

**IMPACT OF CREDIT RISK ON PROFITABILITY OF
COMMERCIAL BANKS IN NEPAL**

A THESIS

Submitted

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Certification of Authorship

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

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

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RECOMMENDATION LETTER

This thesis entitled “**Impact of Credit Risk on Profitability of Commercial Banks in Nepal**” is prepared by Miss. Sony Maharjan under my supervision and guidance for the partial requirement for the degree of Master of Business Studies (M.B.S.). Therefore, I recommended this thesis for its final approval.

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We, the undersigned, have examined the thesis entitled Impact of Credit Risk on Profitability of Commercial Banks in Nepal presented by Sony Maharjan, a candidate for the degree of **Master of Business Studies (MBS)** and conducted the viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

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At last, I am the responsible for my errors.

Sony Maharjan

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Abbreviations

CAR	: Capital Adequacy Ratio
CLA	: Cost per loan Advance Ratio
CRM	: Credit Risk Management
CV	: Coefficient of Variation
DR	: Default Risk
EBL	: Everest Bank Limited
GDP	: Gross Development product
HBL	: Himalayan Bank Limited
KYC	: Know Your Customer
LLPR	: Loan Loss Provision Ratio
LTDR	: Loan and Advance to Deposit Ratio
NABIL	: Nepal Arab Bank Limited
NIBL	: Nepal Investment Bank Limited
NPLR	: Non-Performing Loan Ratio
ROA	: Return on Assets
ROE	: Return on Equity
SBI	: State Bank of India.
SPSS	: Statistical Package for Social Science

ABSTRACT

This study examines the impact of credit risk on profitability of commercial banks in Nepal. The population of the study is twenty-eight commercial banks that are currently operating in Nepal and out of them five banks were taken as a sample for the study. The Secondary data were collected from the period of 2007/08 to 2016/17. Descriptive statistics, correlation and multiple regression analysis are used to analyze the data. The profitability in terms of return on assets and return on equity are selected as dependent variables. Capital adequacy ratio, non-performing loan ratio, loan and advance to deposit ratio and loan loss provision ratio are taken as independent variables.

The study finds that the credit risk which is measured by non-performing loan ratio has insignificant negative impact on banks' profitability. Loan and advance to deposit ratio also has same impact on banks' profitability. In addition, capital adequacy ratio and loan loss provision ratio has significant positive impact on banks' profitability. The study suggested that the management of the bank needs to develop effective credit risk management strategies to enhance their profitability.

Chapter 1

Introduction

1.1 Background of the study

Banks today are the largest financial institutions around the world, with branches and subsidiaries throughout everyone's life. There are plenty of differentiations between types of banks. And much of this differentiation rests in the products and services that banks offer (Howells & Bain, 2008). For instance, commercial banks hold deposits bundling them together as loans, operating payments mechanism, etc.

Banks provide the required capital to the economy in the form of loan and advances which might have some probability to fail to be paid back which is termed as credit risk, the chance that a loan will not be repaid timely. Hence the main concern of the bank is credit risk and its management as credit or loans and advances are the main source of income for them.

Risk can be defined as a probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal obligation, and that may be avoided through preemptive action.

Credit risk is by far the most significant risk faced by banks. The success of the business depends on accurate measurement and efficient management of the risk to a greater extent than any other risk. Credit risk refers to the risk that a borrower may not repay a loan and that the lender may lose the principal of the loan or the interest associated with it. Credit risk arises because borrowers expect to use future cash flows to pay current debts; it's almost never possible to ensure that borrowers will definitely have the funds to repay their debts. Interest payments from the borrower or issuer of a debt obligation are a lender's or investor's reward for assuming credit risk. Through 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 (Psillaki et al, 2010). Credit risk management is the practice of mitigating losses by understanding the adequacy of a bank's capital and loan loss reserves at any given time-a process that has been a challenge for financial institution.

Credit risk management has turned out as a vital issue in the current intensely complicated and competitive business environment. Business and industries are heavily dependent upon the credit grants from banks. Bank performance in terms of profitability is directly associated with its credit risk. Favorable credit risk management leads to positive profits and vice-versa. Credit and market risk both are vital for maintaining the profitability of banks.

The goal of the credit risk management is to maximize a bank's risk adjusted rate of return by maintaining the credit risk exposure within acceptable parameters. Bank is investing a lot of funds in credit risk management modeling. The default of a small number of customers may result in a very large loss for the bank. Credit risk is a risk of borrower default, which happens when the counterpart fails to pay on time. Credit risk is assessed through analyzing the financial performance of commercial banks in an attempt to mitigate impacts arising from credit defaults. The financial health of the commercial banks depends on the possession of good credit risk management dynamics. Commercial banks may have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred.

The importance of credit risk management to commercial banks cannot be overemphasized and it forms an integral part of the loan process. Loan and advances provided to borrowers may be at the risk of default, whereas banks extend the credit on the understanding that borrowers will repay their loans. Some borrowers usually default, and as a result, the bank's income decreases due to the need to increase loan loss provisions for such loans. Where commercial banks do not have an indication of what proportion of their borrowers will default, earnings will vary thus exposing the banks to an additional risk of variability of their profits. Effective management of credit risk can enhance banks "goodwill and depositors" confidence. Thus, good credit risk policy is an essential condition for banks' performance and capital adequacy protection.

Commercial banks are exposed to high risk loans. The higher is the accumulation of unpaid loans implying that these loan losses have produced lower returns to many commercial banks. Most of the Nepalese commercial banks are found to approve the loans that are not well examined. This may lead to increase the loan defaults and non-performing loans. Thus, the existing procedures for credit risk management are not

adequate to compete with the existing financial and economic challenges in Nepal. There is need to investigate whether this investment in credit risk management is viable to the banks. This study therefore seeks to investigate the impact of credit risk indicators on a bank's profitability in Nepal. This study addresses how credit risk affects banks' profitability using a robust sample and the findings would serve as the basis to provide policy measures useful to the various authorities on how to tackle the effect of credit risk in order to enhance the quality of banks' risky assets.

For this study out of 28 commercial banks five commercial banks is selected as a sample. They are Nepal Arab Bank Limited (NABIL), Himalayan Bank Limited (HBL), Nepal Investment Bank Limited, Everest Bank Limited and Nepal SBI Bank Limited.

1.2 Statement of the problem

The very nature of the banking business is so delicate because more than 85% of their liability is deposits from customers (Vasudevan et al., 1979). Bank create loans from these deposits from customers and these loans are major income generating source for majority of the banks. However, this action is associated with enormous risks to both the banks and deficit units.

Banks are now working so hard to attract the massive number of people who are not working with them. This has led to an increase in bank's surplus units and deficit units. With the aim of increasing revenue and gaining a large portion of the market share, many banks have given out loans and advances which could not be recovered leading a massive growth in Non-Performing Loans (NPLs) in their accounts. This has become a worrisome situation for banks and other stakeholders. Recent activities of banking sector are also unique, some of them are busy to introduce new deposit product in high interest rate, some other are trying to catch attention of client by lowering interest rate on loan. So competition is high enough but Nepal Rastra Bank is lowering various services by adding various circular (restriction on margin lending, gift/prizes distribution, revised capital adequacy etc.). Among other risks credit risk plays an important role on banks' financial performance. The prime concern of this thesis is to determine whether credit risk has an impact on the profitability of Nepal's commercial banks.

Poudel (2012) has revealed that credit risk indicators are inversely related to profitability. It is of great interest to study the relationship between credit risk and profitability of commercial banks. And there is no research that could clearly explain the relationship of credit risk and profitability of commercial banks in Nepal. The prime concern of this thesis is to determine whether credit risk has an impact on the profitability of commercial banks in Nepal. In order to acquire the knowledge of impact of credit risk and profitability of commercial banks, we made the following research question:

- What is the current position of Profitability of commercial banks in Nepal?
- What is the current position of capital adequacy ratio, non-performing loan, loan loss provision, and loan and advance to deposit ratio of commercial banks in Nepal?
- What is the impact of capital adequacy ratio, non-performing loan, loan loss provision, and loan and advance to deposit ratio on profitability of commercial banks in Nepal?

1.3 Purpose of the study

The main objective of this study is to evaluate relationship between credit risk and bank's performance of selected commercial banks of Nepal.

Following are the specific purpose of the study:

- To analyses the position of profitability of commercial banks in Nepal.
- To assess the current position of capital adequacy ratio, non-performing loan, loan loss provision, and loan and advance to deposit ratio of commercial banks in Nepal.
- To examine the impact of capital adequacy ratio, non-performing loan, loan loss provision and loan and advance on the profitability of commercial banks in Nepal.

1.4 Significance of the study

The success and prosperity of the bank heavily depends upon the successful implementation and investment of collected resources, which develops the economy of the country. Good investment policy of the bank has positive impact on economic development of the country and vice versa. An investment in any funds is made to have

some positive return. Nobody is ready to bear risk without any return but to have returned one must be ready to face some risk. In Nepalese context, very few studies have been made and there is no specific magazines and articles on the topic. So the study will be more significant for the exploring and increasing stock investment.

This study is mainly concerned with position of profitability and credit risk indicators and impact of credit risk on profitability. This study is important for credit performance analysis of any banking sectors because it is only one measure to evaluate prosperity or recession of organization. After having the real knowledge of indicators of financial performance any shareholder can decide what they ought to do. Similarly, any concerning bodies will be benefited to study whole organization. So this study will be fruitful for those who want to know about selected sample banks in financial concern. Moreover, this study can also be used by government bodies, investors, competitors.

1.5 Limitation of the study

As every research has its pros and cons, the report is not possible to be far from some limitations. Some limitations arise while preparing the research are as follows:

- This study has concentrated only on few performances (ROA and ROE) that are related with credit practices.
- Through there has been in operation of 28 Commercial Banks in Nepal, but only 5 banks have been selected as sample.
- Whole study is based on data of ten-year period.
- Some of the financial tools of comparison has used in this study. Hence the drawbacks and weakness of those tools may adversely affect the outcomes of the study.
- The study is based on only secondary sources of data.
- The sources of data are published annual report and internet website which is assumed to be correct.

1.6 Chapter plan

The present study is organized in such a way that the stated objectives can easily be fulfilled. The study report is designed in five chapter i.e. introduction, literature review, research methodology, result and conclusion which are as follows:

Chapter-1: Introduction

This chapter provide a brief introduction about the research topic. It includes the problem background which introduces general knowledge according to the research topic and previous research for a better understanding to the readers. It also present research question and purpose with the analysis of the contribution and limitation. In the last it presents the reason for the choice of subject and chapter layout.

Chapter-2: Literature Review

The second chapter of the study assures readers that they are familiar with important research that has been carried out in similar areas. It also establishes that the study as a link in a chain of research that is developing and emerging knowledge about concerned field.

Chapter-3 Research Methodology

This chapter is most important part of the study. It explains about the research methodology that has been used to evaluate the financial performance of the bank under consideration. It consists of research design, sample and population, sources of data, financial and statistical tools and techniques to measure the financial performance of commercial bank.

Chapter-4 Results

In the fourth chapter, the data required for the study has been presented, analyzed and interpreted by using various tools and techniques of financial management, accounts and statistics to present the result relating to the study.

Chapter-5 Conclusion

This chapter is the conclusion for the entire research. The first part of this chapter is the general review and main results for the whole research. We discuss the quality of the research from reliability and validity perspectives. Then we present both the theoretical and practical contribution of this study and suggestions for further research. Finally, an extensive bibliography and annexes are also presented at the end of the thesis work.

Chapter 2

Literature Review

Literature review is a process of finding previously uncovered facts on research topic. For finding basic information about credit risk and its impact on profitability of commercial banks in Nepal, which are related to the study had been reviewed. It is separate into two parts – Theoretical and Research Reviews. The first section presents the theoretical concept on impact of credit risk and its profitability on commercial banks and second part review the relevant dissertations and concerned reports.

2.1 The Conceptual Review

2.1.1 Historical Background of Banking System in Nepal

Nepalese economy is one of the less industrialized and agro based economy. Nepalese financial system is still in evolutionary phase. Existence of unorganized money market consisting of Landlords, Shaukharas (Rich Merchants), Shopkeepers and other indigenous individual money lenders has acted as barriers to institutionalized credit. During the Prime Minister ship of Ranoddip Singh around 1877 A.D., numbers of financial and economic reforms were introduced. The establishment of the ‘TejarathAdda’ fully subscribed by government in the Kathmandu Valley was one of them. TejrathAdda’ disbursed credit to the people especially on the collateral of gold and silver. Thus, the establishment of the ‘TejrathAdda’ could be regarded as the premier foundation of modern banking in Nepal (Pandey, 2007).

Beginning of modern banking in Nepal started from the establishment of Nepal Bank Limited on November 1937. It had been the foundation of modern financial system in Nepal. It was a joint venture between government and the private sector. After then, the Nepal Rastra Bank came into existence as the central bank on April 26, 1956 A.D. The second commercial bank Rastriya Banijya Bank was established in 1966 A.D. Besides Nepal Bank Limited and Rastriya Banijya Bank, other commercial banks did not come into existence until 1984 A.D. Commercial banking act 1974 was emended in 1984 A.D. to increase the competition between commercial banks. As per the provision made in this act, private sector (including foreign investment) was given freedom in opening commercial bank. Consequently, Nepal Arab Bank Limited (NABIL) was established in 1984 A.D. as a joint venture bank. Likewise, Nepal Indo-

Suez Bank Limited and Nepal Grindlays Bank Limited (Renamed as Standard Chartered Bank Limited) were established under joint venture in 1986 A.D. and 1987 A.D. respectively (Maharjan, 2009).

After the initiation of democracy in 1990 A.D., NRB adopted more liberal policy in establishing the commercial banks. Today 28 commercial banks, 67 development banks, 42 finance companies, 42 micro credit development banks with limited authority are providing banking services in Nepal.

2.1.2 Function of Commercial Banks

Regarding the function of commercial bank, Commercial bank act state that a commercial bank is one that exchange money, accept deposits, grants loans and performs commercial banking functions. Commercial bank performs many functions; among them primary function is as explain below:

Primary function:

i. Accepting the deposit:

It deals with the collection of deposit which is its first function. The banks also do not have the entire amount as it also collects the amount for further purpose. The collected amount is deposited into their personal accounts by giving the guarantees. In modern time, person do not want to keep the huger amount in their pocket or in their cupboard because of many offending expectations. Commercial banks provide the trust to them and convince to deposit their amount in daily, monthly and weekly basis however you get easy.

The amount is deposited into three accounts having three objectives and three features: fixed account, current account and saving account. All the account has their different features. Bank provides interest of their depositing amount according to the account. Fixed account get high rates of interest than other saving account and current account. Current account has not any barriers of depositing and withdrawing of amount because banks does not provide them interest in high portion. But in fixed account, there is barriers of time for withdrawing the deposited amount according to agreement because it provides you large percentage of interest. Many people earn and deposit their amount portion in their personal account according to their earning portion.

ii. Providing the loans:

The next function of commercial banks is providing the loans to needy people. It provides the loans to businessman, merchant, farmers and other too who demands. As bank collects the deposit, they are invested as loans into the market to gain profit. The difference between the interest rate that they pay in depositing amount and providing loans amount is taken as profit of bank including all the expenses. Loans are also provided in term wise that is short term, medium term loan and long term loan.

The term of loan is classified according to the amount that he takes as loan. When there is bound made for paying the loan within or less than one year then it is taken as short term loan. If the contraction is done for paying the loan in less than 3 years then it is medium loan. If loan amount is higher than short term loan and the high terms loan is repaid in and above 5 years then that loan is known as long term loan. The amount and portion of loan defines the period of time for repayment. Mostly the industrialist and merchant takes the long term loan because of their large network business and short term loan is taken by small businessman. Where the short term loan is mostly taken by Macro industrialist, farmers and handicraft industry. Loan are given on the basis of mortgage. Mortgage is evaluated first and then only on the basis of it loan is provided. Mostly it is estimated that bank provide only 40% of loan after evaluating the value of assets for giving mortgage loan. Loan are given after the analysis of property of loan taking some days for analyzing.

2.1.3 The Concept of Credit

Credit is the amount of money lends by Creditor (bank) to the borrower (customer) either on the basis of security or without security. Credit is the faith lender has in a borrower so that resources can be transferred to the borrower without immediate payment. This means the lender gives a borrower an asset with the intention of getting an equal asset in value on the day of payment in a later date. The term credit refers to a promise by one party to pay another party for money or goods on demand at some future date.

According to Vasudevan et al. (1979), the term credit is used precisely to refer the confidence lender have in a borrower by prolonging a loan which may take the form of money, goods or securities. And also sees credit more as the belief a creditor entrusts in a borrower that whatever given him will be paid. Essentially, when a loan is made,

the lender is said to have credit to the borrower and he automatically accepts the credit of the borrower. In the financial parlance, Credit also refers to the giving out of loans and the making of debt. Other researchers who look at commercial trade define credit as the approval for deferred payment for goods acquired. The credit facility may take the form of a liquid asset (cash) or fixed asset.

In the banking arena for which this research is based, credit is the advancement of funds based on some financial expectation a borrower believes to gain and the assurance that the debt (principal and interest) will be paid in full.

2.1.4 Credit Evaluation

This is a very sensitive stage because it helps ensure loan quality. In simple terms, the giving of credit rests on the sureness the lender has in the borrower's ability to pay (credit worthiness). Credit worthiness is the ability and the readiness of a borrower to settle his or her debt. This is one of numerous issues which determine what should go into the credit policies of a lender. A lot of financial models come into play when assessing the credit worthiness of the deficit units. The most commonly used is the five financial analysis tools which include character, capital, capacity, condition and collateral. These tools are generally known as the 5c's of credit (Machiraju, 2004).

(i) Character

According to Machiraju (2004), Character signifies the customer's preparedness and willpower to settle his or her debt. Character is usually known when the lender engages in a one on one talk with the borrowers; scrutinize their debt history and also how they manage their finances and operational aspect of their business. Character is considered as the most important of the five c's because refusal to do due diligence will lead to a clear case of moral hazard.

(ii) Capacity

Capacity is a quantitative financial analysis to decide whether the customers have the capacity to payback what they have taken. According to Machiraju (2004), capacity is the ability of the borrower to generate cash from the overall operations to pay for the loans given. Capacity is very important to the lender because it serves as a form of assurance that the loan can be recovered.

(iii) Capital

Capital is also referred to as the net worth which represents funds set aside to cater for unexpected losses. Thus it serves as a cushion for the business. The lender is much interested in the capital adequacy of the borrower. (Machiraju, 2004).

(iv) Condition

Condition are the outward factors that can have an impact on the credit portfolio of a business. This can take the form of economic policies prevailing in the country and the international market at large. Lenders will be in a safe position if they consider the effect of the economic conditions both the borrowers and themselves (Machiraju, 2004).

(v) Collateral

Machiraju (2004) defines collateral as the properties a lender in exchange for the loan given. It serves as insurance for the lender when the borrower could not settle his or her debt. Collateral is considered as insulation against default but it is not advisable for a lender to give out loans based on collateral.

Credit officers should not only consider these 5C's but to gain better understanding on how to analyze the credit risk factors, some principal economic determinants that control the performance of a loan portfolio and the impact these economic factors have on one another must be determined. These factors include inflation, interest rate, GDP, market value of collaterals.

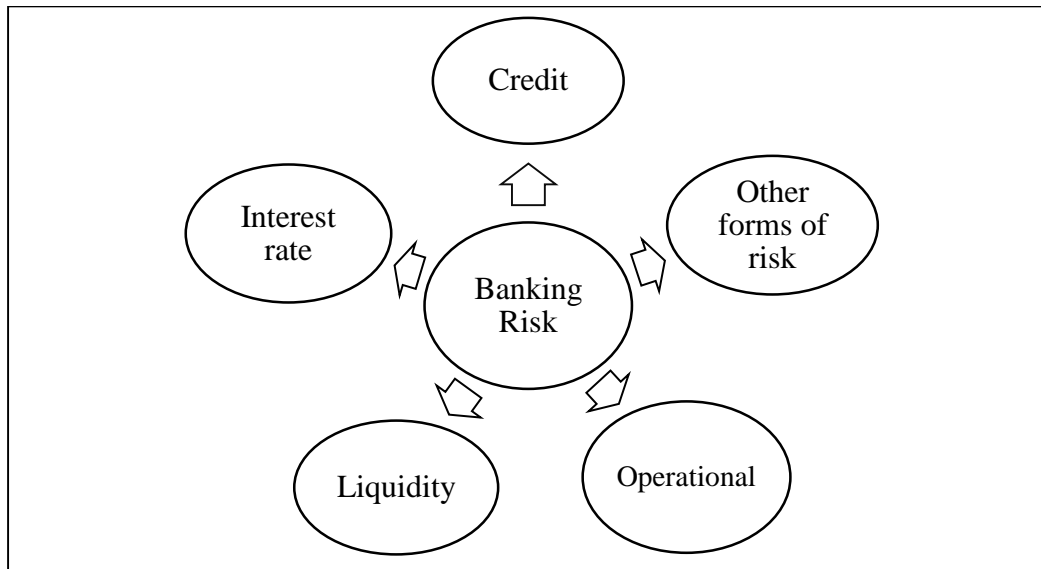
2.1.5 The Concept of Risk

Financial institutions through their role as a financial intermediary help circulate funds deposited by the various surplus units to the deficit units. In the course of performing this role, they are confronted with risk which remains one of the topical issues of current financial studies that had attracted special attention from both scholars and professionals.

One key factor that determines the success of any banking institution is risk management. According to Boahene et al (2012), the business of banking is full of risk and hence a banks' ability to generate profit and maximize the wealth of their shareholders depends on their attitude toward risk and management of the risk. Risk is the profitability that the actual will be different from the expected value. Thus it is the possibility that the actual may be different from the expected return. In banking, risk is

defined as the sum of threats likely to occur until the money loaned and all other committed are settled by the borrower.

Figure 2.1: Risk Associated with Banking



Above figure shows different danger that the banks need to oversee to achieve the goal or to expand the shareholders' profit. The most essential type of risk is credit risk, interest rate hazard, liquidity risk and operational risk.

2.1.5.1 Credit risk

Lending involves a number of risks. Among these risks, credit risk plays the major role since by far largest asset item for banks is loans, which generally account for half to almost three-quarters of the total value of all bank assets. Credit risk has long been an important and widely studied topic in bank lending decisions and profitability. According to Greuning et al (2003), credit risk means, payment may be delayed or ultimately not paid at all which can in turn cause flow problems and affect a bank's liquidity. From these researchers' point of view, credit risk is the risk of loss that might occur if one party to an exchange fails to honor the terms under which the exchange was to take place. Credit risk comes up from uncertainty in a given counterparty to meet up with the obligation of honoring the terms and conditions of the credit arrangement. In essence, credit risk arises from uncertainty in counterparty's ability or willingness to meet his/her contractual obligations.

From the above definitions and meanings given by these researchers, they bore down to the fact that, credit risk is a cancer which causes serious financial problems when it is not properly managed.

2.1.5.2 Interest Rate Risk

Every single monetary organization face interest rate risk. Changes in premium rates influence both bank's procuring and costs furthermore the monetary estimation of its advantages and liabilities. The impacts coming about because of these progressions are reflected in the bank's capital and salary. Bank controllers and administrators place awesome accentuation on the assessment of bank premium rate hazard administration. These have started to develop in significance since the usage if business danger based capital charges suggested by the Basel Committee. Premium rate hazard administration contains different strategies, activities, and methods that banks utilization to decrease the danger of lessening of its net value as a consequence of unfavorable changes in premium rates.

As indicated by Kortewege and Polson (2008), "the net premium salary, the distinction between premiums wage and premium cost, is the principle determinant of the benefit of banks. It is dictated by interest rates on resources and paid for trusts, volume of stores, and as an outcome the adjustments in interest rate influence the net interest salary. Interest rate risk is the potential negative effect on the net interest salary and it alludes to the powerlessness of a foundation's monetary condition to the development in interest rates. Changes in premium rate influence profit, estimation of benefits, obligation shaky sheet things and income. Consequently, the goal of premium rate hazard administration is to look after profit, enhance the capacity, the capacity to retain potential misfortune and to guarantee the ampleness of the remuneration got for the danger taken and influence danger return exchange off."

2.1.4.3 Liquidity Risk

Liquidity risk can be described as the risk of funding which is related to an unexpected event, for example large charge off or currency crisis. Specifically, a bank is reducing the ability to meet expected and unexpected current and future cash flows which indicates the liquidity risk. Or it is unable to meet collateral needs without impacting regular operations and financial condition of the institutions (Santomero, 1997).

Bharath (2008) covered that “Liquidity of bank may be characterized as the capacity to meet expected and unexpected money needs. Money needs emerge from withdrawal of stores, obligation development and credit disbursements. The necessity for money is met by expansions in stores and borrowings, advance reimbursements, venture development and the offer of advantages. Insufficient liquidity can prompt unforeseen shortages that must be taken care of at exorbitant expense which decreases gainfulness.

2.1.5.4 Operational risk

Operational risk relates to the issues of precisely processing, setting and taking delivery on trades for the exchange of cash. It also involves the record keeping, processing system failures and fulfillment the diversified regulations. So that, individual operating problem is small portion for a well-managed institution but causes effect which may be quite costly. This internal definition should respect the individual situation of every bank, for instance, its size, and refinement, its propensity and multifaceted nature of its activities in a money related manner, considering the full extent of material operational threats standing up to the bank and gets the tremendous explanations behind amazing operational incidents (Santomero, 1997).

2.1.6 Credit Risk Management

Many researchers had come out with reasons of bank failures and recognized numerous issues. According to Kitua (1996), majority of bank’s equity is made up of loans. This means any decline in the quality of loans can bring serious problems in the banking business. One factor that exists between financial institutions and borrowers is information asymmetry. This phenomenon makes it difficult for banks to identify creditable borrowers from bad ones. Therefore, bank must put systems in place in order to analyze and evaluate the creditworthiness of borrowers to avoid adverse selection and moral hazard (products of information asymmetry) which cause enormous accumulation of non-performing loans in their records.

CRM helps to detect measure and supervise the activities of a bank. This means, credit risk management aids banks in monitoring the number of activities so as to avoid credit risk. Most banks have chalked successes as a result of an effective CRM system used in their daily operations. In the same dimension, the author also described CRM as a

weapon used by management to increase its returns by bringing credit risk to its lowest minimum.

Santomero (1997) bring the importance of having an affective CRM in place. According to this researcher, the presence of CRM limits the probability of distinctive losses by erasing risks that does not bring reasonable return. He pointed out that, CRM has led to a uniform assessment across borrowers.

Credit risk management is an essential element of a bank's financial standings. That is to say, the performance of bank is highly dependent on effective and efficient credit risk management (Poudel, 2012). CRM is very important in the banking sector because, it forms a fundamental part of the credit process. However, there are disadvantages that will scare some banks from engaging in CRM. These bottlenecks in the initial stages affect the financial position of these financial institutions but in the long run yield offsetting benefits.

2.1.7 Credit Risk Management Strategies

The credit risk management strategies are procedures banks adopted in the mitigation or reducing the negative effect of credit risk. A comprehensive credit risk management structure is vital because as stated it helps increase the revenue and survival. Some of approaches for preventing credit include the following.

i. Selection

According to Gestel et al (2009), a sound CRM begins with a proper choosing of borrowers and the products that suit them. For this to be possible, a competent loan officers and operative models of estimating risk should be in place. This is a very crucial stage because decisions are taken by the entire committee member. Here, borrowers that are likely to default are either denied or asked to secure the loan with more collateral to limit the effect of default.

ii. Limitation

This method aids the bank by reducing the amount of loss suffered from a borrower. It prevents the event where the failure of counterparty to meet his or her obligation will heavily affect the financial performance of the bank. The number of riskier transactions is brought to the bearer minimal (Gestle et al., 2009).

iii. Diversification

Gestle et al. (2009) stressed that banks should deal with different counterparties ranging from individuals, industries. This helps to spread the risk across various borrowers so that banks can reduce the impact of loss. It is much workable for large and international banks.

iv. Credit Enhancement

According to Gestle et al. (2009) when a bank realizes it is exposed to too much risk when dealing with a particular kind of borrower, it solves this by acquiring an insurance policy to cover for the any future losses. Through this, the quality of the loan facility is improved. It is called credit risk mitigation.

These strategies do not prevent credit risk totally; however, they can reduce the level of credit risk the banks are exposure to. And this will increase the profitability of the banks.

2.1.8 Credit Risk Measurement

The successful management of credit risk is dependent on the ability to measure it. The main challenge of banks is how to precisely measure credit risk exposure and portfolio level because as the level of credit risk rises, the realized rate of return on the loan portfolio is reduced and the required level of capital increases (Kolapo et al, 2012).

There are two important tools that can be used in assessing or measuring credit risk. These include Default ratio (DR) and Cost per loan advanced.

a. Default Ratio (DR)

DR is a ratio that determines the amount of non-performing loans as against the total loans and advance over a period. It shows the percentage of loans and advances that were not paid over a period. It also shows the efficiency of management has performed in controlling their loan portfolio over a period. (Kolapo et al, 2012). DR ratio can be calculated as:

DR ratio=Non-performing Loans/ Total Loan and advances

b. Cost per Loan Advance Ratio (CLA)

CLA is the average cost per loan advanced to customer in monetary terms. The function of this is to point out efficiency in distributing loans to customers (Kolapo et al, 2012).

CLA ratio can be calculated as:

$$\text{CLA Ratio} = \text{Total Operating Cost} / \text{Total Amount of Loans}$$

2.1.9 Profitability

Banking profitability may also show managers attitude towards risk. Banks that make huge profits are not scared when venturing into risky activities. In a similar fashion, banks that are not effective in their management encounter higher bad debt. Profitability measure is important to the investors. The level of profitability is very significant for shareholders of a bank because it shows how effective management has utilized their investments. In determining the financial strength of a commercial bank, the level of profitability is predominant. Profitability performance will concentrate on the income statement which shows how much is generated (revenue), how much is spent (expenses) net income. This may be prepared by the bank on a monthly, quarterly or annual basis (Devinaga, 2010).

Profitability can be measured in a number of ways. They include return on assets (ROA), return on equity (ROE). But over the year, most researchers prefer using return on assets (ROA). It was disclosed that; the performance of a bank was negatively affected by the level of nonperforming ratio. In theory, ROA shows the capacity of a bank's management to make profits using the level of assets available. It may be unfair because of the other events that take place outside the balance sheet (Devinaga, 2010).

Moreover, the performance of a business is normally estimated using their profitability standings. Most of the researchers use return on asset as a measure for profitability. In their defense, researchers select ROA over ROE because it is free of financial leverage and the risks associated with it. Additionally, it is possible to compare companies in the same industry or diverse industry when ROA is employed as a proxy for profitability. This makes ROA a strong measure for profitability.

2.1.10 Determinant of Profitability of Commercial Banks

The determinants of bank performances can be classified into bank specific (internal) and macroeconomic (external) factors. These are stochastic variables that determine

the output. Internal factors are individual bank characteristics which affect the banks performance. These factors are basically influenced by internal decisions of management and the board. The external factors are sector-wide or country-wide factors which are beyond the control of the company and affect the profitability of banks.

2.1.10.1 Non-performing Loan

Non-performing loan (NPL) can be defined as the non-productive assets of the banks. In other words, it is the loan or bad and doubtful debts that doesn't repay timely. Generally, the loan, which doesn't repay within three months, is known as nonperforming loan. If the debtor starts making payments again on a nonperforming loan, it becomes a performing loan, even if the debtor has not caught up on all the missed payments. Institutions holding non-performing loans in their portfolios may choose to sell them to other investors in order to get rid of risky assets and clean up their balance sheets. Sales on non-performing loans must be carefully considered since they can have numerous financial implications, including affecting the company's profit and loss, and tax situations (Dahal, 2002).

2.1.10.2 Capital Adequacy Ratio

Capital is one of the bank specific factors that influence the level of bank profitability. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation. Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to the bank runs. Moreover, greater bank capital reduces the chance of distress. However, it is not without drawbacks that it induces weak demand for liability, the cheapest sources of fund. Capital adequacy is the level of capital required by the banks to enable them withstand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential losses and protect the bank's debtors. Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks (Dahal, 2002).

2.1.10.3 Loan and Advances to deposit ratio

Loans and advances can be arranged from banks in keeping with the flexibility in business operations. Traders may borrow money for day to day financial needs availing

of the facility of cash credit, bank overdraft and discounting of bills. The amount raised as loan may be repaid within a short period to suit the convenience of the borrower. Thus business may be run efficiently with borrowed funds from banks for financing its loan and advances working capital requirements are utilized for making payment of current liabilities, wage and salaries of employees, and also the tax liability of business. Loan and advances from banks are found to be economical for traders and businessmen, because banks charge a reasonable rate of interest on such loans/advances (Dahal, 2002).

2.1.10.4 Loan loss Provision Ratio

Loan loss provisions represent the bank's expectation of future loan losses. It is a contra income account that enables banks to recognize in their profit and loss statement the expected loss from particular loan portfolio. Depositors are protected against unexpected loss through capital adequacy reserve and protected against anticipated loss through loan loss provision reserve. The basic assumption behind LLP is that bank managers reflect their belief towards the bank's assets quality. When the amount of loan loss provision increases, the quality of assets will decrease and vice-versa (Dahal, 2002).

2.2 Empirical Review

2.2.1 Review of Articles in journal

Muhammad et al., (2014) examined the effects of credit risk management on the profitability of Nigerian banks with the objective to discover the extent to which default rate (DR), cost per loan asset (CLA), and capital adequacy ratio (CAR) influence return on asset (ROA) as a measure of banks' profitability. Descriptive statistics, correlation, as well as random-effect generalized least square regression techniques are utilized as tools of analysis in the study. The study revealed that CRM as measured by three independent variables has a significant positive effect on the profitability of Nigerian banks. Therefore, the study recommends that banks' management should be more scientific in their credit risk assessment and management of loan portfolios in order to minimize the high incidence of non-performing loans and their negative effect on profitability.

Li & Zou (2014) examined the impact of credit risk management on profitability of commercial banks in Europe from 2007 to 2012. The authors collected data from the

largest 47 commercial banks in Europe and analyzed them using multivariate regression analysis. The study used capital adequacy ratio and non-performing loan ratio as proxies for credit risk management, and ROA and ROE as proxies for profitability. They used Capital Adequacy ratio and Non-performing loan ratio as the measures of credit risk management. The study revealed that the credit risk management does not have positive effect on profitability of commercial banks. And also they found that the relationships between all the proxies are not stable but fluctuating.

Poudel (2012) examined the impact of credit risk management in financial performance of commercial banks in Nepal. He had tried to discover various factors relevant to credit risk management and its influence on the financial performance of the 31 banks in Nepal for the period of 2001-2011. Used default rate, cost per loan assets and capital adequacy ratio as the measure of Credit risk management and ROA as a measure of profitability. They used descriptive statistics, correlation and regression to analyses the data. 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, in general, 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.

Isanzu (2017) investigated the impact credit risk on the financial performance of Chinese banks. 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 minor Chinese banks for eight years. The results revealed that credit risk management has improved over the past years as prudential techniques have being 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. And he suggests that 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.

Malhotra et al. (2009) examined the influence of credit risk on profitability of 8 commercial banks in India for the period of 2003 to 2014. The data was analyzed using descriptive statistics and panel data regression. 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 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.

Ahmed et al. (1998) examined multi country study of bank credit risk determinants to know the impact of credit risk on bank's profitability. Multi-variant regression is used and discovered that, loan loss, which is the last aspect of non-performing loans has a strong impact on profitability because, a rise in loan loss suggests an elevation in credit risk and therefore affecting the bank's financial standing negatively. The study revealed that a dominant element of credit risk in commercial banks in loan loss provision so that any jump in the level of loan loss has a direct relationship with credit risk. They again stressed on the fact that, credit risk in developing countries supersedes that of developed economies.

Kargi (2011) estimated the effect of credit risk on the profitability of Nigerian banks. Financial ratios as measures of bank performance and credit risk were collected from the annual reports and accounts of sampled banks from 2004-2008 and analyzed using descriptive, correlation and regression techniques. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian banks. It concluded that banks' profitability is inversely influenced by the levels of loans and advances, nonperforming loans and deposits thereby exposing them to great risk of illiquidity and distress.

Boahene et al. (2012) examined the effect of credit risk and profitability of selected banks in Ghana. A panel data from six selected commercial banks covering the five-year period (2005-2009) was analyzed within the fixed effects framework. For the

analysis of data regression analysis (both fixed and random effect models) was used in bringing to bear the linkage between credit risk and profitability of some selected banks. From the results credit risk (non-performing loan rate, net charge-off rate, and the pre-provision profit as a percentage of net total loans and advances) has a positive and significant relationship with bank profitability. This implies that, banks in Ghana experience high profitability irrespective of the huge risk exposure. The results can be attributed to the prohibitive lending/interest rates, fees and commission (non-interest income) charged. Also, found support for previous empirical works which depicted that bank size, bank growth and bank debt capital influence bank profitability positively and significantly.

Gizaw et al. (2013) examined the impact of credit risk on the profitability of commercial banks in Ethiopia. Secondary data was retrieved from 8 sample commercial banks for a period of 12 years from annual reports of respective banks and national bank of Ethiopia. In analyzing the data, a STATA software version 11 was used to compute the descriptive statistics and panel data regression model and the outcome was that credit risk determinants; non-performing loans, loan loss provisions and capital adequacy have a significant impact on the profitability of commercial banks on Ethiopia. Therefore, the researchers stressed on the need to strengthen the credit risk management policies to gain better financial standing for commercial banks in Ethiopia.

Ogboi and Unuafé (2013), examined impact of credit risk management and capital adequacy on the financial performance on commercial banks in Nigeria. Its objective is to study stress that Nigerian banks in their quest to maximize profit are channeling chunk of their scarce financial resources in provision for loan loss. Time series and cross sectional data were obtained from the annual report and accounts of selected banks from 2004-2009. The researchers used Panel data analysis to estimate the linkage among loan loss provisions (LLP), loans and advances (LA), non-performing loans (NPL), capital adequacy (CA) and return on asset (ROA). It came out that comprehensive credit risk management and capital adequacy had a positive effect on profitability where loans and advances rather had an inverse relationship with financial performance in the period under study. 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.

Alalade et al. (2014) estimated the impact of managing credit risk and profitability of banks in Lagos state. The research hypothesis was tested and analyzed in relation to credit risk and its significant effect on banks' profitability. It was also the aim of this research to evaluate how effective it is for a bank to manage its credit risk effectively to enhance profitability. Data for the study was obtained through the administering structured questionnaires which were answered by respondents. Correlation coefficient was used to decide whether or not credit risk management has an impact on profitability. The results revealed that credit risk reduces the profit and therefore management of credit risk should be of great importance to management of bank in Lagos state. Therefore, management need to be cautious in setting up a credit policy that might not negatively affect profitability and also they need to know how credit policy affects the operation of their banks to ensure judicious utilization of deposits.

Bhattarai (2016) 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 banks under consideration have been practicing poor credit risk management. This was further evidenced by the negative effect of nonperforming 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.

Raad (2015) studied credit risk practices in commercial banks of Bangladesh. Credit risk management covers identification, measurement, matching mitigation, monitoring and control of the credit risk exposures. The researcher used secondary data relating to the financial status of Basis Bank Ltd and did a comprehensive overview about CRM

in a different phase of the report. First a description of CRM practice and performance of BBL. Then analyzed the impact of CRM on the financial performance of the bank. The researcher used MS Excel as well as SPSS software to establish a relationship between CRM and banks profitability. Findings revealed that credit risk management for banking is vital since banks make a profit from their credit disbursement. Effective CRM proved to help increase the present and future financial performance of the bank. The relationship between CRM and banks profitability was found to be positive thus effective CRM contributes to Banks financial performance.

Alshatti (2015) examined the effect of credit risk management on financial performance of the Jordanian commercial banks during the period 2005-2013 using capital adequacy ratio, credit interest/credit facilities ratio, provision for facilities loss/net facilities ratio, leverage ratio and non-performing loans/gross loans ratio as independent variables. The dependent variables represent the profitability measured by ROA and ROE. Profitability ratio and multiple regression model is used to analyze the data. The author concludes that all the credit risk management indicators used in the study have significant effect on the financial performance of the Jordanian commercial banks. The researcher recommends banks to improve their credit risk management to achieve more profits, in that 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.

Bayyoud & Sayyad (2015) studied the effect of credit risk on the performance of top five Nigerian commercial banks. The need for that study was driven by the negative consequences of the credit risk that affects profitability of the bank and their outcomes functioned as the base to deliver policy measures to the stakeholders on how to deal with the credit risk permissible to improve the value of assets of the bank and diminish bank risk. Hypothesis test and linear regression model is used to analyze the data. They used non-performing loan and loan & advances ratio as the measure of credit risk and ROA as a measure of profitability. The result showed that the ratio of non-performing loan to loan & advances and loan and advances to total deposit negatively impact the profitability. This study showed that there is a major association between bank performance and credit risk management.

The most of the related empirical studies reported that bank performance is affected by capital adequacy ratio and non-performing loan.

2.2.2 Review of Previous Thesis

Shrestha (2008) has studies Comparative credit management of Nepalese commercial banks. His objective is to analyze sector wise loans and advances, security wise loans and advances, study of priority and deprived sector loans, evaluation of non-performing loans, issues of profitability, liquidity position. He has used descriptive statistic method to analyze the data. The result shows that HBL is safe from the side of liquidity similarly SBI and NBL would in liquidity crunch if heavy demand is made (withdrawal) from the depositors. Comparatively SBI is aggressively deploying credit, trend of credit mobilization of HBL is moderate and NBL seems very defensive for credit mobilization. Comparatively NBL is mobilizing higher deposit to investment, SBI is moderate condition and HBL is in lower level. Deposit mobilization on credit of SBI is in higher side, HBL is moderately mobilizing its deposit on credit and NBL is mobilizing slightly lower credit. Ratio of investment to total loan and advance is in higher side for NBL than other. Similarly, HBL has moderate ratio and SBI has lower ratio. NBL has higher loan loss provision, SBI and HBL has more or less same ratio.

Asare (2015) attempts to reveal the relationship between credit risk and profitability of some selected banks in Ghana. A balanced panel data from seven selected banks covering the nine-year (2005-2013) was analyzed within the fixed and random effects techniques. Two key measure of profitability (dependent variable) employed in the study comprised of Return on Asset (ROA) as model-1 and Return on Equity (ROE) as model-2. The credit risk measures used in the study included non-performing loans to total loans, loan loss provisions ratio and loans and advances ratio. In addition, some internal and external determinants of profitability age were captured in model.

The results showed that, non-performing loans is negatively related to profitability while loan loss provision ratio and loan and advances ratio are positively significant to bank's profitability. Also the researcher discovered that both capital adequacy and age have a positive relationship with profitability while bank size has an inverse relationship. All the external factors were statistically insignificant. The study suggested the need for management of the banks to put in effective measures in improving the credit risk management strategies to enhance their profitability.

Ojha (2002) examined the comparative risk management of NABIL, SCBL and HBL. Secondary data was retrieved from sample commercial banks for the period of 8 years from annual reports of these banks. Descriptive statistics and panel data regression model is used to analyze the data. The study found that the selected variables: the provision to total loans, loan to total asset, credit administration (cost to total loans) and size (economics of scale) have significant effect on the performance of Banks. However, a certain variation in the magnitude and direction of their effect on the selected profitability measure, Return on Asset. Based on the study it is recommended that Nepalese banks need to develop their credit risk management capacity, there should also be control over overhead costs related to lending, and increasing the loan book size without compromising the sound credit planning should be a priority task.

Tuladhar (2017) has made an attempt to analyze the impact of credit risk management on the profitability of Nepalese commercial banks. Her main objective is to investigate the impact of credit risk management on the profitability of Nepalese commercial banks. The panel data of a five-year period from the selected banks were used to examine the relationship between credit risk and performances. Further, a regression model was used to analyze the data.

She concludes that credit risk management has significant impact on the profitability of Nepalese commercial banks. Results show that coverage ratio, capital adequacy ratio, and bank size have a positive impact on bank performance, on the other hand, leverage ratio, non-performing loan ratio and female board member are found to have a negative impact on bank performance. However, liquidity ratio, asset quality, and cash reserve ratio turned out to be not significant variables in determining bank's performance.

The study thus recommends an effective credit risk management for commercial banks of Nepal based that maintains an optimum level of capital adequacy ratio, controls and monitors non-performing loan, enhances coverage ratio, balances leverage ratio, motivates female board members and increases bank size to enhance financial performance.

2.3 Conceptual Framework

A conceptual framework is a scheme of concepts or variables which the researcher will operationalize in order to achieve set objectives. It is a pictorial demonstration of the

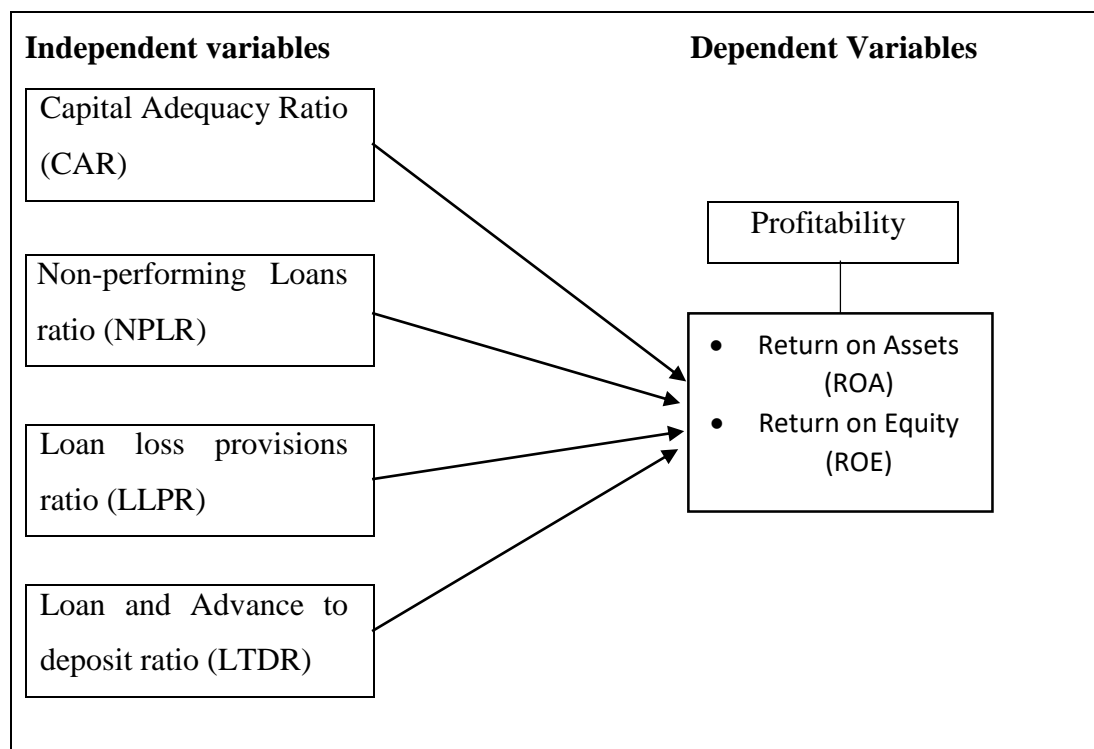
theory portrayed as a model where researcher shows the link between variables and renders reveal the relationship between the independent, extraneous and dependent variables.

Poudel (2012) studied the factors affecting commercial banks performance in Nepal for the period of 2001-2012 and used a linear regression analysis technique. The study revealed a significant inverse relationship between commercial bank performance measures by ROA and credit risk measured by default rate and capital adequacy ratio. In this study, assumption is that credit risk (non-performing loans, loan loss provision, loans and advances) has a negative impact on profitability (ROA and ROE) of a bank.

Figure 2.1 shows the impact of independent variables on dependent variables. Independent variables are capital adequacy ratio, non-performing loan ratio, loan loss provision ratio and loan and advance to deposit ratio. Dependent variables are return on assets (ROA) and return on equity (ROE).

The figure of conceptual framework is shown in figure below:

Figure 2.2: Conceptual Framework



The expected impact of credit risk variables on banks profitability is as follow:

1. Minimum capital adequacy ratios are critical to ensure bank have enough cushion to absorb a reasonable amount of losses before they become insolvent and consequently lose depositors' funds. Therefore, higher the ratio of capital adequacy, higher will be the bank's profitability and vice-versa. Based on it, this study develops the following hypothesis:

H1: Capital adequacy ratio has the significant and positive effect on profitability of commercial banks.

2. Profitability of the bank depends on the performance of the loan that has been granted to the customers. Higher the ratio of non-performing loan lower will be the bank's profitability and vice-versa. Based on it, this study develops the following hypothesis:

H2: Non-performing loan ratio has the significant and negative effect on profitability of commercial banks.

3. Profitability of the bank depends on the performance of the loan that has been granted to the customers. Higher the loan loss provision ratio, lower will be the bank's profitability and vice-versa. Based on it, this study develops the following hypothesis:

H3: Loan Loss Provision ratio has the significant and negative effect on profitability of commercial banks.

4. The profitability of the banks depends upon the extent to which it grants loan and advances to customers. Higher the ratio of loan and advance, higher will be the bank's profitability. Based on it, this study develops the following hypothesis:

H4: Loan and advance to deposit ratio has the significant and positive effect on profitability of commercial banks.

2.3 Research Gap

There are various factors that affect the lending practices. The directives of NRB change over time and commercial bank should adopt their policy with the changing time. So, up-to-date study over the change of time frame is major concern for the researcher and concerned organization as well as whole. This study covers the more

recent financial data, NRB circulars and guidelines than that of studies previously conducted.

The study previously conducted so far do not consider the variables like Capital Adequacy, Non-performing Loan, Loan Loss Provision and Loan and Advance to Deposit in relation to performance of the banks which however are done well in this study. The research fills the variable gaps and it is further believed that such a study with recognition of these variables would contribute to policy making and devise risk mitigating mechanisms.

It is major concern of shareholders to know portfolio behavior of the bank; this study puts its effort to find out factors that are related with investment of the banks. Analysis of lending efficiency shows the sufficiency of the bank. No case study has yet been conducted about credit management of NABIL, HBL, NIBL, EBL and SBI bank. This study tries to show how bank stands in terms of investment policy with leading commercial banks. Hence, this study fulfills prevailing research gap about the in-depth analysis of lending efficiency, investment in priority and deprived sector by the banks.

Chapter 3

Research Methodology

This study investigates the impact of credit risk on profitability of commercial banks in Nepal. It helps to fulfill the stated objective as well as it tries to make easier to visualize the study clearly. Therefore, this chapter presents the suitable methodologies to achieve the set of objectives of the study. For this, it consists of the research design, population and sample, sources of data, data collection and processing procedure, and data analysis technique and tools used in this study.

3.1 Research Design

This aspect describes the nature of the pattern the research intends to follow. This is the overall plan or strategy for conducting the research. The primary purpose of the study is to explore the relationship between credit risk and the profitability of some selected commercial banks in Nepal. This study has applied descriptive and causal comparative research design. This study describes about the credit risk management and its impact on bank's profitability. In addition, correlation and multiple regression model is used to assess whether financial performance is a function of the variable indicated on the specific objective. To achieve the research objective, this study uses different financial and statistical tools. It helps to derive conclusions about the impact of credit risk on the profitability.

3.2 Population and sample

Convenience sampling method is applied to select the sample for the study. The population of the study consist of 27 commercial banks that are currently operating in Nepal out of them only five banks (i.e. NABIL, Himalayan bank ltd, Nepal Investment bank ltd, Everest bank Ltd and Nepal SBI bank ltd) are used as the sample for the study. This represents 14.29% of the total population. According to Muiruri and Ngari (2014), a sample size more than 10% is a good representation of the population. Therefore, representation of 14.29% considered adequate for the study.

3.3 Sources of data

This study is based on secondary data obtained from published statements of accounts of the commercial Banks in Nepal. Therefore, relevant financial and operational data

for sample the banks are collected based on their annual reports and their websites for the period of 2007/08 to 2016/17. All the information is collect from these secondary sources.

3.4 Data collection and processing procedure

This study utilizes secondary data collection from the bank's website and published annual reports of sampling banks. Relevant tools are used to find out the best appropriate outcomes as per designed objectives of the study. Since the objective of the study is to determine whether credit risk has significantly affect the profitability of banks in Nepal with regard to the returns on assets (ROA) and returns on equity (ROE).

3.5 Data analysis tools and techniques

This study is based on secondary data collection from the bank's website and published annual reports of sampling banks. Relevant tools are used to find out the best appropriate outcomes as per designed objectives of the study. Since the objective of the study is to determine whether the credit risk has significantly affect the profitability performance of banks in Nepal with regards to the return on assets (ROA) and return on equity (ROE), the present research used mix of following tools in the analysis. Different quantitative methods of statistical tools have been used for driving essence of the research data and interpret them in meaningful way. The regression analysis has been used to measure the relationship between bank performance and credit risk variables. Further, the ratio is analyzed using regression statistical tool using SPSS program version twenty.

With the secondary data collection, return on equity and return on assets for relevant years has computed.

3.5.1 Correlation Analysis

It is statistical tools for measuring the magnitude of linear relationship between the two variables. Karl Person's measure, known as Karl person correlation coefficient between two variables series x and y, denoted by r (x, y), r can be obtained as:

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

Where, r = correlation coefficient

n = no. of years

$\sum x$ = Sum of series X

$\sum y$ = Sum of series Y

$\sum XY$ = Sum of the product X and Y variables

$(\sum x)^2$ = Sum of square of series X

$(\sum y)^2$ = Sum of squares of series Y

The value of coefficient of correlation always lies between +1 & -1. When coefficient of correlation (r) = +1, it means there is perfect positive correlation between the variables, when (r) = -1, it means there is perfect negative correlation between the variables and (r) = 0 refers that there is no relationship between the variables. The coefficient of correlation finds not only the magnitude of correlation but also its direction. The closer the value of 'r' to 1 or -1, the stronger the relationship between variables and the closer the value of 'r' to 0, weaker the relationship (Chaudary et al., 2014).

3.5.2 Multiple Regression Analysis

The mathematical measure of average relationship between two or more variables in forms of original units of data is known as regression. The regression is the estimation or prediction of unknown variable from known variable. The unknown variable is known as dependent variable and known variable is known as independent variable. The main objective of multiple regressions is to predict the value of dependent variables (Profitability) from known value of multiple variables (NPLR, CAR, LTDR, and LLPR).

To find out the impact of credit risk management on bank's profitability, it uses two model of regression analysis:

Model 1

$$ROA_{it} = \beta_0 + \beta_1 NPLR + \beta_2 CAR + \beta_3 LAR + \beta_4 LLPR + e \quad (1)$$

Model 2

$$ROE_{it} = \beta_0 + \beta_1 NPLR + \beta_2 CAR + \beta_3 LAR + \beta_4 LLPR + e \quad (2)$$

Where, ROA = Return on assets

ROE = Return on equity

NPLR = Non-performing loan ratio

CAR = Capital adequacy ratio

LAR = Loan and advance ratio

LLPR = Loan loss provision ratio

e = error term

3.5.3 Definition of the Multiple Regression variables

(i) Return on Equity (ROE)

Return on equity (ROE) is the amount of net income returned as a percentage of shareholder's equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. It can be calculated as:

$$\text{ROE} = \frac{\text{Net Income after tax}}{\text{Total Equity capital}}$$

(ii) Return on Assets (ROA)

This defines the proportion of net operating profit that an organization obtains from the operations of business in a specified time period to the volume of the business's total asset, it can be calculated as:

$$\text{ROA} = \frac{\text{Net Income after tax}}{\text{Total Assets}}$$

(iii) Capital Adequacy Ratio (CAR)

This is the index supervisory experts employ to define the maximum volume of funds that the bank is required to be capable of taking some heights of danger imperiling credit funds. It can be calculated as:

$$\text{CAR} = \frac{\text{Total capital}}{\text{Risk Weighted Assets}}$$

(iv) Non-performing Loans ratio (NPLR)

This defines the loans that the bank perceives as likely losses of monies owing to credit nonpayment. It can be calculated as:

$$\text{NPLR} = \frac{\text{Non performing Assets}}{\text{Total loans}}$$

(v) Loans and Advances to deposit ratio (LTDR)

This is a facility given out to the clients of bank that permits the clients to employ the bank's monies that is required to be repaid at an agreed time frame with interest. It can be calculated as:

$$\text{LTDT} = \frac{\text{Loan and advance}}{\text{Total Deposit}}$$

(vi) Loan loss provision ratio (LLPR)

This defines the volume of funds that bank's put aside from its yearly incomes as an insurance against likely loss of a non performing loan, or to equal a lost loan facility. It can be calculated as:

$$\text{LLPR} = \frac{\text{Loan loss provision}}{\text{Total Loans}}$$

Chapter 4

RESULTS

This chapter provides the systematic presentation and analysis of data to deal with various issues associated with determinants of profitability of commercial banks in the context of Nepal. This chapter also presents the results of data analysis obtained by applying the various statistical and econometric models and methodologies described in chapter three- Research methodology.

4.1 Data Presentation

4.1.1 Profitability position of sample bank

Profitability (i.e. ROA and ROE) positions have been analyzed using statistical as well as financial tools with past 10-year data of sample banks. This study examines the profitability position of five commercial banks by analyzing return on total assets (ROA) and return on equity (ROE) of each bank.

4.1.1.1 Return on assets (ROA)

Return on assets is a financial ratio that shows the percentage of profit that a company earns in relation to its overall resources (total assets). Profitability can be measured in terms of relationship between net profit and total assets. ROA of any banks indicates that how management is effectively utilizing the company's assets to generate profit.

Table 4.1.

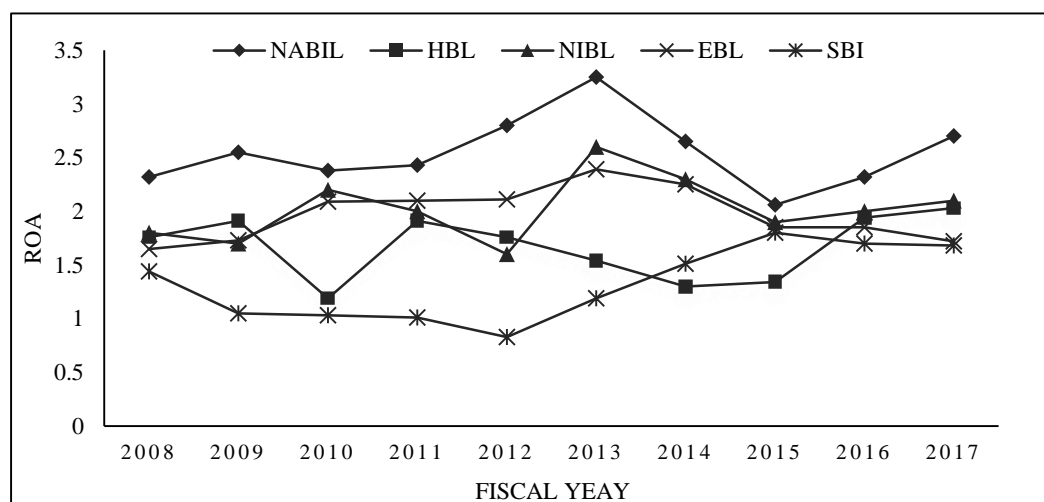
Return on Assets

Year	NABIL	HBL	NIBL	EBL	SBI
2007/08	2.32	1.76	1.8	1.65	1.44
2008/09	2.55	1.91	1.7	1.73	1.05
2009/10	2.38	1.19	2.2	2.09	1.03
2010/11	2.43	1.91	2.0	2.10	1.01
2011/12	2.80	1.76	1.6	2.11	1.82
2012/13	3.25	1.54	2.6	2.39	1.19
2013/14	2.65	1.30	2.3	2.25	1.50
2014/15	2.06	1.34	1.9	1.85	1.7
2015/16	2.32	1.94	2.0	1.85	2.00
2016/17	2.70	2.03	2.1	1.72	1.68
Average	2.55	1.67	2.02	1.97	1.44
S.D	0.33	0.30	0.30	0.25	0.36
CV	0.13	0.18	0.15	0.13	0.25

Source: Appendix III

Table 4.1 presents the return on assets ratio of NABIL, HBL, NIBL, EBL and SBI. The highest ROA of NABIL is 2.80% in fiscal year 2011/12, HBL is 2.03% in year 2016/17, NIBL is 2.6% in fiscal year 2012/13, EBL is 2.39 in fiscal year 2012/13, and SBI is 2.00% in year 2015/16. The lowest ratio of NABIL is 2.06% in year 2014/15, HBL is 1.19% in year 2010/11, NIBL is 1.6% in fiscal year 2011/12, EBL is 1.65% in fiscal year 2007/08, and SBI is 1.01 in year 2010/11. The ROA of NABIL, HBL, and NIBL have increasing trend in the latest year which indicate that these bank are more efficient in using its assets to generate profit. The ratio of EBL and SBI have decreasing trend that indicates that bank has less efficient in using assets to generate profit. The average mean ratio of NABI, HBL, NIBL, EBL, and SBI are 2.55%, 1.67%, 2.02%, 1.97%, and 1.44% respectively. NABIL has highest ROA which indicate the better efficiency as compare to other bank in using assets to generate profit. The S.D and C.V. of NABIL, HBL, NIBL, EBL, and SBI are 0.33, 0.30, 0.30, 0.25, 0.36, and 0.13, 0.18, 0.15, 0.13, 0.25 respectively. It shows SBI has greater variability in ratios, and EBL has consistency in above ratios. The above capital adequacy ratio is present in Figure 4.1.

Figure 4.1.
Return on Assets (ROA)



4.1.1.2 Return on equity (ROE)

The return on equity ratio which is also known as the return on net worth is used by investors to determine the amount of return they are receiving from their capital investment in a company. Companies can increase their return on equity percentage by buying back their stock, increasing earnings, or using more debt to fund operations.

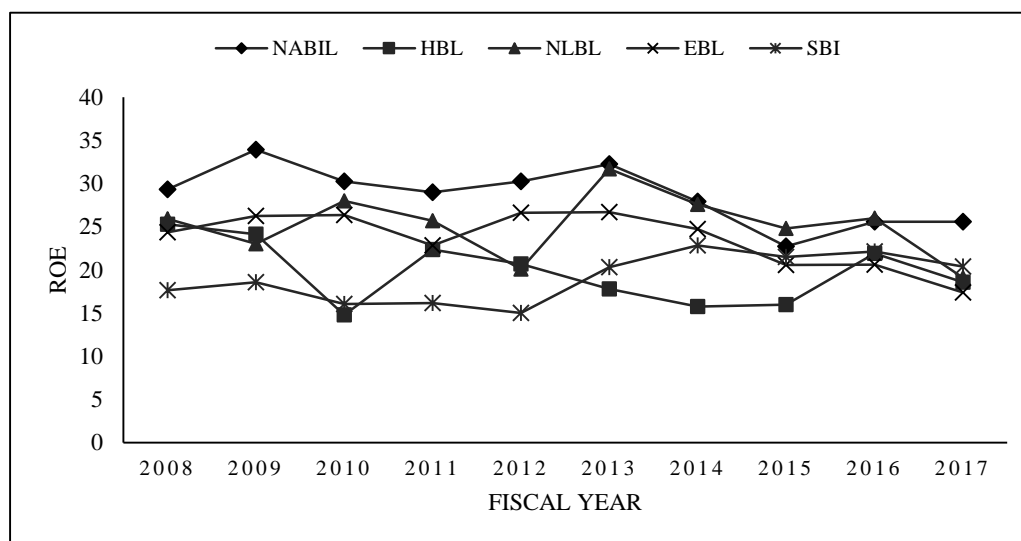
Table 4.2.
Return on Equity

Year	NABIL	HBL	NIBL	EBL	SBI
2007/08	29.35	25.3	25.93	24.37	17.64
2008/09	33.93	24.13	23.05	26.25	18.58
2009/10	30.27	14.8	28	26.37	16.05
2010/11	29.02	22.35	25.7	22.84	16.16
2011/12	30.25	20.69	20.1	26.63	15.02
2012/13	32.25	17.8	31.7	26.7	20.31
2013/14	27.91	15.75	27.6	24.75	22.85
2014/15	22.73	15.98	24.8	20.57	21.51
2015/16	25.61	21.93	26.0	20.32	22.16
2016/17	25.61	18.60	19.1	17.38	20.41
Average	28.69	19.73	25.19	23.62	19.07
S.D	3.34	3.69	3.73	3.24	2.78
CV	0.12	0.19	0.15	0.14	0.15

Source: Appendix III

Table 4.2 presents return on equity ratio of NABIL, HBL, NIBL, EBL and SBI. The highest ROE of NABIL is 33.93% in fiscal year 2008/09, HBL is 25.30% in year 2007/0.8, NIBL is 31.70% in fiscal year 2012/13, EBL is 26.70% in fiscal year 2012/13, and SBI is 22.85% in fiscal year 2013/2014. The lowest ratio of NABIL is 22.73% in year 2014/15, HBL is 14.80% in year 2009/10, NIBL is 19.10% in fiscal year 2016/17, EBL is 17.38% in fiscal year 2016/17, and SBI is 15.02% in year 2011/12. The ROE of all banks have decreasing trend except NABIL in the latest year which indicate that these bank are less efficient in using its shareholders' equity to generate profit. The average mean ratio of NABIL, HBL, NIBL, EBL, and SBI are 28.69%, 19.73%, 25.19%, 23.62%, and 19.07% respectively. NABIL has highest ROE which indicate the better efficiency as compare to other bank in using shareholders' equity to generate profit. The S.D and C.V. of NABIL, HBL, NIBL, EBL, and SBI are 3.34, 3.69, 3.73, 3.24, 2.78 and 0.12, 0.19, 0.15, 0.14, 0.15 respectively. It shows HBL has greater variability in the ratios, and NABIL has consistency in the above ratios. The above capital adequacy ratio is present in Figure 4.2.

Figure 4.2.
Return on Equity (ROE)



4.1.2. Position of Credit Risk Indicators of banks

4.1.2.1. Capital Adequacy Ratio

Capital adequacy ratio is a measure of a bank's capital. It is expressed as a percentage of a bank's risk weighted credit exposures. This ratio is used to protect depositors and promote the stability and efficiency of financial systems around the world.

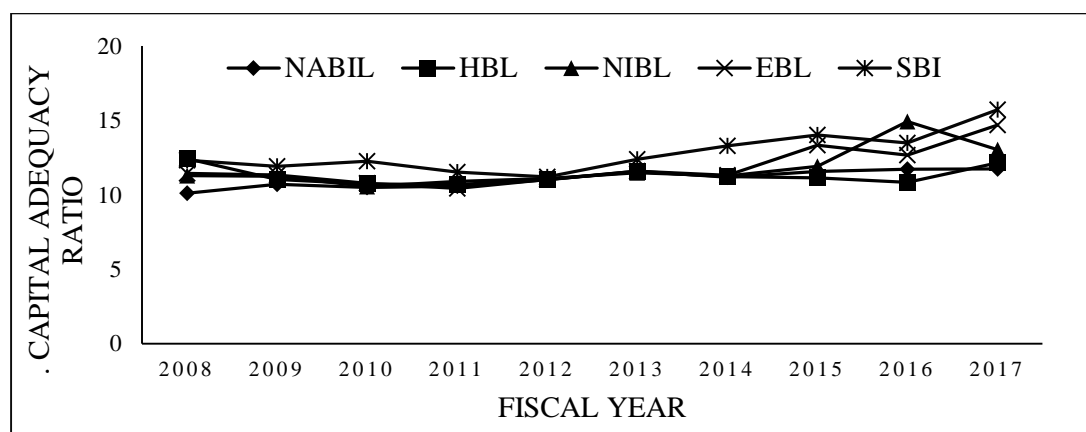
Table 4.3.
Capital Adequacy Ratio

CAR	NABIL	HBL	NIBL	EBL	SBI
2007/08	10.1	12.42	11.28	11.44	12.32
2008/09	10.7	11.02	11.24	11.34	11.92
2009/10	10.5	10.72	10.55	10.77	12.25
2010/11	10.58	10.68	10.91	10.43	11.52
2011/12	11.01	11.02	11.1	11.02	11.21
2012/13	11.59	11.55	11.49	11.59	12.39
2013/14	11.18	11.23	11.27	11.31	13.28
2014/15	11.57	11.14	11.9	13.33	14.02
2015/16	11.72	10.84	14.92	12.66	13.49
2016/17	11.73	12.15	13.02	14.69	15.71
Average	11.07	11.28	11.77	11.86	12.88
S.D	0.58	0.59	1.29	1.46	1.35
CV	0.05	0.05	0.11	0.12	0.10

Source: Appendix III

Table 4.3 presents capital adequacy ratio of NABIL, HBL, NIBL, EBL and SBI. It shows NABIL is in increasing trend in fiscal year 2014/15 to 2016/17. It shows that the capital adequacy ratio of HBL, NIBL, EBL and SBI is in fluctuating trends and NABIL is in increasing trend in the fiscal year from 2014/15 to 2016/17. The highest CAR of NABIL is 11.73% in fiscal year 2016/17, HBL is 12.15% in year 2016/17, NIBL is 13.02% in fiscal year 2016/17, EBL is 14.69% in fiscal year 2016/17 and SBI is 15.71% in year 2016/17. The lowest ratio of NABIL is 10.1% in year 2007/08, HBL is 10.68% in year 2010/11, NIBL is 10.55% in fiscal year 2009/10, EBL is 10.43% in fiscal year 2010/11, and SBI is 11.21% in year 2011/12. The average mean ratio of NABIL, HBL, NIBL, EBL, and SBI are 11.07%, 11.28%, 11.77%, 11.86%, and 12.88% respectively. SBI has the highest CAR which indicate that bank have enough cushion to absorb a reasonable amount of losses. NABIL has lowest CAR which indicates that bank have less cushion to absorb a reasonable amount of losses. The S.D and C.V. of NABIL, HBL, NIBL, EBL, and SBI are 0.58, 0.59, 1.29, 1.46, 1.35 and 0.05, 0.05, 0.11, 0.12, 0.10 respectively. The above capital adequacy ratio is present in Figure 4.3.

Figure 4.3.
Capital Adequacy Ratio



4.1.2.2. Non-performing Loan Ratio

Non-performing Loan ratio determines the proportion of non-performing assets in the total loan and advances portfolio. As per NRB directives the loan falling under category of substandard, doubtful and loss are regarded as non-performing assets or loan. The higher ratio implies the bad quality of loan or assets of banks in the form of loan and advances whereas lower ratio implies the better quality of assets of banks in the form of loan and advances. Hence, lower ratio is preferable as per international standard only 5% NPLs is allowed but in the case of Nepal, maximum 10% NPLs is acceptable.

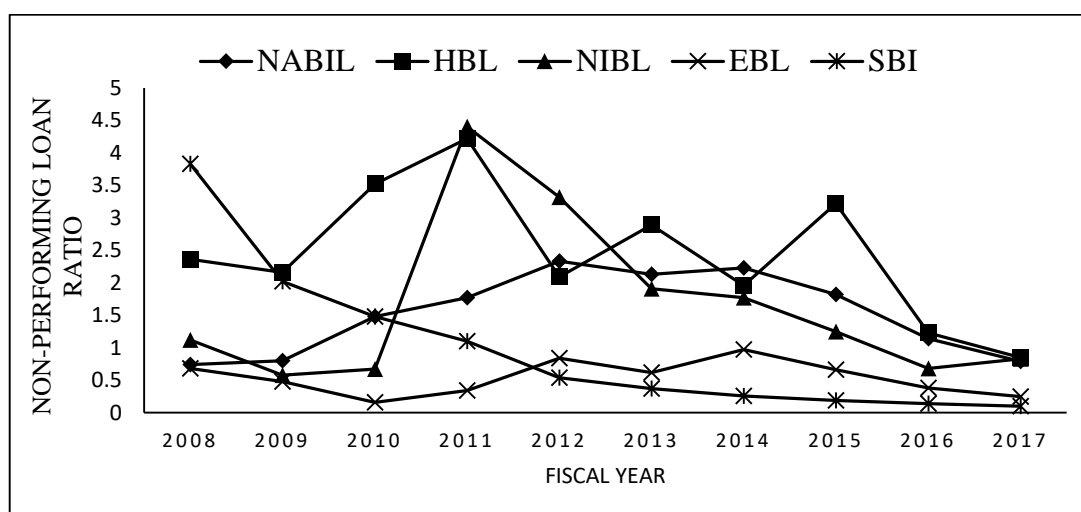
Table 4.4.
Non-performing Loan Ratio

NPLR	NABIL	HBL	NIBL	EBL	SBI
2007/08	0.74	2.36	1.12	0.68	3.83
2008/09	0.8	2.16	0.58	0.48	2.02
2009/10	1.48	3.52	0.67	0.16	1.48
2010/11	1.77	4.22	4.4	0.34	1.1
2011/12	2.33	2.09	3.32	0.84	0.54
2012/13	2.13	2.89	1.91	0.62	0.37
2012/14	2.23	1.96	1.77	0.97	0.26
2014/15	1.82	3.22	1.25	0.66	0.19
2014/16	1.14	1.23	0.68	0.38	0.14
2016/17	0.79	0.85	0.83	0.25	0.1
Average	1.52	2.45	1.65	0.54	1.00
S.D	0.62	1.03	1.27	0.26	1.19
CV	0.41	0.42	0.77	0.49	1.18

Source: Appendix III

Table 4.4 presents non-performing loan ratio of NABIL, HBL, NIBL, EBL and SBI. It shows the non-performing loan ratio of NABIL, HBL, EBL, and SBI is in decreasing trends in fiscal year 2013/14 to 2016/17, 2014/15 to 2016/17, 2014/15 to 2016/17, 2007/08 to 2016/17 respectively. It shows that the non-performing loan ratio of NIBL is in fluctuating trends. The highest NPLR of NABIL is 2.33% in fiscal year 2011/12, HBL is 4.22% in year 2010/11, NIBL is 4.4% in fiscal year 2010/11, EBL is 0.97% in fiscal year 2013/14 and SBI is 3.83% in year 2007/08. The lowest ratio of NABIL is 0.74% in year 2007/08, HBL is 0.85% in year 2016/17, NIBL is 0.58% in fiscal year 2008/09, EBL is 0.16% in fiscal year 2009/10, and SBI is 0.1% in year 2016/17. The average mean ratio of NABIL, HBL, NIBL, EBL, and SBI are 1.52%, 2.45%, 1.65%, 0.54%, and 1.00% respectively. EBL has lowest NPLR which indicates good quality of loan and advances. HBL has the highest LLPR (i.e. 3.07) which indicate bad quality of loan and advance. The S.D and C.V. of NABIL, HBL, NIBL, EBL, and SBI are 0.62, 1.03, 1.27, 0.26, 1.19 and 0.41, 0.42, 0.77, 0.49, 1.18 respectively. It shows SBI has greater variability in the ratios, NABIL has consistency in the above ratios. The above non-performing loan ratio is presented in Figure 4.4.

Figure 4.4.
Non-performing Loan Ratio



4.1.2.3. Loan and Advance to Deposit Ratio

The loan and advances to total deposit ratio is also known as credit deposit ratio (CD ratio). This ratio actually measures the extent to which the banks are successful to mobilize the total deposit on loan & advances for the purpose of profit generation. It is the proportion between the total loan and advance and the total deposit in the banks. It can be calculated by dividing the total loan and advances by the total deposit amount. This ratio shows how successfully the banks are utilizing their deposited funds for profit generating purpose as loans and advances yield high rate of return.

Table 4.5.
Loan and advance to Deposit Ratio

LTDR	NABIL	HBL	NIBL	EBL	SBI
2007/08	68.18	63.37	79.9	78.56	88.32
2008/09	73.87	73.58	78.9	73.43	55.84
2009/10	71.17	77.43	81.7	76.27	51.48
2010/11	78.29	80.57	83.05	76.98	51.2
2011/12	77.91	75.36	75.3	73.22	49.62
2012/13	74.9	77.36	76.4	76.57	49.55
2013/14	74.55	71.82	72.4	78.08	65.54
2014/15	64.43	75.37	74.7	66.63	78.39
2015/16	70.49	79.12	80.1	73.52	72.9
2016/17	65.38	83.59	84.9	82.32	78.08
Average	71.917	75.757	78.735	75.558	64.092
S.D	4.85	5.53	3.98	4.20	14.46
CV	0.07	0.07	0.05	0.06	0.23

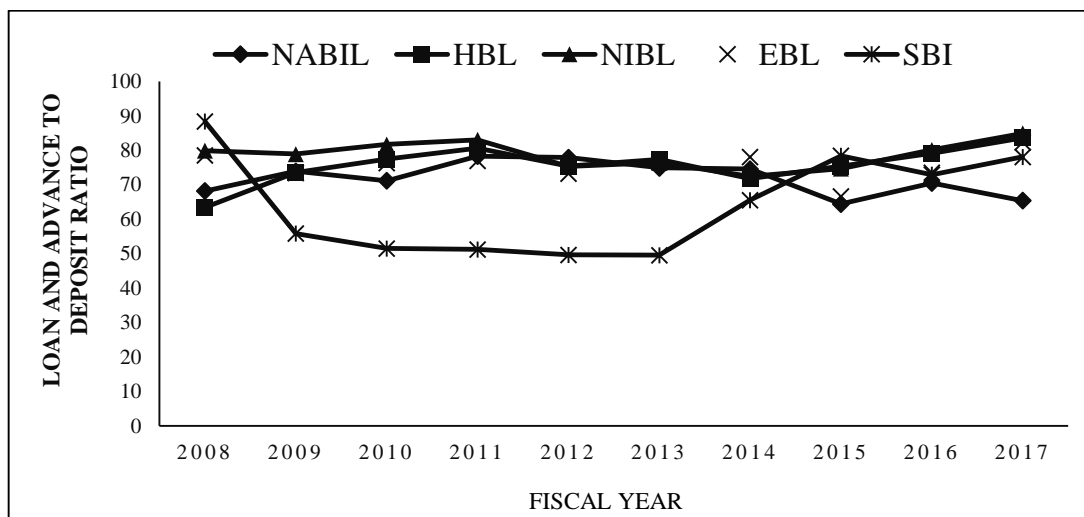
Source: Appendix III

Table 4.5 and figure presents loan and advance to deposit ratio of NABIL, HBL, NIBL, EBL and SBI. The above table shows that the loan & advances to total deposit ratio of NABIL, NIBL, EBL and SBI is in fluctuating trends and HBL is in increasing trend in fiscal year 2014/15 to 2016/17. The highest LTDR of NABIL is 78.29% in fiscal year 2010/11, HBL is 83.59% in year 2016/17, NIBL is 84.9% in fiscal year 2016/17, EBL is 82.32% in fiscal year 2016/17 and SBI is 88.32% in year 2007/08. The lowest ratio of NABIL is 64.43% in year 2014/15, HBL is 71.82% in year 2013/14, NIBL is 72.4% in fiscal year 2013/14, EBL is 66.63% in fiscal year 2014/15, and SBI is 49.55% in year 2012/13. The average mean ratio of NABIL, HBL, NIBL, EBL, and SBI are 71.92%, 75.76%, 78.74%, 75.56%, and 64.09% respectively. It shows that NIBL seem to be strong to mobilize its total deposit as loan and advances in comparison to other banks. The S.D and C.V. of NABIL, HBL, NIBL, EBL, and SBI are 4.85, 5.53, 3.98, 4.20, 14.46 and 0.07, 0.07, 0.05, 0.06, 0.23 respectively. On the basis of coefficient of variation, NIBL is more consistent than other banks because of its lower C.V.

The above loan and advances to total Deposit ratio is presented in figure below:

Figure 4.5.

Loan and Advance to Deposit Ratio



4.1.2.4 Loan Loss Provision to Total Loan

The provision for loan loss reflects the increasing profitability of non-performing loan. Increase in loan loss provision decrease profit which results to decrease in dividend. But its positive impact is that it strengthens the financial condition of banks by controlling the credit risk and reduces the risk related to deposit.

Table 4.6.
Loan Loss Provision to Total Loan

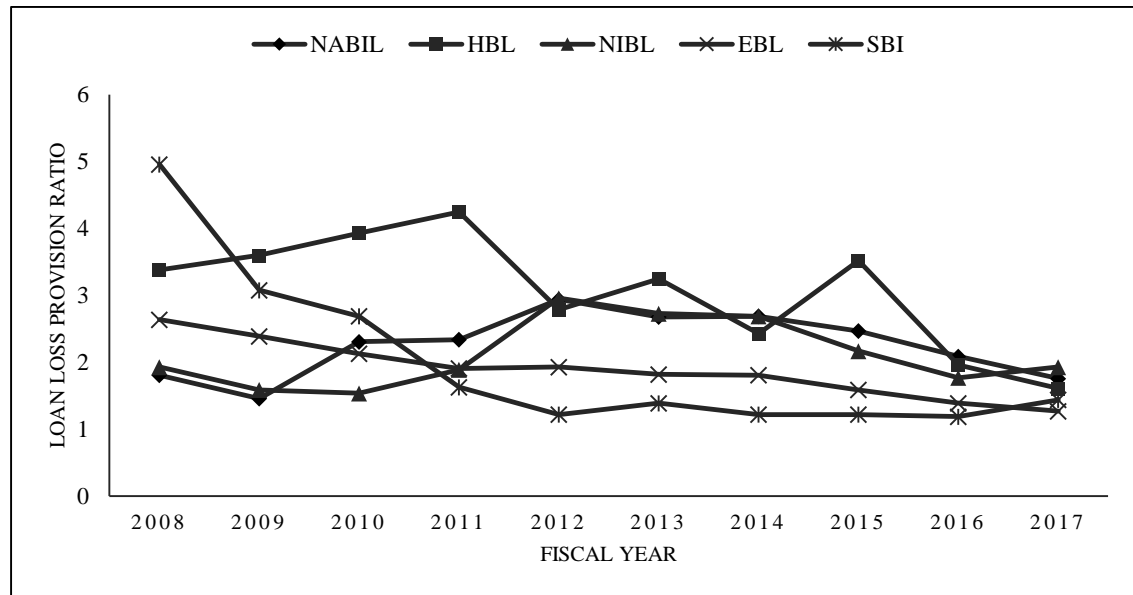
Year	NABIL	HBL	NIBL	EBL	SBI
2007/08	1.81	3.38	1.93	2.64	4.96
2008/09	1.46	3.60	1.59	2.39	3.08
2009/10	2.31	3.93	1.54	2.13	2.69
2010/11	2.34	4.25	1.89	1.91	1.63
2011/12	2.94	2.79	2.96	1.93	1.22
2012/13	2.68	3.25	2.73	1.82	1.39
2013/14	2.69	2.43	2.69	1.81	1.22
2014/15	2.47	3.52	2.17	1.59	1.22
2015/16	2.09	1.96	1.78	1.39	1.19
2016/17	1.76	1.61	1.93	1.27	1.44
Average	2.26	3.07	2.12	1.88	2.00
S.D	0.47	0.86	0.50	0.42	1.23
CV	0.21	0.28	0.24	0.22	0.62

Source: Appendix III

Table 4.6 presents loan loss provision ratio of NABIL, HBL, NIBL, EBL and SBI. The highest LLPR of NABIL is 2.94% in fiscal year 2011/12, HBL is 4.25% in year 2010/11, NIBL is 2.96% in fiscal year 2011/12, EBL is 2.64% in fiscal year 2007/08 and SBI is 4.96% in year 2007/08. The lowest ratio of NABIL is 1.46% in year 2008/09, HBL is 1.61% in year 2016/17, NIBL is 1.54% in fiscal year 2009/10, EBL is 1.27% in fiscal year 2016/17, and SBI is 1.19% in year 2015/16. The average mean ratio of NABIL, HBL, NIBL, EBL, and SBI are 2.26%, 3.07%, 2.12%, 1.88%, and 2.00% respectively. EBL has lowest LLPR (i.e. 1.88) which indicates less risky assets in total volume of loan and advances. HBL has the highest LLPR (i.e. 3.07) which indicate riskier assets in total volume of loan and advance. The S.D and C.V. of NABIL, HBL, NIBL, EBL, and SBI are 0.47, 0.86, 0.50, 0.42, 1.23 and 0.21, 0.28, 0.24, 0.22, 0.62 respectively.

The above loan loss provision ratio is presented in figure below:

Figure 4.6.

Loan Loss Provision to Total Loan**4.1.3 Relationship between credit risk and financial performance**

The study has test the relationship between credit risk and the financial performance. This is done through correlation and regression analysis. A person correlation is used to establish how the variables were related to each other. Table 7 shows the correlation results of the study on the variables.

Table 4.7.

Correlation Analysis

		ROA	ROE	CAR	NPLR	LLPR	LTDR
ROA	Pearson						
	Correlation	1	.885**	.399**	-.221	-.134	-.343*
	Sig. (2-tailed)		.000	.004	.122	.352	.015
	N	50	50	50	50	50	50
ROE	Pearson						
	Correlation	.885**	1	.311*	-.190	-.058	-.330*
	Sig. (2-tailed)	.000		.028	.187	.688	.019
	N	50	50	50	50	50	50

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

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

Source: The Researcher computation through SPSS-20

According to the correlation, the range of the output is between -1 to 1. A positive value indicates that the variables are positively related where a negative value indicates that the variables are negatively related.

Table 4.7 shows that CAR is positively correlated with ROA and ROE at 0.004 and 0.028 level of significance respectively which implies that as the value of CAR increases, the performance of banks will also increase. NPLR is negatively correlated with ROA and ROE at 0.122 and 0.187 level of significance respectively which implies that the relationship is not strong. Similarly, LLPR is also negatively correlated with ROA and ROE at 0.352 and 0.688 level of significance. LTDR is negatively correlated with ROA and ROE at 0.015 and 0.019 level of significance which implies that as the value of LTDR increases, the performance of banks will also decrease.

This indicate that CAR has a positive correlation with the performance of the banks. Other variables had negative correlation with ROA and ROE.

4.1.4 Multiple Regression Analysis

Regression analysis models have been used to explain the relationship among the dependent variables of bank profitability (ROA and ROE) and explanatory variables such as CAR, NPLR, LLPR, and LTDR. The regression results obtained using the regressive procedure in SPSS version 20.

Under the following regression outputs, the beta coefficient may be negative or positive; beta indicates that each variables' level of influence on the dependent variable. P-value or significance value indicates at what percentage or precession level of each variable is significant. R^2 Values indicate the explanatory power of the model and in this study adjusted R^2 value, which takes into account the loss of degree of freedom, associated with adding extra variables were inferred to see the explanatory powers of the models.

Empirical model

As presented in third chapter the empirical model is used in the study in order to identify the factors that can affect banks profitability is provided as follows:

Model 1

Model 1 is used to test the relationship between independent variables and ROA;

$$ROA_{it} = \beta_0 + \beta_1 NPLR + \beta_2 CAR + \beta_3 LAR + \beta_4 LLPR + e$$

Table 4.8.
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.563 ^a	.317	.256	.41371

a. Predictors: (Constant), LTAR, CAR, LLPR, NPLR
Source: The Researcher computation through SPSS-20

Table 4.8 shows the R-squared statistic and the adjusted R-squared statistics of the model is 31.7% and 25.6% respectively. The result indicates that the changes in the independent variables explain 25.6% of the changes in the dependent variables. That is CAR, NPLR, LLPR, and LTDR explain 25.6% of the changes in ROA. The remaining 74.4% of changes is explained by other factors, which are not included in the model.

Table 4.9.
Analysis of variance

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3.572	4	0.893	5.217	.002 ^b
Residual	7.702	45	0.171		
Total	11.274	49			

a. Dependent Variable: ROA
b. Predictors: (Constant), LTAR, CAR, LLPR, NPLR
Source: The Researcher computation through SPSS-20

Table 4.9 shows that the independent variables are not statistically significant in predicting the profits or affecting the profits of the banks. The study has established a significant value of $p=0.002$ less than 0.05 which shows a statistical significance relationship.

Table 4.10.
Regression result of ROA on CAR, NPLR, LLPR, LTAR

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.705	.819		2.081	.043
CAR	.121	.054	.299	2.229	.031
1 NPLR	-.267	.143	-.578	-1.871	.068
LLPR	.251	.175	.443	1.437	.158
LTDR	-.019	.007	-.361	-2.870	.006

a. Dependent Variable: ROA
Source: The Researcher computation through SPSS-20

Table 4.10 shows the coefficients of the regression. According to the findings, CAR ($p=0.031$), LTAR ($p=0.006$) were significant in predicting the profits of the banks since the p value were less than 0.05. And NPLR ($p=0.068$), LLPR ($p=0.158$) are insignificant in predicting the profits of the banks since the p values were more than 0.05.

As the result specific independent variables CAR and LTAR has statistically significant impact on ROA. And independent variables NPLR and LLPR has insignificant impact on ROA.

The resulting regression equation was:

$$ROA=1.705+ 0.121 CAR+ (-0.268) NPLR+0.251LLPR+ (-0.019) LTAR$$

From this regression equation it is reveal that holding capital adequacy, non-performing loan, loan loss provision, and loan and advance to deposit ratio of the bank to a constant zero, financial performance of commercial banks would be at 1.705, a unit increase in capital adequacy ratio would lead to an increase in financial performance of commercial banks by a factor of 0.121, a unit increase in non-performing loan ratio of the banks would lead to decrease in financial performance of commercial banks by a factor of 0.268, a unit increase in loan loss provision ratio of the banks would lead to increase in financial performance of commercial banks by a factor of 0.251, further a unit decrease in loan and advance to deposit ratio of the bank would lead to an decrease in the financial performance of commercial banks by a factor of 0.019.

The negative coefficients for non-performing loan ratio with return on assets indicates that non-performing loan has significant negative impact on ROA. The beta coefficient is significance for non-performing loan ratio and loan and advance to deposit ratio at 5 percent level of significance.

The positive coefficients have been observed for capital adequacy ratio and loan loss provision ratio with return on assets. Thus, the result indicates that capital adequacy ratio has positive impact on return on assets. The beta coefficient is significant for capital adequacy ratio and loan loss provision ratio at 5 percent level of significance.

This result shows that the variables of credit risk has had a few impacts on the financial performance of the commercial banks in terms of ROA. CAR and LLPR has positive impact on the profitability of the banks. NPLR and LTAR has negative impact on the profitability of the banks.

Model 2

It has used to test the relationship between independent variables and ROE;

$$ROE_{it} = \beta_0 + \beta_1 NPLR + \beta_2 CAR + \beta_3 LAR + \beta_4 LLPR + e$$

Table 4.11.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.578 ^a	.335	.276	4.11678

a. Predictors: (Constant), LTAR, CAR, LLPR, NPLR
 Source: The Researcher computation through SPSS-20

Table 4.11 presents the result of the linear regression model. It shows R squared statistics and the adjusted R squared statistics of the model is 33.5% and 27.6% respectively. The result indicates that the changes in the independent variables explain 27.6% of the changes in the dependent variable. That is CAR, NPLR, LTAR, LLPR explain 27.6% of the change in ROE. The remaining 72.4% of changes is explained by other factors.

Table 4.12.

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	383.610	4	95.903	5.659	.001 ^b
Residual	762.654	45	16.948		
Total	1146.264	49			

a. Dependent Variable: ROE

b. Predictors: (Constant), LTAR, CAR, LLPR, NPLR
 Source: The Researcher computation through SPSS-20

Table 4.12 shows that the independent variables are not statistically significant in predicting the profits or affecting the profits of banks. The study has established a significant value of $p=0.001$ which is less than 0.05 and shows a statistical significance relationship.

Table 4.13.

Regression results of ROE on CAR, NPLR, LLPR, and LTDR

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	30.049	8.152		3.686	.001
CAR	.397	.540	.097	.735	.466
1 NPLR	-4.502	1.419	-.968	-3.172	.003
LLPR	5.147	1.739	.899	2.960	.005
LTDR	-.232	.067	-.431	-3.472	.001

a. Dependent Variable: ROE

Source: The Researcher computation through SPSS-20

Table 4.13 presents, bank specific independent variables, NPLR, LTDR, and LLPR has statistically significant impact on ROE. And independent variables CAR has insignificant impact on ROE.

The above table is a multivariable regression model of banking income aspects. It shows that the correlation between dependent variables and independent variables. The findings show the coefficient of the regression. According to the findings, NPLR ($p=0.003$), LTAR ($p=0.001$), LLPR ($p=0.005$) are significant in predicting the profits of the banks since the p values were less than 0.05. And CAR ($p=0.446$) is insignificant in predicting the profits of banks since the p value were more than 0.05.

The resulting regression equation was:

$$\text{ROE} = 30.049 + 0.397 \text{ CAR} + (-4.502) \text{ NPLR} + 5.147 \text{ LLPR} + (-0.232) \text{ LTDR}$$

From this regression equation it is revealed that holding capital adequacy, non-performing loan, loan loss provision, and loan and advance to deposit ratio of the bank to a constant zero, financial performance of commercial banks would be at 30.049, a unit increase in capital adequacy ratio would lead to an increase in financial performance of commercial banks by a factor of 0.397, a unit increase in non-performing loan ratio of the banks would lead to decrease in financial performance of commercial banks by a factor of 4.502, a unit increase in loan loss provision ratio of the banks would lead to increase in financial performance of commercial banks by a factor of 5.147, further a unit decrease in loan and advance to deposit ratio of the bank would lead to an decrease in the financial performance of commercial banks by a factor of 0.232.

The negative coefficients for non-performing loan ratio with return on equity indicates that non-performing loan has significant negative impact on ROE. The beta coefficient is significant for non-performing loan ratio and loan and advance to deposit ratio at 5 percent level of significance.

The positive coefficients have been observed for capital adequacy ratio and loan loss provision ratio with return on equity. Thus, the result indicates that capital adequacy ratio has positive impact on return on equity. The beta coefficient is significant for capital adequacy ratio and loan loss provision ratio at 5 percent level of significance.

This result shows that the variables of credit risk has few impacts on the financial performance of the commercial banks in terms of ROA and ROE. CAR and LLPR has positive impact on the profitability of banks. NPLR and LTAR has negative impact on the profitability of the banks in terms of both ROE and ROA.

4.2 Major Findings

In the research, the following findings are computed:

- The overall average Return on assets of NABIL bank has highest ratio of 2.55% and SBI bank has very low ratio of 1.44%. But the coefficient of variation (C.V) of EBL bank is lower than other four sample commercial banks. This means that profitability position is more consistent in EBL. So, EBL is better in profitability position in terms of low variation. Therefore, the liquidity performance of EBL is better than other four sample banks.

- The overall average Return on equity of NABIL has highest ratio of 28.69% and SBI banks has low ratio of 19.07%. Also coefficient of variation (C.V) of NABIL is lower than other four sample banks. So, NABIL is better in profitability position in terms of low variation. Therefore, the liquidity performance of NABIL is better than other four sample banks in terms of ROE.
- The average capital adequacy ratio of NABIL, HBL, NIBL, EBL and SBI are 11.07%, 11.28%, 11.77%, 11.86%, and 12.88% respectively. SBI has the higher mean ratio which indicates that bank have enough cushion to absorb a reasonable amount of losses among other sample banks. The S.D and C.V. of NABIL, HBL, NIBL, EBL and SBI are 0.58, 0.59, 1.29, 1.46, 1.35 and 0.05, 0.05, 0.11, 0.12, 0.10 respectively. It shows EBL has greater variability in the ratios and HBL, NIBL and SBI has moderate variability in these ratios and NABIL has consistency in the above ratios.
- NPL is the one of the main causes that decreases the profit and in consequence will have to be allocated for provisioning. This may result in bank failure. The average non-performing loan ratio of NABIL, HBL, NIBL, EBL and SBI are 1.52%, 2.45%, 1.65%, 0.54%, and 1.00% respectively. SBI has the lower mean ratio which indicates better quality of loan of banks in the form of loan and advances. But the HBL has the high degree of NPLR which implies the bad quality of loan of banks in the form of loan and advances. The S.D and C.V. of NABIL, HBL, NIBL, EBL and SBI are 0.62, 1.03, 1.27, 0.26, 1.19 and 0.41, 0.42, 0.77, 0.49, 1.18 respectively. It shows SBI has greater variability in the ratios and HBL, NIBL and EBL has moderate variability in these ratios and NABIL has less consistency in the above ratios.
- The average loan and advance to deposit ratio of NABIL, HBL, NIBL, EBL and SBI are 71.92%, 75.76%, 78.74%, 75.56%, and 64.09% respectively. So NIBL has higher ratio than that of other sample banks. It reveals that in total deposit, NIBL has high proportion of loan and advances. NIBL has utilized its deposit more efficiently in the form of loan & advances. SBI has lower ratio in comparison to other sample banks. Even though NIBL has

relatively higher ratio, it has the most consistent lower S.D and C.V during the study period. The S.D and C.V. of NABIL, HBL, NIBL, EBL and SBI are 4.85, 5.53, 3.98, 4.20, 14.46 and 6.74, 7.30, 5.05, 5.55, 22.56 respectively. The lowest CV of NIBL reveals that it has more consistency in this ratio during the study period.

- The average loan loss provision ratio of NABIL, HBL, NIBL, EBL and SBI are 2.26, 3.07, 2.12, 1.88 and 2.00 respectively. The S.D and C.V. of NABIL, HBL, NIBL, EBL and SBI are 0.47, 0.86, 0.50, 0.42 1.23 and 20.80, 28.01, 23.58, 22.34, 61.50 respectively. It shows SBI has greater variability in the ratios and HBL, NIBL and EBL has moderate variability in these ratios and NABIL has more consistency in the above ratios.
- CAR is positively correlated with ROA and ROE. NPLR and LLPR is negatively correlated with ROA and ROE. And LTDR is negatively correlated with ROA and ROE.
- From the regression equation it has revealed that variables of credit risk, CAR and LLPR have significant impact on the financial performance of the commercial banks in terms of ROA and ROE. NPLR and LTDR have negative and insignificant impact in the profitability of the banks.
- Banks become more concerned because loans are usually among the riskiest of all assets and therefore may threatened their liquidity position and lead to distress. Better credit risk management results in better bank performance. Thus, it is of crucial important for banks to practice prudent credit risk management to safeguard their assets and protect the investors' interests.

Chapter 5

CONCLUSION

This chapter summarizes the whole study. This chapter is divided into three sections i.e. summary, conclusion and implication. The first section deals with summary. The second one contains the major facts of the study, and the third one presents the implications of the credit risk in Nepal.

5.1 Summary

The role of banks 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 of is credit risk. This is an assumed risk that a borrower will not pay back the lender as agreed. It is therefore essential to identify the extent to which this risk influences the profitability of commercial banks in Nepal.

The purpose of this research work is to identify the position of profitability (i.e. ROA and ROE), capital adequacy ratio, non-performing loan ratio, loan and advance to deposit ratio, loan loss provision and also to identify prevailing relationship between Credit risk and Profitability of some selected commercial banks in Nepal. The two key measures of profitability which include Return in assets (ROA) and Return on equity (ROE) were used as the dependent variables for this study. The explanatory variables employed in the two models that measure for credit risk. This included Capital adequacy ratio, non-performing loans ratio, ratio loans and advances to deposit ratio and loan loss provision. This study had used some descriptive statistics, correlation and multi linear regression in analysis data accessed from the annual reports and audited financial statements of 5 sample banks for a period of 10 years (2007/08-2016/17).

In this study, we also examine effect of capital adequacy ratio on the financial performance of commercial banks in Nepal, examine the effects on non-performing loan ratio on the financial performance of commercial banks in Nepal, determine the influence of loan loss provision ratio on financial performance of banks and effects of loan and advance to deposit ratio on financial performance of commercial banks in Nepal by using correlation and regression analysis.

In this study, randomly sampling method was adopted by utilizing data collected from five Nepalese commercial banks. The impact of credit risk on the performance of Nepalese banks was analyzed by using panel data from 5 commercial banks that have adopted credit risk of 10 years. During the research study, secondary data were used for the collection of required data as per requirement of the study. Therefore, relevant financial and operational data for the sample banks are collected based on their annual reports and their websites for 10 years' period. All the information is collected from these secondary sources.

Estimation were done on the impact of credit risk on bank performance in terms of return on assets and return on equity. The profitability performance of these banks is measured in terms of return on equity (ROE) and return on assets (ROA). To examine the impact of credit risk on the bank's profitability, coefficient of determination is measured.

The overall profitability position of EBL is more consistent in terms of ROA and NABIL is more consistent in terms of ROE. So, NABIL and EBL is better in profitability position in terms of low variation. Therefore, the liquidity performance of NABIL and EBL is better than other sample banks.

Capital adequacy ratio of SBI is highest which indicate that bank have enough cushion to absorb a reasonable amount of losses. NABIL has lowest CAR which indicates that bank have less cushion to absorb a reasonable amount of losses. It shows EBL has greater variability in the ratios and NABIL has consistency in the above ratios.

Non-performing loan ratio of EBL is lowest which indicates good quality of loan and advances. HBL has the highest LLPR which indicate bad quality of loan and advance. SBI has greater variability and NABIL has consistency in the ratios.

Loan and advance to deposit ratio of NIBL highest which indicates NIBL to be strong to mobilize its total deposit as loan and advances in comparison to other banks. The lowest CV of NIBL reveals that it has more consistency in the ratio.

The average loan loss provision ratio of SBI is highest than other four sample banks. It shows SBI has greater variability in the ratio and HBL, NIBL and EBL has moderate variability in these ratios and NABIL has more consistency in the ratios.

The study revealed that variables of credit risk, CAR and LLPR have positive impact on the profitability of the commercial banks in terms of both ROA and ROE. NPLR and LTDR have negative impact on the profitability of the commercial banks in terms of both ROA and ROE.

5.2 Conclusion

The analysis of bank profitability revealed that NABIL has the highest average ROA and SBI has the lowest average ROA among other five sample commercial banks in Nepal. Coefficient of variation (C.V.) of EBL is lower than other five commercial banks. This means that profitability position is more consistent in EBL. So, EBL is better in profitability position in terms of low variation.

Similarly, NABIL is better in profitability position in terms of ROE as NABIL has highest average ROE and lowest coefficient of variation (C.V.). This means that profitability position is more consistent in NABIL. So, NABIL is better in profitability position in terms of low variation.

SBI has the highest CAR (i.e. 12.88%) which indicates that bank have enough cushion to absorb a reasonable amount of losses. NABIL has lowest CAR (i.e. 11.07%) which indicates that bank have less cushion to absorb a reasonable amount of losses. Therefore, SBI is in better position in terms of CAR.

Similarly, Non-performing loan ratio of EBL is lowest (i.e. 0.54%) which indicates good quality of loan and advances. HBL has the highest NPLR (i.e. 2.45%) which indicates bad quality of loan and advance. Therefore, EBL is better in profitability position in terms of NPLR. NIBL has mobilize its total deposit as loan and advances effectively in comparison to other banks as it has the highest mean (i.e. 78.74%) of loan and advance to deposit ratio. LTDR of SBI is lowest (i.e. 64.09) which indicates EBL hasn't mobilize its total deposit as loan and advances strongly as compare to other sample banks. Therefore, NIBL is in better position in terms of LTDR.

Again, EBL has the lowest LLPR (i.e. 1.88%) which indicates less risky assets in total volume of loan and advances. HBL has the highest LLPR (i.e. 3.37%) which indicate riskier assets in total volume of loan and advance. Therefore, EBL is in better position in terms of LLPR.

The estimation of the multiple regression model shows that the adjusted -R squared statistics of the model is 31.7% in terms of ROA. The result indicates that the changes in the independent variables explain 31.7% of changes in the dependent variable. The remaining 68.3% of changes is explained by other factors, which are not included in the model. Moreover, the adjusted -R squared statistics of the model is 33.5% in terms of ROE. The result indicates that the changes in the independent variables explain 33.5% of the changes in the dependent variable. The remaining 66.5% of changes is explained by other factors, which are not included in the model in terms of ROE.

From the findings, Capital adequacy ratio has a positive impact on profitability measured by ROA and ROE because of increase in the capital requirement of the banking industry. This means there is enough capital to withstand any losses from loan default and other banking failures.

From the findings, loan loss provision had a positive influence on profitability because it serves as a financial backup for the banks to absorb losses. This means the presence of LLPR acts as a shield that protects the banks' profit from any unexpected credit default.

However, non-performing loans which is also a determinant of credit risk indicated a negative impact on profitability. Banks generate loans from the deposits received from customers therefore the banks' inability to recover these loans which mean that the little profit made has to be used to serve the withdrawal needs of their customers. Loan and advances also has a negative impact on profitability measured by ROE. In the case of ROE, LTDR is statistically insignificant even though it had a positive effect on ROA.

The study revealed that variables of credit risk, CAR and LLPR have positive impact on ROA. On other hand, NPLR and LTDR have negative and negative impact on ROA of Nepalese commercial banks. Moreover, among the independent variables of credit risk, CAR and LLPR has statistically positive impact on ROE. On the other hand, NPLR and LTDR has negative impact on profitability of Nepalese commercial banks of ROE.

Yet our results suffer from lack of data. We believe that the field is going to benefit for further research on the topic to confirm the findings. This can be achieved through effective and appropriate recommendations that are made in the subsequent section.

5.3 Implications

Findings of the study have following implications:

The management of banks especially credit officers must carry a plan carefully without deviation when given out credit facilities. Banks must put in place sound credit-granting process, strictly hold fast to know your customer (KYC) system, applying effective measures in measuring and monitoring of credit (on-side and off-side monitoring) and ensure effective controls over credit risk. In addition to these measures, sound management practices and corporate governance should be adopted to reduce credit risk.

Bank capitalization should be promoted so that banks performance can be improved. The habit of retain earnings should be encouraged to increase the capital base.

From the findings, it could be seen that LLPR or provision for bad debt has significant impact on profitability. This suggests that in a situation where loans are recovered to the extent that provisions are not made for them, profitability would increase. This raises a question of effectiveness of bank management to manage credit risk of the banking institutions. Therefore, bank management should be proactive in recovering loans in order to reduce the funds set aside to provide for such loan losses. This may require tighter loan recovery strategies to ensure that the main measure of credit risk (i.e. NPLR) is reduced over time thereby increasing overall profitability.

Again, LTDR is found to have insignificant impact on profitability, it raises a concern as how banks mobilize deposits and the amount of loan created over the same period. To reduce the risk created by excessive loan creation relative to amount of deposits mobilized, the banks should be proactive in mobilizing savings and deposits relative to the amount of loans created. It also requires that bank maintain a healthy balance between deposits and loan created within a reasonable period.

In future research, it might be useful to study the impact of credit risk on the profitability of commercial banks in Nepal. This is helpful to reveal the performance of banks toward the reduction of credit risk and how much it has affected their profitability.

Reference

- Ahmad, N. H. and Ariff, M. (2007). Multi-country study of bank credit risk determinants. *International Journal of Banking and Finance*. 9(12), 113-124.
- Alalade, S.A., Binuyo, O. B. and Oguntodu, A. J. (2014). Managing Credit Risk to Optimize Banks' Profitability: A Survey of Selected Banks in Lagos State, Nigeria. *Research Journal of Finance and Accounting*. 5(18), 135-152.
- Alshatti, A. S. 2015. The effect of credit risk management on financial performance of the Jordanian commercial banks. *Investment Management and Financial Innovations*, 12(18), 338-355.
- Asare Opoku (2015). *The impact of credit risk on profitability of some selected banks in Ghana*. The Department of Accounting and Finance, Kwame Nkrumah University of Science and Technology.
- Bharath, S. T. and Shumway, T. (2008). cit. in Matoussi, H (2010). "Credit-risk evaluation of a Tunisian commercial bank: logistic regression vs neural network modeling. *Accounting and Management Information Systems*, 9(28), 92 –119.
- Bhattarai, Y.R. (2014), Effect of Credit Risk on the Performance of Nepalese Commercial Banks. *Journal of management and Finance*,3(28), 41-64.
- Boahene, S. H., Dasah, J. and Agyei, S. K. (2012). Credit risk and profitability of selected banks in Ghana. *Research Journal of Finance and Accounting*. 3(7), 6-14.
- Bayyoud, M., & Sayyad, N. (2015). The Relationship between Credit Risk Management and Profitability between Investment and Commercial Banks in Palestine. *International Journal of Economics and Finance*, 7(11), 163-173.
- Chaudary, A.K. & Sharma P.K (2014). *Statistical Methods*. 11th edition. Kathmandu: Kanal Publication Pvt. Ltd.
- Dahal, B. and Dahal, S. (2002), *A Handbook to Banking*, Kathmandu: Ashmita Books and Stationery.
- Devinaga R. (2010). Theoretical Framework of Profitability as Applied to Commercial Banks in Malaysia. *European Journal of Economics, Finance and Administrative Sciences*, 19(23), 75-97.
- Gestel et. al. (2009). *Bank Risk Management, Credit Risk Management Basic Concepts: financial risk components, rating analysis, models, economic and regulatory capital*, New York: Oxford University Press, 55 – 61.

- Gizaw M., Kebed M. and Selvaraj S. (2015). The impact of credit risk on profitability of commercial banks in Ethiopia. *African Journal of Business Management*. 9(11), 59-69.
- Howells, Peter G. A. & Bain, Keith (2008). The economics of money, banking and finance. *a European text*. 4. ed. Harlow: Prentice Hall.
- Isanzu JS. (2017). the impact of credit risk on the Financial performance of Chinese Banks. *International Journal of Business research and marketing*, 2(4), 14-17.
- Kargi, H.S. (2014). “*Credit risk and the performance of Nigeria Banks*”. Department of Accounting, Ahmadu Bello University.
- Kitua, D. Y. (1996). *Application of multiple discriminant analysis in developing a commercial banks loan classification model and assessment of significance of contributing variables: a case of National Banking of Commerce*. MBA Thesis, UDSM, Dar es Salaam.
- Korteweg & Polson, 2008. Credit–risk evaluation of a Tunisian commercial bank: logistic regression vs neural network modeling. *Journal of Accounting and Management Information Systems*, 9(1), 92 – 119.
- Kolapo, T. F., Ayeni, R. k. and Oke, M. O. (2012). Credit risk and Commercial Banks Performance in Nigeria. *Australia Journal of Business and Management Research.*, 2(7), 31-38.
- Li, F., & Zoa, Y. (2014). *The impact of credit Risk Management on Profitability of Commercial Banks*. UMEA UNIVERSITET.
- Machiraju, H. R. (2004). *Modern commercial banking*. Vikas publication House PVT.
- Maharjan U. (2009). *Credit Management in Nepal: A Case Study on Nepalese Government Bank*. An Unplublished MBS Thesis, T.U.
- Malhotra, P. & Singh, B. (2009). The impact of Credit Risk on Bank Performance: The Indian Experience Eurasian. *Journal of business and Economics*, 2(20), 43-62.
- Muhammed, J. K. and Garba, S. (2014). An Evaluation of the Effects of CRM on the Profitability of Nigerian Banks. *Journal of Modern Accounting and Auditing*, 10(12), 104-115.
- Muiruri, J.M. & Ngari, J.M. (2014). Effects of Financial Innovations on the financial performance of Commercial Banks in Kenya. *International Journal of Humanities and Social Science*, 4(7), 51-57.

- Ogboi, C. and Unuafefe, O. (2013). Impact of Credit risk management and Capital Adequacy on the Financial Performance on Commercial Banks in Nigeria. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, 2(7), 35-42.
- Ojha(2002), *Comparative risk Management of NABIL, SCBL and HBL* An Unpublished MBA Thesis, Shankar Dev Campus : Kathmandu.
- Pandey, R. P. (2007). *Annual Bank Supervision Report 2006*. Bank Supervision Department of NRB.
- Poudel, P. R. (2012). The impact of credit risk management in financial performance of commercial banks in Nepal. *International Journal of arts and commerce*, 1(7), 9-15.
- Psillaki, M., Tsolas, I.E. and Margaritis, D. (2010). Evaluation of Credit Risk Based on Firm Performance. *European Journal of Operational Research*, 201(9), 873-881.
- Raad Mozib Lalon (2015). Credit Risk Management (CRM) Practices in Commercial Banks of Bangladesh: A Study on Basic Bank Ltd.: *International Journal of Economics, Finance and Management Sciences*, 3(13), 78-90.
- Santomero, A. M. (1997). Commercial bank risk management: An analysis of the process, *Journal of Financial Services Research*, 12(33), 83-115.
- Tuladhar, (2017), *The impact of Credit Risk Management on the Profitability of Nepalese Commercial Banks*, MBS Thesis, Shankar Dev Campus: Kathmandu.
- Shreetha, Sudeep (2008), *Comparative credit management of Nepalese commercial banks*, MBS Thesis, Shankar Dev Campus: Kathmandu.
- Vasudevan, S.V, M. & Radhaswamy (1979), *A Text Book of Banking*, New Delhi: S. Chand & Company Ltd.

Annual Report:

Annual report of Nepal Arab Bank Limited 2007/08-2016/17

Annual report of Himalayan Bank Limited 2007/08-2016/17

Annual Report of Nepal Investment Bank 2007/08-2016/17

Annual report of Everest Bank Limited 2007/08-2016/17

Annual Report of Nepal SBI Bank 2007/08-2016/17

Websites:

<http://www.nrb.org.np>

<http://www.imnepal.com/function-commercial-banks-nepal/>

Appendix I: Regression result of ROE by SPSS

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LTAR, CAR, LLPR, NPLR ^b		Enter

a. Dependent Variable: ROE

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.578 ^a	.335	.276	4.11678

a. Predictors: (Constant), LTAR, CAR, LLPR, NPLR

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	383.610	4	95.903	5.659	.001 ^b
Residual	762.654	45	16.948		
Total	1146.264	49			

a. Dependent Variable: ROE

b. Predictors: (Constant), LTAR, CAR, LLPR, NPLR

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	30.049	8.152		3.686	.001
1 CAR	.397	.540	.097	.735	.466
NPLR	-4.502	1.419	-.968	-3.172	.003
LLPR	5.147	1.739	.899	2.960	.005
LTAR	-.232	.067	-.431	-3.472	.001

a. Dependent Variable: ROE

Appendix II: Regression result of ROA by SPSS

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LTAR, CAR, LLPR, NPLR ^b		. Enter

a. Dependent Variable: ROA

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.563 ^a	.317	.256	.41371

a. Predictors: (Constant), LTAR, CAR, LLPR, NPLR

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3.572	4	.893	5.217	.002 ^b
Residual	7.702	45	.171		
Total	11.274	49			

a. Dependent Variable: ROA

b. Predictors: (Constant), LTAR, CAR, LLPR, NPLR

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.705	.819		2.081	.043
CAR	.121	.054	.299	2.229	.031
1 NPLR	-.267	.143	-.578	-1.871	.068
LLPR	.251	.175	.443	1.437	.158
LTAR	-.019	.007	-.361	-2.870	.006

a. Dependent Variable: ROA

Appendix III: Profitability and its indicators of sample banks

1. Loan Loss Provision of Sample Banks

(In million)

Year	NABIL	HBL	NIBL	EBL	SBI
2007/08	394.41	682.09	532.65	497.35	632.52
2008/09	409.08	726.36	585.95	584.88	480.30
2009/10	762.10	1,143.13	630.13	600.04	483.09
2010/11	871.39	1,401.29	792.18	604.15	353.02
2011/12	1,262.09	1,003.04	1,269.69	705.86	321.58
2012/13	1,275.70	1,333.59	1,300.57	804.58	405.76
2013/14	1,511.43	1,128.97	1,438.70	878.28	434.67
2014/15	1,659.75	1,951.78	1,470.97	881.05	492.70
2015/16	1,624.38	1,354.91	1,548.74	956.44	567.45
2016/17	1,614.12	1,246.72	2,059.07	996.91	727.32

(Source: Statement of sample banks)

2. Total Loan of the Sample Banks

(In million)

Year	NABIL	HBL	NIBL	EBL	SBI
2007/08	21,759.46	20,179.61	27,529.30	18,836.43	12,746.21
2008/09	27,999.01	25,519.52	36,827.16	24,469.56	15,612.05
2009/10	33,030.97	29,123.75	40,948.44	28,156.40	17,963.64
2010/11	38,905.49	32,968.27	41,887.69	31,661.84	21,718.79
2011/12	42,867.77	35,968.47	42,906.69	36,616.83	26,463.67
2012/13	47,645.53	41,057.40	47,700.63	44,197.76	29,193.90
2013/14	56,203.08	46,449.33	53,458.47	48,450.30	35,714.26
2014/15	67,161.67	55,428.01	67,690.20	55,363.52	40,471.87
2015/16	77,730.40	69,100.89	87,009.79	68,911.54	47,542.98
2016/17	91,491.25	77,640.98	106,683.88	78,284.68	63,752.13

(Source: Statement of sample banks)

3. Nepal Arab Bank Limited

Year	ROE	ROA	CAR	NPLR	LTDR	LLPR
2007/08	29.35	2.32	10.10	0.74	68.18	1.81
2008/09	33.93	2.55	10.70	0.80	73.87	1.46
2009/10	30.27	2.38	10.50	1.48	71.17	2.31
2010/11	29.02	2.43	10.58	1.77	78.29	2.34
2011/12	30.25	2.80	11.01	2.33	77.91	2.94
2012/13	32.25	3.25	11.59	2.13	74.90	2.68
2013/14	27.91	2.65	11.18	2.23	74.55	2.69
2014/15	22.73	2.06	11.57	1.82	64.43	2.47
2015/16	25.61	2.32	11.72	1.14	70.49	2.09
2016/17	25.61	2.70	11.73	0.79	65.38	1.76

(Source: www.nabil.com.np)

4. Himalayan Bank Limited

Year	ROE	ROA	CAR	NPLR	LTDR	LLPR
2007/08	25.3	1.76	12.42	2.36	63.37	3.38
2008/09	24.13	1.91	11.02	2.16	73.58	3.60
2009/10	14.8	1.19	10.72	3.52	77.43	3.93
2010/11	22.35	1.91	10.68	4.22	80.57	4.25
2011/12	20.69	1.76	11.02	2.09	75.36	2.79
2012/13	17.8	1.54	11.55	2.89	77.36	3.25
2013/14	15.75	1.30	11.23	1.96	71.82	2.43
2014/15	15.98	1.34	11.14	3.22	75.37	3.52
2015/16	21.93	1.94	10.84	1.23	79.12	1.96
2016/17	18.60	2.03	12.15	0.85	83.59	1.61

(Source: www.himalayanbank.com.np)

5. Nepal Investment Bank Limited

Year	ROE	ROA	CAR	NPLR	LTDR	LLPR
2007/08	25.93	1.8	11.28	1.12	79.9	1.93
2008/09	23.05	1.7	11.24	0.58	78.9	1.59
2009/10	28	2.2	10.55	0.67	81.7	1.54
2010/11	25.7	2.0	10.91	4.4	8305	1.89
2011/12	20.1	1.6	11.10	3.32	75.3	2.96
2012/13	31.7	2.6	11.49	1.91	76.4	2.73
2013/14	27.6	2.3	11.27	1.77	72.4	2.69
2014/15	24.8	1.9	11.90	1.25	74.7	2.17
2015/16	26.0	2.0	14.92	0.68	80.1	1.78
2016/17	19.1	2.1	13.02	0.83	84.9	1.93

(Source: www.nibl.com.np)

6. Everest Bank Limited

Year	ROE	ROA	CAR	NPLR	LTDR	LLPR
2007/08	24.37	1.65	11.44	0.68	78.56	2.64
2008/09	26.25	1.73	11.34	0.48	73.43	2.39
2009/10	26.37	2.09	10.77	0.16	76.27	2.13
2010/11	22.84	2.10	10.43	0.34	76.98	1.91
2011/12	26.63	2.11	11.02	0.84	73.22	1.93
2012/13	26.7	2.39	11.59	0.62	76.57	1.82
2013/14	24.75	2.25	11.31	0.97	78.08	1.81
2014/15	20.57	1.85	13.33	0.66	66.63	1.59
2015/16	20.32	1.85	12.66	0.38	73.52	1.39
2016/17	17.38	1.72	14.69	0.25	82.32	1.27

(Source: www.everestbankltd.com.np)

7. Nepal SBI Bank Limited

Year	ROE	ROA	CAR	NPLR	LTDR	LLPR
2007/08	17.64	1.44	12.32	3.83	88.32	4.96
2008/09	18.58	1.05	11.92	2.02	55.84	3.08
2009/10	16.05	1.03	12.25	1.48	51.48	2.69
2010/11	16.16	1.01	11.52	1.10	51.20	1.63
2011/12	15.02	0.83	11.21	0.54	49.62	1.22
2012/13	20.31	1.19	12.39	0.37	49.55	1.39
2013/14	22.85	1.50	13.28	0.26	65.54	1.22
2014/15	21.51	1.7	14.02	0.19	78.39	1.22
2015/16	22.16	2.00	13.49	0.14	72.90	1.19
2016/17	20.41	1.68	15.71	0.10	78.08	1.44

(Source: www.nepalsbi.com.np)

**IMPACT OF CREDIT RISK ON PROFITABILITY OF
COMMERCIAL BANKS IN NEPAL**

A Thesis Proposal

By

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Chapter 1

Introduction

1.1 Background of the study

Banks today are the largest financial institutions around the world, with branches and subsidiaries throughout everyone's life. There are plenty of differentiations between types of banks. And much of this differentiation rests in the products and services that banks offer (Howells & Bain, 2008, p.34). For instance, commercial banks hold deposits, bundling them together as loans, operating payments mechanism, etc.

Credit risk is by far the most significant risk faced by banks. The success of the business depends on accurate measurement and efficient management of this risk to a greater extent than any other risk. Credit risk refers to the risk that a borrower may not repay a loan and that the lender may lose the principal of the loan or the interest associated with it. Credit risk arises because borrowers expect to use future cash flows to pay current debts; it's almost never possible to ensure that borrowers will definitely have the funds to repay their debts. Interest payments from the borrower or issuer of a debt obligation are a lender's or investor's reward for assuming credit risk. (Psillaki, Tsolas, and Margaritis, 2010, p.873) Through 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. Credit risk management is the practice of mitigating losses by understanding the adequacy of a bank's capital and loan loss reserves at any given time-a process that has long been a challenge for financial institution.

Credit risk management has turned out as a vital issue in the current intensely complicated and competitive business environment. Business and industries are heavily dependent upon the credit grants from banks. Past studies have confirmed that bank performance in terms of profitability is directly associated with its credit risk. Favorable credit risk management leads to positive profits and vice-versa. Credit and market risk both are vital for maintaining the profitability of banks.

The goal of the credit risk management is to maximize a bank's risk adjusted rate of return by maintaining the credit risk exposure within acceptable parameters. Bank is investing a lot of funds in credit risk management modeling. The default of a small

number of customers may result in a very large loss for the bank. Credit risk is a risk of borrower default, which happens when the counterpart fails to pay on time. Credit risk is assessed through analyzing the financial performance of commercial banks in an attempt to mitigate impacts arising from credit defaults. The financial health of the commercial banks depends on the possession of good credit risk management dynamics. Commercial banks may have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred.

The importance of credit risk management to commercial banks cannot be overemphasized and it forms an integral part of the loan process. Loan and advances provided to borrowers may be at the risk of default, whereas banks extend the credit on the understanding that borrowers will repay their loans. Some borrowers usually default, and as a result, the bank's income decreases due to the need to increase loan loss provisions for such loans. Where commercial banks do not have an indication of what proportion of their borrowers will default, earnings will vary thus exposing the banks to an additional risk of variability of their profits. Effective management of credit risk can enhance banks' goodwill and depositors' confidence. Thus, good credit risk policy is an essential condition for banks' performance and capital adequacy protection.

Commercial banks are exposed to high risk loans. The higher is the accumulation of unpaid loans implying that these loan losses have produced lower returns to many commercial banks. Most of the Nepalese commercial banks are found to approve the loans that are not well examined. This may lead to increase the loan defaults and non-performing loans. Thus, the existing procedures for credit risk management are not adequate to compete with the existing financial and economic challenges in Nepal. There is need to investigate whether this investment in credit risk management is viable to the banks. This study therefore seeks to investigate the impact of credit risk indicators on a bank's financial performance in Nepal. This study addresses how credit risk affects banks' financial performance using a robust sample and the findings would serve as the basis to provide policy measures useful to the various authorities on how to tackle the effect of credit risk in order to enhance the quality of banks' risky assets.

This study addresses how credit risk affects banks' profitability. The objective of this study is to understand and explore measures to credit risk management and importantly the impact of credit risks on banks.

1.2 Statement of the problem

Trends of bank expansion, operations and establishment are in apex growth condition in Nepal. Among other risks credit risk plays an important role on banks' financial performance. It is of great interest to study the relationship between credit risk and profitability of commercial banks. And there is no research that could clearly explain the relationship of credit risk and profitability of commercial banks in Nepal. In order to acquire the knowledge of impact of credit risk and profitability of commercial banks, we made the following research question:

- What is the relationship between the credit risk and profitability of commercial banks of Nepal?
- What is their interest pattern on credit at present?
- What is the impact of non-performing loans on the profitability of commercial banks in Nepal?
- Does loan and advances has any effect on the profitability of commercial banks in Nepal?

1.3 Purpose of the study

The main purpose of this research is to reach the following needs:

- To explore into the relationship between credit risk and profitability of commercial banks in Nepal.
- To determine the impact of nonperforming loans on the profitability of commercial some banks in Nepal.
- To examine the effect of loans and advances on the profitability of commercial banks in Nepal.

This will help us to go deep into the research area and could lead to further research topics in the future.

1.4 Significance of the study

This study is important for credit performance analysis of any banking sectors because it is only one measure to evaluate prosperity or recession of organization. After having the real knowledge of indicators of financial performance any stakeholder can decide what they ought to do. Similarly any concerning bodies will be benefited to study whole organization. So this study will be fruitful for those who want to know about selected sample banks in financial concern. Moreover this study can also be used by government bodies, investors, competitors.

1.5 Limitation of the study

Every study has its own limitation. All the data may not be available due to business secrecy. Its limitation is as follows:

- This study will be concentrated only on few performance related factors that are related with credit practices.
- Through there has been in operation of 28 Commercial Banks in Nepal, but only 4 banks has been selected as sample.
- Whole study is based on data of five year period.
- Some of the financial tools of comparison shall be used in this study. Hence the drawbacks and weakness of those tools may adversely affect the outcomes of the study.
- The source of data will be published annual report and internet website which is assumed to be correct.

1.6 Chapter plan

The present study is organized in such way that the stated objectives can easily be fulfilled. The study report is designed in five chapters which are as follows:

Introduction: This chapter describes the basic concept and background of the study. It has served orientation for readers to know about the basic information of the research area, statement of problem, purpose of the study, significance of the study and limitation of the study.

Literature Review: The second chapter of the study assures readers that they are familiar with important research that has been carried out in similar areas. It also establishes that the study as a link in a chain of research that is developing and emerging knowledge about concerned field.

Research Methodology: Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view. It describes about the various source of data related with study and various tools and techniques employed for presenting the data.

Results: This chapter analysis the data related to the study and presents the finding of the study and also comments briefly on them.

Conclusion: On the basis of the results from data analysis, the researcher concludes the performance of the sample banks for better improvement.

Chapter 2

Literature Review

Literature review is a process of finding previously uncovered facts on research topic. This chapter deliberates other research works conducted on credit risk and its impacts on profitability. This chapter reviews the concept of credit risk and profitability. It also brings to bear some internal and external determinants of banks' profitability. Credit risk management plays an important role on banks' profitability since a large chunk of banks' revenue accrues from loans from which interest is derived. However, credit risk may be a serious threat to the performance of banks. Therefore various researchers have examined the impact of credit risk on banks in varying dimensions. The major studies related to the impact of credit risk and bank profitability have reviewed as follows:

Li & Zou (2014) said among the various risks faced by the bank Credit risk is the most significant risk that could adversely affect the bank. And defined Credit risk management as a planned tactics of management of uncertainty by evaluation of the risk, formulation of strategies to handle the risk and lessening of risk by means of managerial assets. They used Capital Adequacy ratio and Nonperforming loan ratio as the measures of credit risk management. They defined Profitability as a gauge of capability of the bank to bear risk and/or raise the capital of bank and it implies effectiveness of the bank and gauges the excellence of management. They used Return on Asset and Return on Equity as the measure of profitability as per DuPont system. The study revealed that the credit risk management does not have positive effect on profitability of commercial banks. And also they found that the relationships between all the proxies are not stable but fluctuating.

Gizaw (2015) has found 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.

According to Boahene (2012) credit risk have a positive and significant relationship with bank profitability and in Ghana, banks benefit from high default risk due (probably) to prohibitively lending/interest rates, fees and commission. Also found that the business of banking is full of risk and hence a banks' ability to generate profit and

maximize the wealth of their shareholders depends on their attitude toward risk and management of the risk.

Poudel (2012) studied the factor affecting commercial bank performance in Nepal for the period of 2001 to 2012 and followed a linear regression analysis technique. The study revealed a significant inverse relationship between commercial bank performance measured by ROA and credit risk measured by default rate and capital adequacy ratio.

According to Isanzu JS. (2017) 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 nonperforming loans and capital adequacy as measures of credit risk to have a significant impact on financial performance.

Y.R. Battrai (2016) has found the significant relationship between bank performance and credit risk indicators. The study concludes that 'non-performing loan ratio' has negative effect on bank performance whereas 'cost per loan assets' has positive effect on bank performance. The positive coefficient of cost per loan assets indicates the bank's efficiency in distributing loans to customers and collecting higher level of interest revenue as compare to interest expense and other operating costs. Cost per loan assets is considered to be the influencing variable to enhance banks' performance. In addition to credit risk indicators, bank performance is also affected by its size. As a whole, Nepalese commercial banks have poor credit risk management.

Chapter 3

Research Methodology

This study investigates the impact of credit risk on profitability of commercial banks in Nepal. This will help to fulfill the stated objectives as well as it tries to make easier to visualize the study clearly. Therefore this chapter presents the suitable methodologies to achieve the set of objectives of the study. For this, it consists of the research design, population and sample, sources of data, data collection and processing procedure, and data analysis technique and tools used in this study.

3.1 Research Design

This study will be based on descriptive and analytical research design. This study describe about the credit risk management and its impact on bank's profitability. To achieve the research objective, the study will use different financial and statistical tools.

3.2 Population and sample

The population of the study consist of 28 commercial banks that are currently operating in Nepal. Out of them only four banks (i.e. NABIL bank ltd, Himalayan bank ltd, and Nepal Agriculture development bank ltd.) are used in the study. This represents 10.71% of the total population. According to Muiruri and Ngari (2014), a sample size more than 10% is a good representation of the population. Therefore, representation of 10.71% considered adequate for the study.

3.3 Sources of data

This study is based on secondary data. During the research study, secondary data will be used for collection of required data as per requirement of the study. Therefore, relevant financial and operational data for the banks of the sample are collected based on their annual reports and their websites for 5 year period. All the information is collect from these secondary sources.

3.4 Data collection and processing procedure

This study utilizes secondary data collection from the bank's website and published annual reports of sampling banks. Relevant tools are used to find out the best appropriate outcomes as per designed objectives of the study. Since the objective of the study is to determine whether credit risk has significantly affect the profitability of banks in Nepal with regard to the returns on assets (ROA) and returns on equity (ROE).

The regression analysis has been used to measure the relationship between bank performance and credit risk variables.

3.5 Data analysis tools and techniques

Data itself give no meaning. They should be analyzed and interpreted by using different tools and techniques. These tools and techniques may either be statistical or may be other. To find out the impact of credit risk management on bank's profitability, it uses two model of regression analysis:

$$ROA_{it} = \beta_0 + \beta_1 NPLR + \beta_2 CAR + \beta_3 LAR + \beta_4 LLPR + e \quad (1)$$

$$ROE_{it} = \beta_0 + \beta_1 NPLR + \beta_2 CAR + \beta_3 LAR + \beta_4 LLPR + e \quad (2)$$

Where,

ROA= Return on assets

LAR= Loan and advance ratio

ROE= Return on equity

LLPR= Loan loss provision ratio

NPLR= Non-performing loan ratio

e= error term

CAR= Capital adequacy ratio

Various financial ratios and statistical tools has also been used to draw conclusion of the study. Financial as well as statistical tools are used to analyze the collected data to assess the credit risk management and profitability. They are listed as follow:

a. Financial Tools

b. Statistical Tools

i. Return on assets

i. Arithmetic Mean

ii. Return on equity

ii. Standard deviation

iii. Capital adequacy ratio

iv. Non-performing loan ratio

v. Loan and advance ratio

vi. Loan loss provision ratio

References

- Boahene S.H, Dasah J., Agyei S.K. (2012).Credit risk and Profitability of selectsd banks in Ghana. *Research Journal of finance and accounting*.
- Bhattarai, Y.R. (2014), Effect of Credit Risk on the Performance of Nepalese Commercial Banks. *Journal of management and Finance*
- Gizaw M., Kebed M. and Selvaraj S. (2015). The impact of credit risk on profitability of commercial banks in Ethiopia. *African Journal of Business Management*.
- Howells, Peter G. A. & Bain, Keith (2008). The economics of money, banking and finance. *a European text. 4. ed. Harlow: Prentice Hall*.
- Isanzu JS. (2017). the impact of credit risk on the Financial performance of Chinese Banks. *International Journal of Business research and marketing*.
- Li, F., & Zoa, Y. (2014). The impact of credit Risk Management on Profitability of Commercial Banks. UMEA UNIVERSITET.
- Muiruri, J.M. & Ngari, J.M. (2014). Effects of Financial Innovations on the financial performance of Commercial Banks in Kenya. *International Journal of Humanities and Social Science*. 4(7), P: 51-57.
- Poudel RPS (2012). The impact of credit risk management in financial performance of commercial banks in Nepal. *International Journal of arts and commerce*.
- Psillaki, M., Tsolas, I.E. and Margaritis, D. (2010). Evaluation of Credit Risk Based on Firm Performance. *European Journal of Operational Research*, 201(3), 873-888.
- Sharma, P., Ravi (2012). The impact of credit risk management on financial performance of commercial banks in Nepal. *International Journal of Arts and Commerce*.

Websites

<http://www.investopedia.com/terms/c/creditrisk.asp>

<http://www.businessdictionary.com/definition/damage.html>