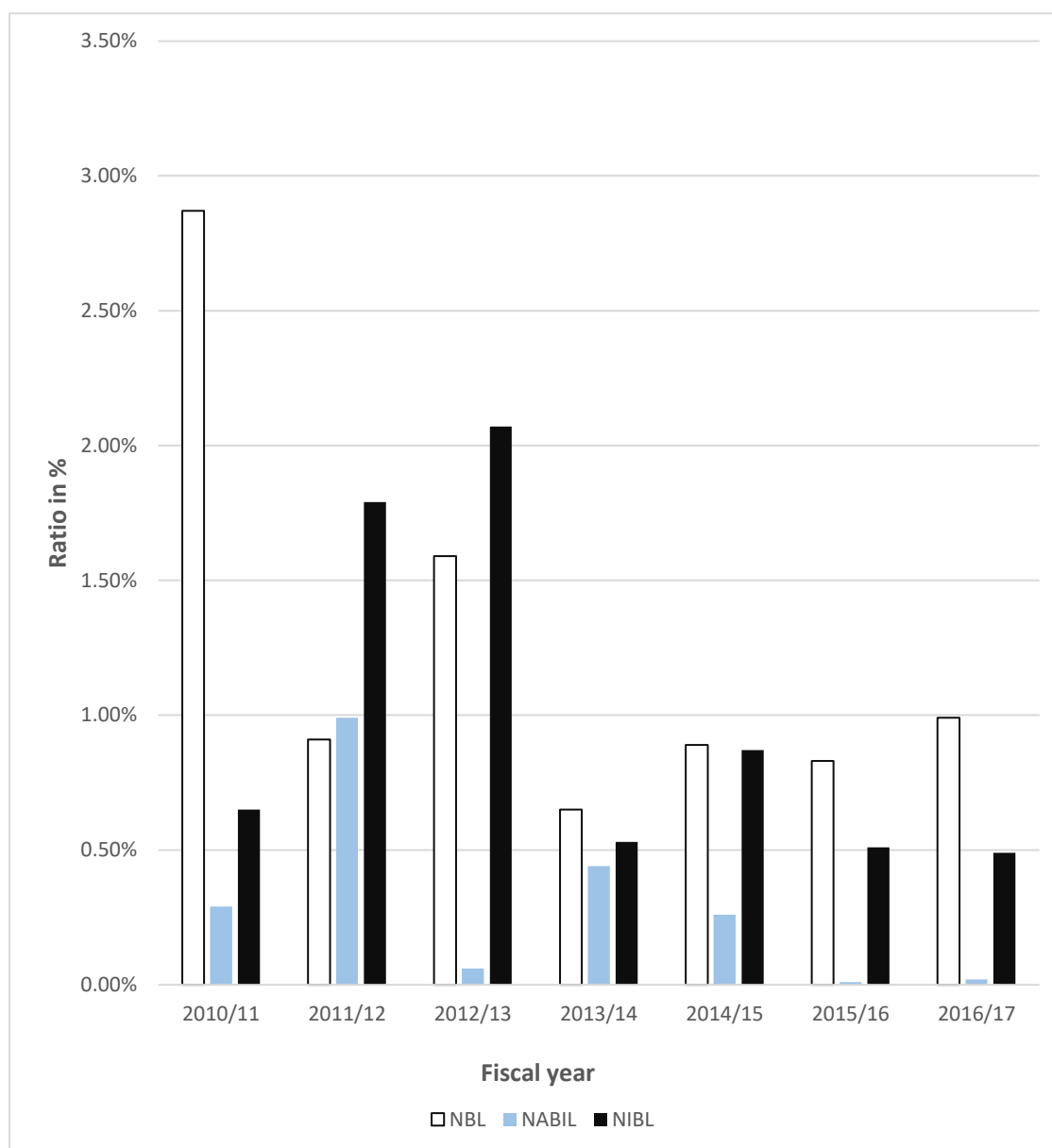
4.2.4 Loan Loss Provision to Non-Performing Assets Ratio

This ratio describes the proportion of provision held to non-performing assets of the bank. This ratio measures up to what extent of risk inherent in NPA is covered by the total loan provision. Higher ratio signifies that the Banks are safeguarded against future contingencies that may create due to non-performing assets or in other words Banks have cushion of provision to cope the problem that may be cause due to NPA. Hence higher the ratio is better in term of financial strength of the Bank.

Table 4.2.4.1 LLP to NPA Ratio of NBL, NABIL and NIBL

Years	NBL	NABIL	NIBL
2010/11	46.21%	15.87%	67.63%
2011/12	15.21%	41.39%	52.18%
2012/13	28.64%	2.70%	104.95%
2013/14	11.95%	18.94%	29.28%
2014/15	21.36%	13.69%	67.99%
2015/16	25.73%	0.57%	73.60%
2016/17	28.62%	2.64%	57.45%
Mean	25.39%	13.69%	64.73%
SD	10.39	13.17	21.32
C.V	40.92%	96.20%	32.94%

Sources: Appendix 8

The table 4.2.4.1 show the ratio between LLP and NPA of NBL, NABIL and NIBL. The highest ratio of NIBL is 104.95% in 2012/13, NABIL is 41.39% in 20111/12 and NBL is 46.21% in 2010/11. Among the three banks the average ratio of NIBL is highest than others. And it indicated that NIBL has adequate provision against NPA. NABIL has lowest average ratio 13.69% among the three banks under the study period. The standard deviation and CV of NBL, NABIL and NIBL is 10.39, 13.17 & 21.32 and 40.92%, 96.20% and 32.94% respectively. NABIL has highest CV and NIBL has lowest CV Among three banks. It indicated that NIBL has appropriate provision for non-performing assets and NABIL has low provision against the NPA. The provision held to NPA ratio can be presented in bar diagram as follow:

Figure 4.2.4.2 LLP to NPA Ratio of NBL, NABIL and NIBL
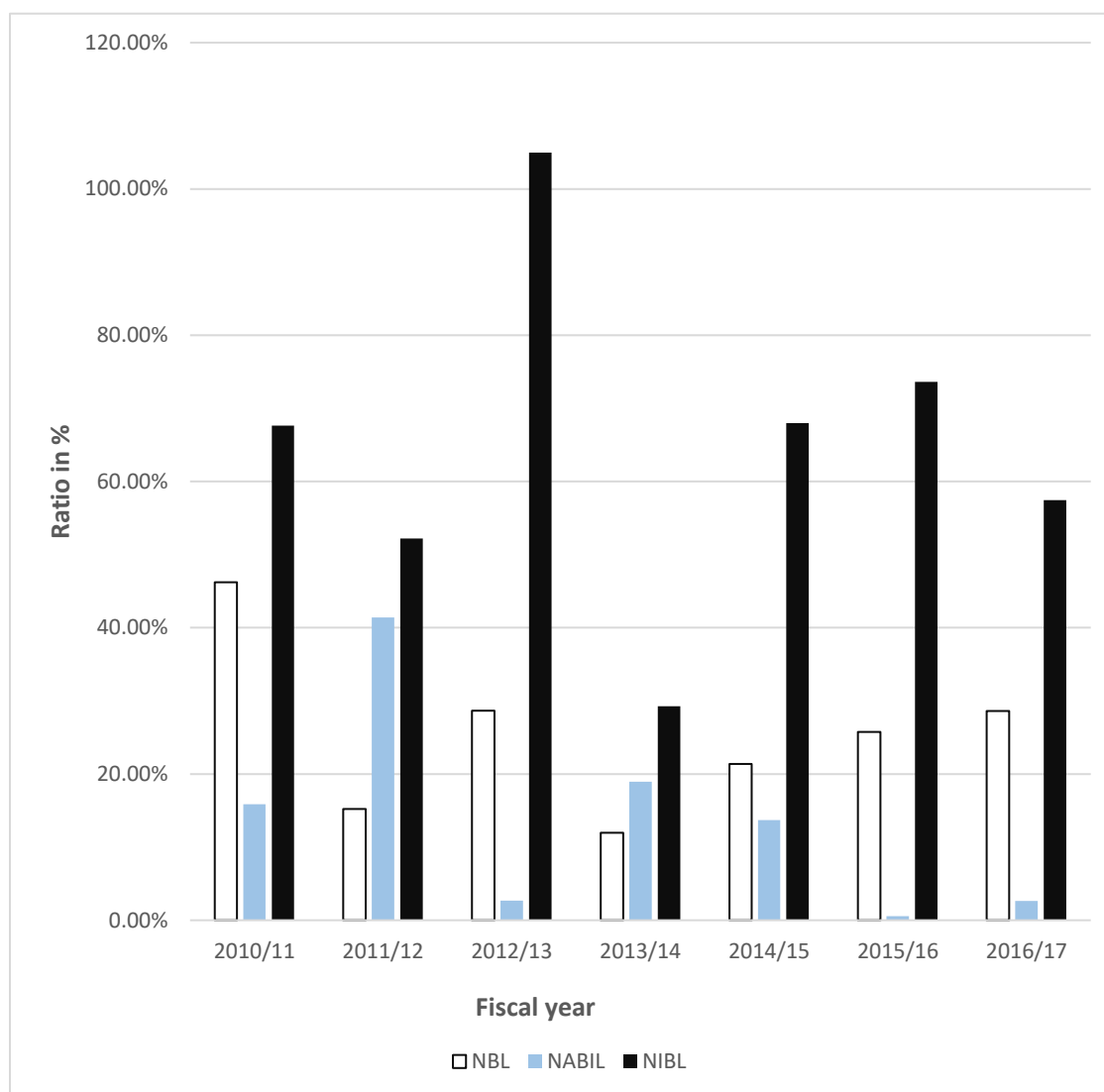
4.2.5 Non-Performing assets to Total Loans and advances Ratio

This ratio determines the proportion of non-performing assets in the total loan and advance portfolio. As per NRB directives the loans falling under category of substandard, doubtful and loss are regarded as non-performing loan or assets. Higher ratio implies the bad quality of assets of banks in the form of loans and advances whereas lower ratio implies the better quality of assets in the form of loan and advances. Hence lower NPA to total loan and advance ratio is preferred.

Table 4.2.5.1 NPA to total loans and advances ratio of NBL, NABIL and NIBL

Years	NBL	NABIL	NIBL
2010/11	6.22%	1.81%	0.96%
2011/12	5.99%	2.40%	3.42%
2012/13	5.57%	2.19%	1.97%
2013/14	5.40%	2.30%	1.82%
2014/15	4.17%	1.86%	1.27%
2015/16	3.23%	1.17%	0.69%
2016/17	3.44%	0.81%	0.85%
Mean	4.86%	1.79%	1.57%
SD	1.14	0.55	0.88
C.V	23.41%	30.89%	55.94%

Source: Appendix 9

This table 4.2.5.1 exhibits the ratio of non-performing assets to loans and advances of NBL, NABIL and NIBL for seven consecutive years. The NIBL has the lower ratio which indicate that the better quality of assets of bank in the form of loans and advances. It can be said that NIBL is performing well and maintaining their NPAs among the banks under study. The table shows NBL has highest ratio throughout the study period and also shows decreasing trend of NPA because of the effective credit management of bank and its efforts of recovering bad debt through establishment of recovery cell. NABIL and NIBL have low SD, it signifies that they have least deviation. NIBL has highest and NBL has lowest CV. It indicated that NIBL NPA to total loan and advances ratio is more reliable and NBL ratio is less reliable under the study period. This ratio can be presented in bar diagram as follow:

Figure 4.2.5.2 NPA to total loans and advances ratio of NBL, NABIL and NIBL
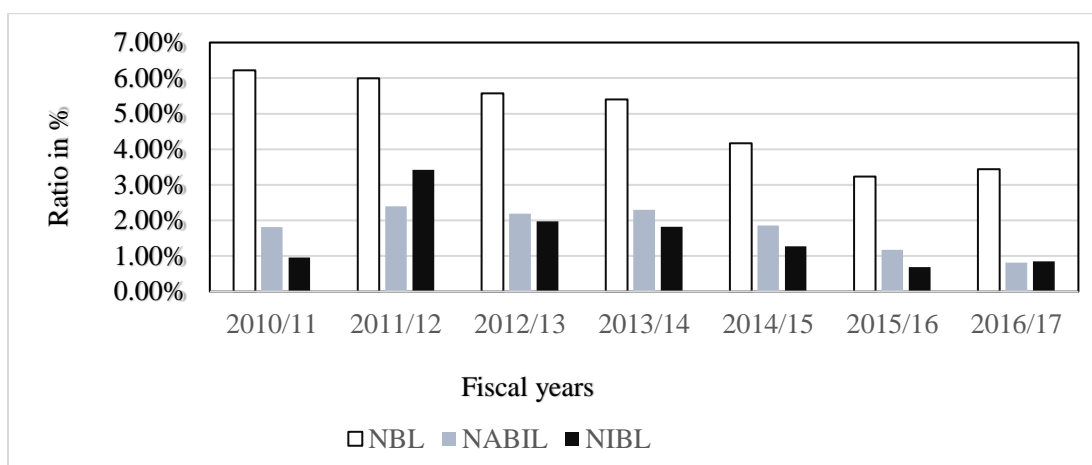
4.2.6 Non-Performing assets to Total Assets Ratio

This ratio indicates the ratio between non-performing assets and total assets. It measures the overall quality of bank's assets book. It shows the how much assets are non-performing or idle in the total assets of banks. Higher ratio indicates the weak works performance, which reduces the bank's profitability. Low ratio indicates the better performance and higher profitability of the banks. Thus, low non-performing assets to total assets ratio is preferred.

Table 4.2.6.1 NPA to total assets ratio of NBL, NABIL and NIBL

Years	NBL	NABIL	NIBL
2010/11	3.00%	1.19%	0.68%
2011/12	2.83%	1.58%	2.17%
2012/13	2.80%	1.39%	1.25%
2013/14	2.70%	1.44%	1.10%
2014/15	2.41%	1.05%	0.81%
2015/16	1.91%	0.70%	0.46%
2016/17	2.20%	0.52%	0.59%
Mean	2.55%	1.12%	1.01%
SD	0.36	0.37	0.54
C.V	14.12%	33.04%	53.47%

Sources: Appendix 10

The table 4.2.6.1 shows the NPA to total assets ratio of NBL, NABIL and NIBL. Among the three banks NIBL has lowest ratio than NABIL and NBL. It indicates that NIBL has proper utilized and invested the assets. NBL has highest ratio among the three banks. It shows that NBL has idle assets in their assets books and bad performance which reduce the bank's profitability. The SD of NBL is 0.36 and CV is 14.12%. Thus. It signifies NBL has least deviation with the least degree of variation in this ratio and lowest variability. Among the three banks NABIL is moderated in terms of deviation and variability. NIBL has highest deviation with the highest variability of the ratio during the study period. The NIBL has lowest average ratio over the period that indicates the greater profitability and the better performance to recover the loan and its interest during the study period. NBL has highest average ratio, which show the bad performance and lower profitability on its assets. The NPA to total assets ratio can be presented in bar diagram as follow:

Figure 4.2.6.2 NPA to total assets ratio of NBL, NABIL and NIBL
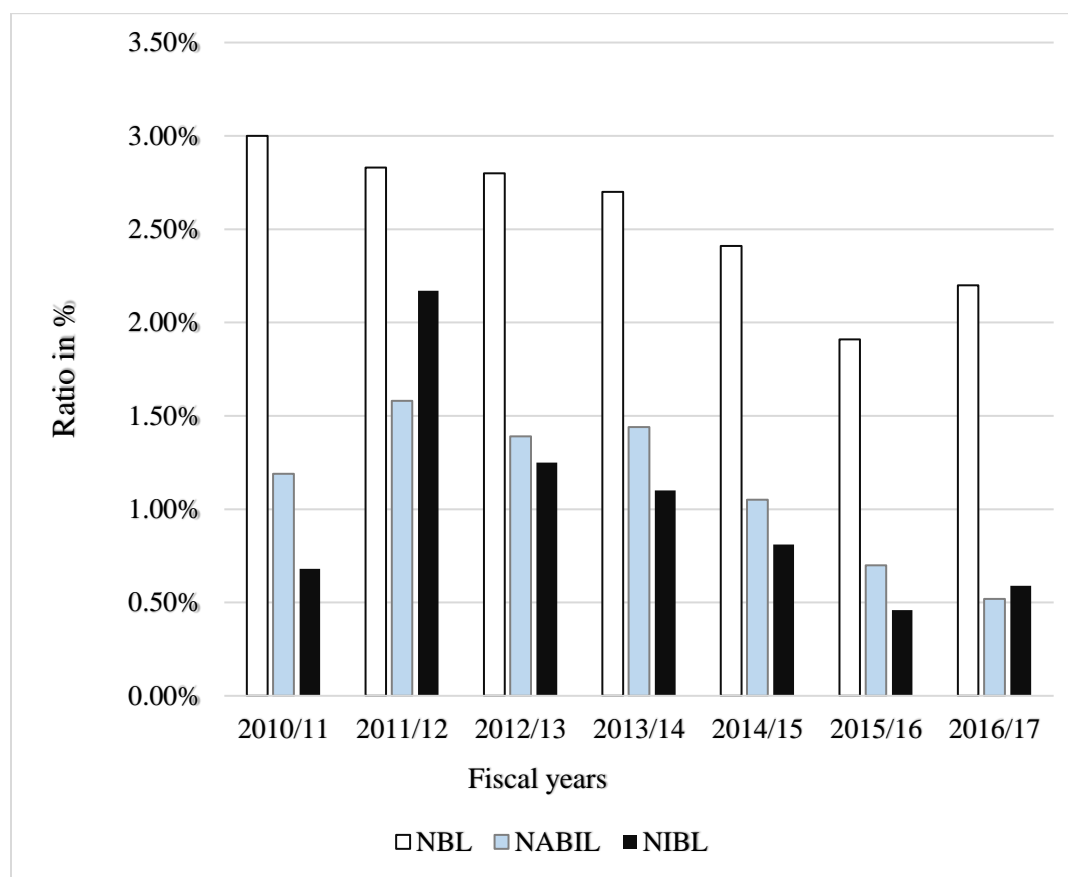
4.2.7 ROA

This ratio determines the proportion of total net profit to total assets ratio. ROA measure of the ability of the firm to generate return on its portfolio of assets. Higher the ratio indicates the better utilization of assets and lower the ratio indicates low performance of the bank.

Table 4.2.7.1 ROA Ratio of NBL, NABIL and NIBL

Years	NBL	NABIL	NIBL
2010/11	0.25%	2.30%	2.02%
2011/12	0.30%	2.68%	1.58%
2012/13	1.07%	3.03%	2.62%
2013/14	0.92%	2.66%	2.25%
2014/15	0.55%	1.81%	1.88%
2015/16	2.79%	2.21%	1.97%
2016/17	2.78%	2.57%	2.06%
Mean	1.24%	2.47%	2.05%
SD	1.02	0.37	0.30
C.V	82.25%	14.86%	14.50%

Sources: Appendix 11

The table 4.2.7.1 shows the proportion of net profit to total assets ratio of NBL, NABIL and NIBL. The average ratio of NBL, NABIL and NIBL is 1024%, 2.47% and 2.05% respectively. NBL has lowest ratio and NABIL has highest ratio under the study period. It indicated that NABIL has higher ability to generate more return on its portfolio of assets. NABIL has better utilized its assets and NBL has performing not well and not properly utilized its assets. The standard deviation of NBL, NABIL and NIBL are 1.02, 0.37 &0.30 and CV are 82.25%, 14.86% & 14.50% respectively. It shows that NBL has higher deviation with higher degree of variation and more variability. Similarly, NIBL has lower deviation with low degree of variation and least variability. The provision held to NPA ratio can be presented in bar diagram as follow:

figure 4.2.7.1 ROA Ratio of NBL, NABIL and NIBL
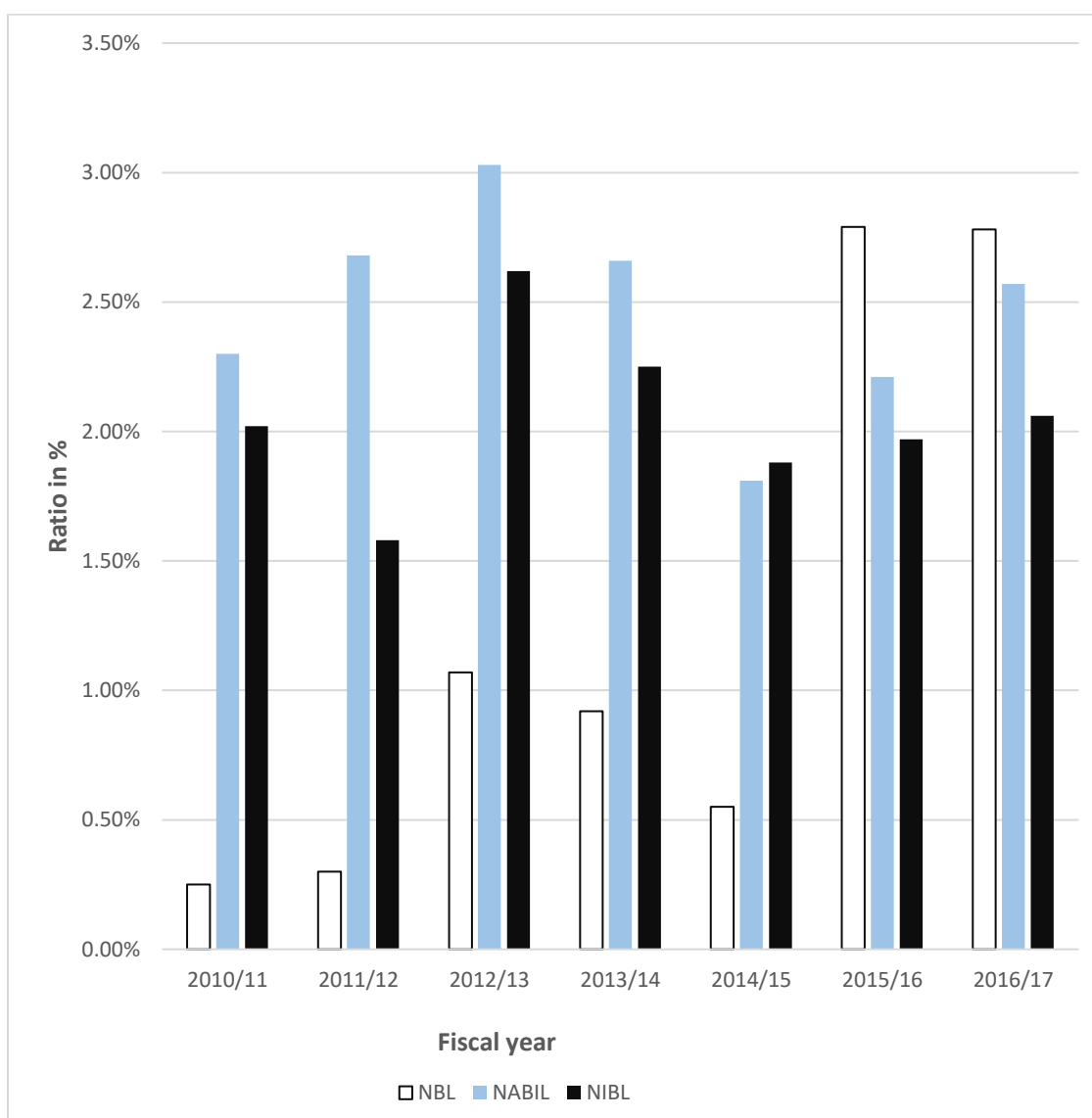
4.2.8 ROE

This ratio determines the proportion of total net profit to total shareholder's equity. ROE ratio provide insight into how the management is using the financing from equity to grow the business. A sustainable and increasing ROE over time can mean a bank is good at generating shareholder value because it knows how to reinvest its earnings wisely, so as to increase productivity and profits. In contrast, a declining ROE can mean that management is making poor decisions on reinvesting capital in unproductive assets.

Table 4.2.8.1 ROE Ratio of NBL, NABIL and NIBL

Years	NBL	NABIL	NIBL
2010/11	33.74%	29.02%	25.70%
2011/12	9.95%	30.25%	20.10%
2012/13	20.32%	32.78%	31.70%
2013/14	11.09%	27.91%	27.60%
2014/15	7.48%	22.73%	24.80%
2015/16	44.59%	25.61%	26.01%
2016/17	38.77%	25.61%	19.12%
Mean	23.71%	27.70%	25.00%
SD	14.08	3.11	4.00
C.V	59.38%	11.21%	15.98%

Sources: Appendix 12

The table 4.2.8.1 exhibit the proportion of total net profit to total shareholder's equity of NBL, NABIL and NIBL. The average ratio of NBL, NABIL and NIBL are 23.71%, 27.70% and 25.00% respectively. NABIL has highest ratio and NBL has lowest ratio under the study period. It indicates that NABIL effectively using the financing from equity to grow the business and maximize shareholder's returns and NBL has making poor decisions on reinvesting capital in unproductive assets. The standard deviation of NBL, NABIL and NIBL are 14.08, 3.11 &4.00 and CV are 59.38%, 11.21% & 15.98% respectively. It indicates that NABL has more consistency and NBL has least consistency under the study period. The provision held to NPA ratio can be presented in bar diagram as follow:

Figure 4.2.8.1 ROE Ratio of NBL, NABIL and NIBL
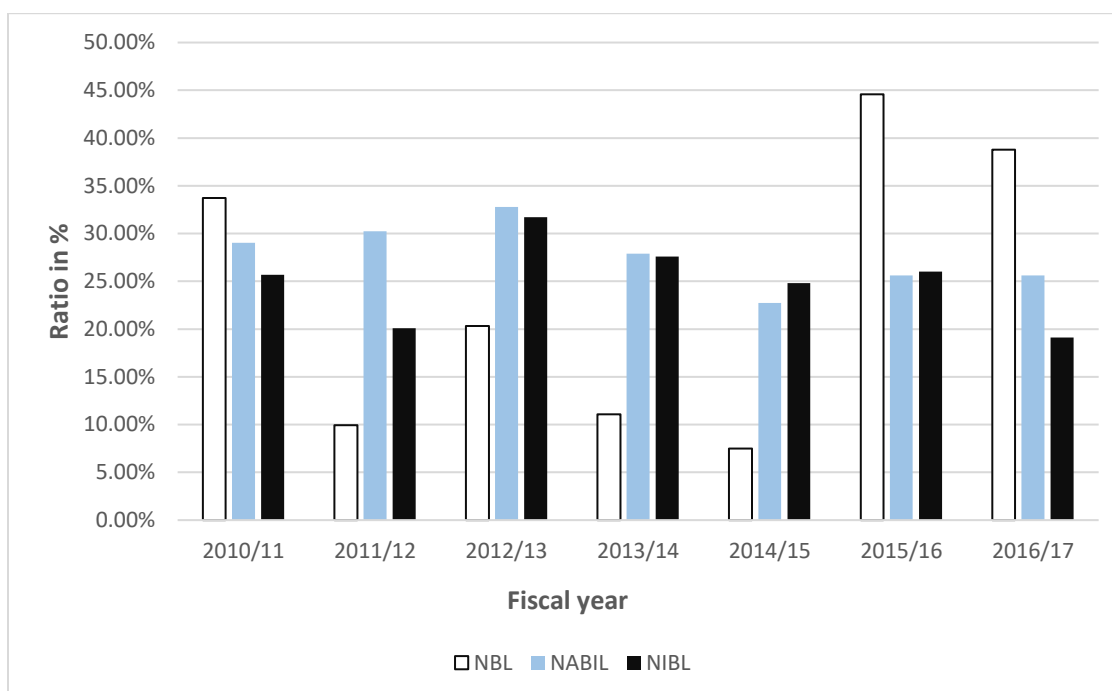
4.3 Correlation co-efficient (r) Analysis

4.3.1 correlation co-efficient between LLPTLAR and ROA

The correlation co-efficient between LLPTLAR an independent variable and ROA a dependent variable is to measure the degree of the relationship between the two variables.

table 4.3.1 correlation between LLPTLAR and ROA

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	-0.383	0.218	1.305	insignificant
NABIL	0.137	0.250	1.501	insignificant
NIBL	0.166	0.248	1.487	insignificant

Sources: Appendix 13

The table 4.3.1 shows the relationship between LLPTLAR and ROA of NBL, NABIL and NIBL. The correlation between LLPTLAR and ROA of NBL is -0.383. The relationship between LLPTLAR and ROA is insignificant because of the coefficient of correlation is less than 6P.E i.e. -0.383 < 1.305. Thus, it can be said that there is no significant relationship between LLPTLAR and ROA. Thus, it can say that LLPTLAR has a negative but insignificant relationship with ROA of NBL. Similarly, NABIL has positive correlation i.e. 0.137 between LLPTLAR and ROA. The coefficient of correlation is less than 6P.E

(0.137<1.501) so the relationship between LLPTLAR and ROA is insignificant. Likewise, NIBL has positive correlation between LLPTLAR and ROA i.e. 0.166. The correlation of coefficient is less than 6P.E (0.166 < 1.487) so the relationship between LLPTLAR and ROA is insignificant of NIBL. Thus, it can be said that there is no significant relationship between LLPTLAR and ROA of NABIL and NIBL. And also said that the LLPTLAR has positive but insignificant relationship with ROA of NABIL and NIBL.

4.3.2 correlation coefficient between LLPTLAR and ROE

The correlation co-efficient between LLPTLAR an independent variable and ROE a dependent variable is to measure the degree of the relationship between the two variables.

Table 4.3.2 correlation between LLPTLAR and ROE

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	0.291	0.233	1.400	insignificant
NABIL	0.280	0.235	1.410	insignificant
NIBL	0.254	0.238	1.431	insignificant

Sources: Appendix 14

The table 4.3.2 shows the relationship between LLPTLAR and ROE of NBL, NABIL and NIBL. The correlation between LLPTLAR and ROE of NBL is 0.291. It refers positive relationship between LLPTLAR and ROE. The relationship between LLPTLAR and ROE is insignificant because of the coefficient of correlation is less than 6P.E i.e. 0.291 < 1.400 of NBL. Likewise, NABIL has positive correlation i.e. 0.280. There is insignificant relationship between LLPTLAR and ROE because of the coefficient of correlation is less than 6P.E (0.280 <1.410). Similarly, NIBL has also positive correlation between LLPTLAR and ROE i.e. 0.254. The coefficient of correlation is less than 6P.E so the relationship of LLPTLAR and ROE of NIBL is insignificant under the study period. Thus, it can be said that there is no significant relationship between LLPTLAR and ROE. And also said that LLPTLAR has positive but insignificant relationship with ROE of all three banks (NBL, NABIL and NIBL). NBL has high degree of LLPTLTR in comparison to NABIL and NIBL.

4.3.3 correlation coefficient between LLPNPAR and ROA

The correlation co-efficient between LLPNPAR an independent variable and ROA a dependent variable is to measure the degree of the relationship between the two variables.

Table 4.3.3 correlation coefficient between LLPNPAR and ROA

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	0.013	0.255	1.529	insignificant
NABIL	0.079	0.253	1.520	insignificant
NIBL	0.457	0.202	1.210	insignificant

Sources: Appendix 15

The table 4.3.3 revels that the correlation coefficient between LLPNPAR and ROA of NBL, NABIL and NIBL. The correlation between LLPNPAR and ROA of NBL is 0.013. It refers there is positive relationship between LLPNPAR and ROA. The relationship between LLPNPAR and ROA is insignificant because the correlation of coefficient is less than 6P.E (0.013 < 1.529). Similarly, NABIL has positive correlation i.e. 0.079 between LLPNPAR and ROA. The coefficient of correlation is less than 6P.E (0.079 <1.520) so the relationship between LLPNPAR and ROA is insignificant. Likewise, NIBL has positive correlation between LLPNPAR and ROA i.e. 0.457. The correlation of coefficient is less than 6P.E (0.457 < 1.210) so the relationship between LLPNPAR and ROA is insignificant of NIBL. Thus, it can be said that there is no significant relationship between LLPNPAR and ROA. Thus, it can say that LLPNPAR has positive but insignificant relationship with ROA of NBL, NABIL and NIBL.

4.3.4 correlation coefficient between LLPNPAR and ROE

The correlation co-efficient between LLPNPAR an independent variable and ROE a dependent variable is to measure the degree of the relationship between the two variables.

Table 4.3.4 correlation between LLPNPAR and ROE

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	0.614	0.159	0.954	insignificant
NABIL	0.240	0.240	1.441	insignificant
NIBL	0.489	0.194	1.164	insignificant

Sources: Appendix 16

The table 4.3.4 shows the relationship between LLPNPAR and ROE of NBL, NABIL and NIBL. The correlation between LLPNPAR and ROE of NBL is 0.614. It refers positive relationship between these two variables. The relationship between LLPNPAR and ROE is insignificant because of the coefficient of correlation is less than 6P.E i.e. 0.614 < 0.954 of NBL. Likewise, NABIL has positive correlation i.e. 0.240. There is insignificant relationship between LLPNPAR and ROE because of the coefficient of correlation is less than 6P.E (0.240 <1.441). Similarly, NIBL has also positive correlation between LLPNPAR and ROE i.e. 0.489. The coefficient of correlation is less than 6P.E (0.489 < 1.164) so the relationship of LLPNPAR and ROE of NIBL is insignificant. Thus, it can be said that there is no significant relationship between LLPNPAR and ROE. Thus, it can say that LLPNPAR has positive but insignificant relationship with ROE of NBL, NABIL and NIBL.

4.3.5 correlation coefficient between NPATLAR and ROA

The correlation co-efficient between NPATLAR an independent variable and ROA a dependent variable is to measure the degree of the relationship between the two variables.

Table 4.3.5 correlation between NPATLAR and ROA

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	-0.856	0.068	0.401	insignificant
NABIL	0.327	0.228	1.366	insignificant
NIBL	-0.250	0.239	1.434	insignificant

Sources: Appendix 17

The table 4.3.5 shows the relationship between NPATLAR and ROA of NBL, NABIL and NIBL. The correlation between NPATLAR and ROA of NBL is -0.856. The relationship between LLPTLAR and ROA is insignificant because of the coefficient of correlation is less than 6P.E i.e. -0.856 < 0.401. Similarly, NABIL has positive correlation i.e.0.327 between NPATLAR and ROA. The coefficient of correlation is less than 6P.E (0.327 < 1.366) so the relationship between NPATLAR and ROA is insignificant. Thus, it can be said that NPATLAR has positive but insignificant relationship with ROA of NABIL.

Likewise, NIBL has negative correlation i.e. 0.250 between NPATLAR and ROA. There is insignificant relationship between NPATLAR and ROA because coefficient of correlation is less than 6P.E (0.250 < 1.434). Therefore, NPATLAR has negative but insignificant relationship with ROA of NIBL.

4.3.6 correlation coefficient between NPATLAR and ROE

The correlation co-efficient between NPATLAR an independent variable and ROE a dependent variable is to measure the degree of the relationship between the two variables

Table 4.3.6 correlation between NPATLAR and ROE

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	-0.493	0.193	1.158	insignificant
NABIL	0.558	0.176	1.053	insignificant
NIBL	-0.112	0.252	1.510	insignificant

Sources: Appendix 18

The table 4.3.6 shows the relationship between NPAT LAR and ROE of NBL, NABIL and NIBL. The correlation between NPATLAR and ROA of NBL is -0.493. The relationship between LLPTLAR and ROE is insignificant because of the coefficient of correlation is less than 6P.E i.e.0.493 < 1.158. Thus, it can be said that there is no significant relationship between NPATLAR and ROE of NBL. Similarly, NABIL has positive correlation i.e.0.558 between NPATLAR and ROE. The coefficient of correlation is less than 6P.E (0.558 < 1.053) so the relationship between NPATLAR and ROE is insignificant. Thus, it can be said that NPATLAR has positive but insignificant relationship with ROA of NABIL. Likewise, NIBL has negative correlation i.e. 0.112 between NPATLAR and ROE. There is insignificant relationship between NPATLAR and ROE because coefficient of correlation is less than 6P.E (0.112 < 1.510). Therefore, NPATLAR has negative but insignificant relationship with ROE of NIBL.

4.3.7 correlation Coefficient between NPATAR and ROA

The correlation co-efficient between NPATAR an independent variable and ROA a dependent variable is to measure the degree of the relationship between the two variables.

Table 4.3.7 correlation between NPATAR and ROA

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	-0.866	0.064	0.382	insignificant
NABIL	0.420	0.201	1.260	insignificant
NIBL	-0.272	0.236	1.416	insignificant

Sources: Appendix 19

The table 4.3.7 shows the relationship between NPATAR and ROA of NBL, NABIL and NIBL. The correlation between NPATAR and ROA of NBL is -0.866. The relationship between LLPTAR and ROA is insignificant because of the coefficient of correlation is less than 6P.E i.e.-0.866 < 0.382. Similarly, NABIL has positive correlation i.e.0.420 between NPATAR and ROA. The coefficient of correlation is less than 6P.E (0.420 < 1.260) so the relationship between NPATAR and ROA is insignificant. Thus, it can be said that NPATAR has positive but insignificant relationship with ROA of NABIL. Likewise, NIBL has negative correlation i.e. 0.272 between NPATAR and ROA. There is insignificant relationship between NPATAR and ROA because coefficient of correlation is less than 6P.E (0.272 < 1.416). Therefore, NPATAR has negative but insignificant relationship with ROA of NIBL.

4.3.8 correlation Coefficient between NPATAR and ROE

The correlation co-efficient between NPATAR an independent variable and ROE a dependent variable is to measure the degree of the relationship between the two variables**.**

Table 4.3.8 correlation between NPATAR and ROE

Name of Bank	R	P.E(r)	6P.E(r)	Decision
NBL	-0.517	0.187	1.121	insignificant
NABIL	0.653	0.146	0.877	insignificant
NIBL	-0.140	0.290	1.499	insignificant

Sources: Appendix 20

The table 4.3.6 shows the relationship between NPATAR and ROE of NBL, NABIL and NIBL. The correlation between NPATAR and ROA of NBL is -0.517. It refers there is negative relationship between these two variables. The relationship between LLPTAR and ROE is insignificant because of the coefficient of correlation is less than 6P.E i.e.0.517 < 1.121. Thus, it can be said that there is no significant relationship between NPATAR and ROE of NBL. Similarly, NABIL has positive correlation i.e.0.653 between NPATAR and ROE. The coefficient of correlation is less than 6P.E (0.653 < 0.877) so the relationship between NPATAR and ROE is insignificant. Thus, it can be said that NPATAR has positive but insignificant relationship with ROA of NABIL. Likewise, NIBL has negative correlation i.e. 0.140 between NPATAR and ROE. There is insignificant relationship between NPATAR and ROE because coefficient of correlation is less than 6P.E (0.140 < 1.499). Therefore, NPATAR has negative but insignificant relationship with ROE of NIBL.

4.4 Major finding of the study

This study is based on the secondary data of NBL, NABIL and NIBL banks. From the data analysis of concerned banks, following major finding have been obtained:

- NIBL is performing better than NBL and NABIL as their NPA is comparatively low than NBL and NABIL.
- There is an increasing trend of NPA for NBL and NABIL banks over the year from 2010/11 to 2016/17. On the other hands, there is a decreasing trend of NPA for NIBL over the year from 2010/11 to 2016/17 which shows good health of the bank.
- There is an increasing trend of LLP for NBL and decreasing trend of LLP for NABIL and NIBL over the year from 2010/2011 to 2016/17.
- The correlation coefficient between independent variables LLPLAR & LLPNPAR and dependent variables ROA & ROE of all three banks is insignificant.
- The correlation coefficient between independent variables NPATLAR & NPATAR and dependent variables ROA & ROE of all three banks is insignificant.

CHAPTER- V

CONCLUSION

5.1 Summary

Bank is a financial institution that is licensed to deal with money and its substitutes by accepting time and demand deposit, making loans and investing in securities. The bank generated profit from the difference in the interest rate charged and paid.

The study has been prepared to compare the performance of NBL, NABIL and NIBL in term of NPA. NPA, total assets, loan and advances, loan loss provision, total deposit and net profit, LLPTLAR, LLPNPAR, NPATLAR, NPATAR, ROA and ROE are the major component for a bank to achieve its objectives. In the first chapter, background, purpose of the study, statement of the problem, signification, limitation of the study has been dealing. In the second chapter, relevant literature has been made in term of theoretical review of journal, articles and thesis. Third chapter deal with methodology that has been used to evaluate the effect of NPA on bank's profitability under the study period. In the fourth chapter data and information are presented, analyze and interpreted by the help of financial and statistical tools. And in the last chapter, summary, conclusion and implication have been made regarding the entire study.

For the research purposed out of total population of 28 commercial bank three major banks are taken as a sample using judgmental sampling method from government bank, joint venture bank and private bank. The samples banks are NBL from government sector, NABIL from joint venture sector and NIBL from private sector. Secondary data has been used in the study. Annual journal report and different websites has been considered as a source of secondary data.

For the analyze and evaluate data and information different financial and statistical tools have been used. Here financial tools include loan and advances to total assets ratio, loan and advance to total deposit ratio, LLP to loan and advance ratio, LLP to NPA ratio, NPA to Loan and advances ratio, NPA to total assets ratio, ROA and ROE. Similarly, statistical tools include trend analysis, average, S.D, CV, correlation coefficient and Probable Error. The ratio helps to analyze and evaluate the LLP and NPA position of banks. Correlation coefficient deals to determine the degree of relationship between independent and

dependent variables. The Probable Error of Correlation Coefficient helps in determining the accuracy and reliability of the value of the coefficient between two variables.

The data have been analyzed from FY 2010/11 to FY 2016/17. In this study attempts are made to get knowledge about the effect of NPAs on banks profitability. This study shows NBL has high NPA and highest increasing trend than NABIL and NIBL has low NPA and decreasing trend. Based on net profit NBL is doing better performance than NABIL and NIBL. NBL has high net profit ratio and highest increasing trend. NBL has increasing LLP amount every year and NABIL and NIBL is decreasing LLP amount every year.

The coefficient of correlation between independent variable of LLP and dependent variables ROA and ROE of NBL, NABIL and NIBL is insignificant.

The coefficient of correlation between independent variables of NPA and dependent variables profitability of NBL, NABIL and NIBL is insignificant.

5.2 Conclusion

This study shows that extent of NPA is comparatively high in NBL as compare to NABIL and NIBL due to week credit policy.

As compare with NABIL and NIBL, NBL has increased their idle assets because NBL had invested unproductive sector rather than productive sector. It has impacted negatively on its long-term profits.

The amount of loan loss provision depends upon the level of NPAs and trend of repayment loan. High quality assets require low loss provision whereas, bad loan requires high loan loss provision.

There is insignificant relationship between loan loss provision and profitability. It means that only LLPLAR and LLPTAR are not the factor that significantly affect the profitability of a banks.

There is insignificant relationship between NPA and Profitability. It means that not only NPA are the factor that significantly affected the profitability of banks.

5.3 Implication

The banks get their income from the loans and advances that are disbursed and if these loans are not repaid then it is not possible for bank to make profits. If the profitability of the banks reduces then automatically the bank will not be able to freely lend loan. Thus, the bank liquidity also affected. The banking sector is the backbone of all the financial resources in a country so, if the bank's profitability is affected then the total economy is affected. If NPA does not control immediately, it will be main reason for shutdown of the banks in future. Based on the above finding and conclusion following recommendation have been forwarded:

1. NBL has higher rate of NPA as compared to other two banks. NBL would be decreased their NPA by taking corrective action such as implementation of proper credit policy to recover the bad loans.

2. The assets quality of NBL is not good as compared to NABIL and NIBL as existence of high amount of NPA. Therefore, it would be better to investing on productive assets rather than unproductive assets.

3. The banks would be focus on bettering the credit recovery policies, better strategy formulation and implementation to reduce NPA.

4. This thesis helps not only for the bank management for analyzing their strong and weak points, but for investor, shareholders, customer or creditor and each concerned person of the banks can also take benefit from it.

5.4 Implication for Further Researcher

This study is based on NPA and its effect on commercial bank's profitability. Burning scenario of NPA motivate the author to conduct this research to identify the factor responsible for turning the loan into NPA and its effect on the profitability of banking sector.

However, there are lot of area which need further study. This study has focused only effect 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), etc. as profit measurement variables.

REFERENCES

Abale, M & Ingale, D, (2013). *Study of Non-Performing Assets in Banks with Special Reference to Nabil Bank Limited, Nepal,* International Journal of Applied Financial Management Perspectives. 2(1), 191 - 202

Banerjee, R., Verma, D., & Jaiswal, B., (2018). *Non-Performing Assets: A Comparative Study of the Indian Commercial Banks,* International Journal of Social Relevance & Concern 6(2), 2347-9698

Bindani, S.N., (2003), *Managing Non-Performing Assets*. New Delhi: Vision Book Publishers. P. 36-38

Chakraborty, S, A. (2017). *Effect of NPA on Banks Profitability*, International Journal of Engineering Technology, Management and Applied Science. 5(5), 201 -210

Chalam, V., (2017). *Mounting of Non-Performing Assets and its Impact on the Performance of Indian Banking Sector,* Proceeding of the Second American Academy Research Conference on Global Business, Economic, Finance and Social Science. N719

Dahal, B., & Dahal, S. (2002). *A Hand book of Banking*. Kathmandu; Asmita Publication Ltd.

Hamal, N., (2016), *A study of Non-Performing Assets and its Impact on Bank's Profitability.* Master's Degree thesis, Central Dept. of Management, T.U

Heffeman, S (1996). *Modern banking in theory and practice.* John Wiley and Sons, Chichester.

Kaur, T., (2011), An overview of Non-Performing Assets of commercial Banks, Master's Degree Thesis, Submitted to office of the dean, Faculty of management, T.U.

Kiran, P.K. & Jones, M.T., (2016). *Effect of Non-Performing Assets on the Profitability of Banks – A Selected Study,* International Journal of Business and General Management. 5(2), 53-60

Nakarmi, S., (2010). Non-Performing Assets and Profitability of Commercial Banks in Nepal, Master's Degree Thesis, Submitted to office of the dean, Faculty of management, T.U.

Rathore, D. S., Malpani, S. & Sharma, S., (2016) *Non-Performing Assets of Indian Banking System and its Impact on Economy*, ISOR Journal of Economic and Finance. 7(6), 2321-5925

Raval, M. B. (2014). *An Analytical Study of Non-Performing Assets of Nationalized Banks in India,* Ph.D thesis, Saurashtra thesis, Rajkot. 243- 252

Selvarajan, B, & Vadivalagan, G, (2013). *A study on management of Non-Performing Assets in priority sector Reference to Indian Bank and Public Sector Banks*. Global Journal of management and Business Research, XIII (J).

Sharifi, O, & Akhter, J, (2016). *Effect of Non-Performing Assets on the Profitability of Public Sector Banks in India*. International Journal of Engineering and Management Research.6(5), 383-388

Singh, V, R, (2016). *A study of Non-Performing Assets of Commercial Banks and it's recovery in India*. Annualm Research Journal of SCMS Capital, IV (3)

Sthapit, A. B., Yadav, R.P. & Khanal, S.P., (2008), Fundamentals of Statistics; Asmita Books Publishers and Distributors Pvt. Ltd.

Thapa, k, (2012), *Financial Institutions and Markets*. Kathmandu; Asmita Books Publishers and Distributors Pvt. Ltd.

Ugoani, N., (2016), Nonperforming Loans Portfolio and its Effect on banks Profitability in Nigeria, Independent Journal of management & Production. 7(2), 2236-269X

Yadav, R. P., Dhakal, B., Tamang, G., Shtestha, H. K. & Panta K. R., (2009), Statistical Methods. Asmita Books Publishers and Distributors Pvt. Ltd.

Websites:

www.bbmproject.files

www.imf.com

www.khalti.com

www.nabilbank.com

www.nbl.com.np

www.nibl.com.np

www. nrb.org.np

www.wikipedia.org

APPENDIX- 1

Trend analysis of Non-Performing Assets   (in million)

Years	NBL				NABIL				NIBL			
	NPA (Y)	X= t-2013/14	X²	XY	NPA(Y)	X= t-2013/14	X²	XY	NPA (Y)	X= t-2013/14	X²	XY
2010/11	1534	-3	9	-4602	689	-3	9	-2067	395	-3	9	-1185
2011/12	1657	-2	4	-3314	1000	-2	4	-2000	1425	-2	4	-2850
2012/13	1982	-1	1	-1982	1015	-1	1	-1015	913	-1	1	-913
2013/14	2109	0	0	0	1256	0	0	0	947	0	0	0
2014/15	2126	1	1	2126	1220	1	1	1220	844	1	1	844
2015/16	1978	2	4	3956	889	2	4	1778	592	2	4	1184
2016/17	2469	3	9	7407	728	3	9	2184	888	3	9	2664
Sum (∑)	13855	0	28	3591	6797	0	28	100	6004	0	28	-256
a = ∑x/y	1979.29				917				857.71			
b = ∑xy/x²	128.25				3.5				-9.14			

Years	Deviation from 20113/14 (X)	NBL $Y= 1979.29+128.25X$	NABIL $Y=971+3.57X$	NIBL $Y=857.71+(-9.14)X$
2017/18	4	2492.29	985.28	821.15
2018/19	5	2620.54	988.85	812.01
2019/20	6	2748.79	992.42	802.87
2020/21	7	2877.04	995.99	793.73
2021/22	8	3005.29	999.56	784.59
2022/23	9	3133.54	1003.13	775.45
2023/24	10	3261.79	1006.7	766.31

APPENDIX- 2

Trend analysis of Loan and advance   (in billion)

Years	NBL				NABIL				NIBL			
	LA (Y)	X= t-2013/14	X²	XY	LA(Y)	X= t-2013/14	X²	XY	LA (Y)	X= t-2013/14	X²	XY
2010/11	41	-3	9	-123	24	-3	9	-72	38	-3	9	-114
2011/12	41	-2	4	-82	27	-2	4	-54	41	-2	4	-82
2012/13	46	-1	1	-46	35	-1	1	-35	46	-1	1	-46
2013/14	52	0	0	0	39	0	0	0	54	0	0	0
2014/15	66	1	1	66	50	1	1	50	65	1	1	65
2015/16	85	2	4	170	61	2	4	122	76	2	4	152
2016/17	104	3	9	312	71	3	9	213	89	3	9	267
Sum(∑)	435	0	28	297	307	0	28	224	409	0	28	242
a = ∑x/y	58.43				43.86				62.14			
b = ∑xy/x²	8.6				8				10.61			

Years	Deviation from 20113/14 (X)	NBL Y=58.43+8.64X	NABIL Y=43.86+8X	NIBL Y= 62.14+10.61X
2017/18	4	92.99	75.86	104.58
2018/19	5	101.63	83.86	115.19
2019/20	6	110.27	91.86	125.8
2020/21	7	118.91	99.86	136.41
2021/22	8	127.55	107.86	147.02
2022/23	9	136.19	115.86	157.63
2023/24	10	144.83	123.86	168.24

APPENDIX- 3

Trend analysis of Loan Loss Provision (LLP)   (in million)

Years	NBL				NABIL				NIBL			
	LLP(Y)	X= t-2013/14	X²	XY	LLP(Y)	X= t-2013/14	X²	XY	LLP(Y)	X= t-2013/14	X²	XY
2010/11	709	-3	9	-2127	109	-3	9	-327	267	-3	9	-801
2011/12	252	-2	4	-504	413	-2	4	-826	743	-2	4	-1486
2012/13	567	-1	1	-567	27	-1	1	-27	958	-1	1	-958
2013/14	252	0	0	0	237	0	0	0	277	0	0	0
2014/15	454	1	1	454	167	1	1	167	573	1	1	573
2015/16	509	2	4	1018	5	2	4	10	436	2	4	872
2016/17	706	3	9	2118	19	3	9	57	510	3	9	1530
Sum(∑)	3449	0	28	392	977	0	28	-946	3764	0	28	-270
a =	∑x/y	492.71				139.57				537.71		
b =	∑xy/x²	14				-33.79				-9.64		

		NBL	NABIL	NIBL
Years	Deviation from 20113/14 (X)	Y= 492.71+14X	Y=139.57+(-33.79)X	Y= 537.71+(-9.64)X
2017/18	4	548.71	4.41	499.15
2018/19	5	562.71	-29.38	489.51
2019/20	6	576.71	-63.17	479.87
2020/21	7	590.71	-96.96	470.23
2021/22	8	604.71	-130.75	460.59
2022/23	9	618.71	-164.54	450.95
2023/24	10	632.71	-198.33	441.31

APPENDIX- 4

Trend analysis of Net Profit   (in million)

Years	NBL				NABIL				NIBL			
	NP (Y)	X= t-2013/14	X²	XY	NP(Y)	X= t-2013/14	X²	XY	NP (Y)	X= t-2013/14	X²	XY
2010/11	128	-3	9	-384	1337	-3	9	-4011	1176	-3	9	-3528
2011/12	176	-2	4	-352	1696	-2	4	-3392	1039	-2	4	-2078
2012/13	755	-1	1	-755	2219	-1	1	-2219	1915	-1	1	-1915
2013/14	716	0	0	0	2319	0	0	0	1939	0	0	0
2014/15	483	1	1	483	2093	1	1	2093	1961	1	1	1961
2015/16	2882	2	4	5764	2819	2	4	5638	2550	2	4	5100
2016/17	3117	3	9	9351	3613	3	9	10839	3114	3	9	9342
Sum(∑)	8257	0	28	14107	16096	0	28	8948	13694	0	28	8882
a =	∑x/y	1179.57				2299.43				1956.29		
b =	∑xy/x²	503.82				319.57				317.21		

Years	Deviation from 2013/14 (X)	NBL Y= 1179.57+503.82X	NABIL Y= 2299.43+319.57X	NIBL Y=1956.29+317.21X
2017/18	4	3194.89	3577.71	3225.13
2018/19	5	3698.72	3897.28	3542.34
2019/20	6	4202.55	4216.85	3859.55
2020/21	7	4706.38	4536.42	4176.76
2021/22	8	5210.21	4855.99	4493.97
2022/23	9	5714.04	5175.56	4811.18
2023/24	10	6217.87	5495.13	5128.39

APPENDIX – 5

Loan and Advance to total Assets Ratio

Years	NBL			NABIL		
	LA	TA	Ratio%	LA	TA	Ratio
2010/11	24671282	54158657	45.55	38,034,098	58,141,437	65.42%
2011/12	27,670,840	58615521	47.21%	41,605,683	63,200,298	65.83%
2012/13	35611670	70776983	50.32%	46,369,835	73,241,260	63.31%
2013/14	39035601	77980529	50.06%	54,691,648	87,274,619	62.67%
2014/15	50970858	88211086	57.78%	65,501,925	115,985,701	56.47%
2015/16	61,250,072	103,479,534	59.19%	76,106,017	127,300,195	59.78%
2016/17	71745888	112,057,149	64.03%	89,877,127	140,332,060	64.05%
MEAN	53.45%			62.50%		
SD	6.39			3.081		
CV	11.96%			4.93%		

Years	NIBL		
	LA	TA	Ratio
2010/11	41,095,515	58356828	70.42%
2011/12	41,636,999	65,756,232	63.32%
2012/13	46,400,054	73,152,155	63.43%
2013/14	52019765	86,173,928	60.37%
2014/15	66,219,638	104345436	63.46%
2015/16	85,461,051	129,782,705	65.85%
2016/17	104,624,808	150,818,034	69.37%
MEAN	65.17%		
SD	3.34		
CV	5.13%		

APPENDIX – 6

Loan and Advance to total Deposit Ratio

Years	NBL			NABIL		
	LA	TDA	Ratio	LA	TDA	Ratio
2010/11	24,671,281,894	46,808,435,445	52.71%	38,034,097,554	49,696,112,934	76.53%
2011/12	27,670,840,071	56,052,372,757	49.37%	41,605,682,634	55,023,695,253	75.61%
2012/13	35,611,699,549	62,984,350,047	56.54%	46,369,834,571	63,609,808,199	72.90%
2013/14	39,035,600,831	69,337,609,696	56.30%	54,691,648,194	75,388,790,862	72.55%
2014/15	50,970,857,910	77,998,775,919	65.35%	65,501,925,164	104,237,910,083	62.84%
2015/16	61,250,072,485	89,410,018,773	68.50%	76,106,016,881	110,267,271,749	69.02%
2016/17	71,745,887,800	93,944,014,252	76.37%	89,877,127,406	118,896,156,802	75.59%
MEAN	60.73%			72.15%		
SD	8.92			4.48		
CV	14.69%			6.21%		

Years	NIBL		
	LA	TA	Ratio
2010/11	41,095,515	50,138,122,242	81.96%
2011/12	41,636,999	57,010,603,789	73.03%
2012/13	46,400,054	62,428,845,372	74.32%
2013/14	52019765	73,831,375,915	70.46%
2014/15	66,219,638	90,631,486,765	73.06%
2015/16	85,461,051	108,626,641,994	78.67%
2016/17	104,624,808	125,669,354,732	83.25%
MEAN	76.40%		
SD	4.55%		
CV	5.96%		

APPENDIX – 7

LLP to Loan and Advance Ratio

Years	NBL			NABIL		
	LLP	LA	Ratio	LLP	LA	Ratio
2010/11	709,179,221	24,671,281,894	2.87%	109,470,414	38,034,097,554	0.29%
2011/12	252,057,908	27,670,840,071	0.91%	413,948,680	41,605,682,634	0.99%
2012/13	567,759,943	35,611,699,549	1.59%	27,450,911	46,369,834,571	0.06%
2013/14	252,051,946	39,035,600,831	0.65%	237,955,213	54,691,648,194	0.44%
2014/15	454,061,081	50,970,857,910	0.89%	167,070,826	65,501,925,164	0.26%
2015/16	509,002,216	61,250,072,485	0.83%	5,076,142	76,106,016,881	0.01%
2016/17	706,926,613	71,745,887,800	0.99%	19,228,711	89,877,127,406	0.02%
MEAN	1.25%			0.29%		
SD	0.72			0.32		
CV	57.58%			109.33%		

Years	NIBL		
	LLP	LA	Ratio
2010/11	267,331,490	41,095,515	81.96%
2011/12	743,723,808	41,636,999	73.03%
2012/13	958,335,974	46,400,054	74.32%
2013/14	277,278,257	52019765	70.46%
2014/15	573,891,909	66,219,638	73.06%
2015/16	436,464,847	85,461,051	78.67%
2016/17	510,285,473	104,624,808	83.25%
MEAN	0.99%		
SD	0.61		
CV	61.96%		

APPENDIX – 8

LLP to NPA Ratio

Years	NBL			NABIL		
	LLP	NPA	Ratio	LLP	NPA	Ratio
2010/11	709,179,221	1,534,848,743	46.21%	109,470,414	689,851,773	15.87%
2011/12	252,057,908	1,657,527,630	15.21%	413,948,680	1,000,059,138	41.39%
2012/13	567,759,943	1,982,323,212	28.64%	27,450,911	1,015,176,698	2.70%
2013/14	252,051,946	2,109,229,982	11.95%	237,955,213	1,256,075,230	18.94%
2014/15	454,061,081	2,126,079,148	21.36%	167,070,826	1,220,819,346	13.69%
2015/16	509,002,216	1,978,531,825	25.73%	5,076,142	889,035,409	0.57%
2016/17	706,926,613	2,469,786,693	28.62%	19,228,711	728,059,005	2.64%
MEAN	25.39%			13.69%		
SD	10.39			13.17		
CV	40.92%			96.20%		

Years	NIBL		
	LLP	NPA	Ratio
2010/11	267,331,490	395,282,853	67.63%
2011/12	743,723,808	1,425,394,070	52.18%
2012/13	958,335,974	913,096,227	104.95%
2013/14	277,278,257	947,121,461	29.28%
2014/15	573,891,909	844,132,707	67.99%
2015/16	436,464,847	592,992,655	73.60%
2016/17	510,285,473	888,161,356	57.45%
MEAN	64.73%		
SD	21.32		
CV	32.94%		

APPENDIX – 9

NPA to Loan and Advance Ratio

Years	NBL			NABIL		
	NPA	LA	Ratio	NPA	LA	Ratio
2010/11	1,534,848,743	24,671,281,894	6.22%	689,851,773	38,034,097,554	1.81%
2011/12	1,657,527,630	27,670,840,071	5.99%	1,000,059,138	41,605,682,634	2.40%
2012/13	1,982,323,212	35,611,699,549	5.57%	1,015,176,698	46,369,834,571	2.19%
2013/14	2,109,229,982	39,035,600,831	5.40%	1,256,075,230	54,691,648,194	2.30%
2014/15	2,126,079,148	50,970,857,910	4.17%	1,220,819,346	65,501,925,164	1.86%
2015/16	1,978,531,825	61,250,072,485	3.23%	889,035,409	76,106,016,881	1.17%
2016/17	2,469,786,693	71,745,887,800	3.44%	728,059,005	89,877,127,406	0.81%
MEAN	4.86%			1.79%		
SD	1.14			0.55		
CV	23.41%			30.9%		

Years	NIBL		
	NPA	LA	Ratio
2010/11	395,282,853	41,095,515	0.96%
2011/12	1,425,394,070	41,636,999	3.42%
2012/13	913,096,227	46,400,054	1.97%
2013/14	947,121,461	52019765	1.82%
2014/15	844,132,707	66,219,638	1.27%
2015/16	592,992,655	85,461,051	0.69%
2016/17	888,161,356	104,624,808	0.85%
MEAN	1.57%		
SD	0.88		
CV	55.94%		

APPENDIX – 10

NPA to Total Assets Ratio

Years	NBL			NABIL		
	NPA	TA	Ratio	NPA	TA	Ratio
2010/11	1,534,848,743	51,158,657,445	3.00%	689,851,773	58,141,437,401	1.19%
2011/12	1,657,527,630	58,615,520,783	2.83%	1,000,059,138	63,200,298,255	1.58%
2012/13	1,982,323,212	70,776,982,567	2.80%	1,015,176,698	73,241,448,431	1.39%
2013/14	2,109,229,982	77,980,528,805	2.70%	1,256,075,230	87,274,619,480	1.44%
2014/15	2,126,079,148	88,211,085,964	2.41%	1,220,819,346	115,986,529,080	1.05%
2015/16	1,978,531,825	103,479,534,057	1.91%	889,035,409	127,300,195,373	0.70%
2016/17	2,469,786,693	112,057,149,438	2.20%	728,059,005	140,332,060,182	0.52%
MEAN	2.55%			1.12%		
SD	0.36			0.37		
CV	14.12%			33.04%		

Years	NIBL		
	NPA	TA	Ratio
2010/11	395,282,853	58,356,828,000	0.68%
2011/12	1,425,394,070	65,756,232,000	2.17%
2012/13	913,096,227	73,152,155,000	1.25%
2013/14	947,121,461	86,173,928,000	1.10%
2014/15	844,132,707	104,345,436,000	0.81%
2015/16	592,992,655	129,782,705,000	0.46%
2016/17	888,161,356	150,818,034,000	0.59%
MEAN	1.01%		
SD	0.54		
CV	53.47%		

APPENDIX – 11

NP to Total Assets Ratio (ROA)

Years	NBL			NABIL		
	NP	TA	Ratio	NP	TA	Ratio
2010/11	128,346,584	51,158,657,445	0.25%	1,337,745,485	58,141,437,401	2.30%
2011/12	176,361,505	58,615,520,783	0.30%	1,696,276,110	63,200,298,255	2.68%
2012/13	755,180,353	70,776,982,567	1.07%	2,219,017,709	73,241,448,431	3.03%
2013/14	716,958,108	77,980,528,805	0.92%	2,319,631,032	87,274,619,480	2.66%
2014/15	483,848,520	88,211,085,964	0.55%	2,093,813,607	115,986,529,080	1.81%
2015/16	2,882,978,165	103,479,534,057	2.79%	2,819,333,752	127,300,195,373	2.21%
2016/17	3,117,893,760	112,057,149,438	2.78%	3,613,200,322	140,332,060,182	2.57%
MEAN	1.24%			2.47%		
SD	1.02			0.37		
CV	82.25%			14.86%		

Years	NIBL		
	NP	TA	Ratio
2010/11	1,176,641,031	58,356,828,000	2.02%
2011/12	1,039,275,613	65,756,232,000	1.58%
2012/13	1,915,027,932	73,152,155,000	2.62%
2013/14	1,939,612,344	86,173,928,000	2.25%
2014/15	1,961,852,380	104,345,436,000	1.88%
2015/16	2,550,883,563	129,782,705,000	1.97%
2016/17	3,114,131,140	150,818,034,000	2.06%
MEAN	2.05%		
SD	0.30		
CV	14.50%		

APPENDIX – 12

NP to Total Equity Ratio (ROE)

Years	NBL			NABIL		
	NP	Equity	Ratio	NP	Equity	Ratio
2010/11	128,346,584	380,383,000	33.74%	1,337,745,485	388213739.7	29.02%
2011/12	176,361,505	1,772,827,700	9.95%	1,696,276,110	513123523.3	30.25%
2012/13	755,180,353	3,716,443,200	20.32%	2,219,017,709	727394005	32.78%
2013/14	716,958,108	6,465,001,800	11.09%	2,319,631,032	647409021	27.91%
2014/15	483,848,520	6,465,001,800	7.48%	2,093,813,607	475923832.9	22.73%
2015/16	2,882,978,165	6,465,001,800	44.59%	2,819,333,752	722031373.9	25.61%
2016/17	3,117,893,760	8,042,662,200	38.77%	3,613,200,322	925340602.5	25.61%
MEAN	23.71%			27.70%		
SD	14.08			3.11		
CV	59.38%			11.21%		

Years	NIBL		
	NP	Equity	Ratio
2010/11	1,176,641,031	302396745	25.70%
2011/12	1,039,275,613	208894398.2	20.10%
2012/13	1,915,027,932	607063854.4	31.70%
2013/14	1,939,612,344	535333006.9	27.60%
2014/15	1,961,852,380	486539390.2	24.80%
2015/16	2,550,883,563	663484814.7	26.01%
2016/17	3,114,131,140	595421874	19.12%
MEAN	25.00%		
SD	4.00		
CV	15.98%		

APPENDIX- 13

Correlation Coefficient LLPTLAR (X) and ROA (Y)   In %

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	2.87	0.25	8.2369	0.0625	0.7175	0.29	2.3	0.0841	5.29	0.667
2011/12	0.91	0.3	0.8281	0.09	0.273	0.99	2.68	0.9801	7.1824	2.6532
2012/13	1.59	1.07	2.5281	1.1449	1.7013	0.06	3.03	0.0036	9.1809	0.1818
2013/14	0.65	0.92	0.4225	0.8464	0.598	0.44	2.66	0.1936	7.0756	1.1704
2014/15	0.89	0.55	0.7921	0.3025	0.4895	0.26	1.81	0.0676	3.2761	0.4706
2015/16	0.83	2.79	0.6889	7.7841	2.3157	0.01	2.21	0.0001	4.8841	0.0221
2016/17	0.99	2.78	0.9801	7.7284	2.7522	0.02	2.57	0.0004	6.6049	0.0514
Sum (∑)	8.73	8.66	14.4767	17.9588	8.8472	2.07	17.26	1.3295	43.494	5.2165

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	0.65	2.02	0.4225	4.0804	1.313
2011/12	1.79	1.58	3.2041	2.4964	2.8282
2012/13	2.07	2.62	4.2849	6.8644	5.4234
2013/14	0.53	2.25	0.2809	5.0625	1.1925
2014/15	0.87	1.88	0.7569	3.5344	1.6356
2015/16	0.51	1.97	0.2601	3.8809	1.0047
2016/17	0.49	2.06	0.2401	4.2436	1.0094
Sum (∑)	6.91	14.38	9.4495	30.1626	14.4068

$$r = \frac{N \sum XY - \sum X . \sum Y}{\sqrt{N \sum x^2 - (\sum X)^2} \times \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745 \frac{(1 - r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	-0.383	0.137	0.166
P.E	0.218	0.250	0.248
6*P.E	1.305	1.501	1.487

APPENDIX- 14

Correlation Coefficient LLPTLAR (X) and ROE (Y)   In %

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	2.87	33.74	8.24	1138.39	96.83	0.29	29.02	0.08	842.16	8.42
2011/12	0.91	9.94	0.83	98.80	9.05	0.99	30.25	0.98	915.06	29.95
2012/13	1.59	20.32	2.53	412.90	32.31	0.06	32.78	0.00	1074.53	1.97
2013/14	0.65	11.09	0.42	122.99	7.21	0.44	27.91	0.19	778.97	12.28
2014/15	0.89	7.48	0.79	55.95	6.66	0.26	22.73	0.07	516.65	5.91
2015/16	0.83	44.59	0.69	1988.27	37.01	0.01	25.61	0.00	655.87	0.26
2016/17	0.99	38.77	0.98	1503.11	38.38	0.02	25.61	0.00	655.87	0.51
Sum (∑)	8.73	165.93	14.48	5320.41	227.45	2.07	193.91	1.33	5439.12	59.29

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	0.65	25.7	0.4225	660.49	16.705
2011/12	1.79	20.1	3.2041	404.01	35.979
2012/13	2.07	31.7	4.2849	1004.89	65.619
2013/14	0.53	27.6	0.2809	761.76	14.628
2014/15	0.87	24.8	0.7569	615.04	21.576
2015/16	0.51	26.01	0.2601	676.5201	13.2651
2016/17	0.49	19.12	0.2401	365.5744	9.3688
Sum (∑)	6.91	175.03	9.4495	4488.285	177.1409

$$r = \frac{N\sum XY - \sum X.\sum Y}{\sqrt{N\sum x^2 - (\sum X)^2} \times \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745\frac{(1-r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	0.291	0.280	0.254
P.E	0.233	0.235	0.238
6*P.E	1.400	1.410	1.431

APPENDIX- 15

Correlation Coefficient LLPNPAR (X) and ROA (Y)   In %

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	46.21	0.25	2135.36	0.06	11.55	15.87	2.3	251.86	5.29	36.50
2011/12	15.21	0.3	231.34	0.09	4.56	41.39	2.68	1713.13	7.18	110.93
2012/13	28.64	1.07	820.25	1.14	30.64	2.7	3.03	7.29	9.18	8.18
2013/14	11.95	0.92	142.80	0.85	10.99	18.94	2.66	358.72	7.08	50.38
2014/15	21.36	0.55	456.25	0.30	11.75	13.69	1.81	187.42	3.28	24.78
2015/16	25.73	2.79	662.03	7.78	71.79	0.57	2.21	0.32	4.88	1.26
2016/17	28.62	2.78	819.10	7.73	79.56	2.64	2.57	6.97	6.60	6.78
Sum (∑)	177.72	8.66	5267.15	17.96	220.85	95.80	17.26	2525.71	43.49	238.81

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	67.63	2.02	4573.82	4.08	136.61
2011/12	52.18	1.58	2722.75	2.50	82.44
2012/13	104.95	2.62	11014.50	6.86	274.97
2013/14	29.28	2.25	857.32	5.06	65.88
2014/15	67.99	1.88	4622.64	3.53	127.82
2015/16	73.6	1.97	5416.96	3.88	144.99
2016/17	57.45	2.06	3300.50	4.24	118.35
Sum (∑)	453.08	14.38	32508.49	30.16	951.07

$$r = \frac{N \sum XY - \sum X . \sum Y}{\sqrt{N \sum x^2 - (\sum X)^2} \times \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745 \frac{(1-r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	0.013	0.079	0.457
P.E	0.255	0.253	0.202
6*P.E	1.529	1.520	1.210

Correlation Coefficient LLPNPAR (X) and ROE (Y)   In %

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	46.21	33.74	2135.36	1138.39	1559.13	15.87	29.02	251.86	842.16	460.55
2011/12	15.21	9.95	231.34	99.00	151.34	41.39	30.25	1713.13	915.06	1252.05
2012/13	28.64	20.32	820.25	412.90	581.96	2.7	32.78	7.29	1074.53	88.51
2013/14	11.95	11.09	142.80	122.99	132.53	18.94	27.91	358.72	778.97	528.62
2014/15	21.36	7.48	456.25	55.95	159.77	13.69	22.73	187.42	516.65	311.17
2015/16	25.73	44.59	662.03	1988.27	1147.30	0.57	25.61	0.32	655.87	14.60
2016/17	28.62	38.77	819.10	1503.11	1109.60	2.64	27.70	6.97	767.29	73.13
Sum (∑)	177.72	165.94	5267.15	5320.61	4841.63	95.80	196.00	2525.71	5550.53	2728.62

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	67.63	25.70	4573.82	660.49	1738.09
2011/12	52.18	20.10	2722.75	404.01	1048.82
2012/13	104.95	31.70	11014.50	1004.89	3326.92
2013/14	29.28	27.60	857.32	761.76	808.13
2014/15	67.99	24.80	4622.64	615.04	1686.15
2015/16	73.6	26.01	5416.96	676.52	1914.34
2016/17	57.45	19.12	3300.50	365.57	1098.44
Sum (∑)	453.08	175.03	32508.49	4488.28	11620.88

$$r = \frac{N\sum XY - \sum X.\sum Y}{\sqrt{N\sum x^2 - (\sum X)^2} \times \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745 \frac{(1-r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	0.614	0.240	0.489
P.E	0.159	0.240	0.194
6*P.E	0.954	1..441	1.164

Correlation Coefficient NPATLAR (X) and ROA (Y)   In %

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	6.22	0.25	38.69	0.06	1.56	1.81	2.3	3.28	5.29	4.16
2011/12	5.99	0.3	35.88	0.09	1.80	2.4	2.68	5.76	7.18	6.43
2012/13	5.57	1.07	31.02	1.14	5.96	2.19	3.03	4.80	9.18	6.64
2013/14	5.4	0.92	29.16	0.85	4.97	2.3	2.66	5.29	7.08	6.12
2014/15	4.17	0.55	17.39	0.30	2.29	1.86	1.81	3.46	3.28	3.37
2015/16	3.23	2.79	10.43	7.78	9.01	1.17	2.21	1.37	4.88	2.59
2016/17	3.44	2.78	11.83	7.73	9.56	0.81	2.57	0.66	6.60	2.08
Sum (∑)	34.02	8.66	174.41	17.96	35.15	12.54	17.26	24.61	43.49	31.38

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	0.96	2.02	0.92	4.08	1.94
2011/12	3.42	1.58	11.70	2.50	5.40
2012/13	1.97	2.62	3.88	6.86	5.16
2013/14	1.82	2.25	3.31	5.06	4.10
2014/15	1.27	1.88	1.61	3.53	2.39
2015/16	0.69	1.97	0.48	3.88	1.36
2016/17	0.85	2.06	0.72	4.24	1.75
Sum (∑)	10.98	14.38	22.62	30.16	22.10

$$r = \frac{N \sum XY - \sum X.\sum Y}{\sqrt{N \sum x^2 - (\sum X)^2} \times \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745 \frac{(1 - r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	-856	0.327	-0.250
P.E	0.068	0.228	0.239
6*P.E	0.401	1.366	1.434

APPENDIX- 18

Correlation Coefficient NPATLAR (X) and ROE (Y)　　　In %

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	6.22	33.74	38.69	1138.39	209.86	1.81	29.02	3.28	842.16	52.53
2011/12	5.99	9.95	35.88	99.00	59.60	2.40	30.25	5.76	915.06	72.60
2012/13	5.57	20.32	31.02	412.90	113.18	2.19	32.78	4.80	1074.53	71.79
2013/14	5.4	11.09	29.16	122.99	59.89	2.30	27.91	5.29	778.97	64.19
2014/15	4.17	7.48	17.39	55.95	31.19	1.86	22.73	3.46	516.65	42.28
2015/16	3.23	44.59	10.43	1988.27	144.03	1.17	25.61	1.37	655.87	29.96
2016/17	3.44	38.77	11.83	1503.11	133.37	0.81	27.70	0.66	767.29	22.44
Sum (∑)	34.02	165.94	174.41	5320.61	751.12	12.54	196.00	24.61	5550.53	355.79

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	0.96	25.70	0.92	660.49	24.67
2011/12	3.42	20.10	11.70	404.01	68.74
2012/13	1.97	31.70	3.88	1004.89	62.45
2013/14	1.82	27.60	3.31	761.76	50.23
2014/15	1.27	24.80	1.61	615.04	31.50
2015/16	0.69	26.01	0.48	676.52	17.95
2016/17	0.85	19.12	0.72	365.57	16.25
Sum (∑)	10.98	175.03	22.62	4488.28	271.79

$$r = \frac{N \sum XY - \sum X . \sum Y}{\sqrt{N \sum x^2 - (\sum X)^2} \times \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745 \frac{(1 - r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	-0.493	0.558	-0.112
P.E	0.193	0.176	0.252
6*P.E	1.158	1.053	1.510

Correlation Coefficient NPATAR (X) and ROA (Y)   **In %**

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	3	0.25	9.00	0.06	0.75	1.19	2.3	1.42	5.29	2.74
2011/12	2.83	0.3	8.01	0.09	0.85	1.58	2.68	2.50	7.18	4.23
2012/13	2.8	1.07	7.84	1.14	3.00	1.39	3.03	1.93	9.18	4.21
2013/14	2.7	0.92	7.29	0.85	2.48	1.44	2.66	2.07	7.08	3.83
2014/15	2.41	0.55	5.81	0.30	1.33	1.05	1.81	1.10	3.28	1.90
2015/16	1.91	2.79	3.65	7.78	5.33	0.7	2.21	0.49	4.88	1.55
2016/17	2.2	2.78	4.84	7.73	6.12	0.52	2.57	0.27	6.60	1.34
Sum (∑)	17.85	8.66	46.44	17.96	19.85	7.87	17.26	9.78	43.49	19.80

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	0.68	2.02	0.46	4.08	1.37
2011/12	2.17	1.58	4.71	2.50	3.43
2012/13	1.25	2.62	1.56	6.86	3.28
2013/14	1.1	2.25	1.21	5.06	2.48
2014/15	0.81	1.88	0.66	3.53	1.52
2015/16	0.46	1.97	0.21	3.88	0.91
2016/17	0.59	2.06	0.35	4.24	1.22
Sum (∑)	7.06	14.38	9.16	30.16	14.20

$$r = \frac{N \sum XY - \sum X . \sum Y}{\sqrt{N \sum x^2 - (\sum X)^2} \times \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745 \frac{(1 - r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	-0.866	0.423	-0.272
P.E	0.064	0.201	0.236
6*P.E	0.382	1.260	1.416

APPENDIX- 20

Correlation Coefficient NPATAR (X) and ROE (Y)   In %

Years	NBL					NABIL				
	X	Y	X²	Y²	XY	X	Y	X²	Y²	XY
2010/11	3	33.74	9.00	1138.39	101.22	1.19	29.02	1.42	842.16	34.53
2011/12	2.83	9.95	8.01	99.00	28.16	1.58	30.25	2.50	915.06	47.80
2012/13	2.8	20.32	7.84	412.90	56.90	1.39	32.78	1.93	1074.53	45.56
2013/14	2.7	11.09	7.29	122.99	29.94	1.44	27.91	2.07	778.97	40.19
2014/15	2.41	7.48	5.81	55.95	18.03	1.05	22.73	1.10	516.65	23.87
2015/16	1.91	44.59	3.65	1988.27	85.17	0.7	25.61	0.49	655.87	17.93
2016/17	2.2	38.77	4.84	1503.11	85.29	0.52	27.70	0.27	767.29	14.40
Sum (∑)	17.85	165.94	46.44	5320.61	404.71	7.87	196.00	9.78	5550.53	224.28

Years	NIBL				
	X	Y	X²	Y²	XY
2010/11	0.68	25.70	0.46	660.49	17.48
2011/12	2.17	20.10	4.71	404.01	43.62
2012/13	1.25	31.70	1.56	1004.89	39.63
2013/14	1.1	27.60	1.21	761.76	30.36
2014/15	0.81	24.80	0.66	615.04	20.09
2015/16	0.46	26.01	0.21	676.52	11.96
2016/17	0.59	19.12	0.35	365.57	11.28
Sum (∑)	7.06	175.03	9.16	4488.28	174.41

$$r = \frac{N \sum XY - \sum X . \sum Y}{\sqrt{N \sum x^2 - (\sum X)^2} \times \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$P.E. = 0.6745 \frac{(1 - r^2)}{\sqrt{N}}$$

Result are calculated as

Banks	NBL	NABIL	NIBL
r	-0.517	0.653	-0.140
P.E	0.187	0.146	0.290
6*P.E	1.121	0.877	1.499