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 mid July 2019, prescribed by Nepal Rastra Bank on its monthly statistics, there are four categories of BFIs in Nepal and they are (i) 28 class 'A' commercial banks, (ii) 33 class 'B' Development Banks, (iii) 25 class 'C' Finance Companies, (iv) 65 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).

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" (Farlex dictionary, 2012).

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, 2015).

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:

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. The obligor is past due more than 90 days on any material credit obligation to the banking group." The IMF Financial Soundness Indicators (FSIs), 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 (Kumar, 2017). There are two types of non-performing loan. They are gross non- performing loan and net non-performing loan.

Gross NPL 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. 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, NPL is mostly considers while calculating figures because NPL reflects an actual loss to the bank.

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 policy, applying better recovery management, providing training to employees regarding loan faculty, following prescribed guideline of an authoritative body.

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).

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. (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. At the bank's shareholding pattern is as follows.

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.

1.2 Statement of problem

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, (2018) total NPL of whole banking sector is 28.86 billion including public and private sector's bank in fiscal year 2017/18 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 relationship between non-performing loan and profitability of the commercial banks?

(ii) How does the provision for loan loss effect on profitability of the commercial banks?

(iii) What is the relationship between loan and advance on the profitability of the commercial bank?

1.3 Objectives of the Study

The major objective of this study is to assess the impact of non-performing loan on profit of commercial banks. The specific objectives of this research are as follows:

(i) To identify the relationship between non-performing loan and profitability of the commercial banks.

(ii) To examine the effect of loan loss provision on profitability of commercial banks.

(iii) To analyze the effect of loan and advances on profitability of commercial banks.

1.4 Hypothesis

In this study, the hypothesis testing is used to test the significance of the relationship between dependent and independent variables

HH_{00} = There is no relationship of ROA with NLTTLR, PLLCR and TLTTAR.

HH_1 = There is significant relationship of ROA with NLTTLR, PLLCR and TLTTAR.

HH_0 = There is no significant relationship of ROE on NLTTLR, PLLCR and TLTTAR.

HH_1 = There is significant relationship between ROE on NLTTLR, PLLCR and TLTTAR.

HH_0= There is no statistically significant relationship between PMR on NLTTLR, PLLCR and TLTTAR.

HH_1= There is statistically significant relationship between PMR on NLTTLR, PLLCR and TLTTAR.

1.5 Significance of the Study

The study has some theoretical and practical significance to related parties. This study has provided awareness to the commercial banks regarding NPL management.

The research is significant to develop a strategy to reduce the size of NPL and increase profitability. The study is helpful to the new academic researchers to make an analysis of the performance of selected commercial banks in reference to NPL.The research is also useful to the readers to gain a knowledge regarding the effect of NPL indicators on profitability. The research has brought the clear picture to know the current status of NPL of those commercial banks. The study also has renders some present and latest information and facts of the selected commercial banks.

1.6 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 (Global IME bank, Nepal Investment Bank ltd and Agricultural Development Bank ltd) of sample so that the research might not generalized whole population of 28 commercial banks.

ii) 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) Primary data is not in used in this research so that the qualitative aspects cannot be explores from this study.

1.7 Organization of the Study

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

Non- performing loan are loan that is borrowed from an individual, corporation for personal as well as for business use whose interest and principal payment has remained past due for a prescribed period of time for which banks should classify the asset keep a provisional for loan loss as per directives. Loan loss provision kept by the banks will be deducted from the operating income in income statement. So higher the loan loss provision lower will be the bank's net profit.

An asset becomes non-performing when it ceases to generate income for the bank. Earlier an asset was considered as nonperforming loan (NPL) based on the concept of 'Past Due'. A 'non-performing loan' (NPL) was defined as credit in respect of which interest or installment of principal has remained 'past due' for a specific period of time (Reserve bank of India, 2003).

At the most general level, a NPL is a loan where a borrower is not making repayments in accordance with contractual obligations. NPLs are impaired when the amount expected to be repaid falls below the contracted value carried on bank's balance sheet. When this happens, loan loss provisions (LLPs) are made. LLPs are an accounting deduction. This accounting deduction amounts to the difference between

the money borrowers from banks have agreed to repay, and banks' most current estimate of the amount they will actually receive.

But beyond this general definition, the specific criteria for loans to be classed either as 'impaired' or as 'non-performing' vary across jurisdictions and firms, and within firms and across time. As a corollary, the threshold for impairment and provisions is different. This matters because it makes meaningfully comparing the quality of different banks' assets difficult. There are also wider implications. Bad lending is the root of many banking crises. These in turn often induce wider economic contractions (European Central Bank 2013). So under provisioning for loan losses can play a significant role in contributing to the creation of crises. And uncertainty about the definition of non-performance can exacerbate them because it makes it difficult for outsiders to decide whether recapitalization and recovery of the firm can occur (Bholat, Lasta, Markose, Miglionico & Sen, 2016).

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.

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.

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.

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.

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.

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.

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.

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. 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 and for 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 in time.

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.

Masum (2014) had provided the conclusion about some effects of Non-Performing Loan in banking sectors of Bangladesh has derived. He had explained the cyclical nature of NPL that how it occurs and make its effect on bank's performance explained below in detail.

Cyclical nature of NPL which starts from poor economic condition and 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.

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. 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.

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.

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.

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.

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.

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:

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.

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.

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.

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.

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:

Invariably, by the time banks start their efforts to get involved in a revival process, it too late to retrieve the situation- both in terms of rehabilitation of the project and recovery of bank's dues. 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"

Longer the delay in response, grater 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.

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.

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.

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 (Arujo, Lutosa & Dantas, 2018).

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).

An article published in a newspaper 'The Indian Express'," 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).

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:

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.

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.

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.

The negative association of export of the country with NPLs suggests that with the increase in exports, economic activities in the economy will increases, resulting in

income growth of individuals and profits of investors. Thus, individual investors have funds to repay the loans resulting in decline of NPLs.

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.

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.

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:

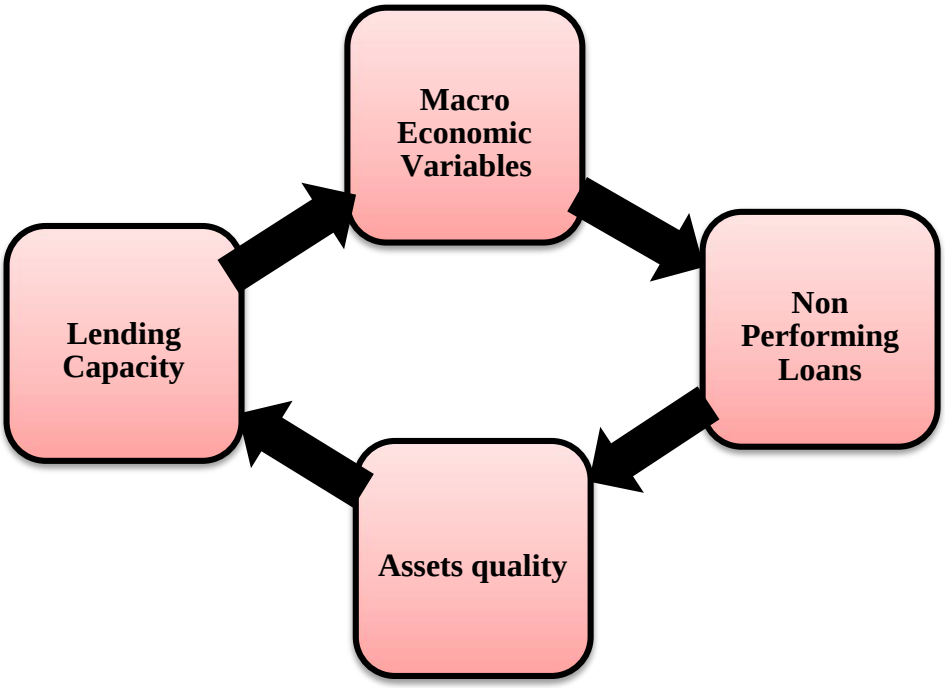
From the point of economics, increase in non-performing loans, negatively effects economic growth by causing to a decrease in loan able funds. That will lead to the contraction in credit flow for the institutional, industrial and corporation borrowers, which will decrease the economic activities and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

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, due to 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:

Inter relationship between macro-economic variables and non-performing loan

Figure 2.1



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 2015 under unified directives 2075, 'A' class banks and financial institutions should have to maintain 6% of Tier I capital ratio and 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, 2015).

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 (Ahmed, 2010).

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 (Pasha & Srivenkataramana, 2014).

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 capital adequacy.

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

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.

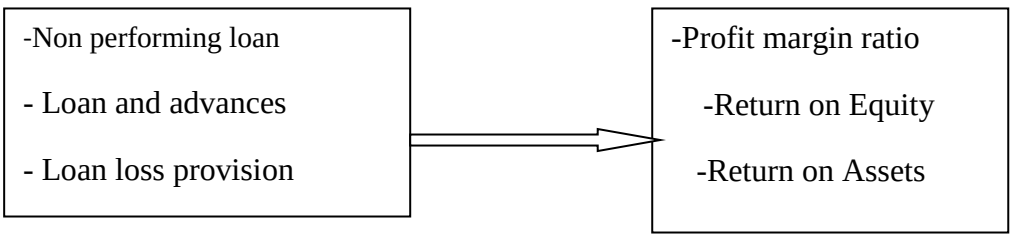
Expected losses (formulated under the product of the probability of defaults times the loss given defaults), are used as a yard stick for banks to measure how the combination of specific provisions and general provisions compares against expected losses.

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.

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.

Conceptual Relationship between Dependent and Independent Variable of this Study is as Follows:

Figure 2.2



Non- performing loan, loan and advances, loan loss provision, profit margin ratio, return on equity and return on assets are significance aspects of conceptual relationship between dependent and independent variable.

NRB has classified loans and advances to be treated as performing or non performing in five categories as per NRB unified directives 2018, 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 one months.

(ii) Watch list loan: - Loans and advances that are become due for one to three months.

(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 month 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 2075 which are as follows :-

Classification of loan

Table 2.1

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%

According to NRB unified directives 2018, 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 2018, the additional provision regarding non-performing 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) If borrower or clients becomes an insolvent.

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

(iii) 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.

(iv) If the project or business of the borrower is not in the operational mode or there is the possibility of ceases to operation.

(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 interest and principal amount becomes past due for 180 days, from the day of auction processing due to default in payment, and if auction processing is held in the court for recovery of loan.

(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 market value of collateral can't securitize the due loan amount.

(ix) If the bank failed to recover the amount of bills purchase or bills discount beyond 90 days from specific 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 credit card loan does not written-off until 90 days from specific past due dates.

(xii) 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 of Journal

Banks try to find borrowers who will pay high interest rates and are unlikely to default on their loan, seek out loan business by advertising their borrowing rates and by approaching co-operations directly to solicit loans. It is up to the bank's loan offices to decide if potential borrowers are good credit risks who will make interest and principal payments on time. (i.e, engage in screening to reduce the adverse selection problem).Typical banks are conservative in their loan policies, the default rate is usually less than 1%.It is important, however that banks not be so conservative that they miss out an attractive lending opportunities that earn interest rate (Financial Market & Institutions, 2012).

Energy crisis, lack of timely budgetary expenditure by the government and instable political environment, dishonesty of borrowers in disclosing information during borrowing time, miss utilization of the loan amount are the most influential factors that contributes to the increase in non-performing loan (Bhattarai, 2014).

The Non-Performing Assets have always created a big problem for the banks in India. It is just not only problem for the banks but for the economy too. The money locked up in NPAs has a direct impact on profitability of the bank as Indian banks are highly dependent on income from interest on funds lent (Singh, 2016).

NPL/TA (Asset quality) has negative and insignificant relationship with NIM but with ROE it has positive and significant (Poudel, 2016).

An increase in non-performing loans is associated with a decrease in ROA. These results exposure to credit risk measured by NPLs is normally associated with an increase in operating cost and leads to decrease in profitability (Kingu, Macha & Gwahula, 2018).

An article on 'Effect of NPA on the profitability of banks' states that normally profitability of the banking sector depends on recovery of loans on time which are disbursed to the different sectors. The performance of the banking sector depends on how effectively you manage the non-performing assets.

Here the banks like central bank of India, Dhanalaxmi bank etc are experiencing severe losses which results in the negative growth rate of the company except SBI and Punjab national bank all the banks are facing problems with respect to NPLs. It does not indicate that more NPLs the more profits from SBI because of wide variety of financial services and effective management of NPLs. But if NPLs continues in the same manner then even large banks will also stumble (Kiran & Jones, 2016).

NPL has emerged since over a decade as an alarming threat to the banking industry sending distressing signals on the sustainability and durability of the affected banks. The problem of NPL is not only affecting the banks but also the economy. So banks need to have better credit appraisal systems so as to reduce NPAs from banks. However once NPL comes into existence, the problem can be solved only if there is good legal structure, NPL often requires litigation and court orders to recover stock loans. The reduction of NPLs would help banks to boost up their profits, assure smooth recycling of funds in the nation (Abale & Ingal, 2013).

The study on 'The Impact of Non-Performing Loans on Firms Profitability' about

Nigerian Banking Industry done by Adebisi and Matthew in the American Research Journal of Business and Management. They stated that "there is no relationship between NPL and ROA of Nigerian banks which means that assets value of the firms is not affected by the level of NPL, but the shareholder's wealth maximization is affected as the result shows that there is negative relationship between ROE and NPL of Nigerian banks" (Adebisi & Matthew, 2015).

The study conducted on 'management of non-performing loan (NPLs) of banks in Bangladesh' had revealed that rescheduling of loans, credit worthiness of borrowers, forecasts and feasibility studies, specific lending procedures for project appraisal, emphasis on sharing of information among banks about borrowers and use of specific limits and ratios based on cash flows in the evaluation process are some actions to be taken in order to reduce NPLs (Hasan, 2013).

One of the research had integrated all their findings of non- performing loan in combination of its cause effect and remedies. They found that: "There are several reasons of nonperforming loan. But recently fund diversion, political and board of director interference, political instability, engagement of corrupted bankers, aggressive banking, fall in real estate business, weak monitoring, lack of coordination among related parties are aggravating non-performing loan. Strong and regular

monitoring, cooperation among related parties and strict enforcement of existing laws help to reduce NPLs. Bangladesh Bank should play a vital role in these issues. Commercial banks should ensure transparency in credit granting and Bangladesh Bank should ensure that the application of credit sanctioning guidelines is being followed to issue new loan. To reduce NPLs, proper steps must be taken for debt recovery and new investment must be safe and sound. Otherwise large amount of NPLs reduce banks profitability and may erode capital also, that may bring human created disaster in banking industry" (Alam, Haq & Kedar, 2015).

The LLP has also a negative impact on the profitability of Jordan Commercial bank (Alhadab & Alsahawneh, 2016).

Loan loss provision and profitability of banks have negative relation, Less loan loss provision provides more profitability and surely more safety and similarly less loan loss provision provides more profitability of the bank (Ahmad, Tahim & Aziz, 2014).

2.2.2 Review of Thesis

The successful working of the bank depends on the ability of the management to distribute the fund among the various kind of investments known as assets including outstanding loans and advances. These assets constitute primary source of income of the bank. He had recommended that corporate structure of the banks play key role in the effective loan management. Being a risky asset, effort should be given to have proper control in every step of the loan management (Khadka, 2004).

The money locked up in NPLs has a direct impact on profitability and financial performance of banks as Nepalese banks are highly dependent on income from interest on funds landed. The study also shows that the extent of NPLs is comparatively high in government banks as compared to joint venture and private bank due to weak credit policy (Hamal, 2016).

The study conducted by Kavata on the 'effects of non-performing loans on profitability of commercial banks in Kenya' by taking NPL ratio and ROE as independent and dependent variable respectively found that NPL has negatively effect on profitability of commercial banks of Kenya (Kavata, 2016).

There is need for commercial banks to adopt non-performing loans management practices such as: ensuring sufficient collaterals, limiting lending to various kinds of businesses, loan securitization, ensuring clear assessment framework of lending

facilities, use of procedures in solving on problematic loans, use of specific lending and projects appraisal techniques, ensuring that all the information about the client in known, transfer to loan recovery agency ,offering appropriate loans to clients and restructuring of loans so as to improve financial performance of the commercial banks (Wanjira, 2010).

Loan loss provision has a positive influence on profitability because it serves as a financial back up for the banks to observe unexpected loss (Asare, 2015).

There exists a negative relationship between loans loss provision and profitability of deposit taking Saccos in Nairobi County, as the study found that a unit increase in loan loss provision lead to decrease in profitability of deposit taking Saccos in Nairobi County (Kimathi, 2014).

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 that actually examine the specific relationship between profitability and non-performing loan of the banks. 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

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-July, 2019 prescribed by NRB on monthly banking statistics, there are 28 commercial banks in Nepal.

The study has been done by selecting three 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 two private commercial banks have taken for the study. They are:

(i) Global IME bank

(ii) Nepal Investment Bank ltd

(iii) Agricultural Development Bank ltd

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 (2068-2075) and seven years quarterly (2069-2075) 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:

$$\text{Return on assets (ROA)} = \frac{Net\ profiy}{Total\ assets}$$

(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:

$$\text{Return on equity (ROE)} = \frac{Net\ profit}{equity}$$

(iii) Profit Margin Ratio (PMR)

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:

$$\text{Profit margin ratio (PMR)} = \frac{\text{Net income}}{\text{Total operating income}}$$

(2) NPL indicator's ratio

(i) Non Performing Loan to Total Loan Ratio or NPL Ratio (NLTTLR)

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:

$$\text{NLTTLR} = \frac{\text{Non performing loan}}{\text{Total loan}}$$

(ii) Total Loan to Total Assets Ratio (TLTTAR)

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:-

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

(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:-

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

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:

$$\text{Mean } \left(\overline{X}\right) = \frac{\sum X}{N}$$

(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 t–he 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.

Standard deviation (σ) = $\sqrt{\frac{\sum\left(X-\overline{X}\right)^2}{N-1}}$

(iii) Coefficient of Variation

The coefficient of variation indicates the measures of rational risk or risk per unit.

Coefficient of Variation = $\frac{\sigma}{\overline{X}}$

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. 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:

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

(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

ROA	$=XX_1$	TLTTAR	$= XX_4$
ROE	$= XX_2$	NLTTLR	$= XX_5$
PMR	$= XX_3$	PLLCR	$= XX_6$

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

It is given by,

XX_1 = a + bb_1XX_4 + bb_2XX_5 + bb_3XX_6

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

It is given by,

XX_2 = a + bb_1XX_4 + bb_2XX_5 + bb_3XX_6

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

It is given by,

XX_3 = a + bb_1XX_4 + bb_2XX_5 + bb_3XX_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 bb_1,bb_2, and bb_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 Trend Analysis

The process of identifying trends is called Trend 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 analyze 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.

4.1 Descriptive Analysis of Variables of the Study

This is related to analyze the data of required variables using descriptive as well as inferential tool of statistics.

4.1.1 NPL Indicator

Non-performing loan indicators are presented below.

4.1.1.1 Non Performing Loan to Total Loan Ratio (NLTTLR)

Non-performing loan to total loan ratio of three commercial banks (ADBL, NIBL and GIBL) of eight consecutive years and their mean and standard deviation are presented under the table.

Table 4.1 Non Performing Loan to Total Loan Ratio

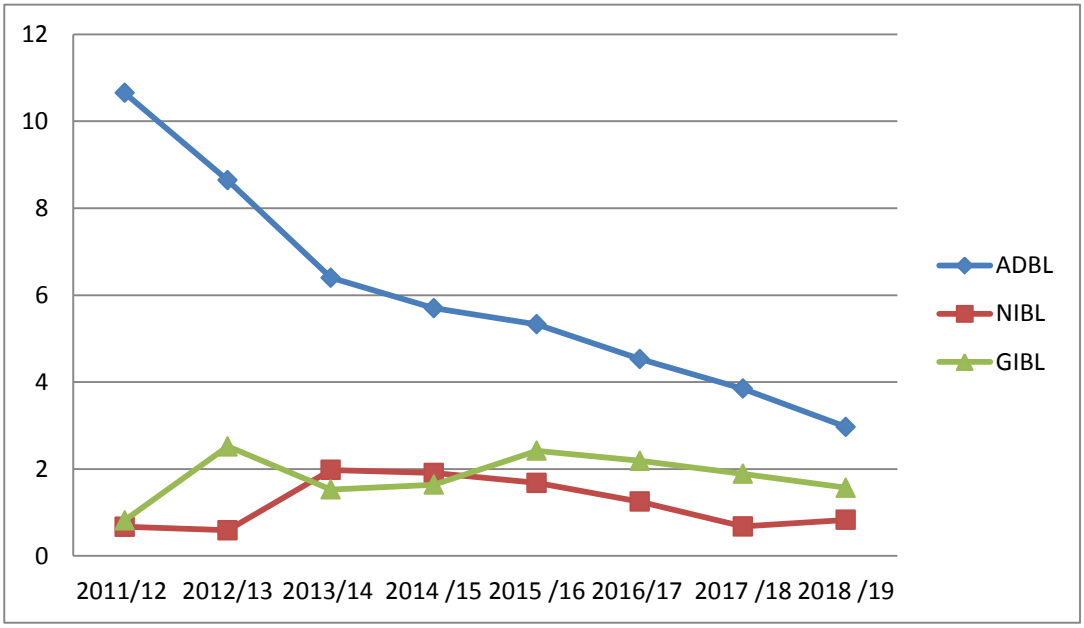
NLTTLR (in %)				
YEAR	**ADBL**	**NIBL**	**GIBL**	**Total mean**
2011/12	10.65	0.67	0.82	4.0466667
2012/13	8.64	0.59	2.52	3.9166667
2013/14	6.4	1.98	1.53	3.3033333
2014 /15	5.7	1.91	1.64	3.0833333
2015 /16	5.33	1.68	2.42	3.1433333
2016/17	4.53	1.25	2.19	2.6566667
2017 /18	3.85	0.68	1.89	2.14
2018 /19	2.97	0.83	1.57	1.79
Mean	**6.00875**	**1.19875**	**1.8225**	**3.01**
Standard Deviation	**2.542628**	**0.586233**	**0.556873**	**0.7906658**
Coefficient of Variation	**0.423154**	**0.489037**	**0.305554**	**0.2626797**
Combined Mean	**3.01**			

(Source: Appendix - 1)

Table 4.1 shows the Non-performing loan to total loan ratio of three commercial banks of eight consecutive years and their mean and standard deviation. The mean value ADBL, NIBL and GIBL are 6.00875, 1.19875 and 1.8225 respectively and their combined mean ratio of overall three banks is 3.01. The overall mean of NLTTLR is in satisfactory level, in which the ratio of Agricultural development bank is higher than in other two banks. Which has contributing more to overall ratio of banks performance, should be managed properly.

Similarly, the variations in the ratio of ADBL, NIBL GIBL are 2.542628, 0.586233, 0.556873respectively. Though it shows greater fluctuation in NPL ratio of agricultural development 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 Non Performing Loans to Total Loan Ratio



Above figure 4.1 indicates that the NLTTLR of ADBL and GIBL is decreasing trend, whereas NIBL 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 level of ratio.

Initially, the ADBL has high level of NLTTLR but its gradually decreasing level of ratio has Initially shown its progressive performance of increasing its assets quality and NIBL bank has initially low level of NPL ratio but predicted to be increasing in its ratio whereas by analyzing GIBL trend line it 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 %)				
YEAR	ADBL	NIBL	GIBL	Total mean
2011/12	73.3	70.7	71	71.666667
2012/13	68.15	70.81	71.3	70.086667
2013/14	65.54	64.01	66.7	65.416667
2014 /15	71.233	64.07	69.2	68.167667
2015 /16	70.6	61.017	71.7	67.772333
2016/17	77.52	63.97	72.6	71.363333
2017 /18	74.62	66.25	69.4	70.09
2018 /19	73.1	69.8	69.32	70.74
Mean	**71.75788**	**66.32838**	**70.1525**	**69.412917**
Standard Deviation	**3.758195**	**3.693665**	**1.871071**	**2.1303662**
Coefficient of Variation	**0.052373**	**0.055688**	**0.026671**	**0.0306912**
Combined mean	**69.413**			

(Source: Appendix - 1)

Table 4.2 shows the TLTTAR of three 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 and GIBL are 71.75788, 66.3284, and 70.1525 respectively, where ADBL has highest TLTTAR among all, GIBL is also in the more or less same ratio as ADBL, which indicates that these two banks are investing in risky portfolio more than NIBL, so that have the possibility of lower liquidity and higher profitability due to taking higher risk if managed properly.

Combined mean of all three banks are 69.413 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 2.1303662and 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 and GIBL are3.758195, 3.693665 and 1.871071 and 0.052373, 0.055688 and 0.026671 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

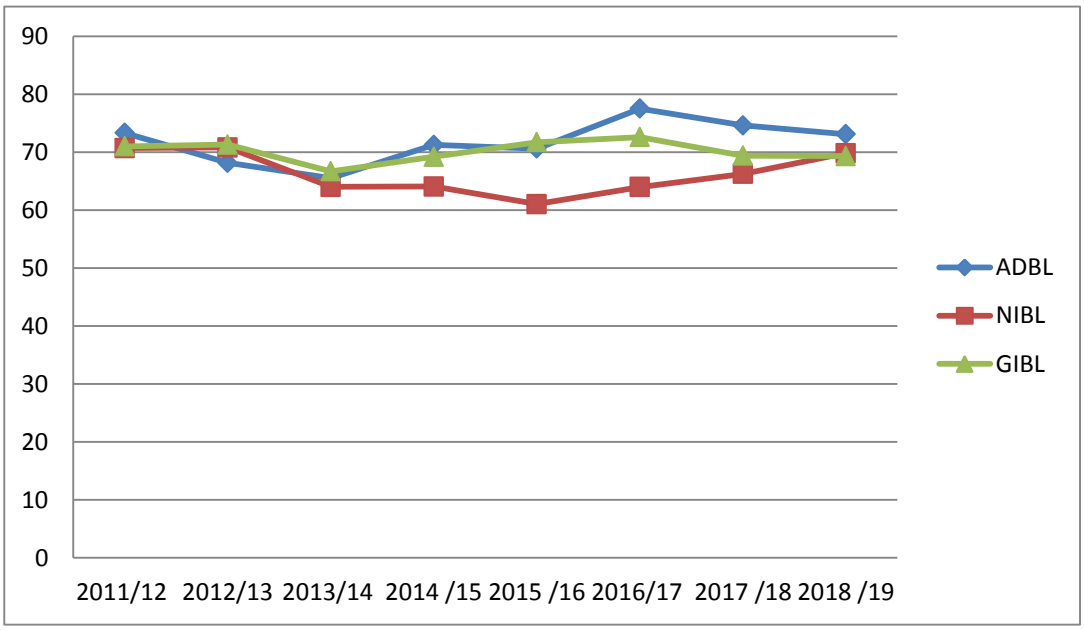


Figure 4.2 explains about the trend line of TLTTAR of the commercial banks and their mean ratio. In which the ratio of ADBL and GIBL is predicted to be decline in future or next year where as NIBL shows increasing trend of total loan investment portfolio. So there is possibility of lowering the provision to be set aside in coming years.

In 2018, the ADBL's ratio is greater than others and other two banks are in the same range. In 2015/16 it was at the peak level of ADBL amongst all banks than in any year.

By analyzing above trend line, there is low level of TLTTAR of NIBL for each of the year than other two 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 %)				
YEAR	ADBL	NIBL	GIBL	Total mean
2011/12	64.69	75	34	57.896667
2012/13	78.5	92.2	87.69	86.13
2013/14	104.7	45.16	74	74.62
2014 /15	70.4	54.13	86.61	70.38
2015 /16	57.1	82.36	73.87	71.11
2016/17	59.5	89	67.545	72.015
2017 /18	69.52	96.43	82.42	82.79
2018 /19	90.86	68.98	77.45	79.096667
Mean	**74.40875**	**75.4075**	**72.94813**	**74.254792**
Standard Deviation	**16.30613**	**18.38536**	**17.16333**	**8.7419852**
Coefficient of variation	**0.219143**	**0.243813**	**0.235281**	**0.1177296**
combined mean	**72.254**			

(Source: Appendix - 1)

Table 4.3 shows the provision for loan loss coverage ratio of three commercial banks and their mean ratio of eight years. Mean, standard deviation, coefficient of variation and combined mean. The mean ratio of ADBL, NIBL and GIBL is74.40875, 75.4075, and 72.94813 respectively. NIBL has highest level of coverage ratio than other two banks.

The overall mean is 74.255 indicates that overall coverage of bad loans is 74.255 percent of total gross NPL. Similarly, standard deviation and coefficient of variations are 16.30613, 18.38536, 17.16333 and 0.2191, 0.244, 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 0.11773 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 Provision for Loan Loss Coverage Ratio

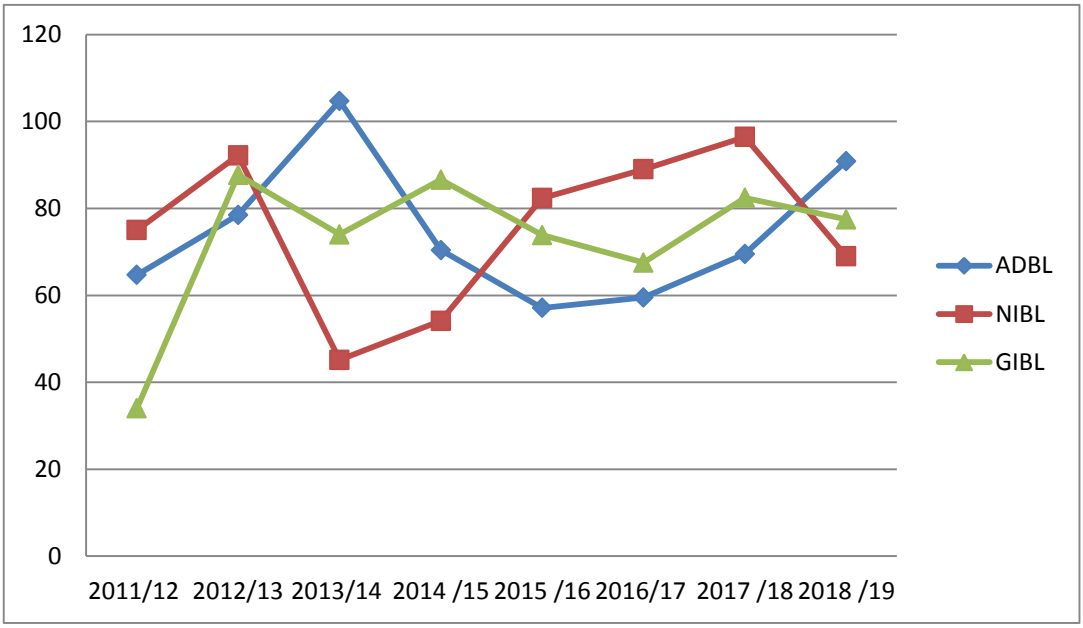


Figure 4.3 clearly depicts the trend lines of three banks and its total average. The coverage ratio of ADBL is in increasing trend that shows better assets quality of the bank. It is predicted to be increase in next year while other two banks provision coverage ratio is in decreasing trend that may have contribute to decrease in overall ratio. NIBL has exhibiting lowest PLLCR ratio amongst three banks in year 2018 and NIBL has highest one in same 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 two banks NIBL and GIBL 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 Return on Equity

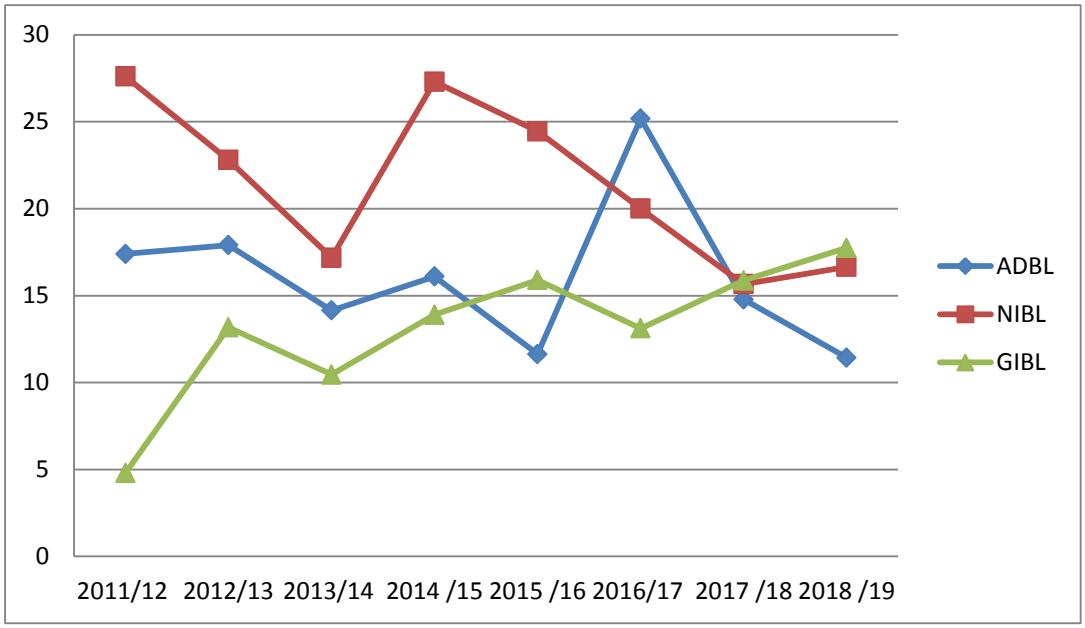
ROE (in %)				
YEAR	ADBL	NIBL	GIBL	Total mean
2011/12	17.4	27.6	4.8	16.6
2012/13	17.9	22.8	13.17	17.956667
2013/14	14.145	17.18	10.46	13.928333
2014 /15	16.1	27.3	13.9	19.1
2015 /16	11.64	24.45	15.9	17.33
2016/17	25.18	20	13.12	19.433333
2017 /18	14.78	15.66	15.87	15.436667
2018 /19	11.43	16.65	17.75	15.276667
Mean	**16.07188**	**21.455**	**13.12125**	**16.882708**
Standard deviation	**4.38561**	**4.777429**	**4.029121**	**1.9366462**
Coefficient of Variation	**0.272875**	**0.222672**	**0.307068**	**0.1147118**
Combined Mean	**16.882708**			

(Source: Appendix-1)

Table 4.4 exhibits percentage of ROE of eight years of three 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, GIBL and total are 16.07188, 21.455, 13.12125 and 16.883 % respectively. In which NIBL has relatively higher ROE than any two 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 has been able to generate higher interest income than other two banks.

Similarly, standard deviation and coefficient variation of ADBL, NIBL, GIBL and overall banks are 4.3856, 4.7774, 4.029121, 1.9366462 and 0.272875, 0.222672, 0.307068 and 0.1147118respectively. Which indicates higher risk of fluctuation in ROE value of NIBL is higher than other two. 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 seems to be lower than other two which we can see the evidence in above table 4.2

Figure 4.4 Return on Equity



Above figure 4.4 exhibits the trend line of ROE of three commercial banks. The trend line of ADBL can be predicted to be decline in next year whereas line of GIBL and NIBL is going to be upward in coming years. ROE of ADBL has reached at the top level during year 2016 and at the lowest level during 2018 than any other two banks.

Though ROE of GIBL is starts from lower level than others, it has making progressive performance from the year 2016 whereas the overall ratio of three banks is depicted to be decline in next year.

In year 2018, ROE of ADBL is less than other two banks and GIBL's ROE is maximum than others. NIBL's ROE has maximum level in 2011 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 Return on Assets

ROA (in %)				
YEAR	ADBL	NIBL	GIBL	Total mean
2011/12	3.5	2.19	0.42	2.036666667
2012/13	4	2	1.25	2.416666667
2013/14	2.67	1.55	0.85	1.69
2014 /15	2.97	2.62	1.15	2.246666667
2015 /16	1.718	2.21	1.62	1.849333333
2016/17	3.57	1.86	1.39	2.273333333
2017 /18	2.205	1.94	1.58	1.908333333
2018 /19	2.022	2.04	1.72	1.927333333
Mean	**2.831875**	**2.05125**	**1.2475**	**2.043541667**
Standard Deviation	**0.818588**	**0.309582**	**0.4383655**	**0.247221059**
Coefficient of Variation	**0.289062**	**0.150924**	**0.3513952**	**0.120976764**
Combined Mean	**2.043541667**			

(Source: Appendix-1)

Table 4.5 depicts the profitability indicator ROA of three commercial banks in eight years. The mean, standard deviation and coefficient of variation of ROA of ADBL, NIBL, GIBL and overall banks in the table exhibits that mean of ROA are 2.8319, 2.0523, 1.2475 and 2.04354 respectively. In which, ADBL has highest and GIBL has lowest mean value among three. 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 two, but overall standard deviation and coefficient of variation of the banks is minimum than any three 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 Return on Assets

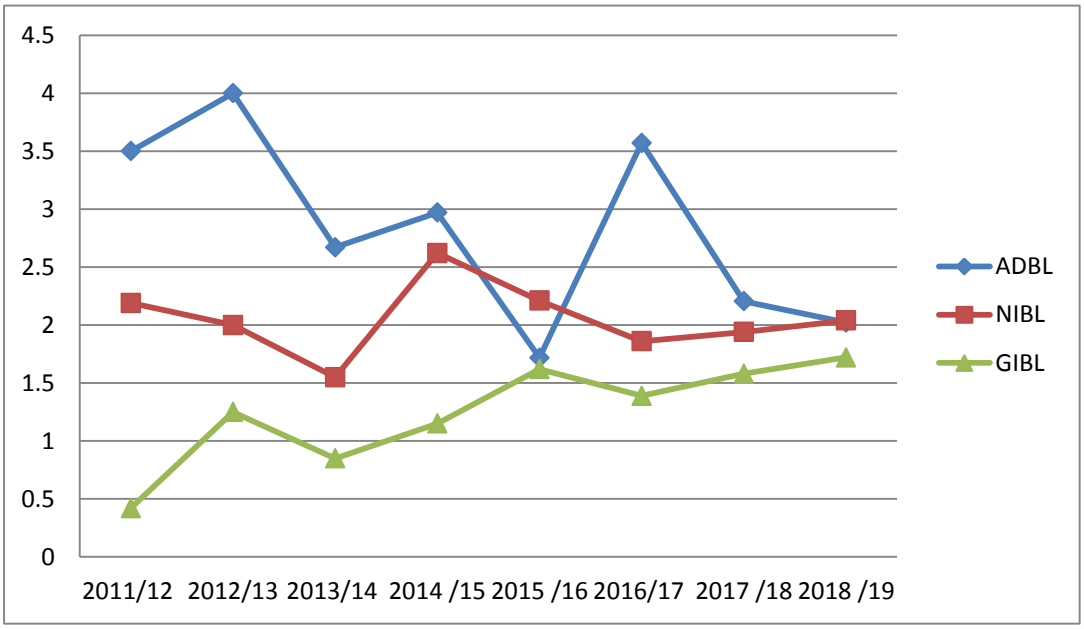


Figure 4.5 shows the trend line the banks ADBL, NIBL, and GIBL and its total. In which we can see that though the average ROA of ADBL is maximum than other two banks, it can be predicted to be decline in coming year.

ADBL's ROA is reached at the top level during 2012 that is also maximum value amongst all during eight years. By analyzing each banks trend line, among all ADBL's ROA is maximum in each year except in the year 2015.

Whereas in case of GIBL, it is in the progressive trend so as the trend line of NIBL too. The trend line of overall average value of the banks is also in the trend of declining. Though ADBL's ROA was higher in initial period it is in decreasing trend from recent years which is need to be improved in coming years.

4.1.2.3 Profit Margin Ratio

Table 4.6 Profit Margin Ratio

PMR (in %)				
YEAR	ADBL	NIBL	GIBL	Total mean
2011/12	43.3	46.288	10.92	33.50266667
2012/13	51.8	41.525	26.19	39.83833333
2013/14	38.4	35.72	28.97	34.36333333
2014 /15	42.74	47.9	24.4	38.34666667
2015 /16	27.84	46.8	41.053	38.56433333
2016/17	54.1	47	30.31	43.80333333
2017 /18	33.2	47.16	35.029	38.463
2018 /19	31.34	47.14	42.34	40.27333333
Mean	**40.34**	**44.94163**	**29.9015**	**38.394375**
standard deviation	**9.465607**	**4.221051**	**10.076402**	**3.275151228**
coefficient of variation	**0.234646**	**0.093923**	**0.3369865**	**0.085302892**
Combined mean	**38.394375**			

(Source: Appendix-1)

Table 4.6 represents the PMR of the three commercial banks with their mean, standard deviation and coefficient of variation and its overall value. The mean value of ADBL, NIBL, GIBL and its overall value are 40.34, 44.942, 29.9015 and 38.3944 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 form of interest or non-interest income.

Similarly, the standard deviations of those three commercial banks are 9.46561, 4.22105 and 10.0764 respectively with overall standard deviation of 3.2752. So the higher fluctuation in PMR ratio is of GIBL. That has more variation in return than others two 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 Profit Margin Ratio

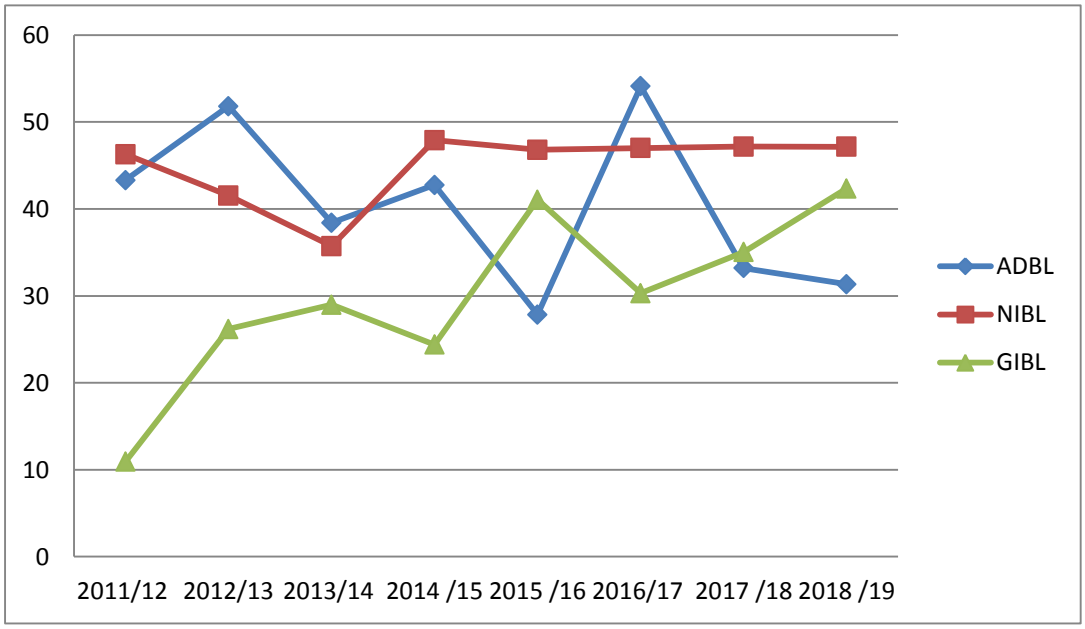


Figure 4.6 depicts the trend line of PMR selected commercial banks and overall trend. By analyzing it we can see here the trend of ADBL can be predicted to decline from the year 2018 after reaching to the top level in year 2016.

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 2017 and 2018 than others. In 2016 PMR of ADBL is minimum than other two banks.

Overall trend 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 three commercial banks in which total value is represented by 100% where the year starting from 2068 to 2075 is represented by 1to 8 at the bottom of the cylindrical chart.

4.1.3.1 Non Performing Loan

Figure 4.7 Non Performing Loan

Figure 4.7

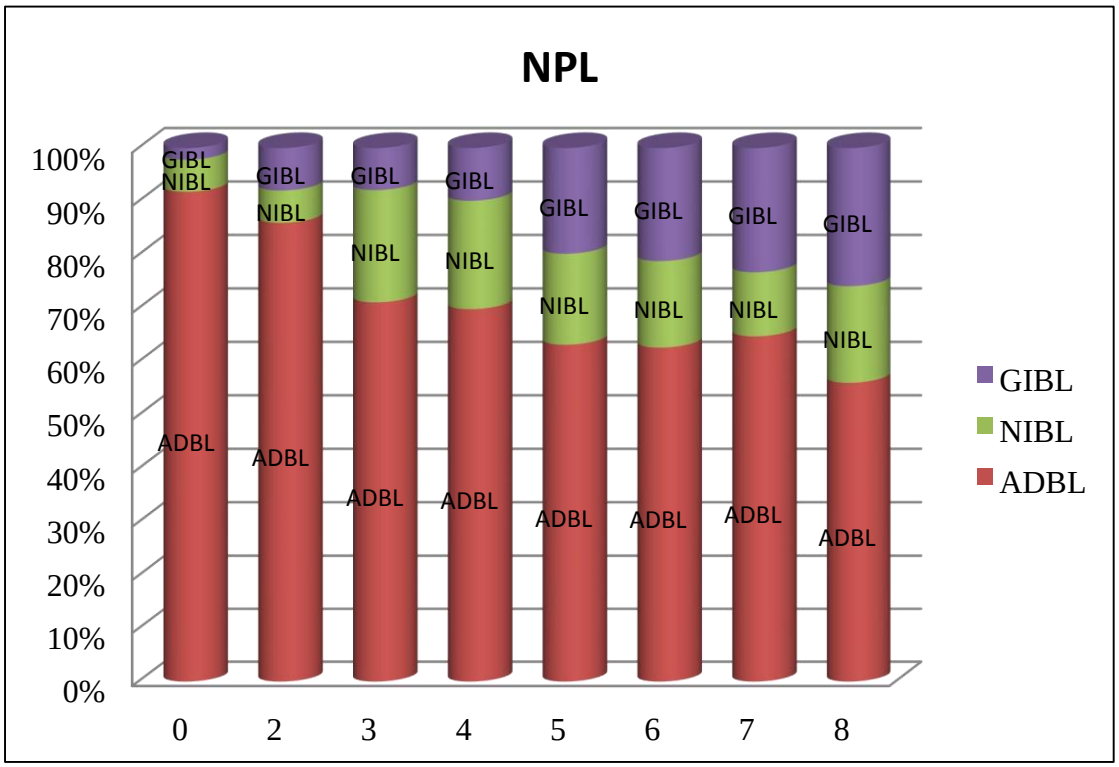


Figure 4.7 indicates the individual contribution of the individual banks in NPL during each year. Above figure 4.7 shows that there is high contribution of ADBL in 2068 and followed by NIBL and GIBL consequently. In almost all year, ADBL's amount of NPL is higher than other. But we can see that it is 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 three.

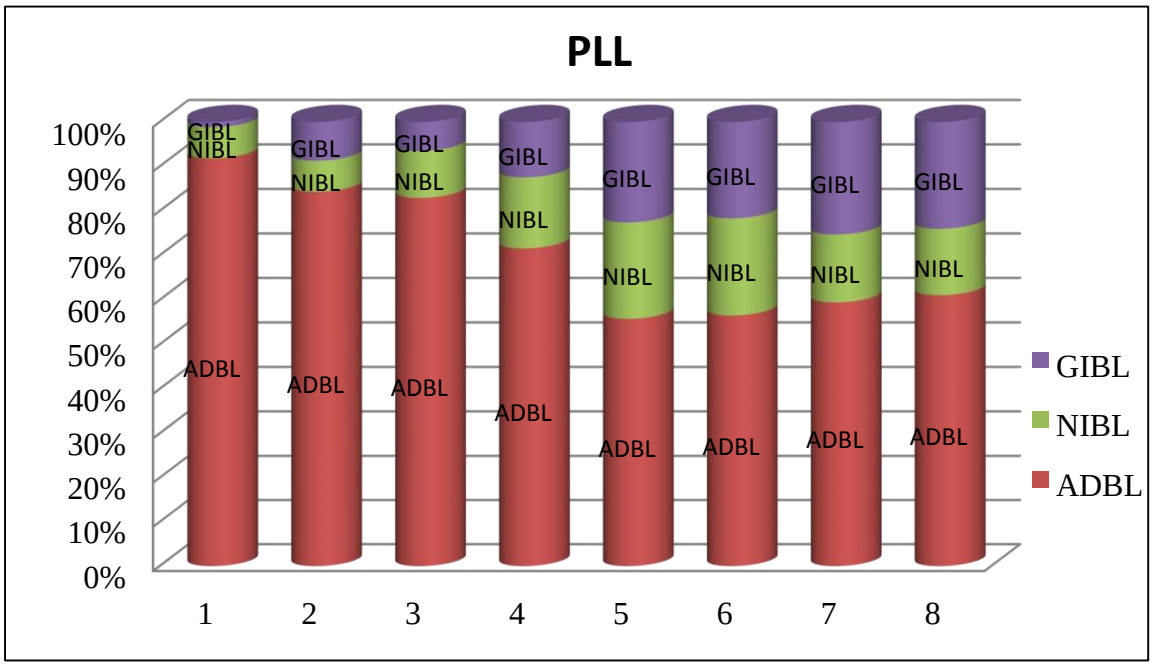
It can be said that in the context of NPL reduction, ADBL is doing better performance though its contribution is higher than other two banks and by analyzing the proportion trend of GIBL and NIBL, there is need to create awareness control NPL level in order to timely management of quality of assets of 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 Provision for loan loss



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.

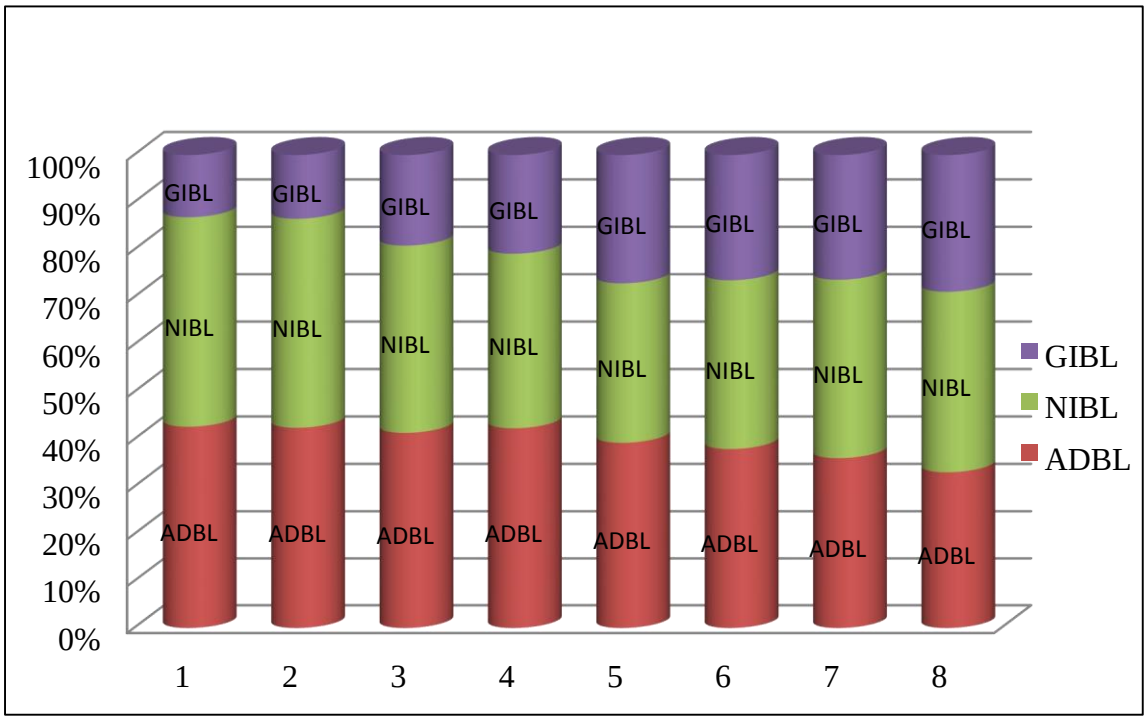
ADBL making stable provision since 2015 and NPL has decline in year 2018 it has increase its provision for upgrading its assets quality and liquidity to manage the future uncertainty without hindering its performance. So in future it might decrease the level of provision.

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 2017. It may increase the level of provision in 2018.

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

4.1.3.3 Total loan

Figure 4.9 Total loan



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 2075, 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 three 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 performance regarding 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

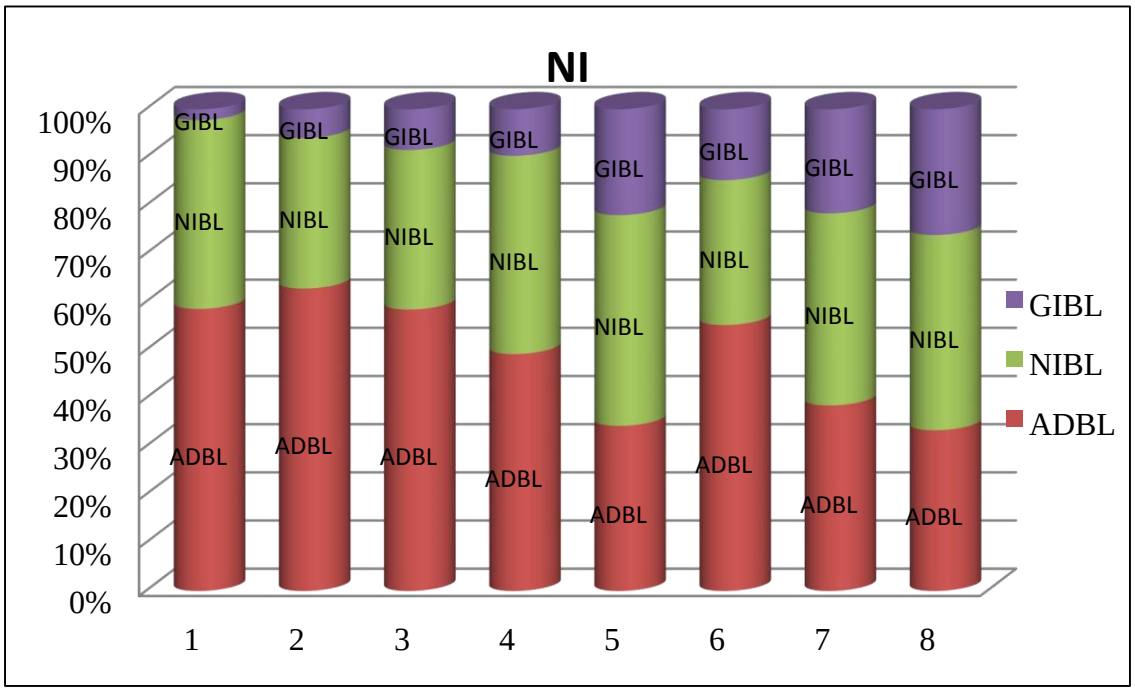


Figure 4.10 presents the net income and its proportion of the three selected commercial banks of eight consecutive years. In which we can see that there is least proportion of net income of GIBL in each year from base year 2011.GIBL has very low level of net income in 2011 where as ADBL has highest proportion till year 2013.

From the year 2071, NIBL is also starting to overcome the dominance of ADBL by making highest net income in 2075 than other two banks. In 2017 and 2018, 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 affect 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			
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
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	-0.101
R square	0.0324	0.1225	0.0102
sig value	0.359	0.068	0.608

Significance level = 0.05 *(Source: Appendix-2)*

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 weak negative 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 GIBL 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	-0.034
R square	0.019	0.052	0.00116
Sig value	0.482	0.242	0.863
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
GIBL	NLTTLR	PLLCR	TLTTAR
R	-0.197	-0.109	-0.403
R square	0.039	0.012	0.162
sig value	0.314	0.58	0.034

Significance level = 0.05*(Source: Appendix-2)*

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 week correlation with NLTTLR and PLLCR with ROE having insignificance 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 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.

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 un- necessary expenses while making an investment.

4.2.1.3 PMR and Independent Variables

Table 4.9 PMR and Independent Variables

PMR 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	0.586
NIBL	NLTTLR	PLLCR	TLTTAR
R	-0.363	0.493	-0.167
R square	0.132	0.243	0.028
Sig Value	0.058	0.008	0.394
GIBL	NLTTLR	PLLCR	TLTTAR
R	-0.161	0.11	-0.246
R square	0.026	0.012	0.061
Sig Value	0.415	0.577	0.208

Significance level =0.05 *(Source: Appendix-2)*

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.

4.2.2 Overall Correlation of Three Banks

Table 4.10

Correlations							
Variables		ROE	ROA	PMR	NLTTLR	PLLCR	TLTTAR
ROE	Pearson Correlation	1	.065				
	Sig. (2-tailed)		.557				
	N	84	84				
ROA	Pearson Correlation	.065	1				
	Sig. (2-tailed)	.557					
	N	84	84				
PMR	Pearson Correlation	.085	-.017	1			
	Sig. (2-tailed)	.444	.878				
	N	84	84	84			
NLTTLR	Pearson Correlation	-.441	-.098	.039	1		
	Sig. (2-tailed)	.000	.378	.727			
	N	84	84	84	84		
PLLCR	Pearson Correlation	.053	.072	-.066	-.134	1	
	Sig. (2-tailed)	.632	.515	.549	.226		
	N	84	84	84	84	84	
TLTTAR	Pearson Correlation	-.143	-.056	.256	-.289	-.389	1
	Sig. (2-tailed)	.193	.614	.019	.008	.000	
	N	84	84	84	84	84	84

Significance value = 0.05 (*Source: Appendix – 2)*

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 three 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

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	0.696	0.502	84
NLTTLR	-0.471			0.334	
PLLCR	0.005			0.84	
TLTTAR	-0.147			0.539	
Significance level 0.05 *(source: Appendix-3)*					

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

HH_{00} = There is no relationship of ROA with NLTTLR, PLLCR and TLTTAR.

HH_1 = 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			0	
PLLCR	-0.026			0.114	
TLTTAR	-0.498			0.001	
Significance level = 0.05 *(Source: Appendix- 3)*					

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

HH_0 = There is no significant relationship of ROE on NLTTLR, PLLCR and TLTTAR.

HH_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 statistical evidence 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- 3)*					

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 and1% increase in PLLCR leads to 0.013% of increase in PMR. Similarly, 1% increase in TLTTAR leads to 0.466 % increase in PMR.

R square of 0.085 indicates that there is variation cause 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

HH_0= There is no statistically significant relationship between PMR on NLTTLR, PLLCR and TLTTAR.

HH_1= 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 less than 0.05 so we accept alternative hypothesis and reject null hypothesis.

4.4 Major Findings

i. 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 two banks, which has average ratio of 6.00875 but it is in the declining trend. Ratio of NIBL and GIBL are 1.19875 and 1.8225 respectively. And combined average is 3.01 mean.

ii. TLTTAR of all three banks or combined mean 69.413 and among all three banks it is higher in ADBL which is 71.75788 and followed by GIBL and NIBL that are 70.1525 and 66.3283 respectively and standard deviation is also high in ADBL than NIBL and GIBL which are 3.7582, 3.694 and 1.871071 respectively. GIBL is able to maintain loan portfolio.

iii. The PLLCR is highest in NIBL than other two banks, which is 75.4075 and the average of ADBL and GIBL are 74.40875 and 72.94819 respectively. Combined mean of all banks is 72.254.

iv. The study also reveals the profitability ratios condition of all three banks with their total. The average ROE of NIBL is highest at 21.455 than ADBL and GIBL, where ADBL has average ROE of 16.072, GIBL has 13.12125 and GIBL has the lowest ROE than others. The shareholders in NIBL are able to achieve greater return from their investment.

v. The average ROA in total or combines average is 2.043541 in which ADBL, NIBL and GIBL has 2.832, 2.051 and 1.2475 respectively. ADBL has highest and GIBL has lowest ROA.ADBL is able to make highest rupee return on one percentage investment on assets.

vi. The average PMR in total or its combined mean is 38.039. In which ADBL, NIBL and GIBL have 40.34, 34.94163 and 29.9015 respectively. There is highest average PMR with minimum standard deviation of 4.221051 where NIBL's and GIBL's standard deviations are9.4656 and10.6764 respectively. So it is relevant to say that NIBL is good performer in relation to PMR.

vii. Provision for loan loss amount (PLL) is also in the same ratio of NPL. But ADBL has maintained lower proportion of PLL in year 2072 than NPL and increasing it from 2072 to maintain previous NPL.

viii. Among three banks, the loan of NIBL is higher than other two banks in year

2074 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 three commercial banks shows that there is gradually increasing the level net income of GIBL while other two banks have irregular net income from year to year.

ix. In ADBL, ROA has insignificant relationship with all the predictor variables which has weak negative correlation with NLTTTLR of -0.019, weak and positive correlation with PLLCR of 0.129 and weak positive with TLTTAR of 0.066.In NIBL too ROA has same weak insignificant and similar correlation with the independent variables while in GIBL, ROA has insignificant but weak negative correlation with NLTTLR, PLLCR and TLTTAR of -0.18, -0.35 and -0.101 respectively. Provision for loan loss amount (PLL) is also in the same ratio of NPL. But ADBL has maintained lower proportion of PLL in year 2072 than NPL and increasing it from 2072 to maintain previous NPL.

x. In ADBL, ROE has all insignificant relationship with NLTTLR, PLLCR and TLTTAR but it has positive correlation with NLTTLR and PLLCR of 0.138 and 0.228 respectively whereas negative relationship with TLTTAR of -0.034. In NIBL, TLTTAR and PLLCR have weak negative correlations of -0.172 and -0.183 respectively and insignificant positive relationship with NLTTLR. In GIBL, all have negative correlation with NLTTLR, PLLCR and TLTTAR and PLLCR is insignificance but TLTTAR is significance of -0.403 of correlation with PMR that indicates higher the loan portfolio lowers the ROE of GIBL.

xi. In ADBL, PMR has all insignificance relationship with NLTTLR, PLLCR and TLTTAR having correlation of 0.305, 0.282 and -0.108 respectively. In NIBL, there is insignificance negative relationship with NLTTLR of -0.363 and significant positive relationship with PLLCR of 0.493 which means PLLCR has positive impact on PMR due to assets quality and goodwill. GIBL has insignificance relationship with all three variables NLTTLR, PLLCR and TLTTAR with -0.161, 0.11 and -0.246 respectively.

xii. Correlation of all three banks shows the relationship between variables as a whole that clears us about the relationships exists between profitability and NPL.

xiii. 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

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

xv. PMR has positive insignificance 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 AND CONCLUSION

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

5.1 Summary

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.

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 creates blockage in earning then liquidity crunch takes place in banks.

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 objective 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 28 commercial banks, three major banks agricultural development bank (ADBL), Nepal Investment Bank ltd (NIBL) and Global IME bank ltd (GIBL) is taken as sample of which ADBL is public sectors commercial bank and NIBL and GIBL are private sectors commercial banks.

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 both annual and quarterly data. Annual data are used for descriptive statistics of eight-year data from 2068 to 2075 and quarterly data are used for inferential statistics to gain reliable result of seven years from 2069 to 2075 due to unavailability of data of 2068.

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, and GIBL are 6.001, 1.1987 and 1.8225 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 Conclusion

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) The risk assessment associated with the loans and advances by carefully knowing the customers, their attitude, income level and past regression analysis.

(2) Recovery agency should be established by the banks and financial institutions to decentralize the responsibility of the credit recovery from the borrower systematically.

(3) Motivating clients by awarding the ‘best loan performer of the year’ by the bank that may encourage the others too.

(4) Main protection to be taken into consideration for this problem is to landed loans and advances safely by keeping worthy collateral against loan amount.

(5) Corporate governance is also a proactive action to prevent the fraud activities done by staffs, officers and other concerned members.

(6) 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.

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

(8) 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.

(9) 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.

(10) 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 remedies and 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 on capital adequacy ratio.

(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.

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APPENDICES

Appendix – 1

Arrangement and analysis of available financial data of sample

Annual data

1. Gross non- performing loan (in Rs)

Gross NPL

FY	ADBL	NIBL	GIBL
2011/12	4213599000	274452906	100047521
2012/13	3490800000	245631926	321782394
2013/14	2880640000	850415105	317721267
2014 /15	3146190000	913096277	442798845
2015 /16	3332533000	897121461	1041344517
2016/17	3269705000	844132708	1101812002
2017 /18	3205850000	592992655	1149017641
2018 /19	2756000000	888161357	1268337048

(Source: annual report of respective banks)

2. Net income (in Rs)

NI

FY	ADBL	NIBL	GIBL
2011/12	1892386000	1265950000	73002000
2012/13	2365481000	1176641000	224978000
2013/14	1834173000	1039276000	265316000
2014 /15	2289320000	1915028000	449218000
2015 /16	1520806000	1939612000	974036000
2016/17	3603371000	1961852000	960608000
2017 /18	2464683000	2550884000	1382225000
2018 /19	2565220000	3114131000	2006160000

(Sources: annual report of respective banks)

3. Provision for loan loss (in Rs)

PLL

FY	ADBL	NIBL	GIBL
2011/12	2726039000	207134342	34224585
2012/13	2739000000	226465354	282177975
2013/14	3016160000	384076154	235277976
2014 /15	2214800000	494259339	383491072
2015 /16	1902564000	738880945	769273042
2016/17	1945506000	751336906	744217961
2017 /18	2228550000	571823770	946995197
2018 /19	2504000000	612640213	982385298

(Source: annual report of respective banks)

4. Total loan (in Rs)

TL

FY	ADBL	NIBL	GIBL
2011/12	39582871767	40948440033	12163635545
2012/13	40372729139	41887693911	12779175146
2013/14	44988369228	42906691054	20765181747
2014 /15	54918507832	47700628308	26991614623
2015 /16	62472929711	53458469658	43018763076
2016/17	72238515320	67690198649	50226649351
2017 /18	83418263170	87009791973	60841363744
2018 /19	92725212976	106683876991	80819838723

(Sources: annual report of respective banks)

5. Total Assets (in Rs)

TA

FY	ADBL	NIBL	GIBL
2011/12	54020226000	57935545000	17201415000
2012/13	59241365000	59149007000	17929460000
2013/14	68639929000	67025924000	31132795000
2014 /15	77097349000	74452729000	39018489000
2015 /16	88519686000	87612632000	60018208000
2016/17	100928514000	105816403000	69186490000
2017 /18	111786101000	131331446000	87701310000
2018 /19	126866600000	152877103000	116592269000

(Source: annual report of respective banks)

6. ROE, ROA and PMR (in %)

FY	ROE			ROA			PMR		
ADBL	NIBL	GIBL	ADBL	NIBL		GIBL	ADBL	NIBL	GIBL
2011/12	17.4	27.6	4.8	3.5	2.19	0.42	43.3	46.3	10.92
2012/13	17.9	22.8	13.17	4	2	1.25	51.8	41.5	26.19
2013/14	14.1	17.18	10.46	2.67	1.55	0.85	38.4	35.7	28.97
2014 /15	16.1	27.3	13.9	2.97	2.62	1.15	42.74	47.9	24.4
2015 /16	11.6	24.45	15.9	1.718	2.21	1.62	27.84	46.8	41.05
2016/17	25.2	20	13.12	3.57	1.86	1.39	54.1	47	30.31
2017 /18	14.8	15.66	15.87	2.205	1.94	1.58	33.2	47.2	35.03
2018 /19	11.4	16.65	17.75	2.022	2.04	1.72	31.34	47.1	42.34

(Sources: annual report of respective banks)

FY	NLTTLR			PLLCR			TLTTAR		
ADBL	NIBL	GIBL	ADBL	NIBL		GIBL	ADBL	NIBL	GIBL
2011/12	10.65	0.67	0.82	64.69	75	34	73.3	70.7	71
2012/13	8.64	0.59	2.52	78.5	92.2	87.69	68.15	70.81	71.3
2013/14	6.4	1.98	1.53	104.7	45.16	74	65.54	64.01	66.7
2014 /15	5.7	1.91	1.64	70.4	54.13	86.61	71.23	64.07	69.2
2015 /16	5.33	1.68	2.42	57.1	82.36	73.87	70.6	61.02	71.7
2016/17	4.53	1.25	2.19	59.5	89	67.545	77.52	63.97	72.6
2017 /18	3.85	0.68	1.89	69.52	96.43	82.42	74.62	66.25	69.4
2018 /19	2.97	0.83	1.57	90.86	68.98	77.45	73.1	69.8	69.32

7. NLTTLR, PLLCR and TLTTAR (in %)

(Sources: annual report of respective banks)

Quarterly data

FY	ROE			ROA			PMR		
ADBL	NIBL	GIBL	ADBL	NIBL		GIBL	ADBL	NIBL	GIBL
2011/12									
1st qtr	2.54	27.74	5.46	0.53	2.06	0.5	35.18	20.36	36.7
2nd qtr	5.68	5.75	7.82	1.21	0.46	0.75	30.11	17.37	29.71
3rd qtr	8.52	9.34	9.17	1.83	0.75	0.9	31.7	13.52	24.4
4th qtr	12.85	15.63	12.65	2.71	1.2	1.26	34.9	14.84	26.35
2012/13									
1st qtr	13	28.63	3.23	2.61	1.89	0.3	39.43	17.53	26.4
2nd qtr	4.93	8.15	5.8	1.04	0.7	0.52	31.45	26.33	25.06

3rd qtr	7.99	14.73	9.16	1.69	1.29	0.79	33.8	25.11	27.2
4th qtr	2.23	22.25	12.71	0.46	1.84	1.13	32.77	24.92	28.24
2013/14									
1st qtr	2.1	32.91	3	0.42	2.55	0.25	28.67	17.53	21.48
2nd qtr	4.04	5.84	8.8	0.79	0.53	0.7	24.41	26.33	30
3rd qtr	6.79	13.37	12.45	1.3	1.06	1.03	25.87	25.11	28.14
4th qtr	9.03	19.82	16.5	2.75	1.58	1.38	42.79	24.92	30.04
2014/15									
1st qtr	0.94	27.45	3.4	0.26	2.1	0.35	19.04	26	29.5
2nd qtr	1.8	6.2	14.16	0.51	0.52	1.23	17.7	25.67	51.48
3rd qtr	3.25	12.19	12.05	0.86	0.98	1.24	20.78	25.6	45
4th qtr	5.95	19.3	16.08	1.65	1.52	1.64	27.82	26.42	42.33
2015/16									
1st qtr	0.84	24.73	3.4	0.24	1.77	0.35	16.61	25.18	29.5
2nd qtr	2.06	4.32	7.86	0.57	0.36	0.83	19.34	22.56	35.7
3rd qtr	3.9	11	11.31	1.04	89	1.18	23.95	26.1	35.07
4th qtr	7.6	12	13.68	1.88	1.3	1.42	29.6	28.02	31.77
2017/18									
1st qtr	1.16	16.7	4.06	0.29	1.85	0.42	22.61	28.21	37.5
2nd qtr	1.15	4.55	9.41	0.37	0.5	0.97	16.12	30.3	42.33
3rd qtr	4.36	9.73	12.37	1.11	1.07	1.23	27.37	30.61	37.14
4th qtr	8.85	14.56	16.01	2.3	1.56	1.54	35.07	29.11	35.05
2018/19									
1st qtr	1.43	18.21	4.56	0.38	2.01	0.44	22.51	28.21	37
2nd qtr	3.02	4.8	9.44	0.78	0.52	0.9	24.71	30.3	39.63
3rd qtr	4.67	9.81	14.27	1.35	1.08	1.46	26.55	30.61	41.71
4th qtr	7.5	15.19	16.88	2.19	1.64	1.7	33.9	29.11	42.4

8. ROE, ROA and PMR (in %)

(Source: quarterly report of respective banks)

9. NLTTLR, PLLCR and TLTTAR

FY	NLTTLR			PLLCR			TLTTAR		
ADBL	NIBL	GIBL	ADBL	NIBL		GIBL	ADBL	NIBL	GIBL
2011/12									
1st qtr	8.54	0.59	0.74	187.78	262.2	232.97	65.82	67.91	72.25
2nd qtr	8.12	1.03	2.39	180.52	183.41	89.57	66.53	66.32	74.4
3rd qtr	8.65	2.11	2.88	161.45	108.96	93.26	66.8	64.42	74
4th qtr	8.64	2.3	2.52	159.75	101.13	126.4	62.73	64.4	72.68
2012/13									
1st qtr	6.35	1.98	2.76	206.36	100.57	118.37	58.07	60.92	71.6
2nd qtr	8.83	2.27	2.89	171.55	117.61	109.03	54.15	64.6	74
3rd qtr	8.44	3.17	1.89	175.85	89.96	115.31	55.6	66.14	70.25
4th qtr	11.05	2.53	1.54	122	120.4	136.63	59.25	63.6	67.19

2013/14									
1st qtr	5.88	1.91	2.2	222.12	129.04	94.44	54.43	60.73	69.42
2nd qtr	6.64	1.7	2.1	166	158.13	118.49	63.16	57.04	69.33
3rd qtr	6.27	1.76	2.3	165.65	149.23	101.87	65.75	58	71.9
4th qtr	5.72	1.63	1.64	164.92	161.98	146.96	61.84	60	68.2
2014/15									
1st qtr	5.57	1.68	2.88	169	158.41	104.48	57	57.71	71.1
2nd qtr	6.05	1.55	3.22	150.42	150.41	85.6	59.46	62.63	70
3rd qtr	6.43	1.13	2.82	134.35	199.26	99.21	59.7	62.53	70.51
4th qtr	5.34	1.28	2.26	148.53	162.2	111	63.61	64.26	69.54
2015/16									
1st qtr	5.62	1.25	2.88	146.94	173.96	204.48	64.18	60.4	71
2nd qtr	5.14	1.07	2.57	152.89	235.11	110.86	66.51	62.77	73.11
3rd qtr	5.41	1.1	2.55	153.65	180.32	108.55	66.96	64	73.16
4th qtr	4.53	0.78	2.19	157.4	234.7	114.44	67.74	59.43	71.43
2016/17									
1st qtr	5.15	0.68	1.98	153.65	261.2	124.84	65.84	63	70.05
2nd qtr	5.36	0.71	1.64	153.13	250.21	136.02	65.35	64	70.16
3rd qtr	4.89	0.7	1.93	100.35	252.6	132.33	69.1	64.9	68.61
4th qtr	3.85	0.64	1.87	112.22	266.86	140.65	71.26	64.9	67.8
2017/18									
1st qtr	3.83	0.83	1.71	112.78	231.83	147.09	72.6	64.15	71.34
2nd qtr	3.82	1.04	1.61	111.12	181.64	149.13	76.01	62.9	71.4
3rd qtr	3.3	1.12	1.53	145.51	176.3	148.24	77.04	66.75	72.3
4th qtr	2.97	0.76	1.57	160.34	245	144.82	70.55	68.2	67.03

(Source: quarterly report of respective banks)

Appendix-2
Correlations between dependent and independent variables

1. For ADBL

Correlations

ROE	ROA	PMR		NLTTLR		PLLCR	TLTTAR
ROE	Pearson Correlation	1	.962**	.772**	.138	.228	-.034
	Sig. (2-tailed)	.000	.000		.482	.242	.863
	N	28	28	28	28	28	28
ROA	Pearson Correlation	.962**	1	.776**	-.019	.129	.066
	Sig. (2-tailed)	.000	.000		.925	.514	.740
	N	28	28	28	28	28	28
PMR	Pearson Correlation	.772**	.776**	1	.305	.282	-.108
	Sig. (2-tailed)	.000	.000		.115	.146	.586
	N	28	28	28	28	28	28
NLTTLR	Pearson Correlation	.138	-.019	.305	1	.317	-.610**
	Sig. (2-tailed)	.482	.925		.115	.101	.001
	N	28	28	28	28	28	28
PLLCR	Pearson Correlation	.228	.129	.282	.317	1	-.577**
	Sig. (2-tailed)	.242	.514		.146	.101	.001
	N	28	28	28	28	28	28
TLTTAR	Pearson Correlation	-.034	.066	-.108	-.610**	-.577**	1
	Sig. (2-tailed)	.863	.740		.586	.001	.001
	N	28	28	28	28	28	28

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

2. For NIBL

Correlations

ROE	ROA	PMR		NLTTLR		PLLCR	TLTTAR
ROE	Pearson Correlation	1	-.058	-.047	.185	-.183	-.172
	Sig. (2-tailed)	.768	.811		.345	.350	.382
	N	28	28	28	28	28	28
ROA	Pearson Correlation	-.058	1	.087	-.089	.001	.058
	Sig. (2-tailed)	.768	.660		.654	.994	.769
	N	28	28	28	28	28	28

PMR	Pearson Correlation	-.047	.087	1	-.363	.493**	-.167
	Sig. (2-tailed)	.811	.660		.058	.008	.394
	N	28	28	28	28	28	28
NLTTLR	Pearson Correlation	.185	-.089	-.363	1	-.924**	-.183
	Sig. (2-tailed)	.345	.654		.058	.000	.352
	N	28	28	28	28	28	28
PLLCR	Pearson Correlation	-.183	.001	.493**	-.924**	1	.241
	Sig. (2-tailed)	.350	.994		.008	.000	.216
	N	28	28	28	28	28	28
TLTTAR	Pearson Correlation	-.172	.058	-.167	-.183	.241	1
	Sig. (2-tailed)	.382	.769		.394	.352	.216
	N	28	28	28	28	28	28

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

3. For GIBL

Correlations

ROE	ROA	PMR		NLTTLR		PLLCR	TLTTAR
ROE	Pearson Correlation	1	.981**	.421*	-.197	-.109	-.403*
	Sig. (2-tailed)	.000	.026		.314	.580	.034
	N	28	28	28	28	28	28
ROA	Pearson Correlation	.981**	1	.472*	-.180	-.101	-.350
	Sig. (2-tailed)	.000	.011		.359	.608	.068
	N	28	28	28	28	28	28
PMR	Pearson Correlation	.421*	.472*	1	-.161	.110	-.246
	Sig. (2-tailed)	.026	.011		.415	.577	.208
	N	28	28	28	28	28	28
NLTTLR	Pearson Correlation	-.197	-.180	-.161	1	-.617**	.384*
	Sig. (2-tailed)	.314	.359		.415	.000	.044
	N	28	28	28	28	28	28
PLLCR	Pearson Correlation	-.109	-.101	.110	-.617**	1	-.164
	Sig. (2-tailed)	.580	.608		.577	.000	.405
	N	28	28	28	28	28	28
TLTTAR	Pearson Correlation	-.403*	-.350	-.246	.384*	-.164	1
	Sig. (2-tailed)	.034	.068		.208	.044	.405

N	28	28	28	28	28	28

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4. All samples correlations

Correlations

ROE	ROA	PMR		NLTTLR		PLLCR	TLTTAR
ROE	Pearson Correlation	1	.065	.085	-.441**	.053	-.143
	Sig. (2-tailed)	.557	.444	.000		.632	.193
	N	84	84	84		84	84
ROA	Pearson Correlation	.065	1	-.017	-.098	.072	-.056
	Sig. (2-tailed)	.557	.878	.378		.515	.614
	N	84	84	84		84	84
PMR	Pearson Correlation	.085	-.017	1	.039	-.066	.256*
	Sig. (2-tailed)	.444	.878	.727		.549	.019
	N	84	84	84		84	84
NLTTLR	Pearson Correlation	-.441**	-.098	.039	1	-.134	-.289**
	Sig. (2-tailed)	.000	.378	.727		.226	.008
	N	84	84	84		84	84
PLLCR	Pearson Correlation	.053	.072	-.066	-.134	1	-.389**
	Sig. (2-tailed)	.632	.515	.549		.226	.000
	N	84	84	84		84	84
TLTTAR	Pearson Correlation	-.143	-.056	.256*	-.289**	-.389**	1
	Sig. (2-tailed)	.193	.614	.019		.008	.000
	N	84	84	84		84	84

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix- 3

1. Multiple Regression model of ROE on NLTTLR, PLLCR and TLTTAR

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.545[a]	.297	.271	5.92725

a. Predictors: (Constant), TLTTAR, NLTTLR, PLLCR

ANOVA[a]

Model		Sum of Squares	D f	Mean Square	F	Sig.
1	Regression	1188.986	3	396.329	11.281	.000[b]
	Residual	2810.584	80	35.132		
	Total	3999.570	83			

a. Dependent Variable: ROE

b. Predictors: (Constant), TLTTAR, NLTTLR, PLLCR

Coefficients[a]

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	52.126	11.413		4.567	.000
	NLTTLR	-1.660	.296	-.572	-5.613	.000
	PLLCR	-.026	.016	-.169	-1.597	.114
	TLTTAR	-.498	.146	-.375	-3.416	.001

a. Dependent Variable: ROE

2. Multiple regression model of ROA on NLTTLR, PLLCR and TLTTAR

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.133[a]	.018	-.019	9.69941

a. Predictors: (Constant), TLTTAR, NLTTLR, PLLCR

ANOVA[a]

Model		Sum of Squares	D f	Mean Square	F	Sig.
1	Regression	135.809	3	45.270	.481	.696[b]
	Residual	7526.277	80	94.078		
	Total	7662.086	83			

a. Dependent Variable: ROA

b. Predictors: (Constant), TLTTAR, NLTTLR, PLLCR

Coefficients[a]

Model	Un-standardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
1	(Constant)	12.608	18.676	.675	.502
	NLTTLR	-.471	.484	-.117	-.973	.334
	PLLCR	.005	.026	.025	.202	.840
	TLTTAR	-.147	.239	-.080	-.617	.539

a. Dependent Variable: ROA

3. Multiple regression model of PMR on NLTTLR, PLLCR and TLTTAR

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.291[a]	.085	.050	7.19024

a. Predictors: (Constant), TLTTAR, NLTTLR, PLLCR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	382.245	3	127.415	2.465	.068[b]
	Residual	4135.960	80	51.700		
	Total	4518.205	83			

a. Dependent Variable: PMR

b. Predictors: (Constant), TLTTAR, NLTTLR, PLLCR

Coefficients[a]

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.658	13.845		-.409	.684
	NLTTLR	.446	.359	.145	1.244	.217
	PLLCR	.013	.020	.081	.672	.504
	TLTTAR	.466	.177	.330	2.633	.010

a. Dependent Variable: PMR