CREDIT RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF DEVELOPMENT BANK IN NEPAL

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

Submitted By

Kamal Prasad Gorathoki

Campus Roll No: 3815/075

Exam Symbol No: 13436/19

T.U. Registration No: 7-2-302-230-2014

Shanker Dev Campus

Kathmandu, Nepal

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **"Credit Risk Management on Financial Performance of Development Bank in Nepal"** The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

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 this dissertation.

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Kamal Prasad Gorathoki

Date:

REPORT OF RESEARCH COMMITTEE

Ms. Kamal Prasad Gorathoki has defended research proposal entitled **"Credit Risk Management on Financial Performance of Development Bank in Nepal"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidelines of supervisor Mr Rishi Raj Gautam and submit the thesis for evaluation and viva-voce examination.

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Rishi Raj Gautam
Dissertation Supervision

Dissertation Proposal Defended Date :

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Dissertation Defended Date :

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Asso. Prof. Dr. Sajeeb Kumar Shrestha
Head, Research Department

:Dissertation Viva-voce

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APPROVAL SHEET

We, the undersigned, have examined the thesis entitled **"Credit Risk Management on Financial Performance of Development Bank in Nepal"** presented by kamal Prasad Gorathoki, a candidate for the degree of Master of Business Studies (MBS Semester) and conduced the Viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

.....
Rishi Raj Gautam
Dissertation Supervisor

.....
Internal Examiner

.....
Internal Expert

.....
External Expert

.....
Asso. Prof. Dr. Sajeeb Kumar Shrestha
Chairperson, Research Committee

.....
Asso. Prof. Dr. Krishna Prasad Acharya,
Campus Chief

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ABBREVIATIONS

AQ	:	Asset Quality Ratio
BS	:	Bikram Sambat
C.V.	:	Co-efficient of Variation
CA	:	Current Assets
CAR	:	Capital Adequacy ratio
CL	:	Current Liabilities
CR	:	Current Ratio
e	:	Error Term
ERN	:	Earnings ratio
F/Y	:	Fiscal Year
JBBL	:	Jyoti Bikash Bank Limited
LIQ	:	Liquidity Ratio
LR	:	Leverage Ratio
MBBL	:	Muktinath Bikas Bank Limited
MGT	:	Management efficiency ratio
NRB	:	Nepal Rastra Bank
r	:	Correlation Co-efficient
ROA	:	Return on Assets
ROE	:	Return on Equity
Rs.	:	Rupees
S.D	:	Standard Deviation
SR	;	Solvency Ratio
SRDB	:	Shine Resunga Development Bank
TA	:	Total Assets

ABSTRACT

This study Credit risk management on financial performance of development bank in Nepal. The purses of the study examine the relationship between credit risk management and financial performance of selected development banks Nepal .The dependent variables are return on assets and return on equity while independent variables include Capital Adequacy ratio, Asset Quality Ratio, Management efficiency ratio, Earnings ratio and Liquidity ratio. The study covers 3 Development Bank out of the 17 Development Bank license on the Nepal Rastra Bank. The study used secondary data. Data and information have been collected from NRB of Nepal and annual report of selected Development. To drive the result of the study; financials tools, correlation analysis, multiple regression analysis were applied. Credit Risk Management on Financial Performance was measure by ROA and ROE while Capital Adequacy ratio, Asset Quality Ratio, Management efficiency ratio, Earnings ratio and Liquidity ratio. The analysis has done using statistical package for social science SPSS software version 25.

Keywords: Capital Adequacy ratio, Asset Quality Ratio, Management efficiency ratio, Earnings ratio and Liquidity ratio, ROA, ROE

CHAPTER I

INTRODUCTION

1.1 Background of the study

Boundaries and borders have vanished with globalization and the emergence of the knowledge-based economy, opening up limitless economic possibilities and allowing for the free movement of knowledge and information. Businesses, firms, and even whole countries have had to alter how they do business and manage their economies due to the transformation of the entire economic environment. The global business and finance markets are becoming more mobile due to the intensifying competition. According to Abbas et al. (2014), in order to thrive in the highly competitive world, one must be able to utilize their strengths and eliminate their flaws while having a better understanding of the risks and rising possibilities.

The depositors' funds are entrusted to development banks. The banks often utilize these cash for their operations. Customers own the money, hence it is necessary to have a program in place for its administration. The three main goals of the program must be continuously addressed: revenue, safety, and liquidity. All three of these need to be properly balanced for successful management.

Tulung and Karamoy (2019) stated a financial institution's implementation of solid lending practices and an effective framework for risk management is the first step in credit risk management, or CRM. Under the direction of the risk management committee, police, industry-specific standards and guidelines, together with risk concentration limitations, are created. Credit risk measurement, monitoring, reporting, and control are similarly governed by these rules, regulations, and procedures. Risk management is the procedure a bank uses to regulate its financial exposures. Since market circumstances are always changing, the sufficiency and efficacy of internal controls need to be evaluated on a regular basis in order to properly manage credit risk.

The risk management committee is in charge of designing policies, industry-specific standards and recommendations, as well as restrictions on risk concentration. The profitability ratios are used to assess how profitable a firm is doing. The efficacy and

sufficiency of internal controls should be routinely assessed in order to successfully manage credit risk, given the fast changes in market circumstances. The procedure a bank uses to limit its financial exposures is known as risk management (Lad & Ghorpade, 2022).

The significance of credit risk management in the banking industry stems not only from the recent Global Financial Crisis (GFC) but also from its increased influence on the survival, expansion, and financial performance of banks. The administration of a bank's credit portfolio has become one of the most important tasks for financial institutions after the global financial crisis of 2007. After the financial crisis, the Basel III accord—the third installment of the Basel accord—was created to reinforce bank capital requirements by boosting bank liquidity and lowering bank leverage, which incentivizes banks to assess the credit risk of their portfolios. The use of risk weights in the capital adequacy framework to assess exposure to risk assets in order to calculate substantial credit exposure is another issue brought up by the Basel committee (Lad & Ghorpade, 2022).

Development banks rely heavily on credit loans for their revenue, therefore controlling credit risk has a significant influence on the bank's bottom line. Identification, measurement, monitoring, and control of credit risk resulting from potential loan payment defaults are all included in credit risk management. The biggest financial organizations in the world today are banks, which have branches and subsidiaries throughout every stage of a person's life. The differences between the various kinds of banks are many. And a large portion of this distinction is based on the goods and services that banks provide. Development banks, for example, retain deposits, group them into loans, and run payment systems (Pandey & Joshi, 2023).

Credit is the sum of money that banks, acting as creditors, provide to borrowers, either with or without security. A significant component on the asset side of the development bank's balance sheet is credit and advances. One of the main sources of revenue for banks is interest on loans and advances. The bank creates the credit portfolio; otherwise, it would negatively impact profits as well as obligations (Lad & Ghorpade, 2022). Credit is thought to be the asset that generates the highest revenue, particularly for development banks. Because it handles a significant amount of transactions, it is also thought of as the development bank's core. It includes the

majority of the investment. It is the primary element that generates profit and establishes profitability. The economy as a whole ought to be impacted. Even though the development banks have encountered challenges over the years for a variety of reasons, the primary cause of significant financial issues is still closely linked to borrower credit standards, inadequate portfolio risk management, or a failure to pay attention to shifts in the competitive landscape and economic conditions. A careful assessment of the borrower's qualities and the lending circumstances' risk should form the basis of the loan decision. In recent years, the profitability of the banking industry has drawn a lot of attention. These days, a sizable body of empirical research has looked at the connection between bank profitability and credit risk management.

Default risk is a kind of investment risk when a loan is not paid back by the predetermined date. In the Nepalese context, rising interest rates result in declining economic activity and borrower capacity. Occasionally, the debtor intentionally defaults on the loan and uses the money for useless investments. Such actions are always taking place when there is a deficiency in strong credit policies, inaccurate credit analysis, loan holder information, and consistent monitoring. Thus, banks should create and carry out sensible credit policies. Credit risk may be controlled by frequent monitoring and adequate credit analysis, which should be done throughout the loan approval and payout procedure (Mushafiq et al., 2023).

Credit risk is the result of a counterparty's or customer's incapacity or unwillingness to fulfill obligations regarding lending, trading, hedging, settlement, and other financial transactions. Concentration and inherent risk are included in the portfolio risk. The risk of the portfolio is influenced by both internal and external variables. The external influences include trade barriers, economic sanctions, government policies, large fluctuations in commodity, equity, and foreign currency markets, as well as interest rates and trade restrictions.

The danger that a borrower won't fulfill its responsibilities in line with the terms and circumstances agreed upon is known as credit risk. Credit risk encompasses not just operations undertaken by lenders but also exposures to off-balance sheet and interst bank transactions. By keeping the ROE within reasonable bounds, credit risk management seeks to optimize the bank risk adjusted rate of return. Loans are the most significant and unaware source of credit for the majority of banks. However, the

bank's operations include various sources of credit risk in the trade and banking books, as well as in both on and off balance sheet activities. In a variety of financing, foreign currency transaction, guarantee, and transaction settlement scenarios, banks are increasingly exposed to credit risk or counterpart risk (Mushafiq et al., 2023).

Effects of credit management on the liquidity and profitability of the business. Thus, for the development banks, this is one of the most important choices. While exploring new sectors for credit management is promising, it is important to remember that industrial loans should take precedence since they are crucial to the economy. In a similar vein, credit policies lack structure and a definitive policy framework on credit-related issues. It has been discovered that credit choices and loan approvals are made flexibly in Nepal to benefit personal networks as well. A new client discovers that the procedure of obtaining credit is quite difficult, and that sometimes the paperwork filed in order to grant a loan are fake and only for formalities. Therefore, I'm interested in researching this issue to learn more about the actual credit risk management procedure used by development banks.

1.2 Problems statement

The current banking system is the outcome of globalization, economic requirements, and economic liberalization. The 1990s saw reasonable growth in terms of both quantity and quality. Nevertheless, the quality of development banks' following growth has not been enough. Development banks have focused on how they operate in both urban and rural settings. Development banks and other financial organizations are becoming more and more prevalent. In the long term, none of the development banks can thrive without putting in place sensible lending policies and procedures. Nepal's development banks have been dealing with a number of issues and difficulties. A few of them result from the nation's economic situation, a few from the government's disorganized policies, and a large number from borrower default. There are a number of possibilities in the banking industry after economic liberalization. The number of loans and deposits in the banking industry is rising. Development banks may make significant profits. The current trend in bank interest rates for loans and savings is declining because of intense competition. For development banks, nonperforming assets have grown to be a significant issue. Development banks are required by NRB regulations to put aside a certain percentage of their profits as

provisions for non-performing assets and bad loans. Banks are unable to make large profits because of the nation's economic conditions and excessive provision. Lending in the productive and industrial sectors is a highly dangerous endeavor. For security reasons, banks are investing in home loans, hire purchase loans, and education loans. Banks are having trouble with excess cash due to a lack of favorable lending prospects. One of the major issues facing development banks is the rising trend of deposits in savings and fixed accounts and the falling trend of lending. Following the deregulation of the banking sector in Nepal in 1986, development banks engaged in fierce rivalry with one another, extending enormous amounts of loan with the primary goal of boosting profitability (Mushafiq et al., 2023).

Effects of credit management on the liquidity and profitability of the business. Thus, for the development banks, this is one of the most important choices. While exploring new sectors for credit management is promising, it is important to remember that industrial loans should take precedence since they are crucial to the economy. In a similar vein, credit policies lack structure and a definitive policy framework on credit-related issues. It has been discovered that credit choices and loan approvals are made flexibly in Nepal to benefit personal networks as well. A new client discovers that the procedure of obtaining credit is quite difficult, and that sometimes the paperwork filed in order to grant a loan are fake and only for formalities. The following study issues are created to examine the credit risk management of development banks (Mushafiq et al., 2023).

i) What the capital adequacy, assets quality, management efficiency, earning ability, liquidity of development bank?

ii) What is the relationship between capital adequacy, assets quality, management efficiency, earning ability, liquidity of development bank in Nepal?

iii) How does credit management affect the profitability position of development bank?

1.3 Objectives of the study

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

i) To examine the position of credit profitability in development banks.

ii) To examine the relationship between capital adequacy, assets quality, management efficiency, earning ability, liquidity, ROA, ROE of the profitability of development bank in Nepal.

iii) To analyze the effect of credit risk in profitability position of development.

1.4 Rationale of the study

Risk is an inherent component of all business organizations. Therefore, assessing, controlling, and accepting risk is the business of banking. We are aware that one of the biggest challenges confronting the banking sector is default risk. It is the unpredictability surrounding the loan payment made by the borrower. Lenders must get accurate information on borrowers in order to use extreme caution when granting loans. An effective development lender must have strong communication skills and a clear vision in order to assess the competence and plans of borrowers. Even though financial management is one of the most important topics, not many researches have been produced for this issue. These days, development banks are becoming more and more well-known due to their professional services and effective administration, and they are also significantly contributing to economic expansion. The information provided by this research will be helpful to the bank's management committee, shareholders, and other external parties like stock brokers and other financial organizations.

The purpose of research is to provide new information to a current topic and to obtain knowledge itself, which makes it very significant. The research thus has a need of its own. The primary purpose of the study is to help the researcher complete the coursework needed for a master's degree. Conversely, the government, development banks, academics, researchers, investors, and several other stakeholders find the study to be significant. Finally, a reduction of literacy in the area of development banks and their credit risk management is anticipated as a result of the research.

In the current setting, it also has some impact on the national economy since, in the event that the bank extends credit to a store, it will create a consumer. In a similar vein, it also supplies industry and commerce with currency. They will pay taxes to the government, which will support growth in the overall economy. It serves as a

safeguard against depositors as well. From the outset, it has been assumed that credit is the derivative of wealth maximization. While there are other elements that might impact profitability and wealth maximization, credit risk is thought to be the most influential. Since it is the foundation of development banking, it is the most difficult work. Therefore, careful consideration should be given to good credit management.

The improved use of management strategies and tools for creating a better plan of action to produce exceptional performance in the banking industry is the main emphasis of this research. This research aims to determine the credit risk management indicators of Nepali development banks and investigate the correlation between credit risk management and the financial performance of these institutions. This helps to enhance CBs in and of itself. Additionally, this study can be significant for academics, researchers, the banking industry, students, the government, and other stakeholders.

1.5 Limitations of the study

The study is important document in context of credit risk management and financial performance of development bank in Nepal study is limited to the following:

i) The study is limited to only 3 development bank of Nepal.

ii) This study concentrates only their credit risk management and financial performance of development bank in Nepal.

iii) Profitability of an organization is caused by capital adequacy ratio, asset quality ratio, management efficiency ratio, earnings ratio and liquidity ratio. actors but here we study only those factors, which are directly affected by the credit risk management and financial performance of development bank in Nepal

iv) Only secondary data is used for analysis.

v) The study is limited to the past ten years from 2013/14 to 2022/23

CHAPTER II

LITERATURE REVIEW

This chapter begins with the conceptual review and moves on to evaluate a number of relevant books, articles, research papers, journals, and prior theses that address the subject of the study. The theoretical framework and research gap relevant to the study to better understand the variables that may affect banks' profitability are then presented in the part that follows in this chapter.

2.1 Theoretical review

The purpose of financial analysis is to determine the bank's present performance. By doing a cross-sectional examination of financial ratios, bank management may determine its issue areas and understand how the bank is doing in relation to the performance of the banking sector as a whole. In a similar vein, time series analysis of bank performance allows bank management to understand how the bank's performance has changed over time. Profit is the primary metric for measuring financial success (Paudel, 2019).

An analyst requires certain corporate characteristics to determine the quantitative connection and position of a company in order to assess its financial performance. Ratio analysis is the most popular and useful method in financial analysis. A financial ratio is a mathematical expression of the measurement of the connection between two accounting figures or the numerical relationship between two variables represented as a percentage, fraction, or proportion of numbers. Ratio analysis is the methodical use of financial data to identify a company's strengths and weaknesses, as well as its past performance and present financial status. We must compare the results of the different ratio calculations to a predetermined benchmark in order to determine the outcome. Weston and Brigham categorized the comparison into six categories: (i) ratios of liquidity; (ii) ratios of debt; (iii) ratios of activity; (iv) ratios of profitability; and (v) ratios of growth. The following ratios are examined in this research. 1. Ratio of Profitability 2. Ratio of Liquidity 3. Ratio of Efficiency 4. Ratio of capital structure 5. Ratio of investment. We will go into more depth about the ratios in the next chapter (Khadka, 2012).

Another name for financial statement analysis is financial statement interpretation and analysis. It is the process of identifying the company's financial strengths and weaknesses by establishing the link between factors that are described in the balance sheet, income statement, and other operational data. In order to forecast future earnings, verify the ability to pay interest on both current and long-term loans, and assess a company's profitability position, financial statement analysis aims to understand the relevance and meaning of the data presented in the financial statement (Koirala, 2018).

The process of identifying a company's operational and financial features from accounting information and financial statements is known as financial analysis. Determining the effectiveness and performance of the company's management as shown in the financial reports and records is the aim of such. The analyst is making an effort to gauge the company's liquidity, profitability, and other signs that it is operating in a logical and systematic manner. Analysts flag deviations when a company fails to meet industry-standard financial benchmarks or acceptable correlations between data points. Management may thus be burdened with the burden of explaining the seeming issues (Sangmi & Nazir, 2010). Analyzing financial statements involves looking at links between a collection of financial data at one moment in time and trends in those relationships over time.Financial analysis is the act of correctly creating a link between the items of the profit and loss account and the balance sheet in order to determine the firm's financial strengths and weaknesses (Pradhan, 2004).

A variety of financial statements are used in financial analysis. The balance sheet, which shows a moment in time snapshot of the company's financial situation, comes first, followed by the income statement, which shows a summary of the company's profitability over time. One of the most popular methods for analyzing financial statements and assessing management effectiveness is ratio analysis. The examination highlights the issues. If any areas of company operations exist, this serves as a foundation for the necessary remedial measures. Many people use financial ratios often to monitor the success of their investments or for other personal reasons (Pradhan, 2004).

Risk management and banks performance

Banks are founded with different goals in mind. These may be implemented at the expense of higher risk and are often done to improve profitability, boost shareholder return, or affect bank performance. In banking, taking risks is part of the job, and reaching one of these goals is a reward for handling risk well.

Youssef and Osama (2015) noted that a corporation must balance risk and return since the former increases with the latter. Furthermore, risk management in banking has a big influence on corporate development and national economic growth. Ineffective risk management on the part of banks may result in bankruptcy as well as hinder them from accomplishing their goals. As a result, there is always a risk associated with banking operations. When a risk is quantifiable, understood, and within a bank's ability to voluntarily withstand its negative impact, it is deemed appropriate (NRB, 2010). Effective risk management empowers bank executives to take calculated risks, minimize risks when necessary, and be ready for unanticipated hazards. If done well, it helps the banks by boosting productivity and profitability, drawing in additional clients, and adhering to regulations. In order to prevent potential losses, prevent bankruptcy, benefit shareholders and depositors, and increase profitability, the banking industry has to manage risk effectively. As a result, banks' ability to manage risk effectively affects how well their accounting functions.

Profitability of development bank

Within the banking sector, profitability refers to the bank's capacity to turn a profit relative to the expenditures and expenses it has spent over a certain time frame. It demonstrates the bank's ability to manage related risk while raising capital. It also shows how competitive banks are and how well-managed they are. Bank profitability is measured using a variety of metrics, including price-earnings ratio, total share return, risk-adjusted return on capital, return on invested equity, return on asset, return on equity, net profit margin, cost of income ratio, net interest margin, and so forth. Nonetheless, (Khadka, 2012) suggests that return on equity (ROE), net profit margin, and return on asset (ROA) be the key indicators of bank performance.

Since increasing profitability is one of the main objectives of commercial banks, Khanal and Sapkota's (2023) investigation focused on this important aspect of commercial banks. Every action taken by the bank seems to have an indirect or direct

impact on their own profitability. The literature uses a number of criteria to assess a bank's profitability. Nonetheless, they may be roughly divided into two categories: internal and external drivers. Decisions made by bank management and management-controlled policy goals have an impact on internal determinants. It represents the bank's capital sources and uses as well as its management of costs and liquidity. Factors outside the bank and beyond the management's control are referred to as external determinants. However, as the goal of this research is to investigate how credit risk management affects banks' profitability, it will mostly concentrate on internal factors. Some credit-related factors, such as the quantity of non-performing loans, are, nonetheless, beyond management's control. Furthermore, many management actions are impacted by external restrictions; as a result, the model definition also includes certain external determinants.

Bank’s risk management

A crucial component of this research is credit risk management. This section provides a concise overview of the many kinds of hazards connected to banks and the whole risk management procedure. These will be covered in greater depth in the subsection that follows. The bank's risk is as follows:

i) Credit or default risk
ii) Liquidity risk or funding risk
iii) Interest rate risk
iv) Mismatch risk
v) Market liquidity or market price risk
vi) Market risk
vii) Foreign exchange risk

Credit risk management

Osama and Youssef (2015) For development banks to be successful over the long run, credit risk management is a crucial part of a holistic strategy to risk management. Credit risk management is one of the many activities that may be accomplished in a number of ways. Credit risk management can be defined as an organized method of handling uncertainties through risk assessment; risk mitigation through the use of managerial resources; and the development of strategies like shifting risk to a different party, avoiding risk, minimizing its negative effects, or accepting part or all

of the consequences of a specific risk. Likewise, describe how portfolio management, risk integration, and hedging of claims that are susceptible to default may all be used to control credit risk. It has listed the fundamental ideas behind credit risk management as follows:

i) Standard setting and financial reporting

ii) Underwriting authority and loan limits

iii) Investment guidelines or strategies and

iv) Incentive Schemes

In summary, effective credit risk management helps to prevent significant problems such as credit concentrations, a lack of credit discipline, aggressive underwriting, and overpriced goods (Pandey & Joshi, 2023).

2.2 Empirical review

Naiem and Lalon (2023) examined the effect of cottage micro small and medium firm lending on bank performance. The goal of this study is to evaluate the effect of financing for cottage, micro, small, and medium-sized businesses on bank performance. This will be done by estimating the NIM (net interest margin) ratio, followed by the ROE (return on equity) and ROA (return on assets) ratios, and taking into account ten commercial banks in Bangladesh that are part of the emerging economy between 2011 and 2020. The estimation of coefficients corresponding to the explanatory variables of the models built with bank-specific as well as macroeconomic control variables along with the CMSME financing factors affecting banks' profitability is made possible by the adoption of Pooled OLS, Fixed Effect (FE), Random Effect (RE), and Generalized Least Square (GLS) techniques. To make sure our models are correct, we used diagnostic tests including the autocorrelation, multicollinearity, heteroske causticity, and omitted variable tests. The models' findings show that, almost all of the determinants, along with a few control variables like bank size, GDP growth, and inflation, largely explain the variations in the profitability ratio of banks that follow Bangladesh Bank's mandated management techniques. This adds value to the body of literature by clarifying the significance of these macroeconomic and bank-specific factors that make up the whole metrics.

Shittu and Abdulkadir (2023) revealed that the moderating effect of the cost per loan asset ratio (CLAR) on the connection between credit risk and return on asset (ROA) of Nigerian deposit money banks (DMBs). The research utilizes panel data analysis and then applies GLS regression models to investigate the link under investigation. As of December 31, 2018, there were fifteen (15) listed DMBs on the Nigerian stock market; they make up the population. The adjusted population was eleven (11). The findings showed that the capital adequacy ratio (CAR) and the non-performing loan ratio (NPLR) had a strong positive moderating connection, whereas the asset quality ratio (AQR) and the loan loss provision ratio (LLPR) had a statistically significant negative association. Furthermore, although though it was not statistically significant, it was discovered that the cost per loan asset ratio had an inverse moderating influence on the link between the loan and advance ratio (LADR) and the bank's likelihood.

Okpukpara et al. (2023) anlalyzed credit risk management in small-scale farming by formal financial institutions during the COVID-19 period from a Nigerian viewpoint. The capacity of an institution to control credit and portfolio risk is directly tied to the institution's overall health. Pandemics add another layer of difficulty to the need of increasing smallholder farmers' access to financing while preserving a healthy financial system. To achieve the study's main goal, the research approach employed data from official financial institutions in 2018 (before to COVID-19) and in 2021 (during COVID-19). The primary analytical techniques were descriptive and inferential statistics. Collateral management, loan recovery management, governance, and information and communication technology (ICT) were the categories into which the credit risk management indicators were divided. Each area was given a weight according to how important it is to credit risk management. The conclusion is, both before and during the COVID-19 period, various elements and magnitudes have an impact on credit risk management. During the epidemic, loan recovery and ICT management metrics had the greatest impact. Furthermore, due to numerous COVID-19-containing strategies, the research found that reduced agricultural output during the pandemic added to an extra obstacle in loan default rates.

Mushafiq, Sindhu, and Sohail (2023) examined how credit risk affected non-financial companies' financial performance using data from Pakistan. The study's goal is to investigate how credit risk and non-financial companies' financial performance are related. The association between the Altman Z-score model, a proxy for credit risk,

and the Return on Asset and Equity, a measure of financial performance, together with the control variables leverage, liquidity, and company size, formed the basis of the study approach. Regression analysis using a Least Square Dummy Variable is chosen. 69 non-financial firms from the Pakistan Stock Exchange's KSE-100 Index between 2012 and 2017 made up the research's sample. The study's conclusion was that the KSE-100 non-financial enterprises' financial performance is highly influenced by Altman Z-score, leverage, and company size. Nevertheless, this research finds that liquidity is not relevant. Leverage has an unfavorable association with financial success, but the Altman Z-score and business size have shown a positive relationship.

Yeasin (2022) looked at how credit risk is influencing Bangladesh's banking sector. The goal of the research was to examine how credit risk management affects commercial banks' bottom lines. Using a panel regression analysis model, the study used a deductive research approach to target secondary data from six commercial banks in Bangladesh. Four variables that have an impact on Bangladeshi commercial banks' financial performance were chosen and examined. The research uses loan to deposit ratio (LDR), capital adequacy ratio (CAR), and non-performing loan (NPL) as indicators of credit risk and return on asset (ROA) as a tool for measuring bank performance. Panel data regression study revealed that the Capital Adequacy Ratio (CAR) and Non-performing Loan (NPL) had a statistically significant negative influence on the financial performance of commercial banks. where the financial performance of commercial banks was positively and statistically significantly impacted by the loan to deposit ratio (LDR).

Akinbo-Balogun (2022) observed credit risk management ratios were used in the research to assess the effect of credit risk management on the financial performance of a subset of Nigerian commercial banks. The capital adequacy ratio (car), asset quality ratio (aqr), management ratio (mr), earnings ratio (er), and liquidity ratio (lr) are the acronyms for the credit risk management ratios. The corresponding ratios were derived from the bank focus data source. The most suitable research design for this study was quantitative analysis, and the credit risk management ratios on a sample of chosen six commercial banks were assessed over a ten-year period using the SPSS 25 (statistical package for social science). The software produced descriptive, correlational, and regression analysis results, which were interpreted to meet the study's hypothesis. The results of this study demonstrated that the bank's financial

performance (car) was positively impacted by the earnings ratio, liquidity ratio, and management ratio; however, the earnings ratio (roa) had the greatest and most significant impact, while the aqr had a negative and low effect on car when taking the relationship into account. This research comes to the conclusion that credit risk management has a major influence on the financial performance of commercial banks because, according to the relevant analysis, it may be used as a proxy to assess the financial performance of commercial banks.

Lad and Ghorpade (2022) drew on secondary data from the annual reports of the chosen institutions. Both financial and statistical methods were used to assess the data that had been gathered. The bank's overall performance was rated using financial instruments, and the influence of credit risk management components on profitability—namely, return on assets (ROA) and return on equity (ROE)—was assessed using multiple regression models and the correlation coefficient. When commercial banks' financial performance was analyzed using financial ratio analysis, the same bank was ranked differently depending on the financial ratio. The study's conclusions showed that, out of the banks that were chosen, IDFC Bank ranked lowest, while Syndicate Bank finished first. According to the correlation research, ROA positively correlated with capital, management, earnings, and liquidity, indicating that it contributes to the bank's increased profitability.

Siddique and Khan's (2021) focused the impact of bank-specific variables and credit risk management on the financial performance of South Asian commercial banks. NPLs and the capital adequacy ratio (CAR) were the credit risk metrics employed in this research; bank-specific criteria were the cost-efficiency ratio (CER), average lending rate (ALR), and liquidity ratio (LR). The Approach and Design Throughout the course of ten years, from 2009 to 2018, 19 commercial banks in the nation provided secondary data (10 from Pakistan and 9 from India). To counteract the impacts of certain endogenous factors, the generalized method of moment (GMM) is used for the coefficient estimate. The findings showed that whereas CAR and ALR had a considerably favorable relationship with the FP of the Asian commercial banks, NPLs, CER, and LR had a significantly negative relationship with FP (ROA and ROE).

Rinaldo and Endri (2020) assessed the financial performance of plantation subsector businesses listed on the Indonesia stock market. Five samples of sub-sectoral enterprises that were listed on the Indonesia Stock Exchange between 2014 and 2019, before to the Covid-19 epidemic entering Indonesia, were used in this research. According to the study's findings, AALI performed rather well, recording a sizable NWC along with consistent values for CR, DAR, DER, GPM, and NPM. UNSP noted a low NWC, a sufficiently big but unstable CR, high DAR and DER, and erratic GPM and NPM that indicated subpar performance. LSIP demonstrated rather strong performance as seen by its constant NWC, CR, GPM and NPM, as well as its high DAR and DER. In order to demonstrate its poor performance, SGRO recorded an unstable NWC, steady CR, high DAR and DER, variable GPM, and NPM. SMAR reported consistent gross profit with a variable net profit margin, as well as consistent net working capital, current ratio, debt to equity, and debt to asset ratios. SMAR often displays a fairly

Karamoy and Tulung (2019) influenced that banking risk on Indonesia's regional development banks. Examining the Impact of Banking Risk on Indonesia's Regional Development Banks is the goal. The ratios of Non-Performing Loans (NPL), Net Interest Margin (NIM), Loan to Deposit Ratios (LDR), and Operational Cost to Operational Income (OCOI/BOPO) to Financial Performance in Indonesian Regional Development Banks are used to examine the impact of Banking Risk. The Annual Report, which is available on each bank's website, provided the data for the research. 26 Indonesian Regional Development Banks covering the years 2013–2015 comprise the sample. The study's findings demonstrated that while NPL is significant and negatively affects ROA, NIM is significant and positively influences ROA, LDR is not significant and negatively affects ROA, and OCOI/BOPO is significant and negatively influences ROA, all of these factors are significant and affect ROA simultaneously.

Noor, Das, and Banik (2018) looked at how credit risk management affected banks' financial results via an analysis of significant state-owned commercial banks in Bangladesh. An essential component of economic growth is the function that banks play. It takes an efficient banking system to carry out this function; in the absence of one, the economy finds it challenging to mobilize the actual resources required for stability and development. Two fundamental finance challenges are critical to

economic development: first, how to effectively lend outside capital to the business sector, and second, how well financiers oversee the actions and output of these corporate borrowers within the framework of an efficient corporate governance framework. These two activities are together referred to as credit management and are performed by banks. The most common kind of POCL (Percentage of Classified Loan) is inadequate credit management. The profitability and productivity of the banks serve as indicators of their financial success. Bank profitability may be measured using ratio analyses such as ROI, ROA, and ROE. The purpose of this research is to assess the cointegration of the variables and quantify the effect of POCL on ROI, ROE, and ROA.

Alshatti (2015) examined how credit risk management affected the commercial banks in Jordan's financial performance. The opinions of all thirteen commercial banks in Jordan have been selected for expression. The link between credit risk management and the financial performance of Jordanian commercial banks, as determined by ROA and ROE, has been studied using two mathematical models. The financial performance of Jordanian commercial banks is significantly impacted by the credit risk management indicators taken into consideration in this study.

Table 2.1

Review of international articles

Study	Major Finding
Naiem & Lalon (2023)	CMSMSE determinants, bank size, GDP growth, and inflation account for profitability variation in Bangladeshi banks following Bangladesh Bank's management techniques.
Shittu & Abdulkadir (2023)	Positive moderating relationship between non-performing loan ratio (NPLR) and capital adequacy ratio (CAR), while loan loss provision ratio (LLPR) and asset quality ratio (AQR) showed negative, yet significant effects.
Okpukpara et al. (2023)	Credit risk management influenced by various factors pre and during COVID-19; loan recovery and ICT management were crucial during the

	pandemic.
Mushafiq et al. (2023)	Leverage and firm size significantly affect financial performance of KSE-100 non-financial firms.
Akinbo-Balogun (2022)	Earnings, liquidity, and management ratios positively influence bank's financial performance (CAR), with earnings ratio (ROA) having the highest significant impact; asset quality ratio (AQR) shows a negative, low influence.
Lad & Ghorpade (2022)	Credit risk management, utilizing parameters like capital adequacy, asset quality, management, earnings, and liquidity, is a popular method for measuring banking performance.
Siddique (2021)	Non-performing loans (NPLs), capital adequacy ratio (CAR), and liquidity ratio (LR) are significantly negatively related to financial performance (ROA and ROE) in Asian commercial banks; CAR and asset-liability ratio (ALR) show positive relationships.
Rinaldo & Endri (2020)	Return on equity (ROE) has a significant positive relationship with asset quality and return on assets (ROA), but a negative one with capital adequacy ratio; capital adequacy and asset quality are crucial for maximizing ROA and ROE in financial institutions.
Karamoy & Tulung (2019)	Simultaneously, non-performing loans (NPL), net interest margin (NIM), and operating expenses over operating income (OBOI/BOPO) are significant to return on assets (ROA); partially, NPL negatively affects ROA, while NIM positively influences it, and loan deposit ratio (LDR) is not significant.
Noor, Das & Banik (2018)	Post-operating cash loss (POCL) has a significant

	negative impact on return on investment (ROI) in regression analysis; however, its impact is not significant on return on assets (ROA) and return on equity (ROE); integration exists among study variables.
Alshatti (2015)	Credit risk management significantly affects financial performance of Jordanian commercial banks, as measured by return on assets (ROA) and return on equity (ROE).

Review of previous thesis and articles

Pandey and Joshi (2023) looked at how credit risk management affects the profitability of commercial banks in Nepal. The study's independent variables are the capital adequacy ratio, cost per loan asset, and default rate. Return on equity (ROE) and return on assets (ROA) are the dependent variables. The annual reports of a few chosen commercial banks and the Nepal Rastra Bank supervisory report were utilized as secondary sources of information. To determine the importance and impact of credit risk management on the profitability of Nepalese commercial banks, regression models are estimated. It has been shown that the beta coefficients of the default rate and cost per asset with profitability (ROA, ROE) are statistically significant and negative. The statistical link between the default rate and the cost per loan asset with profitability is statistically negative, as shown by the negative sign.

Khanal and Sapkota (2023) looked at how credit risk management affects the financial health of Nepal's commercial banks. This research uses balanced panel data from 10 commercial banks spanning the years 2012–2021 and applies the Pooled Ordinary Least Square estimator to the data. The research employs ROA as a financial performance measure and CAR, NPLR, CDR, MQR, and BS as credit risk indicators. The research concludes that CDR with ROA has a negative and negligible impact, and that CAR, NPLR, and BS have a positive but insignificant effect. Likewise, MQR has a noteworthy favorable impact on ROA.

Shah and Jan (2019) examined the financial performance of Pakistani private banks. The information was gathered from the State Bank of Pakistan's Financial Statements Analysis of the Financial Sector. The top 10 private commercial banks in Pakistan

make up the sample size. To solve the problem, we used correlation analysis and regression analysis. The ROA of a bank is adversely correlated with its size and operational efficiency, whereas the ratio of assets managed is positively correlated. Conversely, there is a negative correlation between interest income and operational efficiency and asset management, and a positive correlation between bank size and interest income.

Shrestha (2019) claimed that credit risk management has gained importance due to the country's present financial crisis as well as the fact that it is an essential concept that affects the survival, expansion, and profitability of banks. This research looks at how Nepalese commercial banks' profitability is affected by credit risk management. Four commercial banks' 2010–2017 financial statements were provided for review. Regression analysis, return on equity (ROE), and return on asset (ROA) were used as profitability indicators, and the impact of credit risk management and the ratio of non-performing loans on the profitability of Nepalese commercial banks was examined. Four commercial banks' 2010–2017 financial statements were provided for review. The profitability measures were regression, return on equity (ROE), and return on asset (ROA); the credit risk management indicators were the capital adequacy ratio (CAR) and the non-performing loans ratio (NPLR). The results show that non-performing loans and commercial banks' profitability are significantly positively correlated, meaning that even with increased loan losses, banks are still profitable. Small businesses are unable to get loans because banks charge higher interest margins on loans as a result of inadequate credit risk management procedures. Regarding policy recommendations, Khakurel (2014) discovered that Nabil's ratio is the greatest because of the consistent and substantial amount of loans and advances made throughout the years. The largest percentage of Nabil's total deposits have been used for earning activities; this ratio is far higher than average. This shows that Nabil performs significantly better in fund-raising initiatives. On that subject, he had suggested that banks should be allowed to use depositor funds for loans and advances in order to succeed in the highly competitive banking market. Given that loans and advances make up the majority of the bank's asset side, improper management of them might be the primary cause of the bank's liquidity issue as well as one of the primary causes of bank collapse.

Thapa's (2015) stated taht commercial banks' non-performing loan status indicates that they are improving. The percentage of non-performing loans to total loans and advances dropped to 9.65% at the middle of July 2007. In the same year, the total amount of non-performing loans was still Rs. 22182.9 million. The percentage and total amount of non-performing loans in the previous year were 14.22% and Rs. 26770.42 million, respectively. As the primary component of assets, loans and advances made up 46.66 percent of all assets as of mid-July 2006. Comparably, another asset component—liquid money and investments—recorded 19.06 percent and 8.98 percent of total assets in the same year. The corresponding shares of investments, loan and advances, and liquid money were 19.15 percent, 9.06 percent, and 40.44 percent in the year before. Compared to the previous year, when loans and advances climbed by 8.61 percent, the current year's rate of rise is 32.05 percent. The overall outstanding amount of commercial bank loans and advances at the middle of July 2006 was Rs. 228951.9 million. In the middle of July 2005, it reached Rs. 173383.4 million. From Rs. 38842.1 million in mid-July 2007 to Rs. 44089.7 million in mid-July 2008, liquid funds climbed by 14.45%. The banking system's net profit increased at a slower pace in the current fiscal year—10.20 percent—than it did the previous year—53.38 percent. The net profit increased from Rs. 7983.5 in mid-July 2008 to Rs. 8797.9 million by mid-July 2009.

Yadav's (2015) researched on RBB and NBL account for almost 50% of the banking sector's assets and liabilities. Even if these banks have been managed by foreign financial specialists, the results are not satisfying, particularly when it comes to lowering NPA. The management teams were expected to raise the non-performing assets (NPA) to 5%. In FY 1997/98, RBB's overall credit ratio for non-performing assets (NPAs) was 20.17 percent; by FY 2004/05, it was 60.15 percent. In FY 2004–05, it rose by five percentage points over the prior year. Similarly, the NPA / total credit ratio of NBL exhibited an increasing trend, growing from 27.46 percent to 60.47 percent in FY 2004/05. Because almost 60% of the assets were non-performing in the first three fiscal years, NBL and RBB's net profit trend was very negative. However, over the last two years, NBL and RBB have been profitable. The total deposit and the loan and advance from these two institutions are unrelated. This is the primary source of overliquidity and a very dangerous issue. In NBL and RBB, the state of deposit mobilization is dire. Instead of emphasizing credit quality, NBL and

RBB concentrated on loan volume. Financial metrics relating to credit in NBL and RBB don't appear to matter when compared to the NRB's set norm.

2.3 Research gap

The disparity between the current study and earlier studies is known as the research gap. Prior study on the subject of credit risk management's impact on the financial performance of Nepal's development banks, carried out by several academics, is highly valued by the public, shareholders, and banks alike. The aforementioned research provide only limited insights; more testing and fine-tuning of relevant factors are required to get more definitive conclusions on credit risk management. Prior research was unable to provide a precise picture of the state of credit risk management in Nepal's banking industry. In order to provide the right environment for the banking industry in our nation, it attempts to evaluate the credit risk management of the banking sector. The current research, which attempts to accomplish its goals by examining secondary sources of data, is based on data from development banks spanning five years. The many changes occurring in the banking sector of Nepal need an updating and validation of the previous research on these topics. The current study is a complement to address the shortcomings and limitations of earlier research, so it will be beneficial to interested parties in terms of both academic and policy implications, including researchers, students, stakeholders, and members of civil society, businesspeople, and the government. As a result, the concerned bank as well as other parties, including stockbrokers, investors, legislators, shareholders, and the state government, will find this research valuable.

CHAPTER III

RESEARCH METHODOLOGY

A systematic research must adhere to an appropriate technique in order to accomplish its predetermined goal. Research technique is a methodical approach that a researcher uses to analyze an issue from a certain point of view and aim. Stated differently, research methodology pertains to the techniques and procedures used throughout the whole study, including data collection methods, instrumentation, tabulation, processing, and analysis techniques. In actuality, it is a critical thinking technique that involves problem-solving and problem-defining, hypothesis- or solution-forming, data collection, organization, and evaluation, deduction, and conclusion-making. Research methodology provides a framework for methodically resolving research quandaries in order to achieve the study's main goal. It includes a succinct description of the study design, the types and sources of data, the procedure for gathering data, and the methodology of the instruments used to analyze the data.

3.1 Research design

This study is based on descriptive and causal comparative research designs. Descriptive research designs focus on answering the questions of who, what, where, and how things happen in a study. Give a description of the population using key variables. Finding the correlations between variables is one of the many uses for descriptive survey designs. Since descriptive research encompasses a variety of study methods, its design is used to ascertain a stance. It has specific steps and methods that provide enough direction for deciphering and assessing the research. Both quantitative and qualitative analytic techniques are used in this research.

Although primary data has been analyzed most of the time, qualitative analysis has also made use of in-person interviews and discussions with the relevant bank workers. The process of determining the cause-and-effect connections between independent and dependent variables is known as causal-comparative research. In hindsight, researchers may examine causes and effects. This may assist in ascertaining the effects or origins of distinctions that now exist within or between various social groupings.

3.2 Population and sample

The whole population of the study, which includes Nepal, is served by a total of 17 development banks. Three banks out of seventeen have collected a sample. A sample is a subset of the population that is looked at in order to estimate its features. The NRB has granted licenses to 17 development banks, which may be thought of as the study's population size. It is not feasible to analyze the whole population due to a number of constraints. As a result, the development banks listed below have been chosen as the study sample:

Jyoti Bikash Bank Limited.

Muktinath Bikash Bank.

Shine Resunga Development Bank.

The reasons of choosing these development banks;

The sample banks under study Jyoti Bikash Bank Limited Muktinath Bikash Bank Limited and Shine Resunga Development Bank are National Level Development.

3.3 Nature and sources of data

Secondary data served as the foundation for this investigation. The balance sheet and profit and loss account of the relevant bank's annual reports provided the information needed for the study. Newspapers, journals, periodicals, magazines, reports, unpublished theses, and publications were also used as additional data sources for the investigation. In order to assess the dependability of the data supplied by the banks and other sources, all secondary data were gathered, processed, and tabulated in the time series in accordance with the requirement and goal. Informal and formal discussions were held with the concerned bank department head to get further details about the linked issue.

3.4 Data collection procedure

A crucial component of any kind of research project is data collecting. The source of pertinent information that researchers need to address their study concerns is data. Secondary data may be used as a source by researchers to get pertinent information. The data that was previously gathered by someone else and the secondary data are both released. The researcher solves our issues using data that has been published and

gathered by someone else, yet our difficulties may vary from others'. Articles, books, journals, web-based data, library research studies, the Internet, home sites and associated link visits, NRB directives, the Statistics and Bank Supervision Report produced by Nepal Rastra Bank, and the Annual reports of the chosen Banks are some of the sources from which we may get secondary data. The study's theoretical framework, which is based on secondary data, was fully understood by us after we studied all relevant literature. This allowed us to fully grasp the research issues. Based on this, further research needs to be done. The research's conclusions are entirely relied on secondary data.

It lists the data sources along with the methods used for collection. Data for this research were gathered from published sources. They were gathered from the websites and correspondent offices of each. Online websites provided the JBBL, MNBBL, and SRDB publications' annual reports, information on their profiles, and other relevant papers. Unpublished master's theses, books, research papers, articles, and journals were mostly gathered from the NRB website, the Tribhuvan University Center Library, and the NRB Library. Newspapers and magazines were issued by officials who were concerned.

The primary focus of the study project is the presentation and analysis of the data that was gathered after it was necessary to separate and analyze it. To accomplish the goals of the study, the collected data were first systematically displayed in tabular form and then subjected to various statistical and financial methods of analysis. In addition, a few graphs, charts, and tables have been included to help assess and understand the study's findings.

3.5 Method of analysis

Several statistical techniques were used for data analysis in order to look at how independent factors affected dependent variables. Multiple regression analysis, correlation, and descriptive statistics are used in this research to examine the data that was gathered. Below is a list of them:

3.5.1 Descriptive statistics

Short descriptions of the sample and data measurements are provided by descriptive statistics, which are used to characterize and comprehend the characteristics of a

particular data collection. The overall patterns of the yearly data from 2068/69 to 2077/78 were examined using correlation and multiple regression.

Average

To represent mass data, the data is summarized using a basic arithmetic average. The result of dividing the total of the values by their numbers is the simple arithmetic average (Kothari, 1989). As a result, the average is written as:

$$\text{Mean}(\overline{X}) = \frac{\sum X}{N}$$

Were,

$\overline{X}$= Mean

N= Numbers of pairs of observation

X= Observations

During the analysis of data, mean is calculated by using the statistical formula of average on excel data sheet on computer.

Standard deviation

The standard deviation, which expresses the deviation or dispersion in absolute terms, is the absolute measure of the values' dispersion (Kothari, 1989). Standard deviation is a measure of variability, and a greater number corresponds to increased variability and vice versa. In 1983, Karl Parson presented the idea of standard deviation. In this case, the deviation in absolute terms is determined using the standard deviation.

Standard deviation is determined in following way.

$$\text{Standard deviation } (\sigma) = \frac{\sqrt{(X - \overline{X})^2}}{N - 1}$$

Were,

N= no of observation

X = individual values

$\overline{X}$= Mean of value

During the analysis of data, standard deviation is calculated by using the statistical formula on Microsoft Excel.

Coefficient of variation

The coefficient of standard deviation is the relative measure of dispersion based on the standard deviation, if standard deviation is the absolute measure of dispersion. Therefore, coefficient of variation (C.V.) refers to the coefficient of dispersion based on standard deviation multiplied by 100. It may be computed mathematically as:

$$C.V. = \frac{\sigma}{\bar{x}}$$

Where,

C.V. = Coefficient of variation

σ = Standard deviation of the distribution

$\bar{x}$ = Arithmetic mean of the distribution.

Since C.V. is independent of unit, it is a useful tool for comparing the variability of two distributions. The homogeneity, consistency, etc. will be greater the lower the CV, and vice versa for the higher CV.

3.5.2 Inferential analysis

A subfield of statistics known as inferential statistics uses a variety of analytical techniques to infer characteristics about the population from sample data. Descriptive statistics is another area of statistics in addition to inferential statistics. While descriptive statistics provide an overview of the characteristics of the data collection, inferential statistics aid in making inferences about the population. The area of inferential statistics is characterized by the use of analytical methods to make inferences about a population from a random sample.

Correlation

The degree of correlation between dependent and independent variables is assessed using correlation analysis. To quantify the linear connection between the independent and dependent variables, the most popular method has been used in this study: the Pearson Correlation Method.

Among the several mathematical techniques for calculating the Karl Pearson correlation, Pearson's Coefficient of In practice, correlation is often employed to gauge the strength of a link between variables. The strength or size of a linear connection between series may be measured using this tool. The correlation coefficient, or "r," between two variables, X and Y, is measured.

In the world of finance and investments, correlation is a statistic that expresses how much two securities move in tandem with one another. Advanced portfolio management uses correlations, which are calculated as the correlation coefficient, whose value must lie between -1.0 and +1.0.

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2}\ \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

Where,

X= Value of variable i.e. total deposit

Y= Value of variable i.e. Net Profit

N = no of observation in series X and Y

$\sum X$ = Sum of observation in series X

$\sum Y$ = Sum of observation in series Y

$\sum X^2$ = Sum of square observation in series X

$\sum Y^2$ = Sum of square observation in series Y

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

Regressions analysis

To ascertain the relative significance of each independent variable impacting profitability, a multiple regression model is used. Regression analysis was used in this research to examine the connection between credit risk management variables and bank profitability.

A statistical method called multiple linear regression (MLR), or just multiple regression, makes use of many explanatory factors to forecast the value of a response variable. Modeling the linear connection between the explanatory (independent)

factors and response (dependent) variables is the aim of multiple linear regression. Since multiple regression uses more than one explanatory variable, it is essentially an extension of ordinary least-squares (OLS) regression.

The two major profitability ratios (ROA & ROE) are dependent variables.

The independent variables are Capital Adequacy, Asset Quality, Management, Earning and Liquidity. Model 1

This model examines the impact of elements of credit risk management on ROA of commercial banks.

$$ROA = \beta 0 + \beta 1CARit + \beta 2AQit + \beta 3MGTit + \beta 4ERNit + \beta 5LIQit + ...+ eit$$

The independent variables are Capital Adequacy, Asset Quality, Management, Earning and Liquidity. Model 2

This model examines the impact of elements of credit risk management on ROE of commercial banks.

$$ROE = \beta 0 + \beta 1CARit + \beta 2AQit + \beta 3MGTit + \beta 4ERNit + \beta 5LIQit + ...+ eit$$

Were,

ROA=Return on Assets

ROE=Return on Equity

CAR=Capital Adequacy ratio

AQ=Asset Quality Ratio

MGT=Management efficiency ratio

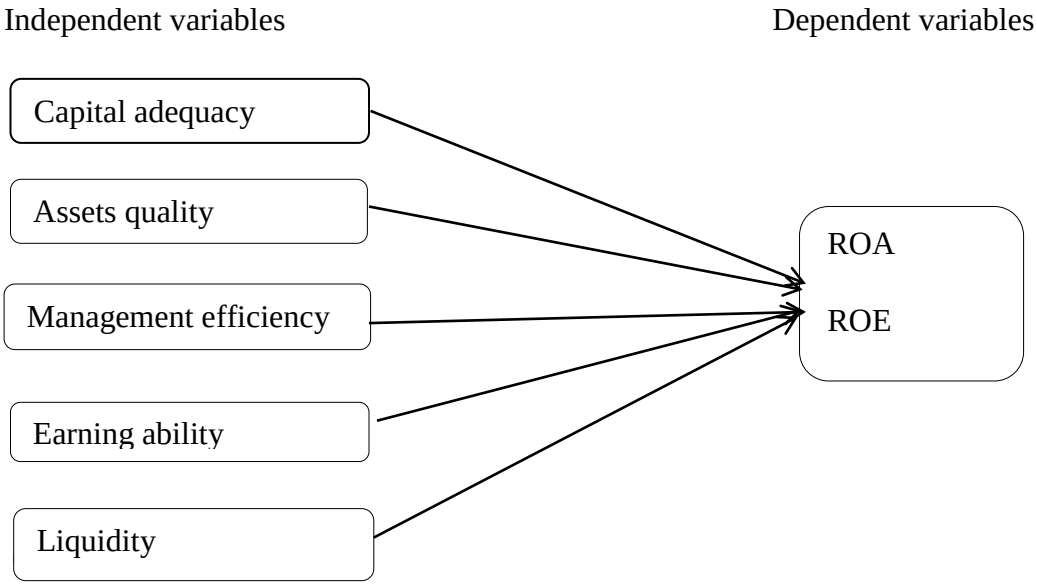
ERN=Earnings ratio

LIQ=Liquidity ratio

3.6 Research framework and definition of variables

The purpose of this research is to investigate how certain aspects of credit risk management affect the financial success of development banks in Nepal. Various components of credit risk management have been identified based on the literature research, which may have a major impact on development banks' profitability. The

theoretical and empirical review served as the basis for developing the study's conceptual framework.



(Source: Abebe, 2022)

Definition of variables

Dependent variables

In this study, ROA and ROE have been used as dependent variables that measure the financial performance.

i) Return on assets

A financial ratio known as return on assets (ROA) shows how lucrative a business is in comparison to its total assets. ROA is a useful metric for investors, analysts, and corporate management to assess how well a business utilizes its resources to turn a profit.

Typically, a company's net income and average assets are used to quantify the measure as a percentage. A company's ability to manage its balance sheet profitably is shown by a greater return on assets (ROA); conversely, a lower ROA suggests that there is still opportunity for development.

ii) Return on equity

The financial performance metric known as return on equity (ROE) is computed by dividing net income by shareholders' equity. ROE is referred to as the return on net

assets since shareholders' equity is calculated by deducting debt from assets. ROE is regarded as a measure of a company's profitability and profit-generating efficiency. A company's management is more effective at producing revenue and growth from its equity funding the higher the ROE.

Independent variables

The five credit risk management components that make up the independent variables in this research are described below. This is because the study's goal is to investigate how these components affect roa and roe.

i) Capital adequacy

A bank's available capital is measured and represented as a percentage of its risk-weighted credit exposures, which is known as the capital adequacy ratio (CAR). The capital-to-risk weighted assets ratio, or capital adequacy ratio, or CRAR, is a tool used globally to safeguard depositors and advance the efficiency and stability of financial institutions. Tier-1 capital, which can absorb losses without forcing a bank to stop operations, and tier-2 capital, which can absorb losses in the case of a winding-up and offers depositors less protection, are the two categories of capital that are assessed.

ii) Assets quality

Banks' assets are the loans they provide to individuals and companies. The principal risk to banks is the possibility that the loans won't be repaid, with interest on these assets accounting for a significant portion of their revenue and profit. The loan's quality, or "asset quality," decreases with increasing credit risk. Banks must retain more capital to cover the associated credit risk and file bigger provisions to account for the anticipated losses when their asset quality declines.

iii) Management efficiency

The capacity of an institution's management team to recognize and respond to financial stress is measured by management efficiency. The level of a bank's internal controls, financial performance, and business strategy all affect its categorization. The credit risk management examiner looks at the institution's intentions for the next years in the business strategy and financial performance area. It covers identifying the main risks as well as the growth and capital accumulation rates.

iv) Earning ability

The long-term viability of an institution may be assessed using its earnings. In order to sustain its competitiveness and expand its activities, a bank need a suitable return. In particular, the examiner looks at future earnings possibilities in the face of challenging economic circumstances, return on assets (ROA), net interest margin (NIM), and stability of profits.

v) Liquidity

For banks, liquidity is especially important, as the lack of liquid capital can lead to a bank run. This category of credit risk managements examines the interest rate risk and liquidity risk.

Financial tools

In this study, ROA and ROE have been used as dependent variables that measure the financial performance of development banks in Nepal. They are as follow.

i) Return on assets

A financial ratio known as return on assets (ROA) shows how lucrative a business is in comparison to its total assets. ROA is a useful metric for investors, analysts, and corporate management to assess how well a business utilizes its resources to turn a profit.

Given that it shows the returns from assets, this ratio is most likely the most crucial when analyzing the effectiveness and operational performance of banks. One way to calculate ROA is:

$$\text{Return on Assets} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100$$

Were,

Total Assets= Total assets includes current assets, fixed assets, tangible & intangible, fictitious

ii) Return on equity

Return on Equity is a metric that indicates how well a business generated new profits via the reinvested earnings. equal to the proportion of the fiscal year's after-tax

income (prizes on preferred shares paid out after dividends on common stock) divided by book value. It serves as a broad gauge of the business' effectiveness, or more specifically, how much profit it can turn a profit with the resources granted by its investors. Generally speaking, investors seek for businesses that have a high and growing return on equity (Investorwords.com). Since the shareholders are the bank's real owners, they should get the profits. The returns on shareholder equity are shown by this ratio. Share capital and any other reserves, including retained profits, are included in the shareholder's equity.

$$\text{Return on Equity} = \frac{\text{Net Profit After Tax}}{\text{Shareholder's Funds}} \times 100$$

Where, shareholder's Funds\equity = Share Capital + Reserve + Retained Earning

Independent Variables

The components of credit risk management—capital sufficiency, asset quality, management effectiveness, earning quality, and liquidity—have been analyzed in this research in order to determine how they affect the commercial banks' profitability.

i) Capital adequacy (CAR)

Commercial banks have enough capital on hand to meet their needs. An indication of a bank's capital as a proportion of its risk-weighted credit exposure is the capital adequacy ratio.

$$\text{Capital Adequacy Ratio(CAR)} = \frac{\text{Total Capital}}{\text{Total Risk Weighted Assets}} \times 100$$

Were,

Total capital = Core capital + Supplementary capital

Total risk weighted asset= On balance sheet risk weighted items + Off balance sheet risk weighted items.

ii) Assets quality ratio

Commercial banks gather money in the form of capital, deposits, and other assets. They then utilize this money to create returns by lending it to customers so they may

make investments in a range of different ventures. Lending is how the bank makes a significant portion of its revenue. Generally speaking, advances and loans come in two varieties:

Loans in performance (PL): A loan is considered to be performing if interest and principal payments are due within ninety days. There are two types of performing loans: watch list loans and pass loans. Loans and advances classified as Good/Pass that are past due for a maximum of one month, as well as loans and advances that are past due for one to three months.

Negatively performing loan (NPL): The amount of borrowed money on which the debtor has missed at least ninety days of scheduled payments is known as a nonperforming loan (NPL). A nonperforming loan is one that is either past due or almost past due. Under NPL, substandard, questionable, and bad/loss loans are all taken into account. Poor quality loans and advances that are three to six months past due. Generally speaking, doubtful loans are non-performing debts with past-due interest and unclear principle repayment. This category will comprise loans and advances with questionable origins that have been past due for six months to a year. None of them are making loan payments. Any loans and advances that are past due for a year or more will fall under the category of bad or loss loans.

$$\text{Non Performing Loan Ratio} = \frac{\text{Total Nonperforming Loan}}{\text{Total Loan and Advances}} \times 100$$

Were,

Total non-performing loan (NPL) = Substandard loan + Doubtful loan+ Bad loan

Total loan and advances = Total performing loan + Total non-performing loan

iii) Management efficiency

Management is the methodical arrangement of different elements in a methodical way to accomplish the objectives of the company. An institution can only pursue its objectives if its administration is competent and has a clear, long-term vision. At some point, the bank must have proper and efficient management in order to achieve its goals. To this end, the bank must possess the following attributes: excellent human resource management; adequate management expenditures; a flawless management

team structure; equitable decision-making ability; and a perfect working environment. The following formulae may be used to do management analysis:

$$\text{Management efficiency ratio (MER)} = \frac{\text{Net Profit After Tax}}{\text{Total Number of Staffs}}$$

iv) Earning

Profit is the surplus income that a firm makes throughout its operation. Earning is defined as excess revenue above costs. It is the final outcome of every enterprise. In general, a firm is doing well if its profits are strong. In a similar vein, the bank's overall performance is indicative of its earnings. The ultimate goal of every firm is to make money. Higher wages often correspond to a better financial situation. In a similar vein, the bank's overall performance is indicative of its earnings.

$$\text{Earning Per Share} = \frac{\text{Net Profit After Tax}}{\text{No. of equity shares oustanding}} \times 100$$

v) Liquidity

a measurement of how much cash or assets that can be swiftly converted to satisfy short-term and urgent commitments are available to an individual or organization. The capacity of a corporation to pay off its debts or financial obligations with cash on hand is referred to as liquidity. The bank's short-term financial situation is referred to as liquidity. A portion of deposits are retained by the bank as liquidity, either inside the bank or abroad, rather than all of them being used for loans and advances. In essence, banks use three techniques to monitor liquidity. They are listed in the following order:

Liquid assets to deposit ratio

$$\text{Liquidity Ratio } = \frac{\text{Liquid Assets}}{\text{Total deposit}}$$

CHAPTER IV

RESULT AND DISCUSSION

Summaries of the many kinds of data and ratios that were collected and collated for the research for the three development banks that were selected are included in this chapter. Following data collection, analysis, and interpretation, the banks under examination are compared. This chapter discusses a variety of challenges associated with the credit risk management analysis of Nepalese development banks as well as the methodical and organized results of the research via the presentation, interpretation, and analysis of secondary data.

This chapter contains the information on the variables used in the research. Each variable's data has been supplied individually in figures. Various statistical approaches have been used to examine the data in order to find the answers to the research questions. The data will be presented using all of the financial and statistical techniques that were previously stated. In accordance with the study approach described in the preceding chapter, the researcher has examined and evaluated pertinent and readily accessible data from the development banks that were chosen in this chapter. The process of arranging, tabulating, and assessing the gathered data is called data analysis.

4.1 Results

The process of collecting, analyzing, and presenting data in order to gain insightful understanding and make defensible judgments is known as data presentation and analysis. It entails examining patterns, connections, and trends in the data using a variety of methods and instruments.

4.1.1 Descriptive analysis

This section explains the descriptive statistics of the data. It provides summaries about the variables that are incorporated for the study. Summary statistics of variables used in this study for the period 2013/14 to 2022/23. The dependent variables included ROA and ROE and independent variable includes CAR, AQ, ME, EA and LR.

Table 4.2

Descriptive statistics

	Descriptive statistics			
	Minimum	Maximum	Mean	Std. deviation
ROA	1.01	2.92	1.85	0.61
ROE	6.78	26.88	16.10	5.97
CAR	11.08	23.69	15.12	3.38
AQ	1.2	3.86	0.82	0.95
ME	311.17	1571.62	730.65	330.34
EA	15.30	26.26	23.8	10.13
LR	20.72	54.76	30.10	6.64

Sources: SPSS output

Table 4.2 presents the descriptive statistics of the chosen variables that were examined in this investigation. Their average return on asset is 185%, with a minimum of 101% and a high of 292%. There is a 61% standard deviation. Their ROE ranges from 6.78 percentages at least to 26.88 percentages at maximum, with an average of 16.10 percentages. There is a 5.97 % standard deviation. The minimal values for CAR, AQ, ME, EA, and LR are 11.08, 1.2, 311.17, 15.3, and 20.72 percentages, respectively. The maximum values for CAR, AQ, ME, EA, and LR are 23.69, 3.86, 1571.62, 26.26, and 54.76 percentages, respectively. The mean values for CAR, AQ, ME, EA, and LR are 15.12, 0.82, 730.65, 23.8, and 30.10, in that order. The standard deviation values for CAR, AQ, ME, EA, and LR are 3.83, 0.95, 330.34, 10.13, and 6.64, in that order.

4.1.2 Correlation analysis

The relationship between two or more variables is measured by the correlation coefficient. It also calculates the degree to which one variable influences another. The range of the correlation coefficient is +1 to -1. A complete positive correlation is shown by a +1 coefficient, whereas a perfect negative correlation is indicated by a -1 value. Additionally, if there is no link between the variables, the correlation

coefficient is 0. A negative correlation suggests that a rise in one variable's value results in a fall in the other's value, while a positive correlation points to an increase in value.

Table 4.3

Correlation analysis

	ROA	ROE	CAR	AQ	MER	EQ	LIQ
ROA	1						
ROE	.847**	1					
CAR	-.186	-.576**	1				
AQ	-.519**	-.667**	.479**	1			
ME	.423*	.240	-.108	-.386*	1		
EA	.814**	.976**	-.583**	-.593**	.153	1	
LR	-.101	-.336	.499**	.321	-.265	-.370*	1

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

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

Sources: SPSS output

All of the obtained ranges in table 4.3 fall between -1 and +1. A positive r indicates that the dependent variable will grow when the independent variable increases. Comparably, a negative r indicates that the dependent variable will drop as the independent variable increases. The correlation coefficient, which indicates a negative association, is -.186 between the return on assets ratio and the CAR.

The correlation coefficient, which indicates a negative link, is -5.19 between AQ and Return on Assets. The correlation value of.423 indicates a positive association between MER and Return on Assets. The extremely favorable association between Return on Assets and EQ is shown by the correlation value of.814. Return on Assets and LIQ have a negative association, as seen by their -.101 correlation coefficient. Return on Equity and CAR have a negative correlation value of -.576, indicating this.

Return on Equity and AQ have a negative association, as seen by their -.667 correlation coefficient. There is a positive connection of.240 between Return on

Equity and MER. There is a positive connection of.814 between Return on Equity and EQ. There is a negative correlation of -.101 between Return on Equity and LIQ. CAR and AQ have a positive correlation value of.479, indicating a link. CAR and MER have a negative correlation value of -.108, indicating a link. CAR and EQ have a negative correlation value of -.583, indicating a link.

The correlation coefficient, which indicates a positive association, is.499 between CAR and LIQ. With a MER and EQ of.153, a favorable connection is evident. There is a negative correlation between MER and LIQ of -.265 and a negative correlation between EQ and LIQ of -3.70.

4.1.3 Regression analysis

Regression analysis is used to determine how one variable will change in relation to another. Regression models such as logistic, nominal, and simple linear, multiple linear, and ordinal regressions may all be used. The most common kind of regression used in inferential statistics is linear regression. Through linear regression, the response of the dependent variable to a unit change in the independent variable is investigated.

Model summary

According to the research design and methods part, the study employed a credit risk management model measured by ROA to assess the quantitative impact of capital adequacy ratio, assets quality, earning, management efficiency, and LR on profitability analysis of development banks.

Table 4.4

Impact of LR, ME, AQ, CAR on ROA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955[a]	0.912	0.894	0.19691

a. Predictors: (Constant), CAR, AQ, ME, EA, LR

Sources: SPSS output

The data model overview is shown in Table 4.4. The coefficient of determination is 0.912 and the multiple correlation coefficients are 0.955, indicating that only 91.2% of the variance in ROA can be attributed to independent variables including LR, ME, AQ, and CAR.

Anova Table

Table 4.5

Impact of LR, ME, AQ, CAR on ROA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.687	5	1.937	49.967	.000[b]
	Residual	0.931	24	0.039		
	Total	10.617	29			

a. Dependent variable: ROA

b. Predictors: (Constant), LR, ME, EA, CAR, AQ

Sources: SPSS output

Table 4.5 show the ANOVA. The ANOVA test shows that the significant value is 0.00 lesser than level of significance 0.05 showing that the overall regression model is significant.

Coefficients Impact of LR, ME, AQ, CAR on ROA

Table 4.6

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.571	0.331		-4.747	0.000
CAR	0.065	0.015	0.362	4.406	0.000
AQ	0.000	0.053	0.001	0.008	0.994
ME	0.001	0.000অ	0.355	5.238	0.000
EA	0.061	0.005	1.045	12.525	0.000
LR	0.018	0.007	0.199	2.759	0.011

a. Dependent variable: ROA

Sources: SPSS output

Table 4.6 shows the intercept value of the dependent variable, ROA, and the regression coefficient of the independent variables, capital adequacy (CAR), assets quality (AQ), management efficiency (MER), earning quality (EQ), and liquid assets ratio of Nepal's development banks. For CAR, the coefficient of regression is 0.65.

The data suggests that a one percentage point rise in CAR would result in a 0.65 percentage point increase in ROA. Additionally, the CAR's P value of.000 shows statistical significance at the 5% level of significance.

Thus, the positive correlation between CAR and ROA is noteworthy. For AQ, the regression coefficient is.000. The data suggests that a one percent rise in non-performing loans would not affect ROA. Additionally, the AQ's P value of 0.994 shows that the data is statistically insignificant at the 5% significance level. The relationship between non-performing loans and return on assets is thus insignificant.

Similarly, for management efficiency, the coefficient of regression is.001. The Management Efficiency Ratio's P value of.000 means that it is statistically significant at the 5% level of significance, and it shows that if the ratio increases by one percentage, ROA will rise by.001%. Thus, there is a noteworthy positive correlation between ROA and the Management Efficiency Ratio.

For Earning (EPS), the coefficient of regression is.061. Given that ROA rose by.061% in response to a one-percent rise in EPS, it may be inferred that, at the 5% level of significance, the P value of EPS, which is.000, is statistically significant. Thus, the positive correlation between EPS and ROA is noteworthy. R

egression coefficient for the liquid assets ratio is.018. The data indicates that a one-percentage rise in the LIQ ratio corresponds to a.018% improvement in ROA. Additionally, the liquid assets ratio's P value of.011 indicates statistical significance at the 5% level of significance. Thus, there is a noteworthy positive correlation between ROA and the liquid assets ratio.

Model summary of ROE

With an emphasis on credit risk management as gauged by return on equity (ROE), the research used quantitative analysis to evaluate the effects of capital adequacy ratio, asset quality, management effectiveness, earnings, and liquidity on the profitability analysis of development banks. The strategy for calculating these impacts was outlined in the section on study design and methodology.

Through the use of statistical techniques, the research sought to determine how these important variables, in the context of credit risk management, affect development banks' profitability. The research aimed to give useful implications for banking sector

theory and practice by analyzing return on equity (ROE) and gaining insights into the efficacy of credit risk management techniques in improving the financial performance of development banks.

Table 4.7

Impact of LR, ME, AQ, CAR on ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.985[a]	0.97	0.964	1.13055

a. Predictors: (Constant), CAR ME, AQ, LR

Sources: SPSS output

The data model overview is shown in Table 4.7. The coefficient of determination is 0.97 and the multiple correlation coefficients are 0.985, indicating that only 97% of the variance in CDR can be attributed to independent variables and the effects of LR, ME, AQ, and CAR on ROE.

ANOVA Table

Table 4.8

Impact of LR, ME, AQ, CAR on ROE

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1002.219	5	200.444	156.823	.000[b]
	Residual	30.676	24	1.278		
	Total	1032.895	29			

a. Dependent Variable: ROE

b. Predictors: (Constant), CAR ME, AQ, LR

Sources: SPSS output

Figure 4.8 displays the ANOVA. The overall significance of the regression model is shown by the ANOVA test, which yields a significant result of 0.00 higher than the significance limit of 0.05.

Coefficients Impact of LR, ME, AQ, CAR on ROE

Table 4.9

Impact of LR, ME, AQ, CAR on ROE

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.126	1.900		1.119	0.274
	CAR	-0.024	0.084	-0.014	-0.285	0.778
	AQ	-0.692	0.304	-0.110	-2.278	0.032
	ME	0.001	0.001	0.073	1.843	0.078
	EA	0.530	0.028	0.915	18.852	0.000
	LR	0.057	0.038	0.064	1.512	0.144

a. Dependent Variable: ROE

Sources: SPSS output

The regression coefficients for the independent variables Capital Adequacy (CAR), Assets Quality (AQ), Earning Quality (EQ), Management Efficiency (MER), and Liquid Assets Ratio of Nepal's Development Banks are shown in Table 4.9, along with the intercept value for the dependent variable ROE. For CAR, the regression coefficient is -.024. It shows that ROE rose by -.024 percentage points if CAR grew by one percent, and the fact that the p value for CAR is.778 suggests that it is statistically insignificant at the five percent significance level. Thus, the negative correlation between CAR and ROE is negligible. Regression coefficient for non-performing loans is -.692. It shows that if AQ increases by 1%, ROE would fall by -.692 percentages, and AQ's P value of.032 indicates that the difference is statistically insignificant at the 5% significance level. Thus, the relationship between the AQ loan and return on equity is insignificant. Similarly, for management efficiency, the coefficient of regression is.001. The Management Efficiency Ratio's P value of.078 means that it is statistically insignificant at the 5% level of significance, and it shows that if the ratio increases by one percentage, ROE will rise by.001 percentages. As a result, the association between the Management Efficiency Ratio and ROE is not statistically significant.

For Earning (EPS), the coefficient of regression is.530. The P value of EPS is.000, indicating that it is statistically significant at the 5% level of significance. It also shows that if EPS grew by one percent, ROE improved by.530 percentages. Thus, the positive correlation between EPS and ROE is noteworthy. Regression coefficient for the liquid assets ratio is.057. The data indicates that a one-percent rise in the LIQ ratio corresponds to a.057 percentage increase in ROE. Additionally, the liquid assets ratio's P value of.144 indicates that the ratio is statistically insignificant at the 5% significance level. As a result, the correlation between the liquid assets ratio and ROE is negligible.

4.3 Discussion

A strong unorganized sector, Nepal Rastra Bank's unstable position in the market and unfavorable competition, a lack of research, training, and development, and other problems plague the country's banking sector. But given the political and economic climate of the country right now, as well as the strict guidelines set by Nepal Rastra Bank and the intense rivalry in the industry, entrepreneurs would want to think twice before starting banks.

Performance, as determined by ROA and ROE, is statistically significantly impacted by capital adequacy (CAR). There is a substantial negative correlation between CAR and ROE performance, and a positive significant correlation between CAR and ROA performance. The performance as determined by ROA and ROE is statistically significantly impacted by asset quality (AQ). It has a negative correlation with both ROA and ROE. Management effectiveness (ME) has a major impact on both ROA and ROE. ROA and ROE have a negative association with ME. The ratio of net interest income to total assets, or earning quality (EQ), has little bearing on performance as determined by ROE and ROA. Performance as determined by ROA and ROE is not significantly impacted by LR, which is calculated as current asset to total assets (Abebe & Gobena, 2022).

Similarly, at the threshold of $\alpha < 0.05$, the results of the hypothesis test employing multiple linear regressions indicated that the credit risk management indicators had a static, stoically significant impact. The aspects of credit risk management account for 50.3% of the variance in financial performance, according to the R2 value of 0.503. There is a substantial association between credit risk management and financial

success, as shown by the correlation coefficient R = 70.9%. LR came in second, risk sensitivity in third, earning quality in fourth, and management efficiency in the top spot among the aspects of credit risk managements on the dependent variable (financial performance). The effect of credit risk management on financial performance was not influenced by capital adequacy or asset quality (Bawaneh, Ali, and Dahiyat, 2019).

Performance, as determined by ROA and ROE, is statistically significantly impacted by capital adequacy (CPA). There is a negative significant association between CPA and ROE performance, and a positive significant relationship between CPA and ROA performance. Performance as determined by ROA and ROE is statistically significantly impacted by asset quality (ASQ). It is inversely correlated with ROE and ROA. Management efficiency has a major impact on both ROA and ROE (MGE). MGE and ROA and ROE have a bad connection. The ratio of net interest income to total assets, or earning ability, or EAR, does not significantly affect ROA and ROE performance indicators. Performance as determined by ROA and ROE is not significantly impacted by LR, which is calculated as current asset to total assets (Gobena & Abebe, 2022).

Profitability is a crucial metric for assessing a bank's success, particularly in the dynamic banking industry. This research looks at the macroeconomic factors and the particular enterprises that influence bank profitability in Nepal. According to the research, bank size significantly and favorably affects profitability. It implies that better ROA and ROE are attained by bigger banks.

Additionally, the economies of scale argument is supported by the asset size variable's positive and significant coefficients. ROA and ROE are shown to be significantly impacted negatively by the loan-to-asset ratios. This suggests that low asset quality and the number of credit portfolios have a detrimental effect on return on asset. The primary source of revenue is anticipated to come from bank loans, which should also improve bank performance. Nonetheless, a negative correlation has been seen between loans and profitability. The deposit/assets ratio, another factor unique to banks, has a noteworthy and favorable impact on ROA. This suggests that increased variety of bank activities has a beneficial impact on returns. The only macroeconomic factors that have been shown to positively affect profitability, as determined by ROA

and ROE, are the real interest rate and stock market capitalization. Bank profitability increases with increasing real interest rates (Gwachha, 2019).

The study's conclusion demonstrates a favorable correlation between profitability and the Nepalese development bank's profitability analysis. The connection between Return on Assets and Capital Adequacy, Asset Quality, and LR is negative, however the correlation between Return on Assets and Management Efficiency Ratio and Earning Quality is positive. likewise Return on Equity is positively correlated with Management Efficiency Ratio and Earning Quality, but negatively correlated with Capital Adequacy, Asset Quality, and LR. According to the regression analysis, earning potential is statistically significant when it comes to profitability metrics. While assets quality and earning ability are found to be statistically significant to ROE, capital adequacy, management efficiency, earning potential, and LR are found to be statistically insignificant to ROE. On the other hand, assets quality and earning ability are found to be statistically significant to ROA. It is envisaged that by conducting this research in-depth, it will provide development banks valuable information to assess and reassess their performance in light of the study's profitability assessment. In order to get better findings, it is advised that future studies take into account the sensitivity to market risk 'S' and monthly financial statements.

CHAPTER V

SUMMARY AND CONCLUSION

This chapter summarizes the situation and draws conclusions, ramifications, and a summary based on the research study's results. As a result, the research was conducted by splitting this chapter into three sections: a summary in the first, a conclusion in the second, and implications in the third.

5.1 Summary

Financial intermediaries are organizations that do financial business. One kind of financial intermediary that moves savings from depositors to borrowers so that the funds may be used in the productive sectors are development banks. With reference to credit risk management frameworks, a profitability analysis of Nepali development banks was undertaken for this research. In this research, three banks are used as a sample. Shine Resunga Development Bank, Muktinath Bikash Bank, and Jyoti Bikash Bank. The main focus of this research is credit risk management, return on equity, and return on assets. The present state of credit risk management, ROA and ROE, the relationship between credit risk management, ROA and ROE, and the impact of credit risk management, ROA and ROE are all examined in this research in order to meet this goal.

The study's background and subject matter, which include a problem statement, the study's importance, and its limitations, are covered in the first chapter. The theoretical foundation of banking principles, journals, earlier theses, and research gaps are all covered in the second chapter's pertinent assessment of the literature. The study approach used to assess credit risk management, ROA, and ROE is covered in the third chapter of the book. Financial and statistical methods are used to display, analyze, and understand the data and information in the fourth chapter. Lastly, a summary, conclusion, and implication pertaining to the whole research have been produced in the fifth and last chapter.

Various statistical and financial approaches have been employed for the study and assessment proposal. In this case, statistical tools include mean, standard deviation, correlation, and regression analysis; financial tools include capital adequacy ratio,

assets quality ratio, management efficiency ratio, and liquidity ratio. Such a financial and statistical instrument has been used to evaluate data from FY 2013/14 to FY 2022/23. The primary source of data used in this investigation is secondary data. As a result, the study's use of secondary data is inherently limited. The legitimacy of the data that was supplied and gathered. A chapter plan for the study's systematic analysis has been created. Essentially, the whole body of research has been devoted to describing the link between ROA, ROE, and credit risk management.

This study's primary goal is to examine the financial standing of three Nepali development banks using a methodology for managing credit risk. Furthermore, efforts were undertaken to determine the present state of credit risk management, ROA and ROE, as well as another objective link between the two that ultimately influences the two.

Financial institutions such as "B" class development banks are crucial to the social and economic advancement of the country. The banks under investigation are the main players in the "B" class development banks, which means they are crucial to the social and economic advancement of the country. We can determine the current state of development banks and their contribution to the country by using the credit risk management analysis of the different banks, which is a newly created performance assessment approach. It is beneficial to provide certain ideas and conclusions for the benefit of the academic community as well as interested individuals.

The primary data source for this research was secondary sources. The information utilized in the research was obtained from Nepal Rastra Bank publications and annual reports. In Nepal, shares of seventeen development banks are actively traded on the stock market. Three banks were used as research samples in this study in order to examine their profitability in relation to credit risk management.

Since secondary data formed the majority of the study's foundation, the necessary data were gathered from bank annual reports and annual reports. Additionally, information has been gathered via perusing the NRB's official websites.

5.2 Conclusion

Using yearly data, this research examined the profitability analysis of Nepali development banks with reference to credit risk management from 2013–14 to 2022–

23. To explore the study's goal, only secondary data gathered from development banks' financial statements was employed.

Due to their increased risk exposure, development banks are developing sophisticated and novel banking products; as a result, they have both broadened and simplified the tasks carried out by the Bank Supervision department. A credit risk management rating, which is an evaluation of the bank's overall state, is one of the main outcomes of this kind of monitoring. The federal banking supervisors and other financial supervisory authorities use the credit risk management rating system to conveniently summarize the bank's situation at the time of an exam. By examining the profit and loss statement to evaluate financial performance and the balance sheet to evaluate the banks' financial situation, the framework for credit risk management places a strong emphasis on the five criteria of the banking system.

The analysis is based on secondary data that was collected over a ten-year period, from 2013–14 to 2022–23, from three development banks in Nepal. The yearly reports of the chosen Development banks are where the secondary statistics are gathered. This study examines the link between the ROA, ROE, and factors of Nepalese Development banks using the credit risk management model. It does so by using both descriptive and casual comparative research designs. Multiple regression analysis and correlation are used to investigate the connection between the independent and dependent variables. More precisely, the capital adequacy ratio, earnings, liquidity ratio, asset quality, management effectiveness, and return on equity are regarded as independent factors, whereas return on equity and return on assets are considered dependent variables.

For SRDB and JBBL, respectively, the average return on assets is greatest and lowest. The chosen development banks' return on asset ratio has been erratic. MNBBL has the greatest average Return on Equity while JBBL has the lowest. The chosen Development banks' Return on Equity ratio varies. For JBBL and MNBBL, respectively, the average capital adequacy ratio is greatest and lowest. These development banks' capital adequacy ratios are subject to fluctuations. For JBBL, the average asset quality is greatest, while for MNBBL, it is lowest. The chosen Development banks' asset quality has been inconsistent over time. MNBBL has the lowest average management efficiency, while SRDB has the greatest. The chosen

development banks' managerial effectiveness varies. JBBL has the lowest average EPS while MNBBL has the greatest average earnings per share. Over the course of the calculation period, the earnings per share change. For JBBL, the average asset quality is greatest, while for MNBBL, it is lowest. The chosen Development banks' asset quality has been inconsistent over time. For JBBL and MNBBL, respectively, the average liquidity ratio is greatest and lowest. The chosen Development banks' average liquidity ratio exhibits a tendency of fluctuations.

The results of the correlation study indicate a favorable link between Return on Assets and Earning Quality and Management Efficiency. However, the return on assets is adversely connected with the capital adequacy ratio, asset quality, and liquidity. In a similar vein, return on equity has a favorable correlation with earning quality and management efficiency. On the other hand, return on equity is adversely connected with capital adequacy ratio, liquidity, and asset quality.

Regression study reveals that Return on Assets is positively impacted by Capital Adequacy, Asset Quality, Earning Quality, Management Efficiency, and Liquidity; better earnings and asset quality translate into higher returns on assets. The return on equity is negatively impacted by the capital adequacy ratio and asset quality, meaning that greater capital adequacy and sensitivity will result in a lower return on equity. better levels of management effectiveness, earning quality, and liquidity will result in better returns on equity. These factors all have a positive influence on return on equity.

5.3 Implications

All of the following presentations provide a very clear financial picture. In an effort to strengthen and reinvigorate development banks' financial standing, several insightful and relevant proposals and recommendations are now being given based on findings and conclusions, or more accurately, their financial images.

i) The research discovered that capital sufficiency had a favorable and substantial effect on return on assets. As a result, banks that are ready to return on assets need to raise their level of capital.

ii) The analysis discovered a negligible and unfavorable relationship between capital sufficiency and return on equity. Therefore, banks that are ready to provide a return on equity need to lower their capital adequacy.

iii) The research discovered a small but favorable relationship between asset quality and return on investment. Therefore, banks that are prepared to return on assets need to improve the quality of such assets.

iv) The research discovered a negative and substantial relationship between return on equity and asset quality; as a result, banks that are prepared to provide returns on equity should improve the quality of their assets.

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ABSTRACT The financial performance of a development bank in Nepal is examined in this research on credit risk management. The study's objectives look at the connection between the financial performance of certain development banks in Nepal