

CREDIT RISK MANAGEMENT OF COMMERCIAL BANKS IN NEPAL

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

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **“Credit risk Management of Commercial Banks in Nepal ”** The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of this dissertation.

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REPORT OF RESEARCH COMMITTEE

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APPROVAL SHEET

We, the undersigned, have examined the thesis entitled “**Credit Risk Management of Commercial Banks in Nepal**” Presented by Mahesh Sharma Candidate for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

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ABBREVIATIONS

CAR	:	Capital Adequacy Ratio
CD	:	Credit to Deposit Ratio
COGS	:	Cost of Goods Sold
DW	:	Durbin Watson
IS	:	Interest Spread
LLP/NPL	:	Loan Loss Provision to Non-Performing Loan
NII/TOI	:	Net Interest Income to Total Operating Income
NRB	:	Nepal Rastra Bank
ROA	:	Return on Assets
ROE	:	Return on Equity
SPSS	:	Statistical Package for Social Science
VIF	:	Variance Influence Factor

ABSTRACT

This study examines The Credit Risk Management of Commercial Banks. The study based on secondary data of four commercial banks with 10 observations for the periods 2013/14 to 2022/23. The Return on Assets is selected as dependent variables while Capital Adequacy Ratio, Non- Performing loan Ratio, Cost per loan assets are the independent variables. The data were collected from annual reports of concern sample bank. The Pearson's correlation coefficients and regression models, variance inflation factors (multicollinearity in regression model results) are too estimated to test significant impact of bank specific factors on The Credit Risk Management of Commercial Banks. Calculated data has been tabulated and analyzed by using MS-Excel and SPSS. The result shows that Capital Adequacy Ratio, Non-Performing Loan, Cash Reserve Ratio are positively significant with Return on assets whereas Cost per loan assets has insignificant with Return on assets. The study concludes Capital Adequacy Ratio and Non-Performing loan ratio, Cost per loan assets and return on assets of Nepalese commercial banks.

Key words: Capital Adequacy Ratio, Non-Performing loan, Cost per Loan Assets, Return on Assets

CHAPTER-I

INTRODUCTION

1.1 Background of the Study

The possibility that the promised cash flows from loans and assets held by financial institutions won't be fully paid is known as credit or default risk. Both the principle loaned and the anticipated interest payments are at risk in the event of a borrower failure. Given the possible loss they may incur, financial institutions should gather data about the borrowers holding the assets in their portfolios and keep an eye on them over time. The uncertainty surrounding a borrower's debt repayments is known as credit risk. Generally speaking, borrowers repay loans when their asset values are more than their debt; but, when their asset values are lower than their loan values, they may not repay and may thus choose to default (Sinkey, 2002).

Pay back, so they might choose their default option (Sinkey, 2002). The most important risk that banks confront is credit risk, and more than any other risk, the success of their operations depends on the precise assessment and effective management of this risk. The marginal cost of debt and equity will rise in response to increases in credit risk, which will raise the bank's cost of funding (Shrestha, 2004).

The term "credit management" is not well defined. It is typically thought of as guaranteeing that purchasers make their payments on schedule, that credit charges are kept low, and that bad debts are handled so that payment is obtained without destroying the connection with the customer. All of that is done by a trade credit insurance business. either directly or in cooperation with the credit department of a business. A financing bank may be reassured by an authorized credit management policy, which might make financing easier.

Increasing collections, cutting credit expenses, giving more credit to credit-worthy clients, and creating competitive credit terms are some of the actions taken inside a business to enhance and manage credit policies that will result in higher revenues and lower risk. Another name for it is credit control. To account for shifts in the bank's risk tolerance, strategic direction, or market conditions, policies should be evaluated and updated on a regular basis. The organizational structure should be taken into

account while reviewing policies, rather than the intricacy of loan operations. as well as the abilities of the lending staff, the quality of the strategic portfolio, and the earnings targets. The organizational unit in charge of evaluating policy compliance should be included in all policy evaluations.

For the banking industry, credit risk management is a crucial field with many growth opportunities. Risks that are generally off in a clean manner are frequently confronted by banks and other financial institutions. An undercurrent of risk reduction and planning has long existed in the banking industry, and risk management has always been a crucial part of bank business plans. An essential component of a bank's credit management is risk management. The balance between returns must be maintained by banking specialists. Banks must offer a range of loan solutions that are affordable for a sizable consumer base. The bank will lose money if loan products have interest rates that are too low (Horcher, 2005).

One of the Commercial Bank's most important and difficult tasks is managing credit risk. This is due to the fact that businesses accept deposits from customers and are required to reimburse them upon request. No customer will accept the justification that his money account has been loaned to another customer in order to have it paid on demand. Therefore, it is necessary for the Commercial Banks to manage loans properly. In order to determine whether a credit institution succeeds or fails, credit risk management is essential. A methodical loan study, which addresses the process of investing those elements that lead to non-payment of loans, is essential to successful business lending. The effectiveness of the loan decision.

The practice of managing an institution's credit risk exposure-creating activities in a way that greatly lowers the likelihood that such activities would have a negative effect on a bank's capital and profitability is known as effective credit risk management. Credit risk can be found in a bank's other assets and operations in addition to its loan portfolio. Similarly, a bank's off-balance sheet and on-balance sheet accounts may both be at risk (Bessis, 2003).

1.2 Problem of Statement

Many people's lives and practically every industry that requires some kind of financial commitment depend heavily on credit. The primary credit components of banks, loans and advances, are mostly provided by private commercial banks, along with a number of other services like foreign exchange, local and international transfers, and deposit mobilization. According to Abayomi, Joseph, and Tolulope (2018), the problem of credit management has significant implications at both the macro and local levels.

The main reason why many commercial banks fail is poor credit risk management. According to a study by Pradhan and Shah (2019), the bank's credit risk management system's insufficiency in regulating loan quality was the recurring factor in the failures.

According to Saundeers (2005), the banking industry is extremely delicate by nature because depositor deposits account for over 85% of their liabilities. These deposits help banks create credit for their customers, which is actually how most banks make money (Saundeers, 2005). Banks are exposed to a high default risk during this credit generation process, which could result in financial difficulties, including bankruptcy. Nevertheless, in addition to providing other services, banks need to establish credit so that their customers can make some cash, expand, and endure fierce competition in the marketplace (Saundeers, 2005).

The study by Francis (2017) and if any focuses on credit risk management and how it affects commercial banks' performance. The study discovered a strong correlation between credit risk management and bank performance. Additionally, banks perform better when credit risk is effectively managed. However, the study only employed private commercial banks and only looked at how much credit risk was impacted by bank profitability.

Because making the wrong choice has a high risk, credit evaluation judgments are crucial for the financial institutions concerned. Making decisions on credit evaluation is a difficult and unstructured procedure. Proper credit management by the relevant banks is necessary for this intricate and unstructured credit evaluation decision-making process (Singh, 2013).

According to Eva and Jaroslav (2014), the existence and expansion of financial institutions (BFIs) depend on their ability to manage loans effectively. Given the higher levels of perceived risks coming from certain client characteristics, business

conditions, and the economic environment in which banks operate, the issue of credit management is even more concerning in the case of banks.

Target market identification, credit extension, credit monitoring, and profit identification are all covered in a comprehensive credit management program. The procedures, guidelines, and standards that direct bank personnel in making loan decisions and overseeing the loan portfolio within the banking discipline are all part of the credit management policy. It is a collection of rules intended to optimize credit's costs while optimizing its advantages (Ejoh, Okpa & Inyang, 2014). Han (2016) went on to say that credit management policies help the credit department of financial institutions extend credit privileges that are governed by policies and norms set by upper management.

The credit management practices used by Nepalese commercial banks will undoubtedly be the main claims to be examined in this study. The following research questions have been posed in relation to the problem statement:

1. How do NABIL, NIBL, and EBL stand in terms of credit efficiency and profitability?
2. How do loans and advances, non-performing loans, loan loss provisions, and sample banks' net profits relate to one another?
3. How do loans and advances, non-performing loans, and loan loss provisions affect the sample banks' net profits?

1.3 Objectives of the Study

The study's primary goal is to assess Nepal's commercial banks' credit risk management. The following are the extra goals to identify the primary goals in order to accomplish the basic goal.

1. To evaluate NABIL, NIMBL, and EBL's credit efficiency and profitability positions.
2. To investigate the connection between the sample banks' net profit, loan loss provision, non-performing loans, and advances.
3. To examine how loan and advance payments, non-performing loans, and loan loss provisions affect the sample banks' net profits.

1.5 Rationale of the Study

The main source of revenue for any commercial bank is credit. Without a doubt, the volume of excellent lending determines the profit a bank makes. Studying the lending

practices of commercial banks is important for professionals, shareholders, bankers, and students who want to learn about credit practices and management. The foundation of this study is the evaluation of Nepal Investment Bank Ltd., Nabil Bank Ltd., and Everest Bank Ltd.'s loan procedures.

Investors, depositors, and other creditors would primarily benefit from the study since it will show how productive their money is at Nepal Investment Mega Bank Ltd., Nabil Bank Ltd., and Everest Bank Ltd. The success of banks also interests other financial organizations, such as financial specialists. In addition to this, the study will assist the bank's management in evaluating how well its loan management and policies work in relation to those of its rivals. Since there are some flaws that have led to non-performing assets being seen as the primary issue facing commercial banks these days, the study will also be crucial to the central bank's development of new credit policies.

1.6 Limitations of the Study

The limitations of this study are listed below:

1. Only three Nepali commercial banks—Nabil Bank Ltd., Everest Bank Ltd., and Nepal Investment Mega Bank Ltd.—are included in the study.
2. The study solely used data from the previous ten years, from F/Y 2013–14 to F/Y 2022–23.
3. The elements associated with credit risk management are the primary subject of the study.
4. Secondary data, including financial statements and yearly reports, served as the study's foundation.

CHAPTER-II

LITERATURE REVIEW

2.1 Conceptual Review

A literature review is an inventory of the body of work that is currently available in a particular field of study. A literature review is a crucial component of every research project. It establishes the limits of any investigation. The current study is based on earlier research. Therefore, prior research cannot be disregarded. Research needs to be consistent.

By connecting the current study with earlier research investigations, this continuity in the study is ensured. This makes it evident that the goal of a literature review is to determine what research has already been done in a certain field of study and what still needs to be done. Because it indicates the study's planning, the literature review is an essential component. Finding out what has been done in the field of the research problem under consideration and ongoing is the primary goal of a literature review. The researcher employs a variety of books, papers, journals, and research studies published by different institutions for the review study. Additionally, master's level students' unpublished dissertations have been reviewed (Pant, 2016).

Collecting deposits and distributing them to investors as credit is the primary duty of commercial banks. One of the primary sources of revenue is this credit. The assets side of any bank's balance sheet is dominated by credit. Similarly, a significant amount of the banks' revenue statement is made up of earnings from loans and advances. The bank makes money from this asset. Thus, it also affects banks' profits. Interest is charged on loans and advances given to clients. A significant portion of banks' revenue comes from this interest. Direct loans and overdraft cash credits are two ways that loans are given out. Banks provide loans based on the collateral that supports the loan. Before lending money to investors or businesses, banks carefully consider their options.

2.1.1 Risk management and Banks Performance

Banks are founded for a variety of reasons. These are frequently achieved at the expense of higher risk and may be used to improve profitability, impact bank performance, or boost shareholder return. Achieving either of these goals is a reward for effectively managing risk, and taking risks is a natural part of banking.

According to Soyemi (2014), a corporation must make a trade-off between risk and return because the former increases with the latter. Furthermore, risk management in banking has a big influence on corporate development and the country's economic progress. Ineffective risk management by banks can result in bankruptcy in addition to preventing them from accomplishing their goals. As a result, there are always risks associated with banking operations. Risks are deemed justified when they are comprehensible, quantifiable, and under a bank's ability to voluntarily withstand their negative consequences (NRB, 2010). Bank management can take calculated risks, lower risks when necessary, and plan for unanticipated risks when they practice sound risk management. If implemented properly, it helps the banks by boosting productivity and profitability, drawing in new clients, and adhering to regulations. In order to prevent potential losses, prevent bankruptcy, benefit shareholders and depositors, and increase profitability, the banking industry must effectively manage risk. As a result, banks' accounting performance is impacted by their effective risk management.

2.1.2 Profitability of Commercial Bank

Profitability in the banking sector refers to the bank's capacity to turn a profit relative to its outlays and incurred costs over a given time frame. It demonstrates the bank's ability to manage related risk while raising capital. It also shows how competitive banks are and how well management is doing. Return on capital employed, return on equity, return on asset, net profit margin, cost of income ratio, net interest margin, risk-adjusted return on capital, price-earnings ratio, total share return, return on invested equity, cash flow to assets, and so on are some of the metrics used to assess a bank's profitability. Nonetheless, Brealey (2012) suggests that return on equity (ROE), return on asset (ROA), and net profit are the key indicators of bank performance.

Since increasing profitability is one of the main objectives of commercial banks, profitability is a crucial component for them (Duffie, 2012). Every action taken by the bank appears to have a direct or indirect impact on its own profits. The literature uses a number of criteria to assess a bank's profitability. Nonetheless, these can be broadly divided into two categories: external drivers and internal determinants. (2011) Staikouras. Decisions made by bank management and policy goals that are under their control have an impact on internal determinants. In addition to managing liquidity and expenses, it shows the bank's capital sources and uses. The term "external

determinants" describes elements outside the bank that management cannot control. However, as the goal of this study is to investigate how credit risk management affects bank profitability, it will mostly concentrate on internal factors. However, management has little influence over certain credit-related factors, such as the quantity of non-performing loans. Furthermore, the model design includes some external determinants because external rules have an impact on some management decisions.

2.1.3 Bank's Risk Management

Credit risk management is another crucial component of this research. This section provides a concise overview of the different kinds of hazards connected to banks and the risk management process as a whole. These will be covered in more detail in the next subsection.

2.1.3.1 Bank's Risk

Risk is the likelihood that different events may occur. diverse kinds of risk are present in the diverse activities carried out in a bank. Risk can be divided into three categories in the context of banking and risk management: manageable, transferable, and eliminable. Credit risk, liquidity risk or financing risk, interest rate risk, mismatch risk, market liquidity or market price risk, market risk, and foreign currency risk are the categories into which Bessis (2011) has classified bank risk. The following is a synopsis of these risks:

Credit or default risk: Of the various hazards that banks encounter and that impact their performance, credit risk is the most significant. When an investment's actual return deviates from its anticipated return, credit risk arises. It might indicate the chance of losing both the initial investment and any interest that has accrued (Gestel, 2009). The lender has credit risk whenever a borrower, counterparty, or debtor fails to fulfill their duty to pay their loan according to the terms of the contract. Credit risk has an impact on a bank's cash flows, liquidity situation, and profitability—all of which have been found to be the biggest threats to a bank's performance and the main reasons of bank failure. Bessis (2011) has also categorized.

Liquidity risk or funding risk: The scenario when financial institutions must make payments but the available assets are long-term and can only be swiftly converted with a capital loss is known as liquidity risk, also known as funding risk (Burton, 2015). This circumstance may occur when depositors take their money out of the blue, making it unable to make new deposits. A financial institution can lower their

liquidity risk by holding highly liquid assets that can be swiftly converted into the necessary quantity of funds.

Interest rate risk: A drop in net interest revenue represents interest rate risk for the financial institution. It occurs when the interest rate fluctuates so suddenly that interest expenses surpass interest income. This situation occurs when a financial institution lends long-term money like bonds or mortgages and raises deposits through short-term borrowings like savings accounts or commercial papers. The cost of short-term liabilities increases more fast than the returns on long-term assets when interest rates rise (Burton, 2015).

Mismatch risk: It appears when the dates of the assets' and liabilities' interest rate resets and maturities are out of sync (Bessis, 2011). The existence of mismatch risk suggests the presence of both interest rate and liquidity risk. The disparity between the short-term deposit rate and the long-term lending rate over a specific time period is what causes interest rate risk. In a similar vein, liquidity risk occurs when financial institutions are unable to meet their funding needs due to a mismatch in the periods of maturity. By lending at higher rates and borrowing at lower rates, banks and other financial institutions can steer clear of such a scenario.

Market liquidity or market price risk: It only appears for assets with little trading volume. There is almost no market liquidity risk for highly liquid assets like bonds or Treasury bills.

Market risk: It is the risk of possible losses due to adverse movements in market prices such as short-term loss in foreign exchange and long-term loss for derivatives (Bulletin, 1996).

Foreign exchange risk: When a financial institution holds foreign currencies and experiences losses as a result of an unfavorable shift in the exchange rate between the currencies, this risk materializes (Burton, 2015). Credit risk is one of the most important of these hazards that banks face since it has a direct impact on the bank's profitability. Banks lose interest income, which lowers their profitability, when they do not receive interest from borrowers on their loans. Since the invested main amount is compounded over several depositor funds, it is more significant in the event of default. Banks typically provide secured mortgages and a range of recovery alternatives to borrowers in order to secure the loan amount. The bank's profitability is directly impacted by the loss of principal since it adds to the recovery burden and

frequently results in the bank not receiving its full amount of default. The primary aim of this investigation.

2.1.4 Concept of Credit Risk Management

Credit is the sum of money that a creditor lends to a borrower, either with or without security. On the asset side of a commercial bank's balance sheet, credit and advances are a significant item. One of the main sources of income for banks is interest earned on advances and credits. If a bank doesn't prepare its credit portfolio, it will have an impact on both debt and profitability. Credit is the outcome of a lender providing a borrower with cash or other assets in exchange for the borrower's responsibility to repay on a given date upon demand. According to Chhabra and Taneja (1991), banks typically offer credit in four ways: overdraft, cash credit, direct credit, and bill discounting.

Three essential elements are required for the bank's overall business strategy and strategic plan. These include corporate control methods, risk management frameworks, and business plans. These fundamental elements focus solely on functioning and competing in the financial services sector, and they offer a strong basis for managing value and risk planning. A risk management framework and strategic completion components are also part of the modern strategic approach, which aligns with the contemporary notion of the fundamental banking operations of risk assessment, management, and acceptance. By maximizing those that create value or removing those that destroy it, the bank seeks to manage both risk and value (Nwankwo, 1991).

While there are many different kinds of risk that exist in the banking sector, the main categories of risk—credit, market, and operating risk, among others—are well known. The possible monetary loss brought on by clients' inability to fully adhere to the conditions of a loan or contract is known as the credit risk. Conversely, market risk encompasses trade and balance sheet risk, including possible capital and earnings risk due to changes in interest rates, liquidity conditions, the impact of foreign currency rate variations, etc. Meanwhile, natural disasters, mistakes in transaction processing and settlement, asset protection, system failure, fraud, and forgeries are the sources of operating risk (Pandey, 2010).

The chance that a borrower won't fulfill their responsibilities in line with the terms and conditions that have been agreed upon is known as credit risk. Credit risk encompasses interbank and off-balance sheet exposures and is not limited to lenders'

operations alone. CRM aims to keep the CRE within reasonable bounds in order to optimize the bank risk adjusted rate of return. Loans are the biggest and most overlooked source of credit for the majority of institutions. Nonetheless, there are additional sources of credit risk present in all aspects of a bank's operations, such as the trading and banking books, as well as the balance sheet (both on and off) (Michel et al., 2001).

In a variety of financial instruments, including loans, interbank transactions, trade financing, foreign exchange transactions, and transaction settlement, banks are increasingly exposed to counterparty or credit risk. Particularly in commercial banks, credit is thought to be the asset that generates the highest revenue. Since credit accounts for a significant portion of transactions, it is thought of as the commercial bank's core. It addresses the majority of investments. It is the primary driver of profitability and profit creation. The economy as a whole is impacted (Horcher, 2005).

In the current environment, it also has some impact on the national economy because granting credit to retailers will elevate them to the status of customers. In a similar vein, it gives commerce and industry money. They will pay taxes to the government, which will boost the country's economy. It serves as protection from depositors as well. Credit has always been thought of as the derivative that maximizes wealth. Credit risk is thought to be the most effective component, while other factors can also have an impact on profitability and wealth maximization. Since it is the foundation of commercial banking, it is the most difficult task.

According to the statement, a credit risk strategy should specify the target markets, the kinds of credit the bank is ready to offer, and the necessary features of its credit portfolio. These tactics must be in line with the bank's risk appetite as well as the anticipated profitability of taking on different credit risks. The organization as a whole should be adequately informed on credit risk policies and procedures. Every member of the relevant staff should be held responsible for adhering to the bank's policies and processes and should have a thorough understanding of how credit is granted and managed. Furthermore, creating a suitable credit environment also signifies creating a positive credit culture within the bank, which is the staff's tacit knowledge of the lending environment.

According to the Basel Committee (2000), a bank needs to have a structured transaction review and approval process in place for credit issuing in order to

maintain a healthy credit portfolio. Approvals must be given by the proper level of management and made in compliance with the bank's documented policies. There should be a transparent audit trail that shows that the approval procedure was followed and names the person or people who contributed and/or the committee that decided on the credit.

According to Kargi (2011), the close association with this idea is quite conventional when one takes into account that, at the time the theory was dominant, the bank had few or no secondary reserve assets that could have been used as a buffer for liquidity. Furthermore, the credit requirements of Nigeria's developing economy are not taken into account by this hypothesis. It hasn't prompted banks to finance the acquisition of real estate, machinery, plants, and homes. A theory's inability to acknowledge the relative stability of bank deposits is demonstrated by its insistence that all loans should be repaid in the regular course of business.

It is unlikely that all depositors will demand payment at the same time, even though demand deposits are on demand. Because deposits are stable, a bank can extend funds for a fair amount of time without worrying about running out of liquidity. Despite its shortcomings, the real bills doctrine, often known as the commercial loan theory, has remained a popular banking theory. Its traces can still be seen in the way many bankers think, the way bank regulatory bodies are organized, and the way banks conduct examinations. Understanding our banking past is essential to understanding modern banking, just as comprehending the commercial loan theory is necessary to comprehend banking history.

2.1.5 Credit risk management strategies in Commercial banks

The functions that banks employ to prevent or lessen the adverse effects of credit risk are indicated by credit risk management strategies. When a strong framework for credit risk management 14 is in place, banks are more likely to increase their profitability and survive. According to Afriyieb (2011), insufficient institutional capacity, ineffective credit guidelines, an ineffective board of directors, low capital adequacy ratios and liquidity, mandatory quota lending due to government intervention, and inadequate central bank supervision can all worsen a bank's credit risk situation. In this regard, banks must manage risks effectively and efficiently in order to enhance their performance and lessen the adverse effects of the risks. One tactic that gives banks an option without requiring them to modify their loan portfolio is credit derivatives. Credit derivatives give banks the chance to lower their regulatory

capital while also generating a new revenue stream. The ability of lenders to transfer credit risk to other institutions while preserving their ties with borrowers has strengthened as a result of recent developments in the credit derivatives markets. Credit securitization is another kind of tactic. By transferring credit risk to an insurance firm, credit securitization relieves banks of the need to keep an eye on borrowers and allay concerns about the potentially disastrous effects of classified property. This strategy protects banks' lending operations. Basel Accord compliance is comparable to credit securitization. In order to maintain safety and stability, banks must abide by a system of international regulations known as the Basel Accord. In Switzerland, it was first used in 1988. Adherence to the Basel agreement provides the possibility to enhance risk management procedures in banks by enabling the identification, generation, tracking, and reporting of risk data in an integrated manner. According to the new Basel Capital Accord, banks must estimate their capital adequacy requirements by implementing good internal credit risk management procedures. Furthermore, there is a plan to implement a sensible internal lending policy. Adopting a sound internal lending policy is a set of guidelines that help banks dispense loans to their customers. The safest and most efficient method of managing credit risk is unquestionably strict adherence to the lending policy. Similarly, credit bureaus could assist commercial banks in managing credit risk. Regarding the borrower's loan file, a credit office is an organization that gathers data and sells it to banks. The office provides individual borrower statistics, a credit score that facilitates banks' quick loan decisions.

2.2 Empirical Review

The empirical literature which emphasized credit risk management based instruction are reviewed below.

2.2.1 Review of Journal and Articles

According to Alzeaiden, (2019), the study aimed to determine the degree to which the banking sector is one of the most important sectors supporting Jordan's sustainable economic development. As a result, banks in Jordan are seen as extremely important financial institutions that aim to make money by offering a range of financial services to diverse clients while managing various risks. Because they can prevent credit risk, lending decisions for these institutions are therefore very important. Nonetheless, Jordanian banks primarily rely on credit officers' intuition when determining loan sanction, occasionally combining their judgment with conventional credit rating tools.

As a result, evaluating the riskiness of Jordan's banking industry is crucial. On the other hand, banks stored information on their customers in data warehouses, which may be thought of as hidden knowledge assets that can be accessed and used with data mining techniques.

In order to develop a framework for assessing and controlling credit risk for fifteen private banks, Kumar & Gowda (2010) offered several concepts for the study's examination. the connection between private banks' non-performing assets (NPAs) and their diverse credit advance portfolio. For the analysis, the portfolios of all credit advances across all regions were taken into account. It was discovered that there was a 17 percent association between the total non-performing assets (NPAs) of private sector banks and those of individual banks, and that occupational portfolios significantly contribute to NPAs. Personal loans are important in every region and have an inverse relationship with non-performing assets. Even though the services sector accounts for 62% of India's GDP, credit advances to this sector are extremely low.

In his article, Serwadda (2018) made it apparent that he will look at Using panel data for a sample of 20 commercial banks, this study aims to examine how credit risk management affected the financial performance of Ugandan commercial banks between 2006 and 2015. Return on assets serves as the study's dependent variable, while credit risk indicators include non-performing loans, increase in interest income, and loan loss provisions relative to total loans. The African Development Bank, the Ugandan central bank, and the Bank scope database are the sources of secondary data. Regression analysis, correlation analysis, and descriptive statistics are used in the study. The impact of credit risk management on Ugandan commercial banks' performance is to be estimated using regression models. According to the report, Ugandan commercial banks' performance is impacted by credit risk management. The findings showed that non-performing loans had an adverse effect on banks' performance, potentially exposing them to significant levels of illiquidity and financial disaster. In light of these findings, the researcher advises banks to improve their credit risk management strategies in order to maintain a quality asset portfolio, increase profits, and pay particular attention to non-performing loans, loan loss provisions relative to total loans, and interest earnings growth that were determined to be noteworthy. In addition to creating strong credit administration committees and teams that must perform, banks must create suitable credit rules that address all

prerequisites before granting credit to their clients. The goal of credit risk management (CRM), according to Wang & Wang (2017), is to recognize, quantify, track, and manage risk associated with the potential for payment default. Because their primary clients are SMEs and agricultural households without access to credit rating records and financial data, rural commercial banks (RCBs) are unable to match the needs of the CRM systems now in use by large financial institutions. In China, RCBs also present distinct risks associated with rural commercial banking operations, particularly loans and services related to farming. We attempt to create a CRM framework for RCBs in China by using a qualitative analysis approach to pinpoint the main causes of RCBs' customers' failures. The foundation of the framework is the detection of RCBs' clients' business failures. The quality and accuracy of credit analysis are greatly increased when nonfinancial factors are included in conjunction with financial variables as predictors of business failure. Additionally, this study incorporates guanxi hazards into the framework and acknowledges guanxi¹ as a risk potential. The existing literature on CRM of banks in general and RCBs in particular has benefited from the contributions provided by this study.

Examining Earlier Thesis

Francis (2014) looked at how Kenyan commercial banks employ credit risk management techniques, such as requesting collateral, conducting a thorough loan evaluation, and looking up borrowers' credit histories. The bankers also employ loan securitization, loan syndication, covenants, and credit rationing as risk management defenses. The implementation of a credit policy is one of the elements that affects how well Kenyan commercial banks' credit risk management systems work. From 2007 to 2012, Zou (2014) examined the connection between European commercial banks' profitability and credit risk management. Multivariate regression analysis was used by the authors to examine data gathered from the top 47 commercial banks in Europe. The study employed ROA and ROE as stand-ins for profitability and the capital adequacy ratio and nonperforming loan ratio as stand-ins for credit risk management. The study's overall conclusions demonstrate that credit risk management positively affects European commercial banks' profitability, i.e., the more successfully commercial banks manage credit risk, the more profitable they are.

Thapa (2015) examined Everest Bank Limited's credit management. It is discovered that both the recovery of unpaid interest and interest income from loans and advances are declining. Good lending performance is therefore indicated by a loan-to-current-assets ratio of greater than 50% for each fiscal year. Additionally, it is discovered that during the study period, the ratio of interest expenses to total interest revenue has been trending upward. The greater ratio indicates the bank's adverse profitability status.

Getahun (2015) used descriptive statistics and a panel data regression model with SPSS software version 22 to examine the relationship between credit risk management and its effect on Ethiopian commercial banks' performance. The results show a high correlation between Ethiopian commercial banks' performance and credit risk management.

Sampath (2015) looked at how credit risk affected Sri Lankan commercial banks' financial performance, specifically focusing on systematically important banks. The goal was to determine how much credit risk commercial banks had in terms of non-performing loans (NPLs) and to use secondary data to look into how credit risk affected commercial banks' financial performance. To examine the data, multiple regression analysis was employed. The analysis's findings indicate that ROE is negatively and somewhat significantly impacted by both NPLR and CAR, with NPLR having a greater significant impact than CAR.

Shakya (2016) conducted research on Nepal Bank Ltd.'s credit management. It is discovered that NBL's loan investment strategy and financial reengineering procedure have been introduced. Cash flow lending through collateral-based lending is the main focus of the new lending strategy. In a similar vein, the majority of Nepal's banks these days concentrate on consumer lending. NBL belongs to the same category as well. The reason for this is a weak credit policy. After thereafter, NBL made investments to expand credit and advances, but the bank's recovery is taking a long time. The management's efficiency is inadequate. Additionally, the majority of NBL's credit consumers are happy with the banks. Consumers stated that NBL's lending interest rate is its primary strength.

Khan (2016) sought to examine the connection between Pakistani commercial banks' profitability and liquidity. Determining the type and degree of the association between the variables was the primary goal of the study. To determine the kind and degree of the link between dependent and independent variables, correlation and regression are

employed, respectively. Analysis was conducted using secondary data that was taken from Habib Bank Limited's annual statements for the previous five years, from 2008 to 2014. Following correlation and regression analysis, it was shown that there was a strong positive association between bank profitability and liquidity. Because the banking industry's data was used, the findings cannot be applied to other industries.

Alshatti (2017) examined the effect of credit risk management on financial performance of the Jordanian commercial banks. Two mathematical models have been designed to measure this relationship, the research revealed that the credit risk management effects on financial performance of the Jordanian commercial banks as measured by ROA and ROE. The research further concludes that the credit risk management indicators considered in this research have a significant effect on financial performance of the Jordanian commercial banks. Based on the results, the researcher suggests that banks enhance their credit risk management in order to increase profits. Specifically, banks should take into account the signs of non-performing loans. Leverage ratio, gross loans, and provision for facilities loss/net facilities were all determined to be important factors in assessing credit risk management. Additionally, banks must create an appropriate credit risk environment in order to develop an efficient credit risk management system, and they should enforce stringent credit estimation prior to issuing loans to consumers in order to establish adequate credit risk management policies; operating under a sound credit granting process, keeping up a suitable credit administration that includes processing, monitoring, and sufficient controls over credit risk, and putting strategies in place that will not only reduce the banks' exposure to credit risk but also improve their performance and competitiveness.

Using NABIL Bank, Standard Chartered Bank, Everest Bank, and Himalayan Bank as examples, Manandhar (2018) investigated credit management in Nepal's commercial banks. It has been discovered that EBL has given out more credit and advances than any other company. In the meantime, HBL has granted loans and advancements by making the most use of the entire deposit compared to other banks. Additionally, it is discovered that SCBNL has continued to be increasingly successful in controlling credit in order to maximize interest revenue.

This study finally discovered that interest income from credit and advances relative to total assets showed that credit and advances are a significant source of revenue for banks.

The roles, practices, and operations of commercial banks' credit policies were examined by Shrestha (2019). NIC appears to be able to mobilize its entire deposit as loans and advances, as evidenced by the fact that it has maintained a greater loan and advance to total deposit ratio. According to this analysis, NIB performs better than NIC and has the lowest percentage of non-performing loans compared to total loans and advances. The entire banking industry will be impacted if the number of non-performing loans rises. Profit will therefore decline and the provision amount would rise. It is also discovered that there is a moderately negative link between NIB loans and non-performing loans. It shows that there was a moderately negative correlation between loans and non-performing loans.

Pathak (2020) examined joint venture commercial banks' credit management (with reference to Bank of Kathmandu and Nepal Investment Bank). It has been discovered that BOK has kept up better credit and advances relative to total deposits. The primary source of credit for both banks, according to this analysis, is fixed deposits. Consequently, a declining trend in credit loss provisioning suggests an effective credit policy.

The impact of commercial bank lending on inflation in Nepal was investigated by Dungana and Pradhan (2021). The study used panel data from 24 commercial banks between 1996 and 2015 to perform regression and correlation analysis. The empirical findings demonstrate that bank lending has a favorable impact on Nepal's inflation rate. According to the report, a central bank that wants to keep inflation under control should reduce excessive bank lending to the speculative and unproductive sectors. The study's main finding is that bank lending has a beneficial effect on Nepal's inflation rate. Interest rates, however, have a detrimental effect on inflation. Therefore, it is advised that a central bank that is willing to control inflation limit excessive bank lending to the speculative and unproductive sectors.

Without a question, the core of the nation's banking industry is credit management. Three factors—regulators, institutional restraints, and macroeconomic policies—have an impact on bank credit management. In Sierra Leone, the banking industry is arguably the most regulated. As a result, the commercial bank possesses management abilities that seem to improve the bank's overall performance. Rokel Commercial Bank S/L Ltd takes into account a number of elements while managing credit, including staff strength, lending opportunities, and an optional branch network.

Tashfeen and Farid (2023) investigated how corporate governance affected banks' Loan Loss Provisions (LLPs). A highly balanced panel of data from 18 Pakistani commercial banks covering the years 2011–2016 is subjected to a linear regression model. The study uses limited liability partnerships (LLPs) as a stand-in for credit risk and takes into account a number of corporate governance structures, including independent directors, the board of directors, the chairman-CEO duality, and attendance at board meetings. According to our research, loan loss provisioning is impacted by corporate governance in Pakistani banks.

Table 1

Summary of literature review

Authors	Year	Objectives	Major Findings
Francis	2014	To examine the impact of credit risk on profitability of the commercial banks in Nepal.	Credit risk has the significant negative impact on profitability. Solvency ratio, interest spread rate and inflation have the insignificant negative impact on profitability.
Li and Zou	2014	To investigate the relationship between credit risk management and profitability of commercial banks in Europe from 2007 to 2012.	The overall findings of this study show that credit risk management has a positive effect on the profitability of commercial banks in Europe.
Sampath	2015	To assess the level of credit risk of commercial banks in terms of NPL. To investigate the impact of credit risk on the financial performance of commercial banks.	The results of the analysis states that both NPLR and CAR have negative and relatively significant effect on ROE, with NPLR having higher significant effect on ROE in comparison to CAR.
Tekalagn Getahun	2015	To investigate the relationship between credit risk management and its impact on performance of commercial banks in Ethiopia.	The findings reveal that there is strong relationship between credit risk management and commercial bank performance in Ethiopia.

Thapa	2015	To investigate the impact of credit risk management on the performance of deposit money banks in Nigeria using five banks that had highest asset base.	The findings reveal that credit risk management had a positive and significant impact on total loans and advances, the return on asset and return on equity of the deposit money banks.
Khan	2016	To find nature the of relationship and the strength of relationship exists between the variables.	There was significant positive relationship between liquidity with profitability of the banks.
Shakya	2016	To investigate the impact of credit risk management practices on the financial performance of Commercial Banks in Saudi Arab.	Findings revealed that Saudi Commercial Banks engage in credit risk management practices to combat and avoid credit risks.
Alshatti	2017	To investigate various factors that influence credit risk and also to investigate the impact of credit risk on the profitability of the bank.	The result showed that credit risk has a significant negative impact on profitability.
Manandhar	2018	To analyze the impact of credit risk management on the performance of commercial banks of Pakistan.	The findings revealed the fact that credit risk management is inversely associated with bank performance.
Shrestha	2019	To examine the relationship between credit risk management and profitability of 16 commercial banks in Albania.	The overall findings of this study show that there exists a correlation between credit risk management of commercial banks in Albania and their profitability.
Pathak	2020	To empirically examine the impact of credit risk on profitability performance of commercial banks in Ethiopia.	Results showed that credit risk measures: non-performing loan, loan loss provision and capital adequacy have significant impact on profitability performance.
Dhugana and Patdhan	2021	To examine the effect of credit risk management on financial performance of the Jordanian commercial banks during the period	Positive effect of the credit risk indicators of Nonperforming loans/Gross loans ratio, negative effect of provision for facilities

		(2005-2013).	loss/ Net facilities ratio and no effect of the Capital adequacy ratio and the credit interest/Credit facilities ratio.
Dainel, Ezekiel, Musa, Muneer & Bashiru	2022	To examine the effect of credit risk on profitability of the banking sectors of Bangladesh.	The study found a negative and significant effect of credit risk on profitability and significant effect of capital adequacy ratio on profitability.
Rakhimzhanova, Makysh & Saparova	2023	To evaluate the impact of credit risk management on the performance of the commercial banks in Sri Lanka	The result shows that non-performing loans and provisions have an adverse impact on the profitability.

2.3 Research Gap

Numerous research have been conducted on the subject of Nepali commercial banks' credit risk management. The three commercial banks that are the subject of this study are Everest Bank Ltd., Nepal Investment Mega Bank Ltd., and Nabil Bank Ltd.; they are all involved in credit risk management. This study only included secondary data from the tenth year, from 2013–14 to 2022–23. The study only uses a descriptive methodology and makes use of accounting and financial instruments. Thus, this study differs slightly from others. Research has been done on the relationship between credit risk management and a number of factors, including capital adequacy ratio, net performing loans, and credit risk deposits. This study calculated secondary data using technological, financial, accounting, and statistical instruments. This study only employed descriptive methods, whereas earlier studies used both descriptive and analytical research. This study employed ten-year data to compare with another bank, whereas the previous study only used eight-year secondary data. The results of this study can be applied to both commercial and trading businesses, whereas the findings of previous studies were solely applicable to trading banks. The strengths and weaknesses of the chosen bank should not be included in a prior study. The Bank's strengths and weaknesses were presented in this analysis. Credit Deposit Ratio was employed in this study. The sole credit risk management was applied in the prior study. This study also made use of statistical methods like regression analysis, the

coefficient of variation, correlation, standard deviation, mean, and accounting tools. This study focused on the credit risk management of commercial banks, whereas the previous study exclusively addressed commercial banks.

CHAPTER-III

RESEARCH METHODOLOGY

The plans and procedures used to conduct research are referred to as research methodology. It is a blueprint for achieving an objective. It covers population and sample research, natural sampling design, data research, data gathering tools, research framework, variable definition, and analytic techniques.

3.1 Research design

A research design is the decision of what, when, and how much to use in an inquiry or research project. "A research design is the setup of conditions for data collection and analysis that seeks to combine procedural economy with relevance to the research purpose." Since the research actually serves as a blueprint for data collection, measurement, and analysis, the design provides a description of the researcher's approach, including how the hypothesis will be written and how it will affect the final data analysis. Both descriptive and analytical research designs are used in this study in order to accomplish its particular goal.

3.2 Population and sample and sampling design

Nepal now has 20 commercial banks in operation. They make up the populace. Three commercial banks Nabil Bank Ltd., Nepal Investment Mega Bank Ltd., and Everest Bank Limited were chosen as a sample for the credit risk analysis using the purposive sampling technique. Since credit is the primary purpose of all commercial banks, these banks should be lending to other commercial banks in Nepal in order to make money. These banks attempt to succeed in the competitive market in their own ways by managing credit. Research has selected these banks in this manner. Ten years of data are collected for the credit risk management sample study, which runs from 2013–14 to 2022–23.

3.3 Nature and Sources of Data, and Instrument of Data Collection

Two categories of data exist. There are two types of data: main and secondary. The secondary data is used by the study to achieve its goals. Secondary data are those that have previously been gathered or utilized by another party and are made accessible to others through published statistics found in periodicals, newspapers, magazines, annual reports, and other publications. When primary data is used, it becomes secondary and loses its uniqueness. The primary source of secondary data used in this study is the annual reports of the banks in question. In addition to the annual reports, a

variety of other data sources, including newspapers, magazines, economic journals, NRB reports, and study plan documents, have been employed.

3.4 Tools used

The researcher employs the following categories of analysis methods to increase the study's specificity and dependability:

3.4.1 Arithmetic mean

The sum of all observations divided by the total number of observations is the arithmetic mean, also known as the simple mean, of the set of data. The arithmetic average of a variable is the best value that represents the entire group. A series' arithmetic mean can be found using:

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

Where,

X= Sum of the variables 'x'

N=No. of Observation

3.4.2 Standard deviation

Most of their searches for a good measure of dispersion were fulfilled by the standard deviation, which is the absolute measure of dispersion in which the drawback presentation and the reassurance of dispersion reside.

As the square of the deviation deviates from the arithmetic mean, the standard deviation is the positive square root of the mean. It shows the size of the ring end. of departure from the mean's center. It calculates the dispersion in absolute terms. A higher standard deviation Variability will increase and vice versa. The data's deviation from the central value is measured by dispersion. Put differently, it aids in evaluating the data's quality in terms of its variability. It is calculated as follows:

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

3.4.3 Coefficient of variation (CV)

The absolute measure of dispersion is the standard deviation. The acquisition of the coefficient of standard deviation, which is the percentage of the measure of the coefficient of variation, is the relative measure of dispersal based on the standard deviation. Uniformity and consistency increase with fewer CVs, and vice versa.

When comparing two pairs of variables, the standard deviation alone is inappropriate; however, CV can also compare two variables independently in order to determine variability.

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

3.4.4 Correlation Coefficient(r)

The relationship between the dependent and independent variables is known as the correlation coefficient. It is a technique for figuring out how these two variables relate to one another. It is considered to have a correlation coefficient if the two variables are so closely associated that a change in the independent variable's value results in a change in the dependent variable's value.

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

3.4.5 Regression analysis

The process of creating a statistical model that may be used to forecast dependent variable values based on the values of at least one independent variable is known as regression analysis. We can learn about the relative's movement through regression analysis. This is a statistical tool that uses the known values of two or more independent variables to predict the most likely value of a dependent variable. Thus, this makes sense as an extension of basic regression analysis. The following multiple regression equation is examined in this study. In order to determine whether the independent variables in the model exhibit multicollinearity, The variance inflation factor (VIF) and tolerance value (TV) have been calculated. For every variable, the variance inflation factor (VIF) displays a value below 2. The more problematic or collinear the variables, the higher the VIF score; generally speaking, a VIF above 10 is not acceptable (Gujarati, 2004). Therefore, the absence of multicollinearity is indicated by a VIF of less than 2 for each variable.

$$\text{ROA} = a + b_1 \text{ CAR} + b_2 \text{ NPL} + b_3 \text{ CLA} + b_4 \text{ CRR} + b_5 \text{ Size} + e_{it} \dots \dots \dots$$

Where, ROA and ROE are dependent variables and CAR, NPL, CLA are independent variables.

3.4.6 Trend analysis

Trend analysis calculates the variables' situation over a range of time periods. The purpose of this tool is to determine the trend of several financial indicators. Trend

analysis is most helpful in determining the true state of the various elements for different years. Although it displays the real numbers, it does not offer the analytical data as cause and effect. It may slope downward, upward, or remain steady over time.

3.6 conceptual framework and Definitions of Variables

A research framework offers a foundational framework or model to assist our group's research endeavors. Until date, research has been mentioned, referred to, and sometimes approached as a more integrated collection of activities. However, as is well known, research can take many various forms, vary widely in breadth, and be used to a wide range of business, product, and delivery-related problems.

From the general principles that could influence portfolio choices and corporate strategy to the more focused and specialized ones that direct our daily development activities. Every scenario has a flavor research, and a framework enables us to identify these many situations and adjust our strategies and tactics appropriately.

The independent and dependent variables are identified and analyzed using a conceptual framework. The capital adequacy ratio, CD ratio, and other independent variables are covered in this study. The dependent variable for nonperforming loans is Commercial banks' profitability is determined by their capacity to predict and regulate the banking industry's mechanisms while investing and maintaining appropriate cash flow, non-performing loan ratios, and capitaladequacy ratios. Every kind of researcher creates a conceptual framework during the study period. The independent variable is completely unaffected, and the dependent variable is completely dependent on the independent variable. If the independent variable changes by a certain percentage, the dependent variable is also affected by that percentage.

Independent Variable

Dependent Variable

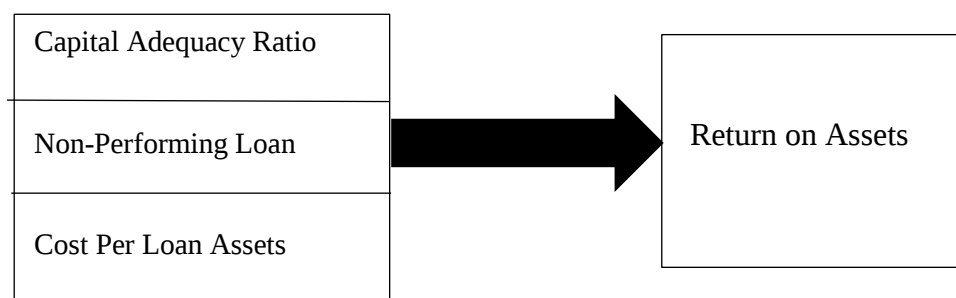


Figure: - Research Framework

The research conducted by Poudel (2018) and Bhattarai (2020) served as the foundation for the development of this theoretical framework.

The variable that alters other variables is known as an independent variable. The variable regulates other variables or acts as a trigger. Zikmund (2020) An independent variable is one that is anticipated to have some sort of impact on the dependent variable. Because of their ability to influence or forecast the variables, these kinds of variables are frequently referred to as predictors. However, the cost per loan assets ratio,

the capital adequacy ratio, and the non-performing loan ratio are distinct factors.

Dependent Variable

The values of the other variables are used to calculate the value of the dependent variable. The dependent variable, according to Sekraran (2020), is the one that the researcher is most interested in. The researcher attempts to understand, characterize, or forecast its variability. The dependent variable in this study is return on assets, or ROA.

Return on Assets (ROA)

Profit made per dollar of assets, or ROA, is a measure of how well bank management makes use of the bank's actual investment resources in order to turn a profit. Because it eliminates the distortions caused by variations in financial leverage, ROA is a helpful metric for comparing the profitability of banks with comparable business risk profiles. From an accounting standpoint, return on assets (ROA) is a thorough indicator of a bank's entire performance. Compared to other performance metrics, it appears to be more appropriate for comparing banks in the same industry. Return on assets (ROA) is therefore selected as the study's success metric. It demonstrates how well a commercial bank's assets are used by its management. In the case of banks with comparable risk profiles, ROA. is a useful static for comparing bank profitability as it avoids distortions produced by differences in financial leverage. ROA is expressed as,

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

Independent Variables

Independent variable is the one which influences the dependent variables in either positive or negative way. In this study, Capital Adequacy Ratio (CAR), Non-

Performing Loan Ratio (NPLR), Cash per Loan Assets (CPLA) are independent variables.

Capital adequacy ratio

It shows that a bank is sufficiently capitalized to handle unforeseen losses. Because a bank is more likely to fail when the ratio is low, the regulatory bodies may mandate that the bank increase its capital. It represents the capital of the bank as a percentage of its risk-weighted exposure. It is made up of the most dependable forms of financial capital, namely stockholders' equity. In theory, banks with a high capital adequacy ratio are profitable. Strong capital sufficiency helps a bank prevent bank failure, insolvency, and "run" by absorbing potential loan losses. The capacity to raise non-insured debt is increased by bank capital, which in turn enhances banks.

Higher capital makes funding with non-insured debt less information sensitive since it lowers bank risk and provides a buffer against losses (Admati et al., 2010). As a result, adequate capital can improve bank performance. Nevertheless, there have been conflicting findings from empirical research on the connection between a company's performance and its capital adequacy ratio. The capital adequacy ratio (CAR) formula is as follows:

$$CAR = \frac{\text{Capital Fund}}{\text{Risk Weighted Assets}}$$

Non- performing loan Ratio (NPLR)

When a borrower defaults on a loan and fails to make monthly principle and interest payments for a predetermined amount of time, the loan is considered non-performing. When borrowers run out of money to make loan payments or encounter circumstances that make it impossible for them to continue making loan payments, the loan becomes non-performing. A measure of credit risk management, the non-performing loans ratio (NPLR) shows how well a bank manages its credit. Because it specifies the percentage of loan losses relative to the overall loan amount, NPLR in particular shows how banks manage their credit risk (Hosna et al, 2015). According to Gizaw, Kebede, and Selvaraj (2018), the primary measure of commercial banks' credit risk is the non-performing loan ratio (NPLR). The following is the expression for the Non-performing Loan (NPLR) equation:

$$NPLR = \frac{\text{Non-performing Loan}}{\text{Total Loan}}$$

Cost Per Loan Assets (CLA)

Cost per loan assets is regarded as a measure of credit risk and a factor of bank performance. When all other things are held constant, banks that manage their costs well make a lot of money. This serves to highlight the effectiveness of loan distribution to clients (Appa, 1996; Ahmed et al., 1998; Kolapo et al., 2012).

$$CLA = \frac{\text{Total Operating Cost}}{\text{Total Amount of Loan}}$$

CHAPTER:IV

RESULTS AND DISCUSSION

In accordance with the study technique discussed in the third chapter, the data have been examined and interpreted in this chapter utilizing statistical and financial methods. The data gathered from several sources has been presented in the analysis section using a variety of tables that have been inserted into the necessary tables based on their homogeneous nature. The analysis's findings have been contrasted with industry norms on ratio analysis, NRB guidelines, and other aspects. To further elucidate the bank's actual status and performance, numerous appropriate graphs and diagrams have been employed.

4.1 Analysis of data

One of the most important financial analysis methods is ratio analysis, which helps determine the company's financial situation and performance by highlighting the important links between the different elements on the balance sheet. To put it another way, it includes techniques for computing and analyzing financial ratios to evaluate the state and performance of the company. The firm's income and expenditure statement and balance sheet for the periods under consideration serve as the fundamental input for ratio analysis. The following ratios are used in the study to examine how Nepal Investment Bank Ltd., Everest Bank Ltd., and Nabil Bank Ltd. manage their credit risk.

4.2 Credit efficiency Ratio

The viability and profitability of their business are supported by credit efficiency, which is the effective distribution of loans. Maintaining sufficient liquidity and enhancing bank profitability depend on the caliber of loans and advances given to borrowers. This section focuses on the value of the credit-deposit ratio and the NPLs to loan and advances ratio in evaluating the banks' credit efficiency.

4.2.1 Capital adequacy ratio

It shows that a bank is sufficiently capitalized to handle unforeseen losses. Because a bank is more likely to fail when the ratio is low, the regulatory bodies may mandate that the bank increase its capital. A bank's available capital is indicated by its capital

adequacy ratio (CAR), which is expressed as a percentage of the bank's risk-weighted credit exposure. The goal is to demonstrate that banks have sufficient cash on hand to cover a specific level of losses before they run the risk of going bankrupt.

Table 2

Capital Adequacy Ratio of Sample Banks

Fiscal Year	Bank		
	NABIL	NIMB	EBL
2013/14	0.1078	0.1163	0.1043
2014/15	0.1103	0.1102	0.1102
2015/16	0.1170	0.1176	0.1159
2016/17	0.1139	0.1191	0.1115
2017/18	0.110	0.1081	0.1333
2018/19	0.1125	0.1079	0.1266
2019/20	0.1273	0.1399	0.1469
2020/21	0.1212	0.1242	0.1420
2021/22	0.1277	0.1183	0.1374
2022/23	0.1317	0.1183	0.2530
Mean	0.1180	0.1179	0.1381
S.D.	0.0079	0.0089	0.0407
C.V.	0.0677	0.0750	0.2947

Sources: Annual Reports of Selected Commercial Banks

Selected commercial banks' non-performing loans are displayed in Table 2. Nepal Investment Mega Bank's non-performing loans were on the decline in 2016–17 before beginning to fluctuate. Up until 2016–17, EBL's capital adequacy ratio was on the rise; after that, it began to decline. Up until 2015–16, the NABIL CAR was on the rise; after that, it began to decline. The trend of NIMB Bank's CAR is erratic. Everest Bank Limited has the lowest average of all Everest banks and the highest average CAR with the biggest standard deviation.

4.3 The non-performing loan Ratio

The non-performing loan measures the effectiveness of a bank receiving repayments. The bank evaluates the expected loss from the non-performing loan and books of

corresponding provision. The non-performing loan measures the effectiveness of a bank receiving repayments on its loans.

Table 3

Non-Performing Loan Ratio of Sample Bank

Fiscal Year	Bank		
	NABIL	NIMB	EBL
2013/14	0.0079	0.0090	0.0034
2014/15	0.0152	0.0062	0.0084
2015/16	0.0239	0.0151	0.0064
2016/17	0.0275	0.0115	0.0097
2017/18	0.0180	0.0130	0.0130
2018/19	0.0147	0.0080	0.0038
2019/20	0.0130	0.0093	0.0025
2020/21	0.0109	0.0192	0.0018
2021/22	0.0075	0.0111	0.0016
2022/23	0.0138	0.0104	0.0022
Mean	0.0152	0.0113	0.0046
S.D.	0.0061	0.0036	0.0028
C.V.	0.4007	0.3157	0.5954

Sources: Annual Reports of Selected Commercial Banks

Selected commercial banks' non-performing loans are displayed in Table 3. In 2014–15, Nepal Investment Mega Bank's non-performing loan portfolio was declining; nevertheless, it then began to fluctuate. Up until 2016–17, Nabil's non-performing loans were on the rise; after that, they began to decline. Up until 2017–18, EBL's NPL trended upward; after that, it began to decline. The trend of NIMB Bank's non-performing loans is erratic. The Nepal Investment Mega Bank has the lowest average of Everest Bank and the highest average NPL with the biggest standard deviation.

4.4 Cost Per Loan Assets

Cost per loan assets is seen as a measure of credit risk and a factor of the bank's performance. When all other things are held constant, banks that manage their costs well make a lot of money. Its primary goal is to show how well loans are distributed to clients.

Table 4
Cost per Loan Assets of Sample Bank

Fiscal Year	Bank		
	NABIL	NIMB	EBL
2013/14	0.0226	0.0212	0.0214
2014/15	0.0249	0.0228	0.0224
2015/16	0.0109	0.0231	0.0219
2016/17	0.0243	0.0234	0.0218
2017/18	0.0209	0.0209	0.0224
2018/19	0.0153	0.0193	0.0189
2019/20	0.0186	0.0196	0.0199
2020/21	0.0197	0.0212	0.0229
2021/22	0.0242	0.0246	0.0224
2022/23	0.0257	0.0234	0.0217
Mean	0.0207	0.0219	0.0216
S.D.	0.0045	0.0017	0.0012
C.V.	0.2163	0.0764	0.0546

Sources: Annual Reports of Selected Commercial Banks

The cost per loan asset for a few chosen commercial banks is shown in table 4. The table shows that Everest Bank has a lower mean than Nepal Investment Mega Bank and a higher average than other banks. Everest Bank is able to control its costs while keeping other aspects under check in order to generate a high profit and demonstrate effectiveness in loan distribution to clients. It's dangerous because Everest Bank has a lower C.V. than other choosing banks, despite NIMB having a higher average.

Profitability ratio

Profit is a company's primary performance metric. The goal of investment policy is to generate a healthy return. Any organization wants to make a lot of money because it helps it stay in business and shows that it is running efficiently. Profit is a necessary component of business operations in order to fulfill internal commitments, overcome unforeseen circumstances in the future, create sound investment policies, increase banking transactions, etc.

The most accurate measures of overall efficiency are profitability ratios. These ratios that are associated with both profit and money mobilization are shown and examined here. Using the ratios listed below.

4.5 Return on Assets Ratio

Profitability ratios are the best indicators of overall efficiency. Here, we display and analyze these ratios that are linked to both profit and money mobilization. Making use of the following ratios.

Table 5

Return on Assets Ratio of Sample Banks

Fiscal Year	Bank		
	NABIL	NIMB	EBL
2013/14	0.0128	0.0176	0.0210
2014/15	0.0112	0.0150	0.0211
2015/16	0.0143	0.0148	0.0239
2016/17	0.0174	0.0138	0.0239
2017/18	0.0151	0.0104	0.0185
2018/19	0.0169	0.0135	0.0185
2019/20	0.0154	0.0161	0.0172
2020/21	0.0159	0.0155	0.0197
2021/22	0.0147	0.0166	0.0194
2022/23	0.0118	0.0122	0.0142
Mean	0.0146	0.0147	0.0197
S.D.	0.0019	0.0020	0.0028
C.V.	0.1347	0.1399	0.1418

Sources: Annual Reports of Selected Commercial Banks

The mean, standard deviation, C.V., and return on assets (ROA) for a selection of commercial banks during a ten-year period are displayed in Table 5. The greatest mean, 0.0197, of Everest Bank, and the lowest mean, 0.0146, of Nabil Bank, S.D., NIMB, and EBL are also shown in this table. According to the mean comparison, this shows that Everest Bank is more stable than Nabil Bank, while NIMB is in the middle. One statistical method for assessing the form standard deviation of Nabil Bank, NIMB, and EBL is S.D. Therefore, the lowest S.D. is 0.0019 and the maximum

S.D. is 0.0028 of EBL. This suggests that EBL is more reliable than NIMB and Nabil Bank. This table is the last one on the S.D. basis.

Statistical analysis

One of the key tools for data analysis is a statistical tool. The mean, standard deviation, regression analysis, correlation analysis, and other test types are some of the methods available for analyzing tabulated data. This thesis study makes use of practical statistical tools.

4.2.1 Descriptive statistic

The feature of a data collection, which may be a sample or a representative of the full population, is summarized or described by a descriptive statistic. The two categories of descriptive statistics are measurements of variability (spread) and measures of central tendency. The mean, median, and standard deviation are examples of measures of tendency, whereas the minimum and maximum variables are examples of measures of variability. The study's mean, standard deviation, and minimum and maximum are determined by descriptive statistics.

The variables' descriptive characteristics are shown in Table 6. The mean, maximum, minimum, and standard deviation of observation were used to highlight the variables' descriptive qualities.

Variables	No.	Minimum	Maximum	Mean	Standard Deviation
ROA	30	0.0112	0.0174	0.01455	0.002066
CAR	30	0.1078	0.1317	0.11794	0.008524
NPL	30	0.0075	0.0275	0.01524	0.006437
CLA	30	0.0109	0.026	0.02105	0.005004

Sources: Appendix-I

The different descriptive data of Nepal's commercial banks' credit risk management are displayed in table 6. The mean, median, standard deviation, minimum, maximum, etc., are among the several statistics values. which show that there is a positive correlation between the percentage change in capital adequacy ratios, non-performing loans, and cost per loan assets and return on assets.

4.2 Correlation Analysis

This section presents and analyzes the correlation between the independent and dependent variables. The degree of linear relationship between two variables is measured by their correlation. The person product moment of correlation coefficient was employed in this study to determine the relationship between the independent and

dependent variables. The range of correlation coefficients between two variables is +1, which indicates a perfect positive link, -1, which indicates a negative association, and zero. shows that the two variables do not have a linear connection. Return on assets is the dependent variable in this study, whereas the capital adequacy ratio, non-performing loans, and cost per loan asset are the independent variables.

The Multiple Correlation Coefficient of ROA on CAR, NPL and CPLA is by

	<i>ROA</i>	<i>CAR</i>	<i>NPL</i>	<i>CLA</i>
<i>ROA</i>	1			
<i>CAR</i>	-0.05747	1		
<i>NPL</i>	0.342839	-0.26809	1	
<i>CLA</i>	-0.42528	0.043426	-0.35039	1

Sources: Appendix II

The Interpretation of the correlation matrix.

The correlation significance shows very high positive (negative) correlation and ranges from 0.90 to 1.00 (-0.90 to -1.00). The correlation significance implies a high positive (negative) correlation if it falls between 0.70 and 0.90 (-0.70 and -0.90). The correlation significance implies a moderate positive (negative) correlation if it falls between 0.50 and 0.70 (-0.50 and -0.70). Low positive (negative) correlation is indicated by correlation significance between 0.30 and 0.50 (-0.30 to -0.50), while negligible correlation is indicated by correlation significance between 0.00 and 0.30 (0.00 to -0.30). The table's conclusions are as follows:

Return on assets and capital adequacy ratios have a correlation coefficient of -0.05747, which suggests a negative relationship between the two variables. Return on Assets and Non-Performing Loan Net Profit have a moderately favorable link, as seen by their 0.342839 correlation coefficient. Return on Assets and Cost per Loan Assets have a linked value of -0.42528, which indicates a negative correlation between the two variables. The correlation coefficient between non-performing loans and capital adequacy ratios is -0.26809, indicating a strong negative association between the two variables. Capital Adequacy Ratios and Cost per Loan Assets have a correlation coefficient of 0.043426, which indicates a positive relationship between the two variables. Non-performing loans and cost per loan assets have a correlation coefficient of 0.35039. The correlation matrix consists of the variable label in the first column and the correlation coefficient in the subsequent columns. To understand the matrix,

the correlation coefficient corresponding to the intersection of the row and column must be read.

4.3 Regression Analysis

It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variables (Return on Assets, Return on equity)

Independent variable (Non-performing Loan, Capital Adequacy Ratio, Cost per loan Assets).

The multiple regression equation of ROA on CAR, NPLA and CPLA is given by

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.473279
R Square	0.223993
Adjusted R Square	-0.16401
Standard Error	0.002229
Observations	10

Sources: Appendix III

According to the above, $R^2 = 0.223993$ is the overall goodness of fit metric. Y and $\hat{y}$ have a 0.473279 connection (0.223993 when squared). $R^2 - (1 - R^2) \times (k-1)/(n-k) = 0.223993 - 0.07 \times 2/2 = 0.153993$ is the adjusted R^2 value. The estimated standard deviation of the error term u is referred to as the standard error in this context. It is sometimes referred to as the regression's standard error. corresponds to $\sqrt{SSE/(n-k)}$. It should not be confused with either the regression coefficient.

$R^2 = 0.223993$ means that 22.3993% of the variation of ROA around $\bar{y}$ is explained by regressors CAR, NPLA, and CPLA.

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	8.61E-06	2.87E-06	0.577298	0.650893
Residual	6	2.98E-05	4.97E-06		
Total	9	3.84E-05			

Sources: Appendix IV

The ANOVA table split the sum of square into its components. Total sum of squares = Residual sum of

Squares + regression sum of squares.

$$\text{Thus } \sum_i (y_i - \bar{y})^2 = \sum_i (y_i - \hat{y}_i)^2 + \sum_i (\hat{y}_i - \bar{y})^2$$

Where, $\hat{y}_i$ is the value of y_i predicted from the regression line and $\bar{y}$ is the sample means of y .

For example:

$$R^2 = 1 - \text{Residual SS} / \text{Total SS}$$

$$= 1 - 10.13 / 140.02 \text{ (from data in the ANOVA table)}$$

$$= 46.67 \text{ (which equals } R^2 \text{ given in the regression statistics table).}$$

The column labeled F gives the overall F-test of $H_0: \beta_2 = \beta_3 = 0$ versus H_a : at least one of β_2 and β_3 does

Not equal zero. Aside: Excel computes F this as:

$$F = [\text{regression SS} / (k-1)] / [\text{Residual SS} / (n-k)]$$

$$= [140.02 / 02] / [10.13 / 2] = 9.21.$$

The column labeled significance F has the associated P-value. Since $5.07 > 0.10$, we do not reject H_0 at

Significance level 0.10.

Note: Significance F in general = $\text{FINV}(F, k-1, n-k)$ where k is the number of regressors including the

Intercept.

Here $\text{FINV}(9.21, 2, 2) = 0.10$

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.01593		1.3029	-	0.04586		
	7	0.012231	21	0.01399	6	-0.01399	0.045866
			0.0487	-	0.22619		
CAR	0.00442	0.090636	65	0.21736	7	-0.21736	0.226197
	0.07261		0.5672	-	0.38585		
NPL	2	0.128017	04	0.24063	7	-0.24063	0.385857
			-				
			0.9017	-	0.24536		
CLA	-0.1432	0.158799	9	0.53177	4	-0.53177	0.245364

Sources: Appendix V

Let β_j denote the population coefficient of the j th regressors (intercept, Net sales, Net profit and purchases).

Then,

- The least squares estimates for β_j are provided in Column "Coefficient".
- The standard error, or estimated standard deviation, of the least squares estimates b_j of β_j is shown in the "Standard error" column.
- The calculated t-statistic for $H_0: \beta_j=0$ vs $H_a: \beta_j \neq 0$ is provided in Column "t Stat". This is calculated by dividing the coefficient by the standard error. In this case, $n=5$ and $k=3$, it is comparable to a t with $(n-k)$ degrees of freedom.
- The p-value for the test of $H_0: \beta_j=0$ against $H_a: \beta_j \neq 0$ is provided in the "p-value" column. When t is a t-distributed random variable with $n-k$ degrees of freedom and t -stat is the calculated value of the t-statistics provided in the preceding column, this equals the $\Pr\{|t| > t\text{-stat}\}$. Keep in mind that the p-value for this test is two-sided. This p-value is divided by 2 for a one-sided test (including checking the sign of the t-test).
- For β_j , the numbers in columns "Lower 95%" and "Upper 95%" define a 95% confidence interval. The fitted line is $X_1=0.015937-0.00442*X_2+0.072612*X_3-0.1432*X_4$, to summarize the output above.

CONFIDENCE INTERVAL FOR SLOPE COEFFICIENT

95% Confidence interval for slope coefficient β_2 is from Excel output (-1.23, 0.10).

Excel computes this as

$$\begin{aligned}
 & b_2 \pm t_{0.025(3)} \times \text{se}(b_2) \\
 & = -0.56 \pm \text{TINV}(0.05, 2) \times 0.15 \\
 & = -0.56 \pm 4.303 \times 0.15 \\
 & = -0.56 \pm 0.64 \\
 & = (-1.23, 0.10).
 \end{aligned}$$

Other confidence intervals can be obtained. For example, to find 99% confidence intervals: in the regression dialog box (in the data analysis Add-in), check the confidence level box and set the level 99%.

4.4 Discussion

- The Study use According to the Capital adequacy ratio, Everest Bank Limited (EBL) has highest average of CAR i.e. 13.81% and Nepal Investment Mega Bank (NIMB) has lowest CAR i.e. 11.79%.

- According to the Non- Performing Loan ratio, Nabil bank has highest average NPLR i.e. 1.52% and Everest bank has lowest ratio of NPLR i.e. 0.46%.
- According to the Cost per loan assets analysis, Nepal Investment Mega bank has highest average CPL i.e. 2.19% and Lowest Nabil bank has lowest average i.e. 2.07%.
- According to the Return on assets analysis, EBL has highest average ROA i.e. 1.97% and Nabil bank has lowest average i.e. 1.46%.
- According to the Return on assets analysis, EBL has highest average ROE i.e. 22.24 % and NIMB lowest average i.e. 13.14%.
- The descriptive statistics analysis, the mean of ROA is 1.455, the minimum 1.112 and maximum 1.74 and the mean ROE is 17.134, the minimum is 13.39 and maximum is 23.34. Regarding the mean of capital adequacy ratio (CAR) is 11.794 and minimum is 10.78 and maximum is 13.17. The mean of non-performing loan (NPL) is 1.524% and minimum is 0.75 and maximum is 2.75 respectively. Cost per loan assets (CPLA) mean is 2.071 where minimum and maximum is 1.09 and 2.57 respectively. The standard deviation of sample banks ROA, ROE, CAR, NPL, and CPLA are 0.206, 3.412, 0.1852, 0.643 and 0.473 respectively.
- The bivariate correlation analysis, the return on assets (ROA) of sampled banks is positively correlated with ROE, CAR, NPL and CPLA. It indicates increase in commercial banks leads to increase in ROA. And return on equity of sampled banks is negatively correlated with CAR, which implies that decrease in CAR leads to increase in ROA.
- There is Positive correlation between ROE and ROA of commercial banks (i.e. 0.616758). There is Negative correlation between ROE and CAR of commercial banks (i.e. -0.5532). There is Negative correlation between ROE and CAR of commercial banks (i.e. -0.05747). There is positive correlation between ROA and NPL of commercial banks (i.e. 0.342839). There is Negative correlation between CAR and NPL of commercial banks (i.e. -0.268069). There is Positive correlation between CAR and CLA of commercial banks (i.e. 0.043426). There is Positive correlation between NPL and CLA of commercial banks (i.e. 0.35039).
- The bivariate correlation analysis, the return on equity (ROE) of sampled

banks is positively correlated with CRR and negative correlated with CAR, NPL and CPLA.

Descriptive and multiple regression analysis were employed in the study to investigate the variables influencing commercial banks' performance and credit risk management. Secondary data was gathered for the annual reports of a few chosen commercial banks using an appropriate research methodology. Various statistical and financial tools are employed to get the study's results. According to the regression model's findings, Nepalese commercial banks' return on assets (ROA) is significantly positively correlated with their capital adequacy ratio, non-performing loan, cash reserve ratio, and bank size. Additionally, the relationship between cost per loan assets and commercial banks' return on assets is negligible.

According to the regression model, non-performing loans, cost per loan assets, and bank size have negligible relationships with return on equity of specific commercial banks, whereas the capital adequacy ratio and cash reserve ratio have a strong positive link with ROE. The findings of the capital adequacy ratio (CAR) supporting Bhattarai (2020), Poudel (2018), and Ekinici & Kenet (2019) show a good correlation with ROA and ROE. 59 This could be as a result of the way that strong capital adequacy ratios control bank performance and credit risk. The findings of Bhattarai (2020) are inconsistent with the non-performing loan ratio's negative correlation with ROA and ROE. According to Abiola and Olausi (2014), non-performing loan ratios have a favorable correlation with ROA and ROE. The findings of Bhattarai (2020) are supported by the cost per loan asset statistics, which show a good correlation with ROA and ROE. The discovery by Poudel (2018) that CPL has a negative relationship with ROA is inconsistent. It shows that there is no connection between CPL and performance.

CHAPTER-V

SUMMARY AND CONCLUSION

This is final chapter that involves summary, conclusions and implications of the research work. The fact and finding from secondary data analysis are presented in this chapter.

5.1 Summary

This chapter highlights the study's key findings and offers a concise synopsis of the complete body. Examining the internal factors influencing credit risk management and bank performance was the aim of the study. Chapter 1 provided a thorough overview of the study's goals and the relationship between credit risk and bank performance. The chapter also addressed the study's limitations, organization, and importance. This study's specific goals are to: (1) assess the profitability and credit efficiency of NABIL, NIMBL, and EBL; (2) investigate the relationship between loan and advances, non-performing loans, loan loss provision, and sample banks' net profits; and (3) assess the effects of loan and advances. The theoretical literature on credit risk management and commercial banks' performance was reviewed in Chapter 2. Various ideas of discussion are covered in this chapter, along with numerous national and international papers that analyze the factors influencing commercial banks' performance and credit risk management. This chapter outlined the theoretical foundation, the summary, and the gaps that needed to be filled by the investigation. Research design, demographic, sample design, data collection methods and tools, data processing, and data presentation were the main topics of chapter three. Using a practical sampling technique, the sample consisted of three selected commercial banks (Nabil Bank, Nepal Investment Mega Bank Limited, and Everest Bank) out of a total population of 20 commercial banks. A descriptive and causal comparative research strategy has been used to accomplish the study's goals. The findings of empirical testing of the variables influencing commercial banks' credit risk management and bank performance were given and discussed in Chapter 4. 25 The right financial descriptive and analytical techniques are used to analyze the data. This chapter also included a discussion of the study.

5.2 Conclusion

Examining commercial banks' credit risk management is the primary goal of the study. In this study, 40 observations from the 2013–14 to 2022–23 timeframe were analyzed utilizing secondary data from four commercial banks. The findings demonstrated that commercial banks' credit risk management is crucial to their performance. According to study findings, the capital adequacy ratio, cost per loan assets, and non-performing loan ratio have the biggest effects on a bank's performance. Higher capital adequacy can absorb potential loan losses, prevent bank run insolvency, and cover the risk, as demonstrated by the noteworthy findings of the capital adequacy ratio, which may be considered the influencing component for bank performance. The study's findings indicate that non-performing loans are inconsequential with regard to ROE and positively important with regard to ROA. This indicates that non-performing loans only affect banks' return on assets (ROA). Since cost per loan assets has little bearing on bank performance, CPLA cannot be a factor that influences bank performance. NPL is a measure of a bank's liquidity, but the capital adequacy ratio has a substantial impact on the bank's performance. The study discovered markers of credit risk; bank size also has an impact on bank performance. In addition, it examined bank return on equity, while non-performing loans and the capital adequacy ratio were important indicators of bank performance. It gives owners the ability to forecast improved bank performance and capital allocation choices. The bank is encouraged to place greater attention on risk management in order to lower loan risk and attain optimal performance, as credit risk management in general significantly influences bank performance.

5.3 Implications

The following suggestions have been made for improving the credit risk management of NABIL, NIBL, and EBL based on the main conclusions obtained in the fourth chapter and this chapter.

- The NABIL return on assets ratio is the highest of them in our examination. Therefore, it is advised that NIBL and EBL adopt a more liberal stance, increase their percentage of return on equity investments, and keep their lending policy more stable.

- Depending on the type of loan, commercial banks must keep a specific percentage as loan loss provisions. A bigger loan loss provision could hurt the bank's performance. Of all of them, EBL has the largest loan loss provision to non-performing loan ratio. EBL is therefore advised to reduce this percentage in every manner conceivable.
- Of the sample banks, EBL has the lowest ratio of non-performing loans to loans and advances. As a result, EBL's excellent performance or flawless NPL maintenance indicates that company has little credit risk. Therefore, it is advised that NABIL and NIMBL use greater caution and realism while discussing loans and advances. Regular oversight and follow-up are necessary to ensure that loans are used properly once they are advanced. Among the sample banks in this study, NABIL's profitability ratio is the best in terms of return. Therefore, it is advised that NIMBL and EBL invest more money in loans and advances in order to boost their interest-earning ability and effectively collect income.
- More money should be devoted to the economy's productive sectors, and the bank should keep diversifying its lending operations. Businesses in the private sector ought to be given priority and appropriate support. Regression analysis revealed that loans and advances had a substantial effect on sample banks' net profits. Nonetheless, these banks may effectively reduce their non-performing loans (NPLs) on a massive scale, which eventually contributes to higher profits.
- To lower the default rate, Nepalese commercial banks should cooperate with the nation's credit reference agency to properly examine loan applicants' prior credit worthiness records.
- NABIL, NIMBL, and EBL should step up their efforts to monitor and supervise credit risk. To make sure that loans are being utilized for the intended purpose, banks should make sure that credit officers follow up with borrowers on a regular basis.

REFERENCES

- Alzeaideen, K. (2019). Credit risk management and business intelligence approach of the banking sector in Jordan. *Cogent Business & Management*, 6(1), 1675455.
- Abayomi, A.A. Joseph, N.T. & Tolulope, I.G. (2018).The evaluation of credit management on the performance of small-scale enterprises in Nigeria. *International E-Journal of Advances in Social Sciences*, 4(10), 130- 138.
- Afriyie, H., &Akotey, J. (2011).Credit risk management and profitability of selected rural banks in Ghana. Catholic University College of Ghana,pp 1-18.
- Alshatti, A. S. (2015). The effect of credit risk management on financial performance of the Jordanian commercial banks. *Investment Management and Financial Innovations*,12 (1),338345.
- Batra, M., & Dass,N.(2003). *Financial management*. New Delhi: Vikash Publishing House.
- Berrios, M. R. (2013). The relationship between bank credit management and profitability and liquidity.*The International Journal of Business and Finance Research*,7(3), 105-118.
- Bessis, J. (2003). *Risk management in banking* (2nded.).New York: John Wiley & Sons, Chichester.
- Bhandari, D.R. (2003).*Banking and insurance management*. Kathmandu: AyushPrakashan.
- Bhattarai, Y. R. (2020). Effect of credit risk on the performance of Nepalese commercial banks: *Journal of Management and Finance*, 1(1), 41-64.
- Boot,A.W.A.,&Milbourn,T.T.(2001).*Credit ratings as coordination mechanisms*. Amsterdam: Bookman International B.V.
- Chhabra, T. N., &Taneja, P. L. (1991).*Law& practice of banking*. New Delhi: J.C.Kaur to Dhanapt Rai and Sons.
- Dahal, B., &Dahal, S. (2002). *A hand book to banking*. Kathmandu: Ashmita Booksand Publishers.
- Daniel, B.K., Ezekiel, T.J. Musa, A.Y., Muneer,J. & Bashiru,M.K. (2022). Impact of efficient credit management on profitability of commercial banks in Sierra Leone. *Open Journal of Business and Management*, 34 (6), 139-150.
- Dhungana, N. T. & Pradhan, R. S. (2021). Impact of Credit Risk Management Effect of bank lending on inflation in Nepal. *Journal of Advanced Academic Research*,4(2), 27-43.

- Ejoh, N., Okpa, I., & Inyang, E. (2014). The relationship and effect of credit and liquidity risk on bank default risk among deposit money banks in Nigeria. *Research Journal of Finance and Accounting*, 5(16), 142-150.
- Eva, C., & Jaroslav, B. (2014). Assessment of credit risk approaches in relation with competitiveness increase of the banking sector. *International Journal of Research in Commerce, Economics and Management*, 1(1), 141-156.
- Francis, O. A. (2014). Credit risk management practices of commercial banks in Kenya. *European Journal of Business and Management*, 6 (34), 21-61.
- Gupta, S. C. (2000). *Fundamental of statistics*. New Delhi: Himalayan Publishing House Private Limited.
- Honey, D., Tashfeen, R., Farid, S., & Sadiq, R. (2023). Credit risk management: evidence of corporate governance in banks of Pakistan. *Journal of Finance and Accounting Research*, 1(1), 1-18.
- Horcher, K. A., (2005). *Essentials of financial risk management*. Hoboken: John Wiley & Sons, Incorporated.
- Hosna, A., & Manzura, B. (2009) Credit risk management and profitability in commercial banks in Sweden. University of Gothenburg, Graduate School of Business, Economics and Law, Master of Science in Accounting.
- Ifeanyi, O.N., & Francis, C.O. (2017). Effect of credit management on profitability of deposit money banks in Nigeria. *International Journal of Banking and Finance Research*, 3(2), 137-160.
- Kargi, H.S. (2011). Credit risk and the performance of Nigerian banks. Ahmadu Bello University, Zaria.
- Keeton, W.R., & Morris, C.S. (1987). *Why do banks loan loss differ?*. New York: Harper and Row Publisher.
- Khan & Ali (2016). Impact of liquidity on profitability of commercial banks in Pakistan: An analysis on banking sector in Pakistan. *Global Journal of Management and Business Research: C Finance*, 16(1).
- Kolapo, T.F., Ayeni, R.K., & Oke, M.O. (2012). Credit risk and commercial banks' performances in Nigeria: a panel model approach. *Australian journal of business and management research*, 2(2), 31-38.
- Manandhar, M. (2018). *Credit management in commercial banks of Nepal: With reference to SCBNL, NABIL, EBL and HBL* (Unpublished Master's Thesis). Tribhuvan

University, Kathmandu, Nepal.

- Li, F. & Zou, Y. (2014). *The Impact of credit risk management on profitability of commercial banks: A study of Europe*. Umea School of Business and Economics. Retrieved from <http://www.diva-portal.org>.
- Moti, H. O, Masinde, J.S., & Mugenda, N.G., (2012). Effectiveness of credit management systems on loans performance: Empirical evidence from micro finance sector in Kenya. *International Journal of Business, Humanities and Technology* 2(16), 99-108.
- Owojori, A.A., Akintoye, I. R., & Adidu, F.A. (2011). The challenge of risk management in Nigerian banks in the post consolidation era. *Journal of Accounting and Taxation*, 3(2), 23- 31.
- Pandey, I. M. (2011). *Financial management*. New Delhi: Vikash Publishing House Private Limited.
- Pant, P. R. (2016). *Social science research and thesis writing*. Kathmandu: Buddha Publications Pvt. Ltd.
- Pathak, A. (2020). *Credit Risk Management of joint venture commercial banks: A Case Study: With reference to BOK and NIBL* (Unpublished Master's Thesis). Tribhuwan University, Kathmandu, Nepal.
- Poudel, R. P. (2012). The impact of credit risk management on financial performance of commercial banks in Nepal. *International Journal of arts and commerce*, 1(5), 9-15.
- Pradhan, S., & Shah, A. (2019). Credit risk management of commercial banks in Nepal. *Journal of Business and Social Sciences Research*, 4(1), 27-37.
- Rakhim zhanova, K., Makysh, S., & Saparova, B. (2020). Problem loan management in the countries of the Eurasian Economic Union. *Entrepreneurship and Sustainability Issues*, 7(4), 3286-3308.
- Salas, V., & Saurina, J. (2002). Credit risk in two institutional regimes: Spanish commercial and savings banks. *Journal of Financial Services Research*, 22(3), 203-224.
- Sampath, D. G. (2015). *Impact Of credit risk management On Sri Lankan commercial banks*. Belihuloya, Sri Lanka: Department of Accountancy & Finance, Faculty of Management Studies, Sabaragamuwa University of Sri Lanka.
- Shafiq, A., & Nasr, M. (2010). Risk management practices followed by the commercial banks in Pakistan. *International Review of Business Research Papers*, 6(2), 308-325.
- Shakya, M. (2015). *Credit Risk management of Nepal Bank Ltd. A Comparative Study on* Un published Master's Thesis, Kathmandu: Nepal. Tribhuwan University,

- Shekhar, K.C. (1997). *Banking theory and practice*. New Delhi: Vikash Publishing House Pvt. Ltd.
- Shrestha, A. (2018). *Credit Risk Management of commercial banks: A comparative study on With reference to NIB & NIC Bank* (Unpublished Master's Thesis). Tribhuwan University, Kathmandu, Nepal.
- Shrestha, M. S. (2004). *Fundamentals of banking*, (2nd ed.). Kathmandu: Buddha Academic Publication House.
- Singh, A. (2013). Performance of credit risk management in Indian commercial banks. *International Journals of Management of Business Research*, 5(3), 149- 156.
- Suresh, N., Kumar, S. A., & Gowda, D. M. (2010). Credit Risk Management in Commercial Banks. *CURIE Journal*, 2(4), 256.
- Serwadda, I. (2018). Impact of credit risk management systems on the financial performance of commercial banks in Uganda. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 5(10), 1352.
- Tawiah, A. A., & Asante, K. (2019). Credit management in microfinance institutions: A case study of some selected microfinance institutions in the Ashanti region of Ghana. *Research Journal of Finance and Accounting*, 9(2), 16-24.
- Tekalagn Getahun, L. A. (2015). Credit risk management and its impact on performance of commercial banks: In of Case Ethiopia. *Research Journal of Finance and Accounting*, 6(24), 53-63.
- Thapa, R. (2014). *Credit Risk Management: A Case Study of Commercial bank*. An unpublished master's degree thesis, Kathamandu: Shanker Dev Campus, T.U.
- Uwuigbe, U., Uwuigbe, O. R., & Oyewo, B. (2015). Credit management and bank performance of listed banks in Nigeria. *Journal of Economics and Sustainable Development*, 6(2), 27-32.
- Wang, Y., Wang, W., & Wang, J. (2017). Credit risk management framework for rural commercial banks in China. *Journal of Financial Risk Management*, 6(1), 48-65.
- Zhu, N., Wang, B. Yu, Z.Q., & Wu, Y.R. (2017). The effects of non-performing loans on dynamic network bank performance. *Journal of Banking and Finance*, 52(3), 61-64.

Appendix I
Descriptive Statistics

Variables	No.	Minimum	Maximum	Mean	Standard Deviation
ROA	30	0.0112	0.0174	0.01455	0.002066
CAR	30	0.1078	0.1317	0.11794	0.008524
NPL	30	0.0075	0.0275	0.01524	0.006437
CLA	30	0.0109	0.026	0.02105	0.005004

Appendix II

	<i>ROA</i>	<i>CAR</i>	<i>NPL</i>	<i>CLA</i>
ROA	1			
CAR	-0.05747	1		
NPL	0.342839	-0.26809	1	
CLA	-0.42528	0.043426	-0.35039	1

Appendix III

The Multiple Correlation Coefficient of ROA on CAR, NPLA and CPLA is given by

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.473279
R Square	0.223993
Adjusted R Square	-0.16401
Standard Error	0.002229
Observations	10
Predictors: (ROA Constant), CAR, NPL, CPLA	

Appendix IV

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	8.61E-06	2.87E-06	0.577298	0.650893
Residual	6	2.98E-05	4.97E-06		
Total	9	3.84E-05			

- a. Dependent Variable: ROA

Predictors: (Constant) CAR, NPL, CPLA

Appendix V

Coefficient, Standard Error, t-Stat, Upper Lower Table

a. Dependent Variable: ROA

	<i>Coeffici</i>	<i>Standard</i>		<i>P-</i>	<i>Lower</i>	<i>Upper</i>	<i>Lower</i>	<i>Upper</i>
	<i>ents</i>	<i>Error</i>	<i>t Stat</i>	<i>value</i>	<i>95%</i>	<i>95%</i>	<i>95.0%</i>	<i>95.0%</i>
					-			
Interc	0.0159		1.302	0.240	0.0139	0.0458	-	0.04586
ept	37	0.012231	921	369	9	66	0.01399	6
					-			
	0.0044		0.048	0.962	0.2173	0.2261	-	0.22619
CAR	2	0.090636	765	69	6	97	0.21736	7
					-			
	0.0726		0.567	0.591	0.2406	0.3858	-	0.38585
NPL	12	0.128017	204	148	3	57	0.24063	7
			-		-			
			0.901	0.401	0.5317	0.2453	-	0.24536
CLA	-0.1432	0.158799	79	919	7	64	0.53177	4

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ABSTRACT The management of

commercial banks' credit risk is the subject **of this study** . The **study**

used ten observations from 2013–14 to 2022–23 from secondary data from four commercial banks. The capital adequacy ratio, non-performing loan ratio, and cost per loan asset are the independent variables, and the return on assets is chosen as the dependent variable. The information was gathered from the concern sample bank's yearly reports.

Regression models, variance inflation factors (multicollinearity in regression model results

), and Pearson's correlation coefficients