CREDIT RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NEPAL

A Thesis

By

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Certification of Authorship

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It is certified that thesis entitled **Credit Risk Management and Financial Performance of Commercial Banks in Nepal** submitted by **Puja Laxmi Shrestha** is an original piece of research work carried out by the candidate under my supervision. Literary presentation is satisfactory and the thesis is in a form suitable for publication. Work evinces the capacity of the candidate for critical examination and independent judgement. Candidate has put in at least 60 days after registering the proposal. The thesis is forward for examination.

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APPROVAL SHEET

We, the undersigned, certify that we have carefully read the research project report submitted by **Puja Laxmi Shrestha** and conducted the viva-voce examination of the candidate. We are fully satisfied with the quality and academic standard of the research project report. The candidate has defended his research work very satisfactorily. We therefore recommend that the research project entitled "**Credit Risk Management and Financial Performance of Commercial Banks in Nepal"** be accepted as partial fulfillment of the requirements for the award of the degree of **Master of Business Studies (MBS)** of Tribhuvan University.

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ABBREVIATIONS

CBS	:	Central Bureau of Statistics
CRR	:	Cash Return Ratio
DBL	:	Dubai Bank Limited
EBIL	:	Emirates Bank International Limited
GDP	:	Gross Domestic Product
JVB	:	Joint Venture Bank
MOF	:	Ministry of Finance
NBBL	:	Nepal Bangladesh Bank Limited
NBL	:	Nabil Bank Limited
NG	:	Nepal Government
NPC	:	National Planning Commission
NPL	:	Non-performing Loan
NRB	:	Nepal Rastra Bank
NSBIBL	:	Nepal SBI Bank Limited
PLL	:	Provision for Loan Loss
RAROC	:	Risk Adjusted Return on Capital
ROA	:	Return on Assets
ROE	:	Return on Equity
SCBNL	:	Standard Chartered Bank Nepal Limited
TU	:	Tribhuvan University

ABSTRACT

Credit risk management in Nepalese commercial bank has become more important not only because of the financial crisis that the Nepal is experiencing currently, but also as a crucial concept which determines banks' survival, growth and profitability. This study examines the impact of credit risk management on the profitability of Nepalese commercial banks. The financial statements of four commercial banks from the period of 2010 to 2017 for analysis. The regression, return on equity (ROE) and Return on Asset (ROA) were used as profitability indicator while non-performing loans Ratio and credit risk management on the profitability of Nepalese commercial banks. The financial statements of four commercial banks from the period of 2010 to 2017 for analysis. The regression, return on equity (ROE) and Return on Asset (ROA) were used as profitability indicator while non-performing loans Ratio (NPLR) and Capital Adequacy Ratio (CAR) as credit risk management indicators. The findings indicate a significant positive relationship between non-performing loans and commercial banks' profitability revealing that, there are higher loan losses but banks still earn profit. Higher interest margin charged on loan by banks due to weak credit risk management practices prevent small enterprises from accessing loans. In terms of policy directions, the commercial banks of Nepal have controlled unnecessary expenses areas.

CHAPTER I

INTRODUCTION

1.1 Background of the Study

With globalization and the advent of the knowledge-based economy, borders and boundaries have weekend, resulting in a free flow of information, expertise and, ultimately, economic opportunities. The whole economic landscape has changed; business firms, and indeed nations have had to change the way they do their businesses and run their economies. Competition has grown manifold and this has led to a growing mobility of the world’s business and capital markets. Thus, to sustain in the fierce and intense competitive world, one should be able to maximize their strengths and eradicate the weaknesses with better knowledge of growing opportunities and threats.

Commercial Banks are entrusted with the fund of depositors. These funds are generally used by the banks for their business. The fund belongs to the customers so as a program must exist for management of these funds. The program must be constantly address three basic objectives: liquidity, safety and income. Successful management calls for proper balancing of all these three.

Credit risk management (CRM) in a financial institution starts with the establishment of sound lending principles and an efficient framework for managing the risk. Policies, industry specific standards and guidelines, together with risk concentration limits are designed under the supervision of risk management committee. These policies, standards and procedures also govern how credit risk is measured, monitored, reported and controlled. As market conditions change rapidly, adequacy and effectiveness of internal controls should be reviewed regularly to manage the credit risk effectively. Risk management is defined as the process that bank puts in place to control its financial exposures.

Policies, industry specific standards and guidelines, together with risk concentration limits are designed under the supervision of risk management committee. The profitability ratios used to measure how well a business is functioning in terms of profit. As market conditions change rapidly, adequacy and effectiveness of internal controls should be reviewed regularly to manage the credit risk effectively. Risk management is defined as the process that bank puts in place to control its financial exposures (Chatterjee, 2005).

Risk management is essential for the survival of a bank and this enables the management to allocate resources of the risk units based on a compromise between risk and potential return. The diversity of the business and economic conditions has led to the development of highly sophisticated tools and models to measure the exposure of a financial institution to credit risk. Incase of an individual loan portfolio, the probability of default, loss given default or credit rationing are the most commonly used ones to measure the exposure to credit risk. The invention of various credit scoring models that use observed loan applicants characteristics either to calculate a score representing the applicant‘s probability of default or to sort borrowers into different risk classes bring the ability to address credit risk on a new level (Mekasha, 2011). Good risk management is not only a defensive mechanism but also an offensive weapon for commercial banks and this is heavily dependent on the quality of leadership and governance. Financial institutions are exposed to a variety of risks among them; interest rate risk, foreign exchange risk, political risk, market risk, liquidity risk, operational risk and credit risk (Yusuf, 2003). Banks that are primarily exposed to credit risk, result in the reduction of their profitability.

Some financial institutions have collapsed or experienced financial problems due to inefficient credit risk management systems typified by high levels of insider loans, speculative lending, and high concentration of credit in certain sectors among other issues. The definition given by Basel (1999) who defines it as the potential that debtor of counter party default in satisfying contractually predetermined obligation according to the agreed up on terms. Because failure of trading partner to repay its debt in full can seriously damage the affair of the other partner, credit risk always has been the vicinity of concern throughout the world (Achou and Tengah, 2008). Credit risk management practices and poor credit quality continue to be a dominant cause of bank failures and banking crises worldwide. Again, financial institutions have faced difficulties over the years for a multitude of reasons, the major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank’s counterparties (Diaz, 1994).

Credit is the amount of money lent by the creditors (banks) to the borrower either on the basis of security or without security. Credit and advances is an important item on the asset side of the balance sheet of commercial bank. Bank earns interest on credit and advances which is one of the major sources of income for banks. Bank prepares credit portfolio; otherwise it will not only effect debts but also affect profitability adversely (Varshney and Swaroop, 1994). Credit is regard as the most income generating assets especially in commercial bank. It also regarded as the heart of commercial bank in the sense that, it occupies large volume of transactions. It covers the main part of investment. It is the main factor for creating profit and determining the profitability. It should affect the overall economy. While the commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious financial problems continues to be directly related to credit standards for borrowers, poor portfolio risk management or lack of attention to change in the economic circumstances and competitive climate (NRB, 2014). The credit decision should be based on thorough evaluation of the risk conditions of the lending and the characteristics of the borrower. The profitability of the banking sector has received attention always greatly in recent years. Nowadays there is a vast empirical literature which examined the relationship between credit risk management and bank profitability.

The increase in the credit risk will increase the marginal cost of debt and equity which translates rising costs of funds for the bank. Profitability is the main concern of banks. Profitability ratios serve to measure the success of the bank. The importance of strong credit risk management for building quality loan portfolio is of paramount importance to robust performance of commercial banks as well overall economy of Nepalese commercial banks (Santimero, 1997).

Credit risk management is an important predictor of bank financial performance (Poudel, 2012). Thus success of bank performance depends on effectiveness of credit risk management.

Default risk is one kind of investment risk of non-payment of loan at the fixed future date. In Nepalese context, when interest rate is increased it causes the decreases in economic activities as well as capacity of borrower. Sometimes debtor knowingly does not pay back the loan, and invest the loan in unproductive sector. Such kind of activities occurs continuously, if there is lack of sound credit policy improper credit analysis, lack of information about loan holders and lack of regular supervision. So banks should formulate and implement sound credit policy. Loan approval and disbursement process should be conducted in better way proper credit analysis and regular supervision can control the credit risk (Chatterjee, 2005).

Credit risk involves inability or willingness of a customer or counterparty to meet commitments in relation to lending, trading, hedging, settlement and other financial transaction. “Credit risk is generally made up of transaction risk or default risk and portfolio risk” (Santimero, 1997). The portfolio risk in turn comprises intrinsic and concentration risk. The portfolio risk depends on both external and internal factors. The external factors are the state of economic, wide swings in commodity, equity prices, foreign exchange rate and interest rates, trade restrictions, economic sanctions, government policies etc.

Another variant of credit risk is counter party risk which comes from non performing of a trading partner. The non performance may arise from counter party’s refusal to perform due to an adverse price movement caused by systematic factors or from some other, political or legal constraints that was not anticipated by the principals.

The credit risk is the potential financial loss resulting from the failure of customers to honors fully the terms of loan or contract. On the other hand, the market risk includes balance sheet risk and trading risk such as potential risk to earn and capatal resulting from changes in interest rate liquidity conditions, impact of foreign exchange rate fluctuations etc. Meanwhile operating risk arises from the natural disasters, errors in processing and settlement of transactions safeguarding assets, system failure, fraud and forgery. Therefore, portfolio management helps to minimize or manage the credit risk by spreading over the risk to various portfolios. These methods of managing credit risk is guided by the saying “Do not put all the eggs in a single basket” (Bhandari, 2004).

Credit risk is defined as the possibility that a borrower will fail to meet its obligations accordance with the agreed forms and conditions. Credit risk is not restricted to lenders doing activities only, but includes off balance sheet and inters bank exposures. The goal of credit risk management is to maximize the bank risk adjusted rate of return by maintaining the CRE within acceptable parameters. For most banks, loan is the largest and most oblivious resources of credit. However other sources of credit risk exist throughout the activities of bank including in the banking book and in the trading book and also in both on and off balance sheet. Banks are increasingly facing credit risk or counterpart risk in various financing, foreign exchange transaction and guarantee and the settlement of transactions (Santimero, 1997).

Credit management affects on the company’s profitability and liquidity. So it is one of the crucial decisions for the commercial banks. It is encouraging to explore new sector for credit management but it should also be considered that industrial loan should be given prime importance as the economy largely depends on this sector. Similarly, credit policies are not systematic and no clear cut vision on policy is available on credit aspects. In Nepal it has been found that loan approval and credit decisions are made flexible to favor to personal network also. A new customer finds that credit providing process being very complicated and sometimes the documents submitted for loan sanctioning being fraudulent and for formality purpose only. Therefore in order to know the reality of credit risk management process of commercial banks, I have interested to study on this topic.

1.2 Statement of the Problem

Present banking setup is the result of liberalization of economy, economic requirement and globalization. In 1990s, the development in both quality and quantity is satisfactory. However, subsequent development of commercial banks in quality has not been satisfactory. The joint venture banks are not interested in granting loan to the priority sector. Joint venture banks have concerned their operation only in urban areas. The number of commercial banks and other financial institutions are increasing in recent time. None of commercial banks, in long run can survive without implementing effective lending policy and practices. Commercial banks in Nepal have been facing various challenges and problem. Some of them arising due to the economic condition of the country, some of them arising due to confused policy of government and many of them arising due default of borrowers. After liberalization in economy in banking sector there are various opportunities. In banking sector volume of deposit and loan are increased. Joint venture banks are able to earn high profit. Now due to high competition among the bank interest rate in saving as well as in loan is decreasing trend. Non performing assets have become a large problem to the commercial banks. Due to NRB rules commercial banks have to keep certain percent of profit for provision on bad loan and non performing assets. Due to high provision and economic situation of the country, banks are not able to get high profit. Lending in industries and productive sector is very risky project. Banks are investing in house loan, hire purchasing loan, education loan for safety purpose. Lack of good lending opportunities banks are facing problem of over liquidity. Increasing in deposits in fixed and saving accounts and decreasing trend in lending is one of the serious problems in commercial banks. The liberalization of the Nepalese banking industry in 1986 marked the beginning of intense competition among the commercial banks, which saw banks extend huge amount of credit with the main objective of increasing profitability (Poudel, 2012).

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Similarly, credit policies are not systematic and no clear cut vision on policy is available on credit aspects. In Nepal it has been found that loan approval and credit decisions are made flexible to favor to personal network also. A new customer finds that credit providing process being very complicated and sometimes the documents submitted for loan sanctioning being fraudulent and for formality purpose only. It became the most challenging task for commercial banks; risk associated with credit is clearly point out the following issues which is faced by commercial joint venture banks or other commercial banks. In order to analyze the credit risk management of commercial bank the following research problems are formulated.

i) What is the status of performing and non-performing loan of sampled banks?
ii) What are the indicators of banks' financial performance of sampled banks?
iii) Does the credit risk management effect on banks' financial performance of sampled banks?

1.3 Objectives of the Study

The main objective of the study is to evaluate the credit risk management of commercial banks of Nepal. In order to achieve the basic objective, the following additional objectives have been considered.

i) To analyze the status of performing and non-performing loan of sampled banks;

ii) To identify the indicators of financial performance of sampled commercial banks;

iii) To examine the relationship between credit risk management and financial performance of sampled commercial banks.

1.4 Significance of the Study

Lenders should be very careful when they grant the loans, for that they need to acquire proper information about the borrowers. Successful commercial lender needs good communication skill and clear vision to analyze borrowers planning and ability.

Despite being a very crucial topic of financial management, many previous researches have not been made for this topic. At present the commercial banks are gaining a wide popularity through their efficient management and professional services and playing an important role for the economic growth. This study will provides such information which is useful for shareholder’s management bodies of the bank and outsiders i.e. other financial institutions, potential investors, stock brokers etc.

Research itself is very important because it aims to gain knowledge and to add the new literate in existing field. Thus, the research has its own imperative. Mainly, the study is important for the researcher to fulfill the academic requirement of master degree. On the other, the study is important for commercial banks, researchers, scholars, investors, government and many other parties. At last, it is expected that the study will add a drop of literate in the field of commercial banks and their credit risk management.

Previous studies were unable to present the exact condition of credit risk management in Nepalese banking sector and to examine the relationship between credit risk management and financial performance of commercial banks in Nepal. So, it tries to assess the credit risk management of banking sector and by providing the proper atmosphere for the banking market in our country. Thus, the earlier studies on these issues need to be updated and validated because of the many changes taking place in Nepalese banking sector.

In today's context, it also affects on national economy in some extent because if the bank provides credit to retailer, it will make the customer status. Similarly, it provides cash to trade and industry too. The government will get tax from them and help to increase national economy. It is also the security against depositors. It is supposed from the very beginning that, credit is the wealth maximization derivative. However, other factors can also affect profitability and wealth maximization but the most effective factor is regarded as credit risk. It is the most challenging task because it is the backbone in commercial banking. Thus effective management of credit should seriously be considered.

This study is highly focused towards the better implication of the management tools and tactics for developing the better course of action to generate outstanding performance of the banking sector. This study will try to identify the indicators of credit risk management of commercial banks in Nepal and to examine the relationship between credit risk management and financial performance of commercial banks in Nepal. This is useful for improvement of CBs themselves. Moreover, this study may be important for researchers, scholars, banking sector, students, government and other parties.

1.5 Limitations of the Study

As the study is being carried out in a partial fulfillment of the requirement for the degree; master of business studies, it possesses a number of limitations of its own kind. Some of the basic limitations of the study may be as follows.

1. The study is based on data and information provided by the banks from 2011/12 to 2017/18.
2. The study is covered recent few years' data regarding with credit management.
3. Sample size is small; it may not fully represent Nepal as a whole.
4. The study is largely may be depends upon the published documents such as balance sheet, profit and loss account statements etc.
5. Statistical and financial techniques were used for credit risk management analysis only.
6. The data are based on secondary sources.

1.6 Organization of the Study

This study has been divided into five chapters. They are as follows:

The first chapter includes the background of the study, joint venture banks of Nepal, statement of the problem, objectives, significance and the limitations of the study etc.

The second chapter focuses on review of literature. It contains the review of related studies like review of books, articles and thesis etc.

The third chapter deals with the methodology to be adopted for the study consisting research design, sources of data, population and sample and method of data analysis etc.

The fourth chapter is results which deal with presentation, analysis and interpretation of result and last chapter is concerned with the major findings of the study.

The last chapter is concerned with the conclusion drawn from the findings, discussion and the implication of the study.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Conceptual Review

The relationship between credit risk and commercial banks performance has been the concern of emerging studies both in developed and developing countries. The relationship between credit risk and commercial banks performance has been the concern of various studies that prove that credit risk is among the major factors affecting profitability performance of commercial banks, so the reality of Nepalese commercial banks should be considered on this issue. Weaknesses in the Nepalese banking system became apparent in the late 1990s and were manifest in the relatively controlled and fragmented financial system. Differences in regulations governing banking and non-banking financial intermediaries, lack of autonomy and weak supervisory capacities to carry out the central bank's surveillance role and enforce banking regulations, inappropriate government policies which controlled to an accumulation of non-performing loans, and non- compliance by financial institutions to regulatory requirements of the Banking Act among others posed a challenges to the Nepalese banking system.

Risk Based Pricing

It has been established that risk based pricing required lenders to change the rate that compensate for the riskiness of the loan .The pricing procedure needs to be straight forward and not based solely and historical loan loss experience . In practice loan pricing tends to follow the prime rate plus basis. Because the prime rate is not the lowest rate that a bank charges the credit worthiest customers can negotiate from the prime rate. The discount prime rate is what bank used to attempt to compete with open market instruments such as commercial paper (Santimero, 1997).

Assets Restriction

Bank lenders and other creditors have a claim on the borrower’s assets. As long as the market value of assets exceeds the value of liabilities, creditors are protected because proceeds from sell of assets cover the entire claim alternatively as long as positive net worth exists, business firms are not going to turn over the creditors assets that exceeds the value of claim against them .Thus one way for lenders to protect themselves is try to ensure that the value of assets always exceeds than the value of claims. Restriction amount of debt a borrower takes on and restricting the variability of the value of assets are the basic ways of meeting this objectives. Restricting covenants is long agreement and the strength of the bank's customer relationship are practical ways that lender impose assets restrictions or establish borrowers incentives for compliance.

Monitoring

If lenders have a contractual right to monitor assets value continuously and to seize assets, than loan losses can be minimized either by auditing assets value and seizing assets before short falls exist or by requiring the posted value of collateral asset to equal or exceeds to the promised payment for private loan, which banks have considerable expertise in organization, monitoring without continuous surveillance is costly (Varshney & Swaroop, 1994).

Before providing credit to customer, bank makes analysis of project from various aspects and angles. It will help the bank to see whether project is really suitable to invest or not. For that bank needs to do a project appraisal. The purpose of project appraisal is to achieve the guarantee of reasonable from the project. Project appraisal answers the following questions:

- Is the project technically sound?
- Will the project provide a reasonable return?
- Is the project in line with the overall economic objectives of the country?

Generally, the project appraisal involves the investigation from the following aspects (Gautam, 2003).

- Financial aspects
- Economic aspects
- Management/Organizational aspects
- Legal aspects

2.1.1 Review of NRB Directives Regarding Credit Management

Various rules, regulation, acts and directives are reviewed while preparing the concept of this study. Different types of directives, which are issued for the commercial to manage the credit in the proper way. Obviously, these directives and action towards the commercial banks by NRB are playing the great role for the comparative analysis of credit management of the commercial banks. NRB directives relating to different sectors are as follows (NRB, 2005).

Directives Relating to Interest Rates

According to previous directives, the differences between the interest provided and interest charges (spread rate) should not be more than 5 percent. This differences is calculated on the basis of the weighted interest to the directives of circular issued on 16th July 2002, the requirement to maintain average interest spread at 5 percent has been withdraw from the time being.

Directives Relating to Cash Reserve Ratio (CRR) Requirement

To ensure adequate liquidity in the commercial banks, to meet the depositor's demand for the cash at anytime to inject the confidence in depositors regarding the safety of their deposited funds, commercial banks are required to have maximum CRR. In this regard NRB has directed commercial banks to deposit minimum 7 percent of current and banks are further required to have 3 percent cash of total deposits in their own bank's vault. CRR has been reduced by one percentage point effective beginning of new fiscal year 2014/2015.

Directives to Raise Minimum Capital fund

NRB has directed all the commercial banks under operation and established to operate in national level and having low capital base have been directed to raise their capital fund at a minimum level of Rs. 500 million by the end of the fiscal year 2000/2001. The amount under the leadings of the paid-up capital, general reserve, share premium, non-redeemable preference share and retained earnings included in the core capital fund to be extent of the minimum capital fund of Rs. 500 million. If the commercial banks could not maintain the capital fund of Rs. 500 million till the end of fiscal year 2000/2001, they would not be allowed to declare and distribute dividend and bonus shares. It has further directed all the commercial banks to increase their paid-up capital (not to total capital fund) to Rs. 1000 million in 2009 by increasing paid-up capital at minimum of 10 percent annually.

Directives regarding Investment in Share and Securities by Commercial Banks (directives no. 8 of circular no. 70/05/8, effective 2058.5.7)

Banks should prepare written policy relating to investment in the shares and securities of other organized institutions. Such policies should be implemented only under the approval of the Board of Directors. There should be no restrictions as to invest by the banks in the securities of organized Nepal government and securities issued by NRB. Banks may invest in shares and securities of any one organized institutions not exceeding 10 percent of the paid-up capital of such organized institutions (Parajuli, 2006).

2.2 Review of Related Studies

2.2.1 Review of Articles in the Journal

Thakur (2011) described the credit risk management and stresses that highest liquidity makes financial institution un-bankable by creating unnecessary burden of bearing the cost of capital. Pokharel expresses that most of the financial institutions are lying on uneconomic situation due to in-effectiveness of portfolio management on the other hand and deficiencies of efficient modern management on the other as for the betterment of financial possibility in portfolio project, like health, residential buildings, communication, tea gardening etc.

Thakur further suggested that commercial banks need to make strong strategy urgently with shifting the money from fixed deposit to saving reducing the interest between deposit and interest spread in both sectors. He highlights that fixed deposit has been increasing in the ratio of 0.44 to 0.95 from 1990-1999.

Sharma (2011) explained that it would be definitely un-wishful for Nepal not to let JVB to operate in the country and not to take advantage of additional means of resources mobilization as well as harbingers of new in banking. But it will certainly be unfortunate for the country to let the development of the J.V.B. at the cost of the domestic banks so far one should admit frankly no differential treatment has been made to the domestic and JVB at least from the latter's bargaining.

If the Joint venture bank shows strength and weakness to come forward to share the trails and tribulation of this poor country, both types of bank will collapse and co-exist complementing each other, contributing to the nation's accelerated development. On the contrary if the J.V.B. use their strength against treading to the cumber some path of development along with the domestic banks and government , they will eventually throw out the domestic banks from the more profitable and lucrative urban sectors unless reincarnated by the determination of the government. Mr. Sharma has read a comparative study of two different natures of banks; especially on nature of transaction and expertise in banking network JVB's basically were oriented in urban areas where the local banks are setup and conducted their transaction both in urban and remote areas. Moreover a number of commercial banks are situated in rural rather than urban areas.

Ghimire (2012) highlighted the effect of change or amendment in NRB directives regarding loan classification and loan loss provisioning. "Although the circumstances lending to financial problems or crises in many Nepali bank differ in many respect what is common across most of bank is increased size of non performing assets. To resolve the problem of the loses or likely losses of this nature facing the industry NRB has as the central bank amended several old directives and issued many new circulars in the recent years."

As opined by him, since majority of the loan, most of the commercial banks of the country at present fall under substandard doubtful and even loss categories. Loan loss provisioning now compared to previous arrangement would be dramatically higher. The new classification and provisioning norms are very lent able as they help to strengthen bank financially. He added that we also most remember the old system from 1991 to 2001, which was probably the most volatile decade of the business operation of the country. He has indicated that loan loss provision as a percentage of total credit is 5.2 percent in fiscal year 2001 but in fiscal year 2003, it has jumped to 18.39 percent. It only private banks are considered, it is 2.12 percent in fiscal year 2001 where as it is 30 percent in fiscal year 2003. He has also stated that tightening provisioning requirement on NPA is essential to ensure that banks remain liquid even during economic downturn.

Shrestha (2013) highlighted the different aspect of credit risk management. As per his view as the effective risk management central to good banking, the trade off between risk and return is one of the term. He concludes effective credit risk management allows a bank to reduce risk and potential NP. It also offers the benefits once the banks have understand their risk and their costs, they will be able to determine their most profitable business. Thus price products must be charged according to their risks. Therefore, the bank must have an explicit credit risk strategy and supported by organizational charges, risk measurement techniques and fresh credit process and system. There are five crucial areas that management should focus on: a) Credit sanctioning and monitoring process, b) Approaches to collateral, c) Credit risk arise from new business opportunity, d) Credit exposures relatives to capital or total advantages and e) Concentration on correlated risk factors

A part from these, the bank management should regularly review all assets quality issues including portfolio composition, big borrower exposures and development in credit management policy and process. He is hopeful that the bankers adopt good risk management practices and will be able to reap both strategic and operational benefits.

Thapa (2014) has been expressed his view that the commercial banks including foreign JVB's seen to be doing pretty well in mobilizing deposits. Likewise, loan and advantages of these banks are also increasing but compared to the high credit needs particularly by the newly emerging industries, the banks still seem to lack adequate funds. The banks are increasing their lending to non-traditional along with traditional sectors.

This study also explained that out of all commercial banks operating in the country, Nepal Bank Ltd. and Rastriya Banijaya Bank are operating with nominal profit, the later turning towards negatives from time to time. Because of non-recovery of accrued interest, the margin between interest income and interest expenses is declining. They have heavy burden of personal and administrative overhead. On the other hand, foreign JVBs are functioning in an extremely efficient way. They are making huge profit year after year. Because of their effective persuasion on long recovery, overdue and defaulting loans have been limited resulting in high margins between interest income and interest payment.

Neupane (2014) highlighted some views regarding bad loans of banking sector. As mentioned by him there were various types of risk interest in the credit, one who manages risks, earn profit. He further added that the recent financial crises in banking sector is due to weak accounting procedure, defect in loan classification, lack of transparency, loss control measures etc. Like the other writers he also stated that NPA is the indicator of financial crises and the factors lending to NPA is economic slowdown, recession, bad intention of the borrower, lack of credit cost and reduce profit earning capacity of the bank. The international standard of acceptable non performing loan is 4 percent but there is around 26 percent non performing loan in Nepalese banking sector due to high level of non performing loan of two nationalize bank. The writer suggested internal and external measures for reducing classification of loan and its advances and providing provision for probable loss and external measures comprises of help from Credit Information Bureau (CIB), Appointment of Assets Management Company (AMC), and Debt Recovery Tribunal (DRT).

Thakur (2015) explained the issue of risk management in the banking sector. According to him, risk should be taken as one of the challenges of the banking industry but it is not sufficient to minimize the potential disasters. Banking risk should be managed as a separate part of the management.

Bhattarai (2015), tried to indicate the problem of bank's bad debt and non performing assets. According to him "If a bank can not recover its loan lending, bank's cash flow will be badly affected." Similarly it can be affect the close relationship between depositors.

"Why does loan become defaulter?" this study finds out the causes that make loan default. When the due date is over the loans become default. But why does the due date be over?

Generally increase in interest rate; decreases in economic activities cause decrease in the capacity of debtor and sometimes the debtor is knowingly do not pay back the loan. Other than these reasons in the context of Nepal lack of credit policy, lack of information about the loan holder (three c's capacity, character and capital), unhealthy competition and small market area, causes loan defaults. Default loan increases the resources mobilization cost and reduces the profit earning capacity of the bank. Therefore increases in default loans are the indicator of problematic situation to the bank (Neupane, 2011).

2.2.2 Review of Previous Thesis

Poudel (2012) study on credit risk management and try to explore various parameters pertinent to credit risk management as it affect banks' financial performance. Such parameters covered in the study were; default rate, cost per loan assets and capital adequacy ratio. Financial report of 31 banks were used to analyze for eleven years (2001-2011) comparing the profitability ratio to default rate, cost of per loan assets and capital adequacy ratio which was presented in descriptive, correlation and regression was used to analyze the data. The study revealed that all these parameters have an inverse impact on banks' financial performance; however, the default rate is the most predictor of bank financial performance. The recommendation is to advice banks to design and formulate strategies that will not only minimize the exposure of the banks to credit risk but will enhance profitability.

Bhattarai (2013) analyze the various aspects of NRB directives such as capital adequacy and loan classification and loan provisioning. In her view, the loan classification helps to the banks to monitor the quality of their loan and advances and to take step towards the remedial action in the credit quality of their loan and advances. The study concluded that the new provision of the banks will have its provision amount increasing in coming years and subsequently profitability of the banks will also come down. However, the true picture of the quality of the assets will be painted in the coming year. The study recommended that the banks should be very careful while analyzing the paying capacity of its credit clients. With longer period of past due, the bank will end up increasing its provisions which will keep the bottom line low if the bank is not careful.

Shrestha (2014) found that capital adequacy Ratio of NABIL and Nepal SBI are 13.40 percent and 12.86 percent respectively, which are more than 9 percent. Banks are following the directives but in same cases such like supplementary capital and balance at NRB there is shortfall. The excurses amount of total deposit in balance of NRB there is shortfalls. The banks have categorized the loan amount into four diffident categories as per NRB’s directives. The increasing loan loss- providing amount decreased the profit of the banks. The charge in the single borrower limit has brought down the limits of the fund based and non-fund based loans which have resulted to reduced loan exposure to banks.

The study found that both NABIL and SBI banks has not increased supplementary capital as it has shortfall in comparison with NRB guidelines and to meet the supplementary capital adequacy ratio even though it can be compensated by the excess amount of core capital. Only liquid banks can attract loan core deposit, which helps in reducing interest expenses and give loan to good customer at lower rate, which results in requirement of less provision and high net profit. So banks should increase their primary reserve now to maintain the liquidity risk due to scrap out the secondary reserve. On the basis of findings, NABIL Bank has a shortfall of Rs.140.74

million thus NABIL has to increase its balance at NRB by such amount for better performance even after adding 1 percent excess amount of ash of total deposit.

Primary data has been used in order to get the view of banks on the directives issued by NRB. Question related to NRB directives 1.5 are used to collect for the study and implementation of directive by commercial bank. Secondary data are also used for the analysis this study the general directives issued in 2001 and 2002 are considered for the study. In issued directives of 2001 and 2002 there are 10 directives but only five directives i.e. (1-5) are highlighted and taken in the study.

Kafle (2014) found that the no banks have been following NRB's directives regarding the loan loss provision. He also conclude that the return on assets (ROA) and return on equity (ROE) of the bank deposed upon the NPLs. The high degree of negative correlation between NPL and ROA and the NPL and ROE clearly indicates that there is inverse relation between them. He has recommended that for the smooth operation of the commercial banks, the NPLs should be controlled for this bank should provide necessary training regarding loan management to the manpower's. In order to remove, the NPLs, banks should take enough collateral so that banks can recover its loan amount. For the loan loss provision as per the NRB directive and to reduce the NPL, the bank management should be effective and the NRB's monitoring and regulation is necessary.

Shrestha (2014) found that the majority of the respondents of KBL and MBL banks have favored with the bank's single sector, which is up to 10 percent of total loan. However, the sector wise lending analysis portrays that KBL and MBL have extended up to 19.88 percent and 30.12 percent of loan in a single sector respectively in FY 2005/06. Similarly, the exposure on the single sector of KBL and MBL exceeds 10 percent of total loan in 3 and 5 sectors respectively. The single sector loan to core capital shows that the ratio crossed 100 percent in 2 sectors of both KBL and MBL. In regard to concentration risk, KBL has more risk in manufacturing and others sector where as MBL has more risk on manufacturing and Whole seller and sectors as the single sector credit to core capital ratio in these sectors is more than 100 percent. MBL has very high loan concentration on manufacturing sector of 99.35 percent of the core capital. From the personal interview of the key respondents it was found that both banks have been extending credit in those highly concentrated sectors after getting approval from the board of director. This clarifies that concentration risk is the main source of credit risk for KBL and MBL.

Similarly, lack of systematic and thorough credit processing is also the major source of credit risk in these banks. The problems in credit processing include lack of thorough credit assessment, absence of testing and validation of new lending techniques, subjective decision-making by senior management**,** lack of effective credit review process, failure to monitor borrowers or collateral values, and failure of banks to take sufficient account of business cycle effects etc. Likewise the market-sensitive and Liquidity-sensitive exposures also increase the credit risk of these banks. Similarly, it is found that both banks have their own rating system of the credit client and the sectors. Both banks have ranked 1^{st} to the manufacturing sector where as the Agriculture sector has been ranked the last on the basis of priority. KBL has chosen others sector and real estate business in 2^{nd} and 3^{rd} position respectively, where as the MBL has just opposite preference in these sectors.

In conclusion, the major banking risks included credit risk, market risk (i.e. liquidity risk, interest risk, operation risk etc). Among these risks, credit risk has the major impact on banking (i.e. more than 60 percent). Because of the credit risk, the non performing loan (NPL) of bank will increase. With the increase in NPL, the loan loss provisioning will also increase simultaneously leading to decrease in profit. The decrease in profit results in low dividend to shareholder and bonus to employees.

Khakurel (2014) found that the steady and high volume of loans and advances throughout the years has resulted Nabil's ratio to be the highest. Nabil has deployed the highest proportion of its total deposits in earning activities and this ratio is significantly above the normal ratios. This is the indicative of that in fund mobilizing activities Nabil is significantly better. In that topic he had recommended that in order to become success in competitive banking environment, bank should be able to utilize depositor's money as loans and advances. Since the largest items in bank's asset side is loans and advances, negligence of administering this could be the main cause of a liquidity crisis in the bank and also one of the main reasons of bank failure. Thapa (2015) found that the status of non-performing loan of commercial banks shows that, they are making positive improvement over it. By the end of mid July 2007, the ratio of non-performing loans to total loan and advances declined to 9.65 percent. Total amount of non-performing loan remained to Rs. 22182.9 million in the same year. In the last year the percent and amount of non-performing loan were 14.22 percent and Rs. 26770.42 million respectively. Loans and advances, the major component of assets, constituted the 46.66 percent of total assets in mid July 2006. Similarly, investment and liquid funds, another component of assets, registered the 19.06 percent and 8.98 percent of total assets in the same year. In the preceding year the respective share of loan and advances, investment and liquid funds were 40.44 percent, 19.15 percent and 9.06 percent. In the current year the loan and advances increased by higher rate of 32.05 percent compare to 8.61 percent in the last year. By the end of mid July 2006 the total outstanding amount of loan and advances of commercial bank reached to Rs.228951.9 million. It was Rs. 173383.4 million in mid-July 2005. Liquid funds increased by 14.45 percent and reached to Rs.44089.7 million in mid-July 2008 from Rs. 38842.1 million in mid-July 2007. In the current fiscal year the net profit of the banking system grew by slower rate of 10.20 percent compared to 53.38 percent in the last year. By the end of mid July 2009 the net profit amounted to Rs. 8797.9 million from Rs. 7983.5 in mid July 2008.

Shrestha (2015) found that liquidity Position of sample bank seems quite near or an average. It is obvious that in the present situation of the country, investment potentiality is not favorable so the liquidity in the commercial banks is sufficient. The sample commercial bank has high volume of non - performing assets with respect to the total assets i.e. 0.30. There was a situation of continuously negative profit in Nepal Bank Limited till the FY 2059/60. Therefore, all the indicating factors to represent the profitability are in negative in Nepal Bank Limited. NBL was generating interest income from its credit on average of 7.0 percent. If we take the volume of net profit in NBL, It was 1323 million in the FY 2061/62. Credit and Investment to total deposit ratios of Nepal Bank Limited was 78 percent on an average for the study period. Similarly correlation between deposit and loan and advance was negative correlation in Nepal Bank Limited for the study period. This indicates that trend of deposit utilization in RBB was poor. Nepal Bank Limited was not being able to maintain the preferred provision apart from for pass loan. Similarly NBL was high provision for non - performing loan. As far as directive credit is concern NBL could not provide any kind of figure for directive credits.

Yadav (2015) found that the share of RBB and NBL in the assets and liabilities of the banking sector is around 50 percent. Although international financial experts have been managing these banks, the performance especially for reducing NPA is not satisfactory. The management teams were supposed to bring NPA level to 5 percent level. The NPA total credit ratios of RBB increased from 20.17 percent in FY 1997/98 to 60.15 percent in FY 2004/05. It increased by 5 percent points in FY 2004/05 than the previous year. Like wise, the NPA / total credit ratio of NBL also increased from 27.46 percent to 60.47 percent in FY 2004/05, which shows the rising trend. The net profit trend of NBL and RBB is highly negative in first three fiscal year because more than 60 percent non performing asset. But now, NBL and RBB is earning profit from last two years. Total deposit is not correlated with this two banks' loan and advance. This is very serious matter and the main cause of over liquidity. Situation of deposit mobilization is poor in NBL and RBB. NBL and RBB was not focusing on the quality of loan rather focusing on the volume of loan. Credit related financial indicators in NBL and RBB seem irrelevant in comparison with the specified standard of NRB.

Various acts and regulations are enacted for the financial sector reform but implementation of policies and directives like directed sector credit, sufficient provision for loan loss, volume of NPA is vital because of the increasing trend of NPA in commercial banks.

2.3 Research Gap

Since the above mentioned studies offer limited findings, more extensive testing and adjustment of necessary variables are needed in ordered to be more conclusive about the credit risk management. Previous studies were unable to present the exact condition of credit risk management in Nepalese banking sector Nepal. So, it tries to assess the credit risk management of banking sector and by providing the proper atmosphere for the banking market in our country. The present study is based on seven years data of commercial banks, which tries to achieve its objectives by analyzing secondary source of data. Thus, the earlier studies on these issues need to be updated and validated because of the many changes taking place in Nepalese banking sector. Current study is a supplement to a overcome the weakness and limitation of previous studies so, this study will be fruitful those interested person scholars, students, stakeholders, civil society, businessman and government for academically as well as policy prospective. Therefore this study useful to the concern bank as well as different person: such as shareholders, investors, policymakers, stockbrokers, state of government etc.

CHAPTER - III

METHODOLOGY

3.1. Research Design

This study adopts descriptive and correlational research design. It is descriptive because attempt has been made to describe the financial performance and credit-risk management of sample banks through financial as well as statistical tools. On the other hand, it is correlational research design because relationship between loan loss provision of ROA and ROE has been seen.

3.2 Population and Sample

At the end of December, 2018 there are 28 commercial operating in Nepal (list of commercial banks have been included in annex). So, all the commercial banks operating in Nepal are considered as the population. Thus, here only four commercial banks were taken as sample. Basically purposive sampling was used in this study.

Similarly, financial statements of four commercial banks for seven years research period i.e. FY 2011/12 to FY 2017/18 has been taken as sample for the same purpose.

S.N.	Commercial Banks	Sample	Joint Venture with
1.	Nabil Bank Ltd.	1	National B.L. Bangladesh
2.	Standard Chartered Bank Nepal Ltd.	1	Standard Chartered Bank (ANZ)
3.	Nepal Bangladesh Bank Ltd.	1	IFIC Bank of Bangladesh
4.	Nepal SBI Bank Ltd.	1	State Bank of India
		Sample(n)=4	

Out of 28 commercial banks, some six are foreign joint ventures. Out of them, four foreign joint ventures banks have been chosen on the basis of their establishment year Nabil, Standard Chartered Bank (Nepal), NB Bank and Nepal SBI Bank were all established before 1996. Another basis of selecting the sample enterprises is the major share holding by foreign investors, as these four joint venture banks have a major foreign investment shares, high market price per share and high profit gained in banking sector.

3.3 Sources of Data

To achieve the objectives of the study, secondary data has been used. The secondary data has been collected through various published and unpublished documents of the concerned authorities. The sources of secondary data are unpublished master degree thesis related to this research, Government materials related to this thesis like NRB reports, annual reports of banks and different websites

3.4 Data Collection Techniques

In order to collect the data, annual reports published by banks NRB (Banking and Financial Statistics), economic report and other published statistical data have been used, and to obtain the additional information, informal talks and procedures have been used. Similarly, information may be collected from bulletin, booklets and journals published by related banks and other external sources also have been used.

3.5 Data Analysis Tools

For the achievement of the objectives of the study various financial and statistical tools have been used. The analysis of data is done according to the pattern of available data.

3.5.1 Financial Tools

The financial tools are used to find the financial strength, weakness, opportunity and threats of a firm. In this study, various financial tools have been employed for the sake of analysis. For this study, ratios are categorized into the following major headings.

A. Activity Ratio

Activity ratio or utilization ratio is employed to measure the efficiency of the bank managers for utilize its resources. Hence the ratios are called efficiency ratio, assets utilization ratio or turnover ratio. This ratio indicates the efficiency, sped and rapidly with which assets have been used or converted in to sales. The greater the ratio is the more efficient the utilization of resources. Various ratios are examined under this ratio. Some of them which are useful for this study have been shown below.

1. Credit and Advances to Total Deposit Ratio

Commercial banks utilize the outsider's funds for profit generation purpose. Credit and advances to total deposit ratio shows whether the banks are successful to utilize the outsider's fund for the profit generate purpose on the credit and advances or not. Generally a high ratio reflects higher efficiency outsider funds and vice-versa. The ratio can be calculated by using the following formula.

$$\text{Credit and Advance to Total Deposit Ratio} = \frac{\text{Credit and advances}}{\text{Total deposit}}$$

2. Credit and Advance to Fixed Deposit Ratio

The ratio measures how many times the amount is used in credit and advances in comparison of fixed deposit for the income generating purpose. To calculate this ratio, the following formula should be used.

$$\text{Credit and Advance to Fixed Deposit Ratio} = \frac{\text{Credit and advances}}{\text{Fixed deposit}}$$

3. Credit and Advance to Total Assets Ratio

Credit and advances of any commercial banks represents the major portion in the volume of total assets. High degree of this ratio indicates the good performance of the bank in mobilizing its fund by way of lending function. This ratio can be calculated by using the following formula.

$$\text{Credit and Advance to Total Assets Ratio} = \frac{\text{Credit and advances}}{\text{Total assets}}$$

4. Performing Assets to Total Assets Ratio

It tells the percent of performing assets to total assets. This ratio can be calculated by using the following formula.

$$\text{Performing Assets to Total Assets Ratio} = \frac{\text{Performing assets}}{\text{Total assets}}$$

B. Profitability Ratio

Profitability ratio indicated the degree of the success in achieving desired profit. The following ratios are calculating under the profitability ratio.

1. Return on Total Assets Ratio

Return on total assets explains the contribution of assets to generating net profit. This ratio indicates the efficiency of the assets mobilization. This ratio can be calculated as follows.

$$\text{Return on Total Assets Ratio} = \frac{\text{Net profit after tax}}{\text{Total assets}}$$

2. Return on Equity

This ratio shows how efficiently the banks have utilized shareholder's funds to raise the profit. The higher ratio represents the higher efficiency of the bank in utilizing long term funds of shareholders. It can be calculated as follows.

$$\text{Return on Equity} = \frac{\text{Net profit after tax}}{\text{Shareholder's equity}}$$

3.5.2 Statistical Tools

1. Risk Index

Risk index is based on macro approach to review and appraised the credit management process. It measure the bank risk exposure related to credit based on the financial information. This index is widely used and practiced in the banks for review and appraisal. Risk index can be computed by using following formula.

$$\text{Risk Index} = \frac{\text{E (ROA)} + \text{CAP}}{\text{S.D. (ROA)}}$$

Where,

E (ROA) = Expected return on assets

CAP = Inverse of equity multiplier

S.D. (ROA) = Standard deviation of ROA.

Lower the risk index implies riskier bank where as higher implies safe bank. The resultant figure as per group average, or above or below the average shows that the strength and weakness of the bank's credit and administrative policies and practices.

2. Probability of Book Value Insolvency

Probability of book value insolvency can be expressed as half square of risk index i.e. $0.5(\text{R.I.})^2$. The resulting figure shows the thickness of the book value cushion a bank has available to absorb accounting losses.

$$\text{Probability of Book Value Insolvency} = 0.5(\text{R.I.})^2$$

Where,

R.I. = Risk Index

3. Coefficient of Correlation

It is the simplest of ascertaining the correlation between two variables. It is not influences by the size of the extreme items. Karl Pearson coefficient of correlation is usually denoted by 'r'.

$$R = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{[\{N\sum X^2 - (\sum x)^2\} \{N\sum Y^2 - (\sum Y)^2\}]}}$$

Where,

N = number of observations of X and Y

ΣXY = Sum of the product of the observations in series X and Y

ΣX = Sum of the observation in series X

ΣY = Sum of the observation in series Y

ΣX^2 = Sum of the square of the observation in series X

ΣY^2 = Sum of the square of the observations in series Y

4. Probable Error

Probable error of the correlation coefficient is denoted by P.E. which is the measure of testing the reliability of the calculated value of correlation coefficient. It can be defined as P.E. = $[0.6745(1-r^2)]/\sqrt{N}$. With the help of the P.E. it is possible to determine the reliability of the value of coefficient. Decisions rules for significant tests are:

a) If r< P.E., the value of 'r' is not significant no matter how high the value of 'r' is, i.e. there is no evidence of correlation between the variables.

b) If r> P.E., the value of 'r' is significant

c) If 'r' does not satisfy either of the above two conditions the relation is inconclusive

$$P.E. = \frac{[\ 0.6745\ (1-r^2)]}{\sqrt{N}}$$

5. Regression Analysis

Regression analysis is used as a tool of determining the strength of relationship between two variables. Thus, it is a statistical value of one variable when the value of other variables is known. The unknown variables which have to be predicted are called dependent variable and the known variable is called independent variable. The general form of simple regression line is:

$$Y = a + bx$$

Where,

Y = dependent variable

X = independent variable

a = intercept of y on x

b = slope of the regression line

In this study, simple regression analysis has been used to study that influences of PLL to ROA as well as ROE. Therefore PLL is the dependent variable while ROA and ROE are concerned as independent variables.

6. Test of Hypothesis

Another type to measure the statistical analysis is significance of the slope of the line has been calculated. For this purpose, null hypothesis will be formulates, as the slope of the line is zero. This can be formulated as follows:

$$S_y = \sqrt{\frac{\sum(Y)^2 - a\sum(Y) - b\sum(XY)}{N - 2}}$$

Where,

S_y indicates the standard error of the 'y' value

The S_y value results are again put in calculating the standard error of estimate of the slope of the line. That is;

$$S_b = \frac{Sy}{\sqrt{\sum(X - \sum X/N)^2}}$$

The resultant figure is put in the following formula and compared it with the tabulated value which determine statistically significant of the slope of the line. That is,

$$T_b = \frac{b - 0}{S_b}$$

Where,

T_b indicates the calculated t-value

CHAPTER – IV

RESULTS

This chapter deals with the presentation and analysis of relevant data of the JVBs of Nepal in order to fulfilled the objectives of the study. To obtain best result, the data have been analyzed according to the research methodology as mentioned in third chapter.

4.1 Financial Analysis

4.1.1 Performing and Non-performing Loan Analysis

As per directives issued by NRB loan and advances should be categories into performing loan and non-performing loan. Non-performing loan also must be categories into substandard, doubtful and losses. For these loans provision should be maintained which must be 25, 50 and 100 percent respectively.

Table 4.1

Performing loan

(Rs. in million)

Bank/ Fiscal Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Mean	S.D
SCBNL	5752	6442	8195	9010	10593	13835	13790	9659.57	3254.60
NBL	7664	8262	10802	13096	15725	21598	27774	14988.71	7390.30
NSBIBL	4369	5186	6298	7736	9606	12258	14208	8523	3683.377
NBBL	6948	8603	7794	6869	5523	6465	7624	7118	998.29

Sources: Annual Report of SCBNL, 2011-2018

As per analysis of loan loss provision of SCBNL, its performing loan is increasing trend and non-performing loan is in decreasing trend. So the difference between performing loan and non-performing loan is very high which shows that the bank is maintaining good loan and its credit risk position is also maintained. Performing loan of SCBNL is Rs. 9659.57 million which greater than overall mean Rs. 3372.71 million.

Table 4.2

Non-performing Loan

(Rs. in million)

Bank/ Fiscal Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Mean	S.D
SCBNL	248	252	226	196	197	129	91	191.28	60.68
NBL	450	287	145	183	178	161	225	232.71	106.86
NSBIBL	427	346	441	505	459	488	542	458.28	63.19
NBBL	1013	1042	1833	2927	3646	3005	2458	2274.85	1014.84

Sources: Annual Report of SCBNL, 2011-2018

As per analysis of loan loss provision of NBL, its performing loan is in increasing trend and non-performing loan is in decreasing trend. The difference between performing loan and non-performing loan is very high which indicates that the bank is maintaining good loan position and its credit position is also maintained. Performing loan of NBL is Rs. 14988.71 million which greater than overall mean Rs. 5197.33 million.

Table 4.3

Loan and Loss Provision

(Rs. in million)

Bank/ Fiscal Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Mean	S.D
SCBNL	304	284	278	271	288	245	201	267.28	34.34
NBL	358	359	361	356	357	394	409	370.57	21.62
NSBIBL	327	388	525	615	605	633	685	539.71	134.30
NBBL	714	996	1185	3336	4760	4012	4322	2760.71	1737.69

Sources: Annual Report of SCBNL, 2011-2018

As per analysis of loan and loss provision of NSBIBL, its performing loan is in increasing trend as well as PLL also be increased but non-performing loan is little fluctuated in their respective year. The difference between performing loan and non-performing loan is very high which displays that the bank is maintaining good loan provision and its credit risk position should be maintained. Performing loan of NSBIBL is Rs. 8523 million which greater than overall mean Rs. 3173.66 million.

As per the analysis of loan loss provision of NBBL, its performing loan is in increasing trend but it has little fluctuated. It has started to increase from the fiscal year 2011/12 but slightly down in fiscal year 2016/17. Thereafter it has been increasing trend from the fiscal year 2015/16. Difference between performing loan and non-performing loan is very high indicates that the bank is maintaining good loan position. In fiscal year 2014/15, 2015/16, 2016/17 and 2017/18, the total provision is higher which means that the bank has been suffering from losses in these years. Performing loan of NBBL is Rs. 7118 million which greater than overall mean Rs. 4051.19 million.

4.1.2 Return Analysis

In this study return analysis include return on assets (ROA) and return on equity (ROE).

Table 4.4

Return on Assets Analysis

(In Percentage)

Bank/Fiscal Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Mean	S.D
SCBNL	2.47	2.27	2.46	2.56	2.42	2.46	2.53	2.45	0.09
NBL	2.51	2.71	3.03	2.84	2.84	2.01	2.35	2.61	0.34
NSBIBL	0.65	0.72	0.55	0.90	1.83	1.44	1.02	1.01	0.46
NBBL	0.60	0.21	0.16	-15.35	-14.64	6.35	18.04	-0.66	11.64

Sources: Annual Report of SCBNL, 2011-2018

As per the return analysis, it shows that there is no negative effect of loan loss provision on ROA and ROE. Trend of return on equity and return on assets is stable ROE is slightly fluctuated than ROA but it has not decreased as bank has to maintain the loan loss provision. ROE of SCBNL is 35.37 percent which greater than overall mean 13.63 percent.

As per the return analysis of NBL, it exhibits that there is no negative effect of loan loss provision on return on assets and return on equity. Trend of return on equity and assets are stable. It is slightly high in fiscal year 2015/16 which is good sign for the bank. ROE of SCBNL is 32.68 percent which greater than overall mean 12.72 percent.

Table 4.5

Return on Equity Analysis

(In Percentage)

Bank/Fiscal Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Mean	S.D
SCBNL	41.05	35.96	33.88	37.57	32.70	32.85	33.58	35.37	3.06
NBL	31.66	30.70	31.36	33.87	37.63	30.61	32.94	32.68	2.48
NSBIBL	8.60	8.48	8.27	11.91	21.93	17.53	18.45	13.59	5.63
NBBL	10.38	4.57	3.70	114.97	40.47	-27.20	194.06	48.70	78.30

Sources: Annual Report of SCBNL, 2011-2018

As per the return analysis of NSBIBL exhibits that there is no negative effect of loan loss provision on return on assets and return on equity. Trend of return on assets and return on equity are stable or little fluctuated. It is slightly high in fiscal year 2017/18 which is good sign for the bank. Comparatively, net profit of the bank in the fiscal year 2015/16 is lower than other respective years. ROE of NSBIBL is 13.59 percent which greater than overall mean 6.99 percent.

Table 4.6

Loan Loss Provision Analysis

(In Percentage)

Bank/Fiscal Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Mean	S.D
SCBNL	5.07	4.24	3.30	2.94	2.67	1.75	1.45	3.06	1.28
NBL	4.41	4.20	3.30	2.68	2.24	1.81	1.46	2.87	1.14
NSBIBL	6.82	7.01	7.79	7.46	6.01	4.97	4.64	6.38	1.21
NBBL	8.97	10.33	12.31	34.05	51.91	42.37	42.87	28.97	18.02

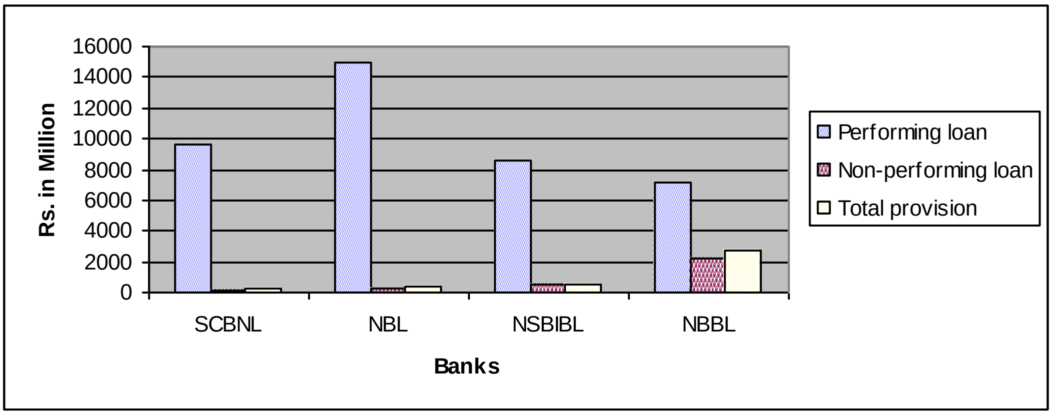
Sources: Annual Report of SCBNL, 2011-2018

The returns analysis of NBBL reveals that the returns on assets are positively decreased in 1st three years whereas in fiscal year 2014/15 and 2015/16, it has been decreased negatively(or deficit) which indicates that the bank has operated due to the losses in these years. But from the fiscal year 2016/17 ROA of the bank has been increased which means that the profit of the bank should be increased. It is positive sign for the bank. Similarly returns on equity of the bank is also decreased in the 1st three years and thereafter it is vastly increased in fiscal year 2014/15. In fiscal year 2016/17, ROE is decreased which is bad sign for the bank. In fiscal year 2017/18, the trend of ROA and ROE of NBBL is very high (i.e. 18.04 and 194.06) under the study period. ROE of NBBL is 48.70 percent which greater than overall mean 25.67 percent.

A few years ago NRB has fully controlled to the NBBL's operational activities but nowadays NRB has been dedicated of the bank's operational activities to the BOD of NBBL Nowadays NBBL has been able to improve their own banking activities and success for getting abnormal profit.

Figure 4.1

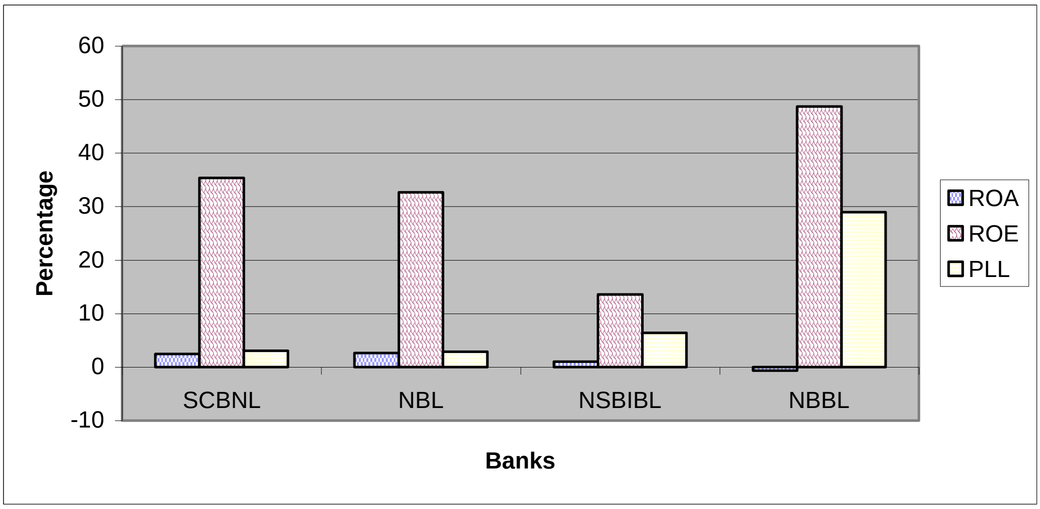
Combined Mean of Loan and Loss Provision of Sample Banks



The combined loan and loss provision of sample banks indicated that performing loan of NBL is higher than other three banks. Whereas non-performing loan of NBBL is higher than other sample banks.

Figure 4.2

Combined Return Analysis of Sample Banks



Regarding the return analysis the combined return on assets of Nabil bank is higher than others three banks. But provision of loan loss of NBBL is higher than other.

4.1.3 Financial Statement Analysis

The concept of financial statement analysis has been already discussed in previous chapter. Here we study and analyze the data by using financial tools.

From the table 4.7 the average ratio of credit and advances to total deposit of SCBNL is 38.34 percent. The fluctuation in the ratio is not too high. The lowest ratio is 30.29 percent and the highest ratio is 46.12 percent in fiscal year 2012/13 and 2016/17 respectively. Standard deviation and coefficient of variation of SCBNL are 5.63 and 14.68 percent respectively. The consistency of the bank is 85.32 percent.

The average ratio of NBL is 66.07 percent. There is medium level of fluctuation of bank's credit and advance to total deposits. Under the study period the lowest ratio is 57.68 percent and the higher ratio is 73.87 percent in fiscal year 2011/12 and 2017/18 respectively. Similarly, the standard deviation and coefficient of variation of NBL are 5.86 and 8.86 percent respectively which is not high. The consistency of the bank is 91.14 percent.

Table 4.7

Analysis of Credit and Advance to Total Deposit Ratio

Fiscal Year	SCBNL.	NBL	NSBIBL.	NBBL
2011/12	30.37	57.68	68.43	68.44
2012/13	30.29	58.01	71.46	67.53
2013/14	42.12	72.57	71.80	67.07
2014/15	38.75	66.80	69.32	49.64
2015/16	42.61	66.60	82.66	46.97
2016/17	46.12	66.94	88.33	50.15
2017/18	38.14	73.87	54.13	67.08
Total	268.4	462.87	506.13	416.88
Average	38.34	66.07	72.30	59.55
S.D.	5.63	5.86	10.14	9.26
C.V.	14.68	8.86	14.02	15.56

Source: Annex 1

The average ratio of credit and advances to total deposit of NSBIBL is 72.30 percent. Fluctuation in the ratio is not high except in fiscal 2017/18. The lowest and the highest ratio are 54.13 and 88.33 percent in fiscal year 2017/18 and 2016/17 respectively. Standard deviation and coefficient of variation of these ratios are 10.14 and 14.02 percent respectively. The consistency of the bank is 85.98 percent.

The average ratio is NBBL is 59.55 percent. Fluctuation of the ratio is high. Under the study period, the lowest ratio and the highest ratio are 46.97 and 68.44 percent in fiscal year 2014/15 and 2011/12 respectively. Standard deviation and coefficient of variation of the ratios are 9.26 and 15.56 percent respectively. The consistency of the bank is 84.44 percent.

Table 4.8

Analysis of Credit and Advances to Fixed Deposit Ratio

Fiscal Year	SCBNL	NBL	NSBIBL	NBBL
2011/12	292.25	344.40	133.73	144.04
2012/13	448.88	354.39	153.46	177.38
2013/14	575.07	509.19	152.08	188.75
2014/15	418.31	374.69	124.71	225.32
2015/16	328.63	286.03	171.47	279.40
2016/17	415.57	252.42	176.72	467.69
2017/18	192.63	331.97	183.75	237.77
Total	2671.34	2453.09	1095.92	1720.35
Average	381.62	350.44	156.56	245.76
S.D.	114.00	75.54	20.47	99.38
C.V.	29.87	21.55	13.08	40.44

Source: Annex 2

From table 4.8, it is clear that the combined average ratio is 61.79 percent. Total deposits are the main sources of the bank to provide credit and advances and 61.795 of total deposit goes as credit and advances to customer. Therefore it seems that the banks are heavily depends on credit and advances to make profit from their investment. Similarly above table shows that as the deposit increases, the credit and advances also increase and vice versa. So, it indicates that there is strong relationship between total deposit and total credit and advances.

The table 4.8 shows that the average ratio of credit and advances to fixed deposit of SCBNL is 381.62 percent. The fluctuation in the ratio is too high. Highest ratio is 575.07 percent in fiscal year 2013/14 and the lowest ratio is 192.63 percent in fiscal year 2017/18. So the standard deviation and the coefficient of variation are 114.00 and 29.87 percent respectively. The consistency of the bank is 70.13 percent.

Similarly, according to this table 4.8 the average ratio of credit and advances to fixed deposit of NBL is 350.44 percent. The fluctuation in the ratio is high which means that the lower ratio to higher ratio is vast difference. So the lowest ratio and the highest ratio are 252.42 in fiscal year 2016/17 and 509.19 in fiscal year 2013/14 respectively. S.D. and C.V. of the bank is 75.54 and 21.55 respectively. Consistency of the bank is 78.45 percent.

The average ratio of NSBIBL is 156.56 percent. The lowest ratio is 124.71 in fiscal year 2014/15 and the highest ratio is 183.75 percent in fiscal year 2017/18 respectively. The S.D. and C.V. of the bank is 99.38 and 40.445 respectively. So the consistency of the bank is 86.92 percent.

The average ratio of NBBL is 245.76 percent. Fluctuations in the ratios are high. The highest ratio and the lowest ratio are 467.69 and 144.04 percent in the fiscal year 2016/17 and 2011/12 respectively. S.D. and C.V. of the bank is 99.38 and 40.44 percent respectively. The bank’s consistency is 59.56 percent. From the table 4.8, it is clear that the combined average ratio of credit and advances to fixed deposit of JVBs are 277.67 percent. As we know that the ratio is measures how many times the amount is used in credit and advances in comparison of fixed deposits for the income generating purpose.

Table 4.9

Analysis of Credit and Advances to Total Assets Ratio

Fiscal Year	SCBNL	NBL	NSBIBL.	NBBL
2011/12	27.24	46.83	59.00	60.81
2012/13	27.11	48.91	60.95	60.66
2013/14	37.38	61.60	60.07	57.62
2014/15	34.68	57.87	58.51	55.17
2015/16	36.73	57.04	68.05	60.77
2016/17	41.15	57.54	70.48	58.12
2017/18	33.70	62.89	48.94	56.04
Total	237.99	392.68	426.00	409.19
Average	34.00	56.10	60.86	58.46
S.D.	4.84	5.61	6.50	2.18
C.V.	14.22	10.00	10.68	3.73

Source: Annex 3

From the table 4.9, it is concluded that the SCBNL has generally steady trends under the study period. The average ratio is 34.00 percent which exhibits that the bank has utilizing the minimum capacity of total assets in the form of credit and advances. The higher ratio in the fiscal year 2016/17 is 41.15 percent and the lowest ratio is 27.11 percent in the fiscal year 2012/13. Fluctuation in the ratio is little which is supported by standard deviation i.e. 4.84 and C.V. i.e.14.22 percent.

NBL is an increasing trend except in 3rd and 4th year of the study period. The ratio in highest in fiscal year 2013/14 i.e. 61.60 percent and lowest in 2011/12 i.e. 46.83 percent. The average ratio as credit and advances to total assets of the bank is 56.10 percent. Standard deviation and coefficient of variation are 5.61 and 10.00 percent respectively which means that the bank has to utilize the capacity for its assets to gain income. Consistency in utilization of assets in the form of credit and advances is satisfactory.

It is clear from the table 4.9 that NSBIBL has generally mixed trend under the study period. It also shows that the ratios are little fluctuated except in the fiscal year 2017/18. So the highest ratio and lowest ratio are 70.48 and 48.94 percent in the fiscal year 2016/17 and 2017/18 respectively. The S.D. and C.V. of these ratios are 6.50 and 10.68 percent respectively, it shows that the bank has uses its assets properly.

NBBL has decreasing trend in the 1st four fiscal year and then after from increase to decrease trend which means that the bank has not able to utilize its total assets properly. The highest ratio in fiscal year 2011/12 i.e. 60.815 and the lowest ratio is in fiscal year 2014/15 i.e. 55.17 percent. The average ratio under the study period is 58.46 percent which shows that the bank has utilized its total assets as credit and advances is little high which can create high difficulty for the bank. Fluctuation in the ratio is medium and the S.D. and C.V. of the ratio are 2.18 and 3.73 percent respectively.

Table 4.10

Analysis of Performing Assets to Total Assets Ratio

Fiscal Year	SCBNL	NBL	NSBIBL.	NBBL
2011/12	27.51	46.27	57.75	58.29
2012/13	27.25	49.34	61.45	60.34
2013/14	37.62	62.85	60.88	55.90
2014/15	34.97	58.65	59.34	58.66
2015/16	37.04	57.70	69.10	76.13
2016/17	41.50	58.16	71.32	68.84
2017/18	33.98	63.31	45.96	63.72
Total	239.87	396.28	425.80	441.88
Average	34.27	56.61	60.83	63.13
S.D.	4.88	5.99	7.67	6.61
C.V.	14.24	10.58	12.61	10.46

Source: Annex 3

The combined average ratio of credit and advances to total assets of JVBs are 54.30 percent. Similarly, standard deviation and the coefficient of variation are 4.51 percent and 8.83 percent respectively. It shows that in an average the joint venture banks have utilized their total assets as credit and advances around 54 percent. It will be the good investment for bank if there is not any default situation emerge. Combined consistency level is around 91.17 percent.

The table 4.10 shows that the performing assets to total assets ratio of NSCBL is little fluctuated. Highest ratio is 41.50 in fiscal year 2016/17 and the lowest ratio is 27.25 in fiscal year 2012/13 respectively. The average ratio is 34.27 percent. Standard deviation and coefficient of variation of the bank are 4.88 and 14.24 percent respectively.

Performing assets to total assets ratio of NBL is mixed trend under the study period. Highest ratio is 63.31 in fiscal year 2017/18 and the lowest ratio is 57.70 in fiscal year 2015/16 respectively. Highest ratio indicates higher efficiency of proper utilization and vice versa. Average ratio, standard deviation and coefficient of variation of the bank are 56.61 percent, 5.99 percent and 10.58 percent respectively.

NSBIBL performing assets to total assets ratio has volatile trend in the study period i.e. 57.75, 61.45, 60.88, 59.34, 69.10, 71.32 and 45.96 percent in their respective year. The average ratio is 60.83 percent. The standard deviation and C.V. of the bank are 7.67 and 12.61 percent respectively.

Performing assets to total assets ratio of NBBL is also in volatile trend i.e. 58.29, 60.34, 55.90, 58.66, 76.13, 68.84 and 63.72 in their respective year. The average ratio is 63.13 percent which indicates that non-performing assets are almost 37 percent. Consistency in the ratio is high as it is almost 90 percent.

The combined average ratio also shows that the performing assets ratio is 54.80 percent only in the seven years research period. All banks should be increase in their performing assets for prosperity of the bank.

Table 4.11

Trend Analysis of Combined Ratios

Particulars/F.Y.	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Trend values of combined credit and advances to total deposit ratio (percent)	0.5939	0.6019	0.6099	0.6179	0.6259	0.6339	0.6419
Trend values of combined credit and advances to fixed deposit ratio (percent)	2.6054	2.6636	2.7218	2.7800	2.8382	2.8964	2.9546
Trend values of combined credit and advances to total assets ratio (percent)	0.5100	0.5209	0.5318	0.5427	0.5536	0.5645	0.5754
Trend values of combined performing assets to total assets ratio (percent)	0.4985	0.5150	0.5315	0.5480	0.5645	0.5810	0.5975

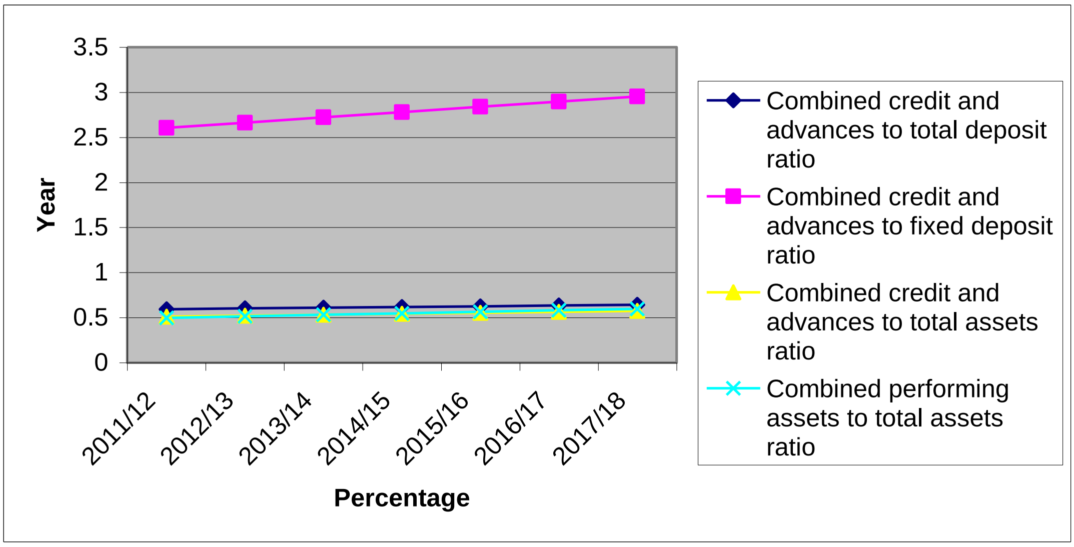
Sources: Annex 5

Table 4.11 shows that the trend values of combined credit and advances to total deposit are increasing every year. The figure also shows that the trend value is 0.5939, 0.6019, 0.6099, 0.6179, 0.6259, 0.6339 and 0.6419 in fiscal year 2011/12, 2012/13, 2013/14, 2015/16, 2016/17 and 2017/18 respectively under the research period. The trend value of combined credit and advances to fixed deposit ratio is in increasing trend i.e. 2.6054, 2.6636, 2.7218, 2.7800, 2.8382, 2.8964 and 2.9546 in the fiscal year 2011/12, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17 and 2017/18 respectively. Similarly the trend value of combined credit and advances to total assets are also being increase in every seven year research period. Likewise the trend value of combined performing assets to total assets is increasing trend under the seven year of research period.

In overall trend value indicates that in the research period of time the amount of credit and advances are increasing faster than total assets and deposits. The credit and advances to fixed deposit ration of SCBNL has higher than other three banks, so SCBNL is best among the four sample banks.

Figure 4.3

Trend Analysis of Combined Ratios



4.2 Statistical Analysis

A. Standard Chartered Bank Nepal Limited

The data related to overall credit risk management is given below. Below the table is presented as shown as financial model i.e. risk index and probability of book value insolvency. Risk index indicates the higher the risk better the performance of the bank. Book value insolvency relates to the thickness of the book value cushion available absorb accounting losses. All the calculations are based on the accounting data of the bank. Risk index and book value insolvency is based on the financial date of the last seven years period starting from the fiscal year 2011/12 up to 2017/18.

Table 4.12

Risk Index and Book Value Insolvency of SCBNL

S. No.	Description	Value
1.	Risk Index	114.87
2.	Probability of Book Value Insolvency (percent)	0.0038

Sources: Annex 6

Table 4.12 indicates the following decisions:

- Bank has the higher risk that shows the higher return.
- Probability of the book value insolvency is less than 1 percent.

The entire figure suggests that the bank's total credit risk management is good and reasonable. Higher risk index attributes of the bank has a higher expected ROA, strong capital position and stable earning on ROE. It current position shows that it has a high level of cushion to absorb accounting losses.

Table 4.13

Correlation Coefficient of SCBNL

S. No.	PLL	Correlation(r)	P.E.	Conclusion	Remarks
1.	ROA	1.4126	0.2564	Insignificant	r > P.E.
2.	ROE	0.7902	0.0958	Significant	r > P.E.

Sources: Annex 7

Table 4.13 shows that the correlation coefficient between loan loss provision of ROA and ROE is positive. However, the result is r > P.E. and considers it as significant.

Table 4.14

Regression Coefficient of SCBNL

S. No.	Independent Variable	Dependent Variable	Beta(b) Coefficient	Constant (a)	t-value	Remarks
1.	PLL	ROA	0.1032	2.7619	4.2122	Significant
2.	PLL	ROE.	1.8940	29.5736	2.9147	Significant

Sources: Annex 7&8

Table 4.14 reveals that the regression coefficient of loan loss provision for ROE is positive and ROA is positive and the value is significant at 5 percent level of significance, which indicates that the association between the independent variable PLL and dependent variable ROA and ROE. So, null hypothesis of no relationship between PLL on ROA and PLL on ROE was accepted.

B. Nabil Bank Limited

The data is related to the overall credit risk management which is given below. The table is shows that the financial model which as below i.e. risk index and probability of book value insolvency. Risk index indicates the higher the risk better the performance of the bank. Similarly, book value insolvency is relates to the thickness of the book value cushion available to absorb accounting losses. All the calculations are based on accounting data of the bank. Risk index and book value insolvency are based on the financial data of last seven years starting from the financial year 2011/12 up to 2017/18.

Table 4.15

Risk Index and Book Value Insolvency of NBL

S. No.	Description	Value
1.	Risk Index	30.18
2.	Probability of Book Value Insolvency (percent)	0.0549

Sources: Annex 6

Table 4.15 indicates the following decisions:

- Bank has the higher risk index that indicates the higher return.
- Probability of the book value insolvency is less than 1 percent.

The entire figure suggests that the bank's total credit management is good and reasonable. Higher risk index attributes of the bank has the higher expected ROA, strong capital position and stable earning on ROE. Its current position shows that it has the high level of cushion to absorb accounting losses.

Table 4.16

Correlation Coefficient of NBL

S. No.	PLL	Correlation(r)	P.E.	Conclusion	Remarks
1.	ROA	0.4050	0.2131	Significant	r > P.E.
2.	ROE	0.4006	0.2140	Insignificant	r > P.E.

Sources: Annex 7

Table 4.16 shows that the correlation coefficient between loan loss provision of ROA and ROE. However, the result is r > P.E. and considers it as significant.

Table 4.17

Regression Coefficient of NBL

S. No.	Independent Variable	Dependent Variable	Beta(b) Coefficient	Constant (a)	t-value	Remarks
1.	PLL	ROA	0.1234	2.2591	0.9992	Significant
2.	PLL	ROE.	0.8736	35.1898	0.1875	Insignificant

Sources: Annex 7&8

Table 4.17 reveals that the regression coefficient of loan loss provision for ROE is positive and ROA is positive but the value is not significant at 5 percent level of significance, which indicates that the very low association between the independent variable PLL and dependent variable ROA and ROE. So, null hypothesis of no relationship between PLL on ROA and PLL on ROE should be accepted.

C. Nepal SBI Bank Limited

The following data's are related to the overall credit risk management is given below. Table below presented shows the financial models i.e. risk index and probability of book value insolvency. Risk index indicates the higher the risk better the performance of the bank. Similarly, book value insolvency is relates to the thickness of the book value cushion available to absorb accounting losses. All the calculations are based on accounting data of the bank. Risk index and book value insolvency are based on the financial data of last seven years starting from the financial year 2011/12 up to 2017/18.

Table 4.18

Risk Index and Book Value Insolvency of NSBIBL

S. No.	Description	Value
1.	Risk Index	15.21
2.	Probability of Book Value Insolvency (percent)	0.2161

Sources: Annex 6

Table 4.18 indicates the following decisions:

- Bank has the moderate risk with moderate return.
- Probability of the book value insolvency is less than 1 percent.

The entire value suggests that the bank's total credit management is good and reasonable. Higher risk index attributes of the bank has the higher expected ROA, strong capital position and stable earning on ROE. Its current position shows that it has the high level of cushion to absorb accounting losses.

Table 4.19

Correlation Coefficient of NSBIBL

S. No.	PLL	Correlation(r)	P.E.	Conclusion	Remarks
1.	ROA	0.2165	0.2430	Insignificant	r < P.E.
2.	ROE	0.4827	0.1955	Significant	r > P.E.

Sources: Annex 7

Table 4.19 exhibits that the correlation coefficient between loan loss provision to ROA and ROE. From the table, we know that the calculation of the table clearly shows that there is low positive correlation between PLL and ROA, whereas positive correlation between PLL and ROE, but the result is r > P.E. for ROE and considers it as significant.

Table 4.20

Regression Coefficient of NSBIBL

S. No.	Independent Variable	Dependent Variable	Beta(b) Coefficient	Constant (a)	t-value	Remarks
1.	PLL	ROA	0.0170	2.5540	0.4971	Insignificant
2.	PLL	ROE	1.2105	27.6403	1.2242	Significant

Sources: Annex 7&8

Table 4.20 reveals that the regression coefficient of loan loss provision for ROE is positive and ROA is negative but the value is not significant at 5 percent level of significance, which indicates that the very low relationship between the independent variable PLL and dependent variable ROA and ROE. Thus, null hypothesis of no relationship between PLL on ROA and PLL on ROE should be accepted.

D. Nepal Bangladesh Bank Limited

The following data's are related to the overall credit risk management is given below. Table below presented shows the financial models i.e. risk index and probability of book value insolvency. Risk index indicates the higher the risk better the performance of the bank. Similarly, book value insolvency is relates to the thickness of the book value cushion available to absorb accounting losses. All the calculations are based on accounting data of the bank. Risk index and book value insolvency are based on the financial data of last seven years starting from the financial year 2011/12 up to 2017/18.

Table 4.21

Risk Index and Book Value Insolvency of NBBL

S. No.	Description	Value
1.	Risk Index	0.765
2.	Probability of Book Value Insolvency (percent)	85.4472

Sources: Annex 6

Table 4.21 indicates the following decisions:

- Bank has the very low risk indicates the lower return
- Probability of the book value insolvency is more than 1 percent.

The entire figure suggests that the bank's total credit management is good and reasonable. Higher risk index attributes of the bank has the higher expected ROA, strong capital position and stable earning on ROE. Its current position shows that it has the high level of cushion to absorb accounting losses.

Table 4.22

Correlation Coefficient of NBBL

S. No.	PLL	Correlation(r)	P.E.	Conclusion	Remarks
1.	ROA	1.1305	0.0709	Significant	r > P.E.
2.	ROE	0.4121	0.2116	Significant	r > P.E.

Sources: Annex 7

Table 4.22 displays the correlation coefficient between loan loss provision to ROA and ROE. From the table, we know that the calculation of the table clearly shows that there is low positive correlation between PLL and ROA whereas positive correlation between PLL and ROE, but the result is r > P.E. and considers it as significant.

Table 4.23

Regression Coefficient of NBBL

S. No.	Independent Variable	Dependent Variable	Beta(b) Coefficient	Constant (a)	T-value	Remarks
1.	PLL.	ROA	0.7300	21.8111	2.4252	Significant
2.	PLL	ROE	1.7899	3.1508	1.0112	Significant

Sources: Annex 7&8

Table 4.23 reveals that the regression coefficient of loan loss provision for ROA and ROE is positive and ROA is negative but the value is not significant at 5 percent level of significance, which indicates that the very low relationship between the independent variable PLL and dependent variable ROA and ROE. Thus, null hypothesis of no relationship between PLL on ROA and PLL on ROE should be accepted.

4.3 Major Findings of the Study

After analyzing the credit risk management of Nepalese commercial banks from both financial and statistical aspects, the major findings of the study are as below.

1) Risk index and probability of the book value insolvency of SCBNL indicates that the bank has higher risk index and its probability of book value insolvency is less than one percent. Banks non-performing loan to net loan for seven years period is 2.37 percent (combined), which is little high but it is in decreasing trend. It is the good sign for the bank.
2) In the case of NBL, it has the lower risk index than SCBNL. Banks non-performing loan to net loan for seven years period is just 2.11 percent (combined) which is very good situation for the bank and also it is in decreasing trend.
3) Nepal SBI Bank Limited data shows that risk index of the bank is moderate or comparatively low and the probability of book value insolvency is less than one percent. Banks non-performing loan to net loan for seven years period is 6.08 percent (combined) which is not too high and at maintaining level and also the non-performing loan to gross loan ratio is in decreasing trend.
4) There is negative correlation between PLL and ROA and positive correlation between PLL and ROE Again by analyzing from statistical aspect, there is insignificant relationship between independent variable P.L.L. and dependent variable ROA and ROE though regression coefficient of PLL is positive for R.O.E. and negative for ROA. Its t-value is not significant at 5 percent level of significance.
5) The data pertaining to NBBL shows that it has very lower risk index than other banks and probability of book value insolvency is much more than one

percent. Banks non-performing loan to net loan for seven years period is 33.94 percent (combined) which is high and an increasing trend which can be generated dangerous situation to the bank.

6) Correlation coefficient regarding PLL with ROA and ROE indicates that there is positive relationship between them but the result is not too sufficient that's why it is considered as insignificant. Regression coefficient of PLL is positive but the value is not significant at 5 percent level of significance.

7) The trend of combined credit ratios of the commercial banks are increasing. With the increase in the ratio of credit, the non-performing assets have also increased it means that performing assets of the commercial banks have increasing regularly.

8) In the term of activity, all the banks are able to satisfy the demand of various depositors, creditors and shareholders as well as government. All the banks are provided modern facilities to its customers and have used modern technology. Therefore they can attract good customers. It can be taken as strength of the commercial banks. In other hand, overdue creditors of all commercial banks have increased. It has damaged the income of bank. Banks have not opened their branches all over the country especially in mid-western and far-western. Because of this, banks are unable to grabs the opportunity from all over the Nepal.

CHAPTER- V

CONCLUSION

5.1 Summary

This chapter is a complete conclusive package, which contains discussion, conclusion and implication. This chapter also highlighted some selected actionable conclusions and recommendation on the basis of the major findings, which are derived from the analysis of four joint venture banks namely Standard Chartered Bank Nepal Limited, Nabil Bank Limited, Nepal SBI Bank Limited and Nepal Bangladesh bank Limited. In this study the joint venture bank's data are collected through secondary sources and different data analysis tools have been used. For the analysis of data, mainly this focuses on loan loss provision, ratio analysis and their relation with the return on assets and return on equity.

The study has been divided into five chapters. The first chapter contains background of the study, statement of the problems, objectives of the study, significance of the study and limitations of the study.

Second chapter is review of literature which included the conceptual review, review of NRB directives regarding credit management, review of related studies like review of journal & articles and review of thesis. At the end of chapter research gap is included.

The methodology part included research design, population and Sample, types and sources of data, data collection techniques, data analysis tools, like financial tools and statistical tools.

Then, it offered analysis of results, which included analysis of financial as well as statistical analysis of secondary data of sample banks. For the detail analysis of sample commercial banks in Nepal, in this study the joint venture bank's data are collected through secondary sources and different data analysis tools have been used. For the analysis of data, mainly this focuses on loan loss provision, ratio analysis and their relation with the return on assets and return on equity. On an average of seven years of research period, credit and advances to total deposit ratio of Standard Chartered Bank Nepal Limited, Nabil Bank Limited, Nepal SBI Bank Limited and Nepal Bangladesh Bank Limited are 38.34, 66.07, 72.30 and 59.55 percent respectively. Likewise SCBNL, NBL, NSBIBL and NBBL have the average ratio of credit and advances to fixed deposit under the seven years research periods are 381.62, 350.44, 156.56 and 245.76 percent respectively. At the same time the average credit and advances to total assets ratio for the seven years research period of SCBNL, NBL, NSBI.BL and NBBL are 34.00, 56.10, 60.86 and 58.46 percent respectively. Similarly, the average performing assets to total assets ratio for the seven years research period of SCBNL, NBL, NSBI.BL and NBBL 34.27, 56.61, 60.83 and 63.13 percent respectively. Also 64.19 percent of total deposits of joint venture banks (as combined) are utilized in credit and advances for the year 2017/18 and combined performing assets to total assets for 2011/12 to 2017/18 are 0.4985, 0.5150, 0.5645, 0.5810 and 0.5975 percent respectively. This indicates that the performing assets are increasing regularly in the seven years research period. As the non- performing credit has been decreases year by year, banks are generating lower credit risk which is good sign for any banks.

Nepal SBI Bank Limited data shows that risk index of the bank is moderate or comparatively low and the probability of book value insolvency is less than one percent. Banks non-performing loan to net loan for seven years period is 6.08 percent (combined) which is not too high and at maintaining level and also the non-performing loan to gross loan ratio is in decreasing trend. The data pertaining to NBBL shows that it has very lower risk index than other banks and probability of book value insolvency is much more than one percent. Banks non-performing loan to net loan for seven years period is 33.94 percent (combined) which is high and an increasing trend which can be generated dangerous situation to the bank. Correlation coefficient regarding PLL with ROA and ROE indicates that there is positive relationship between them but the result is not too sufficient that’s why it is considered as insignificant. Regression coefficient of PLL is positive but the value is not significant at 5 percent level of significance.

5.2. Conclusion

After analyzing the credit portfolio of joint venture banks of Nepal from both financial and statistical aspects we can draw some major conclusion from the study which is as follows.

All the joint venture banks have insufficiently liquidity. It shows that banks have not got proper investment sector to utilize their liquid money. Now, in the context of Nepal, many banks and other financial institutions are functioning to collect deposit and invest money somewhere. Therefore monetaization have been increased since liberalization policy taken by the government. Heavy remittances have also helped to increase the amount of deposits of the banks. On the other hand, due to political instability and crises, economic sectors have been damaged. Most of the projects have been withdrawn due to security problems. Therefore, banks have maximum liquidity due to lack of safety investment sectors.

The entire joint venture banks have utilized most of funds in the form of credit and advances therefore it is the major part of utilizing deposits for income generating purpose. The banks have deposit born can provide many to its customers as credit and advances. For that, banks are attracting deposits to the needy areas to make profit for themselves.

Provisions for credit and losses have been increasing year by year for all joint venture banks. Due to economic condition in the country, credit takes are not getting good return from their investment. Because of this situation, credit customers do not return money of the bank in the stipulated time period. Therefore, due to the risk of default credit has increases. That’s why the bank should increase its provision for credit loss.

Capital Adequacy Framework 2007 (updated 2012) issued for the first time in 2007 Implementation of Basel II initiated after one year of parallel run of Basel I and Basel II (simultaneously) in commercial banks.

There were challenges toward managing risk within the banking system as well as educing the spillover risk from the financial sector to the real economy. To improve the banking sector's ability to absorb shocks arising from financial and economic stress. Basel Committee on Banking Supervision (BCBS) issued "Basel III: A global regulatory framework for more resilient banks and banking systems" in December 2010. Basel III has set its objectives to improve the shock absorbing capacity of each and every individual bank as the first order of defense. In addition to the measures, the efforts were directed to ensure that banking system as a whole does not weaken and its spill over impact on the real economy is minimized.

5.3 Implication

These entire study found that the commercial banks overall management of credit risk is good and reasonable. According to this analysis, the following points are highlighted to put forward for the future improvement of all commercial banks.

1) Cash and bank balance of all commercial banks are high. Unused cash and bank balance do not provide return to the bank. Therefore some percentage of cash and bank should be invested somewhere in profitable sectors. There must be a good investment decision which increases the cooperate value of the firm. It should be carried out by effective identify, organized and manage, discrete and diverse segmenting order to serve particular status of customers more effectively.
2) Good liquidity position is very necessary for commercial banks as it should be enough to meet the depositor's obligations as well as for good investment and for expansion.
3) Bank should avoid extending credit merely based on oral information presented at the credit interview. Historical financial and trade records as well as realistic cash flow projections should be obtained for purpose arrangement of the proposal. Banks also should regularly follow the credit customers to confirm that whether the customers have utilized their credit for the same purpose for the same committed at the time of taking credit from the bank.

4) Bank should be sensitive to adverse movements in external factors such as interest rates, exchange rate and commodity prices as it has direct disruption on cash trends of the bank.

5) Some customers are unsatisfied with the service charges and interest of credit; therefore banks should decrease of their service charges and interest charges. Especially NB Bank should decrease the above charges.

6) Economic liberalization policy adopted by the government of Nepal has created an environment of strict competition even in the banking sectors. In this context, all the commercial banks are suggested to formulate and implement some sound and effective financial and non-financial strategies to minimize their operational expenses to meet required level of profitability. NRB has formulated various kinds of rules, regulation and directives. Every bank must follow these rules, regulation and directives and central bank must examine timely whether the banks follow these rules.

7) In this research, joint venture banks were taken for the study. Joint venture banks definitely have international relation. Therefore, these banks should make negotiation with the international banks to increase its transactions in the internal area.

8) Every bank is operated on city areas of the country. They have not reached in rural areas for providing banking services. So, the banks should be reached in these rural areas and to collect their deposits as well as to follow the loans for developing these areas.

REFERENCES

Achou, T. F. and Tenguh, N.C. (2008). *Bank performance and credit management*. http://his.diva-portal.org/suresh/get/diva2.2459/fulltext01.pdf.

Nabil Bank Limited (2011-2018).

Nepal Bangladesh Bank Limited (2011-2018).

Nepal SBI Bank Limited (2011-2018).

Standard Chartered Bank Nepal Limited (2011-2018).

Bhandari, D. P. (2004). *Rastriya banijya bank pratiyogita digdarshan*. Kathmandu: Makalu Prakashan.

Bhattarai, L. P. (2015). *Implementation of directives issued by Nepal Rastra Bank: A comparative study of Nepal SBI Bank Ltd. and Nepal Bangladesh Ltd.*, Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Bhattarai, M. (2013). *Restructuring process of commercial bank and responsibility of restructuring team*. Nepal Rastra Bank Samachar- 3(47), 22-25.

Chatterjee, D. P. (2005). *Risk management, Indian institute of banking and finance*. New Delhi: Macmillan India Ltd.

Diaz, G. F. (1994). The origin of Mexico's 1994 Financial Crisis. *The Cato Journal*,17(3), 45-48

Francis, J. C. (2002). *Investment analysis and management*. New York: MC Graw-Hill Inc.

Gautam, G. B. (2003). *Credit disbursement and repayment of ADBN*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Ghimire, B. R. (2012). Credit sector reform and NRB. *New Business Age*, 47-49

Kafle, R. P. (2014). *Non-performing loans of Nepalese commercial banks*, Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Khakurel, K. (2014). *A study in investment policy of Nepal Arab Bank Ltd in comparison to Nepal SBI Bank Limited*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Mekasha, G. (2011). Credit Risk Management and its Impact on performance of Ethopian Commercial Bank. *Addis Ababa University Research Paper*,10-13

Neupane, H. M. (2014). *Nepal Rastra bank samachar*. Kathmandu: Nepal Rastra Bank, 46th Anniversary.

NRB, (2005). *Unified directives for banking and financial institution*. Kathmandu: Nepal Rastra Bank.

NRB, (2014). Banking and financial statistics. *A Journal of Banking Operation Department*, Kathmandu: Nepal Rastra Bank.

NRB, (2015). *Banking and finance strategies*. Nepal Rastra Bank. 2(56), 6-8,

Pandey, B. (2008). *Nepal Rastra Bank- directives their implementation and impact on the commercial banks- A case study of Himalayan Bank Limited*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Parajuli, R. (2006). *Credit management of commercial banks in Nepal*, Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Pokharel, C. P. (2009). *Financial sector reforms and new challenges*. Rastriya Banijya Bank Pratiyogita Digdarshan, Kathmandu: Makalu Prakashan.

Poudel, R. S. (2012). The impact of credit risk management on financial performance of commercial banks in Nepal, *International Journal of Arts and Commerce*. 1(5),12-16.

Pradhan, M. L. (2011). *Importance of credit information bureau and its activities,* Kathmandu: Nepal Rastra Bank Samachar- 2(47), 17-19.

Roger, W. F. Jr. (2003). Capital standards for banks: The evolving Basel Accord, *Federal Reserve Bulletin*, 89(9), 395-405.

Santimero, A. (1997). *Commercial bank risk management: an analysis of process,* Pennsylvania: University of Pennsylvania.

Sharma, M. R. (2011). *Joint venture banks in Nepal co-existing or crowing out*. Kathmandu: The Nepalese Journal of Public Administration.

Sharma, R. P. (2004). *The priority sector investment of commercial banks in Nepal*, Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Shekher, K., & Shekher, A. (1994). *Banking theory and practices*, New Delhi: Vikash Publishing House.

Shrestha, B. (2014). *Comparative analysis of non-performing assets of Nepalese commercial banks*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Shrestha, N. (2013). *A Study on non-performing assets and loan loss provision of commercial bank with references to NBL/NABIL/SCBNL,* Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Shrestha, P. (2015). *SWOT analysis of Nepal Bank Limited*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Shrestha, S. (2011). *Nepal Rastara Bank guidelines on investment policy of commercial banks in Nepal (A case study of Nepal Investment Bank Limited*).

Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Shrestha, S. (2014). *Impact and implementation of NRB guidelines directives on commercial banks: A study of Nabil Bank Limited and Nepal SBI Bank Limited*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Shrestha, U. (2012). *Investment practices of joint venture banks in Nepal*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Thakur, A. K. (2015). *Risk management of commercial bank and financial institution*. Kathmandu: Nepal Rastra Bank Samachar- 2(47), 23-28.

Thapa, S. (2015). *A study of non-performance assets of Nepalese commercial banks in Nepal*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Van-Horne, J. C. (1999). *Financial management and policy*. New Delhi: Prentice Hall of India.

Varshney, N. P., & Swaroop, G. (1994). *Banking law and practices*. New Delhi: Prentice Hall of India.

Wolff, H. K., & Pant, P. R. (2005). *Social research and thesis writing*. Kathmandu: Buddha Academic Enterprises.

Yadav, U. (2015). *A Study on non-performing assets- with special reference to Nepal Bank Limited and Rastriya Banijya Bank Limited*. Unpublished Master Level Thesis, Faculty of Management Tribhuvan University, Kathmandu.

Yusuf, K. A. (2003). A framework for credit risk management, *Harvard Business Review*. 2 (48), 48-51

CREDIT RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NEPAL

A Thesis Proposal

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1. Introduction

1.1 Background of the Study

With globalization and the advent of the knowledge-based economy, borders and boundaries have weekend, resulting in a free flow of information, expertise and, ultimately, economic opportunities. The whole economic landscape has changed; business firms, and indeed nations have had to change the way they do their businesses and run their economies. Competition has grown manifold and this has led to a growing mobility of the world's business and capital markets. Thus, to sustain in the fierce and intense competitive world, one should be able to maximize their strengths and eradicate the weaknesses with better knowledge of growing opportunities and threats.

Commercial Banks are entrusted with the fund of depositors. These funds are generally used by the banks for their business. The fund belongs to the customers so as a program must exist for management of these funds. The program must be constantly address three basic objectives: liquidity, safety and income. Successful management calls for proper balancing of all these three.

Credit risk management (CRM) in a financial institution starts with the establishment of sound lending principles and an efficient framework for managing the risk. Policies, industry specific standards and guidelines, together with risk concentration limits are designed under the supervision of risk management committee. These policies, standards and procedures also govern how credit risk is measured, monitored, reported and controlled. As market conditions change rapidly, adequacy and effectiveness of internal controls should be reviewed regularly to manage the credit risk effectively. Risk management is defined as the process that bank puts in place to control its financial exposures.

The diversity of the business and economic conditions has led to the development of highly sophisticated tools and models to measure the exposure of a financial institution to credit risk. Incase of an individual loan portfolio, the probability of default, loss given default or credit rationing are the most commonly used ones to measure the exposure to credit risk. The invention of various credit scoring models that use observed loan applicants characteristics either to calculate a score representing the applicant‘s probability of default or to sort borrowers into different risk classes bring the ability to address credit risk on a new level (Mekasha, 2011).

Some financial institutions have collapsed or experienced financial problems due to inefficient credit risk management systems typified by high levels of insider loans, speculative lending, and high concentration of credit in certain sectors among other issues. Credit risk management practices and poor credit quality continue to be a dominant cause of bank failures and banking crises worldwide. Again, financial institutions have faced difficulties over the years for a multitude of reasons, the major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties (Diaz, 1994).

Credit is the amount of money lent by the creditors (banks) to the borrower either on the basis of security or without security. Credit and advances is an important item on the asset side of the balance sheet of commercial bank. Bank earns interest on credit and advances which is one of the major sources of income for banks. Bank prepares credit portfolio; otherwise it will not only effect debts but also affect profitability adversely (Varshney and Swaroop, 1994). Credit is regard as the most income generating assets especially in commercial bank. It also regarded as the heart of commercial bank in the sense that, it occupies large volume of transactions. It covers the main part of investment. It is the main factor for creating profit and determining the profitability. It should affect the overall economy. While the commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious financial problems continues to be directly related to credit standards for borrowers, poor portfolio risk management or lack of attention to change in the economic circumstances and competitive climate (NRB, 2014). The credit decision should be based on thorough evaluation of the risk conditions of the lending and the characteristics of the borrower.

Credit in finance is a term used to denote transaction involving the transfer of money on other property on promise of repayment, usually at a fixed future date. “In economics, the term credit refers to a promise by one party to pay another for money borrowed or goods or services received. It is a medium of exchange to receive money or goods on demand at some future date” (Francis, 2002).

Default risk is the portion of an investment’s total risk that results from changes in the financial integrity of the investment. For example, when a company that issue securities moves either from away from bankruptcy or closer to it, these changes in the firm’s financial integrity will be reflected in the market price of its securities. The variability of return that investor experience as a result of changes in the creditworthiness of a firm in which they invested is their default risk (Francis, 2002).

Default risk is one kind of investment risk of non-payment of loan at the fixed future date. In Nepalese context, when interest rate is increased it causes the decreases in economic activities as well as capacity of borrower. Sometimes debtor knowingly does not pay back the loan, and invest the loan in unproductive sector. Such kind of activities occurs continuously, if there is lack of sound credit policy improper credit analysis, lack of information about loan holders and lack of regular supervision. So banks should formulate and implement sound credit policy. Loan approval and disbursement process should be conducted in better way proper credit analysis and regular supervision can control the credit risk (Chatterjee, 2005).

Credit risk involves inability or willingness of a customer or counterparty to meet commitments in relation to lending, trading, hedging, settlement and other financial transaction. “Credit risk is generally made up of transaction risk or default risk and portfolio risk” (Santimero, 1997). The portfolio risk in turn comprises intrinsic and concentration risk. The portfolio risk depends on both external and internal factors. The external factors are the state of economic, wide swings in commodity, equity prices, foreign exchange rate and interest rates, trade restrictions, economic sanctions, government policies etc. The internal factors are deficiencies in loan policies/administration, absence of prudential credit concentration limits, inadequately defined lending limit for loan officers/credit committees, deficiencies in appraisal of borrower's financial position, excessive dependence on collateral and past inadequate risk pricing absence of loan review mechanism and post sanction surveillance etc. Another variant of credit risk is counter party risk which comes from non performing of a trading partner. The non performance may arise from counter party's refusal to perform due to an adverse price movement caused by systematic factors or from some other, political or legal constraints that was not anticipated by the principals.

Credit risk is defined as the possibility that a borrower will fail to meet its obligations accordance with the agreed forms and conditions. Credit risk is not restricted to lenders doing activities only, but includes off balance sheet and inters bank exposures. The goal of credit risk management is to maximize the bank risk adjusted rate of return by maintaining the C.R.E. within acceptable parameters. For most banks, loan is the largest and most oblivious resources of credit. However other sources of credit risk exist throughout the activities of bank including in the banking book and in the trading book and also in both on and off balance sheet. Banks are increasingly facing credit risk or counterpart risk in various financing, foreign exchange transaction and guarantee and the settlement of transactions (Santimero, 1997).

In today's context, it also affects on national economy in some extent because if the bank provides credit to retailer, it will make the customer status. Similarly, it provides cash to trade and industry too. The government will get tax from them and help to increase national economy. It is also the security against depositors. It is supposed from the very beginning that, credit is the wealth maximization derivative. However, other factors can also affect profitability and wealth maximization but the most effective factor is regarded as credit risk. It is the most challenging task because it is the backbone in commercial banking. Thus effective management of credit should seriously be considered. Credit extended to borrowers may be at the risk of default such that whereas banks extend credit on the understanding that borrowers well repay their loans, some borrowers usually default and as a result, banks income decrease due to the need to provision for the loans. Where commercial banks do not have an indication of what proportion f their borrowers will default, earnings well vary thus exposing the banks to an additional risk of variability of their profits.

1.2 Statement of the Problem

Weaknesses in the Nepalese banking system became apparent in the late 1990s and were manifest in the relatively controlled and fragmented financial system. Differences in regulations governing banking and non-banking financial intermediaries, lack of autonomy and weak supervisory capacities to carry out the central bank's surveillance role and enforce banking regulations, inappropriate government policies which controlled to an accumulation of non-performing loans, and non- compliance by financial institutions to regulatory requirements of the Banking Act among others posed a challenges to the Nepalese banking system.

Present banking setup is the result of liberalization of economy, economic requirement and globalization. In 1990s, the development in both quality and quantity is satisfactory. However, subsequent development of commercial banks in quality has not been satisfactory. The joint venture banks are not interested in granting loan to the priority sector. Joint venture banks have concerned their operation only in urban areas. The number of commercial banks and other financial institutions are increasing in recent time. None of commercial banks, in long run can survive without implementing effective lending policy and practices. Commercial banks in Nepal have been facing various challenges and problem. Some of them arising due to the economic condition of the country, some of them arising due to confused policy of government and many of them arising due default of borrowers. After liberalization in economy in banking sector there are various opportunities. In banking sector volume of deposit and loan are increased. Joint venture banks are able to earn high profit. Now due to high competition among the bank interest rate in saving as well as in loan is decreasing trend. Non performing assets have become a large problem to the commercial banks. Due to NRB rules commercial banks have to keep certain percent of profit for provision on bad loan and non performing assets. Due to high provision and economic situation of the country, banks are not able to get high profit. Lending in industries and productive sector is very risky project. Banks are investing in house loan, hire purchasing loan, education loan for safety purpose. Lack of good lending opportunities banks are facing problem of over liquidity. Increasing in deposits in fixed and saving accounts and decreasing trend in lending is one of the serious problems in commercial banks. The liberalization of the Nepalese banking industry in 1986 marked the beginning of intense competition among the commercial banks, which saw banks extend huge amount of credit with the main objective of increasing profitability.

Credit management effects on the company's profitability and liquidity. So it is one of the crucial decisions for the commercial banks. It is encouraging to explore new sector for credit management but it should also be considered that industrial loan should be given prime importance as the economy largely depends on this sector. Similarly, credit policies are not systematic and no clear cut vision on policy is available on credit aspects. In Nepal it has been found that loan approval and credit decisions are made flexible to favor to personal network also. A new customer finds that credit providing process being very complicated and sometimes the documents submitted for loan sanctioning being fraudulent and for formality purpose only.

Recently, NRB issued directives to commercial banks to increase their paid up capital up to 8 billion after 2017 A.D. It became the most challenging task for commercial banks; risk associated with credit is clearly point out the following issues which is faced by Joint Venture Banks or other commercial banks. In order to analyze the credit risk management of commercial bank the following research problems are formulated.

i) What are the indicators of the credit risk management?
ii) What are the indicators of banks' financial performance?
iii) Does the credit risk management effect on banks' financial performance?

1.3

1.4 Objectives of the Study

The main objective of the study is to evaluate the credit risk management of commercial banks of Nepal. In order to achieve the basic objective, the following additional objectives have been considered.

i) To identify the indicators of credit risk management of commercial banks in Nepal;

ii) To identify the indicator of financial performance of commercial banks in Nepal ;

iii) To examine the relationship between credit risk management and financial performance of commercial banks in Nepal.

1.4 Significance of the Study

Risk is inevitable factors of any types of business organization. So the business of banking is to measuring, managing and accepting risk. We know that default risk is a major factor facing by any banking industry. It is the uncertainty associated with the borrower's loan payment. Lenders should be very careful when they grant the loans, for that they need to acquire proper information about the borrowers. Successful commercial lender needs good communication skill and clear vision to analyze borrowers planning and ability. Despite being a very crucial topic of financial management, many researches have not been made for this topic. At present the joint venture banks are gaining a wide popularity through their efficient management and professional services and playing an important role for the economic growth. This study will provides such information which is useful for shareholder's management bodies of the bank and outsiders i.e. other financial institutions, potential investors, stock brokers etc.

1.5 Limitations of the Study

As the study is being carried out in a partial fulfillment of the requirement for the degree; master of business studies, it possesses a number of limitations of its own kind. Some of the basic limitations of the study may be as follows.

1. The study is based on data and information provided by the banks from 2011/12 to 2017/18.
2. The study is covered recent few years' data regarding with credit management.
3. Sample size is small; it may not fully represent Nepal as a whole.
4. The study is largely may be depends upon the published documents such as balance sheet, profit and loss account statements etc.
5. Statistical and financial technique will be used for credit risk management analysis only.
6. The data are based on secondary sources.

1.6 Literature Review

1.6.1 Credit Risk Management Techniques

As the majority of the bank assets are in the form of loan, as the lending is function is simple and create the value of the bank. The main danger is the chance of the borrower not to pay the loan amount. So the proper prudent management of the credit risk is very important, Merton and Bodies have suggested three techniques for the management, the credit risk in their article published in the journal of Banking and Finance (Varshney and Swaroop, 1994).

- **Risk Based Pricing**

It has been established that risk based pricing required lenders to change the rate that compensate for the riskiness of the loan .The pricing procedure needs to be straight forward and not based solely and historical loan loss experience . In practice loan pricing tends to follow the prime rate plus basis. Because the prime rate is not the lowest rate that a bank charges the credit worthiest customers can negotiate from the prime rate. The discount prime rate is what bank used to attempt to compete with open market instruments such as commercial paper and corporate bonds.

- **Assets Restriction**

Bank lenders and other creditors have a claim on the borrower's assets. As long as the market value of assets exceeds the value of liabilities, creditors are protected because proceeds from sell of assets cover the entire claim alternatively as long as positive net worth exists, business firms are not going to turn over the creditors assets that exceeds the value of claim against them .Thus one way for lenders to protect themselves is try to ensure that the value of assets always exceeds than the value of claims. Restriction amount of debt a borrower takes on and restricting the variability of the value of assets are the basic ways of meeting this objectives. Restricting covenants is long agreement and the strength of the bank's customer relationship are practical ways that lender impose assets restrictions or establish borrowers incentives for compliance.

- **Monitoring**

If lenders have a contractual right to monitor assets value continuously and to seize assets, than loan losses can be minimized either by auditing assets value and seizing assets before short falls exist or by requiring the posted value of collateral asset to equal or exceeds to the promised payment for private loan, which banks have considerable expertise in organization, monitoring without continuous surveillance is costly.

Before providing credit to customer, bank makes analysis of project from various aspects and angles. It will help the bank to see whether project is really suitable to invest or not. For that bank needs to do a project appraisal. The purpose of project appraisal is to achieve the guarantee of reasonable from the project. Project appraisal answers the following questions:

- Is the project technically sound?
- Will the project provide a reasonable return?
- Is the project in line with the overall economic objectives of the country?

Generally, the project appraisal involves the investigation from the following aspects (Gautam, 2003).

- Financial aspects
- Economic aspects
- Management/Organizational aspects
- Legal aspects

1.6.2 General Risk Management Framework

Management of risk begins with identification and its quantification. It is only after risks are identified and measured that may decide to accept the risk or to accept the risk at a reduced level by undertaking step to mitigate the risk either fully or partially. In addition pricing of the transaction. Hence management of risks may be sub-divide into following five processes (Chatterjee, 2005).

i. Risk identification
ii. Risk measurement
iii. Risk pricing
iv. Risk monitoring and control
v. Risk mitigation

Further approach to manage risk at transaction level i.e. at branch level where business transaction are undertaken and at aggregate level i.e. the sum of total of all transactions are undertaken at all branches differs.

Risk Identification: All transactions undertaken would have one or more of the major risks i.e. liquidity risk, interest rate risk, credit risk, operational risk, exchange rate risk and others with their manifestation indifferent dimensions. Although all these risks are connected at the transaction level and certain risks such as liquidity risk and interest rate risk can manage at the aggregate or portion level. Credit risk, operational risk and market risk arising from individual transaction, can manage at transaction level on portfolio level.

Risk Measurement: The risk measures seek to capture variations in earnings, market value, losses due to default etc. Arising out of uncertainties associated with various risk elements. Quantitative measures of risks can be classified into three categories (Francis, 2002).

Sensitivity: Sensitivity captures deviation of target unreadable due to unit movement of signal parameters. Only those parameters which derive the value of the target variable and relevant purpose. For e.g. change in market value due to 1 percent change in interest rate would be a sensitivity based measure.

Volatility: It is possible to combine sensitivity of target variable with the instability of underlying parameters. The volatility characterized the stability and instability of any random variables. The computations of historical volatility based on defined time series are given below.

Volatility over a time horizon 'T' = Daily volatility × Square root of 'T'

Downside Potential: Downside only captures possible losses ignoring profit potential. The downside risk has two components potential losses and probability of occurrence. Potential losses may be estimated but difficulty lies in estimating probability hence downside risk measures require prior modeling of the probability distribution of potential losses. Worst case scenario serves to quantity extreme losses but low probability of occurrence downside risk the most comprehensive measure of risk as if integrates sensitivity and volatility with the adverse effect of uncertainty. The value of risk measures downside risk.

Risk Pricing: Bank has to maintain necessary capital at least as per regulatory requirement. The capital required is not without courts and another factor is a probability of associated with all risks. This also needs to be factored into pricing. Therefore banks should be taken into account the following i.e. cost of deployable fund, operating expenses, loss probabilities and capital charge. Proper risk pricing can reduce the uncertainties regarding time value of money.

Risk Monitoring and Control : The key driver in managing a business is seeking enhancement in risk adjusted return on capital (RAROC).Therefore, approach to risk management can not be isolated or in stand alone mode. The approach to risk management centers on facilitating implementation of risk business policies simultaneously in a consistent manner. Modern best practices consist of setting risk limits based on economic measures of risk while ensuring best risk adjusted return. For risk monitoring and control, requires strong management information system/well laid out procedure/comprehensive risk report framework/periodical review and evaluation.

Risk Mitigation: Risk reduction is achieved by adopting strategies that eliminate or reduce the uncertainties associated with risk elements. This is called risk mitigation. In banking sector, it comes across a variety of financial instruments and nos. of techniques that can be used to mitigate risk. For mitigating credit risk, banks have been using traditional techniques such as collateralization by security or land property, real estate property and third party guarantees etc.

Poudel (2012) study on, "*The impact of credit risk management on financial performance of commercial banks in Nepal*" This study try to explore various parameters pertinent to credit risk management as it affect banks' financial performance. Such parameters covered in the study were; default rate, cost per loan assets and capital adequacy ratio. Financial report of 31 banks were used to analyze for eleven years (2001-2011) comparing the profitability ratio to default rate, cost of per loan assets and capital adequacy ratio which was presented in descriptive, correlation and regression was used to analyze the data. The study revealed that all these parameters have an inverse impact on banks' financial performance; however, the default rate is the most predictor of bank financial performance. The recommendation is to advice banks to design and formulate strategies that will not only minimize the exposure of the banks to credit risk but will enhance profitability.

1.7 Research Methodology

1.7.1. Research Design

As the study focuses on evaluation of credit risk management of the banks, the research design is the study is primarily related to the credit risk management of Nepalese joint venture banks. So, the study has adopted the analytical and descriptive research design.

1.7.2 Population and Sample

At the end of April 30, 2018 there are 28 commercial operating in Nepal. So, all the commercial banks operating in Nepal are considered as the population. Thus, here only four commercial banks are taken as sample. Basically purposive sampling will be used in this study.

Similarly, financial statements of four commercial banks for seven years research period i.e. FY 2010/11 to FY 2016/17 will be taken as sample for the same purpose. Out 28 commercial banks, some six are foreign joint ventures. Out of them, four foreign joint ventures banks will be chosen on the basis of their establishment year Nabil, Standard Chartered Bank (Nepal), N.B. Bank and Nepal SBI Bank were all established before 1996. Another basis of selecting the sample enterprises is the major share holding by foreign investors, as these four joint venture banks have a major foreign investment shares.

1.7.3 Types and Sources of Data

To achieve the objectives of the study, secondary data has been used. The secondary data has been collected through various published and unpublished documents of the concerned authorities. The sources of secondary data are as follows.

- Journals, newspaper and magazines
- Unpublished master degree thesis related to this research
- Government materials related to this thesis

- Books related to financial managements
- Different websites

1.7.4 Data Collection Techniques

In order to collect the data, annual reports published by banks NRB, economic report and other published statistical data will be used, and to obtain the additional information, informal talks and procedures will be used. Similarly, information may be collected from bulletin, booklets and journals published from relevant banks and other external sources also have been used.

The secondary data are those which have been already collected by someone and already been passed through the statistical process. Thus, the sources of secondary data will be journals, newspaper, government material related to the study; master degree thesis related to this research, book related to financial management and different related web sides. Hence, data collection procedures consist both the way of data collection procedures.

1.7.5 Data Analysis Tools

For the achievement of the study various financial and statistical tools will be applied. The analysis of data will be done according to the pattern of available data.

1.8 Organization of the Study

This study has been divided into five chapters. They are as follows:

The first chapter includes the back ground of the study, joint venture banks of Nepal, statement of the problem, objectives, significance and the limitations of the study etc.

The second chapter focuses on review of literature. It contains the review of related studies like review of books, articles and thesis etc.

The third chapter deals with the research methodology to be adopted for the study consisting research design, sources of data, population and sample and method of data analysis etc.

The fourth chapter deals with presentation, analysis and interpretation of data and last chapter is concerned with the major findings of the study.

The last chapter is concerned with the summary, conclusion drawn from the findings and the recommendation of the study.

REFERENCES

Chatterjee, D.P. (2005). *Risk management, Indian institute of banking and finance*. New Delhi: Macmillan India Ltd.

Diaz, G. F. (1994). The origin of Mexico's 1994 Financial Crisis. *The Cato Journal* (17) 35-40.

Francis, J.C. (2002). *Investment analysis and management*. New York: MC Graw-Hill Inc.

Mekasha, G. (2011). Credit Risk Management and its Impact on performance of Ethopian Commercial Bank. *Addis Ababa University Research Paper,* Issue 3, 10-13

Poudel, R.S. (2012). The impact of credit risk management on financial performance of commercial banks in Nepal, *International Journal of Arts and Commerce*. 1(5),12-16.

Santimero, A. (1997). *Commercial bank risk management: an analysis of process*. Pennsylvania: University of Pennsylvania.

Sinkey, J. (1998). *Commercial bank and financial management*. New Jersey: Prentice Hall.

Van-Horne, J.C. (1999). *Financial management and policy*. New Delhi: Prentice Hall of India.

Varshney, N. P., & Swaroop, G. (1994). *Banking law and practices*. New Delhi: Prentice Hall of India.

Weston, J. F., & Copeland, T. E. (1998). *Managerial finance*. New Work: The Dryden Press.

Wolff, H. K., & Pant, P. R. (2005). *Social research and thesis writing*. Kathmandu: Buddha Academic Enterprises.