EFFECT OF CREDIT RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF JOINT VENTURE COMMERCIAL BANKS OF NEPAL

(A Comparative study of Nabil Bank Ltd, Standard Chartered Bank Ltd, Nepal Bangladesh Bank Ltd, Nepal SBI Bank Ltd)

A Dissertation submitted to the Office of the Dean, Faculty of Management

in partial fulfilment of the requirements for the Master's Degree

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Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "Effect of credit risk management on financial performance of joint venture commercial banks of Nepal." The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purpose.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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10-02-2021

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APPROVAL-SHEET

We have examined the dissertation entitled effect of credit risk management on financial performance of joint venture commercial banks of Nepal presented by Ms. Jeena Gurung for the degree of Master of Business Studies. We hereby certify that the dissertation is acceptable for the award of degree.

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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
LLP	:	Loan Loss Provision
RAROC	:	Risk Adjusted Return on Capital
ROA	:	Return on Assets
ROE	:	Return on Equity
SCBNL	:	Standard Chartered Bank Nepal Limited
TU	:	Tribhuvan University

Abstract

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. In case 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. 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 &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 affects the overall economy.

CHAPTER 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.

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. In case 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, 2017)

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.

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 (Swaroop & Varshney, 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 (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.

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 of a trading partner. The 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. 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, 2014).

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).

The need to analyze credit risk management on financial performance in joint venture commercial banking sector is particularly vital in developing nation like Nepal. Credit risk management effects on the banks financial performance. 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.

1.2 Problem Statement

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. A common problem among banking institutions is the tendency not to price a credit or overall relationship properly and therefore not to receive adequate compensation for the credit risk management incurred.

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. However despite the efforts made to address the poor credit risk management, commercial banks still have difficulties resulting from the credit risk management processes undertaken and changes in customer base leading to decreasing financial performance. Nepalese population has access to formal financial services, reflecting the high incidence of poverty, high degree of informality and high proportion of the population in rural areas. This suggests that a high percent of the population is regarded as un-bankable by commercial banks.

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).

Credit risk management effects on the company's financial performance. 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. 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 on financial performance of joint venture commercial bank the following research issues are formulated.

i) Does the credit risk management effect on banks' financial performance of sampled joint venture banks?

ii) What are the banks' financial performances of sampled joint venture banks?

iii) What is the status of performing and non-performing loan of sampled joint venture 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 analyse the status of performing and non-performing loan of sampled commercial banks;

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

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

1.4 Hypotheses

The testable hypotheses are formulated in line with research question are subjected to this particular study revolves around the following hypothesis.

$H0_1$= There is no significant relationship between non-performing loan and Financial performance.

$H0_2$= There is no significant relationship between credit risk management and financial performance.

$H0_3$= There is no significant relationship between loan loss provision and ROA/ROE.

1.5 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 previous researches have not been made for this topic. At present the commercial banks are gaining a wide popularity through their efficient management professional services 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. 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 effects 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.

This study is 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 Commercial Bank themselves. Moreover, this study may be important for researchers, scholars, banking sector, students, government and other parties.

1.6 Limitations of the Study

It possesses a number of limitations of its own kind. Some of the basic limitations of the study may be as follows. The study is based on data and information provided by the banks from 2014/15 to 2018/19.The study is covered recent few years’ data regarding with credit management. Sample size is small; it may not fully represent Nepal as a whole. The study is largely may be depends upon the published documents such as balance sheet, profit and loss account statements etc. Statistical and financial techniques were used for credit risk management analysis only. The data are based on secondary sources.

1.7 Organization of the Study

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

Chapter I: It includes the background of the study, joint venture banks of Nepal, statement of the problem, objectives, significance and the limitations of the study etc.

Chapter II: This dissertation focuses on review of literature. It contains the review of related studies like review of books, articles etc.

Chapter III: It 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.

Chapter IV: This is results which deal with presentation, analysis and interpretation of result.

Chapter V: It concerned with the conclusion drawn from the findings, discussion and the implication of the study.

CHAPTER II

LITERATURE REVIEW

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 off 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 (Swaroop & Varshney, 1994).

2.1.1 Review of NRB Directives Regarding Credit Management

Various rules, regulation, acts and directives are reviewed while preparing the concept of this stud. 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 (Nepal Rastra Bank, 2019).

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 any time 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 found

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. It 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.

The researcher 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. The report highlights that fixed deposit has been increasing in the ratio of 0.44 to 0.95 from 1990-1999.

Poudel (2012) explored various parameters pertinent to credit risk management as it affect bank 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 bank 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.

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 nonperforming 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 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. The researcher 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. The study 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. The study 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 tradeoff between risk and return is one of the term. The researcher concluded 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: Credit sanctioning and monitoring process, approaches to collateral, credit risk arise from new business opportunity, credit exposures relatives to capital or total advantages and 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. The researcher was hopeful that the bankers adopt good risk management practices and will be able to reap both strategic and operational benefits.

Thapa (2014) had been expressed 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 Banijya 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 (2015) 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 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 (2016) 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 (2017) indicated the problem of bank's bad debt and non-performing assets. According to him "If a bank cannot recover its loan lending, bank's cash flow will be badly affected". Similarly it is 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, 2015).

2.2.2 Review of Previous Study

Shrestha, Impact and implementation of Nepal Rastra Bank (NRB)'s Guidelines (Directives) on commercial banks, (2003) 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 some cases such like supplementary capital and balance at NRB there is shortfall. The 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 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.

Shrestha, A study of Non performing Loan & loan loss provision of Commercial Bank, (2005) 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 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.

Poudel (2012) studied on credit risk management and explored 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 27 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.

Shrestha (2013) 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 2018/19. 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 1st 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 2nd and 3rd position respectively, whereas 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.

Kafle (2014) found that the no banks have been following NRB's directives regarding the loan loss provision. He also 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 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.

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, A Practice Book of Business Finance (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.

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. Likewise, 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.

Ahmed, Takeda and Shawn (2016) have found that loan loss provision has a significant positive influence on non-performing loans. Therefore, an increase in loan loss provision indicates an increase in credit risk and deterioration in the quality of loans consequently affecting bank performance adversely.

Bhattarai (2017) analyzed 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. 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.

Tegegne (2017) has investigated credit risk management and its impact performance on Ethiopian Commercial Banks. The used 10 years panel data from the selected commercial banks for the study to examine the relationship between ROA and loan provision, non-performing loans and total assets. The study revealed that there is a significant relationship between bank performance and credit risk management.

Ahmad and Ariff (2018) had examined the key determinants of credit risk of commercial banks on emerging economy banking systems compared with the developed economies. The authors found that regulation is important for banking systems that offer multi-products and services; management quality is critical in the cases of loan-dominant banks in emerging economies. An increase in loan loss provision is also considered to be a significant determinant of potential credit risk. The authors further asserted that credit risk in emerging economy banks is higher than that in developed economies.

Table 1

Matrix Table of Previous Study Findings

Study	**Major Findings**
Poudel (2012)	An increase in loan loss provision indicates an increase in credit risk and deterioration in the quality of loans consequently affecting bank performance adversely.
Shrestha (2014)	An increase in loan loss provision is also considered to be a significant determinant of potential credit risk. The authors further asserted that credit risk in emerging economy banks is higher than that in developed economies.
Thapa (2015)	The found that bank capitalization and credit risk have positive and significant impact on banks net interest margin, cost efficiency and profitability.
Shrestha (2015)	It could be inferred from their findings that return on equity (ROE) and return on assets (ROA) both measuring profitability were inversely related to the ratio of non-performing loan to total loan of financial institutions thereby leading to a decline in profitability.
Yadav (2015)	The findings revealed that the bulk of the profits of commercial banks are not influenced by the amount of credit and non-performing loans, therefore suggesting that other variables other than credit and non-performing loans impact on profits.

Ahmed, Takeda and Shawn (2016)	An increase in loan loss provision indicates an increase in credit risk and deterioration in the quality of loans consequently affecting bank performance adversely.
Bhattarai (2017)	The study revealed that there is a significant relationship between bank performance and credit risk management.
Mekasha (2017)	The study revealed that there is a significant relationship between bank performance and credit risk management.
Ahmad and Ariff (2018)	An increase in loan loss provision is also considered to be a significant determinant of potential credit risk. The authors further asserted that credit risk in emerging economy banks is higher than that in developed economies.

2.3 Theoretical Framework

The theoretical framework shows the relationship of independent variables with the dependent variable.

Independent variables Dependent variable

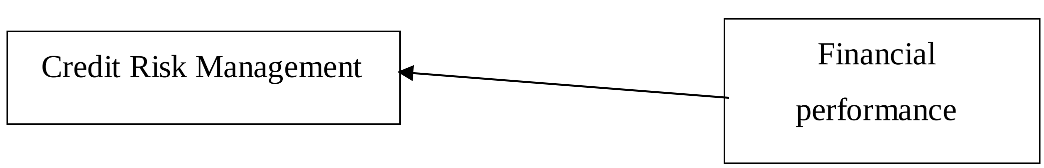

Figure 1Theoretical Framework

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 on financial performance in Nepalese banking sector. So, it tries to assess the credit risk management on financial performance of banking sector and by providing the proper atmosphere for the banking market in our country.

The present study is based on five 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 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

RESEARCH METHODOLOGY

3.1. Research Design

This study adopts descriptive research design and casual comparative research design shall be followed. The study shall be based on the wide range of variables and factors influencing financial decisions of the banks. Comparative data banks shall be presented so as to make the report informative to the reader. Financial and statistical tools shall be used to analyze and interpret the financial information. 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 correlation research design because relationship between loan loss provision of ROA and ROE has been seen.

3.2 Population and Sample

At the end of Dec, 2019 there are 27 commercial bank 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 five years research period i.e. FY 2014/15 to FY 2018/19 has been taken as sample for the same purpose.

Table 2

Sample of joint ventures

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 27 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), Nepal Bangladesh Bank and Nepal SBI Bank were all established before 1996. Another basis of selecting the sample enterprises is the major shareholding 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 Types and Sources of Data

The study based on the secondary data which were gathered for four joint venture commercial banks in Nepal for the period 2014/15 to 2018/19. The secondary data has been collected through various published, unpublished documents and websites of the concerned banks this study has adopted descriptive and casual comparative research design. The sources of secondary data are unpublished master degree dissertation related to this research, Government materials related to this like NRB reports, annual reports of banks and different websites

3.4 Collection of Data

In order to collect the data from annual reports published of the 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.

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.

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

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.

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

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.

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

5. Profitability Ratio

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

i. 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.

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

ii. 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.

$$\text{Return on Equity} = \frac{\text{Net profit after tax}}{\text{Total Equity}}$$

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.

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

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. $0.5(R.I.)^2$. The resulting figure shows the thickness of the book value cushion a bank has available to absorb accounting losses.

Probability of Book Value Insolvency = $0.5(R.I.)^2$

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’.

$$\text{Correlation Coefficient (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{[\{n\sum x^2 - (\sum X)^2\}\{n\sum Y^2 - (\sum Y)^2\}]}}$$

Where,

N = number of observations of X and Y

$\sum XY$ = Sum of the product of the observations in series X and Y. $\sum X$ = Sum of the observation in series X. $\sum Y$ = Sum of the observation in series Y

$\sum X^2$ = Sum of the square of the observation in series X. $\sum Y^2$ = Sum of the square of the observations in series Y

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 LLP to ROA as well as ROE. Therefore LLP is the independent variable while ROA and ROE are concerned as dependent 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:

$$S_y = \sqrt{\frac{\Sigma(Y)^2 - a\Sigma(Y) - b\Sigma(X\,Y)}{N - 2}}$$

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.

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,

$\underline{b - 0}$

Tb =S b

Where,

T_b indicates the calculated t-value

CHAPTER IV

RESULTS AND DISCUSSION

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 3

Performing loan (Rs. in millions)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	2,792.91	5,494.70	3,562.30	2,548.13
2015/16	4,039.69	6,594.09	3,901.67	3,229.69
2016/17	4,747.70	7,684.14	4,747.87	3,717.38
2017/18	4,660.42	6,115.21	6,368.79	4,186.23
2018/19	5,542.39	7,268.94	6,798.10	5,351.46
Total	21,783.11	33,157.07	25,378.73	19,032.89
Mean	4356.62	6631.41	5075.75	3806.58
S.D.	916.18	784.17	1297.30	943.96

Noted from: Annual Report (Appendix I)

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 Mean of SCB is Rs.4356.62 million which greater than overall mean Rs.3974.072 million. *(Table 1)*

Table 5

Non-performing Loan

(Rs. in millions)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	9,477.00	1,256.08	9,123.70	3,425.56
2015/16	7,492.43	1,220.82	7,492.43	2,314.45
2016/17	6,598.18	8,890.35	6,598.18	2,863.32
2017/18	8,526.66	5,149.96	6,419.51	5,382.91
2018/19	8,537.05	4,569.66	6,725.58	9,450.97
Total	40,631.31	21,086.86	36,359.40	23,437.21
Mean	8126.26	4217.37	7271.88	4687.44
S.D.	988.97	2848.83	995.66	2597.14

Noted from Annual Report (Appendix-II)

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.6631.41 million which greater than overall mean Rs.4860.59 million.

Table 6

Loan and Loss Provision

(Rs. in millions)

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	342.51	151.14	434.67	493.03
2015/16	492.70	165.97	492.70	553.13
2016/17	567.45	162.44	633.00	344.66
2017/18	486.04	562.31	814.00	405.10
2018/19	549.60	217.75	873.73	615.74
Total	2,438.29	1,259.62	3,248.10	2,411.66
Mean	487.66	251.92	649.62	482.33
S.D.	79.12	156.88	172.25	97.82

Noted from: Annual Report (Appendix-III)

As per analysis of loan and loss provision of Nepal SBI, its performing loan is in increasing trend as well as LLP 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 Nepal SBI is Rs.5075.75 million which greater than overall mean Rs.374.31 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 2014/15 but slightly down in fiscal year 2016/17. Thereafter it has been increasing trend from the fiscal year 2017/18. Difference between performing loan and non-performing loan is very high indicates that the bank is maintaining good loan position. In fiscal year 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.3806.58 million which greater than overall mean Rs.374.30 million.

4.1.2 Return Analysis

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

Table 7

Return on Assets Analysis

(In Percentage)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	1.99	2.06	1.64	2.06
2015/16	1.98	2.32	1.59	2.57
2016/17	1.84	2.69	1.57	2.11
2017/18	2.61	2.61	1.9	1.86
2018/19	2.61	2.11	2.00	2.08
Total	11.03	11.79	8.70	10.68
Mean	2.21	2.36	1.74	2.14
S.D.	0.33	0.26	0.18	0.23

Noted from Annual Report (Appendix-IV)

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 SCB is 17.80 percent which greater than overall mean 1.688 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 2016/17 which is good sign for the bank. ROE of NBL is 32.68 percent which greater than overall mean 16.71 percent.

Table 8

Return on Equity Analysis

(In Percentage)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	21.69	22.73	22.85	**30.7**
2015/16	17.18	25.61	17.46	39.50
2016/17	11.98	22.41	14.87	25.80
2017/18	18.66	20.94	15.81	17.60
2018/19	19.49	17.76	19.7	15.20
Total	89.00	109.45	90.69	128.80
Mean	17.80	21.89	18.14	25.76
S.D.	3.26	2.56	2.87	8.85

Noted from: Annual Report (Appendix-V)

As per the return analysis of Nepal SBI 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 2018/19 which is good sign for the bank. Comparatively, net profit of the bank in the fiscal year 2016/17 is lower than other respective years. ROE of Nepal SBI is 18.14 percent which greater than overall mean 16.71 percent.

Table 9

Loan Loss Provision Analysis

(In Percentage)

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	3.61	12.03	4.76	14.39
2015/16	6.58	13.60	6.58	23.90
2016/17	8.60	1.83	8.45	12.04
2017/18	5.70	10.92	12.68	7.53
2018/19	6.44	4.77	12.99	6.52
Mean	30.93	43.14	45.46	64.37
S.D.	1.61	4.53	3.27	6.22

Noted from: Annual Report (Appendix-VI)

The returns analysis of NBBL reveals that the returns on assets are positively increase in 1st two years whereas the fiscal year 2016/17 to 2017/18 decreased. 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 increased in the 1st two years and thereafter it is vastly decreased in fiscal year 2016/17 to 2018/19 in fiscal years, ROE is decreased which is bad sign for the bank. In fiscal year 2018/19, the trend of ROA and ROE of NBBL is very low (i.e. 17.60 and 15.20) under the study period. ROE of NBBL is 25.76 percent which greater than overall mean 16.72 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.

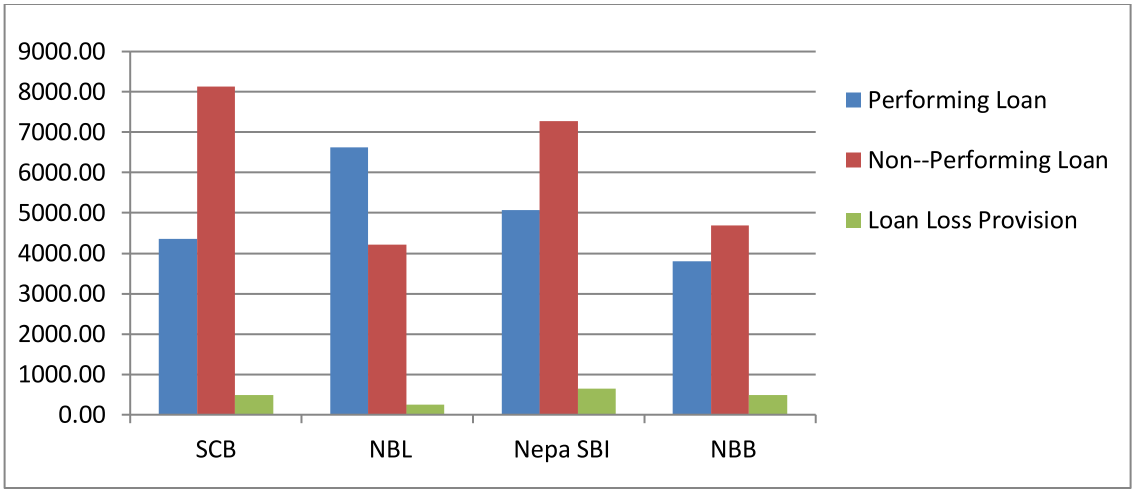

Figure 2 Combined Mean of Loan and Loss Provision of Sample Banks

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

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.

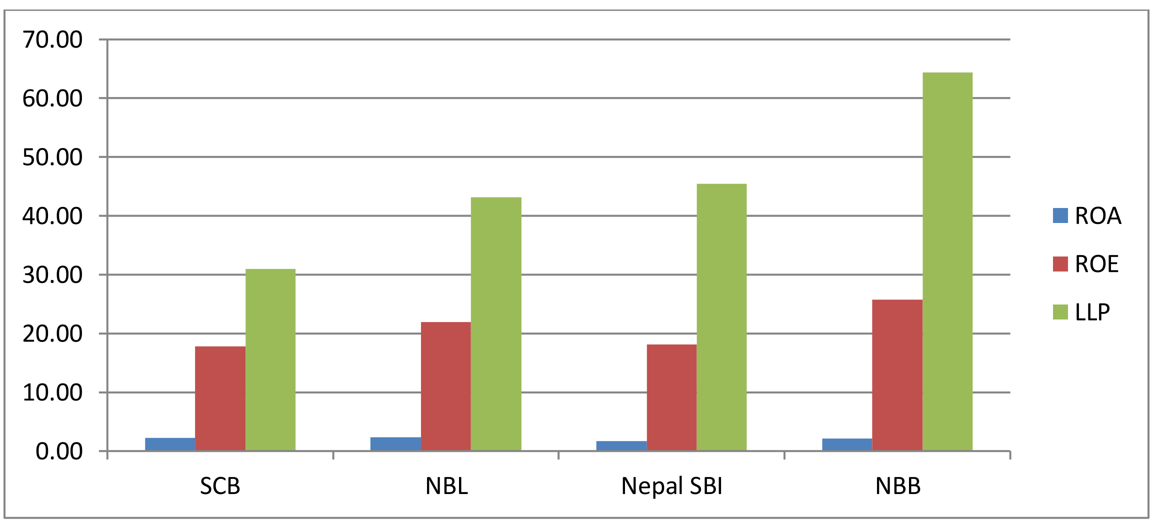

Figure 3 Combined Return Analyses of Sample Banks

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 10 the average ratio of credit and advances to total deposit of SCB is 62 percent. The fluctuation in the ratio is not too high. The lowest ratio is 48.85percent and the highest ratio is 72.77 percent in fiscal year 2014/15 and 2018/19 respectively. Standard deviation and coefficient of variation of SCB are 8.58 and 14 percent respectively. The consistency of the bank is 86 percent.

The average ratio of NBL is 74.99 percent. There is medium level of fluctuation of bank's credit and advance to total deposits. Under the study period the lowest ratio is 64.27 percent and the higher ratio is 82.86 percent in fiscal year 2014/15 and 2017/18 respectively. Similarly, the standard deviation and coefficient of variation of NBL are 6.83 and 9 percent respectively which is not high. The consistency of the bank is 91%

Table 10

Analysis of Credit and Advance to Total Deposit Ratio

(In Percentage)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	48.85	64.27	76.83	75.09
2015/16	56.88	70.34	71.98	80.42
2016/17	62.20	76.89	76.08	84.03
2017/18	69.28	82.86	89.61	87.83
2018/19	72.77	80.60	90.78	92.60
Mean	62.00	74.99	81.06	83.99
S.D.	8.58	6.83	7.65	6.02
C.V	0.14	0.09	0.09	0.07

Noted from: Annual Report (Appendix-VII)

The average ratio of credit and advances to total deposit of Nepal SBI is 81.06 percent. Fluctuation in the ratio is not high except in fiscal 2018/19. The lowest and the highest ratio are 71.98 and 90.78 percent in fiscal year 2015/16 and 2018/19 respectively. Standard deviation and coefficient of variation of these ratios are 7.65 and 9 percent respectively. The consistency of the bank is 91 percent.

The average ratio is NBBL is 83.99 percent. Fluctuation of the ratio is high. Under the study period, the lowest ratio and the highest ratio are 75.09 and 92.60 percent in fiscal year 2014/15 and 2018/19 respectively. Standard deviation and coefficient of variation of the ratios are 6.02 and 7 percent respectively. The consistency of the bank is 93 percent.

Table 11

Analysis of Credit and Advances to Fixed Deposit Ratio

(In Percentage)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	897.80	422.10	207.36	163.69
2015/16	986.20	874.56	203.92	171.64
2016/17	172.01	385.43	148.73	152.44
2017/18	188.78	249.43	169.81	180.52
2018/19	230.52	203.95	157.73	194.10
Mean	495.06	427.10	177.51	172.48
S.D.	366.49	238.05	23.95	14.22
C.V	0.74	0.56	0.13	0.08

Noted from: Annual Report (Appendix-VIII)

The table 11 shows that the average ratio of credit and advances to fixed deposit of SCB is 495.06 percent. The fluctuation in the ratio is too high. Highest ratio is 986.20percent in fiscal year 2015/16 and the lowest ratio is 172.01 percent in fiscal year 2016/17. So the standard deviation and the coefficient of variation are 366.49 and 74 percent respectively. The consistency of the bank is 26 percent.

Similarly, according to this table 4.8 the average ratio of credit and advances to fixed deposit of NBL is 427.10 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 203.95 in fiscal year 2017/18 and 874.56 in fiscal year 2015/16 respectively. S.D. and C.V. of the bank is 238.05 and 0.56 respectively. Consistency of the bank is 44 percent.

The average ratio of SBI is 177.51 percent. The lowest ratio is 148.73 in fiscal year 2016/17 and the highest ratio is 207.36 percent in fiscal year 2014/15 respectively. The S.D. and C.V. of the bank is 23.95 and 0.13respectively. So the consistency of the bank is 87 percent.

The average ratio of NBB is 172.48 percent. Fluctuations in the ratios are high. The highest ratio and the lowest ratio are 194.10 and 152.44 percent in the fiscal year 2016/17 and 2018/19 respectively. S.D. and C.V. of the bank is 14.22and 8 percent respectively. The bank’s consistency is 92 percent.

Table 12

Analysis of Credit and Advances to Total Assets Ratio

(In Percentage)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	42.22	53.66	64.93	58.28
2015/16	47.87	55.68	58.13	62.08
2016/17	50.24	59.33	60.73	57.79
2017/18	55.07	66.41	71.56	60.95
2018/19	58.39	67.95	72.90	67.13
Mean	50.76	60.61	65.65	61.25
S.D.	5.63	5.69	5.81	3.35
C.V	0.11	0.09	0.09	0.05

Noted from: Annex-IX

From the table 12, it is concluded that the SCB has generally steady trends under the study period. The average ratio is 50.76 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 2018/19 is 58.39 percent and the lowest ratio is 40.22 percent in the fiscal year 2014/15. Fluctuation in the ratio is little which is supported by standard deviation i.e. 5.63 and C.V. i.e.11 percent.

NBL is an increasing trend of the study period. The ratio is highest in fiscal year 2018/19 i.e. 67.95 percent and lowest in 2014/15 i.e. 53.66 percent. The average ratio as credit and advances to total assets of the bank is 60.61 percent. Standard deviation and coefficient of variation are 5.69 and 9 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 9 that SBI has generally mixed trend under the study period. It also shows that the ratios are increasing trend except in the fiscal year 2015/16. So the highest ratio and lowest ratio are 72.90 and 58.13 percent in the fiscal year 2018/19 and 2015/16 respectively. The S.D. and C.V. of these ratios are 5.81 and 9 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 2018/19 i.e. 61.25 and the lowest ratio is in fiscal year 2016/17 i.e. 57.79 percent. The average ratio under the study period is 61.25 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 3.35 and 5 percent respectively.

Table 13

Analysis of Performing Assets to Total Assets Ratio

(In Percentage)

Fiscal Years	**SCB**	**NBL**	**Nepal SBI**	**NBB**
2014/15	4.21	4.40	5.83	5.83
2015/16	6.10	4.73	4.83	6.24
2016/17	6.00	4.99	4.64	5.84
2017/18	5.50	3.60	6.04	6.05
2018/19	5.83	3.73	5.58	6.48
Mean	5.53	4.29	5.38	6.09
S.D.	0.69	0.54	0.55	0.25
C.V	0.12	0.13	0.10	0.04

Noted from: Annex-X

The table 13 shows that the performing assets to total assets ratio of SCB is little fluctuated. Highest ratio is 6.10 in fiscal year 2015/16 and the lowest ratio is 4.21 in fiscal year 2014/15 respectively. The average ratio is 5.53 percent. Standard deviation and coefficient of variation of the bank are 0.69 and 12 percent respectively.

Performing assets to total assets ratio of NBL is mixed trend under the study period. Highest ratio is 4.99 in fiscal year 2016/17 and the lowest ratio is 3.60 in fiscal year 2017/18 respectively. Highest ratio indicates higher efficiency of proper utilization and vice versa. Average ratio, standard deviation and coefficient of variation of the bank are 4.29 percent, 0.54 and 13 percent respectively.

SBI performing assets to total assets ratio has volatile trend in the study period. The average ratio is 5.38 percent. The standard deviation and C.V. of the bank are 0.55 and 10 percent respectively. Performing assets to total assets ratio of NBB is also in volatile trend. The average ratio is 6.09 percent which indicates that non-performing assets are almost 93.91 percent. Consistency in the ratio is high as it is almost 94 percent.

4.2 Statistical Analysis

A. Standard Chartered Bank Nepal Limit

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 five years period starting from the fiscal year 2014/15 up to 2018/19.

Table 14

Risk Index and Book Value Insolvency of SCB

S. No.	Description	Value
1	Risk Index	33.01
2	Probability of Book Value Insolvency (percent)	0.06

Noted from: Annex-XI

Table 14 indicates the following decisions:

i. Bank has the higher risk that shows the higher return.
ii. Probability of the book value insolvency is 6 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 15

Correlation Coefficient of SCBNL

	LLP	ROE	ROA
LLP	1.00		
ROE	-.929*	1.00	
ROA	-0.190	0.452	1.00
*. Correlation is significant at the 0.05 level (2-tailed).			

Noted from Annex-XV

Table 15 shows that the correlation coefficient between loan loss provision of ROA and ROE is negative. However, correlation is significant.

Table 16

Regression Coefficient of SCB

S. No.	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1	LLP	ROA	-0.19	2.45	0.76	Insignificance
2	LLP	ROE	0.452	8.076	0.444	Insignificance

Noted from: SPSS (Appendix-XIX)

Table 16 reveals that the regression coefficient of loan loss provision for ROE is positive and ROA is negative and the value is insignificant, which indicates that the association between the independent variable LLP and dependent variable ROA and ROE. So, null hypothesis of no relationship between LLP on ROA and LLP 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 2014/15 up to 2018/19.

Table 17

Risk Index and Book Value Insolvency of NBL

S. No.	Description	Value
1	Risk Index	46.21
2	Probability of Book Value Insolvency (percent)	0.11

Noted from: XI

Table 17 indicates the following decisions:

i. Bank has the higher risk index that indicates the higher return
ii. Probability of the book value insolvency 11 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 18

Correlation Coefficient of NBL

	LLP	ROE	ROA
LLP	1.00		
ROE	0.544	1.00	
ROA	-0.333	0.173	1.00

Table 18 shows that the correlation coefficient between loan loss provisions of ROA is negative and ROE positive. However, the result is negatively impact in relationship.

Table 19

Regression Coefficient of NBL

S.N.	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1	LLP	ROA	-0.333	2.52	0.584	Insignificance
2	LLP	ROE	0.544	19.235	0.343	Insignificance

The asterisk (*) sign indicates that results is significant at 1 percent level.

The asterisk (**) sign indicates that results is significant at 5 percent level.

The asterisk (***) sign indicates that results is significant at 10 percent level.

Table 4.16 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 association between the independent variable LLP and dependent variable ROA and ROE. So, null hypothesis of no relationship between LLP on ROA and LLP 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 2014/15 up to 2018/19.

Table 20

Risk Index and Book Value Insolvency of Nepal SBI

S. No.	Description	Value
1	Risk Index	49.49
2	Probability of Book Value Insolvency (percent)	0.12

Noted from: XII

Table 4.17 indicates the following decisions:

i. Bank has the moderate risk with moderate return.
ii. Probability of the book value insolvency is 12 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 21

Correlation Coefficient of NSBIBL

	LLP	ROE	ROA
LLP	1.00		
ROE	-0.402	1.00	
ROA	0.871	0.087	1.00

Noted from: SPSS (Appendix-XV)

Table 21 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 LLP and ROA, whereas positive correlation between LLP and ROE.

Table 22

Regression Coefficient of NSBIBL

S. No.	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1	LLP	ROA	0.871	1.314	0.054***	Significance
2	LLP	ROE	0.544	21.342	0.503	Insignificance

Noted from: SPSS & Appendix-XIV)

The asterisk (*) sign indicates that results is significant at 1 percent level.

The asterisk (**) sign indicates that results is significant at 5 percent level.

The asterisk (***) sign indicates that results is significant at 10 percent level

Table 22 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 LLP and dependent variable ROA and ROE. Thus, null hypothesis of no relationship between LLP on ROA and LLP 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 2014/15 up to 2018/19.

Table 23

Risk Index and Book Value Insolvency of NBBL

S. No.	**Description**	**Value**
1	Risk Index	45.61
2	Probability of Book Value Insolvency (percent)	0.11

Noted from: XIII)

Table 23 indicates the following decisions:

i) Bank has the very low risk indicates the lower return

ii) Probability of the book value insolvency is 10 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 24

Correlation Coefficient of NBBL

	LLP	ROE	ROA
LLP	1.00		
ROE	.980**	1.00	
ROA	.896*	0.814	1.00
**. Correlation is significant at the 0.01 level (2-tailed).			
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 24 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 positive correlation between LLP and ROA whereas positive correlation between LLP and ROE, but the result is significant.

Table 25

Regression Coefficient of NBBL

S. No	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1.	LLP	ROA	0.896	1.702	0.040	Significant
2.	LLP	ROE	0.980	7.816	.0112	Significant

Noted from: SPSS and (Appendix-XIV)

Table 25 reveals that the regression coefficient of loan loss provision for ROA and ROE is positive and ROA is positive but the value is significant at 5 percent level of significance, which indicates that the very high relationship between the independent variable LLP and dependent variable ROA and ROE. Thus, null hypothesis of no relationship between LLP on ROA and LLP 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.

i. Risk index and probability of the book value insolvency of SCB indicates that the bank has higher risk index and its probability of book value insolvency is more than one percent. Banks non-performing loan to net loan for five years which is little high but it is in decreasing trend. It is the good sign for the bank.

ii. In the case of NBL, it has the lower risk index than SCB. Banks non-performing loan to net loan for five years period is very good situation for the bank and also it is in decreasing trend.

iii. 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 more than one percent. Banks non-performing loan to net loan for five years period, which is not too high and at maintaining level and also the non-performing loan to gross loan ratio is in decreasing trend.

iv. There is negative correlation between LLP and ROA and positive correlation between LLP and ROE Again by analysing from statistical aspect, there is insignificant relationship between independent variable LLP dependent variable ROA and ROE though regression coefficient of LLP is positive for ROE and negative for ROA. Its t-value is not significant at 5 percent level of significance.

v. 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 five years, which is high and an increasing trend which can be generated dangerous situation to the bank.

vi. Correlation coefficient regarding LLP 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 LLP is positive but the value is not significant at 5 percent level of significance.

vii. 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.

4.4 Discussion

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. 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 five 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 62, 74.99, 81.06 and 83.99 percent respectively. Likewise SCB, NBL, Nepal SBI and NBB have the average ratio of credit and advances to fixed deposit under the five years research periods are 495.06, 427.10, 177.51 and 172.48 percent respectively. At the same time the average credit and advances to total assets ratio for the five years research period of SCB, NBL, Nepal SBI and NBB are 50.76, 60.61, 65.65 and 61.25 percent respectively. Similarly, the average performing assets to total assets ratio for the five years research period of SCB, NBL, Nepal SBI and NBB is 5.83, 4.29, 5.38 and 6.09 percent respectively.

This indicates that the performing assets are increasing regularly in the five 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 five years, 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 five years which is high and an increasing trend which can be generated dangerous situation to the bank. Correlation coefficient regarding LLP 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 LLP is positive but the value is not significant at 5 percent level of significance.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

With the objective to find the status and growth of non-performing loan, loan loss provision, interest suspense, loan write off and capital adequacy ratio, to find out the composition of credit risk weighted assets in relation to total risk weighted assets and to find out the major credit risk management strategies/practices used by selected bank in managing their inherent credit risk, this review based descriptive and analytical study has been conducted. For the systematic study and analysis, chapter plan have been made. This study has reflected the background and subject matter of the study consisting statement of the problem, significance and limitations of the study in chapter one. The relevant review of literature comprising conceptual review, review of journals; articles and previous have been presented in chapter two. To evaluate the credit risk management of selected banks under study, different financial ratios and statistical tools have been used. Here, financial ratios like non-performing loan to total loan, loan loss provision to NPL, loan loss provision to total loan, loan write off to NPL, interest suspense to interest income, capital adequacy ratio and credit risk weighted assets to total risk weighted assets were selected as an important risk reflecting indicators to find the status of credit risk management and statistical tools, average/mean, standard deviation, co-efficient of variation, correlation co-efficient, probable error have been used to describe the nature and indications of data. Additionally, comparative and descriptive approach have been used to interpret the data and accordingly secondary data have been collected, presented and analyzed in chapter four along with required data table, bar diagram and trend line.

5.2 Conclusion

After analyzing the credit risk management on financial performance 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 it has 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 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.

i. 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.

ii. 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.

iii. 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.

iv. 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.

v. 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.

vi. 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.

vii. 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.

viii. 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

Ahmad, & Ariff. (2018). Multi-country study of bank credit risk determinants. *International Journal of Banking and Finance*.

Bhandari. (2014). *Financial markets and institutions.* Asmita Books Publishers and Distributors.

Bhattarai. (2017). *Implementation of Directives Issued by Nepal Rastra Bank: A comparative Study of Nepal SBI bank Limited and Nepal Bangladesh Bank Limited.*

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

Ghimire. (2012). *Investments.* Buddha Academy, Publisher and Distributer Pvt. Ltd .

Kafle. (2014). *A study of credit risk management of Nepalese commercial banks comparative study between Kumari Bank ltd. & Machapuchre Bank ltd.*

Khakurel. (2014). *The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Nepal.*

Mekasha. (2017). Credit Risk Management and its Impact on performance of Commercial Bank. *Addis Ababa University Research Paper*.

Nepal Rastra Bank. (2019).

Neupane. (2015). *Credit Policy Analysis of Commercial Bank with reference to Everest Bank Ltd.* Kathmandu.

Parajuli. (2006). *NRB Directives, their implementation and impact on commercial Banks.*

Poudel. (2012). The impact of credit risk management on financial performance of commercial banks in Nepal. *International Journal of Arts and Commerce*, 9-15.

Santimero. (1997). Commercial Bank Risk Management: An analysis of the process.

Shrestha. (2003). *Impact and implementation of Nepal Rastra Bank (NRB)'s Guidelines (Directives) on commercial banks.*

Shrestha. (2005). *A study of Non performing Loan & loan loss provision of Commercial Bank.*

Shrestha. (2013). *A Comparative Study on Credit Management of Commercial Banks; With Reference to NABIL & SCBNL. Master Degree, Tribhuvan University.*

Swaroop, & Varshney. (1994). Banking law and practices. Hall of India.

Tegegne. (2017). Herd structure and farm evaluation of the urban and peri-urban dairy farms in Addis Ababa milk shed.

Thakur. (2011). *Banking Business in Nepal* (Vol. 3). Ratna Pustak Bhandar.

Thakur. (2016). *Banking Business in Nepal.* Kathmandu: Ratna Pustak Bhandar.

Thapa. (2014). *A Practice Book of Business Finance.* Kathmandu: Asmita Books Publishers and Distributors.

Thapa. (2015). *A Practice Book of Business Finance.* Asmita Books Publishers and Distributors.

Yadav. (2015). *Effect of Credit Risk on the Performance of NepaleseCommercial Banks.*

Yusuf. (2003). Managerial Finance. *New York: The Dryden Press*.

ANNEXES

Appendix I: ***Performing loan of Nepalese commercial banks for the period of 2014 to 2019 (Rs. In Million)***

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	2,792.91	5,494.70	3,562.30	2,548.13
2015/16	4,039.69	6,594.09	3,901.67	3,229.69
2016/17	4,747.70	7,684.14	4,747.87	3,717.38
2017/18	4,660.42	6,115.21	6,368.79	4,186.23
2018/19	5,542.39	7,268.94	6,798.10	5,351.46

Appendix II: ***Non-performing loan of Nepalese commercial banks for the period of 2014 to 2018 (Rs. In Million)***

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	9,477.00	1,256.08	9,123.70	3,425.56
2015/16	7,492.43	1,220.82	7,492.43	2,314.45
2016/17	6,598.18	8,890.35	6,598.18	2,863.32
2017/18	8,526.66	5,149.96	6,419.51	5,382.91
2018/19	8,537.05	4,569.66	6,725.58	9,450.97

Appendix III: ***Loan and Loss Provision of Nepalese commercial banks for the period of 2014 to 2018 (Rs. In Million)***

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	342.51	151.14	434.67	493.03
2015/16	492.70	165.97	492.70	553.13
2016/17	567.45	162.44	633.00	344.66
2017/18	486.04	562.31	814.00	405.10
2018/19	549.60	217.75	873.73	615.74

Appendix IV: ***ROA of Nepalese commercial banks for the period of 2014 to 2018 (in percentage)***

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	1.99	2.06	1.64	**2.06**
2015/16	1.98	2.32	1.59	2.57
2016/17	1.84	2.69	1.57	2.11
2017/18	2.61	2.61	1.9	1.86
2018/19	2.61	2.11	2.00	2.08

Appendix V: ***ROE of Nepalese commercial banks for the period of 2014 to 2018 (in percentage)***

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	21.69	22.73	22.85	**30.7**
2015/16	17.18	25.61	17.46	39.50
2016/17	11.98	22.41	14.87	25.80
2017/18	18.66	20.94	15.81	17.60
2018/19	19.49	17.76	19.7	15.20

Appendix VI: ***Loan Loss Provision Analysis***

Fiscal Years	SCB	NBL	Nepal SBI	NBB
2014/15	3.61	12.03	4.76	14.39
2015/16	6.58	13.60	6.58	23.90
2016/17	8.60	1.83	8.45	12.04
2017/18	5.70	10.92	12.68	7.53
2018/19	6.44	4.77	12.99	6.52
Mean	30.93	43.14	45.46	64.37
S.D.	1.61	4.53	3.27	6.22

Appendix VII: ***Analysis of Credit and Advance to Total Deposit ratio***

Fiscal Years	SCB		NBL	
	Credit & Advance	Total Deposit	Credit & Advance	Total Deposit
2014/15	27986.42	57286.48	66995.75	10424.54
2015/16	31696.93	55727.18	77561.69	110267.17
2016/17	39729.73	63872.83	91422.45	118904.42
2017/18	46689.07	67387.77	11266.77	135978.42
2018/19	55481.37	76237.37	132482.02	164372.49
Fiscal Years	**Nepal SBI**		**NBB**	
	Credit & Advance	**Total Deposit**	**Credit & Advance**	**Total Deposit**
2014/15	39666.65	51628.12	**25439.79**	33880.78
2015/16	46940.33	65213.52	**32112.83**	39932.53
2016/17	62132.78	81664.63	**36804.66**	43800.64
2017/18	75470.09	84216.42	**42161.04**	48003.96
2018/19	88852.45	97880.83	**55401.33**	59827.53

Appendix VIII: ***Analysis of Credit and Advance to Total Fixed Deposit Ratio***

Fiscal Years	SCB		NBL	
	Credit & Advance	Fixed Deposit	Credit & Advance	Fixed Deposit
2014/15	27986.42	3117.22	66995.75	15871.93
2015/16	31696.93	3214.06	77561.69	8868.61
2016/17	39729.73	23096.96	91422.45	23719.38
2017/18	46689.07	24731.73	112667.7	45170.3
2018/19	55481.37	24068.35	132482.02	64957.49
Fiscal Years	**Nepal SBI**		**NBB**	
	Credit & Advance	**Fixed Deposit**	**Credit & Advance**	**Fixed Deposit**
2014/15	39666.65	19129.48	25439.79	15541.1
2015/16	46940.33	23019.3	32112.83	18709.53
2016/17	62132.78	41776.67	36804.66	24143.64
2017/18	75470.09	44444.06	42161.04	23355.7
2018/19	88852.45	56332.94	55401.33	28542.31

Appendix IX: ***Analysis of Credit and Advance to Total Assets Ratio***

Fiscal Years	SCB		NBL	
	Credit & Advance	Total Assets	Credit & Advance	Total Assets
2014/15	27986.42	66289.11	66995.75	124849.52
2015/16	31696.93	66210.81	77561.69	139307.54
2016/17	39729.73	79083.46	91422.45	154079.55
2017/18	46689.07	84788.15	112667.7	169647.29
2018/19	55481.37	95017.71	132482.02	194983.14
Fiscal Years	**Nepal SBI**		**NBB**	
	Credit & Advance	**Total Assets**	**Credit & Advance**	**Total Assets**
2014/15	39666.65	61095.66	25439.79	43648.66
2015/16	46940.33	80752.02	32112.83	51729.53
2016/17	62132.78	102302.76	36804.66	63684.06
2017/18	75470.09	105456.93	42161.04	69175.17
2018/19	88852.45	121885.91	55401.33	82533.47

Appendix X: ***Analysis of Performing Assets to Total Assets Ratio***

Fiscal Years	SCB		NBL	
	Performing Assets	Total Assets	Performing Assets	Total Assets
2014/15	2,792.91	66289.11	5,494.70	124849.52
2015/16	4,039.69	66210.81	6,594.09	139307.54
2016/17	4,747.70	79083.46	7,684.14	154079.55
2017/18	4,660.42	84788.15	6,115.21	169647.29
2018/19	5,542.39	95017.71	7,268.94	194983.14
Fiscal Years	**Nepal SBI**		**NBB**	
	Performing Assets	**Total Assets**	**Performing Assets**	**Total Assets**
2014/15	3,562.30	61095.66	2,548.13	43648.66
2015/16	3,901.67	80752.02	3,229.69	51729.53
2016/17	4,747.87	102302.76	3,717.38	63684.06
2017/18	6,368.79	105456.93	4,186.23	69175.17
2018/19	6,798.10	121885.91	5,351.46	82533.47

Appendix XI: ***Risk Index and Book Value Insolvency of SCB***

S. No.	Description	Value
1	Risk Index	33.01
2	Probability of Book Value Insolvency (percent)	0.06

Appendix XII: ***Risk Index and Book Value Insolvency of NBL***

S. No.	Description	Value
1	Risk Index	46.21
2	Probability of Book Value Insolvency (percent)	0.11

Appendix XIII: ***Risk Index and Book Value Insolvency of Nepal SBI***

S. No.	Description	Value
1	Risk Index	49.49
2	Probability of Book Value Insolvency (percent)	0.12

Appendix XIV: ***Risk Index and Book Value Insolvency of NBB***

S. No.	Description	Value
1	Risk Index	45.61
2	Probability of Book Value Insolvency (percent)	0.11

Appendix XV: ***Correlation Coefficient of SCBNL***

	LLP	ROE	ROA
LLP	1.00		
ROE	-.929*	1.00	
ROA	-0.190	0.452	1.00
*. Correlation is significant at the 0.05 level (2-tailed).			

Appendix XVI: ***Regression Coefficient of SCNL***

S. No.	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1	LLP	ROA	-0.19	2.45	0.76	Insignificance
2	LLP	ROE	0.452	8.076	0.444	Insignificance

Appendix XVII: ***Correlation Coefficient of NBL***

	LLP	ROE	ROA
LLP	1.00		
ROE	0.544	1.00	
ROA	-0.333	0.173	1.00

Appendix XVII: ***Regression Coefficient of NBL***

S.N.	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1	LLP	ROA	-0.333	2.52	0.584	Insignificance
2	LLP	ROE	0.544	19.235	0.343	Insignificance

Appendix XVIII: ***Correlation Coefficient of NSBIBL***

	LLP	ROE	ROA
LLP	1.00		
ROE	-0.402	1.00	
ROA	0.871	0.087	1.00

Appendix XIX: ***Regression Coefficient of NSBIBL***

S. No.	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1	LLP	ROA	0.871	1.314	0.054***	Significance
2	LLP	ROE	0.544	21.342	0.503	Insignificance

Appendix XX: ***Correlation Coefficient of NBBL***

	LLP	ROE	ROA
LLP	1.00		
ROE	.980**	1.00	
ROA	.896*	0.814	1.00
**. Correlation is significant at the 0.01 level (2-tailed).			
*. Correlation is significant at the 0.05 level (2-tailed).			

Appendix XXI: ***Regression Coefficient of NBBL***

S. No	Independent	Dependent	Beta(b)	Constant	P-value	Remarks
	Variable	Variable	Coefficient	(a)		
1.	LLP	ROA	0.896	1.702	0.040	Significant
2.	LLP	ROE	0.980	7.816	.0112	Significant

EFFECT OF CREDIT RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF JOINT VENTURE COMMERCIAL BANKS OF NEPAL

(A Comparative study of Nabil Bank Ltd, Standard Chartered Bank Ltd, Nepal Bangladesh Bank Ltd, Nepal SBI Bank Ltd)

A Dissertation Proposal submitted to the Office of the Dean, Faculty of Management in partial fulfilment of the requirements for the Master's Degree

by

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INTRODUCTION

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.

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. In case 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.

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 (Swaroop & Varshney, 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 (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 of a trading partner. The 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. 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, 2014).

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).

The need to analyze credit risk management on financial performance in joint venture commercial banking sector is particularly vital in developing nation like Nepal. Credit risk management effects on the banks financial performance. 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.

2. Problem Statement

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. A common problem among banking institutions is the tendency not to price a credit or overall relationship properly and therefore not to receive adequate compensation for the credit risk management incurred.

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 .However despite the efforts made to address the poor credit risk management, commercial banks still have difficulties resulting from the credit risk management processes undertaken and changes in customer base leading to decreasing financial performance. Nepalese population has access to formal financial services, reflecting the high incidence of poverty, high degree of informality and high proportion of the population in rural areas. This suggests that a high percent of the population is regarded as un-bankable by commercial banks.

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 on financial performance of joint venture commercial bank the following research issues are formulated.

i) Does the credit risk management effect on banks' financial performance of sampled joint venture banks?

ii) What are the banks' financial performances of sampled joint venture banks?

iii) What is the status of performing and non-performing loan of sampled joint venture banks?

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 analyse the status of performing and non-performing loan of sampled commercial banks;

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

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

4. Hypotheses

The testable hypotheses are formulated in line with research question are subjected to this particular study revolves around the following hypothesis.

$H0_1$= There is no significant relationship between non-performing loan and Financial performance.

$H0_2$= There is no significant relationship between credit risk management and financial performance.

$H0_3$= There is no significant relationship between loan loss provision and ROA/ROE.

5. 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 previous researches have not been made for this topic. At present the commercial banks are gaining a wide popularity through their efficient management professional services 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. 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 effects 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.

This study is 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 Commercial Bank themselves. Moreover, this study may be important for researchers, scholars, banking sector, students, government and other parties.

6. Limitations of the Study

It possesses a number of limitations of its own kind. Some of the basic limitations of the study may be as follows. The study is based on data and information provided by the banks from 2014/15 to 2018/19.The study is covered recent few years' data regarding with credit management. Sample size is small; it may not fully represent Nepal as a whole. The study is largely may be depends upon the published documents such as balance sheet, profit and loss account statements etc. Statistical and financial techniques were used for credit risk management analysis only. The data are based on secondary sources.

7. **Organization of the Study**

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

Chapter I: It includes the background of the study, joint venture banks of Nepal, statement of the problem, objectives, significance and the limitations of the study etc.

Chapter II: This thesis focuses on review of literature. It contains the review of related studies like review of books, articles etc.

Chapter III: It 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.

Chapter IV: This is results which deal with presentation, analysis and interpretation of result.

Chapter V: It concerned with the conclusion drawn from the findings, discussion and the implication of the study.

8. 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).

Review of Related Studies

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. It 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.

The researcher 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. The report highlights that fixed deposit has been increasing in the ratio of 0.44 to 0.95 from 1990-1999.

Poudel (2012) tried to explore various parameters pertinent to credit risk management as it affect bank 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 bank 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.

Theoretical Framework

The theoretical framework shows the relationship of independent variables with the dependent variable.

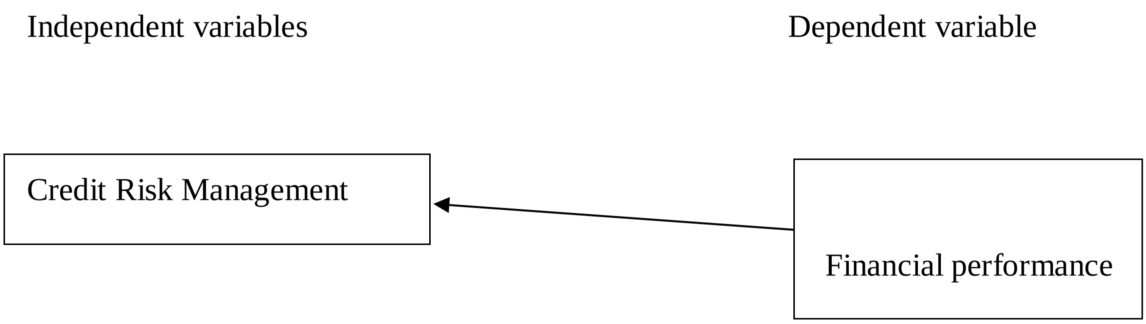

Figure 1Theoretical Framework

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 on financial performance in Nepalese banking sector. So, it tries to assess the credit risk management on financial performance of banking sector and by providing the proper atmosphere for the banking market in our country.

The present study is based on five 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 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.

9. RESEARCH METHODOLOGY

Research Design

This study adopts descriptive research design and casual comparative research design shall be followed. The study shall be based on the wide range of variables and factors influencing financial decisions of the banks. Comparative data banks shall be presented so as to make the report informative to the reader. Financial and statistical tools shall be used to analyze and interpret the financial information. 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 correlation research design because relationship between loan loss provision of ROA and ROE has been seen.

Population and Sample

At the end of Dec, 2019 there are 27 commercial bank 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 five years research period i.e. FY 2014/15 to FY 2018/19 has been taken as sample for the same purpose.

Table No: 1

Sample of joint ventures

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 27 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), Nepal Bangladesh Bank and Nepal SBI Bank were all established before 1996. Another basis of selecting the sample enterprises is the major shareholding 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.

9.1 Types and Sources of Data

The study based on the secondary data which were gathered for four joint venture commercial banks in Nepal for the period 2014/15 to 2018/19. The secondary data has been collected through various published, unpublished documents and websites of the concerned banks this study has adopted descriptive and casual comparative research design. The sources of secondary data are unpublished master degree thesis related to this research, Government materials related to this like NRB reports, annual reports of banks and different websites

Collection of Data

In order to collect the data from annual reports published of the 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.

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.

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.

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.

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

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.

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

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.

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

5. Profitability Ratio

Profitability ratio indicated the degree of the success in achieving desired profit.

The following ratios are calculating under the profitability ratio.

i. 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.

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

ii. 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.

$$\text{Return on Equity} = \frac{\text{Net profit after tax}}{\text{Total Equity}}$$

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.

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

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.

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'.

$$\text{Correlation Coefficient (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{[\{n\sum x^2 - (\sum X)^2\}\{n\sum Y^2 - (\sum Y)^2\}]}}$$

Where,

N = number of observations of X and Y

$\sum XY$ = Sum of the product of the observations in series X and Y. $\sum X$ = Sum of the observation in series X. $\sum Y$ = Sum of the observation in series Y

$\sum X^2$ = Sum of the square of the observation in series X. $\sum Y^2$ = Sum of the square of the observations in series Y

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 LLP to ROA as well as ROE. Therefore LLP is the independent variable while ROA and ROE are concerned as dependent 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:

$$S_y = \sqrt{\frac{\Sigma(Y)^2 - a\Sigma(Y) - b\Sigma(X\,Y)}{N - 2}}$$

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.

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,

b - 0

Tb =S b

Where,

T_b indicates the calculated t-value

REFERENCES

Bhandari. (2014). *Financial markets and institutions.* Asmita Books Publishers and Distributors.

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

Mekasha. (2017). Credit Risk Management and its Impact on performance of Commercial Bank. *Addis Ababa University Research Paper*.

Poudel. (2012). The impact of credit risk management on financial performance of commercial banks in Nepal. *International Journal of Arts and Commerce*, 9-15.

Santimero. (1997). Commercial Bank Risk Management: An analysis of the process.

Swaroop, & Varshney. (1994). Banking law and practices. Hall of India.

Yadav. (2015). *Effect of Credit Risk on the Performance of NepaleseCommercial Banks.*

Yusuf. (2003). Managerial Finance. *New York: The Dryden Press*.