CHAPTER I

INTRODUCTION

1.1 Background of the study

Banks are relevant to economic development through the financial services they provide. The efficient and effective performance of the banking industry over time is an index of financial stability in any nation. The extent to which a bank extends credit to the public for productive activities accelerates the pace of a nation's economic growth and its long-term sustainability. The credit function of banks enhances the ability of investors to exploit desired profitable ventures. However, it exposes the banks to credit risk. Higher the exposure of a bank to credit risk, the higher the tendency of the banks to experience financial crisis and vice-versa.Bessis (2011)categorized some of the major risks that banks face as credit risk, liquidity risk, interest rate risk, mismatch risk, market liquidity risk, market risk, and foreign exchange risk. Kolapo, Ayeni, & Oke (2012) explore many risks faced by banks and pick credit risk as significant role on its financial performance as a large chunk of banks income that is earned from the loans provided to their customers in the form of interest income.

The adequate management of credit risk in financial institutions is critical for the survival and growth of financial institutions. Commercial bank's performance is a result of multiple predictors of credit risk management. Capital adequacy ratio, credit deposit ratio, non-performing loan to total loan advances, net interest income to total income and total loan loss provision to total non- performing loan all play significant role towards the contribution of bank's performance.Brown & Moles (2012) defines credit risk as default risk, performance risk or counterparty risk as the possibility that a contractual party will fail to meet its obligations in accordance with the agreed terms. Similarly,Giesecke (2004) also describe credit riskas a risk of financial loss whereby money invested by banks to their customers in the form of loans isn't repaid back. Credit risk is a significant risk faced by banks by the nature of their activity and the success of banks in terms of financial performance depends on efficient management of it than any other type of risk that bank faces.

In Nepalese context also the credit risk management has become a greater concern in the banking and financial sector. It is evident from the balance sheet of the financial institution that net interest income is too low in the contribution of the total income. So, a good credit risk management practice is vital for long term sustainability of banking and financial institutions. The design of credit risk management system depends among its size, capital structure, complexity of functions, technical expertise and quality of Management Information System. Credit exposures are the main sources of investment in commercial banks and return on such investment is supposed to be main sources of income. Likewise, Burton Nesiba& Brown (2015) defines credit risk as the probability of debtor not paying the principal and/or the interest due on an outstanding debt. Bhattarai (2014) stated loan interest is one of the major sources of income in commercial banks but also the primary source of credit risk to the banks.

The theoretical motivation for undertaking the study on the Credit risk management in bank's performance can be described as the essential functions of commercial banks which may be the best summarized as the borrowing and lending of money. So, the net interest income is the major source of income for banks. The net interest income can be maximized only through effective credit risk management. The relations between effective credit risk management and bank performance are based on management abilities in the identification, measurement and assessment of credit risk and such abilities of management are reflected quantitatively by the predictors of credit risk management.

Proper recognition of loan loss provision on timely matching the duration of assets and liabilities which is reflected by credit deposit ratio maintaining sufficient capital as it acts as a cushion for absorbing credit risks. Minimizing non-performing loans through proper analysis and monitoring plays significant role in maximizing bank's performance. Hence, the impact of credit risk management on bank's profitability across private and government banks has been a theoretical and practical issue for many years.Ndoka & Islami (2016) manages credit risk to maximize bank's return adjusted for the risk while keeping an acceptable level of exposure. Generally, senior management creates and develops policies and procedure for loan administration and gets the approval from the board of directors and responsible for implementing it.

1.1.1. Credit risk management of Nepalese commercial bank

Nario (2016) observed credit risk management as a key function for banks and other financial institutions including insurers and institutional investors with large, multifaceted portfolio of credit, often including illiquid loans. After global financial crisis of 2007-2008, the credit portfolio management function has become most crucial functions of the bank and financial institutions. The Basel III, third installment of Basel accord was developed after crisis to strengthen bank capital requirements by increasing bank liquidity and decreasing bank leverage that encourages banks to measure credit risk of bank's portfolios. Similarly, in the view of Morris (2001), the Basel committee also raises an issue concerning the application of the risk weights used in the capital adequacy framework to determine exposure to risk assets for the purpose of determining large credit exposure.

The portfolio management of the Nepalese banking sector has been improved remarkably during last 10 years due to the strict regulation of Nepal Rastra Bank. Nevertheless, in recent years, the central bank of Nepal has introduced policies to improve bank performance and has taken measures to minimize the negative effect of lending. This journal will try to describe the present credit portfolio management practice of Nepalese Commercial Bank by using quantitative methods. In this study, concentration of banks for credit portfolio management has been studied by analyzing security wise loan, product wise loan and sector wise concentration of loan where the researcher has found assorted outcomes. Gajurel & Pradhan(2012) also provide some suggestions to overcome with problems associated with credit risk. In addition, the deregulation wide scope of activities and defined the banking activities while the advancement in information technology resulted in the adoption of advanced ways and tools in performing the various banking activities.

History shows that the major cause of bank's failure is lack of proper credit risk management. Credit risk comes from a bank's dealing with individuals, corporate, banks and financial institution (BAFI) or a sovereign. It does not necessary occur isolation. The same source that compromise credit risk for the bank may also expose it to other risk like operation risk, market risk, liquidity risk, etc. A bad portfolio may attract liquidity problem. The soundness and safety of bank is determined by effective credit risk management adopted by bank. Globally more than 50% of the total risk in BAFI is derived from poor credit risk management. Many BAFI have been failed due

to credit risk. Nepal Development Bank Limited, Samjhana Finance Limited, United Bikas Bank limited and Himalayan Finance Limited have been liquidated due to non-performing loans. Meanwhile, Acharya (2003) focused studies on branch expansion of commercial banks inrural areas while private commercial banks were more focused on bank expansion in urban area rather than rural areas to avoid higher cost of operation.

1.2 Statement of the problem

Present banking setup is the result of liberalization of economy, economic requirement and globalization. However, subsequent development of commercial banks in quality has not been satisfactory. The number of commercial banks and other financial institutions are increasing in recent time. None of commercial banks in long run can survive without implementing effective lending policy and practices. Bhattarai (2014) observed commercial banks in Nepal have been facing various challenges and problem. Some of them arising due to the economic condition of the country, some of them arising due to confused policy of government and many of them arising due to default of borrowers. The major reasons identified were relaxed credit standards and poor portfolio risk management. Similarly, Bhattarai (2014) observed most of the commercial banks in Nepal are evidenced to have approved loans without proper examinations which may lead to increase in a number of loan defaults and non-performing loans.

After liberalization in economy in banking sector there are various opportunities. In banking sector volume of deposit and loan are increased. Due to increasing competition in the market, banks are facing high pressure to reduce the interest margin, this reduces their competitiveness. Non-performing assets have become a large problem to the commercial banks. Due to NRB rules commercial banks have to keep certain percent of profit for provision on bad loan and non-performing assets. Due to high provision and economic situation of the country, banks are not able to get high profit. Lending in industries and productive sector is very risky project. Banks are investing in house loan, hire purchasing loan, education loan for safety purpose. Lack of good lending opportunities banks are facing problem of over liquidity. Increasing deposits in fixed and saving accounts and decreasing trend in lending is one of the serious problems in commercial banks. In addition, Bhattarai (2014)

contended that the existing credit risk management procedures are inadequate to handle the existing credit risk challenges in Nepal.

Credit risk creates greater impact on the company's profitability and liquidity. So, it is one of the crucial decisions for the commercial banks. It is encouraging to explore new sector for credit. Similarly, credit policies are not systematic and no clear cut vision on policy as available on credit aspects. In Nepal, it has been found that loan approval and credit decisions are made flexible to favor to personal network only. A new customer finds that credit providing process being very complicated and sometimes the documents submitted for loan sanctioning being fraudulent and for formality purpose only.

The issues specially related to credit management of commercial banks under study have been presented briefly as under:

1. What are the current position of NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?
2. Is there any significant mean difference in NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?
3. What is the relationship between NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?

1.3 Objectives of the study

For any study there has to be some objectives which highlights the purpose of doing the research work. The main purpose of this research is to examine the impact of credit risk indicators particularly; Non-performing loans Ratio (NPLR), Cost Per Loan Assets Ratio (CPLR), Capital Adequacy Ratio (CAR) and Loan and Advances Ratio (LAR) on the financial performance/profitability of the Nepalese commercial banks during the period 2009-2016. The profitability measured by ROA and ROE. The Specific objectives are:

1. To determine the current position of NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks
2. To investigate the significant mean difference in NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks
3. To examine the relationship between NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks

1.4 Significance of the study

Loans and advances are the most profitable of all assets of bank. These assets constitute primary sources of income to the bank. It means interest earned from such loan and advances occupy major space in income statement of the bank. As a business institute, a bank aims at making huge profit. Since, loan and advances are more profitable than any of other assets, the bank is willing to lend as much as its funds as possible. But it has to be careful about the safety of such loans and advances. So, it is very important to be reminded that most of the banks failures in the world are due to shrinkage on the value of loans and advances. Hence loan is known as risky assets. Risk of non-payment of loan is known as credit risk or default risk. Good and better credit management system and practices ensures lower non-performing assets and higher capital adequacy ratio. Therefore, better the credit management, higher the bank performance will be. So, the study on credit risk management in bank's performance is significant to various stakeholders.

First stakeholders are the banks themselves; they would find out impact and effect of credit management on bank performance. Secondly, this study will also be useful for other stakeholders of the banks like shareholders, creditors and depositors as it provides the basis for analyzing the performance of the banks. It will help the management of the commercial banks to identify the areas to be improved and will provide basis for formulating appropriate plans and policies to increase the profitability of their banks by uplifting the credit management system. Other stakeholders are the clients; they can take better decision for the loan, they can choose the bank of their own choice and priority. They will take credit from the bank which has the positive expectation about business and the bank which is making profit and has credit worthiness.

Government also gets benefitted from this study, if credit risk management practices and system is strong then only the performance of the bank will be raised and will ultimately generate tax revenue for the government. Likewise, this study will also help banking regulator i.e. NRB to develop a framework and to formulate policies, rules and regulations for measuring and assessing risk management practices. Since, next important stakeholders are the future researchers who can conduct research in the same area which are not included or have been left out in the present study and this

study will also provide a guideline to the researcher to conduct further study in same topic.

1.5 Organization of the study

This study has been organized into five major chapters: Chapter one deals with the general background of the study with the subject matter of the study. This chapter consist the statement of the problem, objective of the study, significance of the study and limitation of the study. Chapter two includes review of major empirical works articles. It also includes concept for credit risk management of commercial banks, related theories, review of empirical literature and theoretical framework. Chapter three deals with research methodology adopted to achieve the objective of the study, research questions and it consist of the research design, source of date and data collection method. At present, there are 28 numbers of commercial banks operating in Nepal in which 10 Commercial Bank (7 private banks and 3 government banks) will be taken for study.This study will be based on secondary sources of data which includes annual report of both banks.Chapter four deals with presentation and analysis of relevant data and information through a definite course of research methodology. Different regression analysis depends on the data. Lastly, chapter five summarizes the whole study, conclusion of the study and recommendation for the improvement in future to the related banks and interested group.

CHAPTER II

LITERATURE REVIEW

This chapter starts with presenting the overview of banking system in Nepal. Besides, bank loans including determinant factors were presented. Furthermore, concepts relating to non-performing loans ratio, cost per loan assets ratio, capital adequacy ratio and loan and advances ratio are discussed. Following this, empirical studies are reviewed by focusing impact of credit risk on bank's profitability are presented. Then after, the knowledge gaps from the reviewed literatures are outlined.

Boland (2012)found default of a small number of customers which may result in a very large loss for the bank. Bank profitability is usually expressed as a function of internal and external determinants. The internal determinants originate from bank accounts i.e. balance sheets and/or profit and loss accounts and therefore could be termed micro or bankspecific determinants of profitability. The external determinants are variables that are not related to bank management but reflect the economic and legal environment that affects the operation and performance of financial institutions. A number of explanatory variables have been proposed for both categories according to the nature and purpose of each study. The main conclusion emerging from these studies isinternal factors that explain a large proportion of banks profitability; nevertheless external factors have also had an impact on their performance. Some recent studies also focus on the impact of credit risk on bank's performance and profitability and report only weak evidence to support that bank supervisory structure and regulations affect bank profits.

Risk is the possibility that the actual return of an investment will differ from the expected return. Risk can also be defined as the realistic possibility of losing the principal invested and the amount of interests accrued on it either partially or completely. Credit risk is the risk that a borrower defaults and does not honor its obligation to service debt. It occurs when the borrower is unable to pay his debts as agreed or fails to make timely payment on his debt servicing.Credit risk has been identified by Basel Committee as a main source of risk in the early stage of Basel AccordDas & Ghosh (2007) linked effective management of credit risk as inseparably linked to the development of banking technology which enables high speed loan

decision making and simultaneously reduce the cost of controlling credit risk. This requires a complete base of partners and contractors. Credit risk is one of significant risks of banks by the nature of their activities. Meanwhile, Iwedi & Onuegbu (2014)found effective management of credit risk exposure banks not only support the viability and profitability of their own business but also contribute to systemic stability and to an efficient allocation of capital in the economy.

Banks are established with various objectives. These could either to influence bank's performance, enhancing profitability or increasing shareholders return, and are often accomplished at the cost of increased risk. Risk-taking is an inherent component of banking and achieving either of these objectives as a reward for successfully managing risk. Iwedi & Onuegbu (2014) observed that the greater the risk, the higher the return. Hence, the business must strike a trade-off between the two. In addition, risk management in banking impacts significantly on economic growth of the nation and business development. Inefficient management of risk by banks may not only prevent banks from achieving its objectives but also lead to bankruptcy. Therefore, banking activities are always involved with various kinds of risk. Risks are considered warranted when they are understandable, measurable and controllable within a banks capacity to willingly resist its adverse effect as per NRB 2010. Sound risk management enables bank management to take risks knowingly reduces risks when appropriate and prepare for the risk that cannot be predicted as per NRB 2010. Iwedi & Onuegbu (2014) successfully carried out it in line with the benefits the banks by increasing efficiency and profitability, attracting more customers. Therefore, efficient management of risk by banks have influence on their accounting performance.

2.1 Related theories

The theories that are reviewed in this study are: credit risk theory, portfolio theory, commercial loan theory, the shiftability theory, the anticipated income theoryand the liability management theory.

2.1.1 Credit risk theory

Credit risk according to Anderson Salas & Saurina (2002) refers to the risk that a borrower will default on any type of debt by failing to make required payments. The risk is primarily that of the lender and includes lost principal and interest disrupt loss may be complete or partial and can arise in a number of circumstances such as an

insolvent bank unable to return funds to a depositor. To reduce the lenders risk, the lender may perform a credit check on the prospective borrower which may require the borrower to take appropriate insurance such as mortgage insurance or seek security or guarantees of third parties. In general, Ogboi charles (2013) proposed the higher the risk, the higher will be the interest rate that the debtors will be asked to pay on the debt. Although people have been facing credit risk ever since early ages, credit risk has not been widely studied until recent 30 years. Early literaturebefore 1974 on credit uses traditional actuarial methods of credit risk whose major difficulty lies in their complete dependence on historical data. Up to now, there are three quantitative approaches of analyzing credit risk; structural approach, reduced form appraisal and incomplete information approach.Melton 1974 introduced the credit risk theory otherwise called the structural theory which is said the default event derives from a firm's asset evolution modeled by a diffusion process with constant parameters. Such models are commonly defined structural modeland based on variables related a specific issuer. An evolution of this category is represented by asset of models where the loss conditional on default is exogenously specific. Long staff and Schwartz, (1995) in his models observed the default can happen throughout all the life of a corporate bond and not only in maturity.

2.1.2 Portfolio theory

Portfolio theory of investment which tries to maximize portfolio expected return for a given amount of portfolio risk or equivalently minimize risk for a given level of expected return by carefully choosing the proportions of various assets. Although portfolio theory is widely used in practice in the finance industry and several of its creators Markowitz (1952)won a Nobel prize for the theory, in recent years the basic portfolio theory have been widely challenged by fields such as behavioral economics.Portfolio theory was developed in 1950'sthrough the early 1970's and was considered an important advance in the mathematical modeling of finance. Since then many theoretical and practical critics have been developed against it. Michael and Sproul (1998) include the fact that financial returns do not follow a Gaussian distribution or indeed any symmetric distribution, and those correlations between asset classes.

2.1.3 Commercial loan theory

The oldest theory of banking is the commercial loan theorywhich is also called as real

bills doctrine. The commercial loan theory holds that banks should lend only on short term, self-liquidating, commercial paper. According to Hosna & Manzura (2009) the commercial loan theory is geared to influence persuasively both the bank lending and the general economic activities. Strict adoption of this theory will reveal that it is expected to serve as a monetary supply to changes in aggregate economic activity. The popularity of this doctrine among Deposit-Money Banks (DMBs) in Nigeria is evident. Nigerian bankers believe that since their resources were repayable at short notice such depositor's money should be employed accordingly in short-term loans. Kargi (2011) posted that the strong tie to this conception is rather orthodox if consideration is given to the fact at the time of the supremacy of the theory. There were little or no secondary reserve assets which could have served as a liquidity buffer for the bank.

Moreover, this theory fails to consider the credit needs of Nigeria's developing economy. It has not encouraged banks to fund the purchases of plants, equipment, land and home-ownership. For a theory to maintain that all loans should be liquidated in the normal course of business shows its failure to recognize the relative stability of bank deposits. Whereas, demand deposits are on demand, all depositors are not likely to demand payment at the same time. Thus, stability of deposits enables a bank to extend funds for a reasonable long period without danger of illiquidity. Though with its flaws, the commercial loan theory or real bills doctrine has been a persistent theory of banking. Vestiges of it still remain in the structure of bank regulatory agencies, bank examination procedures and the thinking of many bankers. One cannot understand contemporary banking without an understanding of our banking history and cannot understand banking history without an understanding of the commercial loan theory.

2.1.4 The shiftability theory

This theory assumes that assets need not be tied on only self-liquidating bills, but Moti & Masinde (2012)also held in other shiftable open-market assets such as government securities. It must be noted that the shiftability theory did not replace the commercial loan theory or made it to be invalid. Instead the shiftability theory took a more general view of the banking business by broadening the list of assets deemed legitimate for bank ownership. The shiftability theory does not say that commercial loan are inappropriate bank assets, it does say that commercial loans are not the only

appropriate asset. The thrust of the shiftability theory holds that the liquidity of a bank depends on its ability to shift its assets to someone else at a predictable price. Thus, for example, it would be quite acceptable for a bank to hold short-term open market investments in its portfolio of assets.

According to Hosna & Manzura (2009), the shiftability theory had a profound effect on banking practices can hardly be denied. What it did, basically was to redirect the attention of bankers and the banking authorities from loans to investments as a source of bank liquidity. Indeed proponents of the theory argued that the liquidity of short-term, commercial loans was largely fictional in any case. According to Kargi (2011)with the commercial loan theory, the shiftability theory contained a serious flaw. Actually, this flaw did not lie so much in the theory itself which was well understood by the various writers on the subject as it did in the bank management practices to which the theory led. The defect of the theory was simply one bank could obtain needed liquidity by shifting its assets, the same thing was not true of all banks taken together.

2.1.5 The anticipated income theory

Out of a comprehensive study in 1949, now formulated a new loan theory which was called Anticipated Income Theory. According to Afriyie & Akotey (2011) they found in the study that: In every instance, regardless of the nature and character of the borrower's business, the bank planned liquidation of term loans from anticipated earnings of the borrower. Liquidation is not by sales of assets of the borrower as in commercial or traditional theory of liquidity or by shifting the term loan to some other lenders as in the shiftability theory of liquidity but by anticipating income of the borrower. In effect, this theory assumes that banks should make loans on the basis of the anticipated income of the borrower and not on his present value. In the words of Kolapo, Ayeni, & Oke (2012) strike thing with this theory is its future-oriented approach to bank loans and advances. It is also generally known as cash flow approach to lending. Properly understood, this theory was a rival only to the commercial loan theory, not the shift ability theory. It does not question the shiftability view that a bank's most fundamental source of liquidity is its secondary reserves. Rather, Moti & Masinde (2012) focused attention on the types of loans appropriate for a bank to make but came to quite a different conclusion than that reached by the advocates of the commercial loan theory.

2.1.6 The liability management theory

This theory holds that it is unnecessary to observe traditional standards since reserve money can be borrowed or obtained in the money market using short term debt instruments whenever a bank experiences reserve deficiency. According to Semere & Cheyan (2017) it does not mean that the bank manages only its liabilities and passive with respect to its assets. Rather the theory continues to recognize that the asset structure of the bank has a prominent role to play in providing the bank with liquidity. But the theory takes a one dimensional approach to liquidity and argues that the bank can also use its liabilities for liquidity purposes. A bank wants liquidity for deposit withdrawal purposes and also to meet the reasonable loan requests of its customers. Not only are bank loans profitable but a bank that won't or can't make loans to its depositors when they need funds is not likely to keep those depositors for very long.

2.2 Review of empirical literature

A thorough review of literature has been carried out to examine the impact of credit risk management on bank's profitability in several dimensions. As this study is focused on credit risk management in banking, the review mainly concentrated on the studies related to the analyses of the impact of credit risk management on bank's performance in the context of various countries. Table 2.1 presents a summary of the empirical studies undertaken by authors who have investigated the relationship between credit risk management and bank performance along with the variables and methods used by them as presented in Annex I

Nawaz et al (2012) evaluate the impact of credit risk on the profitability of Nigerian banks from 2004 to 2008 using multiple regression analysis. The ratio of non-performing loan to loan & advances and ratio of loan & advances to total deposit were used as indicators of credit risk. Return on asset was used as an indicator of financial performance. The findings of this study show that bank's profitability is inversely influenced by the level of loan and advances, non-performing loan and deposits thus exposing them to risk of illiquidity and distress. The authors recommend for the management to be cautious when setting up the credit policy as not to affect profitability.

The study investigated the impact of credit risk on the profitability of Nigerian banks. From the findings it is concluded that banks profitability is inversely influenced by

the levels of loans and advances, non-performing loans and deposits thereby exposing them to great risk of illiquidity and distress. Therefore, management need to be cautious in setting up a credit policy that will not negatively affects profitability and also they need to know how credit policy affects the operation of their banks to ensure judicious utilization of deposits and maximization of profit. Improper credit risk management reduce the bank profitability, affects the quality of its assets and increase loan losses and non-performing loan which may eventually lead to financial distress. CBN for policy purposes should regularly assess the lending attitudes of financial institutions. One direct way is to assess the degree of credit crunch by isolating the impact of supply side of loan from the demand side taking into account the opinion of the firms about banks lending attitude.

Finally, strengthening the securities market will have a positive impact on the overall development of the banking sector by increasing competitiveness in the financial sector. When the range of portfolio selection is wide people can compare the return and security of their investment among the banks and the securities market operators. As a result, banks remain under some pressure to improve their financial soundness.

Poudel (2012) attempts to identify the various parameters pertinent to credit risk management as it affects banks' financial performance by using data of 31 commercial banks of Nepal from 2001 to 2011 and by applying multiple regression analysis. The parameters specified in the study were default rate, cost per loan assets and capital adequacy ratio. The findings revealed that all these factors have an inverse impact on banks' financial performance and that default rate is the most significant predictor of bank financial performance.

From the findings, the author recommends for Nepalese commercial banks to emphasize more on risk management as risk management but in general sense it has a significant contribution to bank performance. Further, the author recommends that in order to reduce risk on loans and achieve maximum performance, the banks need to allocate more fund to default rate management and try to maintain an optimum level of capital adequacy. The general objectives of the study was to establish the impact of credit risk management on financial performance of banks and specific objectives were to establish impact of default rate, cost per loan assets on bank financial performance. The result of the showed that credit risk management is an important predictor of bank financial performance thus success of bank performance depends on

risk management. The study results also showed that default rate as one of the risk management indictors is a major predictor of the bank financial performance to the extent of 56% and followed by capital adequacy ratio at 25%. Credit risk management is crucial on the bank performance since it have a significant relationship with bank performance and contributes up to 22.6% of the bank performance. Among the risk management indicators, default rate management is the single most important predictor of the bank performance whereas cost per loan assets is not significant predictors of bank performance.

Since risk management in general has very significant contribution to bank performance, the banks are advised to put more emphasis on risk management. In order to reduce risk on loans and achieve maximum performance the banks need to allocate more funds to default rate management and try to maintain just optimum level of capital adequacy. Based on the study other factors not studied in this research has a very significant contribution of 77.4% to bank performance therefore require further research to efficiently manage the credit risk hence improve bank financial performance.

Kolapo, Ayeni& Oke (2012) carried out an empirical investigation into the quantitative effect of credit risk on the performance of commercial banks in Nigeria over the period of 11 years 2000- 2010 in five commercial banks. The traditional profit theory was employed to formulate profit, measured by Return on Asset (ROA), as a function of the ratio of Non-performing loan to loan & Advances (NPL/LA), ratio of Total loan & Advances to Total deposit (LA/TD) and the ratio of loan loss provision to classified loans (LLP/CL) as measures of credit risk. Panel analysis was employed. The results from the analysis showed that the effect of credit risk on bank performance measured by the Return on Assets of banks was cross-sectional invariant. That is the effect is similar across banks in Nigeria, though the degree to which individual banks were affected was not captured by the method of analysis employed in the study.

The following conclusions are made from the panel data regression analysis of the effect of credit risk on bank performance measured by return on equity. The effect of credit risk on bank performance measured by the Return on Assets of banks is cross-sectional invariant. That is, nature and managerial pattern of individual firms do not determine the impact. This is revealed by the restricted F-test under the fixed effect

analysis. Loan and Advances ratio (LA) coefficient exerts most significant positive effect on the profitability across the banking firms.

Berrios (2013) attempted to explore the relationship between the increase in bank risk and the global financial crisis conducting the analysis in two phases. The first phase considered the latest data available including insider holdings and chief executive officer compensation and tenure. While the second phase employed regression model using the online database as data source. The sample size for the second phase is 40 banks which have been selected randomly from the database for the period 2005 to 2009 total to about 200 observations. The performance variables used for the second phase are net interest margin, return on assets, return on equity, and cash flow to assets whereas the independent variables used are insider variable for bank less prudence variable for bank, compensation variable for bank, tenure variable for bank, loans to deposits, and total tenure have a negative impact on bank's performance. However, it is emphasized in the study that more evidence needs to be obtained before generalizing this finding.

The findings from regression result show a negative relationship between loans to deposits and cash flows, but a positive relationship between lesser prudence in lending and financial performance to equity. The findings suggest that insider holdings and chief executive officer of higher tenure have a negative impact on banks' performance. However, it is emphasized in the study that more evidence needs to be obtained before generalizing this finding. The findings from regression result show a negative relationship between loans to deposits and cash flows, but a positive relationship between lesser prudence in lending and financial performance.

This research was done to explore the relationship between increases in bank risk and the global financial crisis. The analysis was made in two phases. The first one considered the latest data available, including insider holdings and chief executive officer compensation and tenure. The second one extended the financial data set to the years 2005 to 2009, for a total of 200 bank observations.

The findings suggest that insider holdings and chief executive officer having a higher tenure may be negatively related to bank performance. This may be an adverse effect of the agency problem. However, more evidence should be obtained before this finding may be generalized. Expected results were the negative relationship between

loans to deposits and cash flows. Higher loans to deposits ratio may be seen as a signal of lower liquidity due to greater amounts of cash given to borrowers relative to those received from depositors. When considering the results for the complete 200 observation data set, in general, there appears to be a positive relationship between the measure that represents lesser prudence in lending and financial performance. This suggests that higher prudence on average led to lower bank performance. However, it may very well be that the allowance for loan losses to net loans measure used as a proxy for lesser prudence instead was influenced by greater conservatism and consequently higher than expected balances for the allowance for loan losses account.

Kaaya & Pastory (2013) analyzed the relationship between credit risk and bank performance of commercial banks in Tanzania using regression analysis. The credit risk indicators used by the authors include loan loss to gross loan, non-performing loan, loan loss to net loan and impaired loan to gross loan. As in previous studies, the bank performance indicator used is return on asset. The overall findings of this study show that credit risk indicators used in this study have a negative correlation with bank performance meaning that an increase in credit risk tends to lower bank performance. The authors recommends that banks need to maintain a substantial amount of capital reserve to absorb credit risk in the event of failure as well as to enhance lending criteria, portfolio grading and credit mitigation techniques to reduce chances of default.

Conclusively it has been witnessed that the increase in credit risk tends to lower firm performance both indicators have produced the negative coefficients which tends to lower profit level. Credit risk is not a bad situation as it is related to bank return from empirical theory it has been stated that the higher the risk the higher the bank return due to the bank ability to increase portfolio but the bank need to balance and foresee the return. With these the bank need to maintain substantial amount of capital reserve to absorb credit risk in event of failure moreover the bank need to enhance lending criteria, portfolio grading and credit mitigation techniques to reduce chance of default. Meanwhile the adoption of sound management practices and corporate governance will reduce credit risk.

Ogboi & Unuafe (2013) investigate the impact of credit risk management strategies and capital adequacy on banks financial performance in Nigeria from 2004 to 2009 using panel data analysis. The study considered loan loss provision, loan and

advances, non-performing loan, capital adequacy ratio and liquidity as independent variables and return on asset as the dependent variable. The result of panel data regression showed that sound credit risk management and capital adequacy impacted positively on bank's financial performance with the exception of loan and advances which was found to have a negative impact on bank profitability. Based on the result, the authors recommend Nigerian banks to establish appropriate credit risk management strategies by conducting rigorous credit appraisal before loan disbursement and drawdown. Additionally, the authors recommend Nigerian banks to pay adequate attention to enhancing Tier-One capital.

From the findings of the study, the following recommendations are made; For Nigerian banks to achieve enhanced and sustained profitability through interest income, from loans and advances, appropriate credit risk strategies to be instituted. Banks therefore need adequate and accurate information from both internal and external sources in order to access the multiplicity of credit risks they face when presented with a loan proposal. Banks are also advised to patronize credit bureaus. Credit information bureaus would bridge the information gap that exists whenever there loan request in commercial and consumer finance by tracking the financial behavior of individuals over a period of time. Bank staff that involved in credit administration should be rewarded and appraised based on performance. Performance measures should include the ratio of Non-performing assets to total risk asset or ratio of Loan Loss Provisions to Non-performing assets. The result of the study clearly shows that capital adequacy is a great predictor of banks profitability. This becomes necessary where banking regulation specifies that a bank should not land above a specified amount of its shareholders funds unimpaired by losses to a single obligator. Small banks which are poorly capitalized cannot offer certain categories of credit facilities. In the final analysis, the worth of capital for a bank serves as a buffer against loss of depositor's funds. Nigerian banks should be well capitalized even without the promptings of the regulatory authority.

Zubairi & Ahson (2015) examined the strength of linkage between current risk management practices and profitability of five Islamic banks in Pakistan over a seven-year period 2007-2013 using primary survey as questionnaire and secondary data as annual reports. Like many other studies, the dependent variables are in this ROA and ROE. The explanatory variables are advances and investments/total assets, number of

branches, GDP per capita, interest rates, competition, and taxation. In this study, a pooled regression analysis was employed to ascertain the relationship between risk management practices and bank profitability. The study concludes that risk management has a significantly negative impact on profitability during the period 2007-2013.

The findings of the study are strength of risk management practices generally has a significant negative impact on profitability of the Islamic banks in Pakistan. However, within the risk management practices, risk policy and environment does not have statistically significant influence on profitability of Islamic banks in Pakistan. In the meanwhile, the strength of branch network is strongly positively associated with the profitability of Islamic banks in Pakistan. Similarly, Growth in the economy and increase in interest rates generally lead to greater profitability of the Islamic banks in Pakistan.

Bhattarai (2014) examined the effect of credit risk on the performance of Nepalese commercial banks using pooled data of fourteen commercial banks of Nepal for the period of 2010 to 2015 totaling to 77 observations. The 77 observations include capital adequacy ratio, non-performing loan ratio, cost per loan assets, cash reserve ratio and bank size as an independent variable; and return on assets as a dependent variable. Regression analysis was used to assess the data. The findings of the study showed that the commercial bank under consideration has been practicing poor credit risk management. This was further evidenced by the negative effect of non-performing loan ratio on bank performance and the positive effect of cost per loan assets on bank performance. In contrast to other studies, the author found that capital adequacy ratio and cash reserve have no influence on bank performance. Since there is a significant relationship between credit risk and bank performance, the author suggests that the banks establish proper credit risk management strategies by conducting sound credit evaluation procedure before granting loans to customers.

Kurawa & Garba (2014) devoted effort to assess the effect of credit risk management on the profitability of Nigerian banks during the period 2002 to 2011 using the generalized least square regression technique as a methodology. The credit risk management indicators used in this study are default rate, cost per loan asset and capital adequacy ratio. The profitability ratio indicator like many other studies is ROA. The findings of this study show that default rate, cost per loan assets and capital

adequacy ratio have a significant positive relationship with ROA. The authors recommend that it is necessary for Nigerian banks to practice scientific credit risk control, improve their efficacy in credit analysis and loan management and minimize the high incidence of non-performing loans and their negative effect on profitability.

Ali Sulieman (2015) examined the effect of credit risk management on financial performance of the Jordanian commercial banks during the period 2005-2013, thirteen commercial banks were chosen to express on the whole Jordanian commercial banks. Two mathematical models were designed to measure this relationship; the research revealed that the credit risk management has effect on financial performance of the Jordanian commercial banks as measured by ROA and ROE. The research further revealed that the credit risk management has a significant effect on financial performance of the Jordanian commercial banks. Based on findings, the researcher recommended that banks should improve their credit risk management to achieve more profits, should take into consideration, the indicators of Non-performing loans/Gross loans, provision for facilities loss and the leverage ratio that were found significant in determining credit risk management.

The study further recommended that banks should establish adequate credit risk management policies by imposing strict credit estimation before granting loans to customers. The main purpose of this research is to investigate the effect of credit risk management on bank's financial performance through identifying the credit risk management and financial performance indicators, and to find an empirical evidence of the degree to which credit risk management affects bank's financial performance and how the banks can enhance their financial performance ratios. There is a continuing debate about the nature and degree of the effective credit risk management effect on firms' profitability. This research indicates that Non-performing loans/Gross loans ratio is employed to estimate the effectiveness and suitability of a bank's credit risk management. Amazingly, this ratio has a positive effect. This result is on contrary to what is expected of NPL ratio to have a negative effect on bank'sperformance. The empirical results show a positive effect of non-performing loans on banks profitability.

This result reveals that, in spite of a large number of unpaid loans, NPL ratio has a positive effect on profitability. This means that, Jordanian banks need to establish efficient arrangements to deal with credit risk management. The results also reveal

that the Capital adequacy ratio, Credit interest/Credit facilities and the leverage ratio don't affect the profits of the Jordanian commercial banks as measured by ROE, suggesting that other variables other than Capital adequacy ratio, Credit interest/Credit facilities and the leverage ratio effect on banks' profitability. Therefore banks that are enthusiastic about increasing profitability should focus more on factors other than these variables.

The researcher found that the leverage ratio negatively contributes to bank's profitability and so companies should not be highly financed by debt, because a larger financial leverage will lead to increase company's debt services and so their liabilities which may negatively affect to companies performance. This result is not consistence with the notion that, one of the best ways in which company increases its profit is through financial leverage. Where increasing the percent of debt in the capital structure may increase or decrease the ROE. Firm prefers debt if it achieves relatively high profits as it appears in higher returns to owners. The researcher further concluded that the credit risk management indicators considered in this research is important variables in explaining profitability of Jordanian commercial banks.

Based on findings from the empirical analysis, the study offers the following recommendations, through which they can work to improve credit risk management and to have an effective role in achieving profitability as follows; Jordanian commercial banks should take into consideration, the indicators of Non-performing loans/Gross loans, Provision for facilities loss/Net facilities and the leverage ratio that were found significant in determining credit risk management. Bank in order to design an effective credit risk management system need to establish a suitable credit risk environment; operating under a sound credit granting process, maintaining an appropriate credit administration that involves monitoring, processing as well as enough controls over credit risk. Banks need to place and devise strategies that will not only limit the banks exposition to credit risk but will develop performance and competitiveness of the banks and banks should establish a proper credit risk management strategy by conducting sound credit evaluation before granting loans to customers.

Gizaw & Kebede (2015)empirically examine the impact of credit risk on profitability of commercial banks in Ethiopia. For the purpose secondary data collected from 8 sample commercial banks for a 12 year period 2003-2004 was collected from annual

reports of respective banks and National Bank of Ethiopia. The data were analyzed using a descriptive statics and panel data regression model and the result showed that credit risk measures; non-performing loan, loan loss provisions and capital adequacy have a significant impact on the profitability of commercial banks in Ethiopia. The study suggested a need for enhancing credit risk management to maintain the prevailing profitability of commercial banks in Ethiopia.

Abu Hanifa, Sajeda, Mustafa, & Hasanul (2015) found the effect of credit risk on profitability of the banking sectors of Bangladesh. The study uses an unbalanced panel data and 172 observations from 18 private commercial banks from 2003 to 2013. The study uses NPLGL, LLRGL, LLRNPL and CAR as credit risk indicators and ROAA and ROAE and NIM as profitability indicators. Using OLS random effect model, GLS and system GMM the study finds a robust negative and significant effect of NPLGL, LLRGL on all profitability indicators. The analysis also finds a negative and significant effect of CAR on ROAE. As an additional analysis, the results reveal that the effect of the implementation of Basel II is significantly positive on NIM but significantly negative on ROAE. The analysis reveals some significant policy implications for increasing profitability and protecting bank from crisis.

They aim to investigate the effect of credit risk on profitability and also the effect of Basel II implementation effect on profitability of the banks in Bangladesh. We use an unbalance panel data of 172 observations from 18 private commercial banks from the period of 2003 to 2013. We use NPLGL, LLRGL, LLRNPL and CAR as credit risk indicator and ROA, ROE and NIM as profitability indicators. In the investigation process we use OLS random effect model based on the result of Houseman test. We further use GLS and GMM for checking robustness of our result. The results are found free from multi-collinearity, heteroscedasticity and autocorrelation. The results reveal a robust significant negative relationship between NPLGL and LLRGL and all profitability indicators of the commercial banks in Bangladesh. More specifically it is found that that one unit rise in NPLGL decreases ROA by 0.05 unit, ROE by 0.54 unit and NIM by 0.12 units respectively keeping other repressors constant and one unit increases LLRGL decreases ROA by 0.1 units, ROAE by 1.25 units and NIM by 0.02 units keeping other explanatory variables constant. The results further reveal that the effect of LLRNPL and CAR on profitability is mixed which is found robust in all specifications.

It is worth noted that the effect of LLRNPL on different profit proxies is very little in spite of found negative and significant on NIM and positive and insignificant on both ROAA and ROAE. The effect of CAR is found negative and significant on ROE but positive and significant on NIM while it affects ROA positively and insignificantly. The results further show that implementation of Basel II accord increases NIM of the commercial bank significantly but reduce ROE significantly in all specifications. The analysis finds that credit risk effects profitability of the commercial banks negatively. Therefore, banks need to use prudent credit risk management procedure in order to ensure profitability and safe the bank form loss and crisis.

Kodithuwakku (2015) identify the impact of credit risk management on the performance of the commercial banks in Sri Lanka. This study is primarily based on both primary and secondary data. Primary data were collected from eight commercial banks from 24 commercial banks in Sri Lanka. The sample was selected from the population based on the superior financial performance for the period under review and the availability of the consistent data over the set period. The primary data was collected mainly through an interview. The relevant authorities were interviewed personally in order to have their views on the problems and solutions. The secondary data were obtained from various sources such as Annual Reports of the selected commercial banks, relevant articles, books and magazines etc. The panel data of a five year period from 2009 to 2013 from the selected banks were used to examine the relationship between credit risk and performances. The Return on Assets (ROA) is used as performance indicator and Loan provision to Total (LP/TL), Loan Provision to Non-Performing Loans (LP/NPL), Loan Provision to Total Assets (LP/TA) and Non-Performing Loans/ Total Loans (NPL/TL) were used as indicators of credit risk. Further, a regression model was used to establish the relationship between amounts of loan as well as non-performing loans and profitability during the period of study by using E-views software. The result shows that non-performing loans and provisions have an adverse impact on the profitability. Therefore, the study recommended the banks to implement an effective tools and techniques to reduce the credit risk management.

The study suggests that all the independent variables except loan provision to total loan have negative impact on profitability. The non-performing loan, loan provision and loan provision to nonperforming loans of the banks are significantly negatively

related with ROA. The parameter value shows that 1% increase in non-performing loans decreases ROA by 13.7587% and 1% increase in loan provision decrease ROA by 1.0139%. In addition to that 1% increase in loan provision to non-performing loans decreases ROA by 0.0792%. On the other hand the regression results show that loan provision to total assets of the banks is significantly positively related to ROA. The parameter value shows that 1% increase in loan provision increases ROA by 0.1035%.

In terms of fitness of the study model, the coefficient of multiple determinations R^2 indicates that 25.5253% (adjusted R-squired 10.63%) of the variations in ROA are explained by the combined influence of credit risk indicators (NPL/LP and LA/TA) in the model. The Durbin Watson statistic measures the serial correlation of the variables. The result of the Durbin Watson test shows 2.599. Since the value is approximately 2.00, it is accepted that there is no autocorrelation among the successive values of the variables in the model. The results verify the objective of the study that better credit risk management results in better bank performances. The research findings indicate that the banks should ensure that they deploy a well establishes credit risk management framework.

Bayyoud & Sayyad (2015) assessing the relationship between credit risk management and profitability. Explanatory design of study helped in assessing the casual effect relationship between the research variables. The regression model was used for gathering quantitative findings while structured interview from bank managers was selected for gathering qualitative data. The findings of the regression model in the current study confirmed that there is no consequence of credit risk on profitability of commercial and investment banks of Palestine. Additionally, it was also found that there is no difference between the Palestinian commercial and investment banks concerning the relationship.

This article confirms that there is no relationship between credit risk and profitability in such way that profits of banks are affected due to credit facilities. The majority of the managers confirmed the wide use of credit risk management principles within their institutions for the development of value and evaluating uncertainties associated with the business. The use of collateral is made for setting the limits and ceilings for the amounts of credit facilities. Appropriate collaterals are obtained from the customers. Respondents also confirm that an individual committee works in their

banks for controlling the credit issues. However, it is worthy to note down that effects of bank size, credit risk in relation to capital adequacy, assets monitoring and operational administrations also contribute vitally on the financial performance of banks in Palestine.

Furthermore, various ratios are used by the banks for determining their profitability level. These include return on assets and return on equity as vital ones. Return on equity and NPLR however were found effectively used in most of the past studies. It can be summarized at the end that there is no difference in the investment and commercial banks in relation to the association between credit risk and profitability.

Saeed & Zahid (2016) made a study on the impact of credit risk on profitability of five big UK commercial banks. For measuring profitability, two dependent variables ROA and ROE were considered whereas two variables for credit risks were: net charge off or impairments and nonperforming loans. Multiple statistical analyses were conducted on bank data from 2007 to 2015 to cover the period of financial crisis. It was found that credit risk indicators had a positive association with profitability of the banks. This means that even after the deep effects of credit crisis in 2008, the banks in the UK are taking credit risks, and getting benefits from interest rates, fee, and commissions etc. The results also reveal that the bank size, leverage and growth were also positively interlinked with each other and the banks achieved profitability after the financial crisis and learned how to tackle the credit risk over the years.

Banks like other financial institutions face a number of risks and hazards including credit risks, liquidity risks, operational risks, exchange rate risks, interest rate risks, political risks and all other internal and external risks. However, credit risk is considered as the most common and dangerous risk especially for the banks that can put them into deep trouble and even they may face bankruptcy. During the financial crisis of 2008, several banks passed through a deep recession due to mismanagement of credit risks and therefore, in this study 5 top UK banks are critical analyses to measure the level of relationship between credit risk and profitability of these banks and to find out what degree/extent credit risk obstructs the growth of the banks. The profitability in the banking sector is often measured through ROE and ROA indicators whereas the credit risk is measured in various ways. But in the light of literature, two variables i.e. net off charge over total loans and non-performing loans over total loans are used for measuring credit risks of 5 topmost UK banks.

Based on regression models, it is interesting and quite surprising to find out that credit risk indicators have a positive association with profitability of the banks. This means that even after the deep effects of credit crisis in 2008, the banks in the UK are taking credit risks and earning benefits from interest rates, fee, and commissions etc. The results also reveal that the bank size, leverage, and growth are also positively interlinked with each other. It is also unveil that the banks achieved profitability and growth after the financial crisis and learned how to tackle the credit risk over the years. Thus, the results do not disclose any major negative association between bank profitability and credit risk variables. However, few minor negative relationships indicate that credit risk improves bank profitability. Hence, UK banks should be confident in minimizing the lending rates, and also decreasing commission and fee charges. It is also important for the borrowers to repay their full loans on time settled in the beginning of the agreement.

Taiwo(2017) makes an empirical investigation into the quantitative effect of credit risk management on the performance of Nigeria's Deposit Money Banks (DMBs) and Bank lending growth over the period of 17 years 1998- 2014. Secondary data for empirical analysis was obtained from CBN Statistical bulletin 2014 and World Bank (WDI) 2015. The study employed multiple linear regression models to analyze the time series data. The result showed that sound credit management strategies can boost investors and savers confidence in banks and lead to a growth in funds for loans and advances which leads to increased bank profitability. The findings revealed that credit risk management has an insignificant impact on the growth of total loans and advances by Nigerian Deposit money banks. The study therefore recommends that DMBs in Nigeria should strictly adhere to their credit appraisal policies which ensures that only credit worthy borrowers have access to loanable funds. Banks are to ensure that funds are allocated to borrowers with decent to high credit ratings.

The study results showed that sound credit management strategies can boost investors and savers confidence in banks and lead to a growth in funds for loans and advances which leads to increased bank profitability while non-performing loans was also positively related to lending growth. This may be because depositors usually do not evaluate the credit risk management effectiveness of banks prior to placing deposits in the banks. Interest rate spread was also found to be negatively related to total loans and advances as savers are reluctant to deposit cash with the bank when the deposit

interest rate is too low and banks encounter difficulty in finding credible borrowers when the lending rate is too high.

The study recommends that DMBs in Nigeria should improve and maintain strict adherence to their credit risk strategies, appraisals and analysis. Banks are to ensure that funds are allocated to borrowers with decent to high credit ratings. We conclude that money supply and loan to deposit ratio have the biggest influence on bank lending growth. The effect of credit risk on bank lending measured by the total loans and advances is statistically insignificant. That is other factors like money supply and loans to deposit ratio have a stronger bearing on the lending ability of deposit money banks and increase profitability. It is necessary to state that effective credit risk management allows the banks to source for capital internally from its profits instead of depending heavily on external borrowings and liabilities. The findings reveal that bank loans and advances may not be handicapped by their non-performing loans suggesting that savers and the Central Bank might have continued to increase the amount of money available for lending regardless of the size of the non-performing loans portfolio.

Hamza (2017) has captured the impact of credit risk management on performance of commercial banks in Pakistan. A fundamental research proposal was accepted in this study, and this was facilitated by the use of secondary data which was obtained from the SBP publications on banking sector survey, official websites and KSE. The pooled regression has been adopted to determine the impact of credit risk management on two performance methods. The findings revealed the fact that credit risk management is inversely associated with bank performance. For return on asset (ROA) analysis revealed that capital adequacy ratio (CAR), Loan loss provision ratio (LLPR), liquidity ratio (LR) and Non-performing loan ratio (NPLR) variables have significant impact on return on assets (ROA). The Loan loss provision ratio (LLPR), liquidity ratio (LR) and Non-performing loan ratio (NPLR) have negative while the capital adequacy ratio (CAR), loan and advances (LAR), and size have positive impact on the return on assets.In relation to return on equity, CAR, LAR and LLPR variables have significant impact on ROE. In this model the LLPR, NPLR and LR variables have negative and CAR, LAR and SIZE variables have positive impact on the dependent variable.

In this fast economic world the banks are considered as backbone for the acceleration of economic activities because they play pivotal role but banks have to face several types of risks because risk is inherited to banking operations and the most severe one is credit risk. The continuity of business of the banks is only possible if the business of the bank is not damaged by the negative winds of credit risk. Unfortunately the banking sector of Pakistan is in the scenario where they have to face huge credit risk because the level of NPLs is much higher relative to other developed and developing countries. Thus there is a need to manage the credit risk so that the functions of the bank can run smoothly. The objective of the study is to analyze the impact of credit risk management on the performance of commercial banks of Pakistan. For this purpose the secondary data of 13 commercial banks for the period of 2005 to 2014 is collected. In order to evaluate the impact on performance two profitability measures; ROA, ROE were used as dependent variables.

On the other hand to detect the impact of credit risk 6 explanatory variables. The independent variables include the non-performing loans ratio (NPL), loan and advances ratio (LAR), liquidity ratio (LR), ratio of loan loss provision (LLPR) capital adequacy ratio (CAR) and bank size. The pooled regression has been adopted to determine the impact of credit risk management on two performance measures. The findings revealed the fact that credit risk management is inversely associated with bank performance. From the above mentioned results it can be concluded that the credit risk management have inverse relationship with bank performance. Thus the management needs to be cautious about non-performing loans, loan and advances and liquidity ratio because these ratios are severely affecting the profitability of banks. Moreover, capital adequacy contributes positively in bank performance so it should be managed.

Semere & Cheyan (2017) focuses on the impact of credit risk management on the performance of commercial banks in Ethiopia. The main indicators used in this study are Return on Assets (ROA), Non-performing Loans Ratio (NPLR), Capital Adequacy Ratio (CAR), Loan and Advances Ratio (LAR) and Loan Loss Provision Ratio (LLPR). The researcher collects data from Commercial Bank of Eritrea and Housing and Commerce Bank of Eritrea from 1998 to 2015. Descriptive and panel data regression analysis are used in order to test the relationship between the four indicators and the performance of commercial banks in Eritrea. The findings show

that credit risk management is inversely associated with bank performance. The non-performing loan and loan and advances ratios significantly and negatively affected performance of the commercial banks. The result indicates those loan and advances ratios are negative but statistically insignificant. There is a positive relationship between CAR and ROA. The significant positive relationship between loan loss provision and commercial banks performance in this study could indicate the presence of potential earning management activities by bank managers.

To identify the impact of credit risk management on the performance of the Commercial banks in Eritrea, descriptive statistics and panel data regression analysis were employed on data collected from the banks over 18 years period 1998-2015. The ratio of nonperforming loan and loan loss provision ratio are sharply declining in recent years. This indicates that the credit risk management of commercial banks in Eritrea had been improving during the study period. The capital adequacy ratio was also found to be a little bit higher than the regulatory requirement. Based on the descriptive analysis, the commercial banks have an adequate capital to withstand shocks resulting from credit and other operational risks. This study found that credit risk measures non-performing loan, loan loss provisions, and capital adequacy have a significant impact on the profitability. The significant positive relationship between loan loss provision and commercial banks performance on this study could indicate the presence of potential earning management activities by bank managers board of directors. Commercial banks loan and advances ratio are on average of 59%.

Isanzu (2017) empirically examine the impact of credit risk on the financial performance of Chinese banks. Secondary data was collected from five largest commercial banks in the country for the period of 7 years from 2008 to 2014. The study used nonperforming loans, capital adequacy ratio, impaired loan reserve and loan impairment charges as measures of credit risk and for a measure of financial performance return on asset was used. Data analysis was done using a balanced panel data regression model, and the study findings reveal nonperforming loan and Capital adequacy have a significant impact of on financial performance of Chinese commercial banks. Therefore the need to control credit risk is crucial for bank financial performance. Credit creation being the main activity of the bank is inevitable and it also exposes the bank to credit risk.

By employing panel data regression analysis, the study aimed to find the impact of credit risk on the financial performance of major Chinese banks for eight years. The results revealed that credit risk management has improved over the past years as prudential techniques have been used to reduce the negative impact of credit risk on the financial performance of banks. The study found non-performing loans and capital adequacy as measures of credit risk to have a significant impact on financial performance. Hence managers should pay more attention to improving capital adequacy since it positively enhances financial performance while reducing nonperforming loans by applying modern strategies and techniques for credit risk management.

Adebayo(2017) investigate the relationship between credit risk management and the performance of money deposit banks in Nigeria which necessitated a formulation of some hypotheses such as there is no significant relationship between Loan Loss Provision and Financial Performance of Money Deposit Banks in Nigeria among others. The population of the study is the entire twenty one (21) Money Deposit Banks in all the six geo-political zones in Nigeria out of which the following banks were selected using Simple Random Sampling technique to serve as target population for the study: First Bank Nigeria Plc, Eco Bank Plc, GTBank Plc, Access Bank Plc and United Bank for Africa (UBA) Plc.

This study made use of secondary data by obtaining relevant information from the Annual Audited Reports and Prospectus of the selected banks for the years 2011-2015. Both the descriptive and inferential analyses were carried out on the data with aid of statistical package for social sciences 22 and e-view. Among the findings of the regression analysis is that there is a significant negative relationship between the loan loss provision and the financial performance of Money Deposit Banks in Nigeria. Consequently, it is of crucial importance that banks practice prudent credit risk management and play within acceptable level of safety so as to ensure enhance profitability (ROE) and protect the investors' interest and depositor's funds. Better credit risk management results in better bank performance. This study investigated the influence of credit risk management on performance of money deposit banks in Nigeria. From statistical evidence, it is concluded that there is a significant relationship between credit risk management in terms of loan performance and bank performance.

Thus, it is of crucial importance that banks practice prudent credit risk management and play within acceptable level of safety so as to ensure enhance profitability (ROE) and protect the investor's interest and depositors funds. Better credit risk management results in better bank performance. The study also reveals that banks with good or sound credit risk management policies have lower loan default ratios (bad loans) and higher interest income (profitability). The study also reveals banks with higher profit potentials can better absorb credit losses whenever they crop up and therefore record better performances.

Based on the result from the research hypotheses, the following recommendations should be given consideration by Nigeria's Money Deposit Banks for effective credit risk management and good performance. Policies already put in place for the management and measurement of credit risk should be reviewed from time to time to ensure its effectiveness that is, there should be policy updating assessment and the continuous monitoring of counterparty and portfolio to know when loan is becoming non-performing; Bank managers should put more efforts to the credit risk management, especially to control the nonperforming loan (NPL) by extensively evaluating their credit customer's capacity to pay promptly both the principal and the interest before extending the facility.

Amedu & Ndubuissi (2018) analyzes the relationship between credit risk management and bank performance in Nigeria, using Fidelity Bank Nigeria PLC as a case study. Descriptive survey research was used and data were collected via Annual reports of the sampled bank within the period of 2010-2016. The populations of the research were the Deposit Money Banks. Pearson Coefficient of Correlation was the statistical tool used to analyze the hypotheses and that was done with the aid of Statistical Package for Social Sciences (SPSS). The researcher concluded that there is no significant relationship between credit risk management and bank performance in Nigeria. However there were traces of weak negative relationships which keen interest should be given to because of sensitive nature of the banking sector.

Consequently, this lack of consensus has produced a variety of ideas on how credit risk management influences bank performance. The study showed that credit risk management variables such as percentage of non-performing loans to total loans, total loans to deposits and capital adequacy have no significant relationship with bank performance. The study established a weak negative correlation between percentage

of non-performing loans to total loans with return on equity and a positive weak correlation of with return on asset, which implied that an increase in percentage of non-performing loan to total loan will lead to a less than proportionate decrease in return on equity and less than proportionate increase in return on asset. The study further revealed that total loan to total deposit has a weak negative correlation with return on equity, and return on asset respectively which by implication means that an increase in total loans to total deposit will lead to a less than proportionate decrease in return on equity and return on asset. Capital adequacy on the other has a weak negative correlation with return on equity and a positive weak correlation with return on asset. This implies that an increase in capital adequacy will lead to a less than proportionate decrease in return on equity and less than proportionate increase in return on asset. From the foregoing, the researcher concluded that there is no significant relationship between credit risk management and bank performance in Nigeria. However there were traces of weak negative relationships which keen interest should be given to because of sensitive nature of the banking sector.

Chuxuan & Xiaoyue (2018) examines the relationship between credit risk and profitability of US commercial banks. We use capital adequacy ratio and non-performing loan ratio to measure credit risk and return on equity and return on assets to measure profitability of commercial banks. Using a sample of 83 US commercial banks for the period from December 2010 to December 2017, we estimate OLS regressions and find that credit risk has an important effect on profitability. Our results show that 1% increase in NPL decreases ROA by 0.0881% and decreases ROE by 0.141%. Our findings have important implications for bank regulators and policy makers. Firstly, our empirical findings show that the relationship between CAR and ROE is not significant. The controversy theoretical prediction of the relationship between CAR and bank's profitability may be the reason. Secondly, our findings showed that there is a negative relationship between NPLR and ROE as well as between NPLR and ROA. This is consistent with most of the previous relating researches. This relationship indicates that the higher the NPLR, the less available capital for banks to invest and operate, and thus the lower profitability for banks.

Combined with the findings, we conclude that there is a positive relationship between credit risk management and profitability of commercial banks in the U.S. the better and more effective the risk management, the less credit risk, the higher the

profitability to the commercial banks. According to our conclusion, we suggest that commercial bank managers should pay attention to the management and control of credit risk in order to improve profitability, especially the control of NPLs. The ability to pay back should be examined more precisely and accurately by commercial banks. Even though there is no significant relationship between CAR and profitability, commercial bank managers should not neglect this important factor as a low CAR can be a potential hazard to banks, and its profound impact may take time to show.

2.3 Theoretical framework

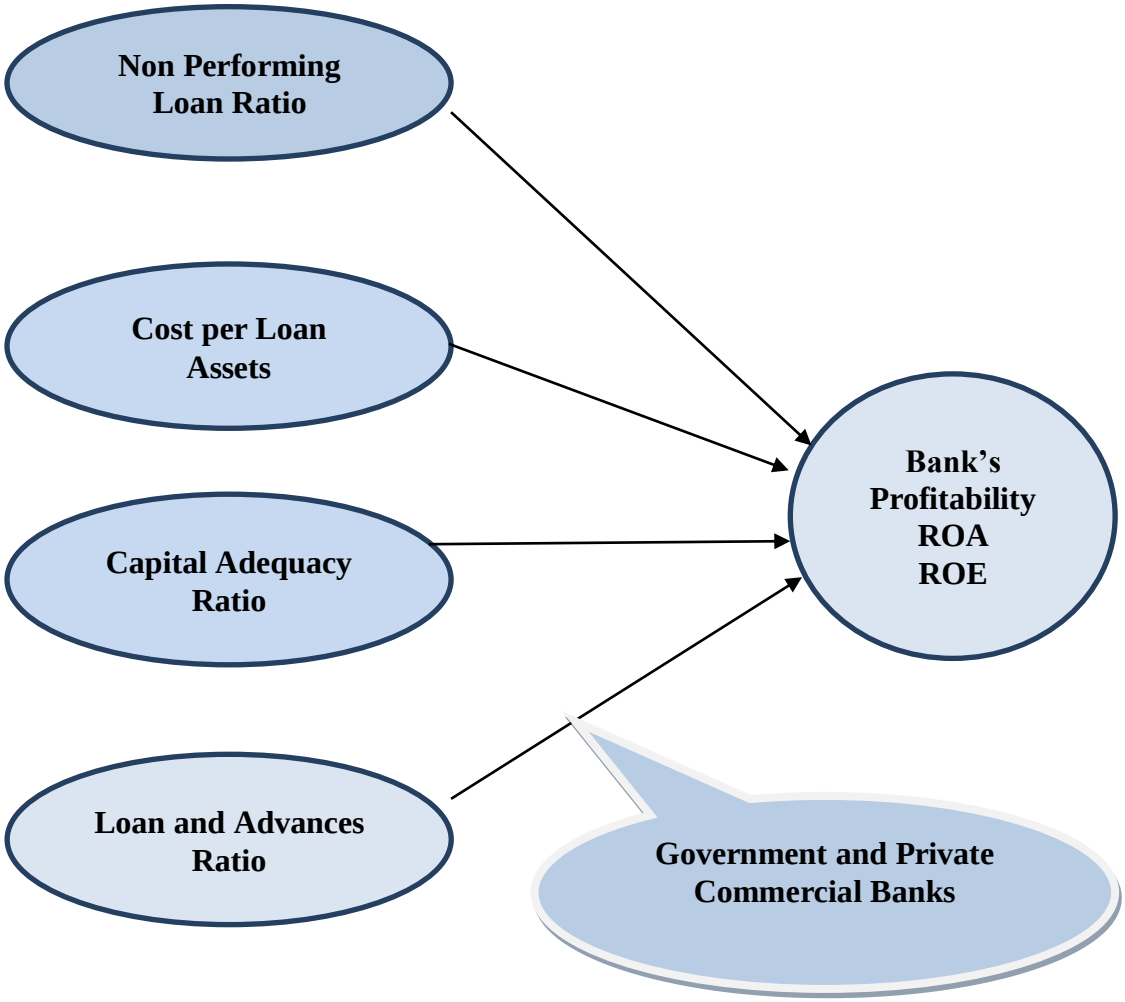


Figure 2.1: Theoretical framework

Figure illustrates the proposed theoretical model of this study. The model consists of two profitability indicators (ROA and ROE) which are considered as dependent variables; and five independent variables (non-performing loan ratio, cost per loanratio, capital adequacy ratio and loan and advances ratio). There are several risks linked with the banking sector namely credit risk, earning risk, interest rate risk,

market risk and liquidity risks are key risks. However several scholars have stated the conventional ratios which can be employed to recognize the credit risk if no data about medium loan quality is available.

2.4 Hypothesis of the study

The study was carried out based on certain hypothesis. With the help of hypothesis, we were able to analyze the impacts of credit risk on bank's profitability. Following are the hypothesis made in order to study about this thesis:

$Ho_{1:}$ There is no significant mean difference in NPLR across Nepalese private and government banks

$Ho_{2:}$ There is no significant mean difference in CPLR across Nepalese private and government banks

$Ho_{3:}$ There is no significant mean difference in CAR across Nepalese private and government banks

$Ho_{4:}$ There is no significant mean difference in LAR across Nepalese private and government banks

$Ho_{5:}$ There is no significant relationship between NPLR and ROE across Nepalese private and government banks

$Ho_{6:}$ There is no significant relationship between CPLR and ROE across Nepalese private and government banks

$Ho_{7:}$ There is no significant relationship between CAR and ROE across Nepalese private and government banks

$Ho_{8:}$ There is no significant relationship between LAR and ROE across Nepalese private and government banks

$Ho_{9:}$ There is no significant relationship between NPLR and ROA across Nepalese private and government banks

$Ho_{10:}$ There is no significant relationship between CPLR and ROA across Nepalese private and government banks

$Ho_{11:}$ There is no significant relationship between CAR and ROA across Nepalese private and government banks

$Ho_{12:}$ There is no significant relationship between LAR and ROA across Nepalese private and government banks

$Ho_{13:}$ There is no significant impact in NPLR on ROE across Nepalese private and government banks

$Ho_{13:}$ There is no significant impact in CPLR on ROE across Nepalese private and government banks

$Ho_{14:}$ There is no significant impact in CAR on ROE across Nepalese private and government banks

$Ho_{15:}$ There is no significant impact in LAR on ROE across Nepalese private and government banks

$Ho_{16:}$ There is no significant impact in NPLR on ROA across Nepalese private and government banks

$Ho_{16:}$ There is no significant impact in CPLR on ROA across Nepalese private and government banks

$Ho_{17:}$ There is no significant impact in CAR on ROA across Nepalese private and government banks

$Ho_{18:}$ There is no significant impact in LAR on ROA across Nepalese private and government banks

CHAPTER III

RESEARCH METHODOLOGY

Research methodology facilitates the researchers' work by providing a systemic way to solve the problem which can arise during the research. It defines a way on the activity of research, its procedures and tools to measure progress and the steps adopted in studying the entire aspect. This process of investigation involves a series of well thought out activities of gathering, recording and analyzing and interpreting the data with the purpose of finding answer to the problem. Hence, as per Kothari (1990)the entire process by which we attempt to solve the problem is called research.

According to C.R. Cothari (2001), research methodology refers to the various sequential steps to adopt by a researcher in studying a problem with certain objectives in view. It describes the methods and process applied in the entire subject of the study. It is the way to systematically about the research problem.

In this chapter, the research plan and design, description of the sample, instrumentation, data collection procedure, validity and reliability and analysis o data are described thoroughly. The readers will have a closer look in to the data and research methods particularly employed in this study.

3.1 Research design

Research design is the conceptual structure within which research is conducted. It is a plan, structure and strategy of investigation. Kothari (1990) observed research design as the plan structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance through the analysis of data. The first step of the research design to collect necessary information and data concerning to the study. Therefore, research design means the definite procedure and techniques, which guide the study as profound ways of doing research. In this way a descriptive and analytical research design has been used. The justification for the choice of these methods is preferred because it concludes reliable data and information covering a long time and avoids numerical complex variables.

According to Claire Selltiz, research design is the arrangement of the conditions for collection and analysis of the data in a manner aims to combine relevance to the

research purpose with economy in procedure. Therefore, we can say that without research design no researcher can conduct the research work.

This study is based on secondary data. This study focuses on understanding the impact on credit risk on commercial bank's performance. This study mainly concerned with historical research. Descriptive and analytical approaches are used to show the outcome of the study. Secondary data has been collected from various publications of different commercial banks, NRB and various other sources.

This research is quantitative and exploratory in nature as it tries to explore the predictors of credit management that influence the bank's performance. Moreover, it is an applied research as it uses existing theories and models and do not result in the creation of a new theory and model. The research tool used for the execution of this study is the administration of the data collected through secondary sources and applying tools from SPSS 16.0 software to analyze the relationship between dependent variables and other multiple independent variables.

3.1.1 Population and sample of the study

Population refers to the industries of the same nature and its services and product in general. Moore (2009) shows the relationship between the population and sample can be described as: The population in a statistical study is the entire group of individuals about which we want information. The study is based on secondary data got from the bank scope database and the Nepal Rastra Bank for 2012-2016 using a sample of ten commercial banks out of twenty-eight commercial banks in Nepal for a five year period. Correlation and Regression analysis is employed to ascertain the impact of credit risk management factors using non-performing loan ratio, cost per loan ratio, capital adequacy ratio and loan and advances ratio as independent variables on commercial bank's performance in Nepal and using return on assets, return on equity as a dependent variable.

3.1.2 Nature and source of data

The data used in this thesis is secondary type, which have been taken mainly from the published data and financial statements of the sampled banks.These include annual reports for the last five years and report of each year. Besides these, supplementary data and information are collected from number of institutions and regulating authorities like NRB.

All the secondary data are complied, processed and tabulated as per the need and objectives of the study. Likewise various data and information are collected from the economic journals, periodicals, bulletins, magazines and other published &unpublished reports and documents from various sources.

3.1.3 Secondary data

The secondary source of data consists of various financial, accounting and statistical tools which are used to make the analysis more effective, convenience, reliable and authentic. The secondary sources of data consists of information that has been gathered and often interpreted by other researchers and recorded in books, articles and other publications. In this study, various magazine, articles, website and books have been used in the form of secondary data to examine the impact of credit risk on profitability.

3.2 Definition of the variables

Various variables are used in this study in form of dependent and independent variables.Variables in the mathematical sense, i.e. quantity which may take any one of specified set of values. It is convenient to apply the same word to denote non-measurable characteristics, e.g., 'sex' is a variable in this sense since any human individual may take one of two 'values', male or female. It is useful, but far from being the general practice, to distinguish between a variable as so defined and a random variable in the Oxford Dictionary of statistical terms, edited by YadolahDodge, Oxford University Press (2003). The definition of each variable used in the study is as follows:

3.2.1 Non Performing Loan Ratio (NPLR)

Non-performing loan is the sum of loans that debtors cannot make scheduled payment for a period of at least 90 days for commercial banking loans and 180 days for consumer loans. NPLR is the ratio of the amount of nonperforming loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The NPL ratio measures the effectiveness of a bank in receiving repayments on its loans and the quality of bank loans. The quality of bank loans is important in bank soundness because making loans is one of bank’s core businesses. A bank’s goal is to maximize its profit. While in order to improve the performance, the bank must increase the risk. Among all the risks, credit risk is the most significant factor for commercial banks.

The credit risk management may have great impact on the profitability of commercial banks, so our research wants to find out this relationship. This is the major determinant of credit risk in commercial banks. It reveals the quality of a bank's loan portfolio. That the percentage of the total loans and advances that is on the verge of going bad. The higher the ratio sends a signal that that management was not to efficient when evaluating loan applications. Again it shows that there is a higher probability the most of the loans might not be recovered.

The equation for Non-performing loan ratio (NPLR) is expressedas:

$$\text{NPLR} = \frac{\text{Non Performing Loans}}{\text{Total Loan and Advances}} \text{x}100\%$$

3.2.2 Cost per Loan Assets Ratio (CPLR)

Cost per loan assets ratio (CPLR) is the average cost per loan advanced to customer in monetary term. Cost per loan assets is calculated dividing total operating costs by total amount of loans. The function of this is to point out efficiency in distributing loans to customers. Thus, cost per loan assets is considered as a determinant of the bank`s performance and is viewed as an indicator of credit risk. Banks that are efficient in managing their expenses (costs), holding other factors constant, earn high profits. Therefore, it is expected that cost per loan assets and bank performance to be negatively associated. This may not always be true because in cases where there are high expenditures due to a lot of businesses done, the bank can still increase the returns.

The equation for Cost per Loan Assets Ratio (CPLAR) is expressedas:

$$\text{CPLR} = \frac{\text{Total Operating Cost}}{\text{Total Loan and Advances}} \text{x}100\%$$

3.2.3 Capital Adequacy Ratio (CAR)

Capital adequacy ratio, calculated as the ratio of the amount of capital to the risk-weighted sum of bank's assets, is a measure of bank's capital amount expressed as a percentage of its risk-weighted credit exposure Poudel(2012). It is the percentage of capital that a bank has to hold as specified by regulatory requirement. It is essential to maintain a specified CAR in order to determine the capacity of banks in meeting losses and ensure that banks would still bear a reasonable level of losses in worst scenario. In general, banks with high CAR are considered to have low risk and likely

to meet its financial obligations. The higher the ratio, the more will be the depositors' protection and stability of the financial system. As banks with strong capital adequacy are able to absorb possible losses thus preventing them from failure and insolvency, it could be considered as enhancing profitability. When a bank's winding-up process, depositors' funds are given a higher priority than capital so that the depositors can only lose their savings if a bank's loss outsize the capital.

The higher CAR ratio means that depositors' assets are better protected by the bank. There are two kinds of capital needed to be measured when calculating CAR.Tier one capital can absorb which can absorb losses without a bank being requiredto cease trading. Tier two capital can absorb losses in the event of a winding-up andprovides lower level of protection to depositors. It is used to absorb losses when a bankloses all its tier one capital.Actually, in practice, because there is very limited data in terms total capital andrisk-weighted assets, we use the ratio of total equity capital divided by total assets tosubstitute the original calculation formula. This is also a control variable and is selected because regulators have identified it as the main measure of a bank's financial performance. A strong Capital Adequacy Ratio increases the profitability of a bank. It also helps in the stability and efficacy of the financial system. The Basel Accord II requires banks to hold capital adequacy at least 8 % of their risky asset.

The equation for Capital adequacy Ratio (CAR) is expressedas:

$$\text{CAR} = \frac{\text{Capital}}{\text{Risk Weighted Assets}} \text{x}100\%$$

3.2.4 Loan and Advances Ratio (LAR)

A loan and advances ratio shows a bank's ability to cover loan losses and withdrawals by its customers. Investors monitor the LDR of banks to make sure there's adequate liquidity to cover loans in the event of an economic downturn resulting in loan defaults. The LDR does not measure the quality of the loans that a bank has issued. The LDR also does not reflect the number of loans that are in default or might be delinquent in their payments. To calculate the loan-to-deposit ratio, divide a bank's total amount of loans by the total amount of deposits for the same period. It determines the ability of a bank to meet loan demands and the withdrawal needs of its customers. A higher ratio means that the bank is les require and must be efficient to avoid insolvency and vice versa.

The equation for Loan and Advances ratio (LAR) is expressedas:

$$\text{LAR} = \frac{\text{Total Loan and Advances}}{\text{Total Deposit}} \text{x} 100\%$$

3.2.5 Return on Equity (ROE)

ROE is one of financial performance measurements, calculated as net income divided by total equity capital. The difference between a company's assets and liability is shareholder's equity so ROE could be view as the return on net assets. ROE is a measurement of a company's ability to generate earnings growths with its investments. It is also a factor in stock valuation that higher ROE implies higher stock prices. ROE is an important indicator of bank's profitability measuring the bank's efficiency in making profits.

The equation for Return on Equity (ROE) is expressedas:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}} \text{x} 100\%$$

3.2.6 Return on Assets (ROA)

ROA, calculated as ratio of net income to total assets, shows the percentage of the profitability of a company's assets in generating revenue. ROA gives investors an idea of how effective the company is in converting the money it invests into net income. The higher ROA value means that the company is earning more money with less investment and has better performance. ROA is known as good profitability multiplier for the reason that equity multiplier does not influence it.

The equation for Return on Assets (ROA) is expressedas:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}} \text{x} 100\%$$

3.3 Method of data analysis

Various statistical tools were employed in the study. The statistical tools used in the study to analyze the data findings are mentioned in the following sub sections:

3.3.1 Mean

An average is a single value that represents a group of values. Such a value is of great significance because it depicts the characteristic of the whole group. The main

objectives of averages are to get one single value that describes the characteristics of the entire group and to facilitate comparison.It is the sum of all the observations divided by the number of observations. In such a case all the items are equally important. As arithmetic mean is most common and popular tools for data analysis, here in this study also, arithmetic mean is used. The formula for mean is as follows:

$$\text{Mean} = \frac{\sum fx}{N}$$

Where, x= value of responses of each independent variables

N= Number of statements

3.3.2 Median

The median is the value separating the higher half from the lower half of a data sample (a population or a probability distribution). For a data set, it may be thought of as the "middle" value. The median is a commonly used measure of the properties of a data set in statistics and probability theory. The basic advantage of the median in describing data compared to the mean (often simply described as the "average" is that it is not skewed so much by a small proportion of extremely large or small values, and so it may give a better idea of a "typical" value. The formula for median is as follows:

$$\text{Median} = \frac{(N+1)}{2}^{\text{th}} \text{ item}$$

Where, N= Number of statements

3.3.3 Standard deviation

The standard deviation of a random variable, statistical population, data set, or probability distribution is the square root of its variance. It is algebraically simpler, though in practice less robust, than the average absolute deviation. The standard deviation of a random variable, statistical population, data set, or probability distribution is the square root of its variance. It is algebraically simpler, though in practice less robust, than the average absolute deviation.

The formula for standard deviation is as follows:

$$\text{S.D} = \sqrt{\frac{(X-\times)2}{N}}$$

Where, x= value of responses of each dependent or independent variables

X= mean value of responses of each dependent or independent variables

N= Number of responses

3.3.4 Correlation

Correlation is any statistical association, though it commonly refers to the degree to which a pair of variables is linearly related. Familiar examples of dependent phenomena include the correlation between the physical statures of parents and their offspring, and the correlation between the demand for a limited supply product and its price. Correlations are useful because they can indicate a predictive relationship that can be exploited in practice. For example, an electrical utility may produce less power on a mild day based on the correlation between electricity demand and weather. In this example, there is a causal relationship, because extreme weather causes people to use more electricity for heating or cooling. However, in general, the presence of a correlation is not sufficient to infer the presence of a causal relationship. The formula for correlation is as follows:

$$r= \frac{n\sum xy-\sum x.\sum y}{\sqrt{\square\sum x-(\sum x)^2}\sqrt{\square\sum y-(\sum y)^2}}$$

Where, x= value of independent variables

y= value of dependent variables

N= Number of responses

3.3.5 Regression

In statistical modeling, regression analysis is a set of statistical processes for estimating the relationships between a dependent variable (often called the 'outcome variable') and one or more independent variables (often called 'predictors', 'covariates', or 'features'). The most common form of regression analysis is linear regression, in which a researcher finds the line (or a more complex linear function) that most closely fits the data according to a specific mathematical criterion. For example, the method of ordinary least squares computes the unique line or hyper-plane that minimizes the sum of squared distances between the true data and that line or hyper-plane. For specific mathematical reasons see as linear regression, this allows the researcher to

estimate the conditional expectation or population average value of the dependent variable when the independent variables take on a given set of values.

It concerns two-dimensional sample points with one independent variable and one dependent variable conventionally, the x and y coordinates in a Cartesian coordinate system and finds a linear function a non-vertical straight line that as accurately as possible predicts the dependent variable values as a function of the independent variables. The remainder of the article assumes an ordinary least squares regression. In this case, the slope of the fitted line is equal to the correlation between y and x corrected by the ratio of standard deviations of these variables. The formula for regression is as follows:

$Y= a+b_1x_1+ b_2x_2+ b_3x_3 + b_4x_4$

Where, Y= Dependent Variable (ROE and ROA)

a= Intercept

$b_{1=}$ Coefficient of NPLR

$b_{2=}$ Coefficient of CPLR

$b_{3=}$ Coefficient of LAR

$b_{4=}$ Coefficient of CAR

$x_{1=}$ Non Performing Loan Ratio

$x_{2=}$ Capital Adequacy Ratio

$x_{3=}$ Loan and Advances Ratio

$x_{4=}$ Cost Per Loan Ratio

CHAPTER IV

DATA PRESINTATION AND ANALYSIS

This chapter includes analysis of data collection and their presentation. In this chapter, the effort has been made of analyze the capital structure management of commercial banks. The chapter Data presentation and analysis is the main body of the study. The purpose of this chapter is to analyze and elucidate the collected data to achieve the objective of the study following conversion of unprocessed data to an understandable presentation. The results of the computation have also been summarized in appropriated tables. On the background of various reading and literature review in the preceding chapter, it is tried to analyze and diagnose the current position of Nepalese private and government banks. The samples of computation of each model have been included in annexes. Among the listed commercial banks ten commercial banks are taken as sample namely, NICA, NABIL, SCB, HBL, NIB, NSBI, EBL, RBB, NBL AND ADB. Different tables and figures (diagrams) are drawn to make the result more simple and understandable.

4.1 Descriptive statistics

The Table 4.1 reveals the descriptive statistics. In order to give a brief overview of our data, we present the following table 4.1 which contains the descriptive statistics (earnings before interest and tax (EBIT), net income (NI), total non-performing loan (TNPL), total deposit (TD) and total loan loss provision/total non-performing loan (TLLP_TNPL) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75.

Table 4.1

Descriptive statistics

Statistics	EBIT	NI	TNPL	TLA	TD	TLLP_TNPL
Mean	2098413.9	1488583.7	104251842.9	51036061.4	68082577.3	198.6
Std. Error of Mean	131597.3	106342.2	11117552.7	2441562.9	3297669.8	19.9
Median	1928459.0	1290025.0	73252626.9	48168820.0	63609808.0	138.2
Std. Deviation	1139665.6	920950.6	96280830.4	21144554.8	28558658.1	172.2

It is found that mean value for TNPL to be highest among other variables with the mean value of 104251842.9 followed by TD with mean value of 68082577.3, TLA

with mean value of 51036061.4, EBIT with mean value of 2098413.9, NI with mean value of 1488583.7 and TLLP_TNPL with mean value of 198.6. Similarly, the standard error of mean of TNPL to be highest with the value of 11117552.7 followed by TD with the value of 3297669.8, TLA with value of 2441562.9, EBIT with value of 131597.3, NI with the value of 106342.2 and TLLP_TNPL with the value of 19.9. Median of TNPL to be highest with the value of 73252626.9 followed by TD with the value of 63609808, TLA with value of 48168820, EBIT with value of 1928459, NI with the value of 1290025 and TLLP_TNPL with the value of 138.2. Standard Deviation of TNPL to be highest with the value of 96280830.4 followed by TD with the value of 28558658.1, TLA with value of 21144554.8, EBIT with value of 1139665.6, NI with the value of 920950.6 and TLLP_TNPL with the value of 172.2. Finally, sample banks (private and government banks) in our study have greater diversification on their TNPL ratio.

4.2 Descriptive statistics of private banks

The Table 4.2 reveals the descriptive statistics of private banks. In order to give a brief overview of our data, we present the following table 4.2 which contains the descriptive statistics (earnings before interest and tax (EBIT), net income (NI), total non-performing loan (TNPL), total Deposit (TD) and total loan loss provision /total non-performing loan (TLLP_TNPL) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75.

Table 4.2

Descriptive statistics of private banks

Statistics	EBIT	NI	TNPL	TLA	TD	TLLP_TNPL
Mean	2040649.7	1277955.2	63577699.2	47298316.6	61761507.0	217.3
Std. Error of Mean	145782.9	94173.5	5950812.3	2592969.3	3207769.1	24.2
Median	1913864.0	1228508.0	59819560.1	45774298.8	58712085.5	142.6
Std. Deviation	1129229.6	729465.0	46094793.9	20085054.0	24847272.8	187.8

It is found that mean value for TNPL to be highest among other variables with the mean value of 63577699.2 followed by TD with mean value of 61761507, TLA with mean value of 47298316.6, EBIT with mean value of 2040649.7, NI with mean value of 1277955.2 and TLLP-TNPL with mean value of 217.3. Similarly, the standard error of mean of TNPL to be highest with the value of 5950812.3 followed by TD with the value of 3207769.1, TLA with value of 2592969.3, EBIT with value of

145782.9, NI with the value of 94173.5 and TLLP_TNPL with the value of 24.2. Median of TNPL to be highest with the value of 59819560.1 followed by TD with the value of 58712085.5, TLA with value of 45774298.8, EBIT with value of 1913864, NI with the value of 1228508 and TLLP_TNPL with the value of 142.6. Standard Deviation of TNPL to be highest with the value of 46094793.9 followed by TD with the value of 24847272.8, TLA with value of 20085054, EBIT with value of 1129229.6, NI with the value of 729465 and TLLP_TNPL with the value of 187.8. Finally, sample privatecommercial banks in our study have greater diversification on their TNPL ratio.

4.3 Descriptive statistics of government banks

The Table 4.3 reveals the descriptive statistics of government banks. In order to give a brief overview of our data, we present the following table 4.3 which contains the descriptive statistics (earnings before interest and tax (EBIT), net income (NI), total non-performing loan (TNPL), total deposit (TD) and total loan loss provision/total non-performing loan (TLLP_TNPL) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75.

Table 4.3

Descriptive statistics of government banks

Statistics	EBIT	NI	TNPL	TLA	TD	TLLP_TNPL
Mean	2329470.6	2331097.7	266948417.6	65987040.5	93366858.4	124.1
Std. Error of Mean	307668.5	293247.5	17498981.4	4924403.5	7540861.5	6.1
Median	2404938.0	2577230.0	260918931.8	63527264.0	89410018.0	115.5
Std. Deviation	1191594.9	1135742.7	67773263.4	19072132.7	29205631.2	23.5

It is found that mean value for TNPL to be highest among other variables with the mean value of 266948417.6 followed by TD with mean value of 93366858.4, TLA with mean value of 65987040.5, EBIT with mean value of 2329470.6, NI with mean value of 2331097.7 and TLLP-TNPL with mean value of 124.1. Similarly, the standard error of mean of TNPL to be highest with the value of 17498981.4 followed by TD with the value of 7540861.5, TLA with value of 4924403.5, EBIT with value of 307668.5, NI with the value of 293247.5 and TLLP_TNPL with the value of 6.1. Median of TNPL to be highest with the value of 260918931.8 followed by TD with the value of 89410018, TLA with value of 63527264, EBIT with value of 2404939, NI with the value of 2577230 and TLLP_TNPL with the value of 115.5. Standard

Deviation of TNPL to be highest with the value of 67773263.4 followed by TD with the value of 29205631.2, TLA with value of 19072132.7, EBIT with value of 1191594.9, NI with the value of 1135742.7 and TLLP_TNPL with the value of 23.5. Finally, sample government commercial banks in our study have greater diversification on their TNPL ratio.

4.4 Descriptive statistics of all samples

The Table 4.4 reveals the descriptive statistics of all samples (dependent and independent variables). In order to give a brief overview of our data, we present the following table 4.4 which contains the descriptive statistics (non-performing loan (NPL), cost per loan ratio (CPLR), capital adequacy ratio (CAR), loan and advances ratio (LAR), return on equity (ROE) and return on assets (ROA) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75. ROA and ROE measure the performance of banks' profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.4

Descriptive statistics of all samples

Statistics	NPLR	CPLR	CAR	LAR	ROE	ROA
Mean	2.0	7.5	12.6	75.8	20.2	1.8
Std. Error of Mean	0.2	0.3	0.3	1.2	0.9	0.1
Median	1.8	7.1	12.3	78.8	19.9	1.7
Std. Deviation	1.5	2.3	3.0	10.2	7.8	0.6

It is found that mean value for LAR to be highest among other variables with the mean value of 75.8 followed by ROE with mean value of 20.2, CAR with mean value of 12.6, CPLR with mean value of 7.5, NPLR with mean value of 2 and ROA with mean value of 1.8. Similarly, the standard error of mean of LAR to be highest among other variables with the mean value of 1.2 followed by ROE with mean value of 0.9, CAR with mean value of 0.3, CPLR with mean value of 0.3, NPLR with mean value of 0.2 and ROA with mean value of 0.1. Median of LAR to be highest among other variables with the mean value of 78.8 followed by ROE with mean value of 19.9, LAR with mean value of 12.3, CPLR with mean value of 7.1, NPLR with mean value of 1.8 and ROA with mean value of 1.7. Standard Deviation of LAR to be highest among other variables with the mean value of 10.2 followed by ROE with mean value of 7.8, CAR with mean value of 3, CPLR with mean value of 2.3, NPLR with mean

value of 1.5 and ROA with mean value of 0.6.Finally, sample banks in our study have greater diversification on their LAR ratio.

4.5 Descriptive statistics of all samples across private banks

The Table 4.5 reveals the descriptive statistics of all samples (dependent and independent variables) across private banks. In order to give a brief overview of our data, we present the following table 4.5 which contains the descriptive statistics (Non-Performing Loan (NPL), Cost per Loan Ratio (CPLR), Capital Adequacy Ratio (CAR), Loan and Advances Ratio (LAR), Return on Equity (ROE) and Return on Assets (ROA) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75. ROA and ROE measure the performance of banks' profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.5

Descriptive statistics of all samples across private banks

Statistics	NPLR	CPLR	CAR	LAR	ROE	ROA
Mean	1.5	7.0	13.0	76.7	19.5	1.8
Std. Error of Mean	0.2	0.3	0.3	1.2	0.9	0.1
Median	1.8	7.1	12.3	78.8	19.9	1.7
Std. Deviation	1.5	2.3	3.0	10.2	7.8	0.6

It is found that mean value for LAR to be highest among other variables with the mean value of 76.7 followed by ROE with mean value of 19.5, CAR with mean value of 13, CPLR with mean value of 7, NPLR with mean value of 1.5 and ROA with mean value of 1.8. Similarly, the standard error of mean of LAR to be highest among other variables with the mean value of 1.2 followed by ROE with mean value of 0.9, CAR with mean value of 0.3, CPLR with mean value of 0.3, NPLR with mean value of 0.2 and ROA with mean value of 0.1. Median of LAR to be highest among other variables with the mean value of 78.8 followed by ROE with mean value of 19.9, CAR with mean value of 12.3, CPLR with mean value of 7.1, NPLR with mean value of 1.8 and ROA with mean value of 1.7. Standard Deviation of LAR to be highest among other variables with the mean value of 10.2 followed by ROE with mean value of 7.8, CAR with mean value of 3, CPLR with mean value of 2.3, NPLR with mean value of 1.5 and ROA with mean value of 0.6.Finally, sample private banks in our study have greater diversification on their LAR ratio.

4.6 Descriptive statistics of all samples across government banks

The Table 4.6 reveals the descriptive statistics of all samples (dependent and independent variables) across government banks. In order to give a brief overview of our data, we present the following table 4.6 which contains the descriptive statistics Non-Performing Loan (NPL), Cost per Loan Ratio (CPLR), Capital Adequacy Ratio (CAR), Loan and Advances Ratio (LAR), Return on Equity (ROE) and Return on Assets (ROA) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75. ROA and ROE measure the performance of banks' profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.6

Descriptive statistics of all samples across government banks

Statistics	NPLR	CPLR	CAR	LAR	ROE	ROA
Mean	4.2	9.4	10.9	72.2	25.3	2.1
Std. Error of Mean	0.3	0.7	1.4	3.6	4.7	0.3
Median	4.0	9.1	11.4	69.3	21.5	2.2
Std. Deviation	1.1	2.7	5.3	13.9	14.1	1.0

It is found that mean value for LAR to be highest among other variables with the mean value of 72.2 followed by ROE with mean value of 25.3, CAR with mean value of 10.9, CPLR with mean value of 9.4, NPLR with mean value of 4.2 and ROA with mean value of 2.1. Similarly, the standard error of mean of ROE to be highest among other variables with the mean value of 4.7 followed by LAR with mean value of 3.6, CAR with mean value of 1.4, CPLR with mean value of 0.7, NPLR with mean value of 0.3 and ROA with mean value of 0.3. Median of LAR to be highest among other variables with the mean value of 69.3 followed by ROE with mean value of 21.5, CAR with mean value of 11.4, CPLR with mean value of 9.1, NPLR with mean value of 4 and ROA with mean value of 2.2. Standard Deviation of ROE to be highest among other variables with the mean value of 14.1 followed by LAR with mean value of 13.9, CAR with mean value of 5.3, CPLR with mean value of 2.7, NPLR with mean value of 1.1 and ROA with mean value of 1. Finally, sample government banks in our study have greater diversification on their LAR ratio.

4.7 Test of mean difference

The Table 4.7 reveals the test of mean difference for all variables under study. For testing mean difference, we use P value (Sig Value) Approach. In order to give a brief overview of our data, we present the following table 4.7 which contains the independent variablesNon-Performing Loan (NPL), Cost per Loan Ratio (CPLR), Capital Adequacy Ratio (CAR), Loan and Advances Ratio (LAR) and dependent variables Return on Equity (ROE) and Return on Assets (ROA) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75. ROA and ROE measure the performance of bank's profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.7

Test of mean difference for all variables under study

Variables		F	Sig.	Mean Difference	Sig. (2-tailed)	95% Confidence Interval of the Difference	
						Lower	Upper
NPLR	Equal variances assumed	0.134	0.716	-2.758	0.001	-3.358	-2.157
	Equal variances not assumed			-2.758	0.001	-3.409	-2.107
CPLR	Equal variances assumed	1.965	0.165	-2.308	0.001	-3.525	-1.090
	Equal variances not assumed			-2.308	0.006	-3.875	-0.740
CAR	Equal variances assumed	25.488	0.001	2.059	0.016	0.387	3.730
	Equal variances not assumed			2.059	0.158	-0.895	5.012
LAR	Equal variances assumed	10.112	0.002	4.508	0.128	-1.324	10.339
	Equal variances not assumed			4.508	0.248	-3.442	12.458
ROE	Equal variances assumed	11.936	0.001	-5.783	0.038	-11.238	-0.328
	Equal variances not assumed			-5.783	0.257	-16.644	5.078
ROA	Equal variances assumed	13.404	0.001	-0.383	0.038	-0.745	-0.021
	Equal variances not assumed			-0.383	0.160	-0.935	0.168

Since the P value (Sig.) 0.716 is more than 0.05 so we take P value (Sig 2) 0.001 (i.e. 0.716 > 0.05) so we take P value (Sig.2) 0.001which is less than 0.01 so we reject null hypothesis at 99% confidence level. So we consider that there is significant mean difference in NPLR across Nepaleseprivate and government banks. Similarly, Since the P value (Sig.) 0.165 is more than 0.05 (i.e. 0.165 > 0.05) so we take P value (Sig 2) 0.001 which is less than 0.01 so we reject null hypothesis. So we consider that

there is significant mean difference in CPLR across Nepaleseprivate and government banks. In the meanwhile, Since the P value (Sig.) 0.001 is less than 0.05 (i.e. 0.168 > 0.05) so we take P value (Sig 2) 0.158 which clearly shows that P value (Sig.2) is more than 0.05 so we accept null hypothesis. So we consider that there is no significant mean difference in CAR across Nepaleseprivate and government banks. Since the P value (Sig.) 0.002 is less than 0.05 (i.e. 0.002 < 0.05) so we take P value (Sig 2) 0.248 which clearly shows that P value (Sig.2) is more than 0.05 so we accept null hypothesis. So we consider that there is no significant mean difference in LAR across Nepaleseprivate and government banks. Since the P value (Sig.) 0.001 is less than 0.05 so we take P value (Sig 2) 0.257 which clearly shows that P value (Sig.2) is more than 0.05 so we accept null hypothesis. So, we consider that there is no significant mean difference in ROE across Nepaleseprivate and government banks. Since the P value (Sig.) 0.001 is less than 0.05 so we take P value (Sig 2) 0.160 which clearly shows that P value (Sig.2) is more than 0.05 so we accept null hypothesis. So, we consider that there is no significant mean difference in ROA across Nepalese private and government banks.

4.8 Correlation analysis

The correlation between dependent variables (ROA and ROE) and independent variables describes the degree of relationship between two items how a unit increase in one impact on the other is measured by this correlation.

4.8.1 Correlation analysis between dependent variables (ROE)

The Table 4.8.1 depicts the correlation analysis of the variables under study. The correlation analysis is conducted for the whole sample. In the study, correlation analysis is done between the variables by ROE. In order to give a brief overview of our data, we present the following table 4.8.1 which contains the independent variables i.e. non-performing loan (NPL), cost per loan ratio (CPLR), capital adequacy ratio (CAR), loan and advances ratio (LAR) and dependent variable return on equity (ROE) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75. ROA and ROE measure the performance of bank's profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.8.1

Relationship between variables of all samples

Variables		NPLR	CPLR	CAR	LAR	ROE
NPLR	Pearson Correlation	1				
	Sig. (2-tailed)					
CPLR	Pearson Correlation	0.600**	1			
	Sig. (2-tailed)	0.001				
CAR	Pearson Correlation	-0.383**	-0.247*	1		
	Sig. (2-tailed)	0.001	0.032			
LAR	Pearson Correlation	0.028	0.051	0.332**	1	
	Sig. (2-tailed)	0.812	0.663	0.004		
ROE	Pearson Correlation	-0.069	-0.171	0.318**	0.310**	1
	Sig. (2-tailed)	0.036	0.161	0.068	0.01	

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

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

The Table 4.8.1 characterizes the correlation analysis of the variables under study which is conducted for all samples. As shown in the table, correlation coefficient between ROE and LAR was 0.310. So, the correlation for all samples between ROE and LAR was observed moderate positive correlation and shows significant relationship between ROE and LAR at 99 percent confidence level. Similarly, correlation coefficient between ROE and CAR was 0.318 so correlation for all samples between ROE and CAR was found moderate positive correlation and shows insignificant relationship between ROE and CAR at 99 percent confidence level. The correlation coefficient between ROE and CPLR was -0.171 so correlation for all samples between ROE and CPLR was negative and insignificant at 95 percent confidence level. The correlation coefficient between ROE and NPLR was -0.069 so correlation for all samples between ROE and NPLR was weak negative and shows significant relationship between ROE and NPLR at 95 percent confidence level. The Correlation analysis shows independent variables: CPLR and CAR have insignificant relationship with ROEwhileindependent variables: NPLR and LAR havesignificant relationship with ROE.

4.8.2 Correlation analysis between dependent variables (ROA)

The Table 4.8.2 depicts the correlation analysis of the variables under study. The correlation analysis is conducted for the whole sample. In the study, correlation analysis is done between the variables by ROA. In order to give a brief overview of

our data, we present the following table 4.8.2 which contains the independent variables i.e. non-performing loan (NPL), cost per loan assets ratio (CPLR), capital adequacy ratio (CAR), loan and advances ratio (LAR), and dependent variable return on assets (ROA) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75. ROA measure the performance of bank's profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.8.2

Relationship between variables of all samples

Variables		NPLR	CP8R	CAR	LAR	ROA
NPLR	Pearson Correlation	1				
	Sig. (2-tailed)					
CPLR	Pearson Correlation	0.600**	1			
	Sig. (2-tailed)	0.001				
CAR	Pearson Correlation	-0.383**	-0.247*	1		
	Sig. (2-tailed)	0.001	0.032			
LAR	Pearson Correlation	0.028	0.051	0.332**	1	
	Sig. (2-tailed)	0.812	0.663	0.004		
ROA	Pearson Correlation	-0.123	-0.081	0.194	0.039	1
	Sig. (2-tailed)	0.032	0.488	0.095	0.042	

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

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

The Table 4.8.2 characterizes the correlation analysis of the variables under study which is conducted for the whole sample. As shown in the table, the correlation coefficient between ROA and LAR was 0.039 so correlations for all samples between ROA and LAR was strong positive and shows significant relationship between ROA and LAR at 95 percent confidence level. Similarly, the correlation coefficient between ROA and CAR was 0.194 so correlation for all samples between ROA and CAR was positive and shows insignificant relationship between ROA and CAR at 95 percent confidence level. In the meanwhile, the correlation coefficient between ROA and CPLR was -0.081 so correlation for all samples between ROA and CPLR was weak negative and shows insignificant relationship between ROA and CPLR at 95 percent confidence level. The correlation coefficient between ROA and NPLR was -0.123 so correlation for all samples between ROA and NPLR was strong negative and shows significant relationship between ROA and NPLR at 95 percent confidence level. The Correlation analysis shows independent variables: NPLR and LAR have significant

relationship with ROA and independent variables: CPLR and CAR have insignificant relationship with ROA.

4.9 Regression analysis

Regression analysis helps to find out the impact of independent variables i.e. non-performing loan ratio (NPLR),cost per loan ratio (CPLR), capital adequacy ratio (CAR) and loan and advances ratio (LAR) on the dependent variables (return on assets (ROA) and return on equity (ROE). The regression analysis is conducted for the whole samples.

4.9.1 Regression analysis between dependent variable (ROE)

The Table 4.9.1 depicts the regression analysis between dependent variable (ROE) under study. The regression analysis is conducted for the whole sample. In order to give a brief overview of our data, we present the following table 4.9.1 which contains the independent variable (non-performing loan (NPL), cost per loan ratio (CPLR), capital adequacy ratio (CAR), loan and advances ratio (LAR), and dependent variable return on equity (ROE) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75.ROE measure the performance of bank's profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.9.1

Impact of variables for all samples

Coefficient	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	53.332	8.554		6.235	0.001
NPLR	-0.431	0.844	.0077	0.510	0.012
CPLR	-0.733	0.489	-0.211	-1.499	0.039
CAR	0.897	0.355	-0.295	-2.525	0.140
LAR	0.218	0.101	-0.260	-2.163	0.034

a. Dependent Variable: ROE (%)

As depicted in table 4.9.1, ROE is used as dependent variables and NPLR, CPLR, CAR an LAR as independent variables. The coefficient of NPLR was -0.431. The impact of NPLR on ROE was found negative and significant at 95 percent confidence level. This shows that increase in NPLR cause decrease in ROE. The coefficient of CPLR was -0.733. It was found that impact of CPLR on ROE was negative and

significant at 95 percent confidence level. This shows that increase in CPLR cause decrease in ROE and vice versa. Similarly, the coefficient of CAR was 0.897. The impact of CAR on ROE was found positive and insignificant at 95 percent confidence level. This shows that increase in CAR cause increase in ROE and vice versa but impact made by CAR on ROE was slightly insignificant due to some numerical errors. The coefficient of LAR was 0.218. The impact of LAR and ROE was found positive and significant at 95 percent confidence level. This shows that increase in LAR cause increase in ROE and vice versa.

4.9.2 Regression analysis between dependent variables (ROA)

The Table 4.9.2 depicts the regression analysis between dependent variable (ROA) under study. The regression analysis is conducted for the whole sample. In order to give a brief overview of our data, we present the following table 4.9.2 which contains the independent variable i.e. non-performing loan (NPL), cost per loan ratio (CPLR), capital adequacy ratio (CAR), loan and advances ratio (LAR), and dependent variable return on assets (ROA) of 10 commercial banks in Nepal from 2012/13 to 2016/17. The number of observations for each variable is 75. ROA measure the performance of banks' profitability and NPLR, CPLR, CAR and LAR represent the credit risk management.

Table 4.9.2

Impact of variables for all samples

Coefficient	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.725	0.718		2.402	0.019
NPLR	-0.161	0.073	0.359	2.202	0.031
CPLR	-0.062	0.042	-0.227	-1.487	0.142
CAR	0.056	0.030	0.239	1.864	0.067
LAR	0.006	0.009	-0.085	-0.671	0.505

a. Dependent Variable: ROA (%)

As depicted in table 4.9.2, ROA is used as dependent variables and NPLR, CPLR, CAR an LAR as independent variables. The coefficient of NPLR was -0.161 so the impact of NPLR on ROA was found negative and significant at 95 percent confidence level. This shows that increase in NPLR cause decrease in ROA and vice versa. Similarly, the coefficient of CPLR was -0.062. The impact of CPLR on ROA was

found weak negative and insignificant at 95 percent confidence level. This shows that increase in CPLR cause decrease in ROA and vice versa. Similarly, the coefficient of CAR was 0.056 so the impact of CAR and ROA was found strong positive and insignificant at 95 percent confidence level. This shows that increase in CAR cause increase in ROA. Meanwhile, the coefficient of LAR was 0.06 so the impact of LAR and ROA was found strong negative and insignificant at 95 percent confidence level. This shows that increase in LAR cause decrease in ROA and vice versa.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the findings, conclusions and recommendations and based on the results. The summary gives a picture of the research, describing the various results of the research. The interpretation based on the empirical study is seen in the conclusion while the recommendations are proposals from the findings.

5.1 Summary of findings

The roles ofbanks in the economic development and growth of a country cannot be undermined. They engage in financial intermediation where funds are taken from the surplus units and made available to the deficit units. This role exposes them to various types of risks and the most popular and well-spoken is credit risk. It is therefore essential to identify the extent to which this risk influences theprofitability of banks in Nepal across private and government banks.

The purpose of this research work is to identify the impact ofcredit risk on Profitability of some selected private and government banks in Nepal. The two key measures of profitability which include Return on asset (ROA) and Return on equity (ROE) were used as the dependent variables for this study. The explanatory variables employed in the two models were the measures for credit risk. This included non-performing loans ratio, cost per loan ratio, capital adequacy ratio and loan and advances ratio. Capital adequacy was used as control variables. The researcher used a descriptive statics and regression in analysis data accessedfrom the annual reports and audited financial statements of 10 banks (7 private banks and 3 government banks) for a period of 5 years (2012/13-2016/17).

In chapter 1, the significance of the study and the purpose of the research were presented and discussed. As specified earlier, the primary aim of the study is to examine the impact of credit risk on the profitability across private and government banks of Nepal. The various studies on the topic reviewed in the context of developed and developing countries were presented in chapter 2. Based on the review, appropriate variables were selected to be included in the analysis. Each of the variables were then defined and the rationale of choosing them were put forward. The

calculation formula was also discussed. However, dependent variables indicating profitability of commercial banks, ROA and ROE were selected as these were the most popular variables in the literature. Independent variables include: NPLR, CPLR, CAR and LAR representing credit risk. For this study, regression analysis was applied for all 10 banks (7 private banks and 3 government banks) of Nepal for the period 2012/13 to 2016/17.

The primary research question of "What are the current position of NPLR, CPLR, CAR, LAR, ROA and ROE of the Nepalese private and government banks?", "Is there any significant mean difference in NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?", "What is the relationship between NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?"is addressed using the results from the various statistical analysis. Specifically, the study identified factors that influence the financial performance of Nepalese commercial banks.

On the basis of data analysis, the major findings of the study are summarized as follows:

1. Among all, total non-performing loan (TNPL) was observed highest in mean, median and standard deviation among other variables. However, sample Nepalese privateand government banks in our study have greater diversification on their TNPL.
2. Among all, loan and advances ratio (LAR) was observed highest in mean, median and standard deviation among other dependent and independent variables. However, sample Nepalese privateand government banks in our study have greater diversification on their LAR.
3. The mean difference of non-performing loan ratio was found significant difference acrossNepalese private and government banks.
4. The mean difference of cost per loan ratio was found significant difference acrossNepalese private and government banks.
5. The mean difference of capital adequacy ratio was found insignificant difference acrossNepalese private and government banks.
6. The mean difference of loan and advances ratio was found insignificant difference acrossNepalese private and government banks.

7. The negative and significant correlation between NPLR and both dependent variables (ROA and ROE) reveals that the increase in NPLR leads to the decrease in profitability (ROA and ROE).
8. The negative and insignificant correlation between CPLR and both dependent variables (ROA and ROE) reveals that the increase in CPLR leads to the decrease in profitability (ROA and ROE).
9. The positive and insignificant correlation between CAR and both dependent variables (ROA and ROE)reveals that the increase in CAR leads to the increase in profitability (ROA and ROE).
10. The positive and significant correlation between LAR and both dependent variables (ROA and ROE) reveals that the increase in LAR leads to the increase in profitability (ROA and ROE).
11. The regression coefficient of non-performing loan ratio are observed negativeand significant impact NPLR on both profitability (ROA and ROE) indicating greater impact made by NPLR on profitability across Nepalese private and government banks.
12. The regression coefficient of cost per loan ratio are observed negative and significant impact made by CPLR on profitability (ROE) but insignificant impact made by CPLR on profitability (ROA)
13. The regression coefficient of capital adequacy ratio are observed positive and insignificant impact made by CAR on both profitability (ROA and ROE) indicating no any greater impact made by CAR on profitability across Nepalese private and government banks.
14. The regression coefficient of loan and advance ratio are observed positiveand insignificant impact made by LAR on ROA but significant impact made by LAR on ROE indicating no any greater impact made by LAR on profitability across Nepalese private and government banks.

5.2 Conclusion

In our research, the main concepts are credit risk and profitability. We use NPLR, CPLR, CAR and LAR to reflect the credit risk and use ROE and ROA to measure profitability. In banking industry, Basel II has built linkage between minimum regulatory capital and underlying credit risk exposure of banks. Bhattarai (2014) indicates that lower NPLR and CPLR may be symbolic of a stronger economic

environment and more efficient credit risk management. According to Kurawa & Garba (2014) ROE and ROA can be used to measure the efficiency of future profits for banks. Meanwhile, Million & Matewos (2015) use ROE and ROA as profitability measure to study the determinants of bank's profitability in Europe. Therefore, ROE and ROA are valid as profitability measures.

The first purpose of this study was to find out the current position of NPLR, CPLR, CAR and LAR across Nepalese private and government banks. Firstly, it was observed that non-performing loan (NPL) hashighest in mean, median and standard deviation among other variables. However, sample Nepalese privateand government banks in our study have greater diversification on their TNPL.Secondly, it was observed that loan and advances ratio (LAR) has highest in mean, median and standard deviation among other variables. This study in contrast data we should accepts with this which reveals loan and advances was found to be greater in position to influence across Nepalese private and government banks. Meanwhile, among providing greater loan and advance results more in providing bad loans. This will greatly implies lower in profitability. So, in the current scenario, NPL is increasing trends due to providing of more bad loans by banks to compete with each other and makes greater impact on bank's profitability.

The second purpose of this study was to find out the significant mean difference between NPLR, CPLR, CAR and LAR across Nepalese private and government banks. NPLR and CPLR was found significant mean difference across Nepalese private and government banks whereas CAR and LAR was found insignificant mean difference across Nepalese private and government banks. CAR and LAR was found insignificant mean differencedue to the controversy theoretical prediction.

The third purpose of this study is to find out the relationship between NPLR, CPLR, CAR and LAR across Nepalese private and government banks. From the findings of the data, it was concluded that NPLR has a statistically significant negative impact on bank's profitability across Nepalese private and government banks. The finding is similar to that of Bhattarai (2014),Kaaya & Pastory (2013) and Ndoka & Islami (2016)but contrary to that of Afriyie & Akotey (2011). Some other studies have found mixed results but were unable to establish a relationship between NPL and bank performance. This serve as an evidence that Nepalese commercial banks have efficient ways of assessing credit. The findings prove that the trend of NPL in

Nepalese private and government banks was increasing that ultimately resulting in less income generation and less available capital to invest which leads to decrease in bank profitability.

In summary, the findings of the study indicate that the commercial banks of Nepal have a poor credit risk management practices which are evidenced by the significant result for NPLR. The overall result showed that credit risk management is an important predictor of bank financial performance. Hence, indicating that the success of bank in terms of profitability depends on risk management.

5.3 Recommendation

As the findings of the study have revealed, credit risk has a significant contribution to bank performance. It is recommended for banks to emphasize more on credit risk management. In general, banks need to maintain an optimum level of CAR (or as per regulatory requirement) so that they will not have difficulty in meeting their financial obligations, protect their depositor's investment and thus promotes the stability of the financial system. Also, Nepalese banks are to be made aware that bank performance is also influenced by its cost of operation. Larger banks tend to achieve higher profits as they provide loan in cheaper interest rate as compared in accepting deposit from customers

The study further recommends for banks to control and monitor NPL and keep the level of NPL as low as possible by emphasizing more on the ability to pay back before credit approvals are given a practice that will enable banks to achieve higher performance. Banks also need to emphasize on coverage ratio meaning that banks monitor all the factors related to interest income on loans such as a change in interest rate, quality of loans, and assets and liabilities as they affect bank performance.

Further, the banks are recommended to be provide needed loans as per bank's requirement and meet the CD ratio as possible. So, that it will creates smooth in operation and will have balanced between loans and deposit.

Although, the study could not find any relationship between CPLR, CAR and LARwith bank performance, it does not mean that these variables are not important. These variables also need to be considered in managing risk in banks. Except the credit risk management, liquidity risk, market risk, operational risk or reputational risk can also be taken into consideration.

Bibliography

Abu Hanifa, M., Sajeda, P., Mustafa, M. C., & Hasanul , B. (2015). The Effect of Credit Risk on the Banking Profitability :A Case on Bangladesh. *GlobalJournal of Management and Business Research: C Finance*, 3-15.

Acharya, M. (2003). Development of the financial system and it's impact on poverty allevation in Nepal. *Economics Review*, 134-164.

Achou, & Tenguh. (2008). Credit risk managed on profitability on Qatar Central Bank. *Journal of Books and Management*, 12-14.

Adebayo, A. O. (2017). Relationship between Credit Risk Management and the performance of Money Deposit banks in Nigeria. *Journal of Economics and Finance, 8*(2), 38-48.

Afriyie, M., & Akotey, A. (2011). Effect of Credit Risk Management . *Journal of Business.*

Ali Sulieman, A. (2015). The effect of credit risk management on financial performance of the Jordanian Commercial Bank. *Investment Management and Financial Innovations*, 338-345.

Ali, S. A. (2015). The effect of Credit Risk Managment on Financial Performance of the Jordanian Commercial Banks. *Investment Management and Financial Innovation*, 338-345.

Amedu, J. M., & Ndubuissi, C. J. (2018). An analysis of relationship between Credit Risk Manangement bank Performance in Nigeria. *International journal of Research and review, 5*(10).

Anderson Salas, S., & Saurina, A. (2002). Credit Risk Management: Implications on Bank performance and Lending. *Saudi journal of Business and Management Studies*.

Bayyoud, M., & Sayyad, N. (2015). The relationship between Credit Risk Managment and Profitability between Investment and Commercial banks in Palestine. *International Journal of Economics and Finance, 7*(11).

Berrios, M. R. (2013). The Relationship between bank Credit Risk and Profitability and Liquidity. *The International Journal of Business and Finance Research, 7*(3).

Bessis, J. (2011). *Risk Management in Banking.*

Bhattarai, (2014). Effect of credit Risk on the performance of Nepalese Commercial Banks. *Journal of Management and Finance*, 41-64.

Bhattarai, Y. R. (2014). Effect of credit Risk on the Performance of Nepalese Commercial Banks. *Journal of Management and Finance, 1*(1), 41-64.

Boland, R. (2012). Credit Risk Mangement and Leel of Non-performing Loan of Commercial Banks in Kenya. *International Open Access Journal, 2*(4), 1306.

Burton, M., Nesiba, R., & Brown, B. (2015). An Introduction to financial markets and Institutions. *Routledge*.

Chuxuan, S., & Xiaoyue, C. (2018). *Impact of Credit Risk on Profitability of Commercial banks.*

Das, A., & Ghosh, S. (2007). Determinant of Credit Risk in Indian State owned Banks. *An Empiral Investigation.*

Gajurel, D., & Pradhan, R. (2012). Concentration and Competition in Nepalese Banking. *Journal of Business Economics and Finance, 1*(1), 5-16.

Giesecke, K. (2004). Credit Risk Modeling and Valuation. *An Introduction*, 67.

Gizaw, M., & Kebede, M. (2015). The Impact of Credit risk on Profitability Performance of commercial bank in Ethiopia. *African Journal of Business Management*, 60-66.

Hamza, S. M. (2017). Impact of Credit Risk Management on Banks Performance. *European Journal of Business and Management, 9*.

Hosna, A., & Manzura, B. (2009). Impact of Credit Risk Management and Profitabilty . *International Business of Science*.

Isanzu, J. S. (2017). Impact of Credit Risk on the Financial Performance of Chinese Banks. *Journal of International Business research and Marketing, 2*(3).

Iwedi , M., & Onuegbu, O. (2014). Relationship between Credit Risk Management and Customer Satisfaction in Deposit Money. *International Journal Business.*

Kaaya, I., & Pastory, D. (2013). Credit Risk and Commercial Bank Performance in Tanzania. *Research Journal of Finance and Accounting, 4*.

Kargi, A. (2011). Impact of Credit Risk on Banks Profitability. *State Journal of Business*.

kodithuwakku, s. (2015). Imapct of Credit risk managment on the performance of Commercial bank in Srilanka. *International Journal of Scientific research and innovative Technology, 2*(7).

Kodithuwakku, S. (2015). Imapct of Credit risk managment on the performance of Commercial bank in Srilanka. *International Journal of Scientific research and innovative Technology, 2*(7).

Kolapo, T., Ayeni, R., & Oke, M. (2012). Credit Risk and Commercial Banks' Performance in Nigeria. *Australian Journal of Business and Management*, 31-38.

Kolapo, T., Ayeni, R., & Oke, M. O. (2012). Credit Risk and Commercial Bank's Performance in Nigeria. *Australian Journal of Business and Management Research*, 31-38.

Kurawa, J. M., & Garba, S. (2014). Evaluation of the Effect of Credit Risk Manangmenet on the Profitabilit of nigeria Banks. *journal of Modern Accounting ad Auditing, 10*(1), 104-115.

Million, G., & Matewos , K. (2015). The Impact of Credit Risk on Profitability Performance on Commercial Banks in Ethiopia. *African Journal of Business Management, 9*(2), 59-66.

Moore, E. (2009). The relationship between Population and samples of study. *Journal of Science*.

Morris, M. (2001). Effect of Credit Risk Management Techniques. *Journal Business of Management*.

Moti, M., & Masinde, R. (2012). Effect of Credit Management. *Journal of Business* .

Nario, L. (2016). The Envolving Role of credit Portfolio Management. *Portfolio Management*.

Nawaz, M., Munir, S., Siddiqui, S. A., Ahad, T. U., Afzal, F., & Ateeq, M. (2012). Credit Risk and the performance of Nigerian Banks. *Interdisciplinary Journal of contemporary research in Business, 4*(7), 49-63.

Ndoka, S., & Islami, M. (2016). The Impact of credit Risk Management in the Profitability of Albanian Commercial Banks During the period 2005-2015. *European Journal of sustainable development, 5*(3), 445.

Ogboi charles, L. (2013). Impact of Credit risk and Capital Adequacy on Financial Performance of Commercial Bank in Nigeria. *Journal of Emerging Issues in Exonomics Finance and Banking*.

Ogboi, C. (2013). Impact of Credit Risk Mangement and Capital Adequacy on the Financial Performance. *Journal of emrging in Economics, Finance and banking(JEIEFB), 2*(3).

Ogboi, C., & Unuafe, O. K. (2013). *Journa of Emerging Issues in Economics, Finance and Banking, 2*, 703-717.

Ogboi, C., & Unuafe, O. K. (2013). Impact of Credit Risk Management and Capital Adequacy on the Financial Performance of Commercial Banks in Nigeria. *Journa of Emerging Issues in Economics, Finance and Banking, 2*, 703-717.

Ogboi, C., & Unuafe, O. K. (2013). Impact of Credit Risk Management and Capital Adequacy on the Financial Performance of Commercial Banks in Nigeria. *Journa of Emerging Issues in Economics, Finance and Banking, 2*, 703-717.

Ogilo, f. (2012). Imapct of credit Risk Management on Financial Performance of commercial bank in Kenya. *Africa managmenet review, 3*(1), 22-37.

Poudel, R. P. (2012). Impact of Credit Risk Management on Financial Performance of Commercial Bank in Nepal. *International Journal of Arts and Commerce, 1*(5), 9-15.

saeed, M., & Zahid, N. (2016). The Impact of Credit Risk on Profitability of the Commercial Banks. *Journal of Business & Financial Affairs*, 2-5.

Saeed, M., & Zahid, N. (2016). The Impact of Credit Risk on Profitability of the Commercial Banks. *Journal of Business & Financial Affairs*, 2-5.

Semere, S. E., & Cheyan, F. Z. (2017). Impact of Credit Risk Managmenet on Financial Performance of Commercial bank. *Research Journal of Finance and Accounts, 8*(19).

Taiwo, J. (2017). Credit Risk Manangement: Implications on Bank Performance and Lending Growth. *Saudi Journal of Business and Management Studies*, 584-590.

Unuafe, O. K., & Ogboi, C. (2013). Impact of Credit Risk Management and Capital Adequacy on the Financial Performance of Commercial Banks in Nigeria. *Journa of Emerging Issues in Economics, Finance and Banking, 2*, 703-717.

Zubairi, H., & Ahson, S. (2015). Balancing Risk Managment and profitability. *Pakistan Business Review.*

AnnexI:

S. No	Authors	Variables		Methods
		Independent(x)	Dependent (y)	
1	Nawaz, Munir, Siddiqui, Ahad, Afzal, &Ateeq, (2012)	Non-Performing Loans/Loans & Advances Loan & Advances/Total Deposit	ROA	Correlation and Regression Model
2	Poudel (2012)	Capital Adequacy Ratio Cost per Loan Assets	ROA	Correlation and Regression
3	Kolapo, Ayeni, &Oke, (2012)	Non-performing loan to loan & Advances Total loan & Advances to Total deposit loan loss provision to classified loans	ROA	Panel Data Regression
4	Berrios (2013)	Compensation Variable for Bank Total Debt to Equity Loans to Deposits	ROA	Regression Model
5	Kaaya&Pastory (2013)	Loan Loss to Gross Loan Loan Loss to Net Loan Non-Performing Loan Impaired Loan to Gross Loan	ROA	Regression Model
6	Ogboi&Unuafe (2013)	Loan Loss Provision Non-Performing Loan Liquidity Ratio Loan and Advances	ROA	Panel Data Estimation Technique
7	Zubairi&Ahson (2014)	Advances and Investment/total Assets	ROA	Regression Analysis
8	Bhattarai (2014)	Non-Performing Loan Ratio Cost per Loan Assets Cash Reserve Ratio Capital Adequacy Ratio	ROA	Pooled Data Regression Model
9	Kurawa&Garba, (2014)	Cost per Loan Asset Ratio Capital Adequacy Ratio Default Rate Ratio	ROA	Random-Effect Generalized Least Square Regression
10	Ali Sulieman (2015)	Provision for Facilities Loss/Net Facilities Leverage Ratio Level of Non-Performing Loans	ROA	Panel Regression Model
11	Gizaw&Kebede (2015)	Loan Loss Provision Capital Adequacy Ratio Non-performing Loan	ROA ROE	Descriptive statics and pannel Data Regression
12	Abu Hanifa, Sajeda, Mustafa, &Hasanul , (2015)	Non-performing Loan / Gross Loan Loan Loss Reserve / Gross Loan Loan Loss Reserve/ Non-performing Loan Capital Adequacy ratio	ROA ROE	Panel Linear Regression

13	Kodithuwakku (2015)	Loan Loss Reserve / Total Loan Loan Loss Reserve/ Non-performing Loan	ROA ROE	Panel Data
14	Bayyoud&Sayyad (2015)	Non-performing Loan Ratio	ROA	Linear Regression
15	Saeed &Zahid (2016)	Net Charge Off(Impairments) Non-performing Loan	ROA ROE	Multiple Statistical Analysis
16	Taiwo (2017)	Loan and Advances Non-performing Loan Loan to Deposit Ratio	ROA	Multipe Linear Regression
17	Hamza, (2017)	Non-performing Loan Ratio Capital Adequacy Ratio Loan Loss Provision Liquidity Ratio	ROA ROE	Correlation Matrix Regression
18	Semere&Cheyan (2017)	Non-performing Loan Ratio Capital Adequacy Ratio Loan and Advances Ratio Loan Loss Provision Ratio	ROA	Panel Data Regression
19	Isanzu, (2017)	Non-performing Loan Capital Adequacy Ratio Impaired Loan Reserve Loan Impairment Charges	ROA	Panel data Regression
20	Adebayo (2017)	Loan Loss Provision Volume of Non-performing Loan Loan To Deposit Ratio	ROA	Linear Regression Analysis
21	Amedu&Ndubuissi, (2018)	Non-performing Loan/ Loan & Advances Total Loan / Total Deposit	ROA	Person Coefficient of Correlation
22	Chuxuan&Xiaoyue, (2018)	Capital Adequacy Ratio Non-performing Loan Ratio	ROA ROE	Panel Data Regression

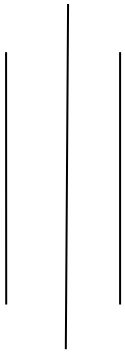
Annex II:

Company Name	Year	Sector	Net income	Total Assets	Total Equity	EBIT	Total Non Performing Loan	Total Loan and Advance	Total Deposit	Total Loan and advances to total Deposit (%)	Non Performing Loan (NPL) to Total Loan (%)	Total LLP to Total NPL (%)	ROE (%)	ROA (%)
NIC ASIA	2016/17	Private	1469671.9	99229727.1	8645128.65	1846293	25770009.51	71583359.75	86,697,140	82.57	0.36	371	17	1.6
	2015/16		1066245.6	80458018.1	6472086.32	1586714	50130769.77	58445663.18	69,487,997	84.11	0.857732927	213.8628391	16.47453	1.512647
	2014/15		680317.1	60519399.2	5213157.86	1228613	87238776.94	42144336.69	53,477,184	78.81	2.07	131.97	13.05	1.21
	2013/14		814705.68	51478358.2	5202881.61	1480006	81533265.24	36311344.1	44,982,855	80.72	2.245393754	118.7275902	15.65874	1.582618
	2012/13		629250.49	45822344	4301096.99	1403962	73252626.87	31559518.4	39,908,774	79.08	2.32109457 2	113.8606909	14.63	1.78
NABIL	2016/17	Private	3620821	14194392 3	13777857.7	5483906	72278089.08	91491252	118,896,157	76.95	0.79	221.75	26.28	2.67
	2015/16		2821564	12891959 6	10500796.4	4349524	88612657.14	77730401	110,267,272	70.49	1.14	182.32	26.87	2.3
	2014/15		2093813	11765243 4	9211671.8	3402996	122234241.2	67161671	104,237,910	64.43	1.82	135.94	22.73	2.06
	2013/14		2319632	88788739.2	8293285.66	3787320	12533 2859.7	56203076.12	75,388,791	74.55	2.23	120.33	27.97	2.89
	2012/13	Private	2218762	74516955	6019430.28	3492404	101484978.9	47645530	63,609,808	74.90	2.13	125.66	36.86	3.2
SCB	2016/17	Private	1381951	77445283	12165061.6	2285274	7448701.1	39203690	63,872,885	61.38	0.19	685.8	11.36	1.78
	2015/16		1265498	65239806	7214925.88	1928459	10143150.4	31697345	55,727,178	56.88	0.32	387.35	17.54	1.94
	2014/15		1290025	65269315	5947556.48	2015702	9528099.82	28023823	57,286,482	48.92	0.34	361.41	21.69	1.99
	2013/14		1377472	53722596.1	5976017.35	2127548	12637613.76	26328362	46,298,532	56.87	0.48	276.24	23.05	2.56
	2012/13	Private	1217941	45940633	4616910.54	1972607	17816545.67	23138371	39,466,454	58.63	0.77	174.61	26.38	2.65
HBL	2016/17	Private	2176487	10849722 3	10247113.9	3308505	67559828.25	77654975	92,881,114	83.61	0.87	186.55	21.24	2.09
	2015/16		1915628	10118009 9	7915818.18	3007909	84994095.93	69100891	87,323,146	79.13	1.23	159.02	24.2	2.06
	2014/15		1112287	84753328	6728898.97	2093129	178478182.5	55428007	73,538,201	75.37	3.22	91.4	16.53	1.37
	2013/14	Private	1102806	74992921.9	5850429.71	2065459	119839266.2	46449328	64,674,848	71.82	2.58	117.93	18.85	1.6

	2012/13		943698	62486556.4	47398119.19	1988874	118655875.1	41057396.24	53,072,319	77.36	2.89	112.43	19.91	1.74
NIB	2016/17		3160068	152857415	21025069.9	5240069	8854761 7.91	10668 3877	125,669,355	84.89	0.83	223.71	15.03	2.07
	2015/16		2803509	142239916	19577576.8	4499226	63758806.68	93762951	116,215,711	80.68	0.68	261.17	14.32	1.94
	2014/15		1961852	105816403	9809260	3119739	84612747.5	67690198	90,631,487	74.69	1.25	174.26	20	1.85
	2013/14		1950799	87607837.8	8973316.47	3168888	89810229.4	53458469.88	73,831,376	72.41	1.68	158.41	21.74	2.23
	2012/13	Private	1915029	74452729.8	7019901.03	3103636	91108199.25	47700627.88	62,428,846	76.41	1.91	142.44	27.28	2.57
NSBI	2016/17		1523856	99829242	7462566.11	2528177	63025 02.3	63025023	81,664,548	77.18	0.1	1132.98	20.42	1.68
	2015/16		1331881	78535227	6010293.32	2150699	6579358.24	46995416	65,213,520	72.06	0.14	829.87	22.16	2
	2014/15		1065438	59277291	4953221.76	1746975	7596042.87	39979173	51,628,222	77.44	0.19	557.59	21.51	1.7
	2013/14		922984	61082973	4039317.29	1441437	9172691.58	35279583	54,492,994	64.74	0.26	476.42	22.85	1.5
	2012/13	Private	771471	64796152.9	3798478.58	1303096	10651614.39	28788147	59,125,730	48.69	0.37	373.31	20.31	1.19
EBL	2016/17		1981698	117507740	8432757.45	3182017	39925186.29	78284679	95,094,462	82.32	0.51	100	23.5	1.72
	2015/16		1730241	114841636	6769330.99	2834104	26186386.34	68911543	93,735,481	73.52	0.38	100	25.56	1.61
	2014/15		1574331	100033859	5336715.25	2416603	36539922.54	55363519	83,093,790	66.63	0.66	100	29.5	1.84
	2013/14		1549698	71323363	4698902.37	2494040	30039189.1	48450305	62,108,136	78.01	0.62	100	32.98	2.25
	2012/13	Private	1471118	66545727.8	4017252.87	2401556	27402613.61	44197763.88	57,720,465	76.57	0.62	100	36.62	2.39
RBB	2016/17		3082660	178882322	5435.54	4050973	2501 13674.9	10643 1351	153,575,987	69.30	2.35	152.18	23.23	32.32
	2015/16		2648471	174626564	453.23	3127622	33760 7957.6	85470369	14620 7634	58.46	3.95	108.18	43.43	35.23
	2014/15		4643867	144179403	54454.4	2263139	40572 5264.3	75836498	12422 1663	61.05	5.35	92.59	29.5	1.84
	2013/14		1733391	126856270	5443.3	1624046	24037 6653.6	60854849	107,269,942	56.73	3.95	140.88	34.32	1.22
	2012/13	Govt	1310112	105714513	535.53	901901	26091 8931.8	49044912	91,093,908	53.84	5.32	132.01	34.12	1.32
NBL	2016/17		3219561	112705481	9133506.38	3730146	23576 2051.8	74372887	93,944,014	79.17	3.17	109	35.25	2.86
	2015/16		3018772	108368920	5340123.83	2568331	17279 4158.1	63527264	89410018	71.05	2.72	115.49	56.53	2.79

	2014/15		526122.12	86386830.1	37905055.19	898250	210829448.8	53374544	78007218.56	68.42	3.95	109.8	13.88	0.61
	2013/14		1235919	79940065.9	38658711.13	900858	195268973.6	41195986	69,340,794	59.41	4.74	105.67	31.97	1.55
	2012/13		791504	73782296	232.32	725342	171484422.9	37855281	62,988,852	60.10	4.53	116.28	34.32	1.07
ADB	2016/17	Govt	2776703	126846759	17868101.7	4042302	262243839.3	88297589	99,952,070	88.34	2.97	160.34	15.54	2.19
	2015/16		2577230	112709833	14495106.9	3242987	307044664.9	79751861	87263495	91.39	3.85	112.22	17.78	2.29
	2014/15		3603371	99696345.1	16224092.8	3025262	356315986.7	66601119	76921301	86.58	5.35	94.75	22.21	3.57
	2013/14		1509461	91376534.9	11799281.3	1435962	307078147.1	57505271	65,828,329	87.36	5.34	148.53	12.79282	2.202551
	2012/13		2289321	77097348.9	10667185.5	2404938	290662088	49685827	54,477,651	91.20	5.85	162.88	21.46134	3.959187

IMPACT OF CREDIT RISK ON BANK'S PROFITABILITY



A Thesis Proposal

Submitted By:

Rajan Manandhar

Campus Roll No: 20/2072

TU Regd No: 7-2-431-40-2012

People's Campus

Paknajol, Kathmandu

Submitted To:

Office of the Dean

Faculty of Management

Tribhuvan University

In the partial fulfillment of the requirements for the degree of

Master of Business Studies (MBS)

Kathmandu, Nepal
January, 2019

Table of Content

CHAPTER I
INTRODUCTION

1.1 Background of the study

Banks are relevant to economic development through the financial services they provide. The efficient and effective performance of the banking industry over time is an index of financial stability in any nation. The extent to which a bank extends credit to the public for productive activities accelerates the pace of a nation's economic growth and its long-term sustainability. The credit function of banks enhances the ability of investors to exploit desired profitable ventures. However, it exposes the banks to credit risk. Higher the exposure of a bank to credit risk, the higher the tendency of the banks to experience financial crisis and vice-versa. Bessis (2011) categorized some of the major risks that banks face as credit risk, liquidity risk, interest rate risk, mismatch risk, market liquidity risk, market risk, and foreign exchange risk. Kolapo, Ayeni, & Oke (2012) explore many risks faced by banks and pick credit risk as significant role on its financial performance as a large chunk of banks income that is earned from the loans provided to their customers in the form of interest income.

The adequate management of credit risk in financial institutions is critical for the survival and growth of financial institutions. Commercial bank's performance is a result of multiple predictors of credit risk management. Capital adequacy ratio, credit deposit ratio, non-performing loan to total loan advances, net interest income to total income and total loan loss provision to total non- performing loan all play significant role towards the contribution of bank's performance. Brown & Moles (2012) defines credit risk as default risk, performance risk or counterparty risk as the possibility that a contractual party will fail to meet its obligations in accordance with the agreed terms. Similarly, Giesecke (2004) also describe credit risk as a risk of financial loss whereby money invested by banks to their customers in the form of loans isn't repaid back. Credit risk is a significant risk faced by banks by the nature of their activity and the success of banks in terms of financial performance depends on efficient management of it than any other type of risk that bank faces.

1.2 Credit risk management of Nepalese commercial Bank

Nario (2016) observed credit risk management as a key function for banks and other financial institutions including insurers and institutional investors with large, multifaceted portfolio of credit, often including illiquid loans. After global financial crisis of 2007-2008, the credit portfolio management function has become most crucial functions of the bank and financial institutions. The Basel III, third installment of Basel accord was developed after crisis to strengthen bank capital requirements by increasing bank liquidity and decreasing bank leverage that encourages banks to measure credit risk of bank's portfolios. Similarly, in the view of Morris (2001), the Basel committee also raises an issue concerning the application of the risk weights used in the capital adequacy framework to determine exposure to risk assets for the purpose of determining large credit exposure.

The portfolio management of the Nepalese banking sector has been improved remarkably during last 10 years due to the strict regulation of Nepal Rastra bank. Nevertheless, in recent years, the central bank of Nepal has introduced policies to improve bank performance and has taken measures to minimize the negative effect of lending. This journal will try to describe the present credit portfolio management practice of Nepalese Commercial Bank by using quantitative methods. In this study, concentration of banks for credit portfolio management has been studied by analyzing security wise loan, product wise loan and sector wise concentration of loan where the researcher has found assorted outcomes. Gajurel & Pradhan (2012) also provide some suggestions to overcome with problems associated with credit risk. In addition, the deregulation wide scope of activities and defined the banking activities while the advancement in information technology resulted in the adoption of advanced ways and tools in performing the various banking activities.

1.3 Statement of the problem

Present banking setup is the result of liberalization of economy, economic requirement and globalization. However, subsequent development of commercial banks in quality has not been satisfactory. The number of commercial banks and other financial institutions are increasing in recent time. None of commercial banks in long run can survive without implementing effective lending policy and practices. Bhattarai (2014) observed commercial banks in Nepal have been facing various

challenges and problem. Some of them arising due to the economic condition of the country, some of them arising due to confused policy of government and many of them arising due to default of borrowers. The major reasons identified were relaxed credit standards and poor portfolio risk management. Similarly, Bhattarai (2014) observed most of the commercial banks in Nepal are evidenced to have approved loans without proper examinations which may lead to increase in a number of loan defaults and non-performing loans.

Credit risk creates greater impact on the company's profitability and liquidity. So, it is one of the crucial decisions for the commercial banks. It is encouraging to explore new sector for credit. Similarly, credit policies are not systematic and no clear cut vision on policy as available on credit aspects. In Nepal, it has been found that loan approval and credit decisions are made flexible to favor to personal network only. A new customer finds that credit providing process being very complicated and sometimes the documents submitted for loan sanctioning being fraudulent and for formality purpose only.

The issues specially related to credit management of commercial banks under study have been presented briefly as under:

2 What are the current position of NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?
3 Is there any significant mean difference in NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?
4 What is the relationship between NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks?

1.4 Objectives of the study

For any study there has to be some objectives which highlights the purpose of doing the research work. The main purpose of this research is to examine the impact of credit risk indicators particularly; Non-performing loans Ratio (NPLR), Cost Per Loan Assets Ratio (CPLR), Capital Adequacy Ratio (CAR) and Loan and Advances Ratio (LAR) on the financial performance/profitability of the Nepalese commercial banks during the period 2009-2016. The profitability measured by ROA and ROE. The Specific objectives are:

- To determine the current position of NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks
- To investigate the significant mean difference in NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks
- To examine the relationship between NPLR, CPLR, CAR, LAR, ROA and ROE across Nepalese private and government banks

2 Literature Review

This chapter starts with presenting the overview of banking system in Nepal. Besides, bank loans including determinant factors were presented. Furthermore, concepts relating to non-performing loans ratio, cost per loan assets ratio, capital adequacy ratio and loan and advances ratio are discussed. Following this, empirical studies are reviewed by focusing impact of credit risk on bank's profitability are presented. Then after, the knowledge gaps from the reviewed literatures are outlined.

3 Significance of the study

Loans and advances are the most profitable of all assets of bank. These assets constitute primary sources of income to the bank. It means interest earned from such loan and advances occupy major space in income statement of the bank. As a business institute, a bank aims at making huge profit. Since, loan and advances are more profitable than any of other assets, the bank is willing to lend as much as its funds as possible. But, it has to be careful about the safety of such loans and advances. So, it is very important to be reminded that most of the banks failures in the world are due to shrinkage on the value of loans and advances. Hence, loan is known as risky assets. Risk of non-payment of loan is known as credit risk or default risk. Good and better credit management system and practices ensures lower non-performing assets and higher capital adequacy ratio. Therefore, better the credit management, higher the bank performance will be. So, the study on credit management in bank's performance is significant to various stakeholders.

First stakeholders are the banks themselves; they would find out impact and effect of credit management on bank performance. Secondly, this study will also be useful for other stakeholders of the banks like shareholders, creditors and depositors as it provides the basis for analyzing the performance of the banks. It will help the

management of the commercial banks to identify the areas to be improved and will provide basis for formulating appropriate plans and policies to increase the profitability of their banks by uplifting the credit management system. Other stakeholders are the clients; they can take better decision for the loan, they can choose the bank of their own choice and priority. They will take credit from the bank which has the positive expectation about business and the bank which is making profit and has credit worthiness. Government also gets benefitted from this study, if credit management practices and system is strong then the performance of the bank will be raised, this will ultimately generate tax revenue for the government. Likewise, this study will also help banking regulator i.e. NRB to develop a framework and to formulate policies, rules and regulations for measuring and assessing risk management practices. Since, next important stakeholders are the future researchers who can conduct research in the same area which are not included or have been left out in the present study and this study will also provide a guideline to the researcher to conduct further study in same topic.

4 Limitation of the Study

The present study is not free from the limitations. The limitations of this study are as follows:

- Basically, secondary data is used in this study.
- Due to the small sample size, it may not fully represent complete banking credit concept as a whole.
- The analysis period of research covers the data of five fiscal years.
- The study mainly focuses on the loan and advances and doesn't cover other banking services and facilities provided by the banks.
- There are 28 commercial banks in Nepal out of which 10 banks are taken as sample based on years of operation.
- In this study only limited financial and statistical tools and techniques of credit analysis is used.

5 Organization of the study

This study has been organized into five major chapters:

Chapter One: Introduction

Chapter one, deals with the general background of the study with the subject matter of the study. This chapter consist the statement of the problem, objective of the study, significance of the study and limitation of the study.

Chapter Two: Review of Literature

Chapter two includes review of major empirical works articles. It also includes concept for credit risk management of commercial banks, related theories, review of empirical literature and theoretical framework.

Chapter Three: Research Methodology

Chapter three deals with research methodology adopted to achieve the objective of the study, research questions and it consist of the research design, source of date and data collection method. At present, there are 28 numbers of commercial banks operating in Nepal in which 10 Commercial Bank (7 private banks and 3 government banks) will be taken for study. This study will be based on secondary sources of data which includes annual report of both banks.

Chapter Four: Presentation and Analysis of Data

Chapter four deals with presentation and analysis of relevant data and information through a definite course of research methodology. Analysis is different ratio and presentation of regression analysis depends on the data.

Chapter Five: Summary, Conclusion and Recommendations

Lastly, chapter five summarizes the whole study, conclusion of the study and recommendation for the improvement in future to the related banks and interested group.

6 Bibliography

Burton, M., Nesiba, R., & Brown, B. (2015). An Introduction to financial markets and Institutions. *Routledge*.

Chuxuan, S., & Xiaoyue, C. (2018). *Impact of Credit Risk on Profitability of Commercial banks.*

Das, A., & Ghosh, S. (2007). Determinant of Credit Risk in Indian State owned Banks. *An Empiral Investigation.*

Gajurel, D., & Pradhan, R. (2012). Concentration and Competition in Nepalese Banking. *Journal of Business Economics and Finance, 1*(1), 5-16.

Giesecke, K. (2004). Credit Risk Modeling and Valuation. *An Introduction*, 67.

Gizaw, M., & Kebede, M. (2015). The Impact of Credit risk on Profitability Performance of commercial bank in Ethiopia. *African Journal of Business Management*, 60-66.

Hamza, S. M. (2017). Impact of Credit Risk Management on Banks Performance. *European Journal of Business and Management, 9*.

Hosna, A., & Manzura, B. (2009). Impact of Credit Risk Management and Profitabilty . *International Business of Science*.