Credit Risk Management of Commercial Banks in Nepal

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Abstract
Credit risk management is crucial and it is instrumental in ensuring the success or failure of any credit institution. The main concern of the banks is credit risk and its management as credit or loans and advances are the main source of income for them. This study therefore aims to examine the impact of credit risk management of banks in Nepal. Secondary data was gathered from commercial banks of Nepal for ten year periods This study used multiple regression analysis. The finding shows that all the sample banks have managed loans as well as the nonperforming loans. The correlation analysis shows that loan and advance (LA) has significant relation with non-performing loan (NPL) in 1 percent level of significance with correlation coefficients 0.718 which means that there is higher degree of positive correlation between loan and advance and non-performing loan. At the same time, loan and advance (LA) has significant relation with loan loss provision (LLP) and net profit (NP) in 1 percent level of significance. However, there is insignificant positive correlation between Loan and advance and net profit. Moreover, the result found that there is significant impact of deposit, non- performing loan and loan loss provision on loan and advance of sample banks. This study recommends that Nepalese commercial banks should work in collaboration with credit reference bureau in the country to thoroughly investigate the past credit worthiness records of loan applicants so as to reduce the rate of default.

INTRODUCTION

Background of the study

The global financial sector is cautiously waking up from the longest recession that has gripped the world so tightly in the recent years. Economists and businessmen all around the world are rethinking their strategies and are wondering what went wrong. The recession that followed the credit crunch was felt throughout the world after the collapse of the Lehman Brothers, one of the biggest banks in the United States. The domino effect felt by the raid banks and financial institutions across the world has, now, being recognized as the result of unhealthy corporate behavior and failed government policies and regulations. The credit policy of a firm provides the framework to determine whether or not to extend credit and how much credit to extend. A firm has to establish and use standards in making credit decision, develop appropriate sources of credit and methods of credit analysis.
It strongly recommends, analyzes and manages the credit risk. Credit risk is defined as the possibility that the borrower will fail to meet its obligations in accordance with the agreed terms and conditions. The goal of the credit risk management is to maximize the bank's risk adjusted rate of return by main training the credit risk exposure within acceptable parameters. For most banks, loans are the largest and the most obvious sources of credit risk; however, other sources of credit risk exist throughout the activities of the

bank, including banking book, and in the trading book, and both increasingly facing credit risk in various financial instruments other than land, including acceptances, interbank transactions, guarantees and the settlements of transactions. Therefore, it can be said that credit management is the most important elements impacting the survival and growth of commercial banks. Any irregularity in any one of these dimension may lead to the bankruptcy (Tamrakar, 2011). Efficient and effective credit management requires sound maintenance of liquidity level. Maintaining sufficient and appropriate liquidity encourages the investment in providing loans and advances, thus, increasing the chances of profitability and wealth maximization of the firm.

Nepalese banking industry is not so old but it is assumed the industry has begun from the time of lichhivi dynasty. The modern banking was begun from the establishment
of Nepal Bank in 1994 B.S. Besides all these benefits and importance we can consider Commercial banks are in the risk business. In the process of providing financial services, they assume various kinds of risks among them credit risk covers the significant portion of the total risk. While commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious banking problems continues to be directly related to the lax credit standards for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to deterioration in the credit standing of a bank's counterparties.

Credit risk is risk covered by loan. A "loan" is a financial asset resulting from the delivery of cash or other assets by a lender to a borrower in return for an obligation to repay on a specified date or dates, or on demand, usually with interest. Credit risk is measured in terms of the nature of credit provided, nature of collateral used and quality of credit provided. In contrast to the accounting- driven, relatively dull, and routine history of credit risk, new technologies and methodologies have emerged among a new generation of financial engineering professionals who are applying their engineering skills and analysis to this risk topic.

The health of the financial system has important role in the country (Das & Ghosh, 2007) as its failure can disrupt economic development of the country. Financial performance is *company's* ability to generate new resources, from day-to-day operation over a given period of time and it is gauged by net income and cash from operation. The risks that are most applicable to banks risk are: credit risk, interest rate risk, liquidity risk, market risk, foreign exchange risk and solvency risk. Risk management is the human activity which integrates recognition of risk, risk assessment, developing strategies to manage it, and mitigation of risk using managerial resources (Appa, 1996) whereas credit risk is the risk of loss due to debtor's non-payment of a loan or other line of credit (either the principal or interest or both) (Campbell, 2007). Default rate is the possibility that a borrower will default, by failing to repay principal and interest in a timely manner. A bank is a commercial or state institution that provides financial services, including issuing money in various forms, receiving deposits of money, lending money and processing transactions and the creating of credit (Campbell, 2007). Credit risk management is very important to banks as it is an integral part of the loan process. It maximizes bank risk, adjusted risk rate of return by maintaining credit risk exposure with view to shielding the bank from the adverse effects of credit risk. Bank is investing a lot of funds in credit risk management modeling.

The case in point is the Basel II accord. There is need to investigate whether this investment in credit risk management is viable to the banks. This study therefore seeks to investigate the impact of credit risk management on a bank's financial performance in Nepal. The general objectives of the study were to establish the impact of credit risk management on the financial performance of banks. The specific

objectives were: to establish the impact of default rate on performance; to establish the impact of debt collection on performance and; to establish the impact of cost per loan assets on performance. Various studies (Acharya, 2011) loan assets on performance (Khanal S. , 2011) (Bhattarai, 2016) (Malla, 2017) related to financial and banking sector services, policies, liberalization and development has been done in the country. To the best of my knowledge, no in-depth studies have been conducted to investigate the impact of credit risk management in the banks' performance in Nepal. This research intends to fill a gap in research as the first in-depth study in effective liquidity and credit risk of Nepalese commercial bank (Tuladhar, 2017).

Statement of Problem

Nepal credit market is highly competitive, because of that many financial institution have designed ways to enable them compete with the credit market .Most of them especially commercial banks who used to lend to enterprises that are able to offer immovable assets as collateral are now lending to individuals, corporate bodies and enterprises without any form of collateral. As a result of this, most banks ended up with high default rate and yet even with collateral; some banks are unwilling to provide lending due to the risk that collateral may have been used in multiple borrowing. Since many of the borrowers of the banks have defaulted in honoring their obligations, the non-performing level of the banks gross loan and advances are on increase (Zhang, 2015).

Most banks situated in the urban centers that issue Small and Medium Loans lost huge sum of money from defaulters as a result of decongestion exercises; most of the defaulters went back to their respective villages where the bank could not trace them. The problem of credit risk particular in banks needs to be given greater attention. To allow loans and other source of credit granted by banks, whose capital were mobilized largely from the poor and deprived go bad was untenable and defeats the objectives of banking system (Zhang, 2015).

Credit risk management is an important aspect of a bank's success and ensures that a lending institution will not take on more risk than it can handle. Credit risk management is the lending institution's primary line of defense to protect itself against customers who fail to meet the terms of the loans or other credit that was extended to them. The objective of credit risk management is to minimize the risk and maximize bank's risk adjusted rate of return by assuming and maintaining credit exposure within the acceptable parameters (Bhattarai, 2016).

In a financial institution, the risk lost that resulted in the default of payment of the debtors must be expected. Banks and other financial institutions are exposed to many different type of risk, because of these, it is meaningful for a bank to keep substantial amount of capital to protect its solvency and to maintain its economic stability.

According to the Basel II community, the international standard created can help protect the international financial system from problems that might arise should a major bank or a series of banks collapse by setting up risk and capital management requirements well planned to ensure that a bank holds capital reserves appropriate to the risk the bank exposes itself to through its lending and investment practices (Wikipedia, 2019). The more the bank is exposed to risks, the greater the amount of capital must be when it comes to its reserves, so as to maintain its solvency and stability. Therefore, in order to achieve the above stated objective the research is sought to answer the following questions;

1. What is the position of credit risk, credit efficiency and profitability position of commercial banks?
2. What is the relationship between total loan & advance to total net profit, total deposit and non-performing loan of commercial banks?

3. What is the impact of total deposit, non-performing loan, net profit on loan and advances of commercial banks?

Objective of the Study

The study aims to examine and analyze how the selected Commercial Banks have managed mainly credit risk in this competitive Nepalese banking industry. The specific objectives of this study are:

1. To examine the credit risk position, credit efficiency and profitability position of sample commercial banks.
2. To examine the relationship between total loan & advance to total net profit, total deposit and non-performing loan of commercial banks
3. To analyze the impact of total deposit, non-performing loan, net profit on loan and advances of commercial banks.

LITERATURE REVIEW

Credit Management is the most important area of banking history that needs how to handle the balancing need of maintaining effective credit management *along* with the bank's objective of earning reasonable profits. The financial experts have forwarded many concepts and theories related to credit management. This chapter deals with such concepts and theories along with the various opinions and researches made by various individuals in understanding these subject matters even better and widening the readers' knowledge base and illuminate them with the widespread researches going on around it.

Concept of Credit and Credit Management

A credit facility is said to be performing if payment of both principal and interest are up to date in accordance with agreed repayment terms. The non- performing loans (NPL) represent credits which the banks perceive as possible loss of funds due to loan defaults. They are further classified into substandard, doubtful or lost. Bank credit in lost category hinders bank from achieving their set targets (Kolapo , Ayeni, & Oke, 2017). Credit risk is the major risk that banks are exposed to during the normal course of lending and credit underwriting. Credit Risk is the risk of delay in the servicing of the loan or risk that an asset or a loan becomes irrecoverable. Movements of financial capital are normally dependent on either credit or equity transfers. Credit is in turn dependent on the reputation or creditworthiness of the entity which takes responsibility for the funds. Credit is also traded in financial markets. The purest form is the credit default swap market, which is essentially a traded market in credit insurance (Serwadda, 2020).

Credit does not necessarily require money. The credit concept can be applied in barter economies as well, based on the direct exchange of goods and services. However, in modern societies credit is usually denominated by a unit of account. Unlike money, credit itself cannot act as a unit of account.

A credit default swap represents the price at which two parties exchange this risk – the protection "seller" takes the risk of default of the credit in return for a payment, commonly denoted in basis points (one basis point is 1/100 of a percent) of the notional amount to be referenced, while the protection "buyer" pays this premium and in the case of default of the underlying (a loan, bond or other receivable), delivers this receivable to the protection seller and receives from the seller the paramount (that is, is made whole). Credit and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on credits and advances, which is one of the major sources of income for banks. Bank prepares credit portfolio, otherwise it will not only add bad debts but also affect profitability adversely.

Credit Analysis

In short, Credit Analysis is the thorough financial examination and evaluation to determine the level of

creditworthiness of applicant. The credit analysis division of the bank is responsible for analyzing and making recommendations on the fate of most loan applicants. Regarding each loan application, this department must conduct proper analysis of the following points:
The Creditworthiness of the borrower, i.e., the capacity of the borrower to repay the loan in due time, must be determined by the credit analyst. This involves a detailed study of five aspects of the loan applicant, namely, character, capital, collateral, conditions and capacity.
The credit analyst should be able to answer if the loan provision can be properly structured and documented. The draft of the loan agreement, before the loan is provided, should be structured in such a way that it meets the borrower's need for funds with a comfortable repayment schedule. Since the success of any bank depends fundamentally upon the success of its customers, it is essential that the customer is able to handle loan repayments comfortably. Otherwise a troubled borrower may as well push the bank in the same destructive direction.

Research Review

This chapter includes theoretical analysis and brief review of related and pertinent literature available like previous thesis, Browsers booklets, journal, articles and reports, magazine etc. relating to the domestic and international markets developments, problems posed in banking sectors and handling the liquidity crisis that usually comes up with credit mismanagement. Identifying and understanding such problems, the financial experts have explored many concepts and theories related to liquidity and credit management. The researches, opinions, developed concepts and derived theories have been reviewed. Its primary objective is to widen the readers' knowledge base and illuminate them with the widespread researches going on around it.

Review of Journal Articles

Credit risk plays an important role on banks "profitability since a large chunk of banks" revenue accrues from loans from which interest is derived. However, credit risk may be a serious threat to the performance of banks. Therefore various researchers have examined the impact of credit risk on banks in varying dimensions. The major studies related to the issue of credit risk and bank performance have reviewed and reviews literature relating to liquidity risk in the banking system and its influence on performance. The literature review has been organized in the following sections. First section covers the theoretical framework underlying the study, types of liquidity risks and finally the effect of liquidity risk on bank performance. The second section covers the management of liquidity risks after with the empirical reviews on the subject matter being covered is discussed.
(Upadhayay, 2021) Conducted an article on the topic of Credit Management in Nepalese Commercial Bank. The objective of study was to examine relation between Loan and disbursement to deposit, loan loss provision, and bad debt. He found that Show the relationship variables taking from deposit, loan, loan loss provision and non-performing loan of the bank. It is suggested to the researcher taking variables which impact on credit management of the bank such as interest income, interest expenses, debt, and net profit. It is also found that most of the banks are of Nepal nowadays are focusing on consumer lending NBL also falls on the same category. This is because of weak credit policy.
(Dhungana, 2021) Conducted an article on the topic of Impact of risk management strategies on the credit risk faced by commercial bank. It is examined to identify risk management strategies undertaken by the commercial banks. In this research several opinions of the employees of selected commercial banks about which strategies are useful for credit risk. Quantitative data was collected from 250 employees of commercial banks to perform multiple regression analyses. And he found that significant as commercial

banks will understand the effectiveness of various risk management strategies and may apply them for minimizing credit risk.

(Chhetri, 2021) Examined the effect of credit risk management on financial performance of the Nepalese commercial banks. Two mathematical models have been designed to measure this relationship, the research revealed that the credit risk management effects on financial performance of the commercial banks as measured by ROA and ROE. The research further concludes that the credit risk management indicators considered in this research have a significant effect on financial performance of the commercial banks. Based on findings, the researcher recommends banks to improve their credit risk management to achieve more profits, in that banks should take into consideration, the indicators of Non- performing loans Gross loans, Provision for facilities loss/Net facilities and the leverage ratio that were found significant in determining credit risk management. Also, banks should establish adequate credit risk management policies by imposing strict credit estimation before granting loans to customers, and banks in designing an effective credit risk management system, need to establish a suitable credit risk environment; operating under a sound credit granting process, maintaining an appropriate credit administration that involves monitoring, processing as well as enough controls over credit risk, and banks need to put and devise strategies that will not only limit the banks exposition to credit risk but will develop performance and competitiveness of the banks.

(Pradhan, 2019) Conducted an article on the topic of Credit Risk Management of Commercial Banks in Nepal. It is examined to primarily focus on credit risk assessment practices in commercial banks on the basis of their internal efficiency, assessment of assets and borrower. The model of the study is based on the analysis of relationship between credit risk management practices, credit risk mitigation measures and obstacles and loan repayment. Reliability of the data collected was tested through a Cranach Alpha Reliability Test. The data analysis includes descriptive statistics (percentage, mean score and standard deviation), and inferential statistical tools of correlation analysis to establish the relationship between the studied variables. The researchers conclude that Risk management practices help banks to reduce credit risk as borrow tends to pay loan on time similarly credit risk mitigation measure taken by bank reduces credit risk by increased loan repayment behavior. However, obstacles faced by banks increase credit risks by reducing loan repayment by borrowers.

(Iraya, 2018) Conducted an article of *Credit Risk Management and Bank Performance,* this study has been necessitated by the continued challenge of the deteriorating levels of credit risks and nonperforming loans to the global financial system. In this study they found that in Africa, the secondary markets for nonperforming loans are still at infancy which at times makes it hard for lenders to unburden these distressed assets from their books. In more developed financial systems, it could be easier to bundle NPLs into special purpose vehicle and sell them into a secondary market. Additional research on the impact of such vehicles would be very interesting and suitable. Another area that would benefit with more studies is on the other innovative credit risk management solutions for improving asset quality in banks. Opinions of the employees of selected commercial banks about which strategies are useful for credit risk. Quantitative data was collected from 250 employees of commercial banks to perform multiple regression analyses.

(Wagner, 2014) Observed that the US Office of the Comptroller of the Currency found the difference between the failed banks and those that remained healthy or recovered from problems was the caliber of management. Superior mangers not only run their banks in a cost efficient fashion, and thus generate large profits relative to their peers, but also impose better loan underwriting and monitoring standards than their

peers which result to better credit quality.

(Lohani, 2019) conducted a thesis on the topic of *the credit management position of Everest Bank Limited*. The specific objectives of the study are to evaluate the various financial ratios of the EBL, determine the impact of deposit in liquidity and its effect on lending practices and analyze trend of deposit utilization towards loan and advances and net profit. Cash and bank balance to current deposit of the bank shows the fluctuating trend during the study period. Similarly, cash and bank balance to interest sensitive ratio of EBL is also in fluctuating trend. Credit and advance to fixed deposit ratio of EBL is fluctuating trend.

(*Santomero 2017*) has analyzed *the various risk faced by commercial banks*. According to him, the major risk of commercial bank includes credit, market risk, interest risk, counterparty risk and liquidity risk. He has categorized this risk into three categories. According to him, the main reason for the risk management are managerial self-interest, non-linearity of tax structure, cost of financial distress and existence of capital market imperfection. The main method prescribed in his research for credit risk management includes sound evaluation of credit rating and making rating system compatible, credit losses, currently regularly related to credit rating, need to be closely monitored and sound analysis of the evaluation of the diversified portfolio.

(Rana, 2017) conducted a thesis on the topic of *the directives issued by Nepal Rastra Bank* . The article gives bird's eye view of major changes made in the new directive and suggests measures to be taken by commercial bank to comply with the new directives. Main objective of his studies has highlighted the points in capital adequacy ratio for commercial bank prescribed by Nepal Rastra Bank. The newly prescribed change in income recognition system will require most of the banks to either upgrade or change their banking software and banks will find it very difficult to maintain records of all persons, who are included in the definition of family/ relative. He has found that bank are existing software does not comply with the new NRB directives, which facilitates generating numerous reports required by Nepal Rastra Bank. Capital adequacy position of banks are not maintain. Review and revise overall credit polices to address new directives governing loan classification and loan loss provisioning and strengthen banks' monitoring and follow-up department". Time has come to inculcate financial discipline to the customers. A number of interaction programs should be organized with credit customers so that NRB's new directives could be explained to them and update their record with Credit Information Bureau (CIB). Also Banks should timely submit required return to CIB for its effective functioning.

RESEARCH METHODOLOGY

This chapter deals with the various systematic steps adopted by the researcher in gathering all the information required for the study and making sense of the data collected. It covers research design, nature and sources of data, population and sample, data collection procedures and the various tools and techniques used for analyzing the collected data. This research is basically designed to analyze the credit risk management of commercial banks in Nepal, mainly Nabil Bank Limited (NABIL), Himalayan Bank Limited (HBL) and Standard Charter Bank Limited (SCBL). Descriptive and casual comparative research design is adopted to evaluate the credit risk management of these banks. Basically descriptive research is use to find out different financial and statistical ratios likes mean standard deviation and comparative research is use to analysis for correlation, regression and hypothesis. The study is widely based upon secondary data collected over the past ten years. The main source of data collection is secondary source and main source of data is annual report of financial performance of selected banks and the other source are the articles, journals, reference, magazines, newspaper, research study and different related books.

Descriptive statistics, correlation, and OLS (ordinary least square) regression tools were used in order to derive the meaningful relationship among the dependent and independent variables.

Research framework

From the theoretical and empirical literature reviews, the following conceptual framework of the study is developed by the researcher

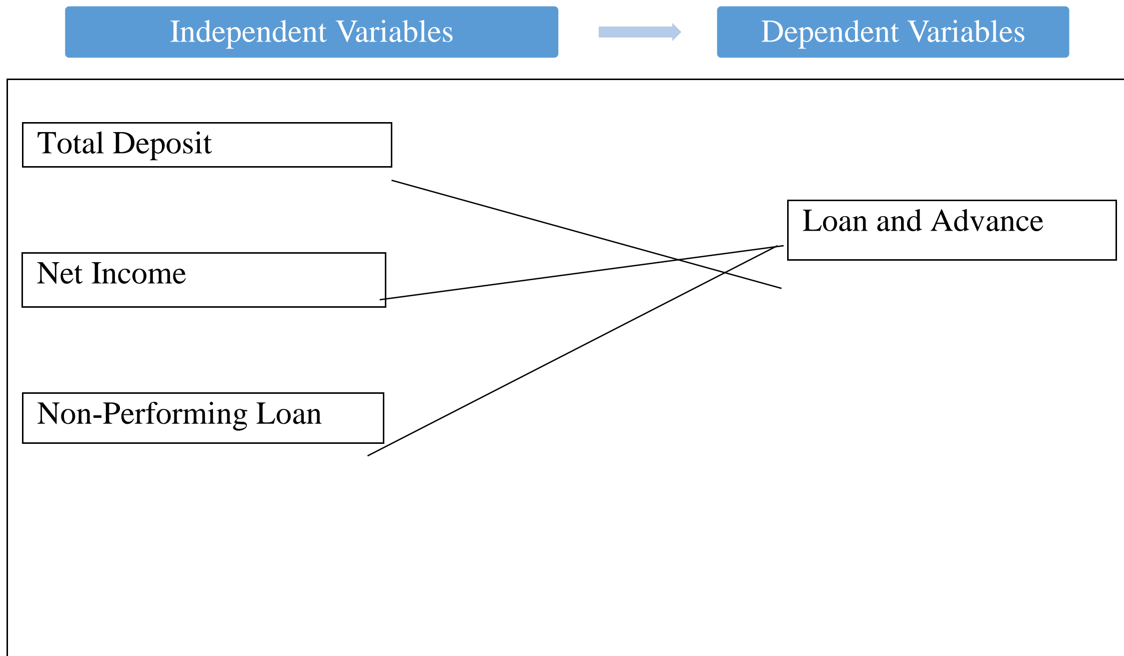

Figure 1:- Research framework

PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the detail analysis and presentation of data in line with the objectives of the study. The data are presented and analyzed in a systematic order using the various financial and statistical tools. The facts received from these tools are simultaneously presented in diagrammatic forms such as figures. For the easy perusal of the readers, the tables and diagrams have been constructed in a simple and understandable form, with each result interpreted along with it.

Analysis of Data

This deals with the analyses of secondary data collected using various tools and formats. It presents the data collected and analyzed through various readable graphs, tables and charts and discusses the findings from the analysis.

Credit Management Analysis

	Nabil Bank			Standard Character Bank			Himalayan Bank		
Financial Indicator	Average	SD	CV	Average	SD	CV	Average	SD	CV
Total Loan to Total Deposit Ratio	0.81	0.177	0.219	0.9688	0.383	0.3952	0.8673	0.948	0.1093

Interest Income to Loans and Advances Ratio	0.0602	0.012	0.1922	0.0519	0.02	0.3894	0.0472	0.0084	0.1787
Loans and Advances to Total Assets Ratio	0.645	0.084	0.1304	0.7234	0.321	0.47	0.6537	0.2184	0.3341
Loans and Advances to Fixed Deposit Ratio	0.039	0.01	0.2522	0.0627	0.037	0.5881	0.0307	0.0177	0.5772
Loan Loss Provision to Total Loans and Advances Ratio	0.0135	0.01	0.7718	0.0097	0.003	0.2713	0.019	0.0066	0.3457
Credit Risk Ratio	0.0114	0.009	0.8224	0.0053	0.003	0.5831	0.0099	0.0032	0.3259
Return on total assets ratio (ROA)	0.0223	0.005	0.2439	0.0232	0.008	0.3308	0.0163	0.0059	0.3655
Return on equity ratio (ROE)	0.26	0.098	0.3776	0.151	0.103	0.6824	0.21	0.0704	0.3429

Relationship of Loan & Advances to Total Deposit Non Performing loan and Net Profit

In this section, the correlation between the dependent variables and the independent variables have been presented and analyzed. Correlation between two variables measures the degree of linear association between them. To find the association of the independent variables with dependent variables Pearson Product Moment of Correlation Coefficient was used in this study. Correlation coefficient between two variables ranges from +1 (i.e. perfect positive relationship) to -1 (i.e. perfect negative relationship) and a correlation coefficient of zero, indicates that there is no linear relationship between the two variables. In this study, total deposit, net profit and non-performing loan are the dependent variables and loan and advance is the independent variable.

Table 9: Pearson correlation coefficients of study variables

	Loan and Advance	Total Deposit	Net profit	Non-Performing Loan
Loan and Advance	1			
Total Deposit	.889**	1		
	.001			
Net profit	.728**	.879**	1	
	.001	.001		
Non-Performing Loan	.718**	.657**	.487**	1
	.001	.001	.006	

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

Impact of Loan and Advance on Total Deposit Net income and Non-performing Loan

It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable loan and advances and independent variables Net income , non-performing loan, and total deposit.

Table 10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.909[a]	.826	.806	22726941.27928

a. Predictors: (Constant), Net income, Total Deposit and Non-performing Loan

b. Dependent Variable: Loan and Advance

Table 11 Regression table

Model	Coefficients	t- Statistics	P Value
(Constant)	-4915318.363	-.466	0.645
NPL	19.035	1.891	.070
Deposit	.976	4.293	<.001
Net Income	-7.103	-.846	.405

Dependent Variable: Loan and advance

Major findings

1. It is observed that average loan to total deposit ratio of HBL Nabil & SCBL was 0.8673, 0.8100 and 0.9688 respectively it means SCBL is better in credit management position and less CV indicates that HBL is less risky and effectively utilizing total deposit into loan and advance than Nabil & SCBL.
2. Nabil (.0602) bank has maintained higher the average interest income than SCBL (0.0519)& HBL(0.0472). HBL has lower CV (17.87%) than SCBL (38.94%)& Nabil (19.22%) indicating that HBL has better performance in yielding higher interest than Nabil & SCBL
3. The cases analyzed under the mobilizing the total assets in to loan and advance. In comparison, it clearly shows that HBL have higher ratio than Nabil and SCBL. It means HBL has effective utilization of total assets of the bank to provide loan and advance with more opportunity to earn profit than Nabil and SCBL. Similarly, HBL have less CV it means HBL is less risky and more efficiency than SCBL and Nabil.
4. It shows that there are clearly highlights that the trend of LLP is in similar trend during the period. In comparison, SCBL has less LLP on loan and advances. Less CV indicates that SCBL is less risky and great consistently managing LLP than Nabil and HBL.
5. The result also reveals that the average return on assets of NABIL, SCBL and HBL are 0.0223(2.23 percent), 0.0232 (2.32 percent) and 0.0163 (1.63 percent) respectively. It indicates that, SCBL could

manage their overall operations due to highest ratio among them. The standard deviation of NABIL, SCBL and HBL are .0054, 0.0077 and 0.0059 respectively. It indicates that NABIL has the lowest risk among them. By measuring coefficient of variation, NABIL is the most uniform in the ratios since it has highest CV i.e. 0.2439 (24.39percent) among them.

6. This study found that the return on equity of NABIL, SCBL and HBL are 0.26 percent, 0.151 percent and 0.21 percent respectively. This indicates that the return on equity for the NABIL is the best or most effective management in earning profit among them. The standard deviation of NABIL, SCBL and HBL are 0.0976, 0.1028 and 0.0704 respectively. It indicates that HBL has the lowest risk among them. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 0.3776 (37.76 percent), 0.6824(68.24 percent) and 0.3429 (34.29 percent) for NABIL, NIBL and EBL respectively. That's why; HBL is the most uniform in the ratios among them.
7. It is observed that average credit risk Nabil bank with its credit risk ratio dropping dramatically over the years after reaching the highest at 2.98 % in FY2012/13 after that it starts decreasing in trend during last two years. While in case of HBL, it seems having more fluctuating trend FY 2012/13 to 2021/22. However, SCBL has lower value all over the year.
8. The correlation matrix also shows that Loan and advance to total deposit and non-performing loan and has highly significant positive correlation in 1 percent level of significance but correlation loan and advance to net income is moderate correlated each other in 1 percent level of significance.
9. In this study, the model fits (accounts) for 82.6 percent of the variance in the dependent variable, loan and advance. The adjusted R Square is higher, indicating 80.6 percent of the variance is accounted for by the model. In this study, the R statistic is 0.909, indicated that there is a very strong relationship between study variables. This implies that the loan and advance was perfectly influenced by its independent variables.
10. According to the regression result of net income has a negative relationship with loan and advance by a coefficient estimate of -7.103 that have negative in other hands other variables are positive relationship with dependent variables and NPL and net income are statistically insignificant effect on loan and advance of sample banks. But deposit is statistically significant effect on loan and advance.

Discussion

All of the above research, although a good attempt for exploring the credit management, are mainly based on the quantitative analysis, which encompasses the difficulties and problems in credit management procedures. The previous researcher was concluded that finding are loan and advance to total deposit ratio, fund mobilized, interest income to total income ratio, mean ratio of credit risk of selected banks. Again, the findings of previous researchers was the trend analysis of net profit of both banks is in increasing trend and mean ratio of total investment to total deposit of selected commercial banks, the bank has maintained higher credit and advances to total deposit, fixed deposit is the main sources of granting credit for both banks, credit loss provisioning is in decreasing trend, fixed deposit is the main sources of granting credit for both banks, credit loss provisioning is in decreasing trend. The previous researcher was collected data and information from primary and secondary sources and simple and statistical tools are used such as table, figure, trend line, bar-diagram, correlation, t-test, percent and ratios.

From above research HBL is less risky and effectively utilizing total deposit into loan and advance than Nabil & SCBL. Similarly, HBL has better performance in yielding higher interest than Nabil & SCBL.In case of condition about NPL all of them show in mix result Nabil, SCBL and HBL fluctuating in nature.

It is observed that average credit risk Nabil bank with its credit risk ratio fluctuates more than other banks, SCBL has lower value all over the year.it means SCBL has effective utilization of total assets of the bank to provide loan and advance. That is SCBL is lower risky.
The correlation matrix shows that the loan and advance has significant relation with total deposit, net profit and non-performing loan (NPL) 1 percent level of significance. According to the regression result NPL and net income are statistically insignificant effect on loan and advance, but deposit is statistically significant effect on loan and advance.

CONCLUSIONS AND RECOMMENDATIONS

Based on major findings, it can be concluded that HBL is less risky and effectively utilizing total deposit into loan and advance than Nabil & SCBL. Nabil has better performance in yielding higher interest than HBL and SCBL. HBL is less risky and more efficiency than SCBL and Nabil. SCBL is less risky and great consistently managing LLP than Nabil and HBL. However, in the case of credit risk, SCBL has lower value all over the year. HBL's profit earning capacity on loan and advances and working fund is the best among three banks. HBL could manage their overall operations of ROA due to higher ratio than NABIL and SCBL at the meantime, return on equity for the SCBL is the best or most effective management in earning profit among them.
After analyzing correlation analysis, it can be concluded that relationship between loans and advances to non-performing loan, deposit and net income, loan and advance has significant relation with total deposit, net profit and non-performing loan (NPL) 1 percent level of significance.
Case analyzed for impact on loans and advances to NPL, total deposit and net income, NPL and net income are statistically insignificant effect on loan and advance and total deposit is statistically significant effect on loan and advance.
Based on the analysis and the findings of the study, the following recommendations are suggested to improve present credit risk management of selected banks as well as to further researchers:

- In this analysis, SCBL's loan and advances to total deposit ratio is the highest among them. So, it is recommended NABIL and HBL should follow liberal policy, invest more and more percentage of total deposit in loan and advances and maintain more stability on the credit policy.
- Loan Loss Provision is increasing day by day. Higher in ratio indicates higher Non-performing loan in total loan disbursement. So, bank should be alert to recover the bad loan for long run profit & steady growth in market
- It should be maintained every time to ensure the loans provided are good and in healthy condition as well utilized properly.
- Banks are seen following the NRB directives to minimize loan loss provision and non-performing loan but still they are lacking behind to minimize the provision to major extent. This thing has really made a major problem for many commercial banks & financial institutions these days. Hence, banks should set up target to minimize the non-performing loan & increase the profit every year. Healthy recovery efforts should be followed to collect the loans in time.
- Bank should target to mobilize the fund not only in city/urban areas but should focus the same in rural areas too. Basically to meet social responsibilities, it is recommended to these banks to promote and mobilize the funds in rural areas.
- Due to lack of good governance in the Nepalese market, few financial institutions are in process to

collapse and many of them are unable to operate smoothly and efficiently. So, good governance should be ensured for long run operation and steady growth in market.

- This research is based on 3 selected commercial banks for the study. It is suggested to increases more banks and selected any other financial institution with more observation.
- The current research is limited only 4 objectives and only 4 statistical tools are used for this study. It is recommend to increases more objective with the related research topic and take other statistical tools like as average, standard deviation, t-test, correlation, etc.
- Show the relationship variables taking from deposit, loan, loan loss provision and non-performing loan of the bank. It is suggested to the researcher taking other variables which impact on credit management of the bank such as interest income, interest expenses, debt, net profit, etc.
- It is recommended to taking other data presentation and analysis tools such trend line, time ratio, future forecast trend, pie-chart, etc.

REFERENCES

Acharya, M. (2011). Development of the Financial System and Its Impact on Poverty. . *Nepal Rastra Bank*, 15.

1. Afroz, N. (2018). Credit Portfolio Mamgement of BAngaladesh Krishi Bank. *Global Journal of Management and Buniss Research*.
2. Ahmed, A., Takeda, C., & Shawn, T. (2015). Bank Loan Loss Provision: A Reexamination of Capital Management and Signaling Effects. *Working Paper, Department of Accounting, Syracuse University,*, 1-37.
3. Aktan, B., & Bulut, C. (2014). Financial Performance Impacts of Corporate Entrepreneurship in Emerging Markets. A Case study of Turkey. *European Journal of Economics Finance and Administrative Science*, 69-79.
4. Alexander, Alexander, J., Gordon, J., Bailey, & Jeffery, V. (2009). *Fundamental of Investment* . New Delhi: Prentice Printing and Press.
5. Al-Khouri, R. (2016). Assessing the Risk and Performance of the GCC Banking Sector. *Al-Khouri, R. (2016). Assessing the Risk an International Research Journal of Finance and Economics*, 72-78.
6. Allen , D. E., & Powell, R. J. (2011). *Credit risk measurement methodologies.* Perth Australia: International Congress of Sampling .
7. Amir, R. (2015). Customer satisfaction an cradit policy. Journal of Advanced Academic Research,
8. Appa, R. (1996). *The monetary and financial system.* London: Bonkers Books Ltd. 3rd Edition.
9. Bhattarai, Y. R. (2016). Effect of Credit Risk on the Performance of Neplese Commercial Bank . *NRB Economic Review*, 41-64.
10. Campbell, A. (2007). Bank insolvency and the problem of non-performing loans. *Journal of Banking Regulation*, 25-45.
11. Chhetri, G. (2021). Effect of Credit Risk Management on Financial Performance Of Nepalese Commercial Banks.
12. Chinwe, L., & Duaka, S. (2015). Credit Risk Management in Commercial Banks Chinwe .L. Duaka

(2015). 15-28.
13. Das, A., & Ghosh, S. (2007). Determinants of credit risk in Indian state-owned banks an empirical Investigation. *Economic issue-stoke and trend* , 27-46.
14. Dhungana, G. (2021). Impact of risk management strategies on the credit risk faced by commercial bank. The Nepalese Management Review 11-21.
15. Duaka, C. L. (2015, May-Jun). Cradit Risk Management in Commercial Bank. *Vol 6*, pp. 51-56.
16. https://www.nrb.org.np/. (2023, March). *Nepal Rastra Bank*. Retrieved from https://www.nrb.org.np.
17. Iraya, C. M. (2018). Credit Risk Management and Bank Performance: A Critical Literature Review. *IOSR Journal of Economics and Finance*, 09-13
18. Khanal, S. (2019). Banking and insurance services liberalization and development in Bangladesh, Nepal and Malaysia. A comparative analysis Working Papers, *A comparative analysis Working Papers,*.
19. Kithinji, A. (2016). Credit Risk Management and Profitability of Commercial Banks. Australian journal of business and management research,
20. Kolapo , T. F., Ayeni, R., & Oke, O. (2017). Credit risk management and banks performance. *Australian Journal of Business and Management Research*.
21. Lawrence,J.K. (2014). Basel II as a Big Opportunities for Risk Management.
22. Lohani, R. (2019). Cradit risk in Nepal. 50-62. Journal of Advanced Academic Research,
23. Makasha, G. (2016). Credit Risk Management and Its Impact on Performance on Ethiopian Commercial Banks. *Addis Ababa University.*
24. Malla, B. K. (2017). Credit Portfolio Management in Nepalese Commercial Banks. *The Journal of Nepalese Bussiness Studies*, 101-109.
25. Michael , A. S., Joyce, A., & Ibrahim, S. (2014). The Financial Market Impact of Quantitative Easing in England. *International Journal of Central Banking*, 1-49.
26. Pandey, U. (2014). *Cradit Risk Management in Nepal.* Kathmandu: Thesis of Tribhuwan University.
27. Poudel, R. (2016). Poudel. (2012). The Impact Credit Risk Management on Financial Performance of Commercial Banks in Nepal. *Poudel. (2012). The Impact of Credit Risk Managemen International Journal of Arts and Commerce*, 1-11.
28. Pradhan, S. (2019). Credit Risk Management of Commercial Banks in Nepal. (Unpublished Master's Thesis). Tribhuwan University, Kathmandu, Nepal
29. Thapa, R. (2010). *Cradit Risk Management of Himalayan Bank Ltd.* (Unpublished Master's Thesis). Tribhuwan University, Kathmandu, Nepal
30. Radhaswami, & Vasudevan. (1991). *Credit Risk Management Practices* .
31. Rana, T. (2017). Directives Issue by Nepal Rastra Bank .
32. Serwadda, I. (2020). Impact of Cradit Risk Management System on Financial Performance of Commercial Bank in Uganda. *Acta Universitatis Agriculturae Et Silviculturae Mendelianae Brunensis*, 1627-1635.
33. Shakya, M. (2015). Cradit Risk management in Nepal . (Unpublished Master's Thesis). Tribhuwan University, Kathmandu, Nepal
34. Shrestha, N. (2009). *Cradit Policty Analysis of commercial Bank in Nepal.* (Unpublished Master's Thesis). Tribhuwan University, Kathmandu, Nepal
35. Singh, H. B. (2075). *Banking and insurance.* Kathmandu: Asia Publication PVT.LTD.
36. Sudharsanam, D. (1996). *Principles of Bank and Banking.* Delhi: Setu Publication House Private

Limited.
37. Tamrakar, R. (2011). *Cradit risk Management in Neplese Commercial Bank.* Kathmandu: Thesis of Tribhuwan University.
38. Thakuri, K. (2016). Cradit Efficency or Inefficency and its Management in Commercial banks. (Unpublished Master's Thesis). Pokhara University, Kathmandu, Nepal
39. Thapa, P. (2014). Cradit Management of Everest Bank Ltd. (Unpublished Master's Thesis). Pokhara University, Kathmandu, Nepal
40. Thapaliya, C. (2017). Cradit and Liquidity Management in Nepal. (Unpublished Master's Thesis). Pokhara University, Kathmandu, Nepal
41. Tuladhar, R. (2017). Impact of Credit Risk Management on Profitability in Neplese Commercial Bank. *Thesis of Western Sydney Universiy*.
42. Upadhayay, S. (2021). Cradit Management in Neplese Commercial Bank. 41-52.
43. Wagner, W. (2014). Credit risk transfer activities and systemic risk: how banks became less risky individually but posed greater risks to the financial system at the same time. *Journal of Banking & Finance*, 1391-1398.
44. Whtte, E. A. (2009). *Fundamental of Investment",* . St. Paul: West Publishing.
45. Wikipedia. (2019, October). *Cradit Risk*. Retrieved from Cradit Risk Management : www.wikipedia.org
46. William, D. (1990). *Development of Finance Company.* Maryland: The John Hopkins Press.
47. Xiaolin, J.P.(2018). To predict credit risk of listed companies in China. .Journal of Banking and Finance, 54(3), 57-64.
48. Zhang, A. (2015). *Statistical Methods in Credit Risk Modeling.* University of Michigan.
49. *https://www.nrb.org.np*. (2023, March).
50. *www.himalayanbank.com*. (2023, April 05). Retrieved from www.himalayanbank.com.
51. *www.nabilbank.com*. (2023, April 06). Retrieved from www.nabilbank.com.
52. *www.sc.com.np*. (2023, April 05). Retrieved from www.sc.com.np