Effects of Credit Risk on the Financial Performance of Nepalese Commercial Banks

BY

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RECOMMENDATION BY SUPERVISOR

This is to certify that the summer project entitled **"Effects of Credit Risk on the Financial Performance of Nepalese Commercial Banks"** is an academic work done by "Rubina Shrestha" (T.U. Reg. No: 7-2-22-35-2014) submitted in the partial fulfillment of the requirements for the degree of **Bachelor of Business Administration** at Faculty of Management, Tribhuvan University under my guidance and supervision. To the best of my knowledge, the information presented by her in the summer project report has not been submitted earlier.

_____

Signature of the Supervisor

Name:
Designation:

Date:

VIVA – VOCE SHEET

We have conducted the viva – voce sheet examination of the summer project

Submitted by:
Rubina Shrestha

Entitled:
Effect of Credit Risk on the Financial Performance of Nepalese Commercial Banks

and found the summer project to be the original work of the student and written according to the prescribed format. We recommend the summer project to be accepted as partial fulfillment of the requirements for

Bachelor's degree in Business Administration (BBA)

<u>Viva – Voce Committee</u>

Head, Research Department: ……………………………

Member (Report Supervisor): ……………………….......

Member (External Expert): ………………………………..

Date: ……………………………………

DECLARATION

This is to declare that I have completed the Summer Project entitled "Effects of Credit Risk on the Financial Performance of Nepalese Commercial Banks" under the guidance of "Dr. Yuga Raj Bhattarai" in partial fulfillment of the requirements for the degree of **Bachelor of Business Administration** at Faculty of Management, Tribhuvan University. This is my original work and I have not submitted it earlier elsewhere.

Date: …………………………..

Signature…..........................

Rubina Shrestha

ACKNOWLEDGEMENT

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LIST OF ABBREVIATION

HBL	Himalayan Bank Limited
NIBL	Nepal Investment Bank Limited
NPL	Non-Performing Loan
NPLR	Non-Performing Loan Ratio
CAR	Capital Adequacy Ratio
CRR	Cash Reserve Ratio
CLA	Cost per Loan Assets
ROE	Return on Equity
ROA	Return on Assets
S.D	Standard Deviation
C.V	Coefficient of Variation
i.e.	That is

EXECUTIVE SUMMARY

The main objective of this study is to investigate the impact of credit risk on the performance of Nepalese commercial banks. 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.

This study has taken the non-performing loan (NPL), capital adequacy ratio (CAR), cash reserve ratio (CRR) and book value per share (BVPS) as credit proxies whereas earning per share (EPS) is proxy of profitability or bank performance. Among 28 commercial banks in Nepal, two commercial banks, Himalayan Bank Ltd. and Nepal Investment Bank Ltd. with 20 observations. Secondary data are collected for the study from selected banks for the period of 2006 to 2016 which have been used for the analysis. These data are analyzed using regression model. This study will be focusing on the effect of credit risk on the bank performance in the context of Nepal's commercial banks only. It tries to minimize the research gap by emphasizing the effects of credit risk on the financial performance of Nepalese commercial banks.

The descriptive and analytical research design has been adopted for the study. The regression model revealed that Non-performing loan (NPL) has a negative and statistically significant impact on bank performance. Cash Reserve Ratio and Book Value per Share have a positive and statistically significant impact on bank performance. Capital Adequacy Ratio is not considered as the influencing variable on bank performance. This study concludes that there exits significant relationship between bank performance and credit risk indicators.

CHAPTER-I

INTRODUCTION

1.1 Context Information

Credit risk is defined as a risk when the financial instrument issuer or debtor is unwilling or unable to pay interest and the principal according to the terms specified in a credit agreement, such failure has an adverse effect on the financial performance of the bank. Credit risk is by far the most significant risk faced by banks and the success of their business depends on accurate measurement and efficient management of this risk to a greater extent than any other risk (Gieseche, 2004).

For most of the banks, loans are the largest and most obvious source of credit risk; however, credit risk could stem from activities like both on and off balance sheet. Coyle (2000) defines credit risk as losses from the refusal of credit customers to pay what is owed in full and on time. It arises mainly from direct lending and certain off-balance sheet products i.e. guarantees, letter of credits, foreign exchange, forward contracts & derivatives and also from the bank's holding of assets in the form of debt securities. The management of credit risk is a critical component of a comprehensive approach to risk management and is essential to the long-term success of a commercial bank.

Credit risk doesn't occur in isolation. The same source that endangers credit risk for the bank may also expose it to other risks. For instance, a bad portfolio may attract liquidity problem. Credit risk management is necessary to minimize the risk and maximize financial institution's risk-adjusted rate of return by assuming and maintaining credit risk exposure within the acceptable parameters (Pandey, 2004).

Credit or default risk is the risk that the promised cash flows from loans and securities held by financial institutions may not be paid in full. Should a borrower default, both the principal loaned and the interest payments expected are at risk. The potential loss a financial institution

can experience suggests that financial institutions need to collect information about borrowers whose assets are in their portfolios and to monitor those borrowers overtime (Saunders & Cornett, 2003).

Credit risk is the uncertainty associated with borrowers' loan repayments. In general, when borrowers' asset values exceed their indebtedness they repay loans but when borrowers' assets values are less than loan values, they do not repay and they could, therefore, exercise their option to default (Sinkey Jr, 2002).

Extra flexible credit rationing policy can also be a source high NPLs rate in the highly competitive banking environment of today's world. Hence it is clear why banks need to manage credit risk which is mainly from NPLs as it is very crucial for banks survival and profitability (Juliana, 2017).

Therefore, it is a requirement for every bank worldwide to be aware of the need to identify measure, monitor, and control credit risk and again determining how credit risks could be lowered. More capital can compensate for risks taken; this means that a bank should hold adequate capital against these risks (Sethi, Sahoo & Sucharita, 2003).

Credit risk may cause cash flow problems and affects banks liquidity. Credit risk is the most important area in risk management. More than 80% of all banks balance sheet relates to credit. All exposure to credit risk has led to many bank failures. Effective management of credit risk can enhance banks' goodwill and depositors' confidence. Thus, good credit risk policy is an important condition for banks' performance.

Every bank needs to identify measure, monitor, and control; credit risk and also determining how credit risks could be lowered. The findings of this study may enable bank executives to understand how credit risk affects the bank performance and they may adopt the appropriate credit risk strategies.

1.2 Statement of the Problem

Banks use the deposits to generate credit for their borrowers, which is the main revenue generating activity for most banks. With the increase of credit transactions and loan customers in the nation's economy, credit expansion is inevitable. The trend in the sector shows growing bank deposit-loan ratio as the economy grows and so does credit risk. The impact of credit risk on financial performance has been a topic of interest to many scholars since credit risk has been identified as one of the major factors known to impact the financial performance of banks. Amongst others who have carried out extensive studies on the topic, their results have not been in consensus. While some researcher found credit risk to impact positively on bank's performance, other's found a negative relationship and other's emphasized other factors instead of credit risks which impact on bank performance. The overall objective of the study is to investigate the impact of credit risk on the financial performance of two commercial banks. This study tries to answer the main question i.e. the effects of credit risk on the financial performance of commercial banks of Nepal, by resolving the following issues:

- What is the profitability and credit risk position of selected banks of Nepal?
- Is there any relationship between profitability and credit risk?
- What is the effect of credit risk on the profitability of selected banks?

1.3 Purpose of the Study

The main objective of this study is to examine the impact of credit risk on the financial performance of Nepalese Commercial Banks. The specific objectives are:

1. To evaluate the profitability and credit risk position of the selected commercial bank.
2. To examine the relationship among profitability, credit risk, capital adequacy, liquidity
` and book net worth.
3. To investigate the effect of credit risk on the profitability of the selected commercial bank.

1.4 Significance of the Study

The main aim of this research project is to assess the impact of credit risk on the financial performance of Nepalese Commercial Banks over a period of seven years (2009-2016). This report is prepared for the fulfilling the partial requirement of bachelor degree of business administration. The study is made because of the damaging effect of credit risk on bank performance and would be of utmost relevance as it addresses how credit risk affects commercial banks performance using a judgmental sampling and the findings would serve as the basis for possible recommendations and provides policy measures to the various stakeholders to tackle the effect of credit risk in order to enhance the quality of banks; risk assets. Plus, it also provides insight into the local context by considering similar researches made in different countries and hence help fill the gap in the literature. The results of this research will have implications and importance to various stakeholders as follows:

- To regulator and policymakers, the research will provide the basis for the regulatory policy framework to mitigate the financial system from the financial crisis and to better appreciate and quantify those credit risks exposures.
- To investors, this study will help them to understand the factors that influence the returns on their investments.
- To commercial banks, this study will provide an insight into the credit risk attributes which may need to be incorporated in their investment decision processes. The study will improve not only researcher's scope of understanding risk management but also entire public hence gain exposure to the banking industry. These findings will be used as reference material by future researchers interested in further research on credit risk management and its effects on financial performance of Nepalese commercial banks.

1.5 Literature Review

Various researchers have made different studies on the effects of credit risk on the performance of Nepalese commercial banks. Those researchers examined results are taken as a base for this study. Reviewing literature is divided into three parts: conceptual review, review of related studies and concluding remarks.

1.5.1 Conceptual Review

Credit risk is a financial exposure resulting from a Bank's dependence on another party (counterparty) to perform an obligation as agreed (National Bank of Ethiopia 2010). The main sources of credit risk include limited institutional capacity, inappropriate credit policies, volatile interest rates, poor management, inappropriate laws, low capital and liquidity levels, and directed lending, massive licensing of banks, poor credit assessment. Credit risk exposure means the total amount of credit extended to a borrower by a lender.

The word 'Performance' means 'to do', 'to carry out' or 'to render'. It refers the act of performing; execution, accomplishment, fulfillment, etc. In border sense, performance refers to the accomplishment of a given task measured against preset standards of accuracy, completeness, cost, and speed. In other words, it refers to the degree to which an achievement is being or has been accomplished. Bank profit is an appropriate measure of bank performance. The primary focuses of financial reporting are information about an enterprise's performance provided by measures of earnings and its components. The non–performing loan ratio and capital adequacy ratio are the indicators of credit risk and earnings per share (EPS) are the indicator of bank's performance. The most of the related studies reported that bank performance is affected by capital adequacy ratio, non-performing loan etc. Banks' performance moreover may be affected by cash reserve ratio and book value per share. Similarly, in this study, earning per share is a dependent variable which determines the bank's performance whereas non-performing loan, capital adequacy ratio, cash reserve ratio, book value per share are independent variables. This study shows the impact of credit risk on the performance of Nepalese selected commercial banks.

1.5.2 Review of Related Studies

Credit risk plays an important role in banks' profitability since a large chunk of banks'' revenue accrues from loans from which interest is derived. Therefore various researchers have examined the impact of credit risk on banks in varying dimensions. The major studies related to the issue of credit risk and bank performance have reviewed as follows:

Gizaw, Kebede, and Selvaraj (2013) examined the impact of credit risk on the profitability of commercial banks in Ethiopia using pooled data of 8 commercial banks for the period of 2003 to 2014. The authors found that the credit risk measures: non-performing loan, loan loss provisions, and capital adequacy have a significant impact on the profitability of commercial banks in Ethiopia and also suggested a need for enhancing credit risk management to maintain the prevailing profitability of commercial banks in Ethiopia.

Kithinji (2010) has analyzed the effect of credit risk management on the profitability of commercial banks in Kenya and found out that bulk of the profits of commercial banks is not influenced by the amount of credit and non performing loans, therefore suggesting that other variables; other than credit and non performing loans impact on profits.

Poudel (2012) has studied the factors affecting commercial banks performance of Nepal of 31 commercial banks 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.

Bhattarai (2016) has examined the effect of credit risk on the performance of Nepalese Commercial Banks using pooled data of 14 commercial banks for the period of 2010 to 2015. The author found that 'non-performing loan ratio has a negative effect on bank performance whereas 'cost per assets' has a positive effect on bank performance. Moreover, the author concluded that there is a significant relationship between bank performance and credit risk indicators.

Kargi (2011) has evaluated the impact of credit on the profitability of Nigerian banks. Financial ratios as a measure of bank performance and credit risk were collected from annual reports of sampled banks from 2004-2008. The author found out that bank's profitability is inversely influenced by the levels of loans and advances, non–performing loans and deposits

thereby exposing them to great risk of liquidity and distress. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian banks.

Kurawa and Garba (2014) have assessed the effect of credit risk management (CRM) on the profitability of Nigerian banks with a view to discovering the extent to which default rate (DR), cost per assets (CLA), and capital adequacy ratio (CAR) influence banks' profitability (ROA). The secondary data from the annual reports and accounts of quoted banks during the period of 2002 to 2011 were used for analysis. The author concluded that credit risk management components have a significant positive effect on the profitability of Nigerian banks.

Ugoani (2015) has examined the relationship of poor credit risk management and bank failure in Nigeria using survey research design. The results from CHI- square statistics revealed that weak corporate governance accelerates bank failures and the credit risk management functions is to the greatest extent the most diverse and complex activity in the banking business. The author, at last, concludes that poor credit risk management influences bank failures.

1.5.3 Concluding Remarks

The purpose of this study is to see what new contribution can be made and receive some ideas, knowledge, and suggestions in relation to the impact of credit risk on the performance of commercial banks. However, the previous studies cannot be ignored because they provide the foundation for the present study. This study is continuity in research and is ensured by linking the present study with the past research studies.

It is clear fact that new study cannot be found on that exact topic, i.e. effects of credit risk on the performance of commercial banks. As many researchers emphasized the effects of credit risk in own country context or with a variable like ROA, ROE etc. in their research. Hence, there exists research gap. Therefore, to fulfill the gap, this study will be focusing on the effect of credit risk on the bank performance in the context of Nepal's commercial banks only. The

research gap will be minimized by emphasizing the effects of credit risk on the financial performance of Nepalese commercial banks with a variable like EPS.

This study tries to complete the research work as many journals, articles are followed as guidelines to make the research easier and smooth. To achieve the main objectives, various financial and statistical tools are used. Hence, this study is useful to the concerned bank as well as stakeholders.

Based on theories and past empirical evidence, following conceptual model has been developed.

Independent Variables   **Dependent Variable**
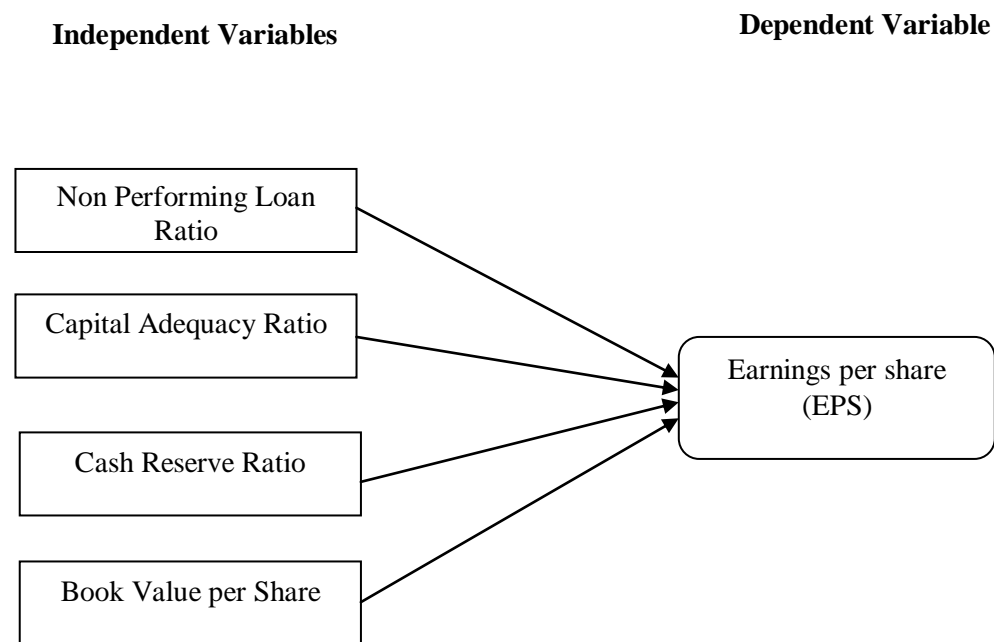
Figure 1.1
Conceptual Framework

1.6 Research Methodology

Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives. It tries to make a clear view of the method and process applied in the entire subject of the study. It is also considered as the path from which researcher can systematically solve the research problem.

1.6.1 Research Design

A research design is an overall framework for completing his/her work since beginning till the end. It incorporates the blueprint for the collection, measurement, and analysis of data. It generally presents works of research serially from the beginning to the end in a logical way. A research design is the set of methods and procedure used in collecting and analyzing measures of the variables specified in the research problem. The design of study defines the study type (descriptive, correlation, experimental, historical, developmental, casual comparative) and sub-type (descriptive- longitudinal growth study, case study).to achieve the objective of this study, descriptive and analytical research design has been used.

1.6.2 Sources of Data

This study is mainly based on the secondary data that are available in the published form; the required data for the study are collected from the concerned organizations. Following are the sources of data used in the study:

- Annual reports, broacher etc. of selected banks.
- Articles, journals on the internet.
- Laws, NRB guidelines, NRB acts
- Banks websites and other relative websites.

1.6.3 Population and Sample

Population refers to the entire group of people or things of interest that the researcher wishes to investigate. In the case of this study, listed commercial banks are the population. There are altogether 28 commercial banks operating in Nepal at present. Data collection of these entire commercial banks operating will so difficult and hard to manage. It will be very lengthy and time-consuming and vague while taking all commercial banks into considerations for study. Therefore, among 28 commercial banks, two banks namely Himalayan Bank Ltd. (HBL) and Nepal Investment Bank Ltd. has been selected for the sample of the study. In this study, convenience sampling has been used. The details of the banks selected have been depicted in the table below:

Table 1.1
Banks selected for the study and period covered

S.N	Name of Banks	Period covered	Observation
1.	Himalayan Bank Ltd.	2006/07 to 2015/16	10
2.	Nepal Investment Bank Ltd.	2006/07 to 2015/16	10
	Total		20

1.6.4 Techniques of Data Analysis

Before analyzing the data, the data and information are shown in tables and graphs and later on, they are analyzed and interpret. Various financial, accounting, and statistical tools have been used to obtain the objectives of the study. The main analytical tools and techniques used for analysis are:

1.6.4.1 Descriptive Statistics

Descriptive statistics is concerned with measures of central tendency and measures of variability. Measures of central tendency include mean, median, and mode, while measures of variability include standard deviation or variance, the minimum and maximum variables, and kurtosis and skewness.

Arithmetic Mean (A.M.)

Arithmetic mean is the sum of all the numbers in the series divided by the count of all numbers in the series. The arithmetic mean is also referred to as the average or simply as the mean. Arithmetic mean is calculated by following formula:

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

Where,

$\sum x$ = sum of x series

10

n   = number of years

Standard Deviation (S.D)

Standard deviation is a measure of the dispersion of a set of data from its mean. It is a calculated as the square root of variance by determining the variation between each data point relative to the mean.

$$\text{Standard Deviation (S.D)} = \sqrt{\frac{\sum d^2}{N}}$$

Where,

d   = $(X-\bar{X})$

Coefficient of Variation (C.V)

The coefficient of variance is the relative measure of dispersion, comparable across distribution, which is defined as the ratio of the standard deviation to the mean expressed in percent. It can be calculated as follows:

$$\text{Coefficient of Variation (C.V.)} = \frac{S.D.}{\text{Mean}}$$

Skewness

Skewness is asymmetry in a statistical distribution, in which the curve appears distorted or skewed either to the left or to the right. It defines the extent to which a distribution differs from the normal distribution.

$$\text{Skewness} = \frac{3(Mean - Median)}{Standard\ Deviation}$$

Kurtosis

Kurtosis is a measure of whether the data are heavy-tailed or light tailed relative to the normal distribution. Data sets with high kurtosis tend to have heavy tails or outliers. Data sets with low kurtosis tend to have light tails or lack of outliers. A uniform distribution would be the extreme case.

$$K = \frac{\frac{1}{2}(Q3-Q1)}{P90-P10}$$

Where,

Q   = Quartile

P   = Percentile

1.6.4.2 Correlation Analysis

Correlation is a term that refers to the strength of the relationship between two variables. Pearson r correlation is the most widely used correlation statistic to measure the degree of the relationship between linearly related variables. It is developed by Karl Pearson.

The correlation coefficient can range from -1.00 to +1.00. A value of -1.00 indicates a perfect negative correlation, which means that as the value of one variable increases, the other decreases. While a value of +1.00 represents a perfect positive relationship, meaning that as one variable increases in value, so does the other. As the correlation coefficient value goes towards 0 that represents no relationship between variables being tested. The formula used to calculate the Pearson r correlation:

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

Where,

N   = number of pairs of scores

$\sum xy$ =sum of the products of paired scores

$\sum x$ = sum of x scores

$\sum y$ = sum of y scores

$\sum x^2$ = sum of squared x scores

$\sum y^2$ =sum of squared y scores

1.6.4.3 Regression Analysis

A regression is a statistical analysis assessing the association between two variables. It is used to find the relationship between two variables. It is a technique to discover a mathematical relationship between two variables. The formula for regression is as follows:

$$\textbf{Regression equation } (\boldsymbol{y}) = \boldsymbol{a} + \boldsymbol{bx}$$

$$\textbf{Slope } (\boldsymbol{b}) = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - (\sum X)^2}$$

$$\textbf{Intercept } (\boldsymbol{a}) = \frac{\sum Y - b(\sum X)}{N}$$

Where,

X and Y are variables

b   = slope of the regression line is also called regression coefficient

ɑ   = intercept point of regression

N   = number of values

$\sum X$ = sum of x scores

$\sum Y$ = sum of y scores

$\sum XY$ =sum of the products of paired scores

$\sum X^2$ = sum of squared x scores

1.6.5 Study Variables

Variables are anything that has a quantity or quality that varies. This study concerns following dependent and independent variables.

- **Dependent Variable**

Dependent variables depend on other factors that are measured. These variables are expected to change as a result of an experimental manipulation of the independent variable or variables.

Earnings per Share (EPS)

The dependent variables represent the profitability measured by Earnings per Share (EPS). Earnings per share (EPS) are the portion of company's profit allocated to each outstanding share of common stock. Earnings per Share (EPS) serve as an indicator of company's profitability.EPS is calculated as:

$$EPS = \frac{(\text{Net income} - \text{Dividends on Preferred Stock})}{\textit{Average Outstanding Shares}}$$

EPS is an important fundamental used in valuing a company because it breaks down a firm's profits on a per share basis. This is especially important as the number of shares outstanding could change, and the total earnings of a company might not be a real measure of profitability for the investor.

- **Independent Variable**

The independent variables represent the credit risk management indicators. It includes Non-Performing Loan Ratio (NPLR), Capital Adequacy Ratio (CAR), Cash Reserve Ratio (CRR) and Book Value per Share (BVPS).

Non-Performing Loan Ratio (NPLR)

A non-performing loan (NPL) is the sum of borrowed money upon which the debtor has not made his scheduled payments for at least 90 days. A non-performing loan is either in default or close to being default. The non-performing loan ratio, better known as the NPL ratio, is the ratio of the amount of non-performing loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The NPL ratio measures the effectiveness of bank in receiving repayments on its loans.

Capital Adequacy Ratio (CAR)

Capital adequacy ratio (CAR) is used to describe or measure the bank's capital fund. It is expressed as a percentage of a bank's risk-weighted credit exposures. This ratio plays a significant role to protect depositors and promote the stability and efficiency of financial system around the world and to examine the adequacy of the total capital fund and core capital.

Cash Reserve Ratio (CRR)

Cash Reserve Ratio refers to a certain percentage of total deposits the commercial banks are required to maintain in the form of cash reserve with the central bank. The main objective of maintaining the cash reserve is to prevent the shortage of fund in meeting the demand by the depositors.

Book Value per Share (BVPS)

Book value per share is a ratio that divides common equity value by the number of common stock shares outstanding. The book value per share is one factor that investors can use to determine whether a stock price is undervalued. If a business organization can increase its BVPS, investors may view the stock as more valuable, and the stock price increases.

1.7 Limitation of the Study

This report is for the partial fulfillment of bachelor degree of business administration. The efforts have been made to present and analyze the fact clearly and truly and within a specific boundary. But the reliability of tools, lack of research experience, time limit and lack of data are the primary limitation of this report.

- Only Nepalese commercial banks have been considered for the study and two joint venture banks have been selected as samples for the study. Hence, the finding may not be applicable to other banks i.e. Development Banks, Finance Companies and other companies in Nepal.

- The whole study is based on secondary data, annual reports, and publication of respective bank and also articles and journals of the respective topic, which may or may not provide the exact vision of the field. So the reliability of this research will highly depend upon the accuracy of information. If available data are not accurate, the whole findings of the study will be meaningless.

- Past ten years secondary data from FY 2006/07 to FY 2015/16 are taken for study of two joint venture banks, HBL and NIBL.

- The study is confined to limited bank considering time constraints. The findings should not be generalized. Hence the study is just to fulfill the partial requirement of bachelors' degree of business administration.

1.8 Organization of the Study

According to the summer project guidelines for BBA 7th semester, the study should organize into five chapters, each devoted to some aspects of Effects of Credit Risk on the Performance of Nepalese Commercial Banks. The rationale behind this kind of study of organization is to follow a simple research methodology approach.

Chapter one deals with major issues to be investigated along with the general background of the study, statement of the problem, objective, significance, literature review, research methodology, and limitation of the study. Literature review consists of conceptual review, review of related studies and a conceptual model is developed by taking past and empirical study as a base. Research methodology deals with research design, sources of data, and methods of data collection, population and sample and techniques of data analysis.

Chapter two is devoted to data presentation and analysis, which includes organizational profile, data presentation, and analysis of variables, findings, and discussion. Descriptive statistical tools are used to analyze the data. Correlation and Regression analysis are carried

out with the help of Ms-Excel software 2007. Tables and trend chart are developed to present data findings. Findings include the major evidence and major result derived from this study.

Chapter three includes conclusion and action implications of the study. The whole study is briefly described with major findings and relevant ideas for better results. Action implications deal with filling the defects to make the further study more relevant. Conclusions and action implications concerns point started and the end and if conditions applied it could be better than this.

CHAPTER II
DATA PRESENTATION AND ANALYSIS

2.1 Organization Profile

Commercial banks is an institution that provides services such as accepting deposits, providing loans, and offering basic investment products. There are 28 commercials banks in Nepal, among them two joint ventures banks, Himalayan Bank Ltd (HBL) and Nepal Investment Bank Ltd. (NIBL) are selected for the study. This report focuses on "Impact of Credit Risk on the Financial Performance of Commercial Banks in Nepal." including past 10 years data from FY 2006/07 to FY 2015/16.

Himalayan Bank Ltd (HBL)

Himalayan Bank was established in 1993 in the joint venture with Habib Bank Limited in Pakistan. Despite tough competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities – loans and deposits. Himalayan Bank is not only a bank, it is committed, Corporate Citizen. It holds a vision to become a Leading Bank of the country. The bank's mission is to become the preferred provider of quality financial services in the country.

The legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer service. Products such as PREMIUM Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following HBL lead by introducing similar products and services. Therefore HBL stands for innovation that it brings about in the country to help our customers besides modernizing the banking sector. With the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure of other banks under our credit standing with foreign correspondent banks, HBL

believes it obviously leads the banking sector of Nepal. The most recent rating of HBL by Bankers' Almanac as country's number 1 Bank easily confirms their claim.

All Branches of HBL are integrated into Globus (developed by Temenos), the single banking software where the bank has made substantial investments. This helped the bank to provide services like 'Any Branch Banking Facility', Internet Banking and SMS banking. There are 18 branches inside valley and 31 outside the valley.

Nepal Investment Bank Ltd. (NIBL)

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of one of the largest banking group in the world.

Later, in 2002 a group of Nepalese companies comprising of bankers, professionals, industrialists, and businessmen acquired the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd., and accordingly, the name of the Bank also changed to Nepal Investment Bank Ltd. At present, the Bank's shareholding pattern is 69% by promoters and 31% by general public.

NIBL vision is to be the most preferred provider of Financial Services in Nepal. The Bank fully complies with the provisions of Nepalese Money Laundering Prevention Act, 2008 and regulations made there under and the Guidelines of our central bank viz. Nepal Rastra Bank (NRB) regarding anti-money laundering. Bank's compliance with Anti-Money-Laundering requirements and procedures is monitored by the NRB and by Bank's internal and external auditors. NIBL, which is managed by a team of experienced bankers and professionals having proven track record, can offer you what you're looking for. NIBL also provide ATM, debit card, credit card, branchless banking, e-banking, SMS banking etc facilities to its customers. There are 65 branches and four extension counter and information office.

2.2 Credit Risk and Profitability Position of Selected Commercial Banks

Data collected from various sources are processed and changed into the understandable presentation using financial as well as statistical tools supported by diagrams and graphs. Similarly, the process of transforming data is called analysis for the examination and interpretation of the data to draw the conclusion. For the purpose of the study ten years data from fiscal year 2006/07 to 2015/16 of two joint venture bank have been taken into consideration i.e. Himalayan Bank Ltd. (HBL) and Nepal Investment Bank Ltd. (NIBL).

The detailed analysis carried out by comparing two joint venture commercial bank's (HBL and NIBL) profitability and credit risk indicators in Nepal. Among two banks, whose performance is better and degree of effects of credit risks.

2.2.1 Analysis of Earning Per Share (EPS)

Table 2.1 displays the mean value of HBL's EPS (44.539) is greater than of NIBL (42.42). However, the standard deviation of HBL data over ten years shows more (SD=12.653) with respect to the HBL than NIBL (SD=12.13). It indicates volatility and high earning risk with respect to the HBL in absolute basis. Since the standard deviation measures absolute risk, a coefficient of variation (CV) has also been calculated to analyze the relative earning risk. Accordingly, the result shows the earning risk of NIBL is slightly greater than HBL (0.29 against 0.284). Hence, the NIBL EPS has a weak status than that of HBL.

Table 2.1
Data Analysis of Earning Per Share (EPS) of HBL and NIBL

Year	HBL	NIBL
2007	60.66	62.6
2008	62.74	57.9
2009	61.9	37.4
2010	31.8	52.5
2011	44.66	39.1
2012	39.94	27.6
2013	34.19	46.2
2014	33.1	40.7
2015	33.37	30.9
2016	43.03	29.3
Mean	44.539	42.42
S.D	12.653	12.13
CV	0.284	0.29

Source: Annual report of selected banks

The overview of the aforesaid analysis is illustrated in the trend chart. Figure 2.1 gives the glimpse of the trend of Earning per share (EPS) of Himalayan Bank Ltd (HBL) and Nepal Investment Bank Ltd (NIBL).
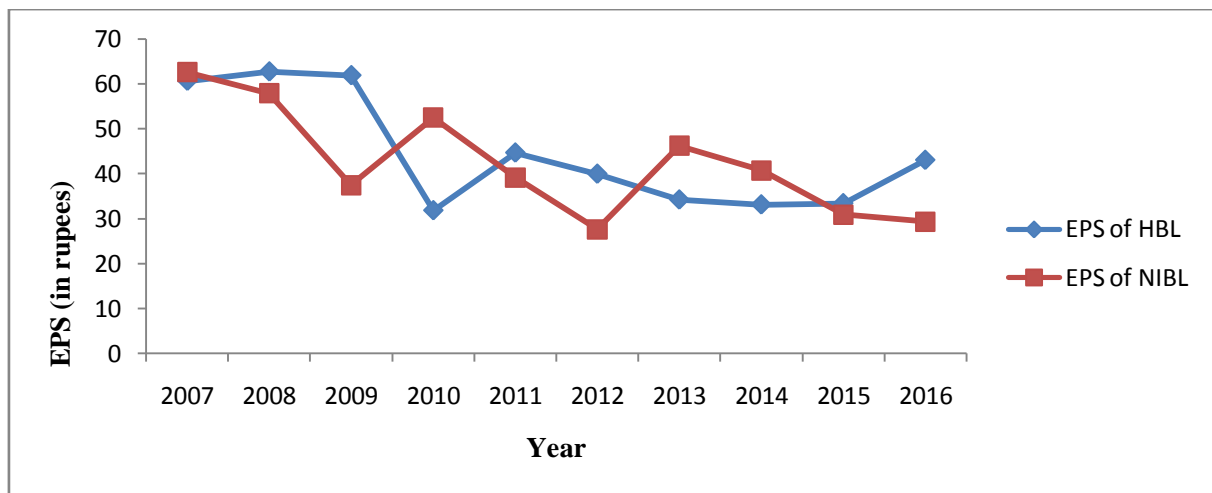
Figure 2.1
Earnings per Share Position (EPS) of Selected Banks

2.2.2 Analysis of Non-performing Loan (NPL)

As depicted in Table 2.2, HBL's non-performing loan mean is 2.726 percent which is greater than NIBL i.e. 1.46. The standard deviation of a non-performing loan of HBL is more than NIBL (0.919 against 0.88) whereas CV of HBL is lesser than NIBL, which indicates relative risk of NPL is greater in NIBL than HBL.

Table 2.2
Data Analysis of Non-performing loan of HBL and NIBL

Year	HBL	NIBL
2007	3.61	2.40
2008	2.36	1.10
2009	2.16	0.60
2010	3.52	0.70
2011	4.22	0.90
2012	2.09	3.30
2013	2.89	1.90
2014	1.96	1.80
2015	3.22	1.30
2016	1.23	0.70
Mean	2.726	1.46
S.D	0.919	0.88
CV	0.337	0.61

Source: Annual report of selected banks

The analysis above in table 2.2 is best described by the line graph below which gives the trend of Nonperforming Loan (NPL) of both Himalayan Bank Ltd (HBL) and Nepal Investment Bank Ltd (NIBL).

Figure 2.2
Non-performing Loan (NPL) Position of Selected Banks

2.2.3 Analysis of Capital Adequacy Ratio (CAR)

Table 2.3 indicates that the mean value of HBL and NIBL's capital adequacy ratio is 11.175 and 11.68 percent respectively. As per NRB requirements, CAR must be ten percent as both joint venture bank Himalayan Bank Ltd and Nepal Bank Limited has maintained more than ten percent on average.

Table 2.3
Data Analysis of Capital Adequacy Ratio (CAR) of HBL and NIBL

Year	HBL	NIBL
2007	11.13	12.20
2008	12.42	11.30
2009	11.02	11.20
2010	10.72	10.60
2011	10.68	10.90
2012	11.02	11.10
2013	11.55	11.50
2014	11.23	11.30
2015	11.14	11.90
2016	10.84	14.90
Mean	11.175	11.68
S.D.	0.507	1.23
C.V.	0.045	0.11

Source: Annual report of selected banks.

Table 2.3 indicates that the mean value of HBL and NIBL's capital adequacy ratio is 11.175 and 11.68 percent respectively. As per NRB requirements, CAR must be ten percent as both joint venture bank Himalayan Bank Ltd and Nepal Bank Limited has maintained more than ten percent on average. The absolute risk of CAR of HBL is 0.507 percent whereas NIBL has 1.23 percent. This indicates HBL's capital adequacy ratio has lesser absolute risk than NIBL. Similarly, the C.V of capital adequacy of HBL is slightly less than C.V of NIBL i.e. (0.045 percent against 0.11 percent). Hence, the CAR of NIBL is riskier.

The analysis above in table 2.3 is best described by trend graph below which gives the trend of Capital Adequacy Ratio (CAR) of both Himalayan Bank Ltd (HBL) and Nepal Investment Bank Ltd (NIBL).
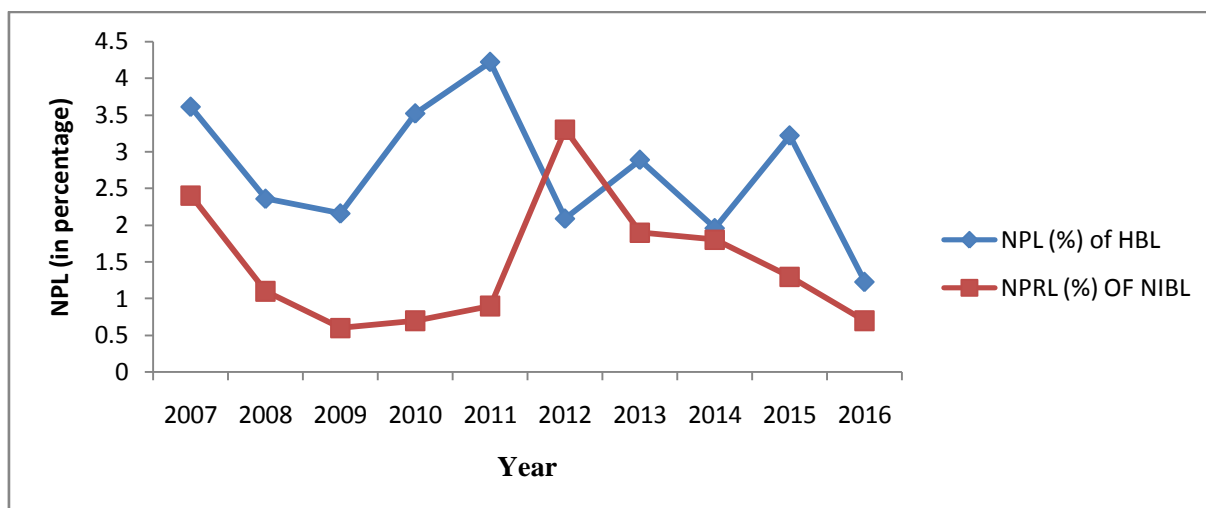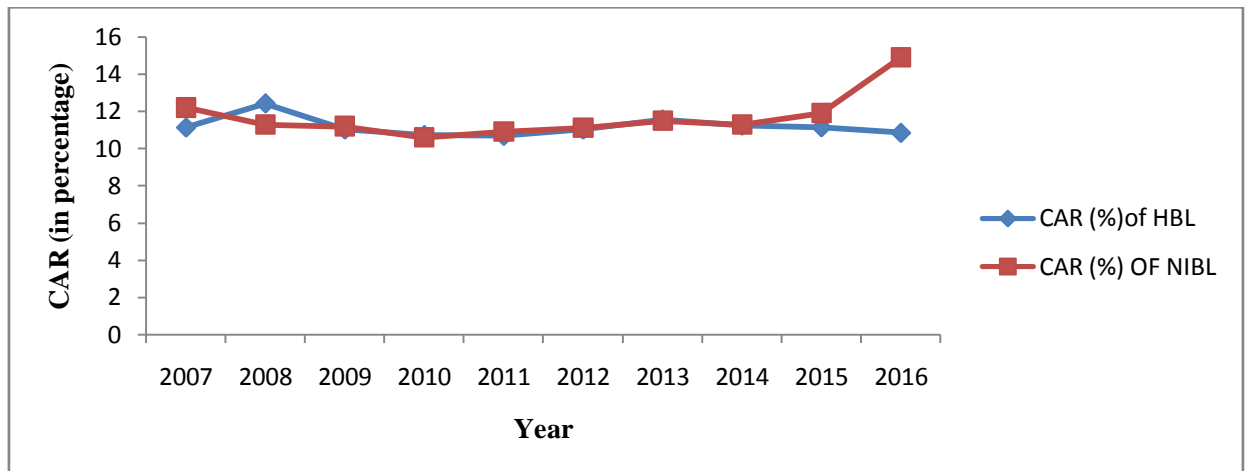

Figure 2.3
Capital Adequacy Ratio (CAR) Positions of Selected Banks

2.2.4 Analysis of Cash Reserve Ratio (CRR)

As depicted by Table 2.4 cash reserve ratio of NIBL seems strong. The mean value of NIBL's CRR (11.52) is much greater than HBL (6.843). Similarly, the standard deviation (S.D) of NIBL's CRR over ten years shows higher volatility and high risk than that of HBL (3.85 against 1.297). While coefficient of variation of NIBL is higher than HBL, it shows slightly high risk in NIBL's CRR in relative basis than that of HBL.C.V of NIBL's CRR is 0.33 and HBL's CRR is 0.189.

Table 2.4
Data Analysis of Cash Reserve Ratio (CRR) of HBL and NIBL

Year	HBL	NIBL
2007	5.92	10.50
2008	5.13	10.90
2009	6.76	10.30
2010	6.76	7.80
2011	5.75	7.70
2012	8.72	13.60
2013	6.08	16.00
2014	8.72	19.20
2015	8.32	12.00
2016	6.27	7.20
Mean	6.843	11.52
S.D.	1.297	3.85
C.V.	0.189	0.33

The overview of analysis is illustrated in the trend chart. Figure 2.4 gives the trend of cash reserve ratio (CRR) of both Himalayan Bank Ltd (HBL) and Nepal Investment Bank Ltd (NIBL).
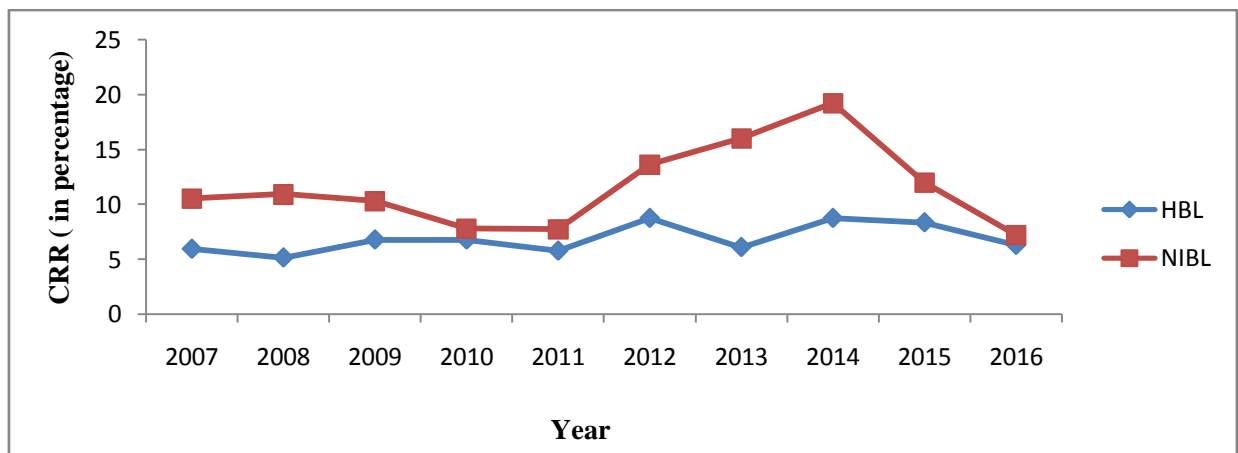
Figure 2.4
Cash Reserve Ratio (CRR) Position of Selected Banks

2.2.5 Analysis of Book Value per Share (BVPS)

Table 2.5 displays book value per share of HBL seems strong. The mean value of HBL's CRR (219.564) is much greater than NIBL (181.89). However, the standard deviation (S.D) of HBL's BVPS (27.647) over ten years has slightly higher volatility and high risk than that of NIBL (27.14) in absolute basis. While coefficient of variation of NIBL is higher than HBL, it shows slightly high risk in NIBL's BVPS in relative basis than that of HBL.C.V of NIBL's BVPS is 0.15 and HBL's BVPS is 0.126.

Table 2.5
Data Analysis of Book Value per Share of HBL and NIBL

Year	HBL	NIBL
2007	264.74	234.40
2008	247.95	223.20
2009	256.52	162.40
2010	226.79	190.00
2011	199.77	171.00
2012	193.00	161.00
2013	192.02	169.00
2014	209.92	166.00
2015	208.81	155.00
2016	196.12	187.00
Mean	219.564	181.89
S.D.	27.647	27.14
C.V.	0.126	0.15

The data displayed in Table 2.5 is best described by trend graph below which gives the trend of Book Value per Share of selected banks.
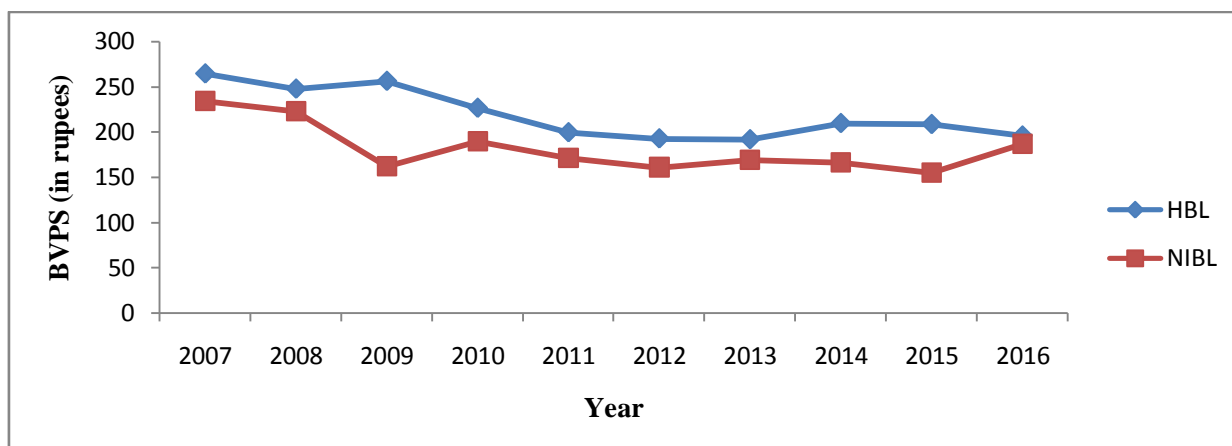
Figure 2.5
Book Value per Share (BVPS) Position of selected banks

2.3 Descriptive Statistics of Study Variables

Table 2.6 reports that there is single bank performance indicator earning per share (EPS) and four independent variables. They are non-performing loan (NPL), capital adequacy ratio (CAR), cash reserve ratio (CRR) and book value per share (BVPS).

Table 2.6
Data and Descriptive Statistics of Study Variable -Both Banks (n=20)

Variables	Mean	S.D.	Kurtosis	Skewness	Range	Minimum	Maximum
EPS	43.48	12.11	-1.19	0.51	35.14	27.60	62.74
NPL	2.10	1.09	-0.93	0.31	3.64	0.58	4.22
CAR	11.43	0.95	9.88	2.86	4.37	10.55	14.92
CRR	9.18	3.69	1.73	1.40	14.07	5.13	19.20
BVPS	200.73	32.93	-0.73	0.47	109.74	155.00	264.74

Source: Annual report of selected banks

The result shows that the average value of the bank performance (EPS) is 43.48 during the period of 2006-2016, that means on average per share of sample commercial banks in Nepal earns 43.48. The standard deviation of earning per share is 12.11 which show the lack of substantial variation.

Recognizing the role of the nature and shape of data distribution in further statistical analysis, the skewness and kurtosis of EPS have been measured as a part of descriptive statistics. Skewness reflects the asymmetry of distribution. As a result shows, the coefficient of skewness regarding EPS data of sample commercial banks (0.51) seems the distribution is moderately skewed. The general consensus of statistics states that coefficient of skewness between -1 and -0.5 or between 0.5 and 1 considers as moderately skewed.

On the other hand, kurtosis is the degree of peakness of a distribution. A distribution with a negative kurtosis value indicates that the distribution has shorter and thinner tails and lower and broad central peak than the normal distribution. The non-performing loan ratio among the sample commercial banks in Nepal is varied from 0.58 to4.22 percent with the mean and standard deviation 2.10 percent and 1.09 percent respectively which indicates volatility among the banks' ability in credit risk management.

The coefficient of skewness regarding NPL data of sample commercial bank (0.31) seems the distribution is approximately symmetrical. The general consensus of statistics states that coefficient of skewness between -0.5 to 0.5 considers as approximately symmetric. On the other hand, a distribution with negative kurtosis value indicates that the distribution has shorter and thinner tails and lower and broad central peak than a normal distribution. Hence, non-performing loan of sample banks indicates such situation.

The minimum capital adequacy ratio is 10.55% that is higher than regulatory requirement of 10% which is the evidence of the compliance of sample banks regarding Nepal Rastra Bank's Directives 2015 and Basel II requirements. The coefficient of skewness regarding CAR data of sample commercial banks (2.86) seems the distribution is highly skewed. The general consensus of statistics states that coefficient of skewness if less than -1 or greater than +1, the distribution is highly skewed. The value of kurtosis is positive and kurtosis value is 9.88 called leptokurtic. Compared to a normal distribution, its central peak is higher and sharper and its tails are longer and flatter.

Table 2.6 shows that minimum observation of cash reserve ratio is 5.13% which is slightly lower than regulatory requirement of 6% which can be taken as non compliance of banks regarding Nepal Rastra Bank's Unified Directives. According to data above in Table 2.6, the distribution of CRR is highly skewed (1.40) and the distribution has positive kurtosis 1.73, so compared to a normal distribution, its central peak is higher and sharper, and its tails are longer and flatter.

On average book value per share are 200.73 with the standard deviation of 32.93. The minimum and maximum book values per share are 155.00 and 264.74 respectively. The distribution of skewness (0.47) is approximately symmetric and has negative kurtosis called platykurtic compared to the normal distribution, its central peak is lower and broader and its tails are shorter and thinner.

2.4 Relationship between Profitability and Credit Risk Indicators

In an effort to analyze the nature of correlation between dependent and independent variables, Pearson correlation analysis has been computed. Correlation indicates the relationship between the variables.

Table 2.7
Pearson Correlation Coefficients-Both Banks (n=20)

Variable	EPS	NPL	CAR	CRR	BVPS
EPS	1				
NPRL	0.021858	1			
CAR	-0.10388	-0.29052	1		
CRR	-0.18792	-0.20709	-0.02478	1	
BVPS	0.700222	0.402591	-0.01913	-0.56648	1

Results are drawn using Excel-2007 version

The correlation matrix that is shown in Table 2.7 indicates that non-performing loan is positively associated with profitability but the magnitude of association is weak with the correlation coefficient of 0.021858. However, capital adequacy ratio as well as cash reserve

ratio is negatively correlated with profitability but their magnitude of profitability seems weak. The correlation coefficient between profitability and book value per share is positive but the magnitude of relationship is high that can be evidenced by Pearson's correlation coefficient (0.7). Since, the correlation coefficient among independent variables is less than 0.8, meaning that the multicollinearity problem may not arise and the selected independent variables are suitable to be used in the regression model.

2.5 Effect of Credit Risk on the Profitability of Commercial Banks

For analyzing the effect of credit risk on the profitability of commercial banks of Nepal, regression analysis has been computed. Regression analysis is analysis using specified and associated data for two or more variables such that one variable can be estimated from the other variable.

Table 2.8

Regression Results of Effects of Credit Risk on Bank Performance

$(EPS_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 CAR_{it} + \beta_3 CRR_{it} + \beta_4 BVPS_{it} + e_{it})$

Variable	Dependent Variable: EPS			
	Coefficients	*Standard Error*	*t Stat*	*P-value*
Constant	-5.39363	28.70319	-0.18791	0.85347
NPRL	-4.23298	1.88860	-2.24133	0.04056
CAR	-2.38906	1.98704	-1.20232	0.24788
CRR	1.01649	0.59122	1.71932	0.10612
BVPS	0.37715	0.07087	5.32143	0.00009
	$R^2 = 0.67099$; Adjusted $R^2 = 0.58326$; F-stat= 7.64799; F-sig=0.00144			

Results are drawn using Excel-2007 version

Table 2.8 presents the regression results of the effect of credit risk on bank performance. The value of R^2 and adjusted R^2 are 0.67099 and 0.58326 respectively. The overall explanatory power of the regression model is fair with R^2 of 0.67099. This indicates that 67.099% of the

variation in bank performance can be explained by the variation in the explanatory variables. The p-value for F-statistics in the model represents model is fairly fitted well statistically since p-value of F-statistics is less 0.01. The results from Table 2.8 indicate that the coefficient of non-performing loan (a measure of default rate) is negative but statistically significant. The finding of this study supports the hypothesis that non-performing loan has a significant effect on bank performance. Moreover, the result indicates that increase in non-performing loan ratio reduces the profitability (earning per share) of Nepalese commercial banks.

The coefficient of capital adequacy ratio is negative but statistically insignificant. So, the finding of the study doesn't support the hypothesis that capital adequacy ratio has a significant effect on bank performance.

Cash reserve ratio in the estimated regression model assumes that changes in cash reserve ratio (CRR) have an inverse impact on banks' profitability. Contrary to prior expectation, the result indicates that the coefficient of cash reserve ratio is positive and statistically insignificant. The result of this study reveals that cash reserve ratio doesn't significantly affect the performance of commercial banks in Nepal.

Book value per share has a significant positive association with bank performance. The result of this study indicates that increase in book value per share significantly enhances the performance of commercial banks in Nepal. The coefficient of capital adequacy ratio is insignificant meaning that it cannot explain the variation of a dependent variable (EPS). Likely, the coefficient of cash reserve ratio is also insignificant which indicates that cash reserve ratio has a negligible effect on bank performance in Nepalese context.

2.6 Findings and Discussion

This study is carried out to identify the effects of credit risk on bank performance in Nepalese context. The data of both independent and dependent variables over ten years are obtained from selected bank's annual reports and they are used in this study using Excel Spreadsheet Software. Major findings while analyzing the data are pointed out be

- The higher mean of EPS among two sample banks is of Himalayan Bank Ltd. (HBL) i.e. 44.539. Similarly, HBL also has the higher mean (2.726 percent) of Non-Performing Loan (NPL).

- Both HBL and NIBL have maintained more than minimum Capital Adequacy Ratio (CAR) as specified in NRB Directive i.e. 11.175 and 11.68 percent respectively. However, NIBL has maintained slightly high Capital Adequacy Ratio (CAR).

- On average, Cash Reserve Ratio (CRR) of NIBL is greater than HBL (11.52 against 6.843). However, both banks have maintained cash reserve ratio greater than specified by NRB Directive.

- HBL has higher mean of Book Value per Share (BVPS) than NIBL (219.564 against 181.89).

- The Pearson's Correlation Coefficient result indicates the bank performance (EPS) is positively correlated with non-performing loan ratio (NPLR) and book value per share (BVPS), whereas the bank performance (EPS) is negatively correlated with capital adequacy ratio (CAR). Likely, there is a negative relationship between cash reserve ratio and earnings per share.

- The regression model revealed that Non-performing loan (NPL) has a negative and statistically significant impact on bank performance. Cash Reserve Ratio and Book Value per Share have a positive and statistically significant impact on bank performance. As the regression model, the coefficient of capital adequacy ratio is a negative and statistically insignificant impact on bank performance (EPS).

CHAPTER III
CONCLUSION AND ACTION IMPLICATIONS

3.1 Conclusion

The main purpose of this study is to investigate the impact of credit risk on the performance of Nepalese commercial banks. The data of two commercial banks with 20 observations for the period of 2006 to 2016 have been used for the analysis. The regression model revealed that Non-performing loan (NPL) has a negative and statistically significant impact on bank performance. Cash Reserve Ratio and Book Value per Share have a positive and statistically significant impact on bank performance.

The finding of this study indicates that the sampled commercial banks have poor credit risk management practices. This is evidenced by the insignificant result of Capital Adequacy Ratio. It indicates that capital adequacy ratio couldn't be regarded as the influencing variable for bank performance. As the coefficient of capital adequacy ratio is negative and statistically insignificant, the study rejects that Nepalese commercial banks with higher capital adequacy ratio can advance more loans and absorbs credit losses whenever they crop up and record better performance.

Moreover, the negative coefficient of Non-performing loan ratio confirms the negative effect on bank performance.NPL ratio, in particular, indicates how banks manage their credit risk because it defines the proportion of loan losses amount in relation to total loan amount in relation to the total loan amount. All these evidences support that Nepalese commercial banks have poor credit risk management.

This study has found the significant relationship between bank performance and credit risk indicators. Hence, Nepalese commercial banks have poor credit risk management.

3.2 Action Implications

The study "Effects of credit risk on the financial performance of Nepalese Commercial Bank" was based on the secondary data derived from respective banks (HBL and NIBL) annual report from FY 2006/07 to 2015/16. The secondary data collected includes the proxy of profitability (EPS) and proxies of credit risk i.e. non-performing loan ratio, capital adequacy ratio, cash reserve ratio and book value per share. From the study, it could be taken into consideration that there are effects of credit risk on the bank's performance.

Based on the analysis, interpretation and conclusions, some recommendations are made here. This study was undertaken with two commercial joint venture banks only. A further study should be undertaken to further explore the effects of credit risks by employing more samples and carrying out detail analysis of banks. The study could be more interesting to include more indicators to test the relationship. Meanwhile, it can help researchers to enhance the accuracy of the research model with the most suitable variables.

For banking industry's development, diversified types of banks have built to satisfy the demand of innovation of financial market. This study focus on commercial banks while credit risk also affects development banks performance. Not only credit risk, liquidity risk, market risk, operational risk can also be taken into consideration.

Banks need to place and devise strategies that will not only limit the bank's exposition to credit risk but will develop performance and competitiveness of the banks, and banks should establish a proper credit risk management strategies by conducting sound credit evaluation before granting loans to customers.Based on findings from the data analysis part, the study offers action implications that to improve credit risk management and to have an effective role in achieving profitability. Nepalese commercial bank should take into consideration, the indicators of credit risk i.e. non-performing loan ratio, cash reserve ratio and book value per share that were found to have a statistically significant impact on bank performance

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APPENDICES

Appendices –I

Data of the selected banks for study

Year	Bank	EPS	NPRL (%)	CAR (%)	CRR (%)	BVPS
2006/7	HBL	60.66	3.61	11.13	5.92	264.74
2007/8	HBL	62.74	2.36	12.42	5.13	247.95
2008/9	HBL	61.90	2.16	11.02	6.76	256.52
2009/10	HBL	31.80	3.52	10.72	6.76	226.79
2010/11	HBL	44.66	4.22	10.68	5.75	199.77
2011/12	HBL	39.94	2.09	11.02	8.72	193.00
2012/13	HBL	34.19	2.89	11.55	6.08	192.02
2013/14	HBL	33.10	1.96	11.23	8.72	209.92
2014/15	HBL	33.37	3.22	11.14	8.32	208.81
2015/16	HBL	43.03	1.23	10.84	6.27	196.12
2006/7	NIBL	62.57	2.37	12.17	10.47	234.37
2007/8	NIBL	57.87	1.12	11.28	10.91	223.17
2008/9	NIBL	37.42	0.58	11.24	10.32	162.35
2009/10	NIBL	52.50	0.67	10.55	7.80	190.00
2010/11	NIBL	39.10	0.94	10.91	7.70	171.00
2011/12	NIBL	27.60	3.32	11.10	13.60	161.00
2012/13	NIBL	46.20	1.91	11.49	16.00	169.00
2013/14	NIBL	40.70	1.77	11.27	19.20	166.00
2014/15	NIBL	30.90	1.25	11.90	12.00	155.00
2015/16	NIBL	29.30	0.68	14.92	7.20	187.00

Source: Annual report of selected banks and data were analyzed using excel 2007.

Appendices –II

Descriptive Statistics

	EPS	NPRL (%)	CAR (%)	CRR (%)	BVPS
Mean	44.539	2.726	11.175	6.843	219.564
Standard Error	4.001	0.291	0.160	0.410	8.743
Median	41.485	2.625	11.075	6.515	209.365
Standard Deviation	12.653	0.919	0.507	1.297	27.647
Sample Variance	160.110	0.844	0.257	1.681	764.333
Kurtosis	-1.452	-0.761	4.078	-1.190	-1.263
Skewness	0.637	0.066	1.840	0.554	0.680
Range	30.940	2.990	1.740	3.590	72.720
Minimum	31.800	1.230	10.680	5.130	192.020
Maximum	62.740	4.220	12.420	8.720	264.740
Sum	445.390	27.260	111.750	68.430	2195.640
Count	10.000	10.000	10.000	10.000	10.000

Source: Data are analyzed and extracted from Excel 2007

Appendices –III

Regression Results

Model Summary

Regression Statistics	
Multiple R	0.819143
R Square	0.670995
Adjusted R Square	0.58326
Standard Error	7.819364
Observations	20

ANOVA

	df	SS	MS	F	Significance F
Regression	4	1870.467	467.6169	7.647989	0.001444
Residual	15	917.1369	61.14246		
Total	19	2787.604			

Independent variables: Non-Performing Loan, Capital Adequacy Ratio, Cash Reserve Ratio and Book Value per Share.

Dependent variable: Earning per Share