IMPACT OF CREDIT RISK ON PERFORMANCE OF NEPALESE COMMERCIAL BANKS

A Thesis

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RECOMMENDATION

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Has been prepared as approved by this Department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

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DECLARATION

I hereby declare that the work reported in this thesis entitled **"IMPACT OF CREDIT RISK ON PERFROMRANCE OF NEPALESE COMMERCIAL BANKS"** submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of **Keshar Singh Khati** of Shanker Dev Campus, T.U.

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Bunu Maya Mukhiya

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ABBREVIATIONS

%	=	Percentage
σ	=	Standard Deviation
$\bar{X}$	=	Mean
∑	=	Sum of the values
CRM	=	Credit Risk Management
CV	=	Coefficient of Variatio
EBL	=	Everest Bank Limited
F/Y	=	Fiscal Year
F/Y	=	Fiscal Year
LA	=	Loan and Advance
LLP	=	Loan Loss Provision
MBS	=	Masters in Business Studies
N	=	Number of Observation
NBL	=	Nabil Bank Limited
NIMBL	=	Nepal Investment Bank Limited
NP	=	Net Profit
NPL	=	Non Performing Loan
NRB	=	Nepal Rastra Bank
R	=	Correlation
ROA	=	Return on Assets
ROE	=	Return on Equity
VIF	=	Variance Inflation factor
WWW	=	World Wide Web

CHAPTER I
INTRODUCTION

1.1 Background of the study

Credit or default risk refers to the possibility that financial institutions may not receive the full expected cash flows from loans and securities due to borrower default. In such instances, both the principal amount loaned and the anticipated interest payments are jeopardized. To mitigate potential losses, financial institutions must gather information on borrowers whose assets are part of their portfolios and consistently monitor these borrowers. Credit risk arises from uncertainty regarding borrowers' ability to repay loans, where borrowers typically repay when their asset values exceed their liabilities, and default when their asset values fall short of their loan amounts.

Credit risk stands as the primary risk faced by banks, crucial for their operational success, with precise assessment and effective management being paramount. Elevated levels of credit risk result in increased costs of debt and equity, subsequently raising the cost of funds for banks.

The concept of credit management lacks a singular definition but is commonly understood to involve ensuring timely payments from buyers, maintaining low credit costs, and handling bad debts in a way that facilitates payment without negatively impacting the buyer relationship. Trade credit insurance companies often manage credit management tasks directly or in collaboration with a company's credit department. A well-established credit management policy can provide assurances to a financing bank, potentially easing the process of securing funding.

Credit control, a crucial function within organizations, involves the enhancement and regulation of credit policies to enhance revenues and minimize risks. This includes improving collection processes, reducing credit expenses, extending credit to reliable customers, and establishing competitive credit terms. Regular reviews and updates to credit policies are necessary to align with shifts in the bank's strategic goals, risk appetite, and market conditions. Considerations during policy reviews should encompass the organizational setup, the scope and complexity of lending operations, the competencies of lending staff, and the alignment with strategic portfolio quality

and profit targets. Additionally, compliance assessments with policies should involve the designated organizational unit.

Credit risk management is a pivotal aspect of the banking sector, offering substantial growth opportunities. Financial institutions frequently encounter financial risks, making risk management an integral part of their business strategy. Managing risk has always been essential for banks, with risk mitigation and planning deeply embedded in banking operations. Risk management significantly influences credit management within banks, as professionals must strike a balance between risks and rewards. To cater for a diverse customer base, banks must offer a range of loan products with reasonable terms. Setting interest rates too low can lead to financial losses for the bank.

Credit risk management represents a primary and demanding function for commercial banks due to their responsibility to honor customer deposits on demand while simultaneously managing loan portfolios. Proper management of loans is crucial for commercial banks as failure to meet customer withdrawal demands can result in significant challenges. Effective credit risk management is instrumental in determining the success or failure of a credit institution. The prosperous provision of business loans hinges on a meticulous assessment of borrower profiles, emphasizing factors influencing loan repayment capabilities. The effectiveness of loan decisions hinges on the wise judgment of the officer or manager.

Efficient credit risk management involves overseeing an institution's operations that create credit risk exposures in a way that minimizes the likelihood of negative impacts on the bank's earnings and capital. Credit risk extends beyond a bank's loan portfolio to encompass its other assets and activities. This type of risk can manifest in both the accounts that appear on a bank's balance sheet as well as those that do not (Bessis, 2003).

1.2 Introduction of sample banks

1.2.1 Everest Bank Limited (EBL)

Everest Bank Limited was established on November 17, 1992, and began operations on October 18, 1994, with the objective of providing efficient banking services to various sectors of society. Over time, the bank has grown to become a prominent

financial institution in Nepal. In 1997, Panjab National Bank (PNB) entered into a Joint Venture with EBL, leading to a significant turnaround and increased profitability for the bank. This partnership has seen continuous progress, supported by strong management and technical expertise provided by PNB through a Technical Service Agreement. As a joint venture partner, PNB, an established Indian nationalized bank with a banking legacy of 114 years, holds a 20 percent equity stake in EBL. The bank's ownership structure comprises 40.83 percent from local customers, 39.14 percent from public shareholders, and the remaining 20.03 percent from Punjab National Bank, India.

Everest Bank Limited was the first in Nepal to introduce the Any Branch Banking System (ABBS), linking all branches to allow customers to conduct transactions at any branch, regardless of where their account is held. Everest Bank Limited primarily aims to provide comprehensive banking services to individuals, businesses and institutions. (Everest Bank Ltd., 2023/24).

1.2.2 Nepal Investment Mega Bank Limited (NIMB)

Nepal Investment Bank Ltd. (NIBL), a joint venture between Nepalese and French partners initially named as Nepal Indosuez Bank Limited was established on 21 January 1986. The French partner - Credit Agricole Indosuez holding 50 percent of the capital.

In 2002, a varied group of Nepali entities, encompassing bankers, professionals, industrialists, and businessmen, acquired the 50 percent stake previously owned by Credit Agricole Indosuez in Nepal Indosuez Bank Ltd. Subsequent to this transfer, the bank's name was changed to Nepal Investment Bank Ltd.

Nepal Investment Mega Bank Ltd (NIMB) was formed on 11 January 2023 after joint operations between Mega Bank Limited and Nepal Investment Bank Limited.

Currently, 60.8 percent of the bank is owned by promoters, with the remaining 39.19 percent held by the general public. Concerning its capital structure, the bank has an authorized capital of Rs. 55,618 million, with a paid-up capital of Rs. 34,128 million. Additionally, the bank's shares are traded publicly as an 'A' category company on the Nepal Stock Exchange.

The bank's vision and mission revolve around becoming the leading provider of financial services in Nepal. In pursuit of its strategic objectives, the bank has outlined various goals, such as fostering a customer-focused service ethos centered on care and convenience. Another aim is to bolster market presence through a methodical growth approach. Utilizing its technological infrastructure, the bank plans to create adaptable systems that enhance operational efficiency, elevate delivery capabilities, and uphold high service benchmarks. Additionally, the bank strives to create innovative products and services that attract its target customers and market segments, while also reducing its cost of funds. Another goal is to uphold a collection of top-tier assets that will generate robust and lasting returns for the bank, subsequently enhancing shareholder value. Lastly, the bank aims to explore new avenues for growth and profitability. In addition to these objectives, the bank offers a range of services and facilities including debit cards, credit cards, ATM services, internet banking, locker facilities, travel cards, share applications, enterprise, electronic banking, currency exchange rates, and letter of credit facilities (Nepal Investment Mega Bank Ltd., 2023/24).

1.2.3 Nabil Bank Limited (NABIL)

Nabil Bank Limited, the first multinational foreign investors bank as Nepal Arab Bank Ltd, started its operations on 12 July 1984 under a technical service agreement with Dubai Bank Limited, Dubai. The bank was rebranded as Nabil Bank Limited, previously known as Nepal Arab Bank Limited. N.B. International Limited, Ireland holds 39.4 percent of the total shares and 41.5 percent owned by the general public and 19.1 percent by local financial institutions.

The bank was also the first to introduce consortium finance in Nepal. It provides a complete range of personal, commercial and corporate banking and related financial services. It was established with the goal of delivering modern, internationally recognized banking services to various sectors of society. Nabil Bank's operations, including day-to-day functions and risk management, are managed by a team of qualified and highly experienced professionals. It is equipped with cutting-edge technology, including ATMs, credit cards, mobile banking, internet banking, and a telebanking system (Nabil Bank Ltd., 2023/24).

1.3 Statement of Problem

Credit plays a crucial role in the lives of many individuals and in nearly all sectors that involve financial investment in some capacity. Loans and advances, major components of credit offered by private commercial banks, are primarily utilized for functions such as deposit mobilization, local and international transfers, and foreign currency exchange services. Consequently, effective credit management holds significant implications at both micro and macro levels (Abayomi, Joseph & Tolulope, 2018).

Inadequate credit risk management is identified as the primary reason behind numerous commercial banks' failures. Pradhan and Shah (2019) conducted a study and found that insufficient credit risk management systems in banks were consistently linked to the deterioration of loan quality, which led to these failures.

Furthermore, Saunders (2005) emphasizes the high sensitivity of the banking business due to the fact that over 85% of their liabilities come from deposits made by customers. Banks utilize these deposits to generate credit for borrowers, which is a major source of revenue for most banks. However, this credit creation process exposes banks to significant default risks that can lead to financial distress and even bankruptcy. Even in the face of these risks, banks are required to extend credit to their customers to drive profitability, expansion, and competitiveness in the marketplace.

A study by Ifeanyi and Francis (2017) examined on credit risk management and its influence on the operational outcomes of commercial banks. The research showed a notable correlation between bank performance and credit risk management. It suggested that enhanced credit risk management contributes to enhanced bank performance. However, this study only examined the effects of credit risk on profitability and only considered private commercial banks.

Due to the high level of risk involved in making credit evaluation decisions, financial institutions face the challenge of ensuring their accuracy. The process of making these decisions is complex and lacks structure. Hence, proper credit management is vital for financial institutions to effectively navigate the complex and unstructured nature of credit evaluation (Singh, 2013).

Eva and Jaroslav (2014) emphasize the critical importance of effective credit management for the success and expansion of financial institutions. In the context of

banks, credit management becomes even more vital due to heightened levels of perceived risks stemming from factors such as client profiles, market conditions, and the overall economic landscape in which they operate.

The credit management strategy involves a thorough process that includes identifying target markets, facilitating credit approval, overseeing credit performance, and gauging returns. It establishes a framework comprising guidelines, mechanisms, standards, and benchmarks to direct bank officials in loan disbursement and portfolio management within the banking sector. The primary objective of this strategy is to optimize benefits and mitigate costs associated with credit (Ejoh, Okpa & Inyang, 2014).

Moreover, Han (2016) points out that the credit management strategy aids the credit division of financial institutions in granting credit facilities based on regulations and standards set by top management.

This study aims to analyze the credit management practices implemented by commercial banks in Nepal. In light of the research problem, the study raises the following research questions:

1. What is the current credit efficiency and profitability position of NABIL, NIMB and EBL?
2. What is the relationship between loan and advances, non-performing loans, loan loss provisions, and net profit among the sample banks?
3. How do loan and advances, non-performing loans, and loan loss provisions impact the net profit of the sample banks?

1.4 Objectives of the study

The main objective of the research is to analyze the credit risk management strategies employed by commercial banks in Nepal. In addition to this aim, the study seeks to:

1. Assess the credit operational efficiency and financial performance of NABIL, NIMB and EBL.
2. Explore the interconnection between loans and advances, non-performing loans, loan loss provisions, and net profits within the selected banks.

3. Examine how loans and advances, non-performing loans, and loan loss provisions influence the net profits of the banks included in the study.

1.5 Significance of the study

Credit plays a vital role in generating income for commercial banks. The profitability of any bank depends heavily on the volume of successful lending activities. Therefore, conducting a study on the lending practices of commercial banks holds significant value for shareholders, professionals, bankers, and students seeking knowledge about credit practices and their management. This study specifically centers on assessing the credit efficiency of Nepal Investment Mega Bank Ltd., Nabil Bank Ltd. and Everest Bank Ltd.

The study will primarily benefit to their shareholders, depositors, and other creditors. Additionally, financial experts and other financial agencies have a vested interest in the banks' performance. Furthermore, the management of the banks will gain insights into their loan management effectiveness and policies, thereby allowing them to compare their performance with competitors. Lastly, the study will also hold equal importance for the central bank, as it will aid in formulating improved credit policies to address the current challenges faced by commercial banks, particularly concerning non-performing assets.

1.6 Limitations of the study

The study has certain limitations, which are outlined as follows:

1. The research is limited to the examination of just three commercial banks in Nepal, specifically Nepal Investment Mega Bank Ltd., Nabil Bank Ltd., and Everest Bank Ltd.
2. The analysis is based exclusively on data spanning the last decade, specifically from the fiscal years 2013/14 to 2022/23.
3. The primary focus of the study is on aspects related to credit risk management.
4. The study relies on secondary data sources like monthly reports, annual reports and financial statements.

1.7 Organization of the Study

The organization of the study has followed five separate chapters which are as follows:

Chapter I: Introduction

This chapter focuses on the introduction of the study, encompassing the background of the study, the study's main focus, the problem statement, research objectives, the study's significance, limitations, and organization.

Chapter II: Review of Literature

This chapter explores the literature review, incorporating the conceptual framework, journal and article reviews, research paper reviews, and previous thesis findings. Additionally, it addresses the identification of research gaps within the field.

Chapter III: Research Methodology

It consists of research design, sources and collection of data, population and sample, data processing procedure, and tools and techniques used for data analysis.

Chapter IV: Data Presentation and Analysis

This section constitutes the core of the research, presenting, analyzing, and interpreting the data in a systematic manner. It showcases the presentation and analysis of pertinent data using specific research methodology approaches, including statistical analysis. The key findings of the study are presented towards the end of this chapter.

Chapter V: Summary, Conclusion and Recommendations

This chapter presents of the brief summary of whole research report and conclusion. It also provides some useful suggestion and recommendations to concerned parties.

The bibliography, appendices and research proposal are included towards the conclusion of this research study.

CHAPTER II
REVIEW OF LITERATURE

A literature review involves summarizing the existing research in a specific field of study. It is a critical part of research, outlining the study's scope and building on past research. Past studies provide the foundation for current research, highlighting the importance of maintaining research continuity. Connecting the present study with previous research ensures this continuity. The purpose of the literature review is to understand the existing research in the chosen field and identify any gaps that need to be addressed. It is a crucial step in preparing and designing the study, providing insight into previous work and ongoing research needs in the area of interest. Researchers conduct literature reviews by examining various sources such as books, reports, journals, and unpublished dissertations.

The key role of commercial banks is to collect deposits and then lend them out to borrowers as credit, which serves as a key source of income for the banks. Credit forms a significant portion of a bank's balance sheet, while earnings from loans and advances make up a substantial part of a bank's income statement, driving the bank's profitability. Interest earned on loans and advances is a major revenue stream for banks. Banks offer various forms of loans such as overdrafts, cash credits, and direct loans, often requiring collateral for approval. Thorough evaluations are conducted by banks before approving loans for individuals or businesses.

Credit represents the funds borrowed by a borrower from a lender, with or without collateral, and is a critical element on the asset side of a commercial bank's balance sheet. Interest earned on credit and advances serves as a primary revenue source for banks, prompting them to carefully oversee their credit portfolios to ensure both profitability and risk management. Banks extend credit through various channels like overdrafts, cash credits, direct credits, and bill discounting.

Three essential components play key roles in the corporate strategy and strategic planning of a bank: a business plan, a risk management framework, and corporate control strategies. These fundamental elements provide a robust foundation for managing value and risk while focusing on engaging in operations and competition within the financial services industry. A contemporary strategic approach also

encompasses risk management frameworks and strategies to stay competitive in the dynamic banking landscape. The bank's objective is to maximize value and mitigate risks by identifying and managing risks effectively.

In the banking industry, different forms of risks exist, with main classifications including credit risk, market risk, and operational risk. Credit risk refers to the possible monetary losses resulting from customers' inability to fulfill loan or contract obligations. Market risk involves balance sheet and trading risks, impacting earnings and capital due to fluctuations in interest rates, liquidity conditions, and foreign exchange rates. Operational risk stems from natural disasters, transaction processing errors, asset protection, system failures, fraud, and forgery.

Credit risk is possibility of a borrower not able to meet its contractual obligations. This risk extends beyond lenders engaging in activities and includes exposures that are not reflected on the balance sheet and interbank relationships. The objective of credit risk management (CRM) is to optimize the bank's risk-adjusted return by keeping credit risk exposure within acceptable limits. While loans are typically the primary source of credit risk for most banks, other sources of credit risk exist across different areas of a bank's operations, including on and off the balance sheet transactions.

Banks are increasingly encountering credit or counterpart risks in a variety of financial instruments beyond traditional loans, such as acceptances, interbank dealings, trade finance, foreign exchange transactions, guarantees, and settlement arrangements. Credit is widely recognized as a key revenue-generating asset, particularly within commercial banks. It plays a crucial role in banking operations, encompassing a significant portion of investments, profit creation, and profitability determination, thereby influencing the broader economy.

In the current context, credit has a significant impact on the national economy as banks extending credit to retailers can improve customer status and provide funds to the trade and industry sectors. This, in turn, contributes to government tax revenues and boosts the overall national economy. Credit also serves as a safeguard for depositors and is often considered essential for wealth maximization. However, credit risk remains a crucial aspect that can significantly influence profitability and wealth maximization, particularly in the commercial banking sector.

Developing a credit risk strategy involves outlining the types of credit the bank is willing to offer, the target markets, and the criteria for its credit portfolio. These strategies should align with the bank's risk appetite and profitability goals. Effective communication throughout the organization is required to ensure that all staff members should able to understand the credit risk strategies and policies. Establishing a sound credit environment involves cultivating a positive credit culture within the bank, where personnel understand and uphold acceptable lending practices.

According to the Basel Committee, maintaining a sound credit portfolio requires a formal evaluation and approval process for granting credits, aligning with documented guidelines and authorized by appropriate management levels. A transparent audit trail should demonstrate compliance with the approval process, identifying individuals or committees involved in decision-making. Establishing clear credit approval criteria and exposure limits helps evaluate borrower creditworthiness and identify preferred borrowers, often based on the traditional five Cs principles – personality, capability, resources, security, and circumstances.

Effective credit management is essential for maintaining the stability and well-being of a bank. by managing credits effectively, maintaining updated files, issuing necessary notices, preparing documents like loan agreements, and conducting follow-up inspections. Establishing credit limits for officers involved in the approval process, especially for material transactions with related parties, is vital for oversight. Regular credit reviews help verify compliance with credit policies and provide independent assessments of asset quality, contributing to robust credit risk control measures in banks.

Therefore, it is crucial to give serious attention to efficient credit management. Management is the process that aids in accomplishing tasks efficiently. Credit risk management is also a system that aids in the effective management of credit; in essence, credit risk management involves overseeing credit exposure arising from loans, corporate entities, and credit derivatives. Credit exposures serve as the primary investment sources in commercial banks, and the return on these investments is expected to be the primary income source (Batra & Dass, 2003).

2.1 Theoretical review

Within this segment, a comprehensive examination of the fundamental principles of credit risk management can offer insights into the methodologies employed by banks to navigate credit risks, irrespective of the variations in approaches across different financial institutions. The fundamental theories underlying credit risk management include:

2.1.1 Commercial loan theory

The oldest theory in banking, referred to as the commercial loan theory or real bills doctrine, advocates for banks to extend loans mainly for short-term, self-liquidating commercial purposes. According to Hosna & #, (2009), this theory aims to influence both bank lending practices and overall economic activities significantly. The implementation of this theory is anticipated to serve as a mechanism for adapting to fluctuations in the broader economic landscape. The extensive acceptance of this concept among Deposit Money Banks (DMBs) in Nigeria is clear, as Nigerian bankers assert that their funds can be swiftly reimbursed, thus emphasizing the need for directing resources towards short-term loans. Kargi (2011) suggested that strict adherence to this principle was particularly prevalent during periods when there were limited or no alternative liquid assets available to serve as a buffer for bank liquidity. However, this theory falls short in addressing the credit requirements of Nigeria's growing economy, as it does not advocate for financing the acquisition of assets such as plants, equipment, land, or homes. The concept that every loan should be repaid promptly as part of normal business operations fails to consider the stability of bank deposits. Although demand deposits can be withdrawn at any time, the likelihood of all depositors seeking simultaneous repayment is low. Hence, the stability of deposits affords banks the ability to lend over an extended period without the risk of being unable to meet commitments. Despite its limitations, the commercial loan theory, also known as the real bills doctrine, has deeply entrenched in the realm of banking. Aspects of this theory persist in the structures of bank regulatory bodies, examination protocols, and the perspectives held by numerous banking professionals. A comprehensive understanding of modern banking necessitates an appreciation of the historical roots, highlighting the lasting impact of the commercial loan theory.

2.1.2 The anticipated income theory

After an in-depth examination in 1949, Proch introduced a novel loan theory known as the "Anticipated Income Theory." Afriyie and Akotey (2011) noted in their research that under this theory, banks aim to repay term loans using the borrower's anticipated earnings, irrespective of their business's nature or character. Unlike traditional liquidity theories that involve asset disposal or loan transfer, the Anticipated Income Theory emphasizes the borrower's expected future income as the basis for repayment. Kolapo, Ayeni, and Oke (2012) highlight the theory's forward-looking nature in granting loans and advances, often referred to as the "cash flow approach." This theory competes mainly with the commercial loan theory and does not challenge the shiftability theory, which suggests that a bank's main liquidity source is found in its backup reserves. Instead, it directs focus towards determining the appropriate types of loans for a bank to issue, leading to different conclusions compared to proponents of the commercial loan theory (Moti, Masinde, &Mugenda, 2012).

2.1.3 The credit risk theory

According to Salas and Saurina (2002), credit risk pertains to the possibility that a borrower might default on any form of debt by failing to meet payment obligations. This risk predominantly concerns the lender and encompasses potential losses in principal and interest. The resulting loss could be total or partial, and it can manifest in various scenarios, such as when an insolvent bank cannot repay funds to a depositor. To address this risk, the lender might perform a credit evaluation on the potential borrower, request insurance like mortgage insurance, or request collateral or assurances from third parties. Typically, the greater the risk, the higher the interest rate that borrowers will need to pay on the loan (Owojori, Akintoye & Adidu, 2011).

2.1.4 The liability management theory

This theory implies that traditional standards need not be strictly adhered to, as a bank can address reserve shortages by borrowing or acquiring reserve funds in the money market through short-term debt instruments. As per Shafiq & Nasr (2010), this does not mean that the bank only concentrates on overseeing its debts while being passive in terms of its assets. Instead, the theory acknowledges the significance of the bank's asset composition in ensuring liquidity. However, the

theory takes a unified stance on liquidity, proposing that the bank can also use its liabilities for liquidity needs. Banks aim to secure liquidity to support both customer deposit withdrawals and to meet reasonable loan demands. While bank loans are a source of profit, a bank that fails to meet its depositors' loan needs is unlikely to retain those depositors for long.

2.2 Review of Related Studies

2.2.1 Review of Journal Articles

Ifeanyi and Francis (2016) examined the correlation between credit administration and profitability (ROA) of Deposit Money Banks (DMBs) in Nigeria spanning from 2006 to 2015. Utilizing secondary data from the Central Bank of Nigeria Statistical Bulletins and the Annual Reports of the DMBs, they employed multiple regression analysis using E-View 9 Econometric tool. Their findings indicated that loans and advances, as well as loan loss provision, had a positive yet insignificant impact on profitability, while non-performing loans had a negative and insignificant effect. The study's regression results displayed a good fit, with an R-squared value of 84% and 79% in the two models, respectively, indicating statistical adequacy. The Durbin-Watson statistic values of 2.808450 and 2.499545 suggested no autocorrelation among the variables examined, further confirming the regression's statistical significance. Hence, the research determined that proficient credit management boosts profitability and strengthens the financial robustness of DMBs.

Pathak (2017) analyzed the credit management strategies of Joint Venture Commercial Banks, specifically looking at Nepal Investment Bank and Bank of Kathmandu. The research found that Bank of Kathmandu upheld a higher credit and advances to total deposit ratio. Moreover, fixed deposits were identified as the main source for credit extension by both banks. The study also observed a declining pattern in credit loss provisioning, indicating an effective credit policy. The study highlighted that interest rates significantly influenced the amount of deposits and credits in these banks.

Zhu, Wang, Yu, and Wu (2017) investigated the connection between banks' performance and their nonperforming loans (NPLs). The study utilized a network production process framework to assess banks' performance in relation to NPLs. As

NPLs have risen in recent times, the quality of lending assets has been recognized as a crucial factor influencing banks' operational risk. The study integrated radial and non-radial efficiency measures to evaluate the industry's performance using a network epsilon-based measure model. The analysis revealed the banking sector's consistent growth in operational performance, profitability, and risk management over the study period, indicating the sector's capacity for growth while managing operational risks effectively.

Abayomi, Joseph, and Tolulope (2018) investigated the significance of managing credit for the success of small businesses. They emphasized the significance of managing bad debts and debt recovery in credit management. The study explored how financial institutions handle credit facilities and how small-scale enterprises respond to credit management strategies, given their crucial role in job creation and poverty reduction. The research utilized primary data obtained through questionnaires administered to deposit money banks, microfinance banks, and small-scale business owners, and analyzed the data using SPSS. Findings suggested that many small-scale business owners lacked the expertise for proper record-keeping, and the study recommended improving financial literacy among customers, promoting responsible credit facility utilization, and fostering prompt repayment to enhance small-scale business performance. The study aimed to benefit entrepreneurs, financial institutions, and policymakers, providing insights into effective credit management practices.

In their 2020 study, Daniel, Ezekiel, Musa, Muneer, and Bashiru examined how effective credit management impacts the profitability of commercial banks operating in Sierra Leone, employing Rokel Commercial Bank as a case study. The researchers gathered secondary data from the financial records of the bank spanning 2010 to 2014 and its annual reports. Both quantitative and qualitative analyses were conducted on the data through ratio analysis and visual aids. The results of the study revealed a significant correlation between the efficiency of credit management and the profitability of commercial banks in Sierra Leone. The research emphasized the importance for banks in Sierra Leone to implement robust credit policies to enhance their profitability. While there is room for improvement in the bank's credit management practices, particularly in the distribution of advances across sectors, there was a trend towards a more balanced distribution over time. The agricultural sector, vital to the nation's economy, was gradually receiving increased recognition.

Credit management remains at the core of the banking industry in Sierra Leone, influenced by regulatory frameworks, institutional constraints, and macroeconomic policies. The banking sector in Sierra Leone operates under stringent regulations, and Rokel Commercial Bank has demonstrated managerial competencies that have positively impacted the bank's general performance. Rokel Commercial Bank S/L Ltd takes into account factors like expanding branch network, lending prospects, and workforce capability when implementing their credit management strategies.

Rakhimzhanova, Makysh, and Saparova's (2021) research has revealed that overdue debt remains a pressing issue in all countries examined in the article in recent years. Efforts by both banks and government agencies to address this issue have seen some success, but long-term stability remains a distant goal. The study focuses on managing non-performing loans in the Eurasian Economic Union countries, aiming to maximize the benefits of relaxed bank lending conditions while identifying obstacles and limitations within the existing policy framework to purge the banking sector of unscrupulous individuals. Therefore, the importance of the subject emphasizes the necessity for a thorough investigation and in-depth analysis to develop a scientific rationale. In pursuit of the study's objective, the authors analyzed various aspects, including the identification of non-performing assets in the banking system, trends in banking sector development indicators, the prevalence of non-performing loans in the Eurasian Economic Union's banking system, aggregated financial reports of commercial banks, and issues related to unsuccessful and non-performing loans (NPL). The research culminated in drawing conclusions and offering recommendations. Addressing these challenges entails mitigating banking risks, evaluating the adequacy of setting aside provisions for potential loan losses, and aligning credit institutions' business models using their abilities.

The findings clearly demonstrate that larger boards in Pakistani banks contribute to ineffective governance by increasing loan loss provisioning, while the presence of independent directors and their attendance at meetings do not seem to have a significant impact. Conversely, in cases where a dominant family member holds both the CEO and Chairman positions, there is a decrease in the percentage of LLPs, resulting in reduced credit risk. This suggests that separating these roles could

enhance accountability and responsibility, promoting greater transparency through the division of duties. The study concludes that strong corporate governance significantly influences credit risk management in banks and suggests that regulatory measures are necessary to support the implementation of separate CEO-Chairman roles in Pakistan.

2.2.2 Review of Pervious Thesis

Thapa (2015) conducted a study on the credit management of Everest Bank Limited with the objectives of analyzing credit risk management, comparing bank performance in credit, examining credit risk management variables, and gathering opinions on effective credit management. The study found a decrease in interest income from loans and advances, a decrease in recovering outstanding interest, a consistent an annual ratio of loans and advances to current assets exceeding 50% signifies strong performance in lending activities. an increasing trend in the ratio of interest expenses to total interest income implying unfavorable profitability, a rising trend in non-performing loans and loans and advances, and a decreasing trend in the ratio of loan loss provision to non-performing loans, suggesting effective credit management by Everest Bank Limited.

Manandhar (2015) explored credit management in commercial banks in Nepal, focusing on NABIL Bank, Standard Chartered Bank, Everest Bank, and Himalayan Bank. Objectives included analyzing the credit contribution and deposit mobilization of the sample banks, studying the relationship between deposit, loans, advances, and net profit, and providing recommendations for effective credit management. Notable findings included Himalayan Bank disbursing the highest credits, Himalayan Bank effectively utilizing total deposits for loans, Standard Chartered Bank Nepal managing credit effectively for high interest income, and credit and advances being a major income source for banks.

Shrestha (2018) conducted a comparative study on credit management in NIBL and NIC commercial banks in Nepal, focusing on credit policy functions, credit and advances provided, credit recovery status, and strengths and weaknesses in credit administration. The study found that NIC maintains higher loans and advances to total deposits, indicating a strong ability to mobilize total deposits for lending. NIBL showed the lowest non-performing loans to total loans and advances ratio, suggesting

better performance compared to NIC. The correlation coefficient between non-performing loans and loans at NIBL showed a moderate and negative relationship indicating a relationship where improvement in loan management could lead to lower non-performing loans.

Pathak (2019) conducted a study on the credit management of joint venture commercial banks, focusing on Nepal Investment Bank and Bank of Kathmandu. The objectives included examining the credit practices of the sample banks, evaluating the efficiency of the selected banks, and identifying strengths and weaknesses in credit administration. Key findings indicated that Bank of Kathmandu maintained a higher ratio of credit and advances to total deposits, with fixed deposits being the primary source for providing credit in both banks. Moreover, a decreasing trend in credit loss provisioning suggested an effective credit policy, with the interest rate impacting deposit amounts and, in turn, credit distribution.

Silwal (2020) investigated liquidity and credit management practices in commercial banks, specifically focusing on Nepal Investment Bank Ltd. and Global IME Bank Ltd. Objectives included analyzing trends in liquid assets, evaluating the cash reserve ratio, examining credit and advances provision, and identifying strengths and weaknesses in credit administration. Key findings revealed that Global IME Bank Ltd. had a slightly higher current ratio than Nepal Investment Bank Ltd., indicating better ability to meet short-term obligations. Furthermore, Nepal Investment Bank Ltd. consistently maintained a slightly higher cash reserve ratio compared to the NRB requirements, indicating sounder liquidity management. However, the higher standard deviation of Nepal Investment Bank Ltd. highlighted an increased risk associated with maintaining higher cash reserve ratios, which could impact profitability.

Shrestha (2021) studied credit risk management and financial performance in commercial banks, focusing on Nabil Bank Ltd., Standard Chartered Bank Nepal Ltd., Nepal Bangladesh Bank Ltd., and Nepal SBI Bank Ltd. Objectives included analyzing the status of performing and non-performing loans, identifying indicators of financial performance, and examining the relationship between credit risk management and financial performance. Major findings indicated inadequate liquidity in all joint venture banks, attributed to challenges in finding proper investment sectors for utilizing their liquid assets. Additionally, economic instability and political crises

have affected economic sectors, leading to the withdrawal of projects and reduced return on investments. As a result, banks have maximized liquidity due to a lack of safe investment opportunities, with a significant portion of funds being utilized for credit and advances to generate income. Provisions for credit losses have increased annually across all joint venture banks due to challenges in recovering loans amidst economic uncertainties leading to defaults by credit customers.

2.3 Research Gap

The term "research gap" denotes the difference between previous research efforts and the current study. While numerous studies have been conducted on the credit risk management of various banks by different students, experts, and researchers in the past, the limitations lie in the findings, lack of thorough testing, and adjustments in key variables. Therefore, there is a necessity for new research endeavors that validate these findings.

This study deviates significantly from past research as it focuses on analyzing the recent operations of Siddhartha Bank Limited and NIC Asia Bank Ltd. While these banks have been subject to previous studies, the constraint lies in the duration of data collection periods. By examining data over a five-year span, this study enables a more effective analysis of the trends in credit risk management during this timeframe and facilitates predicting future trends that these financial institutions might exhibit under similar circumstances.

Previous research studies lacked thorough testing and adjustments of crucial variables to reach more definitive conclusions, thereby restricting the depth of the studies. The absence of clear ratio calculations in previous studies hindered the inclusion of an overall assessment of credit standards and procedures from a Nepalese perspective. To address these shortcomings, this study incorporates various analytical tools such as ratio analysis, correlation analysis, coefficient of variation, t-statistics, and trend analysis to provide a more comprehensive examination.

CHAPTER III
RESEARCH METHODOLOGY

The methodology of a research study is a systematic approach to solving the research problem. It can be seen as the science of how research is conducted in a systematic manner. Researchers need to have a good understanding of not just not only the research methods but also the methodology. When we talk about research methodology, we are not just talking about the particular research methods utilized but also contemplating the reasoning behind selecting those methods to explain in the context of the research study why certain methods or techniques are being used and why others are not, ensuring that the research results can be evaluated by both the researcher and others. Studying research methodology provides students with the necessary skills in gathering and organizing materials, participating in fieldwork when necessary, and training in data collection techniques that are appropriate for the specific research problem. This includes using statistics, controlled experiments, and effectively recording, sorting, and interpreting evidence. (Kothari, 1990)

3.1 Research design

The process of determining the what, when, how much, and by what means in relation to an investigation or research project is known as a research design. It is the structured plan for gathering and analyzing data in a way that balances relevance to the research objectives with efficiency in the procedures. Essentially, the research design serves as the roadmap for how data will be collected, measured, and analyzed, encompassing everything from formulating hypotheses and defining their practical applications to the ultimate data analysis. The study utilizes a combination of descriptive and analytical research designs to fulfill the study's specific goals.

3.2 Population and sampling

Currently, Nepal has a total of 20 commercial banks operating, serving as the population for this study. From this population, Nepal Investment Mega Bank Ltd., Nabil Bank Ltd., and Everest Bank Limited have been chosen as the sample for assessing credit risk management. A ten-year period, from 2013/14 to 2022/23, has

been selected for the study using a method of random sampling.

3.3 Nature and sources of data

There are two types of data: primary data and secondary data. This research study utilizes secondary data to meet its goals. Secondary data consists of information that has been collected by others or has been previously used and is now accessible to others in the form of published statistics like annual reports, periodicals, newspapers, and magazines. When primary data is used, it transforms from its original form into secondary data. This research primarily relies on secondary data, particularly the annual reports of the banks under study. In addition to annual reports, various other sources of data such as planning documents, newspapers, magazines, economic journals, and reports from the NRB have also been used for this study.

3.4 Tools used

In order to enhance the study's specificity and reliability, the researcher employs the following types of tools for analysis:

3.4.1 Arithmetic mean

The arithmetic mean, also known as the simple mean, is calculated by dividing the sum of all observations by the total number of observations. It is a representative value that reflects the average of a variable across the entire group. The arithmetic mean of a series can be calculated using the following formula:

Mean $(\bar{X}) = \frac{\sum x}{N}$

Where,

$\sum x$ = Sum of the variables 'x'

N = Number of Observations

3.5.2 Standard deviation

Standard deviation acts as an absolute measure of dispersion, addressing constraints identified in other measures of dispersion as it meets the necessary criteria for an effective measure of dispersion. It is defined as the positive square root of the mean of the squared differences from the arithmetic mean. This statistic reveals the extent and magnitude of deviations from the mean, providing insight into the absolute spread of the data. A higher standard deviation signifies greater variability, while a lower standard deviation indicates less variability. Dispersion reflects the extent to which

the data deviates from the central value, offering a means to evaluate the data's variability. The calculation for standard deviation is as follows:

$$\text{Standard Deviation (S.D.)} = \sqrt{\frac{\Sigma(X - \bar{X})^2}{n}}$$

3.4.3 Coefficient of variation (CV)

Standard deviation, a definitive indicator of dispersion, functions as the basis for calculating the coefficient of standard deviation, a relative measure of dispersion. This coefficient is known as the coefficient of variation, which represents the percentage measure of variability. A lower coefficient of variation indicates greater uniformity and consistency within the data, while a higher coefficient signifies greater variability. Utilizing the coefficient of variation allows for the comparison of the variability of two variables independently, complementing the comparison facilitated by the standard deviation. This combined analysis provides a more comprehensive evaluation of the variability between the variables.

$$\text{Coefficient of Variation (C.V.)} = \frac{\text{S. D.}}{\bar{X}} \times 100$$

3.4.4 Correlation coefficient (r)

Correlation coefficient (r) is a statistical measure that signifies the connection between the independent and dependent variables. It is used to evaluate the relationship between these two variables. When alterations in the independent variable result in corresponding changes in the dependent variable, they are considered to be correlated, as indicated by the correlation coefficient.

$$\text{Correlation Coefficient (r)} = \frac{n\Sigma xy - \Sigma x \Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

3.4.5 Trend Analysis

Trend analysis involves assessing the status of variables over various time periods, particularly focusing on financial indicators. This analytical tool is employed to identify trends in different financial metrics. Trend analysis is particularly valuable for understanding the real scenario of various factors over different years. While it doesn't offer causation or analytical explanations, it presents factual figures. Trends may manifest as declining, increasing, or remaining constant over the timeframe.

CHAPTER IV
DATA PRESENTATION AND ANALYSIS

This chapter involves analyzing and interpreting data through financial and statistical methods, aligning with the research methodology outlined in Chapter 3. During the analysis phase, data sourced from various channels were organized into relevant tables based on their similarities. The results of the analysis were benchmarked against traditional standards, such as ratio analysis, NRB guidelines, and other key metrics. Additionally, informative graphs and diagrams were utilized to illustrate the bank's current standing and performance effectively.

4.1 Analysis of data

Ratio analysis is a critical financial analysis tool that reveals the key connections between different elements of a company's balance sheet, providing insights into the company's financial position and performance. Put simply, it encompasses the techniques used to compute and interpret financial ratios to evaluate a firm's performance and standing. The primary data required for ratio analysis includes the company's income statement and balance sheet for the specified periods under review. This research utilizes different ratios to assess the credit risk management procedures of Nepal Investment Mega Bank Ltd., Everest Bank Ltd., and Nabil Bank Ltd.

4.1.1 Ratios related to credit efficiency

Credit efficiency pertains to the efficient distribution of credit to enhance the durability and profitability of a company. The caliber of loans and advances provided to borrowers is crucial for ensuring sufficient liquidity and enhancing the profitability of financial institutions. This section examines the significance of the credit-deposit ratio and the ratio of non-performing loans to total loans and advances in evaluating the effectiveness of banks in managing credit.

4.2.1 Ratio of loans and advances to total deposits

This ratio is employed to assess the extent to which banks are effectively utilizing their deposited funds for profit-generating purposes through credit or loans, as loans

and advances typically yield high returns. A higher Credit-Deposit (CD) Ratio indicates more efficient use of total deposits and greater earnings. Hence, a CD ratio ranging from 70 percent to 80 percent is generally considered more appropriate.

Table 1

Loan-to-deposit ratio

(In percent)

Fiscal Year	NABIL	NIMB	EBL
2013/14	52.07	72.41	78.01
2014/15	64.29	74.69	66.63
2015/16	70.34	80.10	73.52
2016/17	76.89	84.89	82.32
2017/18	82.56	87.38	81.84
2018/19	80.60	87.20	85.92
2019/20	79.27	86.03	82.02
2020/21	89.99	96.21	83.87
2021/22	93.49	90.72	89.10
2022/23	84.60	89.35	84.42
Mean	**77.41**	**84.90**	**80.77**
SD	**11.72**	**6.91**	**6.20**
CV	**15.14**	**8.14**	**7.67**

Source: Appendix- IV

Table 1 shows the fluctuating trend in the loan and advances to total deposit ratio of the banks under study. The NABIL ratio reached its highest point at 93.49 percent in the fiscal year 2021/22 and decreased to its lowest level at 52.07 percent in the fiscal year 2013/14. Similarly, the NIMB ratio peaked at 96.21 percent in the fiscal year 2020/21 and reached its lowest point at 72.41 percent in the fiscal year 2013/14. Similarly, the EBL ratio rose to a high of 89.10 percent in the fiscal year 2021/22 and fell to a low of 66.63 percent in the fiscal year 2014/15. On average, the NABIL, NIMB and EBL ratios were 77.41 percent, 84.90 percent, and 80.77 percent respectively.

The analysis indicates that NIBL has been the most successful in utilizing its total deposits for loans and advances, leading to the highest profitability. The standard deviations for NABIL, NIMBL and EBL were 11.72 percent, 6.91 percent and 6.20 percent respectively indicating that NABIL poses the lowest risk. When considering

the coefficient of variation (CV), NABIL emerges as the most stable in terms of ratios or the least risky, with EBL showing the lowest CV at 7.67 percent.

4.1.1.2 Loans and advances to total assets ratio

This ratio reflects the proportion of loans and advances relative to the total assets held by the bank. A high ratio suggests that the bank has effectively utilized its funds by engaging in lending activities. However, lending inherently comes with the risk of potential defaults. Consequently, a high ratio signifies lower liquidity, while a low ratio indicates lower productivity but higher safety in terms of liquidity.

Table 2

Loan and advance to total assets ratio

(In percent)

Fiscal Year	NABIL	NIMB	EBL
2013/14	42.95	58.12	67.81
2014/15	53.68	60.96	55.34
2015/16	55.68	63.13	59.93
2016/17	59.34	65.49	67.27
2017/18	66.18	67.03	64.36
2018/19	67.95	64.81	62.75
2019/20	64.37	64.77	60.51
2020/21	70.67	67.37	63.13
2021/22	72.45	62.96	68.13
2022/23	69.15	65.42	66.39
Mean	**62.24**	**64.01**	**63.56**
SD	**8.79**	**2.68**	**3.90**
CV	**14.12**	**4.18**	**6.14**

Source: Appendix- V

Table 2 presents the loan and advance to total assets ratio of the surveyed banks. The highest ratio for NABIL was 72.45 percent in the fiscal year 2021/22 and the lowest was 42.95 percent in the fiscal year 2013/14. Similarly, for NIMB, the highest ratio was 67.37 percent in the fiscal year 2020/21 and the lowest was 58.12 percent in the fiscal year 2013/14. The highest ratio for EBL was 67.81 percent in the fiscal year 2013/14, while the lowest was 55.34 percent in the fiscal year 2014/15. On average, the ratios for NABIL, NIMB and EBL were 62.24 percent, 64.01 percent and 63.56 percent respectively. It can be inferred that NIMB is the most effective at mobilizing funds through loans and advances, as it achieved the highest ratio. The standard

deviations for NABIL, NIMB and EBL were 8.79 percent, 2.68 percent and 3.90 percent respectively, indicating that NABIL carries the lowest risk. In terms of coefficient of variation (CV), NABIL is the most stable in terms of ratios or the least risky, with NIMB exhibiting the lowest CV of 4.18 percent.

4.1.1.3 Loan loss provision to loan and advances ratio

The provision for loan losses is a necessary aspect of lending practices, while Non-Performing Loans pose a significant risk for banks. High levels of these factors can reduce the bank's intended profit. This ratio represents the proportion of provisioned loans to non-performing loans. Since provisions are required for all loans, it is a mandatory part of banking operations. However, the difference compared to non-performing loans can impact profitability adversely. The provision for loan losses indicates an increased likelihood of loans becoming non-performing, which can decrease profits and lead to lower dividends. On the positive side, it serves to strengthen the financial stability of banks by mitigating credit risks and reducing deposit-related risks. A low ratio signifies high-quality assets in the total volume of loans and advances, while a high ratio indicates a higher proportion of risky assets in the loan portfolio.

Table 3

Loan loss provision to loan and advances ratio

(In percent)

Fiscal Year	NABIL	NIMB	EBL
2013/14	2.29	1.93	1.94
2014/15	2.48	2.17	1.70
2015/16	2.09	1.78	1.25
2016/17	1.75	1.86	1.29
2017/18	1.50	2.04	1.06
2018/19	1.64	3.29	1.01
2019/20	1.07	4.34	1.16
2020/21	1.89	4.02	1.21
2021/22	2.39	3.10	1.61
2022/23	3.27	4.04	1.76
Mean	**2.01**	**2.96**	**1.34**
SD	**0.61**	**0.97**	**0.26**
CV	**30.24**	**32.63**	**19.70**

Source: Appendix- VI

Table 3 shows the loan loss provision to loan and advance ratio of selected commercial banks throughout a ten-year period of study. NABIL had the highest ratio of 3.27 percent in the fiscal year 2022/23 and the lowest of 1.07 percent in the fiscal year 2019/20. Similarly, NIMB displayed a range from the highest of 4.34 percent in the fiscal year 2019/20 to the lowest of 1.78 percent in the fiscal year 2015/16. EBL exhibited a high of 1.76 percent in the fiscal year 2022/23 and a low of 1.01 percent in the fiscal year 2018/19. The average ratios for NABIL, NIMB and EBL were found to be 2.01 percent, 2.96 percent, and 1.34 percent, respectively. NIMB had the highest average loan loss provision to loan and advance ratio among these banks, indicating a significant amount allocated for provisions for loan losses. This trend resulted in NIMB facing challenges in generating profits on average However, by adjusting their loan management practices, all three banks could bring their ratios below 5 percent. While analyzing the standard deviations, NABIL, NIMBL and EBL displayed values of 0.61, 0.97 and 0.26, respectively, with EBL showing the lowest risk. Furthermore, the coefficient of variance suggests that EBL has the most consistent ratios among these banks, with EBL having the lowest coefficient of variance at 19.70 percent.

4.1.1.4 Non-performing loans to loan and advances ratio

Per the directives from the NRB to commercial banks, non-performing loans are classified as standard, sub-standard, doubtful, and bad loans. The NRB has mandated all commercial banks to establish a loan loss provision for doubtful and bad debts. This ratio aids in reducing non-performing loans, managing credit risk, and controlling credit. It is also referred to as the credit risk ratio, which assesses the likelihood of loans not being repaid or investments declining in value, potentially leading to default and losses for the bank. Essentially, the credit risk ratio indicates the percentage of non-performing assets in the total loan portfolio of the bank.

Table 4

Non-performing loan to loan and advance ratio

(In percent)

Fiscal Year	NABIL	NIMB	EBL
2013/14	2.25	1.68	0.62
2014/15	1.83	1.25	0.66
2015/16	1.15	0.68	0.54

2016/17	0.79	0.83	0.63
2017/18	0.53	1.03	0.20
2018/19	0.74	2.77	0.16
2019/20	0.97	2.90	0.22
2020/21	0.79	2.42	0.12
2021/22	1.55	1.46	0.24
2022/23	3.20	4.35	0.79
Mean	**1.38**	**1.94**	**0.42**
SD	**0.80**	**1.10**	**0.24**
CV	**57.74**	**56.72**	**57.18**

Source: Appendix- VII

Table 4 illustrates the non-performing loan to loan and advance ratio of the sample banks. NABIL exhibited a range from 3.20 percent in the fiscal year 2022/23 to 0.53 percent in the fiscal year 2017/18. Similarly, NIMB ranged from 4.35 percent in the fiscal year 2022/23 to 0.68 percent in the fiscal year 2015/16. Additionally, EBL showed a range from 0.79 percent in the fiscal year 2022/23 to 0.12 percent in the fiscal year 2020/21. The average NPL ratios for NABIL, NIMBL, and EBL were 1.38 percent, 1.94 percent, and 0.42 percent, respectively. EBL had the lowest NPL ratio, indicating strong performance and effective management of non-performing loans, showcasing the lowest credit risk among the banks examined. The standard deviations for NABIL, NIMBL, and EBL were 0.80, 1.10, and 0.24, respectively, with EBL presenting the least risk. When considering the coefficient of variation, NIMB was the most consistent in terms of ratios among the banks, demonstrating the lowest CV at 56.72 percent.

4.1.1.5 Loan loss provision to non-performing loan ratio

Loan loss provision is a crucial aspect of lending operations, while Non-Performing Loans pose challenges for banks. High levels of NPLs can diminish the expected profits of a bank. This ratio calculates the proportion of provisioned loans to non-performing loans. Creating a loan loss provision for all loans is mandatory, as it has no impact on the bank's performance, whereas high levels of non-performing loans can negatively impact profitability.

Table 5

Loan loss provision to non-performing loan ratio

(In percent)

Fiscal Year	NABIL	NIMBL	EBL
2013/14	-	-	-
2014/15	135.52	173.96	256.06
2015/16	182.32	261.17	230.19
2016/17	221.75	223.71	204.69
2017/18	284.46	196.79	531.07
2018/19	220.26	118.86	636.94
2019/20	109.60	150.08	516.89
2020/21	241.03	166.07	1,029.14
2021/22	154.16	211.72	662.45
2022/23	102.01	92.80	221.82
Mean	**183.46**	**177.24**	**476.58**
SD	**59.24**	**49.65**	**262.12**
CV	**32.29**	**28.01**	**55.00**

Source: Appendix- VIII

Table 5 depicts the loan loss provision to non-performing loan ratio over the ten-year period under study. NABIL's ratio fluctuates between a high of 284.46 percent in 2017/18 and a low of 102.01 percent in 2022/23. Similarly, NIMB's ratio ranges from a peak of 261.17 percent in 2015/16 to a low of 92.80 percent in 2022/23. Likewise, EBL's ratio varies from a high of 1029.14 percent in 2020/21 to a low of 204.69 percent in 2016/17. The mean loan loss provision to non-performing loan ratio for NABIL, NIMB, and EBL is 183.46 percent, 177.24 percent, and 476.58 percent, respectively. EBL's highest ratio indicates a robust provision against future uncertainties, albeit at the cost of reduced profits. Overall, NABIL, NIMB, and EBL demonstrate effective management of non-performing loans. The standard deviation values for NABIL, NIMB, and EBL are 59.24, 49.65, and 262.12, respectively, suggesting NIMB has the lowest risk profile. By assessing the coefficient of variation (CV), NIMB emerges as the most consistent in ratios, with the lowest CV of 28.01 percent among the banks.

4.1.2 Profitability ratios

The profitability ratio is a crucial metric for assessing a firm's financial performance, measuring its earnings performance and operational efficiency. It is essential for a bank to generate satisfactory profits on every unit of investment. If investments fail to yield enough profits, the bank may struggle to cover operating expenses and interest

payments. The bank's profitability should be evaluated based on its asset investments and the capital provided by creditors.

4.1.2.1 Return on total assets ratio (ROA)

This ratio, which relates to net profit after tax (NPAT) and total assets, measures how effectively a firm's assets can generate profits. It is determined by dividing NPAT by Total Assets and serves as a fundamental factor in enabling a company to achieve a favorable return on equity.

Table 6

Return on Total Assets

(In percent)

Fiscal Year	NABIL	NIMB	EBL
2013/14	1.84	2.10	2.17
2014/15	1.75	1.77	1.56
2015/16	2.21	1.85	1.50
2016/17	2.35	2.01	1.69
2017/18	2.42	1.96	1.74
2018/19	2.20	1.68	1.71
2019/20	1.50	1.15	1.27
2020/21	1.55	1.45	0.86
2021/22	1.17	1.52	1.12
2022/23	1.53	0.88	1.30
Mean	**1.85**	**1.64**	**1.49**
SD	**0.40**	**0.37**	**0.35**
CV	**21.69**	**22.71**	**23.57**

Source: Appendix- IX

Table 6 displays the return on assets for the selected banks during the ten-year study period. NABIL's ratio peaked at 2.42 percent in the fiscal year 2017/18 and bottomed out at 1.17 percent in the fiscal year 2021/22. Similarly, NIMB's ratio ranged from a high of 2.10 percent in 2013/14 to a low of 0.88 percent in 2022/23. Likewise, EBL's ratio varied from a high of 2.17 percent in 2013/14 to a low of 0.86 percent in 2020/21. The average ratios for NABIL, NIMB, and EBL are 1.85 percent, 1.64 percent, and 1.49 percent, respectively. This suggests that NABIL effectively managed its overall operations due to its highest ratio. The standard deviations for NABIL, NIMB, and EBL are 0.40, 0.37, and 0.35, respectively, indicating that EBL has the lowest risk. The coefficient of variation reveals that EBL is the most consistent in its ratios, with the highest CV of 23.57 percent among the three banks.

4.1.2.2 Return on equity ratio (ROE)

The total shareholder's equity encompasses preference share capital, ordinary share capital, share premium, reserves, and surplus after deducting accumulated losses. This ratio is calculated by dividing Net profit after tax (NPAT) by the average total shareholder's equity.

Table 7

Return on equity

(In percent)

Fiscal Year	NABIL	NIMB	EBL
2013/14	35.84	27.45	32.16
2014/15	28.64	24.73	28.67
2015/16	32.48	16.70	25.06
2016/17	23.80	18.21	23.16
2017/18	29.15	19.16	21.45
2018/19	22.89	15.32	20.87
2019/20	13.82	10.39	15.51
2020/21	13.52	12.76	9.70
2021/22	9.46	13.54	12.64
2022/23	14.89	7.97	14.84
Mean	**20.96**	**16.62**	**20.41**
SD	**7.79**	**5.76**	**6.83**
CV	**37.16**	**34.65**	**33.48**

Source: Appendix- X

Table 7 displays the return on equity results for the selected banks. NABIL achieved the highest ratio at 35.84 percent in the fiscal year 2013/14 and the lowest at 9.46 percent in the fiscal year 2021/22. Similarly, NIMBL reached its peak at 27.45 percent in 2013/14 and its lowest at 7.97 percent in 2022/23. EBL's ratio ranged from a high of 32.16 percent in 2013/14 to a low of 9.70 percent in 2020/21. The average ratios for NABIL, NIMBL, and EBL are 20.96 percent, 16.62 percent, and 20.41 percent, respectively. This suggests that NABIL has the most effective profit management among them. The standard deviations for NABIL, NIMBL, and EBL are 7.76, 5.76, and 6.83, respectively, indicating that NIMBL has the lowest risk. The co-efficient of variation, measuring the consistency of the banks, is 37.16 percent, 34.65 percent, and 33.48 percent for NABIL, NIMBL, and EBL, respectively. Therefore, NABIL shows the most consistent ratios among the three.

4.1.2.3 Net profit to loan and advances ratio

Net Profit reflects the bank's performance and efficiency of management in utilizing deposits. An increase in net profit is crucial for the bank. The ratio of net profit to total loans and advances indicates the profit relative to the total amount of loans and advances disbursed.

Table 8

Net profit to loan and advance ratio

(In percent)

Fiscal Year	NABIL	NIMB	EBL
2013/14	4.29	3.61	3.20
2014/15	3.27	2.90	2.82
2015/16	3.97	2.93	2.51
2016/17	3.96	3.07	2.52
2017/18	3.65	2.92	2.71
2018/19	3.24	2.60	2.72
2019/20	2.33	1.77	2.11
2020/21	2.20	2.16	1.35
2021/22	1.61	2.42	1.65
2022/23	2.21	1.34	1.96
Mean	**3.07**	**2.57**	**2.36**
SD	**0.88**	**0.64**	**0.54**
CV	**28.50**	**24.70**	**23.12**

Source: Appendix- XI

Table 8 illustrates the net profit to loan and advances ratio over the decade-long study period. NABIL had the highest ratio of 4.29 percent in the fiscal year 2013/14 and the lowest of 1.61 percent in 2021/22. Similarly, NIMB ranged from a high of 3.61 percent in 2013/14 to a low of 1.34 percent in 2022/23, while EBL varied from 3.20 percent in 2013/14 to 1.35 percent in 2020/21.

The average ratios for NABIL, NIMB, and EBL stand at 3.07 percent, 2.57 percent, and 2.36 percent, respectively, with NABIL displaying the highest ratio, indicating its superior performance among the sample banks. This suggests effective decision-making by senior management, a robust credit review process, and successful borrower or collateral monitoring by NABIL. The standard deviations for NABIL, NIMBL, and EBL are 0.88, 0.64, and 0.54, respectively, with EBL having the lowest

risk. Furthermore, based on the coefficient of variation, EBL is the most consistent in terms of ratios with the lowest CV of 23.12 percent.

4.2 Correlation analysis

In this segment, the analysis includes the presentation and examination of the correlation between the independent and dependent variables. The correlation between two variables quantifies the extent of the linear relationship between them. To determine how the independent variables are associated with the dependent variables, the study utilized the Pearson Product Moment of Correlation Coefficient. This coefficient ranges between +1 (indicating a perfect positive relationship) and -1 (indicating a perfect negative relationship), with a correlation coefficient of zero signifying no linear relationship between the variables. In this research, the dependent variables consist of loan and advances, non-performing loans, and loan loss provisions, while the independent variable is net profit.

Table 9

Pearson correlation coefficients of study variables

	LA	NPL	LLP	NP
LA	1			
NPL	.8841**	1		
	(.0015)			
LLP	.9756**	.9587**	1	
	(.0000)	(.0000)		
NP	.9119**	.8260**	.8727**	1
	(.0006)	(.0061)	(.0021)	

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

Source: Appendix-XII

Table 9 displays the results of the correlation analysis between the dependent and independent variables, presented in a correlation coefficient matrix. The analysis indicates a statistically significant relationship between loan and advances (LA) and non-performing loans (NPL) at a 1 percent significance level, with a correlation

coefficient of 0.8841 signifying a moderate positive correlation between the two. Additionally, loan and advances (LA) exhibit significant relationships with loan loss provision (LLP) and net profit (NP) at a 1 percent significance level.

Furthermore, there is an insignificant positive correlation (0.8260) between non-performing loans and net profit. The correlation matrix also reveals a significant positive correlation between non-performing loans and loan loss provision at a 1 percent significance level. Similarly, the correlation between loan loss provision and net profit is 0.8727, also significant at the 1 percent level.

4.3 Regression analysis

This section encompasses various methodologies for modeling and evaluating multiple variables, specifically when examining the correlation between a dependent variable (net profit) and independent variables (loan and advances, non-performing loans, loan loss provision).

Table 10

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.9724[a]	.9455	.9129	792.3851	2.9997

a. Predictors: (Constant), LLP, LA, NPL

b. Dependent Variable: NP

Source: Appendix-XIII

The R-squared value in multiple regression analysis serves as a summary indicator of how well the sample regression line aligns with the data. Typically ranging between 0 and 1, with 1 being the ideal endpoint, R-squared measures the degree of fit of the model, with a higher R-squared value closer to 1 indicating a better fit. Essentially, the R-squared statistic reveals the proportion of variance in the dependent variable explained by the independent variables. In this scenario, the model accounts for 94.55 percent of the variance in the dependent variable, net profit, while the adjusted R-squared is even higher at 91.29 percent. The strength of the relationship among variables, denoted by the multiple correlation coefficients, is assessed based on the R

statistic. In this study, the R statistic of 0.9724 suggests a very robust relationship between the variables under investigation, indicating that net profit is significantly influenced by the independent variables. The standard error of estimate is essential in the context of regression analysis, ensuring accuracy in predictions. The Durbin-Watson statistic is utilized to examine the independence of residuals or autocorrelation, with values falling between 0 and 4. Ideally, a Durbin-Watson statistic around 2 implies that residuals are independent, with an acceptable range between 1.50 and 2.50. In this study, the Durbin-Watson statistic of 2.9997, above 2.0 indicates negative autocorrelation within the regression model.

Table 11

Regression coefficient of independent variables on net profit

Variables	**Coefficients**	**t-statistics**	**p-value**	**Collinearity Statistics**	
				Tolerance	**VIF**
(Constant)	2043.8387	1.6191	.0166		
LA	.0442	4.0940	.0094	.0159	62.8892
NPL	.7037	3.1475	.0254	.0027	37.4581
LLP	-1.5585	-3.208	.0237	.0027	169.6094

Dependent Variable: NP

Source: Appendix-XIII

Table 4.11 displays the regression coefficients of the independent variables loan and advance, non-performing loan, and loan loss provision for the sample banks, along with the intercept value for the dependent variable net profit. The p-value indicates the level of significance of each variable. Tolerance represents the percentage of variance in the independent variable that is not explained by the other independent variables, while the variance inflation factor (VIF) is the reciprocal of tolerance. The tolerance values ranged from 0.0027 to 0. 0159, with corresponding VIF values ranging from 37.4581 to 169.6094. Since the tolerance values were below 0.1 and VIF values exceeded 10, it indicates the presence of multicollinearity in the model.

The regression analysis in Table 4.11 revealed that loan and advance (LA) has a positive association with net profit, with a coefficient estimate of 0.0442. This implies that a one-unit increase in loan and advance leads to a 0.0442 unit increase in net profit of banks, holding other variables constant. The p-value for loan and advance is 0.0094, indicating statistical significance at the 1 percent level, highlighting a significant positive correlation between loan and advance and net profit.

On the other hand, non-performing loan (NPL) demonstrated a negative relationship with net profit, with a coefficient estimate of 0.7037. This suggests that a one-unit increase in non-performing loan results in a 0.7037 unit decrease in net profit for sample banks, while the p-value for non-performing loans is 0.0254. The higher p-value at the 5 percent significance level rejects the null hypothesis, indicating a statistically significant impact of non-performing loans on the net profit of sample banks.

Furthermore, loan loss provision (LLP) was found to have a negative impact on net profit, with a coefficient estimate of -1.5585. Holding other independent variables constant, a one-unit increase in loan loss provision leads to a decrease of 1.5585 units in the net profit of banks. The p-value for loan loss provision is 0.0237, signifying statistical insignificance at the 5 percent level of significance. These results support the initial hypothesis that loan loss provisions have a negative and statistically insignificant influence on the profitability of sample banks.

4.4 Discussion of the findings

On the basis of above analysis of data, the study has following findings.

1. It is found that the average loan loss provision to loan & advance ratio of NABIL, NIMBL and EBL are 2.01 percent, 2.96 percent and 1.34 percent respectively. Here, average loan loss provision to loan and advance ratio of NIMBL is the highest among them. NIMBL has huge amount to be made for provision for loan losses. Therefore, NIMBL has not been able to earn a profit from the point of view average. But these three banks can be managed and bring them below 5 percent by managing loan properly in final year. The standard deviation of NABIL, NIMBL and EBL are 0.61, 0.94 and 0.26 respectively. It indicates that

EBL has the lowest risk among them. By measuring coefficient of variation, EBL is the most uniform in the ratios among them since EBL has least CV of 19.70 percent.

2. In average, the non-performing loan to loan and advance ratio of NABIL, NIMBL and EBL are 1.38 percent, 1.96 percent and 0.42 percent respectively. EBL has the lowest NPL ratio among them thus EBL performing good or maintaining their NPLs perfectly which shows EBL has lowest credit risk among them. The standard deviation of NABIL, NIMBL and EBL are 0.80, 1.10 and 0.24 respectively. It indicates that EBL has the lowest risk among them. By measuring coefficient of variation, NIMBL is the most uniform in the ratios among them since NABIL has least CV of 56.72 percent.
3. The average loan loss provision to non-performing loan of NABIL, NIMBL and EBL are 183.46 percent, 177.24 percent and 476.58 percent respectively. EBL has the highest ratio signifies that the bank is safeguarded against future contingencies but it reduces profit. But it can be said that NABIL, NIBL and EBL are really doing well in NPL management. The standard deviation of NABIL, NIBL and EBL are 59.24, 49.65 and 262.12 respectively. It indicates that NIBL has the lowest risk among them. By measuring coefficient of variation, NIBL is the most uniform in the ratios among them since NIBL has least CV of 28.01 percent.
4. The result also reveals that the average return on assets of NABIL, NIMBL and EBL are 1.85 percent, 1.46 percent and 1.49 percent respectively. It indicates that, NABIL could manage their overall operations due to highest ratio among them. The standard deviation of NABIL, NIMBL and EBL are 0.40, 0.37 and 0.35 respectively. It indicates that EBL has the lowest risk among them. By measuring coefficient of variation, EBL is the most uniform in the ratios since it has highest CV i.e. 23.57 percent among them.
5. This study found that the return on equity of NABIL, NIMBL and EBL are 20.96 percent, 16.62 percent and 20.41 percent respectively. This indicates that the return on equity for the NABIL is the best or most effective management in earning profit among them. The standard deviation of NABIL, NIMBL and EBL are 7.79, 5.76 and 6.83 respectively. It indicates that NIMBL has the lowest risk among them. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 37.16 percent, 34.65 percent and 33.48

percent for NABIL, NIMBL and EBL respectively. That's why; NABIL is the most uniform in the ratios among them.

6. Finding shows that the average net profit to loan and advance ratio of NABIL, NIMBL and EBL are 3.07 percent, 2.57 percent and 2.36 percent respectively. NABIL has the highest ratio among them. So, NABIL is best performance among the sample banks. The standard deviation of NABIL, NIMBL and EBL are 0.88, 0.64 and 0.54 respectively. It indicates that EBL has the lowest risk among them. By measuring coefficient of variation, EBL is the most uniform in the ratios since it has the lowest CV 23.12 percent.
7. The correlation test shows that loan and advance (LA) has significant relation with non-performing loan (NPL) in 1 percent level of significance with correlation coefficients 0.884 which means that there is moderate degree of positive correlation between loan and advance and non-performing loan. At the same time, loan and advance (LA) has significant relation with loan loss provision (LLP) and net profit (NP) in 1 percent level of significance. Likewise, there is insignificant positive correlation between non-performing loan and net profit i.e. 0.820.
8. The correlation matrix also shows that non-performing loan has significant positive correlation with loan loss provision in 1 percent level of significance. This was consistent with the findings of Berrios (2013) but opposite to the findings of Francis (2014) on commercial banks in Kenya Similarly, correlation between loan loss provision and net profit is 0.872 which is also 1 percent level of significance.

9. In this study, the model fits (accounts) for 94.55 percent of the variance in the dependent variable, Net profit. The adjusted R Square is higher, indicating 91.29 percent of the variance is accounted for by the model. In this study, the R statistic is 0.9724, indicated that there is a very strong relationship between study variables. This implies that the net profit (NP) was perfectly influenced by its independent variables. At the same time, Durbin-Watson is 2.9997, above to 2 shows negative autocorrelation in the regression model.

10. It shows that tolerance values ranged between 0.00159 and 0.0027 with corresponding VIF values ranging between 37.4581 and 169.6094. Since tolerance values were below 0.1 and VIF above 10. That's why, there is multicollinearity in the model.

11. The relationship between loan and advance (LA) has a positive relationship with net profit by a coefficient estimate of 0.0442 This means that holding other independent variables constant and when one unit increases in loan and advance, as a result it increases net profit of the banks by 0.0442 and the p value of loan and advance (LA) is 0.094 discloses that it is statistically significant at 1 percent level of significance. Hence, this is significant positive relationship between loan and advance and net profit. A positive and significant association between bank profitability and loan and advance has been found in previous study (Alshatti, 2015).

12. In accordance with the regression result of non-performing loan (NPL) has a negative relationship with net profit by a coefficient estimate of 0.7037. This means that holding other independent variables constant and when one unit increases in non-performing loan (NPL), as a result it increases net profit of sample banks by 0.7037 and the p value of non-performing loan is 0.025. This result is consistent with the results identified by (Dhungana & Pradhan, 2017). This means testing in the 5 percent significance level p-value is higher and null hypothesis is rejected concluding that non-performing loan do have statistically significant influence on the net profit of sample banks.

13. According to the regression result of loan loss provision (LLP) has a negative relationship with net profit by a coefficient estimate of -1.558. Finding goes in line with the literature of Ifeanyi and Francis (2017) concluded that loan loss provisions have negative and statistically insignificant effect on profitability of sample banks.

CHAPTER V
SUMMARY AND CONCLUSION

The concluding section examines the results of the data analysis, summarizes key findings, draws conclusions, and offers recommendations based on the main findings and conclusions.

5.1 Summary

Banks provide essential capital to the economy through loans and advances, which carry the inherent risk of not being repaid on time, known as credit risk. Managing credit risk is a primary concern for banks since loans and advances are a key income source for them. This study aims to explore how credit risk management influences the profitability of banks in Nepal. Specific objectives include evaluating the credit efficiency and profitability positions of NABIL, NIMBL, and EBL, investigating the relationships among loans and advances, non-performing loans, loan loss provisions, and net profits of the selected banks, and analyzing the impact of loans and advances, non-performing loans, and loan loss provisions on the net profits of these banks.

Various sources such as theses, journals, articles, and relevant websites were consulted for this research. In the methodology chapter, the research design, data sources, data collection techniques, and tools used are discussed. The study employed a descriptive and analytical research design, selecting three out of twenty-seven commercial banks through random sampling, focusing on the significant private banks NIMB, EBL, and NABIL. Secondary data from their annual reports and other publications covering the period from fiscal year 2013/14 to 2022/23 were utilized.

Data collected from multiple sources were systematized and presented in tables, charts, and other appropriate forms. Various mathematical, statistical, financial, and graphical tools were applied for data analysis, including multiple regression analysis. The results indicate that the sample banks effectively managed loans and nonperforming loans. The correlation analysis revealed a significant positive relation between loans and advances and non-performing loans, as well as with loan loss provisions and net profits at a 1 percent significance level. However, the correlation between non-performing loans and net profits was found to be insignificant. The

study concluded that loans and advances, non-performing loans, and loan loss provisions have a significant impact on the profitability of the sample banks.

5.2 Conclusion

Based on the main findings, it can be determined that NIMBL excels in utilizing its collected deposits for loans and advances compared to the other banks in the sample. The loan-to-deposit ratio is a key measure in this regard. EBL's lending policy is deemed robust and effective, attributed to its low non-performing loan to loan and advance ratio. EBL's strong loan recovery practices, efficient management, and thorough analysis contribute to its low level of non-performing loans. Furthermore, EBL is recognized for its superior asset quality in terms of loan loss provisions relative to loan and advances. NABIL demonstrates the highest profit-earning capability on loans and advances and working capital among the three banks. NABIL is able to efficiently manage its operations to achieve a higher return on assets (ROA) compared to NIMBL and EBL, while also exhibiting the most effective profit management in terms of return on equity among the three banks.

Upon scrutinizing the correlation analysis, it is evident that there is a significant relationship between loans and advances (LA) and non-performing loans (NPL), as well as between loans and advances (LA) and loan loss provisions (LLP), and net profit (NP) at a 1 percent significance level. Conversely, the correlation between non-performing loans and net profit is insignificant. Further, the correlation matrix indicates a significant positive correlation between non-performing loans and loan loss provisions at a 1 percent significance level. In terms of regression analysis, it is concluded that loans and advances, non-performing loans, and loan loss provisions have a significant impact on the profitability of the sample banks. Therefore, it is anticipated that the sample banks will exhibit effective credit risk management practices in the future.

5.3 Recommendation

Based on the key findings outlined in the fourth chapter and the conclusions reached in the current chapter, the following recommendations are proposed to strengthen the credit risk management of NIMBL, EBL, and NABIL.

1. NIMBL stands out with the highest ratio of loans and advances to total deposits among the three banks. Therefore, it is suggested that NABIL and EBL adopt a more lenient lending policy, allocate a higher percentage of total deposits to loans and advances, and maintain greater stability in their credit policies.

2. Commercial banks are required to set aside a certain percentage as loan loss provisions based on the type of loans extended. If the loan loss provision is excessive, it could potentially impact the bank's performance. EBL has the highest ratio of loan loss provision to non-performing loans among the three banks, suggesting a need for EBL to reduce this ratio through all possible means.

3. Among the sample banks, EBL demonstrates the lowest ratio of non-performing loans to loans and advances, indicating strong performance in managing and maintaining low credit risk. NABIL and NIMBL are advised to exercise caution and prudence in loan approvals and disbursements, with regular monitoring and follow-ups to ensure proper loan utilization.

4. NABIL boasts the most favorable profitability ratio in terms of returns compared to the other banks in the sample. Therefore, NIMB and EBL are encouraged to enhance their interest-earning capacity by increasing investments in loans and advances and effectively collecting interest payments.

5. Banks should diversify their lending operations and allocate more funds to productive sectors of the economy, particularly prioritizing support for private sector businesses.

6. Regression analysis highlights a significant impact of loans and advances on net profit for the sample banks. By effectively reducing non-performing loans on a large scale, these banks can potentially boost profitability.

7. Nepalese commercial banks should collaborate with credit reference bureaus to conduct thorough checks on the creditworthiness of loan applicants, aiming to mitigate default rates.

8. It is recommended that NABIL, NIMBL, and EBL intensify their credit risk monitoring and supervision efforts. Credit officers should conduct regular follow-ups with borrowers to ensure that loans are utilized as intended.

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APPENDICES

APPENDIX – I

Data of Nepal Investment Mega Bank Limited

(Rs. in million)

Particulars	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Capital Fund	7,023	7,928	15,261	17,983	18,684	22,295	24,749	28,616	30,188	53,885
Deposits	73,831	90,631	108,627	125,670	140,071	150,872	168,592	176,047	186,212	358,798
Loans and advances	53,463	67,688	87,010	106,684	122,388	131,567	145,033	169,370	168,923	320,596
Total Assets	91,987	111,043	137,823	162,897	182,586	202,999	223,922	251,416	268,312	490,078
Net Profit	1,928	1,960	2,549	3,275	3,579	3,416	2,572	3,651	4,086	4,297
Non-Performing Loan	897	844	593	888	1,266	3,641	4,199	4,105	2,474	13,959
Loan Loss Provision	-	1,468	1,549	1,987	2,492	4,328	6,302	6,817	5,238	12,954

(Source: NRB Monthly Statistic Reports)

APPENDIX – II

Data of Nabil Bank Limited

(Rs. in million)

Particulars	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Capital Fund	6,690	7,642	9,487	15,216	14,061	18,759	25,801	33,328	52,584	50,558
Deposits	107,270	104,242	110,267	118,907	135,978	164,372	193,035	228,018	329,571	402,657
Loans and advances	55,852	67,013	77,567	91,429	112,269	132,486	153,011	205,199	308,120	340,657
Total Assets	130,047	124,850	139,308	154,080	169,647	194,983	237,721	290,380	425,276	492,610
Net Profit	2,398	2,189	3,082	3,621	4,099	4,294	3,567	4,504	4,973	7,527
Non-Performing Loan	1,256	1,225	889	722	592	985	1,491	1,613	4,771	10,918
Loan Loss Provision	-	1,660	1,621	1,602	1,683	2,170	1,634	3,887	7,354	11,138

(Source: NRB Monthly Statistic Reports)

APPENDIX – III
Data of Everest Bank Limited

(Rs. in million)

Particulars	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Capital Fund	4,819	5,449	6,890	8,514	11,864	14,593	16,121	18,857	20,148	22,244
Deposits	62,108	83,094	93,735	95,094	114,852	130,153	144,728	160,899	173,472	199,148
Loans and advances	48,450	55,364	68,912	78,285	93,992	111,822	118,712	134,954	154,557	168,124
Total Assets	71,454	100,034	114,987	116,377	146,045	178,196	196,175	213,776	226,854	253,224
Net Profit	1,550	1,562	1,727	1,972	2,545	3,046	2,500	1,828	2,546	3,300
Non-Performing Loan	303	367	374	494	188	177	266	159	376	1,332
Loan Loss Provision	-	940	860	1,010	997	1,129	1,373	1,634	2,491	2,954

(Source: NRB Monthly Statistic Reports)

APPENDIX -IV

Fiscal Year	NABIL			NIMB			EBL		
	Loans & advances	Total Deposit	Ratio %	Loans & advances	Total Deposit	Ratio %	Loans & advances	Total Deposit	Ratio %
2013/14	55,852	107,270	52.07	53,463	73,831	72.41	48,450	62,108	78.01
2014/15	67,013	104,242	64.29	67,688	90,631	74.69	55,364	83,094	66.63
2015/16	77,567	110,267	70.34	87,010	108,627	80.10	68,912	93,735	73.52
2016/17	91,429	118,907	76.89	106,684	125,670	84.89	78,285	95,094	82.32
2017/18	112,269	135,978	82.56	122,388	140,071	87.38	93,992	114,852	81.84
2018/19	132,486	164,372	80.60	131,567	150,872	87.20	111,822	130,153	85.92
2019/20	153,011	193,035	79.27	145,033	168,592	86.03	118,712	144,728	82.02
2020/21	205,199	228,018	89.99	169,370	176,047	96.21	134,954	160,899	83.87
2021/22	308,120	329,571	93.49	168,923	186,212	90.72	154,557	173,472	89.10
2022/23	340,657	402,657	84.60	320,596	358,798	89.35	168,124	199,148	84.42
Mean			77.41			84.90			80.76
SD			11.72			6.91			6.20
CV			15.14			8.14			7.67

(Source: Appendix I, II and III)

APPENDIX -V

Loan and Advance to Total Assets Ratio

(Rs. in million)

Fiscal Year	NABIL			NIMB			EBL		
	Loan & Advance	Total Assets	Ratio %	Loan & Advance	Total Assets	Ratio %	Loan & Advance	Total Assets	Ratio %
2013/14	55,852	130,047	42.95	53,463	91,987	58.12	48,450	71,454	67.81
2014/15	67,013	124,850	53.68	67,688	111,043	60.96	55,364	100,034	55.34
2015/16	77,567	139,308	55.68	87,010	137,823	63.13	68,912	114,987	59.93
2016/17	91,429	154,080	59.34	106,684	162,897	65.49	78,285	116,377	67.27
2017/18	112,269	169,647	66.18	122,388	182,586	67.03	93,992	146,045	64.36
2018/19	132,486	194,983	67.95	131,567	202,999	64.81	111,822	178,196	62.75
2019/20	153,011	237,721	64.37	145,033	223,922	64.77	118,712	196,175	60.51
2020/21	205,199	290,380	70.67	169,370	251,416	67.37	134,954	213,776	63.13
2021/22	308,120	425,276	72.45	168,923	268,312	62.96	154,557	226,854	68.13
2022/23	340,657	492,610	69.15	320,596	490,078	65.42	168,124	253,224	66.39
Mean			62.24			64.01			63.56
SD			8.79			2.68			3.90
CV			14.12			4.18			6.14

(Source: Appendix I, II and III)

APPENDIX -VI

Loan Loss Provision to Loan & Advance Ratio

(Rs. in million)

Fiscal Year	NABIL			NIBL			EBL		
	Loan Loss Provision	Loan & Advance	Ratio %	Loan Loss Provision	Loan & Advance	Ratio %	Loan Loss Provision	Loan & Advance	Ratio %
2012/13	871	38034	2.29	792	41096	1.93	604	31058	1.94
2013/14	1262	41606	3.03	1270	41637	3.05	706	35911	1.97
2014/15	1276	46370	2.75	1300	46400	2.80	805	43393	1.86
2015/16	1511	54692	2.76	1439	52019	2.77	878	47572	1.85
2016/17	1660	65502	2.53	1471	66219	2.22	881	54482	1.62
2017/18	1624	76106	2.13	1549	85461	1.81	956	67955	1.41
2018/19	1614	89877	1.80	2059	104625	1.97	997	77288	1.29

2019/20	1744	113625	1.53	2734	120826	2.26	1129	94183	1.20
2020/21	2134	133558	1.60	4328	127141	3.40	1266	112007	1.13
2021/22	2968	153890	1.93	6369	140002	4.55	1814	119069	1.52
Mean			2.24			2.68			1.58
SD			0.52			0.84			0.32
CV			23.42			31.48			19.98

(Source: Appendix I, II and III)

APPENDIX -VII

Non-performing Loan to Loan and Advance Ratio

(Rs. in million)

Fiscal Year	NABIL			NIBL			EBL		
	NPL	Loan & Advance	Ratio %	NPL	Loan & Advance	Ratio %	NPL	Loan & Advance	Ratio %
2012/13	690	38034	1.81	395	41096	0.96	109	31058	0.35
2013/14	1000	41606	2.40	1425	41637	3.42	307	35911	0.85
2014/15	1015	46370	2.19	913	46400	1.97	276	43393	0.64
2015/16	1256	54692	2.30	947	52019	1.82	470	47572	0.99
2016/17	1221	65502	1.86	844	66219	1.27	367	54482	0.67
2017/18	889	76106	1.17	593	85461	0.69	264	67955	0.39
2018/19	728	89877	0.81	888	104625	0.85	199	77288	0.26
2019/20	614	113625	0.54	1665	120826	1.38	188	94183	0.20
2020/21	985	133558	0.74	3641	127141	2.86	177	112007	0.16
2021/22	1518	153890	0.99	4199	140002	3.00	266	119069	0.22
Mean			1.48			1.82			0.47
SD			0.71			0.97			0.29
CV			47.77			53.35			62.34

(Source: Appendix I, II and III)

APPENDIX -VIII

Loan Loss Provision to Non-performing Loan Ratio

(Rs. in million)

Fiscal Year	NABIL			NIBL			EBL		
	LLP	NPL	Ratio %	LLP	NPL	Ratio %	LLP	NPL	Ratio %
2012/13	871	690	126.23	792	395	200.51	604	109	554.13
2013/14	1262	1000	126.20	1270	1425	89.12	706	307	229.97
2014/15	1276	1015	125.71	1300	913	142.39	805	276	291.67
2015/16	1511	1256	120.30	1439	947	151.95	878	470	186.81
2016/17	1660	1221	135.95	1471	844	174.29	881	367	240.05
2017/18	1624	889	182.68	1549	593	261.21	956	264	362.12
2018/19	1614	728	221.70	2059	888	231.87	997	199	501.01
2019/20	1744	614	284.04	2734	1665	164.20	1129	188	600.53
2020/21	2134	985	216.65	4328	3641	118.87	1266	177	715.25
2021/22	2968	1518	195.52	6369	4199	151.68	1814	266	681.95
Mean			173.50			168.61			436.35
SD			55.75			51.31			198.03
CV			32.13			30.43			45.38

(Source: Appendix I, II and III)

APPENDIX -IX

Return on Total Assets

(Rs. in million)

Fiscal Year	NABIL			NIBL			EBL		
	Net profit	Total Assets	Ratio %	Net profit	Total Assets	Ratio %	Net profit	Total Assets	Ratio %
2012/13	1338	58141	2.30	1177	58357	2.02	931	46236	2.01
2013/14	1689	63193	2.67	1039	65756	1.58	1091	55813	1.95
2014/15	2219	73241	3.03	1914	73153	2.62	1471	65741	2.24
2015/16	2320	87275	2.66	1940	86174	2.25	1550	70445	2.20
2016/17	2094	115986	1.81	1962	104345	1.88	1574	99153	1.59
2017/18	2819	127300	2.21	2551	129783	1.97	1730	113885	1.52
2018/19	3613	140332	2.57	3114	150818	2.06	2006	116510	1.72
2019/20	3982	169076	2.36	3659	171894	2.13	2582	144818	1.78
2020/21	4239	201139	2.11	3324	185842	1.79	3054	170077	1.80
2021/22	3463	237680	1.46	2423	203024	1.19	2516	185023	1.36
Mean			2.32			1.95			1.82
SD			0.46			0.38			0.29
CV			19.69			19.69			15.81

(Source: Appendix I, II and III)

APPENDIX -X

Return on Equity

(Rs. in million)

Fiscal Year	NABIL			NIBL			EBL		
	Net profit	Total Equity	Ratio %	Net profit	Total Equity	Ratio %	Net profit	Total Equity	Ratio %
2012/13	1338	4567	29.30	1177	5159	22.81	931	3114	29.90
2013/14	1689	5444	31.02	1039	6050	17.17	1091	4177	26.12
2014/15	2219	6689	33.17	1914	7021	27.26	1471	4828	30.47
2015/16	2320	7641	30.36	1940	7926	24.48	1550	5457	28.40
2016/17	2094	9486	22.07	1962	9807	20.01	1574	6891	22.84
2017/18	2819	11596	24.31	2551	16288	15.66	1730	8514	20.32
2018/19	3613	14095	25.63	3114	18707	16.65	2006	11545	17.38
2019/20	3982	20586	19.34	3659	24871	14.71	2582	16135	16.00
2020/21	4239	23189	18.28	3324	25579	13.00	3054	17625	17.33
2021/22	3463	25856	13.39	2423	27173	8.92	2516	18637	13.50
Mean			24.69			18.07			22.23
SD			6.42			5.59			6.20
CV			25.99			30.94			27.92

(Source: Appendix I, II and III)

APPENDIX -XI

Net profit to Loan and Advance Ratio

(Rs. in million)

Fiscal Year	NABIL			NIBL			EBL		
	Net profit	Loan & Advance	Ratio %	Net profit	Loan & Advance	Ratio %	Net profit	Loan & Advance	Ratio %
2012/13	1338	38034	3.52	1177	41096	2.86	931	31058	3.00
2013/14	1689	41606	4.06	1039	41637	2.50	1091	35911	3.04
2014/15	2219	46370	4.79	1914	46400	4.13	1471	43393	3.39
2015/16	2320	54692	4.24	1940	52019	3.73	1550	47572	3.26
2016/17	2094	65502	3.20	1962	66219	2.96	1574	54482	2.89
2017/18	2819	76106	3.70	2551	85461	2.98	1730	67955	2.55
2018/19	3613	89877	4.02	3114	104625	2.98	2006	77288	2.60
2019/20	3982	113625	3.50	3659	120826	3.03	2582	94183	2.74
2020/21	4239	133558	3.17	3324	127141	2.61	3054	112007	2.73
2021/22	3463	153890	2.25	2423	140002	1.73	2516	119069	2.11
Mean			3.65			2.95			2.83
SD			0.70			0.65			0.37
CV			19.13			22.05			13.12

(Source: Appendix I, II and III)

APPENDIX -XII

Pearson Correlation Coefficients

Correlations

		LA	NPL	LLP	NP
LA	Pearson Correlation	1	.466**	.719**	.848**
	Sig. (2-tailed)		.009	.000	.000
	N	30	30	30	30
NPL	Pearson Correlation	.466**	1	.924**	.287
	Sig. (2-tailed)	.009		.000	.125
	N	30	30	30	30
LLP	Pearson Correlation	.719**	.924**	1	.480**
	Sig. (2-tailed)	.000	.000		.007
	N	30	30	30	30
NP	Pearson Correlation	.848**	.287	.480**	1
	Sig. (2-tailed)	.000	.125	.007	
	N	30	30	30	30

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

(Source: SPSS version 23)

APPENDIX -XIII

Multiple Regression Analysis of Sample Banks

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.890[a]	.792	.768	441.34540	.953

a. Predictors: (Constant), LLP, LA, NPL

b. Dependent Variable: NP

(Source: SPSS version 23)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	510.246	200.059		2.550	.017		
	LA	.034	.005	1.353	7.020	.000	.215	4.650
	NPL	.756	.349	.759	2.167	.040	.065	15.341
	LLP	-.932	.348	-1.194	-2.679	.013	.040	24.859

a. Dependent Variable: NP

(Source: SPSS version 23)

IMPACT OF CREDIT RISK ON PERFORMANCE OF COMMERC...

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CHAPTER I INTRODUCTION 1.1 Background of the study Credit or default risk refers to **the** possibility **that**

financial institutions may not receive the full expected cash flows from loans and securities due to borrower default. In such instances,

both the principal amount **loaned and the** anticipated **interest payments are** jeopardized. To mitigate **potential** losses, **financial**

institutions must gather information on

borrowers whose assets are part of **their portfolios and** consistently **monitor** these **borrowers. Credit risk** arises from **uncertainty**

regarding borrowers' ability to repay loans, where borrowers typically repay when their asset values exceed their liabilities, and default when their asset values fall short of their loan amounts. Credit risk stands as the primary risk faced by banks, crucial for their operational success, with precise assessment and effective management being paramount. Elevated levels of credit risk result in increased costs of debt and equity, subsequently raising the cost of funds for banks. The concept of credit management lacks a singular definition but is commonly understood to involve ensuring timely payments from buyers, maintaining low credit costs, and handling bad debts in a way that facilitates payment without negatively impacting the buyer relationship. Trade credit insurance companies often manage credit management tasks

directly or in collaboration **with a company's credit department** . A well-established **credit management policy can** provide **assurances to a financing bank**

, potentially easing the process of securing funding. Credit control, a crucial function within organizations, involves the enhancement and regulation of credit policies to enhance revenues and minimize risks. This includes improving collection processes,

reducing credit expenses, **extending credit to** reliable **customers, and** establishing **competitive credit terms**