

CHAPTER - I

INTRODUCTION

1.1 Background of the study

Banks and financial institutions are the backbone of country's economic development. Its failure and success will have huge impact on financial as well as economic health of overall sectors of country. BFIs are classified under four categories according to their scope of operations and capital requirements. As on March 2021, prescribed by Nepal Rastra Bank on its monthly statistics, there are four categories of BFIs in Nepal and they are (i) 27 class 'A' commercial banks, (ii) 20 class 'B' Development Banks, (iii) 22 class 'C' Finance Companies, (iv) 85 class 'D' microfinance financial institutions. Among them, commercial banks are the largest financial institutions as they perform largest activities than other in terms of scope of operations, required capital, number of the branches and financial services etc.

Banks have statement of sources and uses of the funds as other non-financial institutions are also known as balance sheet. Liabilities are considered as a source of funds and assets as a uses of funds. As they deal with the money its assets and liabilities and capital both are in forms of money or other instruments equivalent to money. Most of assets reflect the loans and advances providing to different individuals, corporations and government by applying different conditions and covenants. Due to various reasons comes from lenders and borrowers side, loans and advances can't be collected by banks in timely manner. Those loans and advances that becomes due beyond the specified period as required by law will create blockade in earning profit hence it will also cease the inflow of cash in banks that will leads to liquidity crisis at bank, these due loans and advances is known as non-Performing Loan (NPL).

1.1.1 Concept of non- performing Assets

Generally, bank treats its loans as assets from which it can earn profit by charging higher borrowing rate than a lending rate called interest spread. Bank counts its loan as non-performing when client or borrower does not make payment of installment of principal and interest within prescribed time period.

The standard period of loan to be classified as non-performing loan may differ from country to country as accordance to their regulatory bodies and period of loan to be classified non-performing loan may differ from country to country as accordance to their regulatory bodies.

A performing asset is an advance which generates income to the bank by way of interest and other charges. A non-performing asset in the banking sector may be referred to an asset not contributing to the income of the bank or which does not generate income for the bank. In other words, an advance account, which ceases to yield income, is a non-performing asset. A common meaning of a NPA is an investment that does not contribute to production, value addition or capital formation or advance has ceased to yield any income to the bank. NPL can be defined as a failed credit, a service product that has turned into scrap.

According to the International Monetary Fund, "a non-performing loan is any loan in which: interest and principal payments are more than 90 days overdue; or more than 90 days' worth of interest has been refinanced, capitalized, or delayed by agreement; or payments are less than 90 days overdue but are no longer anticipated. Another definition of a non-performing loan is one in which the maturity date has passed but at least part of the loan is still outstanding. The specific definition is dependent upon the loan's particular terms.

A loan will be classified as non-performing if the borrower has ceased to pay the principal and interest, as stated in the loan repayment contract. Non-performing loans (NPLs) are such loans and advances on which markup or principal is over due by 90 days or more from the due date. In banking industry, the issue of NPLs is quite significant, minimization of NPLs is indispensable for development of the banking industry and subsequently also for the economic development (Jaffery, 2017).

The world bank group in their overview paper of Financial Sector Advising Center (FINSAC) on the topic of 'Loan classification and Provisioning' have mentioned that "the well accepted threshold for classifying a loan as non performing is when obligations related to the loan become over 90 days past due. Multilateral organizations define non-performing along the same lines. The BCBS defines default for capital calculation purposes as follows:

“A default is considered to have occurred with regard to a particular obligor when either or both of the two following events have taken place:

- (i) The bank considers that the obligor is unlikely to pay its credit obligations to the banking to actions group in full, without recourse by the bank such as realizing security.
- (ii) The obligor is past due more than 90 days on any material credit obligation to the banking group.” The IMF Financial Soundness Indicators (FSI), which are vastly used for cross country comparability, also establishes as criteria for defining a loan as non- performing past due of principal or interest over 90 days.

Based upon the criteria only on the number of days past due would pose challenges for balloon payment loans or overdraft type credits. Moreover, information can be available that the borrower is likely to default, even if the loan is not yet past due. Thus, in general, a loan is considered to be non performing when the probability of full repayment is considered to be low or when a loan is in default or highly likely to default. Criteria for classifying a loan as non- performing are thus number of days past due, as well as the overall financial performance creditworthiness of the borrower, sometimes even combined with the assessment of collateral” (Hulster & Letelier, 2014).

A Non-Performing Asset refers to a classification for loans on the books of financial institutions that are in default or are in arrears on scheduled payments of principal or interest. In most cases, debt is classified as nonperforming when loan payments have not been made for a period of 90 days (Gyawali, 2017).

There are two types of non- performing loan. They are gross non- performing loan and net non-performing loan.

(i) Gross NPL

Gross NPA is a term used by financial institutions to refer to sum of all the unpaid loans which are failed to recover from the customers within stipulated period of time.

(ii) Net NPL

Net NPL is refers to the sum of NPL less provision for bad and doubtful debts. It is an actual loss to the bank. The provision for loan loss is the amount set aside by the bank and deducted while calculating net income. For the purpose of possible loan loss that become due by the customers. In this study, NPA is mostly considers while calculating figures because NPA reflects an actual loss to the bank.

$$\text{Net NPA} = \text{Gross NPA} - \text{Provision for loan loss}$$

Commercial banks as a wide operational depository financial institution should be aware regarding reducing and management of NPL adopting basic strategies as:

- Improving credit management process policy.
- Applying better recovery management.
- Providing training to employees regarding loan faculty.
- Following prescribed guideline of an authoritative body.

1.1.2 Concept of Profitability

The word profitability is composed of two words, namely, profit and ability. The term profit has been explained above and the term ability indicates the power of a business entity to earn profits. The ability of a concern also denotes its earning power or operating performance.

The profitability may be defined as the ability of a given investment to earn a return from its use. Profitability is a relative concept whereas profit is an absolute connotation. Productivity of capital employed and to measure operational efficiency, profitability analysis is considered as one of the best techniques (Tulsian, 2014).

1.1.3 Overview of selected commercial banks

Global IME Bank

Global IME Bank Ltd. (GIBL) emerged after successful merger of Global Bank Ltd (an “A” class commercial bank), IME Financial Institution (a “C” class finance company) and Lord Buddha Finance Ltd. (a "C" class finance company) in year 2012. Two more development banks (Social Development Bank and Gulmi Bikas Bank) merged with Global IME Bank Ltd in year 2013. Later, in the year 2014, Global IME Bank made another merger with Commerz and Trust Bank Nepal Ltd. (an "A" class commercial bank). During 2015-16, Global IME Bank Limited acquired Pacific Development Bank Limited (a "B" Class Development Bank) and Reliable Development Bank Limited (a "B" Class Development Bank). It is in line with the aim of the bank to be “The Bank for All” by giving necessary impetus the economy. The bank has been able to achieve excellent diversification of its assets. A well balanced distribution of exposure in areas of national interest has been possible through long term forecasting and timely strategic planning. The bank has diversified interests in hydro power, manufacturing, textiles, services industry, aviation, exports, trading and microfinance projects, just to mention a few. GIBL has been conferred with “The Bank of the Year Award 2014” for Nepal by the Bankers Magazine (Publication of the Financial Times, UK) and "Best Internet Bank 2016- Nepal" by International Finance Magazine, London.

Nepal Investment Bank Ltd

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of one of the largest banking group in the world. Later, in 2002 a group of Nepalese companies comprising of bankers, professionals, industrialists and businessmen acquired the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd., and accordingly the name of the Bank also changed to Nepal Investment Bank Ltd.

Agricultural Development Bank Ltd

Agricultural Development Bank Limited (ADBL) is an autonomous organization largely owned by Government of Nepal. The bank has been working as a premier rural credit institution since the last three decades, contributing a more than 67 percent of institutional credit supply in the country. Hence, rural finance is the principal operational area of ADBL. Furthermore, the bank has also been involved in commercial banking operations since 1984. With the main objective of providing institutional credit for enhancing the production and productivity of the agricultural sector in the country, the Agricultural Development Bank, Nepal was established in 1968 under the ADBN Act 1967, as successor to the cooperative Bank. The Land Reform Savings Corporation was merged with ADBN in 1973. Subsequent amendments to the Act empowered the bank to extend credit to small farmers under group liability and expand the scope of financing to promote cottage industries. The amendments also permitted the bank to engage in commercial banking activities for the mobilization of domestic resources. ADBL has largest number of branches all over the country. As on mid July 2013-2017 there are 249 branches are providing financial services throughout the country including rural as well as urban areas. The bank is able to provide wide variety of advance banking services with its technological improvement and continuous progress.

Everest Bank Ltd.

Catering to more than 10 lacs customers, Everest Bank Limited (EBL) is a name you can depend on for professionalized & efficient banking services. Founded in 1994, the Bank has been one of the leading banks of the country and has been catering its services to various segments of the society. With clients from all walks of life, the Bank has helped the nation to develop corporately, agriculturally & industrially.

Punjab National Bank (PNB), our joint venture partner (holding 20% equity) is one of the largest nationalized bank in India having presence virtually in all important centers. Owing to its performance during the year 2012-13, the Bank earned many laurels & accolades in recognition to its service & overall performance. Recently, PNB was awarded with “IDRBT Banking Technology Excellence Award” under Customer Management & Intelligence Initiatives. The Bank also bagged “Golden

Peacock Business Excellence Award 2013” by Institute of Directors. Similarly, the Bank was recognized as ‘Best Public Sector Bank‘ by CNBC TV 18. The bank has now more than 7,000 branches and 8,500 ATMs spread all across India. As a joint-venture partner, PNB has been providing top management support to EBL under Technical Service Agreement.

NIC Asia Bank Limited

NIC ASIA Bank was founded as Nepal Industrial and Commercial Bank on 21 July 1998. It was renamed NIC ASIA Bank on 30 June 2013 after it merged with Bank of Asia. Nepal witnessed the first merger of two commercial bank in its history. After the merger, NIC ASIA was recognized as ”Bank of the Year 2013-Nepal” by The Banker, Financial Times, UK. This is the second time that the Bank was recognized with this prestigious award, the previous occasion being in 2007. The Bank has successfully completed its 21 years of operation. The company has currently the following wholly owned subsidiaries: 1. NIC Asia Capital Limited 2. NIC Asia Laghubittiya Sanstha limited

The paid up The Bank with its 317 branches, 405 ATMs, 95 Extension counters and 44 branchless banking service is the largest bank in terms of footprint expansion, customer base including balance sheet size.

The Bank is headed by Mr. Tulsi Ram Agrawal as its Chairman and Mr. Roshan Kumar Neupane as Chief Executive Officer. Mr. Neupane was appointed as CEO of the bank on 2 December 2018 with 4 years tenure. Mr. Neupane is believed to be youngest CEO in Nepalese Commercial Banks.

1.2 Statement of problems

The (NPL) of financial institutions are considered as critical issue in the context of Nepal for last few decades. Its impact on banking system is being failure to properly management of assets side of balance sheet which not only contributes to decline in net profit but also enhance liquidity crisis and has negatively effect on goodwill of the bank as well. Customer's level of confidence will be decline with the existing situation of non-performing loan in future. They might be willing to withdraw their interest towards banking industry.

According to Banking Supervision Report, (2017) total NPL of whole banking sector is 28.86 billion including public and private sector's bank in fiscal year 2016/17 which accounts for 15.31% of increment than previous year. The report has clearly shows the increasing trend of NPL in banking sectors in Nepal. The statistics shows clearly regarding need of awareness from the banks to adequately management of NPL in order to overcome from upcoming consequences might hinder the bank's earning capacity.

- (i) What is the pattern of NPA in Global IME Bank, Nepal investment bank, Agriculture Development bank, Everest bank limited and NIC Asia bank limited ?
- (ii) How does provision for loan loss coverage affect the profitability of commercial banks?
- (iii) what is the impact of the NPA on profitability of those commercial banks?

1.3 Purposes of the study

The major purpose of this study are to assess the impact of nonperforming loan on the bank's profit. The specific of this research are as follows:

- (i) To analyze the present pattern of NPA in selected commercial banks?
- (ii) To analyze the effect of provision for loan loss coverage ratio on profitability of commercial banks?
- (iii) To examine the impact of NPA on profitability on Nepalese Commercial Banks?

1.4 Significance of the study

The study has some theoretical and practical significance to related parties. Some of the usefulness of this research is listed as follows:

- (i) The research is significant to develop a strategy to reduce the size of NPL and increase profitability.
- (ii) This study has provided awareness to the commercial banks regarding NPL management.
- (iii) The study is helpful to the new academic researchers like us to make an analysis of the performance of selected commercial banks in reference to NPL.

- (iv) The research is also useful to the readers to gain a knowledge regarding the effect of NPL indicators on profitability.
- (V) The research has brought the clear picture to know the current status of NPL of those commercial banks.
- (vi) The study also has renders some present and latest information and facts of the selected commercial banks.

1.5 Limitations of the Study

Due to various constraints and unfavorable situations during the entire research period, there has been following limitations in the study: -

- (i) There has been small size of sample so that the research might not generalized whole population of 27 commercial banks.
- (i) The research is conducted by taking major two variables i.e NPL indicators and profitability of the bank which may not provide satisfactory result because it has not considered other variables that affects the profitability of the commercial banks like management, liquidity, capital structure, employee motivation etc.
- (iii) There is insufficiency of data availability due to some unfavorable conditions.
- (iv) Primary data is not in used in this research so that the qualitative aspects cannot be explores from this study.

1.6 Chapter Organization

The research is organized into five chapters, which presents in such a way that the research objective has been easily meet and research questions can be answered properly. The results and findings of the study depicts systematic manner. Each chapter's content is further described as follows: -

Chapter 1 - Introduction

It has contained the general introduction and background of the research with the short overview of selected commercial banks. The chapter also has the statement of problem, research objective, limitations of the study, significance of the study.

Chapter 2 - Review of Literature

This chapter has look for the review of the previous studies related to this research subject to know the prevalent situations of the non-performing loan and its effect on profitability and other factors as well. The first part has deal with the conceptual framework and second part considers the review of different sources of information.

Chapter 3 - Research Methodology

This chapter is considered about method of doing research on which whole study is based upon, which has contained the nature and sources of data to be used in the research and sampling method and procedures are mentioned with data analysis tools.

Chapter 4 - Results and discussions

The fourth chapter is deals with the presentations and analysis of the data collected from various sources using different financial and statistical tools with findings and brief comment on them.

Chapter 5 - Conclusion

This chapter has contained summary, conclusions and recommendation of the study. References and Appendices are also attached at the end of the study.

CHAPTER - II

REVIEW OF LITERATURE

Review of literature is the process of making availability of the relevant past studies and literature in the corresponding field. On the one hand, it supports the researcher to find out the directions for their study on the other hand, by getting insights from others studies and gaining information on particular area, we can find out the research gap which will reduce the chance of duplications in our study.

Banks and financial institutions play an important role in economic development and financial stability of the country. So their assets should be managed properly so that it reflects sound financial health of the whole economy. The most affected area of NPL is profitability of the banks. Lending of funds on unproductive sectors by banks reduce the lending capacity on productive sectors having most promising rate of return, ultimately it effects negatively on liquidity position of the bank.

2.1 Conceptual review and theoretical framework

This chapter will for the review of the previous studies related to this research subject to know the prevalent situations of the non – performing loan and its effect on profitability and others factors as well. This first part will deals with the conceptual Ahmad & Ariff (2007) states that nonperforming is the percentage of loan values that are not serviced for three months and above. Basically, Non- performing loan reflects the performance standard of the banks. A high level of NPL reflects the high probability of loss and net worth get affected due to large number of credit defaults and similarly low level of NPL reflects the high probability of profit due to low credit default. Parul (2012) states that the NPL growth involves the necessity of provisions because it decrease the overall profits and shareholders. If there is the high proportion in bank credit there will be the higher probability that the banks can suffer from the financial crisis and vice versa.

Shrestha,(2010) in his report entitled, “A Study on Non-performing Assets (NPAs) - with Special Reference to Commercial Bank of Nepal”, in which he pointed out some major issue in NPAs. NPA reduce the yield on evidences but also reduces the profitability of CBE. “An asset which ceases to generate income of the bank is called

non-performing asset. The past due amount remaining uncovered for the two quarter consequently the amount would be classified as NPA for the whole year. It includes borrowers' defaults or delays in interest or principal repayment”.

Banks are increasingly facing credit risk which arises from non-performance by a borrower. The impact of high non-performing loans on banks' profitability, especially, when it comes to disposals. Felix and Claudine (2008) states that return on equity (ROE) and return on assets (ROA) are negatively related with nonperforming loan.

Zoubi & Al-Khazali (2007) argued that loan loss provision (LLP) have positive relationship with ROA and suggests that bank managers use loan loss provision in managing their present and future earnings. Kithinji et. al. (2010) found that total loan to total deposits (TLTD) is positively related to the return on assets (ROA). Furlong & Keeley (1989) found that there is positive correlation between the capital adequacy ratio and returns. Ochei et al. (2013) states that CAR with positively related with bank's profitability.

Jha & Hui et al. (2015) found that there is negative relationship of non-performing loan, capital adequacy ratio with return on assets. Similarly, there is negative relationship of nonperforming loan, capital adequacy ratio with return on equity (ROE). It also revealed that there is positive relationship of total loan to total deposit with return on assets (ROA) and positive relationship with return on equity (ROE).

Chhetri(2012) in the article titled “NonPerforming Assets: A need for Rationalization”, the writer has attempted to provide connotation of the term NPA and its potential sources, implication of NPA in financial sector in the South East Asian Region. He had also given possible measures to contain NPA. “Loans and advances of financial institutions are meant to be serviced either part of principal of the interest of the amount borrowed in stipulated time as agreed by the parties at the time of loan settlement. Since the date becomes past dues, the loan becomes non-performing asset. The book of the account with lending institution should be effectively operative by means of real transaction effected on the part of the debtor in order to remain loan performing.

Pradhan (2014) has conducted a research on "A Study on Non- Performing Assets of Commercial Bank with References to SCBNL, RBB, Everest bank, NB bank and

NBBL”. Main objective of his study are to find out the proportion of non-performing loan and the level of NPA in total assets, total deposit and total lending in the selected commercial bank relationship between loan loss provision in the commercial bank impact of non-performing assets in the performance of commercial bank. He has concluded improper credit policy, political pressure to lend, lack of supervision and monitoring, economic slowdown, overvaluation of collateral are the major cause of occurring NPA. In recent year, not only the private sector's bank (like NBBL, EBL and SCBNL) but also public sector's banks (RBB and NBL) are trying to maintain their loan and advances to control over becoming the nonperforming assets. To overcome the NPA from public banks, they should try to recover their loan and interest amount on time and also make a suitable loan loss policy.

He has concluded "high level of non-performing assets not only decrease the profitability of the banks but also affect the entire financial as well as operational health of the organization. If the NPA doesn't control immediately, it will be main causes for shutdown of the banks in future.

ROA is the measuring tools of bank profitability and also the ability of the bank management to generate the income by utilizing the company assets as their disposal. Ekwe & Daru (2012) used return on assets as dependent variable because it is an indicator of managerial efficiency. Khrawish (2011) states that ROA indicates the efficiency of the management of a company in generating net income from all the resources of the institution. Miller & Noulas (1997) found a negative relationship between credit risk and profitability. It shows that whenever there is negative relationship between them, then it signify that greater risk linked with loans, the higher level of loan loss supplies which thereby and create a trouble at the profit maximizing strength of a bank.

2.1.1 Causes of NPL

Asfaw, Bogal & Teame (2016) stated in their research article on ‘Factors affecting NPL’: A case study on development banks of Ethiopia Central region had found several reasons for occurring of NPL, which are explained below.

(i) Bank specific causes

(a) Poor credit assessment

Credit assessment is very essential criteria while making lending by the banks. Poor credit assessment means providing loan to the borrower without analyzing borrower's actual capacity of repayment of principal and interest within due period of time not realizing the risk associated with the loan which causes the occurrence of bad loans in the banks.

(b) Weak credit monitoring

It is also one of the main reason of NPL due to negligence of banks for continuous observation and monitoring of borrowers regarding their activities and uses of fund whether or not s/he has utilized the fund as mentioned in the terms of loan contract or either the project or business of the borrower is going on with sound financial condition or not to pay back his debt. The bank should conduct regular supervision and should demand to disclosure of financial report of the business or project for making worthwhile analysis to the borrower.

(c) Aggressive lending

Banks excessive risk appetite and compromised integrity in approving credit and rapid credit growth is believed to be cause for occurrence of loan default. Excessive financing is regarded as main reason for NPL. There is also evidence that rapid credit growth as measure of excessive risk taking in lending services as a sign to worsening loan portfolio quality.

(d) High interest rate

High interest rate on loan is another cause of NPL, which makes unable to make payment of higher interest amount by the borrower who has low level of income. The bank which has large spread rate might have large amount of non-performing loan.

(e) Poorly negotiated terms

Weak terms and conditions while making loan by bank in terms of requirement of collateral, due loan period, restrictive and protective covenants will lead to the

haphazard activities and operation of the project of the borrower which might leads to the insolvency and bankruptcy of the borrower cause default in loan payment to banks.

ii) Customer specific causes

(a) Lack of knowledge and related experience

Customers, lack of knowledge about the terms and conditions provided by the bank may also be the cause of NPL. They might have not any knowledge about their proposed business or project, which will make failure of their business that ultimately leads to default loan.

(b) Willful default

Some of the borrowers do not wants to repayment of loan willingly without any reason, which is also a big reason of increase in NPL.

(c) Loan diversion

Customers or borrowers who utilized the loan in another way other than they mentioned in the contract of loan. If the borrowed fund is used to buy a real state andfor other personal use rather than to making investment for additional return, borrower might not be able to pay back the principal and interest amount of loan intime.

(d) Lack of commitment on the side of the promoter and project managementproblems

Sometimes the problem can occur from the side of management team of the project by negligence of commitment towards the efficient operation of the project so that will cause the failure of business and hence default in payment.

2.1.2 Effects of NPL

Masum (2014) had provided the conclusion about some effects of Non-Performing Loan in banking sectors of Bangladesh has derived here as follows:

He had explained the cyclical nature of NPL that how it occurs and make its effect on bank's performance explained below in detail.

(i) Cyclical nature of NPL which starts from poor economic condition

(a) During crisis moment, in order to restore the credibility among creditors and depositors, failing financial institutions try to reduce the risk assets or change the compositions of the assets portfolio by having huge number of corporate clients.

(b) Due to the large amount of financing and huge credit, it leads to increase in NPL then money gets stopped. Increase in NPL slow down the flowing of cash which has negative impact on the operations of the business.

(c) Default in payment of timely interest, interest earnings will be ceased to the bank. But the cost of fund and cost of management are not stops, which will reduce the profitability of the banks.

(d) To run the management cost along with the cost of fund, the existing lending price has to be increased. Suddenly increased rate of interest makes hard the repayment by the borrower to the bank for the new borrower, which will again contribute to the occurrence of NPL.

Further-more, he had introduced other direct effects of NPL to the bank performance which is not only hinders the bank's performance but also the goodwill and future earning capacity of the bank.

(ii) Other effects of NPL

(a) Efficiency Problem

NPL can leads to efficiency problem for the banking sector. It is found by a number of economists that failing bankers located far from the most efficient frontier because banks do not optimize their portfolio decisions by lending less than demanded. Increase NPL hampers performing loan. Adverse selection is asymmetric information problem before the transactions.

(b) Credit crunch situations

Credit crunch is the phenomenon that banks ration loan disbursement and new credit commitments but add more risks. Banks treat loan as assets. They expect return from it but if loan becomes NPL then banks have lack of fund to give loan according to their commitment or banks could have to give loans at their previous interest rate. So that clients have to pay more, again the loan becomes defaulted.

(c) NPL affects opening of LC

International importers always choose healthy condition of the exporter's banks worse conditions of the bank affects the opening of LCs. Low rate of LCs makes low bank earning

2.1.3 Solutions regarding recovery of NPL

Islam, Shil & Mannan (2005) explained in their working paper on “Non-performing loans-causes, consequences and some learning in recommended some ways to maintain NPL in the banks through their study. The points are highlighted as below:

(a) Law and order situation

This is the finding of the author that loans often become defaulted as the defaulter can use the loopholes of the law to reap unusual benefit. The climate should be extortion free that will help to generate surplus, thus recovery will be more. Similarly, political stability is the preconditions for ensuring a stable business climate.

(b) Risk assessment

Risk seems to be an uncontrollable factor but is a must for dealing with investment. But, this sensitive and crucial factor is bypassed most of the time. Some financial institutions even have no satisfactory guidelines to be followed to assess risk.

(c) Recovery Agency

Recovery agency should have to establish by the bank and financial institutions to make efficient and quick recovery of loan which also create the diversification of work in the bank that banks will be free from overload of responsibilities. Such

agency can have its full attention on the borrower's intentions and activities by using modern tools and techniques. This type of decentralization of work can also have positive impact on the performance of other sectors of banks.

(d) Motivation

Motivation and encouragement can work as a magic formula for recovery of loan. The best loan performer should be awarded by national level award. He may also get some monetary benefits for his honesty. A congenial relationship between bankers and borrowers also helps a lot where borrowers are kept in regular contact with the banker.

(e) Collateral Management

For each and every type of loan, it is important to maintain sufficient collateral. Only keeping collateral is not enough, it should be managed properly with regular check of the value, ownership, physical condition and other legal status etc. Collateral should always have sufficient value to recover debt.

In accordance to preventive measures early management of NPL Garg (2016) pointed out some list which has been explained as follows:

(1) Early Recognition of the Problem: Invariably, by the time banks start their efforts to get involved in a revival process, it is too late to retrieve the situation both in terms of rehabilitation of the project and recovery of bank's dues.

(2) Identifying Borrowers with genuine intent: Identifying borrowers with genuine intent from those who are non-serious with no commitment or stake in revival is a challenge confronting bankers. Here the role of frontline officials at the branch level is paramount as they are the ones who have intelligent inputs with regard to promoter's sincerity and capability to achieve turnaround. Based on this objective assessment, banks should decide as quickly as possible whether it would be worthwhile to commit additional finance. "Special Investigation"

(3) Timeliness & Adequacy of response: Longer the delay in response, greater the injury to the account and the asset. Time is a crucial element in any restructuring or rehabilitation activity. The response decided on the basis of techno-economic study

and promoter's commitment, has to be adequate in terms of extend of additional funding and relaxations etc. Under the restructuring exercise, the package of assistance may be flexible and bank may look at the exit option.

(4) Focus on Cash flows: While financing, at the time of restructuring the banks may not be guided by the conventional fund flow analysis only, which could yield a potentially misleading picture. Appraisal for fresh credit requirements may be done by analyzing funds flow in conjunction with the Cash Flow rather than only on the basis of Funds Flow.

(5) Multiple Financing: During the exercise for assessment of viability and restructuring, a Pragmatic and unified approach by all the lending banks / FIs as also sharing of all relevant information on the borrower would go a long way toward overall success of rehabilitation exercise, given the probability of success/failure.

2.1.4 Provision for loan loss (PLL)

2.1.4.1 Concept of provision for loan loss

The constitution of loan loss provisions allows users of accounting information to make a safer forecast of the net cash flows of an entity, in order to evaluate the prospect of return on invested capital. The provision causes the early recognition of losses, forming a reserve of value to be used when these losses occur. Early recognition of these losses mitigates the impacts of future economic crises.

The Co-chairman of Federal Reserve Board, Washington D.C. and Federal Reserve Bank of New York had published their working paper on September 2000 on the principles for the management of credit risk in Basel Committee on Banking

Supervision had mentioned 16 principles about credit risk management Among which principle 9 had highlighted about the importance of requirement of monitoring the condition of individual credits including determining the adequacy of provisions and reserves as possible corrective actions (Cole & Cumming, 2000).

Banks are financial institutions that primarily collect deposits and issue loan to individuals, firms and governments to finance consumption, investment and capital expenditure; thereby contributing to economic growth. Bank lending to borrowers

often give rise to credit risk if borrowers are unable to repay the principal and/or interest on the loan facility due to unfavorable economic conditions and related factors. To mitigate credit risk, in principal, banks will set aside a specific amount as a cushion to absorb expected loss on banks' loan portfolio and this amount is referred to as loan loss provisions (LLPs) or provisions for bad debts; therefore, loan loss provision estimate is a credit risk management tool used by banks to mitigate expected losses on bank loan portfolio (Ozili & Outa, 2017).

The increase in loan loss provision is a positive function of non-performing loans up to a threshold beyond which loan loss provisions will no longer increase as nonperforming loans increases (Ozili, 2018).

2.1.4.2 Provision for loan loss coverage ratio

An article published in a newspaper 'The Indian Expresso," If there is rising bad loans, write-offs and shrinking recovery rates were not enough, public sector banks have also seen a sharp decline in their provisioning coverage ratio (PCR), an indicator of their ability to cover future loan losses. PCR is the ratio of provisioning to gross nonperforming assets (NPAs) and indicates the extent of funds a bank has kept aside to cover loan losses" (Singh, 2016).

Provisioning Coverage Ratio (PCR) is essentially the ratio of provisioning to gross non-performing assets and indicates the extent of funds a bank has kept aside to cover loan losses (Reserve Bank of India, 2014).

2.1.5 Complementary relations between macro-economic factors and NPLs

2.1.5.1 Influence of macro-economic factors on NPLs

One of the study conducted on 'Explanatory power of Macroeconomic variables as determinants of non-performing loans' by Ahmad & Bashir (2013) had revealed some reliable points on how macro-economic variables of any country directly effect on contribution of NPLs of banks, which are explained as follows:

(i) Growth in GDP

Increases in economic growth results in the increase in debt paying ability of an individuals and firms because of greater economic activities, employment, saving and earnings of the individuals and firms, consequently resulting in decline of NPLs.

(ii) High interest rate

The significant negative association between interest rate and NPLs suggest that because of high interest rate, only those borrowers and investors borrow from banks who have ability to pay back their loan from future income and earnings. Similarly banks also lend to those individuals and investors that have good credit rating. If low income holder borrowers exist, the quantity of NPLs will increase.

(iii) Inflation

The positive relation between inflation and NPLs suggests that with the inflation of the country, the equity value of the banks declines, resulting in the growth of banks riskiness, banks in order to improve their equity value, show short term profitability by extensive lending and cost efficiency by reducing their expenses on loan allocation, monitoring and controlling, which leads to increase in NPLs.

(iv) Export

The negative association of export of the country with NPLs suggests that with the increase in exports, economic activities in the economy will increase, resulting in income growth of individuals and profits of investors. Thus, individual investors have funds to repay the loans resulting in decline of NPLs.

(v) Industrial production

The negative association of industrial production suggests that increase in industrial production increases the earnings of the firms and individuals, resulting in the increase in debt paying ability of individuals and firms.

(vi) Consumer Price Index (CPI)

The positive association between CPI and NPLs has suggests that increase in CPI induces the increase in consumption of an individuals and firms rather than making any saving then due to decrease in supply of fund in the market will leads towards increase in interest rate to encourage saving or supply of fund in the economy. Furthermore, it will lead to default in timely loan payment by the borrowers having low level of income and earnings in compare to the higher interest rate. So it contributes to the increase in NPLs.

Further he had also recommended that the requirement of assessment of economic conditions of the country while making loan by the banks to the borrowers in order to avoid level of NPLs.

2.1.5.2 Influence of NPLs on Macro economic variables of the country:

The study investigated about the macro economic variables that non- performing loan of banks affects in the country by Anjom & Karim (2016) states that NPL not only have its significant effect on the bank specific variable, but also have its impact on country's economic status. Some of the points below can elaborate the relation more:

(i) Economic growth

From the point of economics, increase in non-performing loans, negatively effects economic growth by causing to a decrease in loan able funds. That will lead to the contraction in credit flow for the institutional, industrial and corporation borrowers, which will decrease the economic activities and hence economic growth as well.

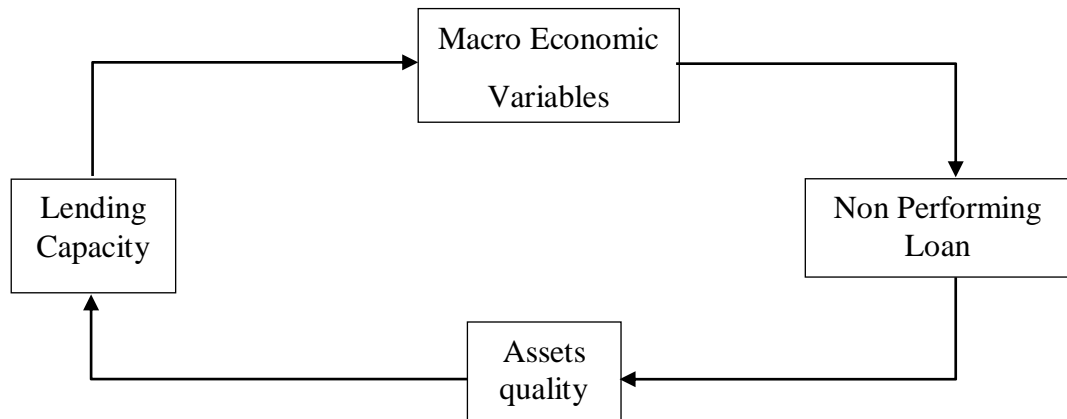
(ii) Bank Failure

Non-performing loan can enhance the insolvency of banks leading to bank failure. More non-performing loans leads towards ceases of interest income of the banks and hence narrow down the credit supply by the country to the various sectors of the country like agricultural sectors, infrastructure sectors and other deprived sectors, dueto declining of assets quality of the bank so it will also hider the country's development.

Thus, above relationship between macro-economic variables and non-performing loans of banks clears that there is vicious circle of country's economic condition and bank's assets quality, which can be depicted in the following figure:

Interrelationship between macro-economic variables and non-performing loan

Figure 2.1



Source: Bhattarai (2018)

2.1.6 Relationship between bank's capital adequacy and assets quality

2.1.6.1 Capital adequacy (CA)

Under the Basel III, banks must hold capital for marked-to-market losses associated with the deterioration of a counterparty's credit quality. An incremental risk capital charge would be applied that estimates the default and migration risks of unsecured credit products but also takes into account of liquidity. In the Basel III reforms of 2010 under the heading “Pillar 1 there are significantly higher capital requirements for trading and derivatives activities, as well as complex securitizations held in the trading book versus the banking book. Capital requirements have been increased so as to reduce the probabilities of bank collapse (Lee, 2014).

As accordance to capital adequacy framework 2021 under unified directives 2077, 'A' class banks and financial institutions should have to maintain 6% of Tier I capital ratio and 8.5% of total capital adequacy ratio and 11% of minimum total capital ratio plus capital conservation buffer should be maintain on the basis of their total risk weighted assets of the banks (NRB, 2021).

2.1.6.2 Assets quality (AQ)

The recovery performance of commercial banks is the *sin qua non* for their liquidity of funds. Loan recovery is the main factor which determines the quality of loan assets of banks. The mounting over dues lead to high level of non-performing assets (NPA) and thereby deteriorate the asset quality. It consequently restricts the banks' lending capacity and stands in the way of dilution of funds to developmental activities and hence, the socio economic development of the area gets impacted. Thus, improving the quality of loan assets is the true test of improved efficiency of the banking system.

Presence of NPAs indicates adversely asset quality of the balance sheet and hence future income generating prospects. This also requires provisioning which has implications with respect to capital adequacy. Declining capital adequacy adversely affects shareholder value and restricts the ability of the bank/institution to access the capital market for additional equity to enhance capital adequacy.

2.1.6.3 Interrelationship between CA and AQ

The study conducted on the influence of capital adequacy on assets quality position of banks in Tanzania' by Pastory & Mutaju (2013) had concluded some evidences by making regression analysis of capital adequacy indicators like core capital to risk weighted ratio and total capital to risk weighted ratios and assets quality ratio like non-performing loan to gross loan ratio, had found some points regarding complementary relationships as follows:

- (i) The increase in capital ratios to the commercial banks will tend to increase the asset quality and it will protect depositors for uncertain changes that will mirror the banking sector.
- (ii) It can be noted that an increase in non-performing loans has a tendency to worsen capital ratio. Bank regulators should accentuate to reduce the level of Non-performing loans and non-performing assets.
- (iii) As descriptive analysis show that when the asset quality increase in terms of non-performing loans tends to increase the capital adequacy.

- (iv) The bank with the higher capital adequacy has shown the lower asset quality in terms of non-performing loans. This shows that bank with higher capital level have the tendency to increase the loan size and expand portfolio and sometimes increase the chance of the customer's failure.
- (v) It has been revealed that the increases of assets quality in terms of large exposure to core capital tends to reduce capital adequacy as they are inversely related. While Non-performing loans increases the capitaladequacy.

2.1.7 Balancing of provisioning and capital requirements:

Gaston and song in their IMF working paper (2014) had published study aboutSupervisory Roles in Loan Loss Provisioning in Countries implementing 'IFRS'had mentioned some views regarding balance of provision and capital requirement forcredit risk management.

Under Basel II, stipulations regarding provisioning is aim at ensuring a sufficient level of capital to cover banks' credit risk.

In this framework, future loan losses are classified into two groups: expected losses and unexpected losses. The general concept is that capital should provide adequate loss-absorption capacity on a going concern basis and a strong enough incentive for its holders to monitor risk taking at banks. Consistent with this concept, unexpected loan losses due to credit risk need to be covered directly by capital. Expected losses (formulated under the product of the probability of defaults times the loss given defaults), are used as a yard stick for banks to measure how the combination of specific provisions and general provisions compares against expected losses.

The measurement of provisions against expected losses is meaningful for capital assessment purposes.

According to Basel III, if the combination of specific and general provisions is less than expected losses, additional capital is potentially needed as the difference must be deducted from Tier I capital. On the other hand, if the combination exceeds expected losses, the treatment is more conservative only general provisions subject to a certain

threshold can be added to Tier II capital, as this portion is not linked to any identified losses and can be more readily available.

Supervisors have the two main tools when faced with a shortfall of coverage against loan losses: increasing provisions or increasing capital.

Which tool should be used? In general, it is preferable that supervisors ask for higher provisioning rather than the higher capital ratios without provisioning, as the latter would tend to overstate capital. This is the approach recommended in BCBS (2006) and is also the approach followed by several Asian countries.

2.1.8 Conceptual relationship between dependent and independent variable of this study is as follows:

Figure 2.2

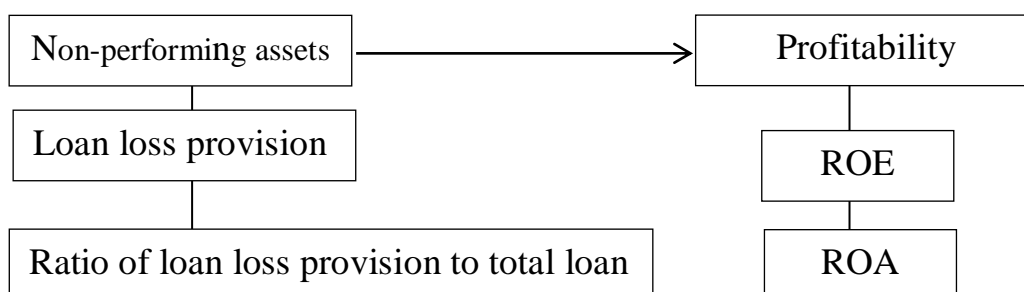


Fig: Representing theoretical framework

Source: wikipedia.com

2.1.9 Classification of non- performing loan as prescribed according to NRB.

NRB has classified loans and advances to be treated as performing or non performing in five categories as per NRB unified directives 2077, BFIs of 'A' 'B' and 'C' class that are licensed by NRB should classify their loan and advances based on past due date of interest and principal payment as accordance to the following ways:

- (i) Pass Loan: - Loans and advances that are not become due and due for onemonths.
- (ii) Watch list loan: - Loans and advances that are become due for one to threemonths.

- (iii) Sub-standard loan: - Loans and advances which are past due from three to six months.
- (iv) Doubtful loan: - Loan and advances that are past due from six months to one year.
- (v) Loss Loan: - Loan and advances that are past due for more than one year.

Licensed BFIs should also make a provision for such loan and advances as a percentage of gross loan for each class of loan as prescribed by NRB unified directives 2077 which are as follows :

Classification of loan

Table 2.3

Classification of loan	Provision for loan loss
1. Pass Loan	1%
2. Watchlist Loan	5%
3. Sub-Standard Loan	25%
4. Doubtful Loan	50%
5. Loss Loan	100%

Source: NRB (2077).

According to NRB unified directives 2077, all loans and advances falls under pass loan and watch list loan category are performing loan and loans that are falls under sub-standard loan, doubtful loan and loss loan are non-performing loan.

According NRB unified directives 2077 the additional provision regarding nonperforming or bad loans other than the due loan period are further explained in following points: -

Loans and advances that becomes past due or not, having following features and characteristics also should be treated as bad loans.

- (i) In case of unable to find the borrowers without being in contact of the bank.

- ii) If borrower or clients becomes an insolvent.
- iii) If the project or business of the borrower is not in the operational mode or there is the possibility of ceases to operation.
- iv) If the amount of loan is being misused by the borrower i.e if s/he use in another way than s/he has mentioned in the contract of loan.
- v) If the letter of credit, guarantee and other possible liabilities of bank transferred under the fund based credit as force loan and principal and interest amount is not recover until 90 days from transform.
- vi) If the market value of collateral can't securitize the due loan amount.
- vii) The loan also should be treated as bad loan which is provided to the client whose name was published in the blacklist by credit information bureau.
- viii) If the bank failed to recover the amount of bills purchase or bills discount beyond 90 days from specific due dates.
- (ix) If credit card loan does not written-off until 90 days from specific past due dates.
- (x) If the loan amount used by another group, firm, individuals and company when the loan was actually borrowed in the name of another firm, individuals, company and groups.
- (xi) If the borrowers provide different financial statements of the transactions of business held at the same date and time period.

2.2 Empirical reviews

2.2.1 Review on NPL-Profitability and PLL-Profitability of banks:

2.2.1.1 Review of Journal and Books

Shrestha,(2010) in his report entitled, “A Study on Non-performing Assets (NPAs) - with Special Reference to Commercial Bank of Nepal”, in which he pointed out some major issue in NPAs. NPA reduce the yield on evidences but also reduces the

profitability of CBE. “An asset which ceases to generate income of the bank is called non-performing asset. The past due amount remaining uncovered for the two quarter consequently the amount would be classified as NPA for the whole year. It includes borrowers’ defaults or delays in interest or principal repayment”.

Banks are increasingly facing credit risk which arises from non-performance by a borrower. The impact of high non-performing loans in banks profitability, especially, when it comes to disposals. Felix and Claudine (2008) states that return of equity (ROE) and return on assets (ROA) are negatively related with nonperforming loan.

Zoubi & Al-Khazali (2007) argued that loan loss provision (LLP) have positive relationship with ROA and suggests that bank managers use loan loss provision in managing their present and future earnings. Kithinji et. al. (2010) found that total loan to total deposits (TLTD) is positively related to the return on assets (ROA). Furlong & Keeley (1989) found that there is positive correlation between the capital adequacy ratio and returns. Ochei et al. (2013) states that CAR with positively related with bank’s profitability.

Jha & Hui et al. (2015) found that there is negative relationship of non-performing loan, capital adequacy ratio with return on assets. Similarly, there is negative relationship of nonperforming loan, capital adequacy ratio with return on equity (ROE). It also revealed that there is positive relationship of total loan to total deposit with return on assets (ROA) and positive relationship with return on equity (ROE).

Chhetri(2012) in the article titled “NonPerforming Assets: A need for Rationalization”, the writer has attempted to provide connotation of the term NPA and its potential sources, implication of NPA in financial sector in the South East Asian Region. He had also given possible measures to contain NPA. “Loans and advances of financial institutions are meant to be serviced either part of principal of the interest of the amount borrowed in stipulated time as agreed by the parties at the time of loan settlement. Since the date becomes past dues, the loan becomes non-performing asset. The book of the account with lending institution should be effectively operative by means of real transaction effected on the part of the debtor in order to remain loan performing.

Pradhan (2014) has conducted a research on "A Study on Non- Performing Assets of Commercial Bank with References to SCBNL, RBB, Everest bank, NB bank and NBBL". Main objective of his study are to find out the proportion of non-performing loan and the level of NPA in total assets, total deposit and total lending in the selected commercial bank relationship between loan loss provision in the commercial bank impact of non-performing assets in the performance of commercial bank. He has concluded improper credit policy, political pressure to lend, lack of supervision and monitoring, economic slowdown, overvaluation of collateral are the major cause of occurring NPA. In recent year, not only the private sector's bank (like NBBL, EBL and SCBNL) but also public sector's banks (RBB and NBL) are trying to maintain their loan and advances to control over becoming the nonperforming assets. To overcome the NPA from public banks, they should try to recover their loan and interest amount on time and also make a suitable loan loss policy.

He has concluded "high level of non-performing assets not only decrease the profitability of the banks but also affect the entire financial as well as operational health of the organization. If the NPA doesn't control immediately, it will be main causes for shutdown of the banks in future.

ROA is the measuring tools of bank profitability and also the ability of the bank management to generate the income by utilizing the company assets as their disposal. Ekwe & Daru (2012) used return on assets as dependent variable because it is an indicator of managerial efficiency. Khrawish (2011) states that ROA indicates the efficiency of the management of a company in generating net income from all the resources of the institution. Miller & Noulas (1997) found a negative relationship between credit risk and profitability. It shows that whenever there is negative relationship between them, then it signify that greater risk linked with loans, the higher level of loan loss supplies which thereby and create a trouble at the profit maximizing strength of a bank.

2.3 Research Gap

Research gap is the unfound content in others research which is to be done by the new researcher. Prior to this study, many research and articles regarding non-performing loan were reviewed but can only find very few studies this actually examine the

specific relationship between profitability and non-performing loan. While going through the literature review there is no study found that has used the profitability indicator profit Margin Ratio (PMR) and loan ratio (TLTTAR) so in this study these facts and figures has been depicted to explore it

CHAPTER - III

RESEARCH METHODOLOGY

3.1 Research Design

Research design is the overall path or method by which the research study is guided. It serves as a framework for the study directing the collection and analysis of the data, in which the research method is to be utilize and sampling plan to be followed. Research design is the way through which we find the required answers of the research questions and ultimately meet the research objectives. The research design of this study is descriptive as well as analytical.

3.2 Population and sampling

The population for this study is overall commercial banks in Nepal. As on mid-March, 2021 prescribed by NRB on monthly banking statistics, there are 27 commercial banks in Nepal.

The study has been done by selecting five commercial banks among them by using quota sampling under non probability sampling method in which the sample represents both private and public commercial banks in Nepal. There is one public commercial bank and four private commercial banks have taken for the study. They

are:

- (i) Global IME bank
- (ii) Nepal Investment Bank Ltd
- (iii) Agricultural Development Bank Ltd
- (iv) Everest Bank Limited
- (v) NIC Asia Bank Limited

3.3 Nature and Sources of data

The data used in this study is from fully secondary sources. These are Published annual and quarterly reports of selected commercial banks, various reports and directives of Nepal Rastra bank. The required information has obtained from journals,

articles, related websites, published and unpublished thesis and dissertations, books are used to collect the required data for the research.

3.4 Techniques of analysis:

In order to get the study accomplished, as the research is based upon secondary data, about eight years annual (2070-2077) and seven years quarterly(2071-2077) data are collected from the related websites of the selected commercial banks. And they are synchronized in the systematic manner in order to analyze those raw data. Required other data are also achieved from the NRB websites and its latest reports as well.

3.5 Tools of Analysis

The study has financial as well as statistical tools used to make analysis easy and reliable. The data are organized in such a way that the calculations and result findings can be easily carried out. Different ratios, mean, standard deviations, correlations and regression and hypothesis testing are used in order to interpret the data and their numerical values. The list of financial and statistical tools has been listed as follows:

3.5.1 Financial Tools

(1) Profitability ratio

Profitability ratio measures the bank's profit on the basis of different variables like assets, equity, operating income as well. It is simply a capacity to make a profit. These ratios assess the bank's efficiency in terms of making additional return to the banks resources. In this study following ratios are considered.

(i) Return on assets (ROA)

ROA measures how effectively the bank produces income from its assets. How much the bank is able to make rupee return for each rupee of total assets. We can calculate it by using following formula:

$$ROA = \frac{Net\ Profit}{Total\ Assets}$$

(ii) Return on equity (ROE)

ROE is also one of the measure profitability ratios that measure how much a bank makes a rupee return for each rupee invested by equity shareholders. It is a ratio that calculates the profit for the equity investment. It can be calculated by using following formula:

$$ROE = \frac{Net\ Profit}{Equity}$$

(iii) Profit Margin Ratio (PMR)

Reserve PMR is the ratio that calculates the proportion of net income on the basis of operating income. It measures rupee return on each rupee of operating income where- as operating income includes total of interest and non-interest income. This ratio can be calculated by using formula:

$$PMR = \frac{Net\ income}{Total\ operating\ income}$$

(2) NPL indicator's ratio

(i) Non Performing loan to total loan ratio or NPL ratio (NLTLR)

The nonperforming loan ratio, better known as the NPL ratio, is the ratio of the amount of nonperforming loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. Financial analysts frequently use the NPL ratio to compare the quality of loan portfolios among banks The NPL ratio measures the effectiveness of a bank in receiving repayments on its loans. Higher the NPL ratio indicates and engaging in high risk lending policy it can be calculated by using following formula:

$$NLTLR = \frac{Non\ Performing\ Loan}{Total\ loan}$$

(ii) Total loan to total assets ratio (TLTAR)

The Loans to assets ratio measures the total loans outstanding as a percentage of total assets. The higher this ratio indicates a bank is loaned up and its liquidity is low.

Higher the ratio, higher risky a bank may be to higher defaults. High 'loans to assets' ratio might mean two things. Bank is at higher risk because loans are less liquid assets than other financial assets. Loans usually are the most profitable assets of the bank, it is highly expected that bank with high 'loans to assets ratio' will have higher 'net interest income'.

This ratio can be calculated by using following formula:

$$TLTTAR = \frac{\text{Total loan}}{\text{Total assets}}$$

(iii) Provision for loan loss coverage ratio (PLLCR)

PLLCR represents the amount set aside for defaulted loan or credits. An expenses kept as reserve as a percentage of gross non-performing loan. Provision for loan loss is charged against income of the bank. It is a measure that indicates the extent to which the bank has provided against troubled part of its loan portfolio. A high portfolio suggests that additional provisions to be made by the bank in coming years would be relatively low if gross NPL do not rise at a faster clip It can be calculated by using following formula:

$$PLLCR = \frac{\text{Provision for loan loss}}{\text{Non Performing Loan}}$$

3.5.2 Statistical Tool

The field of statistics can be divided into two broad categories, they are descriptive and inferential. Among them some of the tools are used in this research.

3.5.2.1 Descriptive statistics

(i) Arithmetic Mean

Mean is the figure we get when the total of all the values in a distribution is divided by the number of values in the distribution. Mean is thus the arithmetic average of a variable. So the arithmetic mean is also known as the average. It can be calculated as:

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n}$$

Where,

\bar{X} = Arithmetic mean

ΣX = Sum of all value of variable

n = No. of Observation

(ii) Standard Deviation

The standard deviation indicates the ranges and size of deviance from the middle or average. It is commonly used to measure the spread of values from the mean value. It indicates the deviation of an individual value from that of an average value. In analytical term, it measures the total risk of the data that is fluctuate during the time period. More value indicates, more risk and vice versa.

$$\text{Standard deviation} = \sqrt{\frac{\Sigma (X - \bar{X})^2}{n - 1}}$$

3.5.2.2 Inferential Statistics

(i) Correlation of coefficient

The correlation coefficient provides us with an index of the direction and magnitude of the relationship between two sets of scores. This coefficient is obtained by dividing covariance of two variables by the product of their standard deviation. This magnitude of correlation coefficient tells you the degree of linear relationship between two variables. The correlation of zero indicates no relationship exists. As the strength of relationship increases, the value of the correlation increases towards +1 and if the strength of relationship is negative between variables the correlation increases to the -1. Since +1 indicates perfectly positive relationship between variables and -1 indicates perfectly negative relationship between two variables.

In this research, simple correlation coefficient has been used as a tool which can be calculated by using following formula:

$$r = \frac{n\Sigma XY - \Sigma X.\Sigma Y}{\sqrt{n\Sigma X^2 - (\Sigma X)^2} \sqrt{n\Sigma Y^2 - (\Sigma Y)^2}}$$

(ii) Regression Analysis and Hypothesis Testing

Regression analysis is a mathematical measure of average relationship between two or more variables in terms of original units of the data. Thus, it can be said that regression is the estimation or prediction of one variable's value from the given of other variable where there are dependent and independent variables. Independent variables are also known as predictor variables and response variables are dependent variables. In regression analysis the statistical tools help us to determine the change in response variable due to one unit change in predictors by bringing regression coefficients indicates by b ?. Hence there are two types of linear regression analysis. Which are further explained as below

(a) Simple line of regression

Simple linear regression considers only two variables, one dependent and other one is independent. It predicts the dependent variable when there is one unit of change in independent variable. This line best fit the value of Y for a given value of X. It is given by:

$$Y = a + bx$$

Where,

Y = dependent variable (ROA, ROE, PMR)

X = independent variable (TLTTAR, NLTTLR, PLLCR)

a = intercept of regression line

b = Slope of the regression line which measures the change in Y, per unit changes in X.

(b) Multiple Regression Analysis

In real life situations, there is rare case of using simple line of regression because there is more than one independent variable that predict the response variable. So in this case we have to consider multiple regression analysis to know the joint effect of independent variable.

Let, Dependent variables Independent variables

$$\begin{array}{lll} \text{ROA} = X_1 & \text{TLTTAR} & = X_4 \\ \text{ROE} = X_2 & \text{NLTTLR} & = X_5 \\ \text{PMR} = X_3 & \text{PLLCR} & = X_6 \end{array}$$

(i) Regression line of ROA on TLTTAR, NLTTLR and PLLCR

It is given by,

$$X_1 = a + b_1 X_4 + b_2 X_5 + b_3 X_6$$

(ii) Regression line of ROE on TLTTAR, NLTTLR and PLLCR

It is given by,

$$X_2 = a + b_1 X_4 + b_2 X_5 + b_3 X_6$$

(iii) Regression line of PMR on TLTTAR, NLTTLR and PLLCR

It is given by,

$$X_3 = a + b_1 X_4 + b_2 X_5 + b_3 X_6$$

Where,

ROA= Return on assets

ROE= Return on equity

PMR= Profit margin ratio

TLTTAR = Total loan to total assets ratio

NLTTLR= Non performing loan to total loan ratio

PLLCR= Provision for loan loss coverage ratio

'a' represents the constant value where as $b_1, b_2,$ and b_3 indicates the regression coefficient of TLTTAR, NLTTLR and PLLCR respectively.

Above three regression models measure or predict the relationship between NPL and profitability. NPL indicators are represents by the ratios or predictor variables TLTTAR, NLTTLR and PLLCR. Profitability indicators are represented by response variables ROA, ROE and PMR.

(c) Hypothesis Testing

Hypothesis testing in statistics is a way to test the result of experiment whether it is valid or not. In this study, the hypothesis testing is also used to test the significance of the relationship between dependent and independent variables

3.5.3 Pattern Analysis

The process of identifying pattern is called pattern analysis. It involves the collection of information from multiple time periods and plotting the information on a horizontal line for further review. It helps us to analyze the past and predict the future pattern through its visual presentation in line of the variables in numerical form.

In this study, the trend analysis of dependent and independent variables are creating to know its future trend of value, which will predict the variables values to be in the increasing trend and in decreasing trend. The study will exhibit the trend of ROA, ROE and PMR as a dependent variable and NLTTLR, TLTTAR and PLLCR as an independent variable.

Chapter - IV

Results

This chapter is related to analyzes the data of required variables in by using descriptive as well as inferential tool of statistics. It contains analysis, discussion about the results and their interpretation about its actual meaning. Its main objective is to present of data and facts and interpret them and their relationship in order to meet the ultimate objective of the study.

4 Descriptive Analysis of variables of the study

4.1.1 NPL indicators

4.1.1.1 Non performing loan to total loan ratio (NLTTLR)

Table 4.1

NLTTLR (in%)						Total Mean
Year	ADBL	NIBL	GIBL	EBL	NIC	
2070	10.65	0.67	0.82	9.97	0.55	4.532
2071	8.64	0.59	2.52	8.59	0.53	4.174
2072	6.4	1.98	1.53	6.3	1.78	3.598
2073	5.	1.91	1.64	5.8	1.69	3.208
2074	5.33	1.68	2.42	5.42	1.98	3.366
2075	4.53	1.25	2.19	4.60	1.20	2.754
2076	3.85	0.68	1.89	3.2	0.69	2.062
2077	2.97	0.83	1.57	2.6	0.82	1.758
Mean	6.00875	1.19875	1.8225	5.3175	1.115	3.0925
Standard Deviation	2.542628	0.586233	0.566873	2.4964	0.59095573	1.356618
Coefficient of Variation	0.423154	0.89037	0.305554	0.46947	0.51165	0.52004
Combined mean	3.0082					

(Source: Appendix-I)

Table 4.1 shows the Non-performingforming loan to total loan ratio of five commercial banks ofeight consecutiveyears and their mean and standard deviation. The mean valueADBL, NIBL, GIBL, EBL and NIC Asia are 6.00875, 1.19875, 1.8225, 1.155 and 5.3175 respectively and their combined mean ratio of overall five banks is 3.0082. The overall mean of NLTTER isin satisfactory level, in whichthe ratio of Agricultural development bank is higher than in other fourbanks. Which has contributing more to overall ratio of banksperformance, should be managed properly.

Similarly, the variations in the ratio of ADBL, NIBL, GIBL, NIC, EBL are 0.556873, 0.586233, 0.556873, 0.59095573 and 2.496412 respectively. Though it shows greater fluctuation in NPL ratio of agriculturaldevelopment bank, it is slightly decreasing each year. Higher ratio shows less management of bad loans or under control of credit management system and vice versa.

Figure 4.1

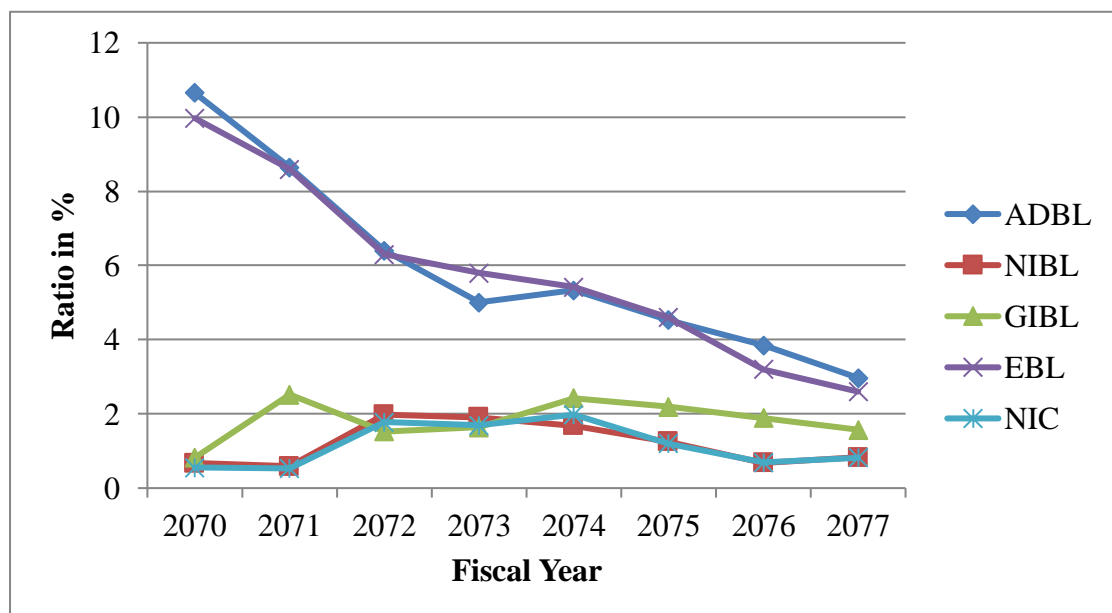


Figure 4.1 indicates that the NLTTLR of ADBL and GIBL is decreasing trend whereas EBL has possibility to increase the ratio in next year. So due to consequently decreasing level of NPL ratio of ADBL it has contributing to overall declining levelof ratio.

Initially, the ADBL has high level of NLTTLR but its gradually decreasing level ofhas Initially shown its progressive performance of increasing its assets qualityand

NIBL bank has initially low level of NPL ratio but predicted to be increasing in its ratio whereas by analyzing GIBL pattern line we can see that there is still decreasing in its ratio.

We can conclude that the overall performance by analyzing the trend regarding total mean of NPL ratio it is found to be in satisfactory level due to decreasing trend than it was in initial period.

4.1.1.2 Total Loan to Total Assets Ratio (TLTTAR)

Table 4.2

TLTTAR (in%)						Total Mean
Year	ADBL	NIBL	GIBL	EBL	NIC	
2070	73.3	70.7	71	72.63	72.42	72.01
2071	68.15	70.81	71.3	69.847	67.22	69.4654
2072	65.54	64.01	66.7	66.68	64.55	65.496
2073	71.233	64.07	69.2	72.23	7.21	56.7886
2074	70.6	61.017	71.7	71.87	69.21	68.8794
2075	77.52	63.97	72.6	78.92	67.52	72.106
2076	74.62	66.25	69.4	76.98	71.62	71.774
2077	73.1	69.8	69.32	74.34	72.58	71.828
Mean	71.75788	66.32838	70.1525	72.94	61.36	68.50775
Standard Deviation	3.758195	3.693665	1.871071	3.8614007	2.87	3.210866
Coefficient of Variation	0.052373	0.05568	0.026671	0.059239	2.0403	0.446853
Combined mean	70.10974					

(Source: Appendix-I)

Table 4.2 shows the TLTTAR of five commercial banks and their mean ratio of eight years. In which we can see the mean, standard deviation, coefficient of variation and

combined mean of the ratio. The average mean ratio of ADBL, NIBL, GIBL, EBL and NIC Asia are 71.75788, 66.3284, 70.1525, 72.94 and 69.36995 respectively, where EBL has highest TLTTAR among all, GIBL is also in the more or less same ratio as EBL, which indicates that these four banks are investing in risky portfolio more than NIBL, so that have the possibility of lower liquidity and higher profitability due to taking higher risks if managed properly.

Combined mean of all five banks are 70.10974 which is more than 50% of the investment is in the loan portfolio of the total assets, and overall standard deviation and coefficient of variation are 2.1303662 and 0.0306912 respectively. Overall performance of those banks is good that seems like they kept balance in risk and return trade-off while investing in assets portfolio.

Similarly, the standard deviation and coefficient of variation of ADBL, NIBL, GIBL, EBL and NIC Asia are 3.758195, 3.693665, 1.871071, 3.8624007 and 28793638 respectively, which indicates higher fluctuation in ratio of ADBL and NIBL than GIBL. It seems to be stable in investment in loan portfolio.

Figure 4.2

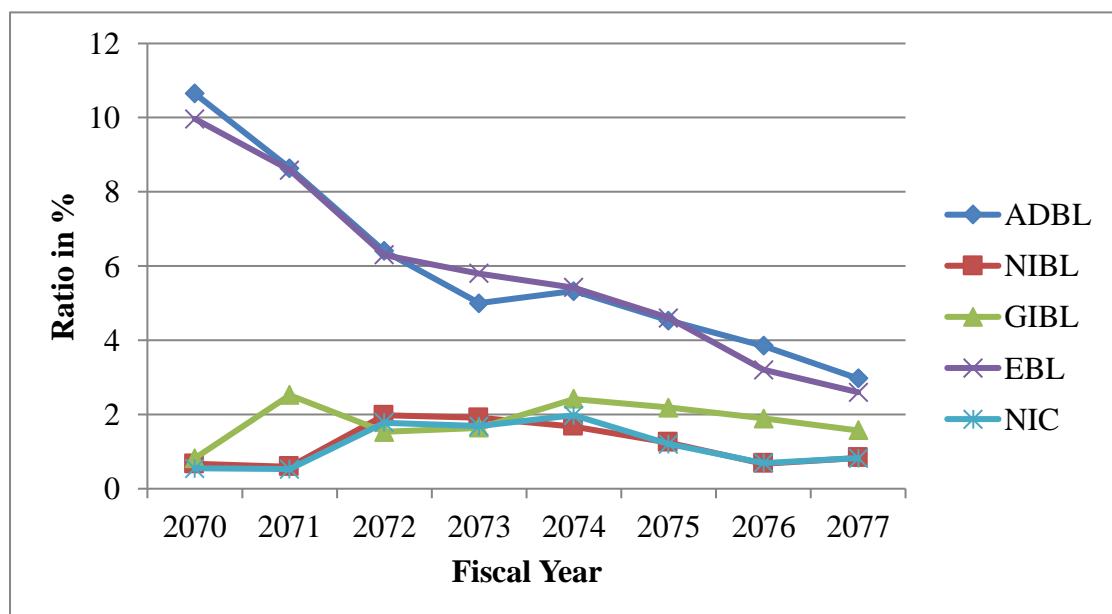


Figure 4.2 shows about the pattern line of TLTTAR of the commercial banks and their mean ratio. In which the ratio of ADBL and GIBL is predicted to be decline in future or next year where as NIBL shows increasing trend of total loan investment

portfolio. So there is possibility of lowering the provision to be set aside in coming years.

In 2076, the ADBL's ratio is greater than others and other four banks are in the same range. In 2075, it was at the peak level of ADBL amongst all banks than in any year. By analyzing above pattern line, there is low level of TLTTAR of NIBL for each of the year than other four banks. The total mean ratio of the TLTTAR also goes with the same ratio as NIBL do. There is might be need to increase the total loan investment for better performance of the bank.

4.1.1.3 Provision for Loan Loss Coverage Ratio

Table 4.3

PLLCR (in%)						Total Mean
Year	ADBL	NIBL	GIBL	EBL	NIC	
2070	64.69	75	34	69.43	68.88	62.4
2071	78.5	92.2	87.69	92.62	91.62	88.526
2072	104.7	45.16	74	48.48	46.83	63.834
2073	70.4	54.13	86.61	56.38	55.66	64.636
2074	57.1	82.36	73.87	81.62	81.38	75.266
2075	59.5	89	68.54	71.32	68.67	71.406
2076	69.52	96.43	82.42	94.43	96.43	87.846
2077	90.86	68.98	77.45	90.21	69.32	79.364
Mean	74.40875	75.4075	72.94813	75.56124	72.875	74.24012
Standard Deviation	16.30613	18.38536	17.16333	17.13982	17.05846	17.21062
Coefficient of Variation	0.219143	0.243813	0.235281	0.226	0.23497	0.231841
Combined mean	74.184875					

(Source: Appendix-I)

Table 4.3 shows the provision for loan loss coverage ratio of five commercial banks and their mean ratio of eight years. Mean, standard deviation, coefficient of variation and combined mean. The mean ratio of ADBL, NIBL, GIBL, EBL and NIC Asia are 74.40875, 75.4075, 72.94813, 75.52125 and 72.59875 respectively. EBL has highest level of coverage ratio than other four banks.

The overall mean is 74.184875 indicates that overall coverage of bad loan is 74.2555 percent of total gross NPL. Similarly, standard deviation and coefficient of variations are 16.30613, 18.38536, 17.16333, 0.2191, 0.240, 0.235 respectively, explains the fluctuation in provision to be kept for coverage of loan loss with highest variation of NIBL.

The overall per unit variation in PLLCR is minimum at 0.2318 which represents consistency of coverage amount for the uncertain loss. So that the quality of assets can be maintain also at the time of suffering from bad loans, it will protect bank performance from bankruptcy situation.

Figure 4.3

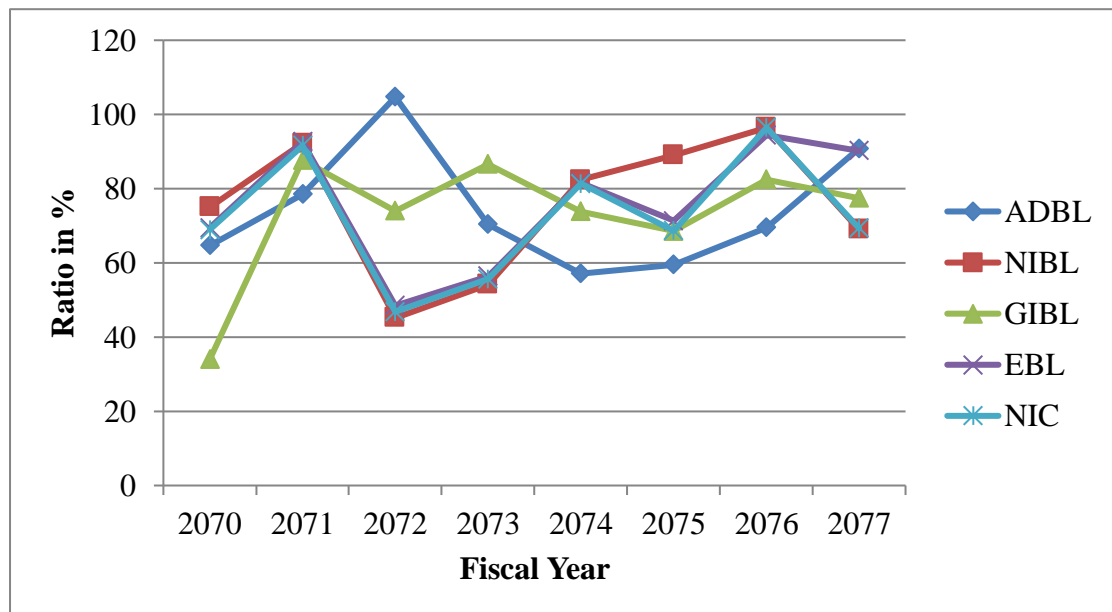


Figure 4.3 clearly depicts the pattern lines of five banks and its total average. The coverage ratio of ADBL is in increasing trend that shows better assets quality of the bank. It is predicted to be increase in next year while other four banks provision coverage ratio is in decreasing trend that may have contribute to decrease in overall

ratio. GIBL has exhibiting lowest PLLCR ratio amongst five banks is year 2070 and NIBL has highest one in 2072 of ADBL year.

But as the principle rule regarding provision for loan loss coverage ratio. Higher PLLCR of the bank at the current year indicates possibility of lower coverage in coming years, and vice versa because of its sufficient reserve for the future loan loss. So the coverage ratio of ADBL is predicted to be decrease in next coming years while other four banks NIBL, GIBL, EBL and NIC can be predicted to be increase in coming years. The coverage ratio of overall banks is also in the decreasing trend. It is also predicted to be increasing in future.

4.1.2 Profitability Indicators

4.1.2.1 Return on Equity

Table 4.4

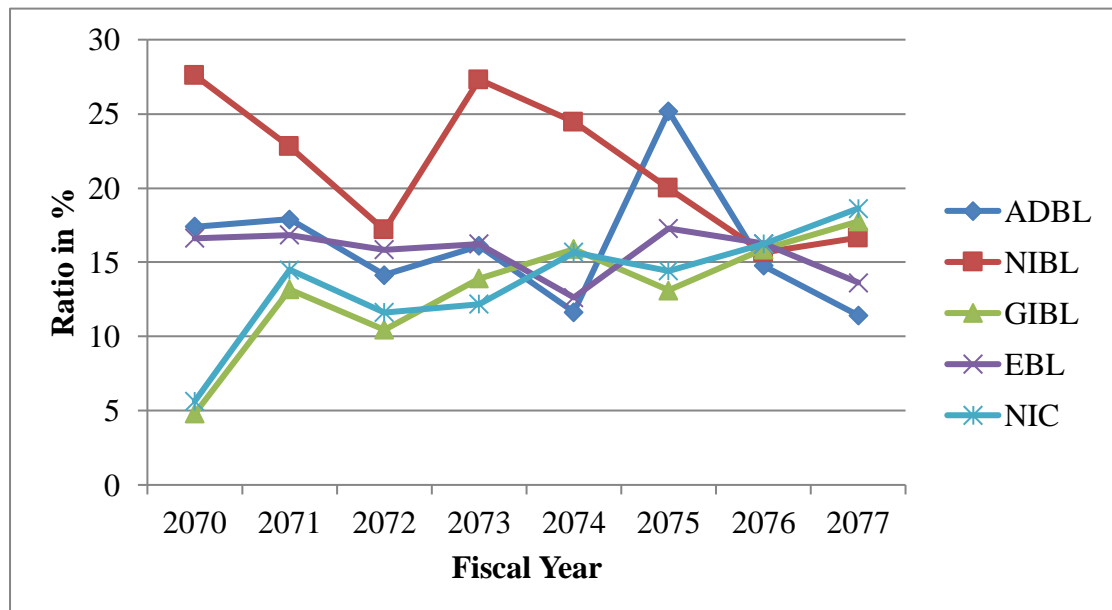
ROE (in%)						Total Mean
Year	ADBL	NIBL	GIBL	EBL	NIC	
2070	17.4	27.6	4.8	16.63	5.64	14.414
2071	17.9	22.8	13.17	16.83	14.48	17.036
2072	14.145	17.18	10.46	15.84	11.63	13.851
2073	16.1	27.3	13.9	16.24	12.18	17.144
2074	11.64	24.45	15.9	12.63	15.68	16.06
2075	25.18	20	13.12	17.28	14.43	18.002
2076	14.78	15.66	15.87	16.25	16.23	15.758
2077	11.43	16.65	17.75	13.63	18.63	15.618
Mean	16.07188	21.455	13.12125	15.661249	13.6125	15.98438
Standard Deviation	4.38561	4.777429	4.029121	1.6449136	3.914536	3.750322
Coefficient of Variation	0.272875	0.222672	0.307068	0.105031	2.28757	0.639043
Combined mean	15.989375					

(Source: Appendix-II)

Table 4.4 exhibits percentage of ROE of eight years of five commercial banks with their total average with mean, standard deviation and coefficient of variation. We can see in the table that mean value of ROE of ADBL, NIBL, GIB, EBL and NIC Asia are 16.07188, 21.455, 13.12125, 15.661249 and 13.6125 respectively. In which NIBL has relatively higher ROE than any four banks which has contributes more to total ROE mean. It may be because of lower ratio of NLTTLR or NPL ratio that was shown in table 4.1. Due to lower NPL ratio it might be been able to generate higher interest income than other four banks.

Similarly, standard deviation and coefficient variation of ADBL, NIBL, GIBL, EBL and NIC Asia overall banks are 4.3856, 4.7774, 4.029121, 1.9366462, 1.64491 and 1.914536 respectively. Which indicates higher risk of fluctuation in ROE value of NIBL is higher than other four. So it might be like that because high proportion of investment is made in other risky securities and assets other than loan because loan investment is made in other risky securities and assets other than loan because loan investment is seems to be lower than other four which we can see the evidence in above table 4.2.

Figure 4.4



Above figure 4.4 exhibits the pattern line of ROE five commercial banks. The total line of EBL can be predicted to be decline in next year whereas line of NIBL and GIBL and NIC is going to be upward in coming years. ROE of ADBL has reached at

the top level during year 2075 and at the lowest level during 2070 of GIBL than any other four banks. Though ROE of GIBL is starts from lower level than others, it has making progressive performance from the year 2071.

In year 2070, ROE of GIBL is less than other four banks and GIBL's ROE is maximum than others. 2077 at the peak point than any years among the banks.

The overall ROE the banks is also in the decreasing trend.

4.1.2.2 Return on assets

Table 4.5

Year	ROA(in%)					Total Mean
	ADBL	NIBL	GIBL	EBL	NIC	
2070	3.5	2.19	0.42	2.64	2.69	2.288
2071	4	2	1.25	3.24	3.84	2.866
2072	2.67	1.55	0.85	1.68	1.86	1.722
2073	2.97	2.62	1.15	2.18	1.96	2.176
2074	1.718	2.21	1.62	1.23	1.68	1.6916
2075	3.57	1.86	1.39	2.68	2.68	2.436
2076	2.205	1.94	1.58	2.38	1.98	2.017
2077	2.022	2.04	1.72	2.68	1.68	2.0284
Mean	2.831875	2.05125	1.2475	2.33875	2.29625	2.153125
Standard Deviation	0.818588	0.309582	0.4383655	0.635339	6.7414699	1.788669
Coefficient of Variation	0.289062	0.150924	0.3513952	0.771682	0.3229021	0.377193
Combined mean	2.153125					

(Source: Appendix-II)

Table 4.5 depicts the profitability indicator ROA of five commercial banks in eight years. The mean, standard deviation and coefficient of variation of ROA of ADBL, NIBL, GIB, EBL and NIC Asia overall banks in the table exhibits that mean of ROA

are 2.8319, 2.0523, 1.2475, 2.33875 and 2.29625 respectively. In which, ADBL has highest and GIBL has lowest mean value among four. From which it can be said that the ADBL is able to make higher return to its assets by optimum utilization of the asset that contributes more to the combined mean of ROA.

The standard deviation of ROA of the banks are 0.8196, 0.3096 and 0.4384 respectively from which we can analyze that ADBL has higher risk associated with the ROA and NIBL has lowest one, but if we analyze the per unit risk of the banks, they are 0.2891, 0.1509 and 0.3514 respectively. In which GIBL has highest coefficient of variation than other four, but overall standard deviation and coefficient of variation of the banks is minimum than any five individually.

So if there analyze the Nepalese commercial banks through these samples performance, it can conclude that there is satisfactory performance in relation to ROA that is having less risk associated with it.

Figure 4.5

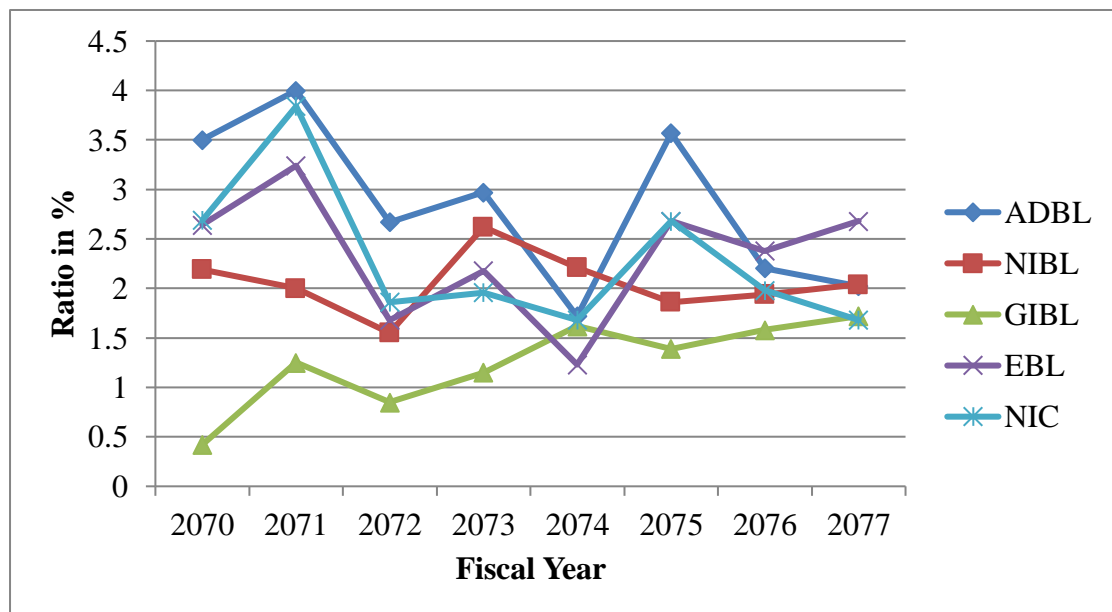


Figure 4.5 shows the pattern line the banks ADBL, NIBL, GIBL, EBL and NIC its total. In which we can see that though the average ROA of ADBL is maximum than other four banks, it can be predicted to be decline in coming year.

ADBL's ROA is reached at the top level during 2071 that is also maximum value amongst all during eight years. By analyzing each banks pattern line, among all ADBL's ROA is minimum in each year except in the year 2071.

Whereas in case of NIBL, GIBL and EBL, it is in the progressive trend so as the pattern line of NIBL too and ROA of ADBL and NIC is in decreasing trend. It needs to increases in coming year.

4.1.2.3-Profit margin ratio

Table 4.6

Year	Profitability (in%)					Total Mean
	ADBL	NIBL	GIBL	EBL	NIC	
2070	43.3	46.288	10.92	36.89	26.62	32.8036
2071	51.8	41.525	26.19	42.62	25.63	37.553
2072	38.4	35.72	28.97	41.62	27.63	34.468
2073	42.74	47.9	24.4	37.63	34.68	37.47
2074	37.84	46.8	41.053	37.63	41.35	40.9346
2075	54.1	47	30.31	35.63	33.29	40.066
2076	33.2	47.16	35.029	36.83	36.38	37.7198
2077	31.34	47.14	42.34	32.63	45.63	39.816
Mean	40.34	44.94163	29.9015	37.685	33.94213	37.36205
Standard Deviation	9.465607	4.221051	10.076402	3.184413	7.180616	6.825618
Coefficient of Variation	0.234646	0.093923	0.3369865	0.08450051	0.21180975	0.192373
Combined mean	37.35387					

(Source: Appendix-II)

Table 4.6 represents the PMR of the five commercial banks with their mean, standard deviation and coefficient of variation and its overall value. The mean value of ADBL,

NIBL, GIBL, EBL and NIC Asia its overall value are 40.34, 44.942, 29.9015, 37.685 and 45.633 respectively. In which NIBL has highest PMR average than other two banks, from which we can say that it has been able to earn more income in the four of interest or non-interest income.

Similarly, the standard deviations of those five commercial banks are 9.46561, 3.1844, 3.1844 and 7.180616 respectively with overall standard deviation of 6.825618. So the higher fluctuation in PMR ratio is of GIBL. That has more variation in return than others four and lowest one is belongs to NIBL and overall risk is minimum than any individual.

NIBL is showing its better performance regarding PMR because of lowest standard deviation and highest average PMR amongst all, where-as GIBL can be regarded as worst performer regarding PMR due to highest standard deviation and lowest average value.

Figure 4.6

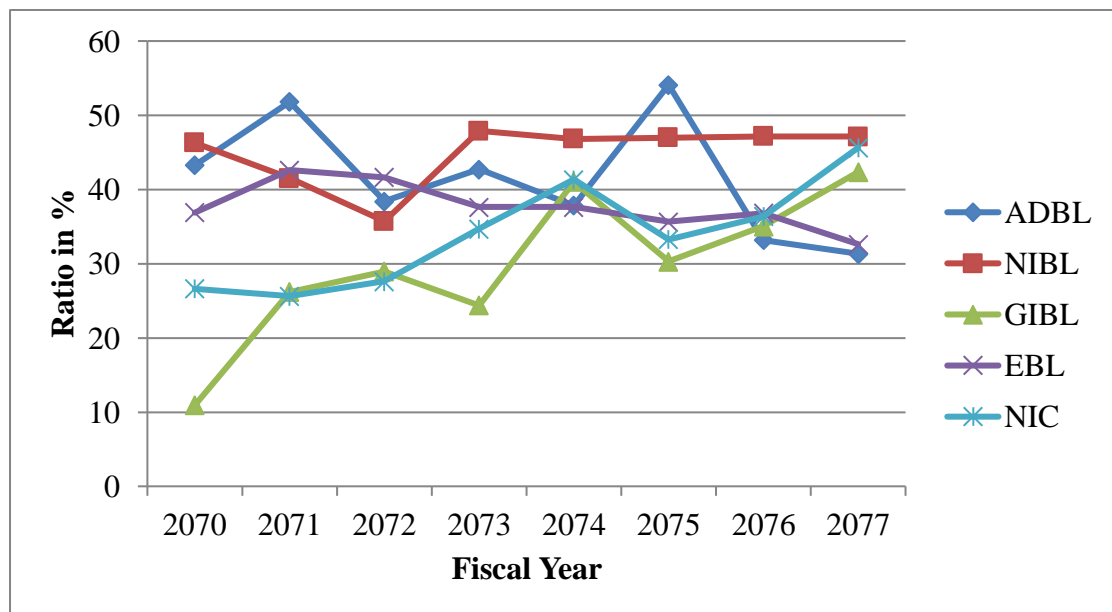


Figure 4.6 depicts the pattern line of PMR selected commercial banks and overall trend. By analyzing it we can see here the trend of ADBL can be predicted to decline from the year 2076 after reaching to the top level in year 2075.

GIBLs trend is going to be increase in coming years. Though its average value was starts from very minimum level, its future performance is going to be bright in this context.

Similarly, NIBLs trend is creating stability in its own level and at the peak level in 2073 and 2074 than others. In 2074 PMR of ADBL is minimum than other four banks. Overall pattern line of banks is also exhibiting progressive feature in coming year.

4.1.3 Contribution of NPL, PLL, TL and NP of the sample banks by figures

Figures shows the contribution of each bank in total amount variables of five commercial banks in which total value is represented by 100% where the year starting from 2070 to 2077 is represented by Ito 8 at the bottom of the cylindrical chart.

4.1.3.1 Non performing loan Asset

Figure 4.7

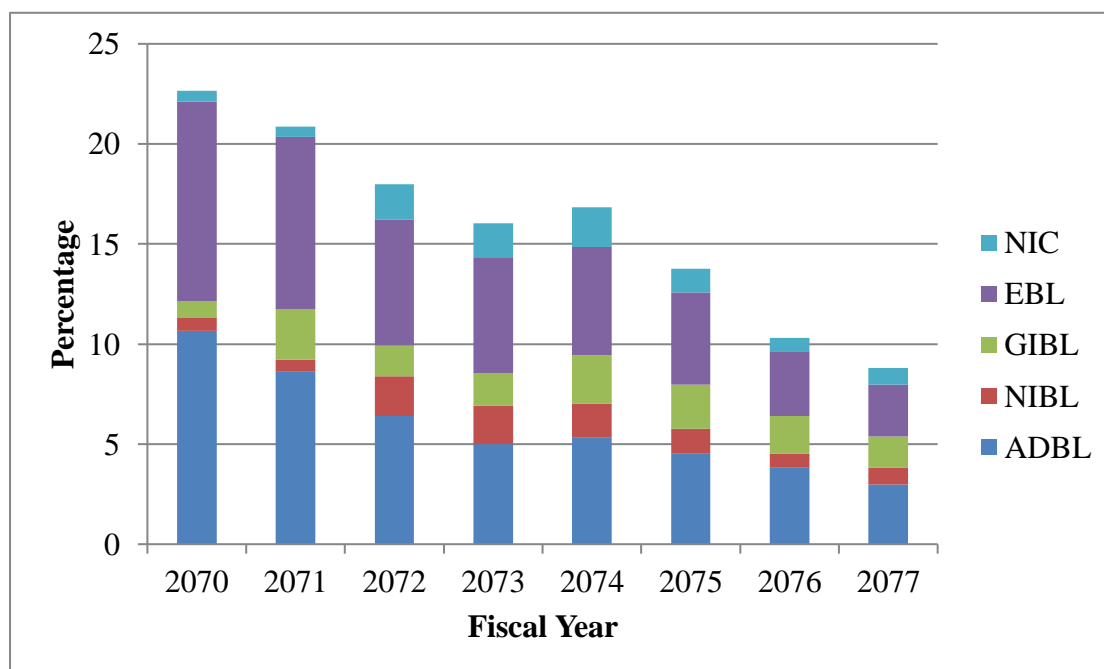


Figure 4.7 indicates the individual contribution of the individual banks in NPL during each year. Above figure 4.7 shows that five is high contribution of ADBL in 2067 and followed by NIBL and GIBL consequently. In almost all year, ADBL's amount of NPL is higher than other. But we can see that it is gradually decreasing from year to year. So it is performing better in management of NPL. While GIBL's NPL is

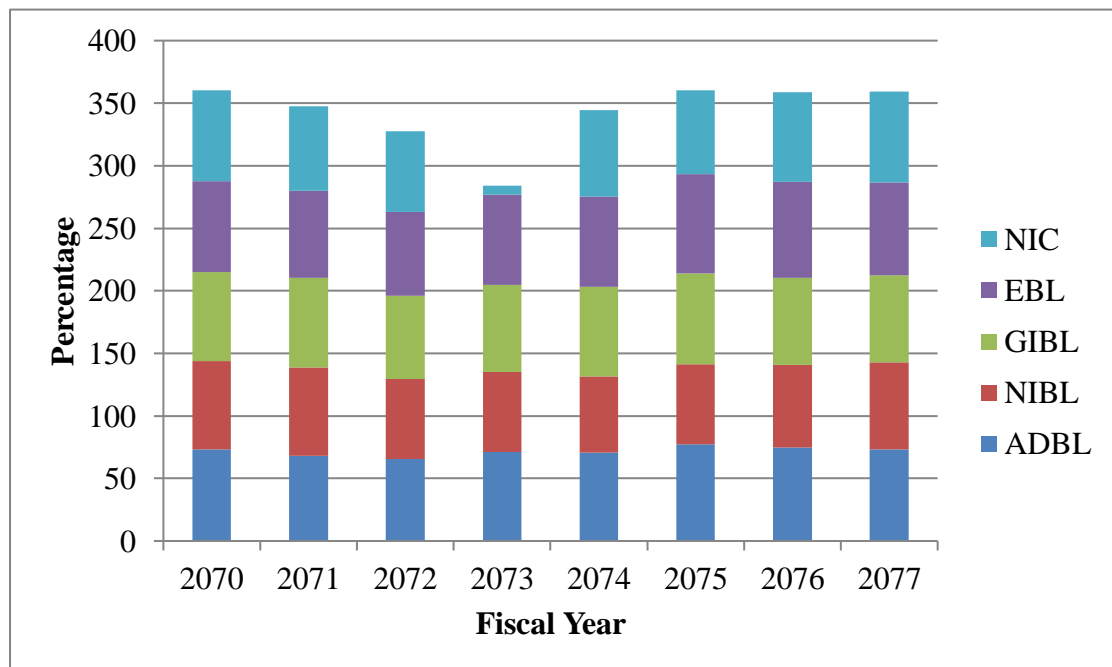
gradually increasing from the base year and NIBL has fluctuation in its proportion to the total NPL of five.

It can be said that in the context of NPL reduction, ADBL is doing better performance though its contribution is higher than other five banks and by analyzing the proportion trend of GIBL, NIBL, EBL and NIC Asia there is need to create awareness control NPL level in order to timely management of quality of assess of the bank.

By analyzing the contribution of the individual banks in the non-performing loan as a whole, we can see that there is high level of contribution of ADBL to this NPL. Though it is managing its NPL to lower level than initial period still there is need to improve for reducing NPL

4.1.3.2 Provision for loan loss

Figure 4.8



Above figure shows the proportion of PLLCR is more or less similar as the proportion NPL. This is because higher the NPL, higher should the banks have to manage their provision for coverage of the loan loss.

ADBL making stable provision since 2071 and NPL has decline in year 2074 it has increase its provision for upgrading its assets quality and liquidity to manage the future

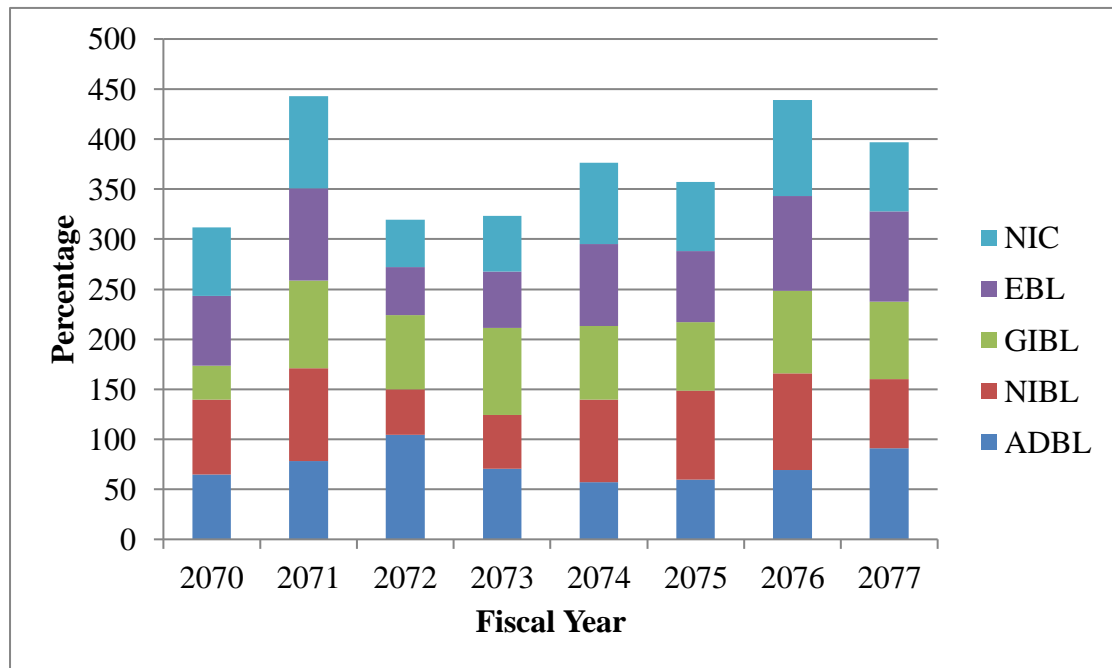
uncertainty without hindering its performance. So in future it might decrease the level of provision.

GIBL are in more or less equal proportion of change from year to year as in the NPL. But NIBL has making less proportion of provision in than it has a proportion of NPL in 2074. It may increase the level of provision in 2077.

By analyzing this figure, there is higher proportion of provision' for loan loss of an ADBL than other four banks in each of the eight years consequently.

4.1.3.3 Total loan

Figure 4.9



In above figure, the total loan amount of GIBL and its proportion to the total is gradually declining from base year to the current year. In year 2074, the highest contribution in loan is from the NIBL and lowest one is from the side of GIBL. Since, from the base year, ADBL's investment on loan is decreasing the percentage of contribution on total of five banks and so is the condition of NIBL too.

GIBL is able to increase the loan investment from the base year, which is progressive one. Though it has less contribution as comparing to others its individual performanceregarding loan investment is appreciable.

The portfolio of the loan investment by the banks differs upon bank to bank. So it can't predict that higher loan investment will provide higher profitability to the bank. But it depends upon the management of credit by the banks, whether or not it will render the return to the bank by earning interest income. If the bank can't able to earn interest or becomes non-performing loan then higher proportion of loan will provide negative result to the bank's profitability.

4.1.3.4 Net Income

Figure 4.10
Net Income

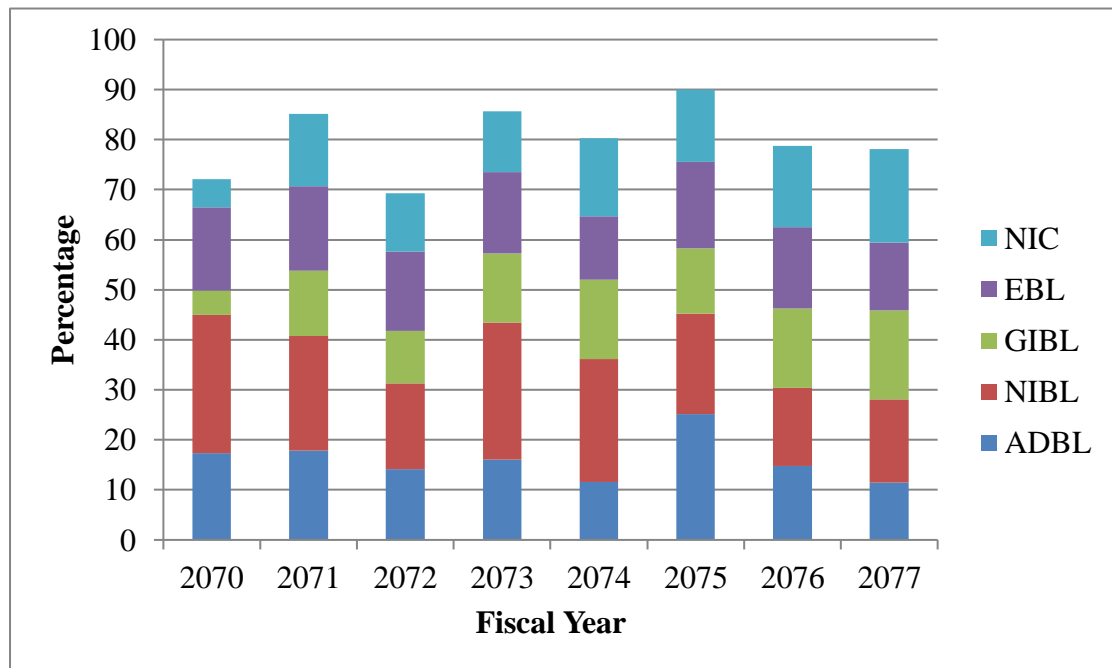


Figure 4.10 presents the net income and its proportion of the five selected commercial banks of eight consecutive years. In which we can see that there is least proportion of net income of GIBL in each year from base year 2067. GIBL has very low level of net income in 2067 where as ADBL has highest proportion till year 2069.

From the year 2070, NIBL is also starting to overcome the dominance of ADBL by making highest net income in 2075 than other four banks. In 2073 and 2074, NIBL has able to earn at the highest level.

Though GIBL has less net income and its proportion in total net income, its stable progressive nature is appreciable that has consequently able to increase the income

level. If we compare figure 4.10 and 4.9, which clear that higher loan investment does not always renders high income level. In year 5 though there is higher loan investment. From ADBL and low from NIBL, the net income proportion shows the opposite result that NIBL is able to earn more than ADBL.

4.2 Co-relational analysis of variables

4.2.1 Simple Correlation between dependent and predictor variables of individual banks

4.2.1.1 ROA and independent variables

Tables show the correlation coefficient and significant value, their remarks and R square. It represents percentage that the dependent variable is affected by the predictors and the remaining percentage is affected by other than those predictors. For the relationships between dependent and independent variables, the quarterly data of seven years have taken for the reliable result.

Table 4.7
ROA and independent variables

ROA and independent variables			
Banks	Independent variables		
	NLTTLR	PLLCR	TLTTAR
ADBL			
R	-0.019	0.129	0.066
R square	0.000361	0.0167	0.004356
sig value	0.925	0.514	0.74
Remarks	Insignificance	Insignificance	Insignificance
NIBL			
R	-0.089	0.001	0.058
R square	0.7921	0.000001	0.003364
sig value	0.654	0.994	0.769
Remarks	Insignificance	Insignificance	Insignificance
GIBL			
R	-0.18	0.35	-0.10
R square	0.0324	0.1225	0.0102
sig value	0.359	0.068	0.608
Remarks	Insignificance	Insignificance	Insignificance
EBL			
R	-0.018	0.125	0.055

R square	0.00021	0.0165	0.0042
sig value	0.920	0.512	0.74
Remarks	Insignificance	Insignificance	Insignificance
NIC Asia	NLTTLR	PLLCR	TLTTAR
R	-0.16	0.35	-0.10
R square	0.325	0.1224	0.0102
sig value	0.354	0.065	0.608
Remarks	Insignificance	Insignificance	Insignificance

Significance level = 0.05 (Source: Appendix-III)

Table 4.7 shows that ADBL has weak negative relationship of ROA with the NLTTLR which has significant value 0.925 which indicates no relationship between the variables. Similarly, ROA and other two independent variables PLLCR and TLTTAR have positive but insignificant relationships with significance value of 0.514 and 0.74 respectively which is more than 0.05 so this indicates no relationship between dependent and independent variables.

The correlation between ROA and the independent variables of NIBL shows the weaknegative relationship of - 0.089 with NLTTLR having insignificant value whereas other two predictor variables PLLCR and TLTTAR has weak positive having insignificant relationship with ROA with significance value of 0.994 and 0.769 respectively.

GIBL has weak negative and insignificant relationship between NLTTLR, PLLCR and TLTTAR with ROA of -0.18, -0.35 and -0.101 respectively. Which indicates that there is no strong relationship between ROA and three independent variables of GIBLbank.

EBL has weak negative and insignificant relationship between NLTTLR, PLLCR and TLTTAR with ROA 0.018, 0.125 and 0.055 respectively which indicate there is no strong relationship between ROA and independent variable of EBL.

NIC asia has weak negative and insignificant relationship between NLTTLR and TLTTAR with ROA -0.16 and -0.10 respectively which indicate that there is no strong relationship between ROA and independent variable of NIC Asia Bank.

4.2.1.2 ROE and independent variables

Table 4.8
ROE and independent variables

ROE and independent variables			
Banks	Independent variables		
ADBL	NLTTLR	PLLCR	TLTTAR
R	0.138	0.228	0-0.034
R square	0.019	0.052	-0.034
sig value	0.428	0.242	0.863
Remarks	Insignificance	Insignificance	Insignificance
NIBL	NLTTLR	PLLCR	TLTTAR
R	0.185	-0.183	-0.172
R square	0.034	0.033	0.30
sig value	0.345	0.35	0.382
Remarks	Insignificance	Insignificance	Insignificance
GIBL	NLTTLR	PLLCR	TLTTAR
R	-0.0197	-0.109	-0.403
R square	0.039	0.012	0.162
sig value	0.314	0.58	0.034
Remarks	Insignificance	Insignificance	Insignificance
EBL	NLTTLR	PLLCR	TLTTAR
R	0.137	0.225	-0.032
R square	0.015	0.054	0.032
sig value	0.462	0.243	0.032
Remarks	Insignificance	Insignificance	Insignificance
NIC Asia	NLTTLR	PLLCR	TLTTAR
R	-0.198	-0.109	-0.403
R square	0.032	0.011	0.160
sig value	0.315	0.48	0.030
Remarks	Insignificance	Insignificance	Insignificance

Significance level = 0.05(Source: Appendix-III)

Table 4.8 has contained the correlation coefficient, significance value between dependent variable ROE and predictors variables NLTTLR, PLLCR and TLTTAR.

ADBL shows the positive but very weak correlation with NLTTLR and PLLCR with ROE having insignificant remarks with significance value of 0.482 and 0.242 respectively and negative correlation coefficient with TLTTAR having insignificant value of 0.863.

In relation to NIBL, there is weak positive relation having insignificant value of correlation of ROE with NLTTLR with significance value of 0.345 and weak negative relation with PLLCR and TLTTAR with significance value of 0.35 and 0.382 respectively.

GIBL shows that there is negative but insignificant relationship of ROE with NLTTLR and PLLCR having significance value of 0.314 and 0.58 respectively but there is negative and significant relationship between ROE and TLTTAR with significance value of 0.034 which is lower than 0.05 and correlation coefficient of -0.403 that shows the negative relationship between return on equity and total assets ratio.

EBL shows that positive but very weak correlation with NLTTLR and PLLCR with ROE having insignificant remarks with significant value of 0.462 and 0.032 respectively. Positive correlation coefficient with TLTTAR having insignificant value of 0.032.

NIC Asia bank show that there is negative insignificant relationship of ROE with NLTTLR and PLLCR having significant value of 0.315 and 0.48 respectively but there is negative and insignificant relationship between ROE and TLTTAR with significance value of 0.030 which is lower than 0.05 and correlation coefficient 0.043 that show the negative relationship between ROE and total assets ratio.

This significant relationship with TLTTAR explains that higher the loan investment lower will be the return on equity. This may happen due to inefficiency occurs in loan management that leads to lower net income because of unnecessary expenses while making an investment.

4.2.1.3 PMR and independent variables

Table 4.9

PMR and independent variables

ROE and independent variables			
Banks	Independent variables		
ADBL	NLTTLR	PLLCR	TLTTAR
R	0.305	0.282	-0.108
R square	0.093	0.0795	0.0117
sig value	0.115	0.146	0.576
Remarks	Insignificance	Insignificance	Insignificance
NIBL	NLTTLR	PLLCR	TLTTAR
R	-0.363	0.493	-0.167
R square	0.132	0.243	0.018
sig value	0.058	0.008	0.394
Remarks	Insignificance	Insignificance	Insignificance
GIBL	NLTTLR	PLLCR	TLTTAR
R	-0.161	0.11	-0.0246
R square	0.026	0.012	0.061
sig value	0.415	0.577	0.208
Remarks	Insignificance	Insignificance	Insignificance
EBL	NLTTLR	PLLCR	TLTTAR
R	0.302	0.242	-0.109
R square	0.092	0.754	0.0112
sig value	0.112	0.142	0.586
Remarks	Insignificance	Insignificance	Insignificance
NIC Asia	NLTTLR	PLLCR	TLTTAR
R	-0.152	0.10	-0.224
R square	0.293	0.011	0.061
sig value	0.114	0.124	0.532
Remarks	Insignificance	Insignificance	Insignificance

Significance level = 0.05(Source: Appendix-III)

Table 4.9 shows the correlation coefficient between dependent variable PMR with the independent variables NLTTLR, PLLCR and TLTTAR of the three commercial

banks. ADBL has insignificant and weak positive relationship of NLTTLR and PLLCR with PMR and weak negative insignificant relation of TLTTAR with PMR.

NIBL has negative relation of NLTTLR with PMR but it is insignificant but the significance value is not so far more, that is 0.058, so we can relate the negative relationship of PMR with NLTTLR and with TLTTAR, there is negative but insignificant relationship. Similarly, it has positive significant relationship of PLLCR with PMR of the bank with correlation coefficient of 0.493 and significant value of 0.008. So we can say that there is positive relationship between those variables, which means that higher the PLLCR higher will be the PMR.

This may happen because high PLLCR will reduce uncertainty and it also increase the assets quality of the bank which leads to the higher goodwill of the bank hence increase the income through customer interest. GIBL has negative but insignificant relationship of PMR with NLTTLR and TLTTAR where as positive but insignificant relationship with PLLCR as shown in the table.

EBL has insignificant and weak positive relationship of NLTTLR, PLLCR with profit margin ratio and negative insignificant relationship of TLTTAR with PMR.

NIC Asia Bank has negative but insignificant relationship of PMR with NLTTLR and TLTTAR, whereas positive but insignificant relationship with PLLCR is shown in the above table.

4.2.2 Overall correlation of five banks

Table 4.10
Overall correlation of five banks

Correlation							
Variables		ROE	ROA	PMR	NLTTLR	PLLCR	TLTAR
ROE	Pearson Correlation	1	0.065				
	Sig. (2-tailed)		0.557				
	N	84	84				
ROA	Pearson Correlation	.065	1				
	Sig. (2-tailed)	.557					

	N	84	84				
PMR	Pearson Correlation	.085	0.017	1			
	Sig. (2-tailed)	.444	.879				
	N	84	84	84			
NLTTLR	Pearson Correlation	-.441	-0.98	.009	1		
	Sig. (2-tailed)	.000	.378	.727			
	N	84	84	84	84		
PLLCR	Pearson Correlation	0.53	.72	-0.66	-.134	1	
	Sig. (2-tailed)	.632	.515	.549	.229		
	N	84	84	84	84	84	
TLTTAR	Pearson Correlation	-.143	-.56	.256	-.289	-.389	
	Sig. (2-tailed)	.193	.614	0.019	.008	.000	
	N	84	84	84	84	84	84

Significance level = 0.05(Source: Appendix-IV)

Table 4.10 is the correlation matrix of the variables between each other that clears us about the relationships exists between the variables, their significance level and the number of cases that are taken from five banks altogether for the study.

Relationship with ROE

There is negative and significant relationship with NLTTLR having correlation coefficient of -0.441 at the significance level of 0 and weak positive insignificant relationship with PLLCR having correlation of 0.053 and significant value of 0.632. Similarly, it shows negative weak relationship with TLTTAR having correlation coefficient of -0.143 and 0.193 of significance level.

Relationship with ROA

There is weak negative and insignificant relationship with NLTTLR and TLTTAR having correlation coefficient of 0.098 and -0.08 and significance level of 0.378 and 0.614 respectively where as insignificant positive relationship with PLLCR having correlation of 0.072 and significance value of 0.515. Relationship with PMR bruti Hbutt. There is weak positive and insignificant relationship of PMR with NLTTLR

having correlation coefficient of 0.039 and significance level of 0.727. Similarly, there is negative insignificant relationship with PLLCR having correlation coefficient of - 0.066 but there is positive and significant relationship of PMR with TLTTAR correlation coefficient of 0.256 and significance level of 0.019, which indicates that higher the TLTTAR higher would be the PMR.

4.3 Multiple Regression Model and Hypothesis testing

4.3.1 Regression model of ROA on NLTTLR, PLLCR and TLTTAR

Table 4.11
Regression model of ROA on NLTTLR, PLLCR and TLTTAR

Model	Coefficient	R square	Overall P value	Individual P value	Cases
Constant	12.608	0.018	0.698	0.502	84
NLTTLR	-0.471			0.334	
PLLCR	0.005			.84	
TLTTAR	-0.147			0.539	

Significance level 0.05 (source: Appendix-V)

Table 4.11 show the multiple regression model of ROA on three independent variables NLTTLR, PLLCR and TLTTAR. The regression coefficient of ROA on NLTTLR, PLLCR and TLTTAR are -0.471, 0.005 and -0.147 respectively which indicates that a unit increase in NLTTLR leads to 0.471 decrease in ROA. 1% increase in PLLCR leads to increase in 0.005% increase in ROA and 1% increase in TLTTAR will leads to 0.147% decrease in ROA.

The R square of 0.018 explains that only 1.8% of variation in ROA is due to the predictors. Remaining percentage variation in ROA is affected by other factors. So the overall significance value is 0.696 which is higher than 0.05 so there is no statistically significant relationship between ROA and independent variables.

Hypothesis testing

Ho = There is no relationship of ROA with NLTTLR, PLLCR and TLTTAR.

H1 = There is significant relationship of ROA with NLTTLR, PLLCR and TLTTAR.

Decision: From the above result of regression analysis, we found that p value is less than 0.05, (0.696 > 0.05). We accept the null hypothesis so there is no relationship of ROA with NLTTLR, PLLCR and TLTTAR.

4.3.2 Regression model of ROE on NLTTLR, PLLCR, TLTTAR

Table 4.12
Regression model of ROE on NLTTLR, PLLCR, TLTTAR

Model	Coefficient	R square	Overall P value	Individual P value	Cases
Constant	52.126	0.297	0	0	84
NLTTLR	-1.66				
PLLCR	0.026				
TLTTAR	-0.498				

Significance level = 0.05 (Source: Appendix- V)

Table 4.12 depicts the multiple- regression Model of ROE on independent variables. The constant value is 52.126 and the regression coefficients of ROE on NLTTLR, PLLCR and TLTTAR are -1.66, -0.026 and -0.498 respectively. Which means 1% increase in NLTTLR has effect of 1.66% decrease in ROE and 1% increase in PLLCR leads to 0.026% decrease in ROE and similarly 1% increase in TLTTAR will also leads to 0.498% decrease in ROE.

R square of 0.297 indicates that the variation in the value of ROE is affected by only 29.7% remaining percentage of variation in ROE is dependent upon other than those factors.

The overall significance or p value of 0 is obviously less than 0.05. Which shows that there is statistically significant relationship between ROE and the predictor variables.

Similarly, the p-value of individual variable ROE are differ from each other which are 0,0.114 and 0.001 of NLTTLR, PLLCR and TLTTAR respectively.

Hypothesis testing H_0 = There is no significant relationship of ROE on NLTTLR, PLLCR and TLTTAR. H_1 = There is significant relationship between ROE on NLTTLR, PLLCR and TLTTAR.

Decision: From above regression analysis and its output we found that there is statistically significant relationship of ROE with NLTTLR because the p-value is 0 which is less than 0.05 so we reject the null hypothesis.

There is no statistical relationship of ROE with PLLCR because there is no statisticevidence to reject null hypothesis because the significance value or p-value of PLLCR is 0.114 which is greater than 0.05. So we accept null hypothesis.

There is significant relationship of ROE with TLTTAR, because the p-value is 0.001 which is less than 0.05. So we accept the alternative hypothesis.

4.3.3 Regression model of PMR on NLTTLR, PLLCR and TLTTAR

Table 4.13
Regression model of PMR on NLTTLR, PLLCR and TLTTAR

Model	Coefficient	R square	Overall P value	Individual P value	Cases
Constant	-5.658	0.085	0.068	0.684	84
NLTTLR	0.446			0.217	
PLLCR	0.013			0.504	
TLTTAR	0.466			0.01	

significance level=0.05 (Source: Appendix-V)

Table 4.13 also exhibits the regression model of PMR on independent variables. In which the constant value is -5.658 and the regression coefficient of PMR on NLTTLR, PLLCR and TLTTAR are 0.446, 0.013 and 0.446 respectively, which means that 1% increase in NLTTLR, there will be 0.446% increase in PMR and 1% increase in PLLCR leads to 0.013% of increase in PMR. Similarly, 1% increase in TLTTAR leadsto 0.466 % increase in PMR.

R square of 0.085 indicates that there is variation caused by the predictor variables on PMR is 8.5% only rest of the variation is caused by other factors other than those variables.

The overall p value of 0.068 indicates that there is no statistical evidence to say that there is relationship between the PMR and independent variables. Because the p value is greater than 0.005. Whereas there is also the p-value of an individual variables that might have statistical proof to relate the relationships. As shown in the table, the p value of PMR on NLTTLR, PLLCR and TLTTAR are 0.217, 0.504 and 0.010 respectively.

Hypothesis testing

Ho= There is no statistically significant relationship between PMR on NLTTLR, PLLCR and TLTTAR.

H = There is statistically significant relationship between PMR on NLTTLR, PLLCR and TLTTAR.

Decision: From the regression analysis of above table 4.13, we can conclude that there is no statistically significant relationship of NLTTLR with PMR because the p value is 0.217 which is higher than 0.05. So we accept null hypothesis. There is also no statistically significant relationship of PLLCR with PMR because the p value is 0.504 which is higher than 0.05, so we again accept the null hypothesis. There is statistical relationship of TLTTAR with PMR. Because the p value is 0.010 which is less than 0.05 so we accept alternative hypothesis and reject null hypothesis.

4.4 Major Findings

(1) This study is able to find out various findings while doing data presentation and analysis. Some of the key findings from the part of data analysis are listed as follows. NLTTLR, the ratio which measures the proportion of non-performing loan out of the total loan. The ratio of ADBL is highest than four banks, which has average ratio of 6.00 but it is in the declining trend. Ratio of NIBL, GIBL and NIC are 1.98, 2.82, 5.32 and 1.5 respectively. And combined average is 3 mean.

(2) TLTTAR of all five banks or combined mean 70.109 and among all five banks it is higher in EBL which is 72.94 TLTTAR of ADBL, NIBL, GIBL, NIC are 71.75, 66.32,

70.15 and 61.36 respectively and standard deviation is also high in EBL than of four banks.

(3) The PLLCR is highest in EBL than other four banks, which is 75.66 and the average of average of EBL, NIBL, GIBL and NIC are 74.40, 75.40, 72.94 and 72.87 respectively combined mean of all bank is 74.18.

(4) The study also reveals the profitability ratios condition of all five banks with their total. The average ROE of NIBL is highest at 21.45 than ADBL, GIBL, EBL and NIC Asia where ADBL has average ROE of 16.07, GIBL has 13.12 and GIBL has the lowest ROE than others. The shareholders in NIBL are able to achieve greater return from their investment.

(5) The average ROA in total or combines average is 2.15 in which ADBL, NIBL, GIBL, EBL, NIC Asia has 2.83, 2.05, 1.24, 2.33 and 2.29 respectively. ADBL has highest and GIBL has lowest ROA. ADBL is able to make highest rupee return on one percentage investment on assets.

(6) The average PMR in total or its combined mean is 37.35. In which ADBL, NIBL, GIBL, EBL and NIC Asia have 40.34, 34.94, 29.90, 37.68 and 33.94 respectively. There is highest average PMR with minimum standard deviation ADBL, NIBL, GIBL, NIC Asia are 9.46, 4.22, 10.07, 7.18 respectively. So it is relevant to say that NIBL is good performer in relation to PMR.

(7) Provision for loan loss amount (PLL) is also in the same ratio of NPL. But ADBL has maintained lower proportion of PLL in year 2074 than NPL and increasing it from 2074 to maintain previous NPL.

(8) Among five banks, the loan of NIBL is higher than other four banks in year 2077 then it is followed by ADBL and GIBL. If we analyze the trend, TL of GIBL is gradually increasing from the base year and TL of ADBL is gradually decreasing from the base year. NIBL has more fluctuating condition of NIBL. Net income of five commercial banks shows that there is gradually increasing the level net income of GIBL while other four banks have irregular net income from year to year.

(9) In ADBL ROA has insignificant relationship with all the variables which has weak negative correlation with NLTTLR of -0.01, weak and negative correlation with PLLCR of 0.12 and weak positive with TLTTAR of 0.06.

(10) In NIBL ROA has insignificant relationship with on the variables which has weak negative correlation with NLTTLR of -0.09 weak and positive correlation with PLLCR of 0.97 and weak positive with TLTTAR of 0.61.

(11) In GIBL ROA has insignificant relationship with all the variables which has negative correlation with NLTTLR if -0.18, weak and negative correlation with PLLCR of -0.35 and weak negative with TLTTAR of -0.107.

(12) In EBL ROA has insignificant relationship with all the variables which has negative correlation with NLTTLR of -0.018 weak and positive correlation with PLLCR of 0.125 are weak positive with TLTTAR of 0.055.

(13) In NIC Asia ROA has insignificant relationship with all the variable which has a negative correlation with NLTTR of -0.16 weak and positive correlation with PLLCR of 0.25 and weak negative with TLTTAR of -0.10.

(14) In ADBL ROE has insignificant relationship with variables which has weak positive correlation with NLTTLR of 0.128 weak and positive correlation with PLLCR of 0.228 and weak negative correlation with TLTTAR of 0.034.

(15) In NIBL, ROE has insignificance relationship with variables which has weak positive correlation with NLTTLR of 0.185 weak and correlation with PLLCR of 0.183 and with negative with TLTTAR of 0.1726.

(16) In GIBL ROE has insignificance relationship with variable which has weak negative correlation with NLTTLR of -0.161 weak and positive correlation with PLLCR of 0.11 and weak negative correlation with TLTTAR of -0.0246.

(17) In EBL ROE has insignificance relationship..... with variable which has weak positive 0.076 correlation with NLTTLR and weak and positive correlation with PLLCR of 0.012 and weak positive with TLTTAR of 0.061.

(18) In NIC Asia bank has insignificance relationship with variable which has weak negative -0.152 correlation with NLTTLR and weak positive correlation with PLLCR of 0.10 and weak negative with TLTTAR of 0.224.

(19) Correlation of all five banks shows the relationship between variables as a whole that clears us about the relationships exists between profitability and NPL.

(20) There is negative and significant relationship of ROE with NLTTLR having correlation of -0.441 and positive insignificant relationship with PLLCR with correlation coefficient of 0.053 and negative insignificant relationship with TLTTAR having correlation coefficient of -0.143

(21) ROA has insignificance correlation with all three variables NLTTLR, PLLCR and TLTTAR which are 0.098, 0.378 and 0.614 respectively.

(22) PMR has positive insignificant relationship correlation with NLTTLR and negative insignificant correlation with PLLCR having 0.039 and -0.066 respectively but it has positive and significant relationship with TLTTAR with correlation of 0.256.

4.4.1 Findings from Hypothesis testing

From regression model I

There is no relationship of NLTTLR, PLLCR and TLTTAR with ROA.

From regression model II

There is negative statistically significant relationship of ROE with NLTTLR and insignificant relationship with PLLCR. Similarly, significant negative relationship with TLTTAR.

From regression Model III

There is statistically significant positive relationship of PMR with TLTTAR but no relation has found with NLTTLR and PLLCR.

Above findings of negatively effect of NLTTLR on ROE is consistent with the findings exerts from the dissertation written by Kavata in 2016 in partial fulfillment of

MBA degree and with the findings of another dissertation written by Hamal in 2016. The significant positive relationship of PLLCR with PMR of NIBL this study is against the result drawn from the article 'impact on profitability of Jordan commercial bank written by Alhabab and Alsahavneh in 2016.

This is because though PLLCR of NIBL is higher, the low level of NLTTLR has able to maintain earning capacity of the bank. There is no literature reviews that have conducted the study taking variable PMR as profitability indicators and TLTTAR as NPL indicators which are used as major variables in this study found some relationships with each other as we can see it above discussion part.

CHAPTER-V

SUMMARY, CONCLUSION AND IMPLICATIONS

This chapter includes summary, conclusion, implications and implications for the further research.

5.1 Summary

Bank and financial institution play an important role in the modern economic of the world. Banks and financial institutions are backbone of the country's economy. Its failure and success will have huge impact on financial as well as economic health of overall sectors of the country. Among four classes of financial institutions that are (A) Commercial banks (B) Development banks (C) Financial institutions (D) Microfinance companies. Among all 'A' class commercial banks perform largest activities than any other financial institutions. The infrastructure bank also play important role of economic development in Nepal.

As other non-financial companies, banks have statement of sources and Uses of the funds is known as balance sheet. Maximum portion of assets side of balance sheet is covered by the loans and advances. Since those loans and advances that becomes due beyond the specific period of time is known as non-performing loan (NPL). Hence it create liquidity crunch and liquidity crisis of bank and financial institution.

The classification of NPL and provision to be maintained for the NPL is differs from country to country as directives issued by the central authority of the concerned countries. In Nepal, its classification and provision for cover the uncertainty associated with NPL is issued by Nepal Rastra Bank's directives. There are five types of loan that are pass loan, watch list loan, substandard loan, doubtful loan and bad loan in which last three category loan are considered as NPL with different loan loss provision to be maintained.

The main purpose of this study is to find out the exact relationship between NPL and profitability over and across the selected commercial banks, for which out of total population of 27 commercial banks, five major banks agricultural development bank (ADBL), Nepal Investment Bank ltd (NIBL) and Global IME bank ltd (GIBL) EBIL,

NIC Asia Bank is taken as sample of which ADBL is public sectors commercial bank and NIBL and GIBL, EBL bank and NIC Asia are private sector commercial bank.

For the study, there are six variables are used that are NLTTLR, PLLCR and TLTTAR and ROA, ROE and PMR. In which first three variables are NPL indicators and second three variables are profitability indicators. The data are used for the study are bothjual and quarterly data. Annual data are used for descriptive statistics of eight-year data from 2070 to 2077. The grounded theory of non- performing loan clears that the higher NPL lower will be the profitability. But it depends upon the management capability of the banks to overcome such a problem if it managed properly it might have less or no effect on the performance of the banks.

The average value of NPL indicators NLTTLR of ADBL, NIBL, GIBL, EBL and NIC are 6.00875, 1.1987, 1.8225, 5.3175 and 1.115 respectively. Since the ADBL shows higher NPL, from the study, there is no effect of NTTLR to the profitability of an individual commercial banks but when all samples combined to know the reliable result, the study found the significantly negative relationship of ROE with the NLTTLR. So yes, NPL reduce the return to the shareholders when it increases. On the other hand, total loan portfolio out of the total assets (TLTTAR) increases the (profitability) PMR when it increases.

The regression model I reveals that there is no significant relationship of ROA with all NPL indicators that all have p-value more than 0.05.

Since, the regression model II show the significant negative relationship of TLTTAR with ROE which has significance value less than 0.05 so that it should be reduced reduce or managed properly.

The regression model III shows the positive significant relationship of PMR with TLTTAR which has p value of 0.01 less than 0.05. but no relationship exists with NLTTLR and PLLCR.

5.2 Conclusions

Commercial banks are the backbone of the economic development of the country which flow the capital from various part of the country to deficit unit as an intermediary and ultimately promote and finance the industries, business,

infrastructures and other welfare of the citizens. It collects the deposits from the surplus customer units and provide to those who are in need. Its service range and scope of activities are in wide range hence able to earn large profit.

The borrowers may or may not have reliable purpose that bankers surely believe the fund is going to be used in productive and regular earning sectors. Some borrowers may misuse the fund, and some may face the situation of bankruptcy though their intentions are not bad. Anyway the fund borrowed by the clients ceases to bring timely interest and principal to the bank stops cash inflows is known as non-performing loans (NPL) which is not good for banks performance efficiency. The problem should be minimized by the banks at the initial stage.

The study also reveals that in Nepal, NPL has negatively effect on the profitability indicators. So it will reduce investors interest towards the bank may reduce the goodwill of the banks. The bankers should be aware in time before it becomes a serious phenomenon for ruin the liquidity position and adverse effect on the profitability more than it. The remedial actions from the side of banks are mentioned as follows.

The profitability ratio of ADBL is not in good condition so there need to create awareness to the public sectors banks because of its decreasing trend of ratios.

(1) Regular collection of credit information from credit information department and borrower also provide awareness for taking a corrective action.

Lastly, even if the NPL has occurred in bank, it should be managed properly by keeping sufficient level of provision to recover its loss to maintain the liquidity at sufficient level.

(2) There is statistically significant negative relationship between ROE and NLTTLR and statistically significant positive relationship of PMR with TLTTAR.

(3) The relationship of non-performing loan with profitability is negative. Higher the non-performing loan (NLTTLR) lower will be the ROE represents profitability ratio. Higher NPL ceases the interest earning to the bank and hence decrease net income and retained earning leads to the decrease in return to shareholder equity.

(4) From all regression models, there is no relationship of PLLCR with the profitability ratios but the correlation analysis of individual banks reveals that GIBL has positive relationship of PLLCR with PMR.

(5) There is positive relationship of loan and advances with PMR that is revealed by TLTTAR has significant positive relationship with PMR. Similarly, loans and advances negatively effect on ROE of the commercial banks. The loan and advances that invests in unproductive sectors can't generate satisfactory return that might also increase loan default.

5.3 Implications

(1) As the study reveals the higher NLTTLR ratio of ADBL, though it has no impact on its profitability individually, it should be timely managed or control to avert the situation of liquidity crunch.

(2) The negative impact of TLTTAR in GIBL on ROA demand for the efficient loan portfolio or productive loan composition that ensures best return to assets.

(3) Since it was found by combining all samples data in one that overall impact of NLTTLR has negative effect on ROE. So all the banks should be considered toward reducing the NPL ratio.

(4) The bank managers have to be more aware to perceive shareholders wealth maximization goal rather than profit maximization goal to maximize the quality of benefit by granting loan to the worthy borrower to serve best interest of the shareholders.

5.4 Implications for further study

The various techniques emerging to control the level of NPL in these days make the author of this study curious to know the existing situation of NPL, its trend in commercial banks and its effect. So the study is conducted on this topic.

Hence the study contains only numerical secondary data to analyze quantitative factors to know whether or not it has effect on the profitability of the banks.

Forthcoming researcher can work on following qualitative and quantitative areas related to this topic.

- (1) They can study on the qualitative factors like determinants of NPL.
- (2) They can also conduct their study in another quantitative factor like effect of NPL.
- (3) Another area of study would be effect of NPL on liquidity and profitability.
- (4) Future researcher can also study on the best solution alternatives to minimize nonperforming loan.
- (5) The assets quality of ADBL is not good as compared to NIBL, GIBL, EBL and NIC Asia Bank as existence of high amount of NPA. Therefore, it would be better to investing on productive assets rather than unproductive assets.

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Appendix - I
NLTTR, PLLCR and TLTAAR(in%)

Year	NLTTR					PLLCR					TLTAAR				
	ADBL	NIBL	GIBL	EBL	NIC	ADBL	NIBL	GIBL	EBL	NIC	ADBL	NIBL	GIBL	EBL	NIC
2070/71	10.65	0.67	0.82	9.97	0.55	64.69	75	34	69.43	68.88	73.3	70.7	71	72.63	72.42
2071/72	8.64	0.59	2.52	8.59	0.53	78.5	92.2	87.69	92.62	91.62	68.15	70.81	71.3	69.847	67.22
2072/73	6.4	1.98	1.53	6.3	1.78	104.7	45.16	74	48.48	46.83	65.54	64.01	66.7	66.68	64.55
2073/74	5.	1.91	1.64	5.8	1.69	70.4	54.13	86.61	56.38	55.66	71.233	64.07	69.2	72.23	7.21
2074/75	5.33	1.68	2.42	5.42	1.98	57.1	82.36	73.87	81.62	81.38	70.6	61.017	71.7	71.87	69.21
2075/76	4.53	1.25	2.19	4.60	1.20	59.5	89	68.54	71.32	68.67	77.52	63.97	72.6	78.92	67.52
2076/77	3.85	0.68	1.89	3.2	0.69	69.52	96.43	82.42	94.43	96.43	74.62	66.25	69.4	76.98	71.62
2077/78	2.97	0.83	1.57	2.6	0.82	90.86	68.98	77.45	90.21	69.32	73.1	69.8	69.32	74.34	72.58

Source: Annual Report of Representative Bank.

Appendix - II
ROE, ROA and PMR (in%)

Year	ROE					ROA					PMR				
	ADBL	NIBL	GIBL	EBL	NIC	ADBL	NIBL	GIBL	EBL	NIC	ADBL	NIBL	GIBL	EBL	NIC
2070/71	17.4	27.6	4.8	16.63	5.64	3.5	2.19	0.42	2.64	2.69	43.3	46.288	10.92	36.89	26.62
2071/72	17.9	22.8	13.17	16.83	14.48	4	2	1.25	3.24	3.84	51.8	41.525	26.19	42.62	25.63
2072/73	14.145	17.18	10.46	15.84	11.63	2.67	1.55	0.85	1.68	1.86	38.4	35.72	28.97	41.62	27.63
2073/74	16.1	27.3	13.9	16.24	12.18	2.97	2.62	1.15	2.18	1.96	42.74	47.9	24.4	37.63	34.68
2074/75	11.64	24.45	15.9	12.63	15.68	1.718	2.21	1.62	1.23	1.68	37.84	46.8	41.053	37.63	41.35
2075/76	25.18	20	13.12	17.28	14.43	3.57	1.86	1.39	2.68	2.68	54.1	47	30.31	35.63	33.29
2076/77	14.78	15.66	15.87	16.25	16.23	2.205	1.94	1.58	2.38	1.98	33.2	47.16	35.029	36.83	36.38
2077/78	11.43	16.65	17.75	13.63	18.63	2.022	2.04	1.72	2.68	1.68	31.34	47.14	42.34	32.63	45.63

Source: Annual Report of Representative Bank.

Appendix III
ROA, ROE, PMRand independent variables

(a) ROA and independent variables

ROA and independent variables			
Banks	Independent variables		
ADBL	NLTTLR	PLLCR	TLTTAR
R	-0.019	0.129	0.066
R square	0.000361	0.0167	0.004356
sig value	0.925	0.514	0.74
Remarks	Insignificance	Insignificance	Insignificance
NIBL	NLTTLR	PLLCR	TLTTAR
R	-0.089	0.001	0.058
R square	0.7921	0.000001	0.003364
sig value	0.654	0.994	0.769
Remarks	Insignificance	Insignificance	Insignificance
GIBL	NLTTLR	PLLCR	TLTTAR
R	-0.18	0.35	-0.10
R square	0.0324	0.1225	0.0102
sig value	0.359	0.068	0.608
Remarks	Insignificance	Insignificance	Insignificance
EBL	NLTTLR	PLLCR	TLTTAR
R	-0.018	0.125	0.055
R square	0.00021	0.0165	0.0042
sig value	0.920	0.512	0.74
Remarks	Insignificance	Insignificance	Insignificance
NIC Asia	NLTTLR	PLLCR	TLTTAR
R	-0.16	0.35	-0.10
R square	0.325	0.1224	0.0102
sig value	0.354	0.065	0.608
Remarks	Insignificance	Insignificance	Insignificance

(b) ROE and independent variables

ROE and independent variables			
Banks	Independent variables		
ADBL	NLTTLR	PLLCR	TLTTAR
R	0.138	0.228	0-0.034
R square	0.019	0.052	-0.034
sig value	0.428	0.242	0.863
Remarks	Insignificance	Insignificance	Insignificance
NIBL	NLTTLR	PLLCR	TLTTAR
R	0.185	-0.183	-0.172
R square	0.034	0.033	0.30
sig value	0.345	0.35	0.382
Remarks	Insignificance	Insignificance	Insignificance
GIBL	NLTTLR	PLLCR	TLTTAR
R	-0.0197	-0.109	-0.403
R square	0.039	0.012	0.162
sig value	0.314	0.58	0.034
Remarks	Insignificance	Insignificance	Insignificance
EBL	NLTTLR	PLLCR	TLTTAR
R	0.137	0.225	-0.032
R square	0.015	0.054	0.032
sig value	0.462	0.243	0.032
Remarks	Insignificance	Insignificance	Insignificance
NIC Asia	NLTTLR	PLLCR	TLTTAR
R	-0.198	-0.109	-0.403
R square	0.032	0.011	0.160
sig value	0.315	0.48	0.030
Remarks	Insignificance	Insignificance	Insignificance

(c) PMR and independent variables

ROE and independent variables			
Banks	Independent variables		
ADBL	NLTTLR	PLLCR	TLTTAR
R	0.305	0.282	-0.108
R square	0.093	0.0795	0.0117
sig value	0.115	0.146	0.576
Remarks	Insignificance	Insignificance	Insignificance
NIBL	NLTTLR	PLLCR	TLTTAR
R	-0.363	0.493	-0.167
R square	0.132	0.243	0.018
sig value	0.058	0.008	0.394
Remarks	Insignificance	Insignificance	Insignificance
GIBL	NLTTLR	PLLCR	TLTTAR
R	-0.161	0.11	-0.0246
R square	0.026	0.012	0.061
sig value	0.415	0.577	0.208
Remarks	Insignificance	Insignificance	Insignificance
EBL	NLTTLR	PLLCR	TLTTAR
R	0.302	0.242	-0.109
R square	0.092	0.754	0.0112
sig value	0.112	0.142	0.586
Remarks	Insignificance	Insignificance	Insignificance
NIC Asia	NLTTLR	PLLCR	TLTTAR
R	-0.152	0.10	-0.224
R square	0.293	0.011	0.061
sig value	0.114	0.124	0.532
Remarks	Insignificance	Insignificance	Insignificance

Appendix IV
Overall correlation of five banks

Correlation							
Variables		ROE	ROA	PMR	NLTTLR	PLLCR	TLTAR
ROE	Pearson Correlation	1	0.065				
	Sig. (2-tailed)		0.557				
	N	84	84				
ROA	Pearson Correlation	.065	1				
	Sig. (2-tailed)	.557					
	N	84	84				
PMR	Pearson Correlation	.085	0.017	1			
	Sig. (2-tailed)	.444	.879				
	N	84	84	84			
NLTTLR	Pearson Correlation	-.441	-0.98	.009	1		
	Sig. (2-tailed)	.000	.378	.727			
	N	84	84	84	84		
PLLCR	Pearson Correlation	0.53	.72	-0.66	-.134	1	
	Sig. (2-tailed)	.632	-.515	.549	.229		
	N	84	84	84	84	84	
TLTTAR	Pearson Correlation	-.143	-.56	.256	-.289	-.389	
	Sig. (2-tailed)	.193	.614	0.019	.008	.000	
	N	84	84	84	84	84	84

Appendix V

Regression model of ROA, ROE, PMR on NLTTLR, PLLCR and TLTTAR

(a) Regression model of ROA on NLTTLR, PLLCR and TLTTAR

Model	Coefficient	R square	Overall P value	Individual P value	Cases
Constant	12.608	0.018	0.698	0.502	84
NLTTLR	-0.471			0.334	
PLLCR	0.005			.84	
TLTTAR	-0.147			0.539	

(b) Regression model of ROE on NLTTLR, PLLCR, TLTTAR

Model	Coefficient	R square	Overall P value	Individual P value	Cases
Constant	52.126	0.297	0	0	84
NLTTLR	-1.66				
PLLCR	0.026				
TLTTAR	-0.498				

(c) Regression model of PMR on NLTTLR, PLLCR and TLTTAR

Model	Coefficient	R square	Overall P value	Individual P value	Cases
Constant	-5.658	0.085	0.068	0.684	84
NLTTLR	0.446			0.217	
PLLCR	0.013			0.504	
TLTTAR	0.466			0.01	