CREDIT RISK MANAGEMENT AND PROFITABILITY OF NEPALESE COMMERCIAL BANKS

A Thesis

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RECOMMENDATION

This is to certify that the thesis

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

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DECLARATION

I hereby declare that this thesis entitled **CREDIT RISK MANAGEMENT AND PROFITABILITY OF NEPALESE COMMERCIAL BANKS** submitted to Office of the Dean, Faculty Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Masters of Business Studies which is prepared under the supervision of respected supervisor **Dhruba Subedi** of Shanker Dev Campus, T.U.

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ABBREVIATIONS

CAR	:	Capital Adequacy Ratio
CL	:	Current Liabilities
CRM	:	Credit Risk Management
CV	:	Coefficient of Variation
FIRB	:	Foundation Internal Ratings Based Approach
GIBL	:	Global IME Bank Limited
LDR	:	Loan and Advance to Total Deposit Ratio
LLPR	:	Loan Loss Provision Ratio
Ltd.	:	Limited
NICA	:	NICA Asia Bank Limited
NIMBL	:	Nepal Investment Mega Bank Limited
NPLR	:	Non-performing Loan Ratio
NRB	:	Nepal Rastra Bank
PD	:	Probability of Default
ROA	:	Return on Assets
ROE	:	Return on Equity
SD	:	Standard Deviation
TD	:	Total Deposit
TU	:	Tribhuvan University

CHAPTER - I
INTRODUCTION

1.1 Background of the Study

Credit management is relationship with other forms of risk exposures such as liquidity risk, operational risk, and market risk must be considered. Indeed, the total risk management system of banks is dependent on the efficiency and efficacy of prudent credit management implementation (Bhatt et al., 2023). Credit risk analysis is the process of determining a company's or organization's creditworthiness. When a significant corporation offers or has issued bonds, its audited financial statements may be scrutinized. Alternatively, a bank may examine a small business's financial accounts before providing or renewing a commercial loan. The phrase can be applied to either large or small businesses (Paudel, 2011).

Credit risk management is critical in determining whether a credit institution will succeed or fail. A comprehensive loan analysis that deals with the technique of investing those elements that cause debt nonpayment is the key to effective company financing. The effectiveness of loan decisions is determined by the officer's or managers' excellent judgment (Gautam, 2004). The management of credit is one of the most important and difficult duties of a commercial bank. This is due to the fact that they collect consumer deposits and are required to pay them on demand. No consumer will accept the explanation that his money account is being paid on demand because it has been loaned to another client. As a result, appropriate loan management by commercial banks is required (Al-Amin et al., 2021).

Credit risk management involves the process of issuing a loan, determining the conditions of the loan, and recovering the amount when it is due. This is the role inside a bank or organization that controls lending rules that increase revenues while decreasing financial risks. The credit management policy's objective is to specify guidelines for any actions that are likely to cause business risk by committing financial resources. This is done in order to control and limit the risk. A risk, when properly managed, may become an opportunity (Mutua & Gekara, 2017).

Credit risk management refers to the whole lending process, from contacting potential borrowers to retrieving the loan amount. Credit management in the banking industry is involved with operations such as accepting applications, loan evaluation, loan approval, monitoring, non-performing loan recovery, and so on. As a result, the goal of this research is to evaluate the performance of commercial banks' credit management difficulties and strengths from various viewpoints in light of contemporary credit management techniques in financial institutions (Mutua & Gekara, 2017).

Strong credit risk management prevents major losses and improves bank financial performance. Good financial success rewards both employees and shareholders for their efforts and investments. Credit risk management is a major determinant of bank profitability. As a result, loan management has a significant influence on the bank's profitability. Credit risk is a type of misfortune caused by a bank's loan default. Credit risk is most simply described as the possibility of a bank failing to satisfy its commitments in line with agreed-upon conditions. However, a performing loan is one in which both the principle and interest payments are received on time and within the agreed-upon period, whereas a non-performing loan is one in which the loan payment is not paid on time and within the agreed-upon term (Ogboi & Unuafe, 2013). Loan management is an essential component of bank management since the future of the banks is dependent on it. Credit risk management’s major goal is to keep credit exposure manageable and to enhance the risk adjusted return rate by strengthening credit criteria. Because credit exposure is the source of both bank profits and credit risk (Ali & Dhiman, 2019).

The bank must manage both the overall credit risk of the portfolio and the risk of individual credit or transactions. Proper credit administration operations are essential for the banking sector in order to reduce the total complexity of the investment portfolio. A solid credit risk management strategy avoids major downsides and improves bank financial performance. Good financial success rewards both employees and stockholders for their work environment and investment. This will motivate employees and stockholders to contribute more, which will lead to economic development. As a result, good credit risk management is a critical component of a financial organization's long-term performance (Bhattarai, 2016).

Profits have long been recognized and regarded as a metric of company efficiency. As a result, the higher the earnings, the more efficient and lucrative the bank is thought to be. These criteria have the added benefit of providing a consistent benchmark for assessing the efficiency of various banks. The profit motivation remains one of an enterprise's mainsprings and a driving force for efficiency. Profit motivation obviously drives the search for more efficient processes, lower unit costs, better organization, and higher turnover. Profitability is made up of two words: profit and capability. The term profit has already been defined, while the phrase ability refers to a company's capacity to produce profits. A company's ability also reflects its earning power or operating performance. The capacity of a particular investment to make a return from its usage is defined as profitability. Profitability is a relative term, whereas profit is an absolute term. Profit and profitability are two distinct ideas, notwithstanding their close relationship and mutual dependence. In other words, despite their general character, each of them plays a unique role in business (Dangol et al., 2021).

Profitability is a variation of the term profit that indicates how the capacity to produce a profit is essentially a measuring stick of corporate performance. Simply said, it is the fundamental test performance of every organization. Profit is the difference between the amount of money sold and the amount of money spent, yet the term "profit" is highly debatable and has various alternative meanings (Horngren, 2011).

Profitability analysis is an enterprise resource planning component that enables administrators to anticipate the profitability of an application or evaluate the profitability of an existing project. Profitability analysis may forecast sales and profit potential based on market segments such as client age groups, geographic locations, or product kinds. Profitability analysis in cost accounting is an examination of the profitability of an organization's production. An organization's output might be classified as goods, customers, locations, channels, or transactions. Size, capital, risk management, expenditure management, marketable securities, and non-performing loans are considered micro or bank specific variables, whereas inflation, interest rate, GDP growth, and tax rate are considered macro variables. Bank specific particular variables such as bank size, capital adequacy ratio, non-performing loan ratio and loan loss provision ratio are evaluated determinants in this study and profitability of the banks are analyzed as ROA and ROE in this study (Kawor & Atinyo, 2021).

The study's major goal is to examine the link between credit risk management techniques and profitability, credit risk mitigation methods, and barriers faced by banks with client loan repayment behavior. This study can give useful information on credit risk management policies and procedures followed by Nepalese commercial banks, which eventually helps identify situations linked to credit risks encountered by consumers and commercial banks with cyclical and vicious impacts (Nepal Rastra Bank, 2023).

Lending to a few industries would subject banks to credit concentration risk. As a result, the NRB has made lending to certain defined industries essential in order to boost the economy, and BFIs have been gradually diversifying their portfolios and actively lending into these areas. The NRB requires BFIs to distribute a specified percentage of their overall loan portfolio to the underprivileged sector. With the goal of gradually expanding financial access to the economy's most disadvantaged sectors, the NRB has set the loan requirement rate for BFIs at 5% (Nepal Rastra Bank, 2023).

1.2 Problem Statement

Because of increased competition among banks, interest rates on savings and loans are on the down. Non-performing assets have become a major issue for commercial banks. Commercial banks are required by NRB guidelines to set aside a specific percentage of their profits for bad loans and non-performing assets. Lending in the industrial and productive sectors is a high-risk venture. In many cases, effective business procedures will eliminate or lessen the financial risk involved with a transaction; in others, it may shift the risk to other parties through a combination of price and product design. The banking sector knows that an institution should neither conduct business in a way that puts unnecessary risk on it, nor should it absorb risk that can be effectively transferred to other players. Rather, it should only handle risks at the business level if they can be managed more efficiently there than by the market or their owners in their own portfolios (John et al., 2011).

Is credit risk management important to commercial banks in practice? If it does, it should make a considerable contribution to earnings since strong profits are expected to increase shareholder value. Similarly, credit policies are not structured, and there is no clear vision of policy on credit elements. Loan acceptance and credit choices in

Nepal have been shown to be flexible in order to promote personal networks as well. A new client discovers that the credit-granting procedure is extremely convoluted, with certain documents submitted for loan approval being false and simply for formality purposes (Mutua & Gekara, 2017).

Most commercial banks in Nepal have been shown to approve loans without sufficient inspections, potentially increasing the amount of loan defaults and non-performing loans. Furthermore, it is argued that Nepal's current credit risk management methods are insufficient to deal with the country's current credit risk concerns (Bhattarai, 2019). In the context of Nepal, numerous banks are incurring massive losses due to lending risk. There is still a tendency of providing a consortium financing for a large project in order to reduce risk. A bank can reliably provide a person with merely a house loan, a hire purchase loan, or an overdraft of a specified amount, but it is still risky to invest exclusively in a large project. The key assertions to be examined in this study are undoubtedly the credit management practices employed by Nepalese commercial banks. For the statement of the problem, the following research questions have been raised:

- What are the credit risk factors that affect profitability of Nepalese commercial banks?
- Is there any relationship between credit risk management and profitability of Nepalese commercial banks?
- What is the impact of credit risk management on profitability of Nepalese commercial banks?

1.3 Objectives of the Study

The general objective of this study is to analyze the credit management and profitability of commercial banks. The other specific objectives of the study are as follows;

- To examine the credit risk factors that affect profitability of Nepalese commercial banks.
- To analyze the relationship between credit risk management and profitability of Nepalese commercial banks.

- To analyze the impact of credit risk management on profitability of Nepalese commercial banks.

1.4 Significance of the Study

Loans and advances are widely recognized as the mainstay of all commercial banks. They contribute significantly to the banks' gross earnings and net profit. Bank lending is critical because it allows a country to finance its agricultural, industrial, building, and commercial operations.

The health of the advances is the primary determinant of the banking system's strength and soundness. As a result, the capacity of banks to develop and implement policies and processes that increase credit quality and reduce nonperforming loans is essential for survival in a competitive environment. Inability to produce and build quality loans and creditworthy consumers leads to default risk and bankruptcy, as well as stifles a country's economic progress. However, there has been minimal research on the methods and means that enable quality loan creation and development, as well as the link between theories, ideas, and credit policies at the national and regional levels.

As a result, this study is expected to be crucial in identifying best practices and concepts for prudent lending to improve credit management performance to all bank managers and policymakers, as well as to all financial institutions and banks. Furthermore, it may serve as a baseline for scholars interested in expanding the field.

1.5 Limitations of the Study

The limitation of the study are as follows:

- Currently, there are of 20 commercial banks in Nepal till year July 2023, only three commercial banks NIMBL, GIBL and NICA are taken for the proposed study and thus may not represent the whole population.
- This study concentrates only on credit management and profitability aspects.
- The study is based on secondary data collected from annual reports of the sample banks.
- The study limited to ten year’s data from year 2013/14 to 2022/23.

- In this study, only selected financial and statistical tools are used for the analysis.

CHAPTER - II
LITERATURE REVIEW

This chapter is focused with a survey of literature on the issue of credit management and commercial bank profitability. This chapter emphasizes the literature on the issue that is available to my knowledge, research effort and relevant study on this topic, review of journals, publications, and thesis already conducted.

2.1 Conceptual Review

The conceptual review in this section includes the basic review of credit management and profitability of the banks.

2.1.1 Concept of Credit Risk Management

There are many definitions given for credit management by different scholars. Among these some are here cited as follows:

Credit risk management is critical since extending credit is believed to be the same as investing in a consumer. However, debt repayment should not be delayed for too long, as late payments and bad debts cost the organization money. Thus, the efficiency and effectiveness with which each step of loan processing is performed utilizing multiple metrics has a substantial impact on credit management performance (Dahal & Dahal, 2002). Credit management, from the perspective of a debtor, is the management of money, particularly debts, so that you do not have a trail of creditors following you about. Credit management is a major duty that both the debtor and the creditor must accept. Credit management, when properly implemented, is an effective tool for a company's financial stability (John, 2003). Credit management is the implementation and maintenance of a set of policies and processes to reduce the amount of capital tied up in debtors and the business's exposure to bad debts (Hettihewa, 2007).

Credit risk management refers to the whole lending process, from contacting potential borrowers to retrieving the loan amount. Credit management in the banking industry is involved with operations such as accepting applications, loan evaluation, loan approval, monitoring, non-performing loan recovery, and so on. The credit management process

merits special attention since it has a significant impact on the success or failure of financial institutions. This means that credit should be supported by suitable and appealing credit rules and procedures that improve credit management performance and safeguard the banking sector from collapse (K.C., 2013).

Banks take numerous factors into account as a part of credit management when giving credit as a primary source of revenue, which allows them to limit the risk of default, which results in financial trouble and bankruptcy. This is because when banks provide credit, they are subject to the risk of default (risk of interest and principal repayment), which must be handled successfully in order to achieve the needed level of loan growth and performance. As a result, the success of most commercial banks is dependent on their ability to control credit risk to an acceptable level.

2.1.2 Credit Risk Management Techniques

Because the lending function is easy and creates the value of the bank, the bulk of bank assets are in the form of loans. If the borrower is unable to repay the loan, a dangerous scenario may arise. As a result, effective responsible credit risk management is critical. In their work published in the journal of banking and finance, Merton and Bodies proposed three techniques for the credit parameter (Michel et al., 2001).

• Risk Based Pricing

It has been shown that risk-based pricing requires lenders to modify the interest rate to compensate for the loan's riskiness. The pricing approach must be simple and not based primarily on past loan loss history. Loan pricing in practice tends to follow the prime rate + basis. Because the prime rate is not the lowest rate a bank charges, the most creditworthy clients can negotiate a lower rate. Banks employ the discount prime rate to compete with open market products such as commercial paper and corporate bonds (Dahal & Dahal, 2002).

• Assets Restriction

Other creditors, such as bank lenders, have a claim on the borrower's assets. Creditors are protected as long as the market worth of assets exceeds the value of liabilities, because profits from asset sales pay the total claim. Alternatively, as long as a business has a positive net worth, it will not give over assets to creditors that exceed the amount

of the claim against it. Lenders can protect themselves by ensuring that the value of assets always exceeds the value of claims. The fundamental means of fulfilling these objectives are to limit the amount of debt a borrower takes on and to limit the unpredictability of the value of assets. Long agreements with restrictive covenants and the strength of bank customer relationships are practical strategies for lenders to implement asset limitations or give borrowers incentives for compliance (Aswath, 2001).

• Monitoring

If lenders have a contractual right to continuously monitor asset values and seize assets, loan losses can be minimized by auditing asset values and obtaining assets before short falls exist, or by requiring the published value of collateral assets to equal or exceed the promised payment for private loans, which banks have significant experience in organization, monitoring without ongoing surveillance is costly (K.C., 2013).

Before granting credit to a customer, the bank analyzes the project from numerous perspectives. It will assist the bank in determining whether the project is indeed appropriate for investment. The bank needs to do a project evaluation for this. The goal of project evaluation is to ensure an acceptable return on investment from the project. Project appraisal answers the following questions:

- Is the project technically sound?
- Will the project provide a reasonable return?
- Is the project in line with the overall economic objectives of the country?

Generally, the project appraisal involves the investigation from the following aspects (Gautam, 2004).

- Financial aspect
- Economic aspect
- Management/Organizational aspect
- Legal aspect

2.1.3 Credit Risk Management in Banking Industry

Banking and financial institutions face a variety of hazards since they are responsible for utilizing depositor money and circulating assets in the market. Bank risks are

influenced by changes in numerous elements such as interest rates, foreign currency rates, and so on. Credit risk, on the other hand, has a bigger influence on the bank's profitability and performance (Nepal Rastra Bank, 2023). The profitability-making model for banks and financial institutions is loan interest, non-interest revenue, and investment returns, with the model including the maximum percentage of loan interest in profit. Constant policy changes and increased loan demand need greater usage of funds. BFIs are controlled by the government and are also affected by profit motives. Regulators have even begun to contemplate utilizing internal credit models developed by banks to develop capital adequacy rules. As a result, funding for small and large firms is a more substantial and dependable commitment of cash with the promise of a larger return.

The effectiveness of the fund's investment is determined by numerous aspects, including staff efficiency, bank policy, asset quality review, borrower assessment, and many more. Unproductive loans have a bigger influence on the performance and profitability of commercial banks (Said, 2018). However, the use of funds in the unproductive sector has unanticipated and significant delays. Bad loans are followed by increased loan loss provisions, liquidity issues, and reputation issues, ultimately leading to the loss of important clients and large sections of the bank's profitability. Credit risk management is a critical function of banking and financial institutions since it primarily lends and borrows money from shareholders and depositors (Treacy & Carey, 2000).

Apart from that, BFIs play a key role in the economy by moving money through loans and sponsoring business ventures. Risk develops when loans are extended. Loans and timely loan repayments impact the bank's performance and profit, as well as the loss it must face; the more the debt, the greater the provision for debt (Bhattarai, 2016). It is critical for every financial institution to regulate and maintain credit limits since BFIs are key sources of money injection into the economy; hence, losses caused by credit risk mismanagement have an opposite effect on the economy.

2.1.4 Concept of Profitability

Profit can have various distinct interpretations. Profit can refer to a company's remuneration for its managerial functions. Normal profit is defined as the minimal

amount required to keep a company in operation. Profit might be viewed as a reward for genuine entrepreneurial function. It is the entrepreneur's compensation for taking the risk. It's called supernormal profit analysis. Profit might mean monopolistic profit. It is obtained by a business through extortion as a result of its market monopoly. It has nothing to do with any helpful specialized function. Monopoly profit is thus not a practical reward. Profit can occasionally take the form of a windfall. It is an unexpected reward earned by a firm just by mere chance, an inflationary boom (Chand, 2019).

Profit means different things to different individuals, such as company owners, accountants, legislators, workers, and economists. Profit is simply a positive gain created by business operations or investment after all expenses or costs are deducted. Profit is described in economic terms as a compensation gained by an entrepreneur for uniting the forces of production to meet the needs of individuals in an unpredictable economy. Profit, in layman's terms, is income that flows to the investor. Profit in accounting refers to the excess of income over all paid-out costs. In economics, profit is classified as pure profit, economic profit, or just profit (Nitisha, 2019).

The phrase "Profitability" is made up of two words: "Profit" and "Ability." Profit may be divided into two categories: economic and accounting profit. According to capital accountancy mathematics, the final 'accounting' profit of such firms has two components: a return representing economic rent on the value of land and a return on capital. However, there is no understanding what portion of 'accounting' profit each of these two economic parts represents. As a result, there emerges the perplexing truth that 'accounting' or 'businessman's profit' is not 'economic' profit (Gupta, 1992).

The goal of profitability measurement is to determine if a bank's resources were used efficiently to accomplish its profitability goals. The profitability targets relate to the minimum profit that the firm must earn rather than the greatest profit that it can produce. The minimal profit is the profit at the lowest possible rate necessary for the specified form of bank investment. However, there must be enough profit not only to yield the capital in the market rate of return on money that has already been sunk in company, but also to supply extra capital required to meet the cost of being in business (Dangol et al., 2021).

Profit, according to one economist, is the payoff for taking risks in business. A labor leader may argue that it is a measure of how effectively labor has produced and that it serves as a foundation for bargaining a pay rise. And investors will see it as a measure of the return on their investment. An internal revenue agent could consider it a foundation for calculating income taxes. The accountant will simply define it as the excess of a firm's income above the cost of creating revenue in a certain fiscal quarter (Lynch & Williamson, 1989).

Every business has a unique set of objectives. The purpose of business is to maximize profits. Profitability is critical for every business. It is just as necessary as water. To pay the costs of remaining in business, such as machine replacement, furnishings, machine obsolescence, market or technical hazards, and so on. Profit is critical in terms of the self-financing principle. It gives structure and aids in lowering the cost of capital. Profitability is an attractive feature for investors. As a result, investors will put their money where there is a good chance of profit. Profit is therefore essential to secure and meet the expectations of management, owners, investors, employees, and the nation as a whole (Dangol et al., 2021).

2.1.5 Earning Sources of Banks

Banks have a business plan that is connected with the economy and many other allied companies that supplement the bank's client base. A bank's numerous revenue lines are listed below (Mamtani, 2016):

i) Banks make money by lending money at a higher interest rate than borrowing. Loans can be of following types: Personal Loan Mortgage Loan (Loan against Property, Shares etc.) Working Capital Loan Small Business Loan Vehicle Loan Education Loan etc.

ii) Banks make money by charging on various bank services like;

- Locker Facility: Customers use the locker facility to store valuables, documents, jewelry and cash. They pay a yearly fee as a rent to use this facility.
- Cheque Books: For all cheque leaves issued to the customer, a fixed fee per cheque book is levied.

- Internet Banking: When internet banking to transfer money, make payments etc., charges levies to customers.
- Type of Account: A premium account, customers have to pay fixed fee for the services or maintain a higher balance at a lower interest rate.
- Non AMB: If you do not maintain the minimum annual balance as stipulated by the bank, customer pay charges of non-maintenance.
- ECS / Cheque Return: When customers have agreed for automated payments to the EMIs or people who they owe money to and when it returns unpaid – The bank levies a charge on customer's account (normally called cheque return or cheque bounce charges).
- Mobile Banking / SMS Alerts: Customer want to bank via SMS or want to get alerts of credits and debits on SMS, bank charges and makes money.
- Account Statement / Passbook: Chargeable
- Credit / Debit / Forex Cards: These instruments are charged a fixed fee for sign up and fixed annually recurring renewal fee.
- DeMAT Services: Stands for De-Materialization, mandated for keeping shares in virtual accounts, the DeMAT account charges for trading on the stock exchange, this adds up to the banks income.
- Foreign Exchange: Banks sell foreign currency notes with discounting or marking up.
- Cash Management Services: Businesses dealing in lot of cash transactions have to pay a fee basis turnover for management of cash.
- Deposits: Cash deposit or deposit in non-home branches can make you end up paying charges.
- ATM withdrawals: In case customer withdraw cash at non-self-bank ATM, it will be levied charges per transaction.
- Lost Instrument: In case customer lose the card, pin, password, passbook etc., it will be charged for a replacement (Mamtani, 2016).

iii) Investment earnings. Banks make significant investments in government bonds and securities, as well as stock markets. These instruments now routinely generate good returns. This includes earnings from trading in securities.

iv) Income from additional enterprises or subsidiaries. Many banks serve as lead managers in IPOs and FPOs. These services also produce revenues for these institutions.

2.1.6 Provision of NRB Directives

Nepal Rastra Bank issues Directives and Circulars for regulations and monitoring of Banking and Financial institutions (Nepal Rastra Bank, 2023).

Directive No. 2 Classification of Loan and Advance and Loan Loss Provision

Pass Loan:

Those loans and advances whose installment are not due or due up to three months are classified as pass loan. These loans are defined as performing loans.

Watch List:

Those loan and Advances lies under pass loan and having following features must be classified as watch list.

- Principal and interest payments are due for more than one month.
- Not renewed on time but temporarily maturity period extended short term & working capital loan.
- Loan supplied to a borrower has been classified as non-performing loan other Bank and Financial Institutions. (To the same Borrower)
- Those regular loans (i.e. Short term loan or Working Capital Loans), supplied to firm, company & corporate body having net worth negative continuously for last two year. However, it exclude under construction projects.
- Those projects where multi banking financing are enjoyed but not transferred to Consortium Financing as per Section 33 of Directive No.-2.
- Those Loan & Advances having poor cash flow during inspection by Bank and order to classify as Watch List.

Sub-Standard Loan:

Those loans and Advances whose installment (repayment) are due for more than three months but less than six months are classified as sub-standard loan.

Doubtful Loan:

Those loans and Advances whose installments (repayment) are due for more than six months but less than one year are classified as doubtful loan.

Bad Loan (Loss):

Those loans and Advances whose installment (repayment) are due for more than one year must be classified as bad loan (loss).

Table 1

Loan Loss Provision

S.N.	Classification of loan	Loan loss provision
1.	Pass	1%
2.	Watch List	5%
3.	Sub-standard	25%
4.	Doubtful	50%
5.	Loss	100%

Source: NRB Directives, 2023

Loan Loss Provision for Non-Performing Loan is defined as "Specific Loan Loss Provision," while Loan Loss Provision for Performing Loan is defined as "General Loan Loss Provision."

The entire amount of such additional provisioning may be included in General Loan Provision under Supplementary Capital where banks provide for loan loss provisioning above the proportionate level mandated by NRB directives.

2.2 Theoretical Review

Even while different banks may use different specific approaches, reviewing the general concepts of credit risk management in this section helps provide a greater understanding of how banks manage credit risk. The theories of credit risk management include the following:

2.2.1 Commercial Loan Theory

The first banking theory is the commercial loan idea, also referred to as the real bills concept. Banks should only make loans on short-term, self-liquidating commercial

paper, claims the commercial loan hypothesis. According to Hosna and Manzura (2009) the commercial loan theory is designed to have a strong effect on both bank lending and general economic activity. Adherence to this notion is supposed to function as a monetary supply to changes in overall economic activity. This theory is evidently prevalent among Nigerian Deposit-Money Banks (DMBs). Nigerian bankers feel that because their resources can be repaid quickly, depositors' funds should be used to make short-term loans.

According to Kargi (2011) the strong ties to this notion are quite conventional when considering that during the time of the theory's dominance, there were little or no secondary reserve assets that may have functioned as a liquidity buffer for the bank. This idea ignores Nigeria's developing economy's credit requirements. It has not pushed banks to lend money to buy plants, equipment, land, or homes. To assert that all loans should be liquidated in the regular course of business demonstrates that the theory fails to appreciate the greater stability of bank deposits. Demand deposits, on the other hand, are on demand, although not all depositors are likely to demand payment at the same time. Thus, deposit stability allows a bank to extend money for a fair length of time without risk of illiquidity. Despite its shortcomings, the commercial loan idea, or real bills doctrine, has been an enduring banking theory. Its traces may still be found in the organization of bank regulatory institutions, bank inspection methods, and many bankers' minds. One cannot comprehend modern banking without first comprehending our banking history, and one cannot comprehend banking history without first comprehending commercial loan theory.

2.2.2 The Shiftability Theory

According to Moti et al. (2012) assets do not have to be connected to solely self-liquidating bills, but can also be kept in other shiftable open-market assets such as government securities. It is important to remember that the shiftability thesis did not displace or invalidate the commercial loan idea. Conversely, the shiftability hypothesis expands the scope of assets considered suitable for bank ownership, hence offering a more comprehensive view of the banking industry. While the shiftability argument acknowledges that commercial loans are not the only permitted asset type, it does not say that they are unsuitable bank assets. According to the shiftability theory, a bank's capacity to move assets to another party at a predictable price determines how liquid it

is. Thus, it would be perfectly permissible for a bank to maintain short-term open market investments in its asset portfolio.

Hosna and Manzura (2009) asserted that the shiftability hypothesis has a major influence on banking practices. In essence, it moved bankers' and regulators' attention from loans to investments as a source of bank liquidity. In fact, the thesis's proponents argued that short-term commercial loans' liquidity was essentially imaginary nevertheless. The shiftability hypothesis, like the commercial loan theory, has a severe weakness (Kargi, 2011). As many authors on the subject have pointed out, the real issue was not so much with the theory per se—rather, it was with the bank management practices that the theory encouraged. The theory's fault was straightforward: whereas a single bank may shift assets to create the necessary liquidity, this could not be stated of all banks put together.

2.2.3 The Anticipated Income Theory

Prochnow developed a new lending theory dubbed "the Anticipated Income Theory" as a result of a detailed investigation in 1949. In their research, Afriyie and Akotey (2011) found that the bank always intended to liquidate term loans based on the borrower's anticipated earnings, regardless of the structure and nature of the borrower's business. The borrower's projected income serves as the means of liquidity rather than the sale of the borrower's assets, as would happen under the commercial or conventional theory of liquidity, or the transfer of the term loan to another lender, as would happen under the shiftability theory of liquidity. This idea essentially holds that banks should lend money based on the borrower's expected income rather than his present worth. This theory's "future-oriented approach" to bank loans and advances is one of its most notable aspects (Kolapo et al., 2012). It is also known as the "cash flow approach" to financing. This hypothesis, when properly understood, was merely a challenger to the commercial loan theory, not the shift ability theory. It does not call into doubt the shiftability assumption that a bank's primary source of liquidity is its secondary reserves. Rather, it refocused attention on the sorts of loans suitable for a bank to provide, but came to a quite different result than supporters of the commercial lending theory (Moti et al., 2012).

2.2.4 The Credit Risk Theory

Salas and Saurina (2002) defined credit risk as the possibility that a borrower won't fulfill their end of the bargain when it comes to any kind of loan. The bulk of the risk, including lost principal and interest, is borne by the lender. Complete or partial disruption loss can happen under a number of circumstances, such as when an insolvent bank is unable to reimburse a depositor for money. In order to reduce the lender's risk, the lender may do a credit check on the prospective borrower, demand that the borrower get the necessary insurance, such mortgage insurance, or look for guarantees or security from other parties. Generally speaking, the interest rate that debtors will be required to pay on their loan will increase with the level of risk (Owojori et al., 2011).

2.2.5 The Liability Management Theory

According to this reasoning, if a bank experiences a reserve shortfall, reserve money can always be obtained or bought in the money market using short-term loan instruments, negating the necessity for traditional standards. Shafiq and Nasr (2010) argue that this does not mean the bank is only in charge of its responsibilities and does nothing with its assets. Instead, the theory keeps stating that the asset structure of the bank is crucial to providing liquidity to the bank. But the theory takes a one-dimensional approach to liquidity, contending that the bank may also create liquidity by using its liabilities. A bank needs liquidity in order to process legitimate loan requests from its customers and to allow deposit withdrawals. Not only are bank loans profitable, but a bank that declines to provide loans to its depositors when they need money is not likely to keep those depositors around for very long.

2.3 Empirical Review

Temba et al. (2024) examined the impact of the quality of credit risk management practices on financial performance of commercial banks in Tanzania. This study's primary objective was to find out how Tanzanian commercial banks' financial performance was impacted by the caliber of their credit risk management procedures. In this study, 255 observations from 2003 to 2019 were analyzed using balanced panel data from fifteen commercial banks. Tools for descriptive analysis were employed in this investigation. It was discovered that banks' performance is positively impacted by risk assessment and approval, the effectiveness of credit processes and controls, the sufficiency of the recovery process, and risk supervision and monitoring, in that order,

through their respective asset quality, efficient use of equity, and capital adequacy. Furthermore, risk assessment, approval, supervision, and monitoring have a detrimental impact on banks' earning capacity and liquidity.

Naji and Shabib-Ul-Hassan (2023) investigated credit risk management and its impact on the performance of commercial banks in pakistan. The objectuve of the study was to investigate the effect of default or credit risk management on the financial performance of banks and how factors of CRM affect each other. In this study sixteen private commercial banks have been taken into the consideration and the data from the year 2012 to 2021 were analyzed. In this study return on equity, loan to deposit ratio, loan loss provision ratio, non-performing loan ratio and capital adequacy ratio were analyzed. In this study granger causality and impulse response were been identified and analyzed including regressiomn model. It was found that loan to deposit ratio showed the significant negative effect on ROE of the banks. Similarly, non-performing loan ratio has significant negative effect on ROE of the banks. On the other hand, coefficients of loan loss provision ratio and capital adequacy ratio showed positive effect on ROE of the banks the coefficients were not significant.

Qazi et al. (2022) analyzed on credit risk management practices and banks' performance in Pakistan. To investigate whether the credit risk management of Pakistan's commercial banks listed on the Pakistan Stock Exchange is linked to financial performance. In this study data of five major banks of Pakistan were analyzed. In this study non-performing loan ratio, capital adequacy ratio and profitability (ROA and ROE) of the banks were analyzed. For the data analysis linear regression model was applied. It was revealed that capital adequacy ratio has significant positive effect on profitability of the banks. Similarly, non-performing loan ratio has significant positive effect on profitability of the banks.

Yeasin (2022) examined the impact of credit risk management on financial performance: A study of commercial banks in Bangladesh. To analyze the impact of credit risk management on financial performance of commercial banks. In this study data of 6 commercial banks in Bangladesh were analyzed. ROA, non-performing loan ratio, capital adequacy ratio and loan to deposit ratio of the banks were analyzed. For the data analysis descriptive statistics and multiple regression model was used. It was

found that non-performing loan ratio, capital adequacy ratio and loan to deposit ratio have significant effect on ROA of the banks. Non-performing loan ratio has significant negative effect on ROA of the banks and capital adequacy ratio has significant negative effect on ROA of the banks whereas loan to deposit ratio has no significant positive effect on ROA of the banks.

Kawor and Atinyo (2021) explored the link between credit risk and profitability of universal banks in Ghana. The study tried to analyze the effect of bank credit risk on profitability of universal banks in Ghana. This study used data of 22 universal banks of Ghana. In this study non-performing loan ratio, loan to deposit ratio, provision to loan loss ratio and ROA of the banks were analyzed. Ordinary Least Squares (OLS) was used for estimation of the relationship between credit risk and profitability. The regression analysis revealed that non-performing loan ratio, loan to deposit ratio and provision to loan loss ratio have significant effect on ROA of the banks. The results revealed non-performing loan ratio and loan to deposit ratio to have significantly positive effects on ROA, while provision to loan loss ratio has negative effect on ROA. Overall, the findings pointed out that credit risk influences firm profitability, and thus, management of universal banks in Ghana are required to take pragmatic steps towards minimizing the threats posed by credit risk.

Rahmanullah (2021) studied the effects of credit risk on the profitability of commercial banks in Afghanistan. This study tried to examine the effects of credit risk on commercial banks' profitability in Afghanistan. In this study data of six domestic private commercial banks in Afghanistan are analyzed. This study analyzed loan loss reserve to total loan ratio, total loan to total assets ratio, total loan to total deposit ratio, logarithm of total assets, ROA and ROE of the banks. This study applied the fixed effects estimator on balance panel data. The regression analysis found that credit risk indicators have significant effect on ROA. The study found significant negative effect of loan loss reserve to total loan ratio on ROA, total loan to total assets ratio has no significant negative effect on ROA, total loan to total deposit ratio has no significant negative effect on ROA and logarithm of total assets also has significant negative effect on ROA. Similarly, credit risk indicators have significant effect on ROE. There was significant negative effect of loan loss reserve to total loan ratio on ROE, total loan to total assets ratio has no significant negative effect on ROE, total loan to total deposit

ratio has no significant negative effect on ROE and logarithm of total assets also has significant negative effect on ROE.

Sharma and Kaur (2021) examined the relationship between credit risk management and profitability performance of Indian public sector banks. The study explored the relationship between credit risk management and banks' profitability of Indian public sector banks. This study analyzed the data of Indian public sector banks. In this study ROA, ROE, capital adequacy ratio, non-performing loan ratio and leverage ratio of the banks were analyzed. Data analysis in the study was done with the help of descriptive statistics, correlation analysis and multiple regression analysis model. It was revealed that capital adequacy, non-performing assets ratio and leverage ratio have significant effect on ROA. There is significant positive effect of capital adequacy ratio on ROA of the banks, non-performing loan ratio has significant negative effect on ROA and leverage has no significant negative effect on ROA. Similarly, capital adequacy, non-performing assets ratio and leverage ratio have significant effect on ROE. There is significant positive effect of capital adequacy ratio on ROE of the banks, non-performng loan ratio has significant negative effect on ROE and leverage has no significant positive effect on ROE.

Kosumi and Kosumi (2021) studied on banks specific factor that determinate the profitability of commercial banks in republic of North Macedonia. This study was conducted to identify the key determinants of commercial banks' profitability by case study, Republic of North Macedonia. This study analyzed the data of 13 commercial banks of republic of North Macedonia. In this study ROA, capital adequacy, credit risk, bank size, revenue diversification, liquidity and leverage of the banks are analyzed. This study used heteroskedasticity test, serial correlation test on multiple regression analysis model to analyze the data. The study found that capital adequacy, bank size, revenue diversification, liquidity and leverage have significant effect on ROA. The effect of capital adequacy on ROA is negative, credit risk has negative effect, revenue diversification has no significant positive effect on ROA, leverage has no significant negative effect on ROA, liquidly has significant positive effect on ROA and bank size has significant positive effect on ROA.

Nugraha et al. (2021) examined the impact of non-performing loans, loan to deposit ratio and education diversity on firm performance of Indonesia banking sectors. The objective of the study was to determine the effect of non-performing loans, education diversity and loan to deposit ratio on return on assets in Indonesian banks. This study used the data of 33 companies from a population of 41 companies in Indonesia stock exchange. In this study ROA, non-performing loan, ratio loan to deposit ratio and education diversity of the companies are analyzed. For the data analysis quantitative panel data regression model was used and t-test and f-test were performed. The results showed that the non-performing loan ratio, loan to deposit ratio and education diversity simultaneously had a significant effect on return on assets. Partially, on-performing loan ratio has significant negative effect on return on assets, and the loan to deposit ratio and educational diversity have significant positive effect on return on assets.

Al-Amin et al. (2021) researched on effects of non-performing loan on financial performance: A hypothetical evaluation on all scheduled banks in Bangladesh. The objective of the study was to determine the impact of non-performing loans on the financial performance of all Bangladeshi listed banks. This study used the data of all Bangladeshi listed banks for the analysis. In this study ROA, non-performing lona ratio, capital adequacy ratio, inflation rate and provision maintenance ratio of the banks are analyzed. In this study descriptive statistics, correlation analysis and multiple regression model were used for the data analysis. The study revealed that non-performing loans ratio capital adequacy ratio, provision margin ratio and inflation rate have significant effect on return on assets of the banks. It was found that non-performing loan ratio has significant negative effect on ROA of the banks, capital adequacy ratio has significant negative effect on ROA, inflation rate has significant positive effect on ROA and provision maintenance ratio has significant positive effect on ROA of the banks.

Ravikumar et al. (2020) analyzed credit risk and financial performance-evidence from the commercial banks of Oman listed in Muscat securities market. To investigate the quantifiable effect of credit risk on the performance of listed banks in the sultanate of Oman. This study was based on secondary data extracted from the Muscat Securities Market (MSM). In this study ROA, ROE, bank size, assets quality, credit risk, oil prices and capitalization of the bank are analyzed. Panel data has been employed in this study

and random effect model was used to analyze the time series data. It was found that ROA of the banks are significantly affected by bank size, assets quality, credit risk, oil prices and capitalization of the banks. The effect of bank size on ROA was positive, assets quality (NPL/TA) has significant negative effect on ROA, credit risk (NPL/TL) has significant negative, oil price has no significant positive effect on ROA and capitalization has significant positive effect on ROA of the banks. Similarly, ROE of the banks are significantly affected by bank size, assets quality, credit risk, oil prices and capitalization of the banks. The effect of bank size on ROE was positive, assets quality (NPL/TA) has significant negative effect on ROE, credit risk (NPL/TL) has significant negative, oil price has significant positive effect on ROE and capitalization has significant positive effect on ROE of the banks.

Rane and Sukthankar (2020) examined the impact of non-performing assets on financial performance of scheduled commercial banks operating in India. The study's primary objective was to examine the trend in non-performing assets (NPAs) and how it affects the financial performance of India's scheduled commercial banks, since these banks' asset quality is declining. The current study analyzes data for a few chosen factors to analyze the trajectory and effect of non-performing assets (NPA) from the consolidated financial statements of all public sector banks, private sector banks, and foreign banks operating in India. The Reserve Bank of India provided the necessary secondary data for the investigation. The gathered data for the stduy were examined using the regression model and temporal trend analysis. The study's conclusions demonstrated a notable upward trend in the net non-performing assets (NPAs) of every bank examined, with a negative correlation between gross NPA and the banks' profitability and a positive correlation with their operational expenses.

Ali and Dhiman (2019) examined the impact of credit risk management on profitability of public sector commercial banks in India. This study tried to explore an empirical association between the credit risk management and banks’ financial performance. In this study data of public sector commercial banks of India are analyzed. In panel model equation, non-performing loan ratio, loan loss provision ratio, capital adequacy ratio, assets quality, management, earnings, liquidity and ROA of the banks were analyzed in this study. The panel data regression was applied for the purpose of analysis of data. The results of the research revealed that credit risk management indicators have a

significant influence on the financial performance of selected public sector banks in India. The empirical findings indicate that ROA (profitability) is positively affected by capital adequacy ratio, management quality and earnings ability have significant positive effect in ROA of the banks, whereas liquidity has no significant positive influence on ROA.

Gabriel et al. (2019) analyzed the effect of non-performing loans on the financial performance of commercial banks in Nigeria. This study looked at how non-performing loans affected Nigerian commercial banks' ability to make money from 1985 to 2016. Multiple regression analysis was used in the study to examine data gathered from publications published by the Nigeria Deposit Insurance Corporation (NDIC) and the Central Bank of Nigeria (CBN) for a range of years. The study's findings demonstrated a statistically significant negative impact on return on asset (ROA) for both the cash reserve ratio (CRR) and the non-performing loans to total loans ratio (NPL/TLR). The findings also indicated that Nigerian commercial banks' financial performance will be negatively impacted by a large percentage of non-performing loans. As a result, the research concluded that Nigeria's regulatory bodies ought to foster an atmosphere in which commercial banks have robust risk management procedures.

Ndoka and Islami (2016) evaluated the impact of credit risk management in the profitability of Albanian commercial banks during the period 2005-2015. The main objective of the study was to study if it exist a relationship between credit risk management and profitability of commercial banks in Albania. In this study data of 16 banks operating in the Albanian banking system are analyzed. ROA, ROE, NPL ratio and CAR are analyzed in this study. Descriptive statistics and OLS model were tested in this study. The study found that capital adequacy ratio and non-performing loan ratio have significant effect on ROE. Non-performing loan ratio has significant negative effect on ROE while capital adequacy ratio has on significant negative effect on ROE. Similarly, capital adequacy ratio and non-performing loan ratio have significant effect on ROA. Non-performing loan ratio has significant negative effect on ROA while capital adequacy ratio has on significant negative effect on ROA.

Kahuthu (2016) analyzed the impact of credit management and liquidity on financial performance of deposit taking SACCOS. This study tried to ascertain if liquidity and

credit management played important roles in determination of revenues of deposit taking Saccos in Kenya and to ascertain factually if the two variables had any role, the study chose to examine the coefficients of beta before statutory management which was implemented in 2015 and the coefficients of betas after 2015. In this study descriptive statistics and OLS model were tested. This study found that granted loans over the years without concentrating on the quality of loans in their portfolios and hence maintained key assets in their books that would not be accounted for. Similarly, they have provided cash to clients without any purposive determination of cash levels. The study findings were that liquidity and credit management had great impact on Sacco's financial performance especially if managed prudently and strengthened by the legal framework as a moderating variable.

Table 2

Summary of Empirical Review

SN	Author	Title	Objectives	Methodology	Findings
1	Temba et al. (2024)	Impact of the quality of credit risk management practices on financial performance of commercial banks in Tanzania.	This study's primary objective was to find out how Tanzanian commercial banks' financial performance was impacted by the caliber of their credit risk management procedures.	Tools for descriptive analysis were employed in this investigation.	It was discovered that banks' performance is positively impacted by risk assessment and approval, the effectiveness of credit processes and controls, the sufficiency of the recovery process, and risk supervision and monitoring, in that order, through their respective asset quality, efficient use of equity, and capital adequacy.
2	Naji & Shabib-Ul-Hassan (2023)	Credit risk management and its impact on the performance of commercial banks in Pakistan: an application of penal var approach.	The objective of the study was to investigate the effect of default or credit risk management on the financial performance of banks and how factors of CRM affect each other.	In this study granger causality and impulse response were been identified and analyzed including regression model.	It was found that loan to deposit ratio showed the significant negative effect on ROE of the banks. Similarly, non-performing loan ratio has significant negative effect on ROE of the banks. On the other hand, coefficients of loan loss provision ratio and capital adequacy ratio showed positive effect on

					ROE of the banks the coefficients were not significant.
3	Qazi et al. (2022)	Credit risk management practices and banks' performance in Pakistan	To investigate whether the credit risk management of Pakistan's commercial banks listed on the Pakistan Stock Exchange is linked to financial performance.	For the data analysis linear regression model was applied.	It was revealed that capital adequacy ratio has significant positive effect on profitability of the banks. Similarly, non-performing loan ratio has significant positive effect on profitability of the banks.
4	Yeasin (2022)	Impact of credit risk management on financial performance: A study of commercial banks in Bangladesh	To analyze the impact of credit risk management on financial performance of commercial banks.	For the data analysis descriptive statistics and multiple regression model was used.	It was found that non-performing loan ratio, capital adequacy ratio and loan to deposit ratio have significant effect on ROA of the banks. Non-performing loan ratio has significant negative effect on ROA of the banks and capital adequacy ratio has significant negative effect on ROA of the banks whereas loan to deposit ratio has no significant positive effect on ROA of the banks.
5	Kawor (2021)	The link between credit risk and profitability of universal banks in Ghana.	The study tried to analyze the effect of bank credit risk on profitability of universal banks in Ghana.	Ordinary Least Squares (OLS) was used for estimation of the relationship between credit risk and profitability.	It was found that non-performing loan ratio and loan to deposit ratio to have significantly positive effects on ROA, while provision to loan loss ratio has negative effect on ROA. Overall, the findings pointed out that credit risk influences firm profitability, and thus, management of universal banks in Ghana are required to take pragmatic steps towards minimizing the threats posed by credit risk.

6	Rahmanullah (2021)	The effects of credit risk on the profitability of commercial banks in Afghanistan.	This study tried to examine the effects of credit risk on commercial banks' profitability in Afghanistan.	This study applied the fixed effects estimator on balance panel data.	It was found that credit risk indicators have significant effect on ROA. The study found significant negative effect of loan loss reserve to total loan ratio on ROA, total loan to total assets ratio has no significant negative effect on ROA, total loan to total deposit ratio has no significant negative effect on ROA and logarithm of total assets also has significant negative effect on ROA.
7	Sharma (2021)	The relationship between credit risk management and profitability performance of Indian public sector banks.	The study explored the relationship between credit risk management and banks' profitability of Indian public sector banks.	Data analysis in the study was done with the help of descriptive statistics, correlation analysis and multiple regression analysis model.	It was revealed that capital adequacy, non-performing assets ratio and leverage ratio have significant effect on ROA. There is significant positive effect of capital adequacy ratio on ROA of the banks, non-performing loan ratio has significant negative effect on ROA and leverage has no significant negative effect on ROA. Similarly, capital adequacy, non-performing assets ratio and leverage ratio have significant effect on ROE.
8	Kosumi & Kosumi (2021)	A study on banks specific factor that determinate the profitability of commercial banks in republic of	This study was conducted to identify the key determinants of commercial banks' profitability by case study, Republic of North Macedonia.	This study used heteroskedasticity test, serial correlation test on multiple regression analysis model to analyze the data.	It was found that capital adequacy, bank size, revenue diversification, liquidity and leverage have significant effect on ROA. The effect of capital adequacy on ROA is negative, credit risk has negative effect, revenue diversification has no significant positive effect on ROA,

		North Macedonia.			leverage has no significant negative effect on ROA, liquidly has significant positive effect on ROA and bank size has significant positive effect on ROA.
9	Nugraha et al. (2021)	Impact of non-performing loans, loan to deposit ratio and education diversity on firm performance of Indonesia banking sectors	The objective of the study was to determine the effect of non-performing loans, education diversity and loan to deposit ratio on return on assets in Indonesian banks.	For the data analysis quantitative panel data regression model was used and t-test and f-test were performed.	It was found that the non-performing loan ratio, loan to deposit ratio and education diversity simultaneously had a significant effect on return on assets. Partially, on-performing loan ratio has significant negative effect on return on assets, and the loan to deposit ratio and educational diversity have significant positive effect on return on assets.
10	Al-Amin et al. (2021)	Effects of non-performing loan on financial performance: A hypothetical evaluation on all scheduled banks in Bangladesh	The objective of the study was to determine the impact of non-performing loans on the financial performance of all Bangladeshi listed banks.	In this study descriptive statistics, correlation analysis and multiple regression model were used for the data analysis.	It was found that non-performing loan ratio has significant negative effect on ROA of the banks, capital adequacy ratio has significant negative effect on ROA, inflation rate has significant positive effect on ROA and provision maintenance ratio has significant positive effect on ROA of the banks.
11	Ravikumar et al. (2020)	Credit risk and financial performance-evidence from the commercial banks of Oman listed in Muscat securities market	To investigate the quantifiable effect of credit risk on the performance of listed banks in the sultanate of Oman.	Panel data has been employed in this study and random effect model was used to analyze the time series data.	It was found that the effect of bank size on ROA was positive, assets quality (NPL/TA) has significant negative effect on ROA, credit risk (NPL/TL) has significant negative, oil price has no significant positive effect on ROA and capitalization has significant positive effect on ROA of the banks. Similarly, ROE of the banks are significantly

					affected by bank size, assets quality, credit risk, oil prices and capitalization of the banks.
12	Rane & Sukthankar (2020)	Impact of non-performing assets on financial performance of scheduled commercial banks operating in India	Analyzing the trend in non-performing assets (NPA) and how it affects the financial performance of India's scheduled commercial banks was the study's main goal.	The time trend analysis and regression model were used to investigate the collected data for the study.	The analysis revealed a noteworthy upward trend in the non-performing assets (NPAs) of all the banks examined. The gross NPA had an adverse effect on the banks' profitability, while positively affecting their operational costs.
13	Ali & Dhiman (2019)	The impact of credit risk management on profitability of public sector commercial banks in India.	This study tried to explore an empirical association between the credit risk management and banks' financial performance.	The panel regression was applied for the purpose of analysis of data.	It was found that that credit risk management indicators have a significant influence on the financial performance of selected public sector banks in India. The empirical findings indicate that ROA (profitability) is positively affected by capital adequacy ratio, management quality and earnings ability have significant positive effect in ROA of the banks, whereas liquidity has no significant positive influence on ROA.
14	Gabriel et al. (2019)	Effect of non-performing loans on the financial performance of commercial banks in Nigeria	The impact of non-performing loans on the financial health of Nigerian commercial banks was investigated in this study.	The study employed the multiple regression techniques to analyze data.	The cash reserve ratio (CRR) and the ratio of non-performing loans to total loans (NPL/TLR) were shown to have a statistically significant negative impact on return on asset (ROA). The findings also indicated that Nigerian commercial banks' financial performance will be

					negatively impacted by a large percentage of non-performing loans.
15	Ndoka & Islami (2016)	The impact of credit risk management in the profitability of Albanian commercial banks during the period 2005-2015	To study if it exist a relationship between credit risk management and profitability of commercial banks in Albania	Descriptive statistics and OLS model were tested in this study.	It was found that capital adequacy ratio and non-performing loan ratio have significant effect on ROE. Non-performing loan ratio has significant negative effect on ROE while capital adequacy ratio has on significant negative effect on ROE. Similarly, capital adequacy ratio and non-performing loan ratio have significant effect on ROA. Non-performing loan ratio has significant negative effect on ROA while capital adequacy ratio has on significant negative effect on ROA.
16	Kahuthu (2016)	Impact of credit management and liquidity on financial performance of deposit taking SACCOS.	This study tried to ascertain if liquidity and credit management played important roles in determination of revenues of deposit taking Saccos in Kenya.	Descriptive statistics and OLS model were tested in this study.	It was found that granted loans over the years without concentrating on the quality of loans in their portfolios and hence maintained key assets in their books that would not be accounted for. Similarly, they have provided cash to clients without any purposive determination of cash levels.

2.3.1 Review of Literature in Nepalese Context

Malla (2024) analyzed the credit risk and profitability: a case of Nepalese commercial banks. The primary objective of the study was to determine whether or not credit risk was a factor influencing profitability. This study used bank size and net interest margin as control variables to evaluate credit risk, while return on equity and return on assets of the banks were used to measure profitability. Non-performing loans, capital adequacy ratio, and credit to deposit rate were used to quantify credit risk. In this study, the random effect regression model was used to evaluate the data. It was discovered

that NPL had a positive, significant, but insignificant influence, which is in contrast to other studies. Although CAR has little effect on ROA, CDR and CAR have a negative impact on ROE and ROA. Furthermore, bank profitability is positively impacted by bank size.

Bhatt et al. (2023) examined the determinants of credit risk management and their relationship with the performance of commercial banks in Nepal. This study examine the mediating role of credit risk management on the performance of commercial banks in Nepal. In this study correlation and regression model are applied for the study. It was found that there was a positive relationship between environmental risk and credit risk management. It was also found that credit appraisal measurements had a significant effect on credit risk management. The market risk analysis had a significant effect on credit risk management. Credit risk management mediates the relationship between environmental risk, credit appraisal measurements, market risk analysis, and the performance of commercial banks.

Giri (2021) analyzed the on credit policy of commercial banks in Nepal. The primary objectives of the research were to assess NIBL and SBI's investment policies, look at how they manage their assets and liquidity, and calculate their loan-to-advance growth ratio. The study's statistical and financial analysis revealed that both banks' current assets outpaced their current liabilities, therefore the ratio was deemed adequate. Yet there have been significant swings in the cash reserve ratios. Compared to SBI, NIBL has maintained both the current ratio and the cash reserve ratio better. The assets management ratio demonstrates that SBI's deposit usage outperforms NIBL's.

Gautam (2021) examined the non-performing loan management and liquidity analysis of commercial banks in Nepal (with reference to NIBL and SCBNL.) to assess the commercial banks' retained liquidity ratio, examine the pattern of non-performing loans kept by the chosen banks, and examine the commercial banks' loan and advance flow. In order to compare the amount of liquidity in the sample banks, the research employed statistical, financial, and descriptive analysis techniques in the report. According to this analysis, NIBL has a smaller loan loss provision to total loans and advances than SCBNL. This suggests that NIBL had a lower percentage of nonperforming loans and hazardous assets overall. Compared to NIBL, SCBNL has a larger current ratio and a

lower liquidity risk. More importantly, NIBL is better able to fulfill its obligations and meet its need for cash as needed. According to this analysis, SCBNL is better equipped to use its long-term, highly interest-bearing deposits to provide advances and loans for financial gain.

Sharma (2020) investigated the credit management of commercial banks: with reference to NIBL and NICA. Analyzing commercial banks' credit policies, practices, and activities; examining the credit and advances they offer; assessing the credit disbursed and its recovery status; and identifying the bank's strengths and weaknesses in credit administration were the main goals of the study. It was discovered that non-performing loans have a significant impact on the banking industry. A rise in non-performing loans will have an impact on the banking industry as a whole. Profit will thus decline and the provision amount would rise. Therefore, it is advised that both NICA and NEB be truthful in their loan approval processes and follow up with efficiency to collect non-performing loans. The correlation coefficient shows a somewhat unfavorable relationship between loans and non-performing loans. In other words, lowering loan management performance contributes to a reduction in non-performing loans.

Bhattarai (2020) assessed the banks internal and macroeconomic factors as determinants of non-performing loans: evidence from Nepalese commercial banks. The aim of this study was to identify the variables influencing non-performing loans in Nepalese commercial banks. For this study, the descriptive and causal comparative research designs have been used. Non-performing loans were the dependent variable, while the independent variables were inflation and the real gross domestic product growth rate, as well as bank-specific characteristics such bank size, return on assets, total loan and advance to total deposit ratio, and capital adequacy ratio. High NPL levels would prevent the county from benefiting from ineffective financial intermediation. As a result, banks have a national obligation to control the NPL ratio at a reasonable level. Finding "what causes NPLs and significance of these factors on NPLs" is crucial as a result. According to the estimated ordinary least square (OLS) regression model, the macroeconomic variables GDP and the bank-specific variables ROA, LTD, and CAR have a major influence on nonperforming loans in Nepalese commercial banks.

Risal and Poudel (2020) explored the role of credit risk in performance difference between A and B class banks in Nepal. This study explained the performance differences between A and B class financial institutions arising from credit risk. In this study data of 28 commercial banks and 11 national level development banks are considered for analysis. ROA, ROE, loan loss provision to total loan ratio, non-performing loan ratio, credit deposit ratio and capital adequacy ratio, GDP and inflation rate are analyzed in this study. Descriptive statistics, stationartity test, heterogeneity test and multiple regression model are applied in this study. The regression results showed that capital adequacy ratio has significant positive effect on ROA, non-performing loan ratio has significant negative effect on ROA, loan loss provision to total loan ratio has no significant negative effect on ROA, credit deposit ratio has significant positive effect on ROA and GDP and inflation has significant negative effect on ROA. Similarly, capital adequacy ratio has significant negative effect on ROE, non-performing loan ratio has no significant negative effect on ROA, loan loss provision to total loan ratio has significant negative effect on ROA, credit deposit ratio has no significant positive effect on ROA and GDP and inflation has significant negative effect on ROA.

Pradhan and Shah (2019) investigated the credit risk management of commercial banks in Nepal. The study concentrated on the methods used by commercial banks to evaluate credit risk based on borrower, asset, and internal efficiency assessments. The study's model is mostly based on an investigation of the connections between loan repayment, credit risk reduction strategies, and practices for managing credit risk. The study employed survey-based primary data and conducted a correlation analysis on them using a descriptive research methodology. It found that while borrower hurdles have no discernible association with loan payback, credit risk reduction strategies and credit risk management techniques had a favorable relationship with loan repayment.

Ghimire (2019) examined the credit management of joint venture commercial banks (With Reference to Nepal Investment Bank and Bank of Kathmandu). The study's primary objectives were to assess the credit policies of a sample of banks, evaluate the effectiveness of certain institutions, and identify the advantages and disadvantages of credit administration. Ghimire employed both analytical and descriptive methods in the study, as well as a variety of financial ratios and basic statistical tools for the analysis.

According to this study, BOK has continued to offer greater credit and advances relative to total deposits; for both banks, fixed deposits serve as the primary source of credit. Since credit loss provisioning is trending downward, this suggests that credit policy is effective and that interest rates have an impact on deposit amounts, which in turn have an impact on credit.

Lamichhane (2018) analyzed the non-performing assets management of commercial banks (With Reference to Nepal Investment Bank Ltd. and Bank of Kathmandu Ltd.). The study's primary objectives were to analyze the bank's non-performing loan (NPL) level, determine how non-performing assets affected NIBL and BOK's profits, and evaluate the trends in NPLs, loan loss provisions, advances, and net profit for both NIBL and BOK. In order to meet the study's goals, the researcher employed statistical methods to assess non-performing loans and their relationship to net profit in addition to using financial ratios to determine how well loans were doing. According to this analysis, BOK's average loan and advance to total assets ratio is larger than NIBL's, and it also appears to be quite consistent. NIBL maintains its non-performing loan (NPL) ratio lower than BOK, indicating a lower credit risk. This statistic compares the two companies. From an average point of view, BOK was not able to turn a profit since its average loan loss provision to total loan ratio was larger than NIBL. The correlation coefficient between non-performing loans and loan and advance of NIBL revealed a negative association, highlighting the fact that a rise in loan and advance has led to a fall in non-performing loans.

Rana (2018) explored the credit management of Siddhartha Bank Limited. The principal aims of the study were to scrutinize the patterns of deposit collecting and lending, determine the overall loan amount, and appraise SBL's performance concerning liquidity, profitability, sector-specific loans, and non-performing loans. The study's financial and statistical analysis showed a markedly rising trend in SBL deposit collecting. The percentage increased steadily from 10 to 100 percent. Over the whole year, total fixed deposits have contributed more than total deposits. Savings deposits therefore make up a larger contribution than call and current deposits. Credit risk has the most SBL risk.

Shrestha (2017) analyzed the impact of credit risk management on profitability: Evidence from Nepalese commercial banks. This study was conducted to examine the impact of credit risk management on profitability of Nepalese commercial banks. In this study data of 18 commercial banks in Nepal are analyzed. ROA, ROE, capital adequacy ratio, non-performing loan ratio, cash reserve ratio, assets growth rate and leverage ratio are analyzed in this study. Descriptive statistics, correlation analysis and linear regression model were analyzed in this study. The study found that capital adequacy ratio has significant positive effect on ROA, non-performing loan ratio has significant negative effect on ROA, cash reserve ratio has significant negative effect on ROA, assets growth rate has significant positive effect and leverage ratio has significant negative effect on ROA. Similarly, capital adequacy ratio has significant positive effect on ROE, non-performing loan ratio has significant negative effect on ROE, cash reserve ratio has significant negative effect on ROE, assets growth rate has significant positive effect and leverage ratio has significant negative effect on ROE.

Sharma (2017) examined credit management of commercial banks (With Reference to NIBL and NIC). This study's primary objectives were to examine the roles, practices, and operations of commercial banks; to evaluate the credit and advances they offer; to assess the state of credit disbursement recovery; and to identify the advantages and disadvantages of their credit administration. To accomplish the study's goals, Sharma employed a variety of financial ratios related to debt management as well as a few basic statistical techniques. According to this assessment, NIC appears to have a significant ability to mobilize its whole deposit for loans and advances. More than half of deposits can be used by any bank for loans and advances. If kept up, this contributes to the banks' profits being consistent. With regard to average interest income, the NIBL's average interest income to loan and advances ratio of 0.05 is ambiguous. With a lower non-performing loan percentage compared to total loans and advances, NIBL outperforms NIC in terms of performance.

Manandhar (2016) examined the credit management in commercial banks of Nepal (With Reference to NABIL Bank, Standard Chartered Bank, Everest Bank and Himalayan Bank). The study's primary goals were to examine the volume of credit and advances contributed by the sample banks, examine how deposits were mobilized for credit, investigate the connections between deposits, loans, and advances, as well as the

sample banks' net profits, and offer appropriate recommendations for efficient credit management. In order to accomplish the study's goals, the researcher employed an analytical and descriptive research design in addition to a variety of ratio analysis techniques for statistical analysis. According to this survey, SCBNL has given out more credit and advances than any other bank. Compared to other banks, SCBNL has made the best use of the entire deposit while issuing loans and advances. In order to maximize interest revenue, SCBNL has continued to be increasingly successful at controlling credit. Credit and advances are a significant source of revenue for banks, as seen by the interest income on credit and advances relative to total assets.

Bhattarai (2015) analyzed the determinants of non-performing loan in Nepalese commercial banks. The purpose of this study was to determine how the non-performing loans of Nepal's commercial banks were affected by macroeconomic factors such as GDP, inflation, and real effective exchange rate, as well as bank-specific factors including size, loan modification, real lending rate of interest, and loan to asset ratio. Time series data analysis and secondary sources were the primary methods used in the study. This study finds that the GDP growth rate has little effect. The impact of a year-lagged inflation rate on non-performing loans is notably beneficial. According to the report, macroeconomic factors that have a strong negative influence on non-performing loans include the real effective exchange rate. This study indicated that the GDP growth rate had no effect. Non-performing loans are significantly improved by an inflation rate that is one year behind. According to earlier research, banks that charge comparatively higher real interest rates also have higher non-performing loan rates. The ownership dummy has a positive coefficient and statistical significance at the one percent level, indicating that the non-performing loan ratio of a government-owned bank would be greater than that of a bank with private ownership.

Shakya (2015) analyzed the credit management of Standard Chartered Bank Nepal Ltd. The study's primary objectives were to evaluate the bank's credit practices, analyze its lending system, investigate the impact of deposit growth on liquidity and lending practices, and investigate the link between the bank's net profit and loans and advances. To verify the consistency of the loan portfolio and financial ratios related to credit management, the researcher employed statistical methods and a variety of financial ratios. This study discovered that the new lending policy passes out collateral-based

loans with an emphasis on cash flow lending. Despite financial investments made by SCBNL to expand credit and advances, the bank is nevertheless recovering slowly. Management efficiency is not up to par. Through an analysis of market trends and demand, SCBNL introduced retail banking products such home loans and margin lending, both of which are now performing satisfactorily on the market.

Table 3

Summary of Literature Review in Nepalese Context

SN	Author	Title	Objectives	Methodology	Findings
1	Malla (2024)	Credit risk and profitability: a case of Nepalese commercial banks.	The primary objective of the study was to determine whether or not credit risk was a factor influencing profitability.	In this study, the random effect regression model was used to evaluate the data.	It was discovered that NPL had a positive, significant, but insignificant influence, which is in contrast to other studies. Although CAR has little effect on ROA, CDR and CAR have a negative impact on ROE and ROA. Furthermore, bank profitability is positively impacted by bank size.
2	Bhatt et al. (2023)	Examining the determinants of credit risk management and their relationship with the performance of commercial banks in Nepal.	The objective of the study was to examine the determinants of credit risk management and their relationship with the performance of commercial banks in Nepal.	In this study environmental risk, credit risk measurements, market risk analysis, credit risk management and performance of commercial banks were analyzed. In this study used descriptive statistics, correlation analysis and structural regression equation model were used for the data analysis.	It was also found that credit appraisal measurements had a significant effect on credit risk management. The market risk analysis had a significant effect on credit risk management. Credit risk management mediates the relationship between environmental risk, credit appraisal measurements, market risk analysis, and the performance of commercial banks.

3	Giri (2021)	Credit policy of commercial banks in Nepal.	The main objectives of the study were to examine the liquidity and assets management of NIBL and SBI, to evaluate the investment policy of NIBL and SBI and to study the growth ratio of loan and advances.	Financial and Statistical analysis technique	Since the current assets of both banks were determined to be more than the current liabilities, the ratio was deemed adequate. Yet there have been significant swings in the cash reserve ratios. Compared to SBI, NIBL has maintained both the current ratio and the cash reserve ratio better. The assets management ratio demonstrates that SBI's deposit usage outperforms NIBL's.
4	Gautam (2021)	Non-performing loan management and liquidity analysis of commercial banks in Nepal (with reference to NIBL and SCBNL.)	The objective of the study was to analyze the trend of non-performing loan maintained by the selected banks, evaluate the liquidity ratio maintained by the commercial banks and analyze the flow of loan and advance provided by the commercial banks.	In the report research used descriptive and analytical analysis and financial tools as well as statistical tools to compare the level of liquidity in the sample banks.	It was discovered that NIBL had a smaller loan loss provision to total loans and advances ratio than SCBNL. This suggests that NIBL has a lower percentage of risky assets and nonperforming loans relative to its total volume of loans and advances. Compared to NIBL, SCBNL has a larger current ratio and a lower liquidity risk. More importantly, NIBL is better able to fulfill its obligations and meet its need for cash as needed.
5	Sharma (2020)	Comparative study on credit management of commercial banks: with reference to NIBL and NIC.	The main objectives to conduct the study were to analyze the functions, procedures and	Descriptive and correlation analysis technique	It was discovered that non-performing loans have a significant impact on the banking industry. A rise in non-performing loans

			activities of commercial banks credit policy, to analyze the credit and advances provided by commercial banks, to analyze the recovery status of credit disbursed and to find out the strength and weakness in credit administration of commercial banks.		will have an impact on the banking industry as a whole. Profit will thus decline and the provision amount would rise. Therefore, it is advised that both NICA and NEB be truthful in their loan approval processes and follow up with efficiency to collect non-performing loans. The correlation coefficient shows a somewhat unfavorable relationship between loans and non-performing loans.
6	Bhattarai (2020)	Assessing banks internal and macroeconomic factors as determinants of non-performing loans: evidence from Nepalese commercial banks	This study attempted to ascertain the factors affecting to non-performing loans in Nepalese commercial banks.	The descriptive and causal comparative research designs have been adopted for the study.	It was discovered that the macroeconomic variables GDP and the bank-specific variables ROA, LTD, and CAR had a major influence on nonperforming loans in Nepalese commercial banks.
7	Risal & Poudel (2020)	Role of credit risk in performance difference between A and B class banks in Nepal.	This study explained the performance differences between A and B class financial institutions arising from credit risk.	Descriptive statistics, stationartity test, heterogeneity test and multiple regression model are applied in this study.	The results showed that the capital adequacy ratio significantly increases ROA; the non-performing loan ratio significantly decreases ROA; the loan loss provision to total loan ratio does not significantly decrease ROA; the credit deposit ratio significantly increases GDP and

					ROA; and inflation significantly decreases ROA.
8	Pradhan and Shah (2019)	Credit risk management of commercial banks in Nepal.	The study focused on credit risk assessment practices in commercial banks on the basis of their internal efficiency, assessment of assets and borrower.	The study has used survey-based primary data and performed a correlation analysis on them.	It was discovered that while borrower hurdles have no discernible link with loan payback, credit risk reduction strategies and credit risk management techniques had a favorable relationship with loan repayment.
9	Ghimire (2019)	Credit management of joint venture commercial banks (With Reference to Nepal Investment Bank and Bank of Kathmandu)	The main objective of the study was to see credit practices of sample banks, to examine efficiency of selected banks and to find out strength and weakness in credit administration.	In this study descriptive and analytical tools in the study and used different financial ratios and some of the simple statistical tools for the analysis.	It was discovered that BOK has continued to offer greater credit and advances relative to total deposits; for both banks, fixed deposits serve as the primary source of credit. Since credit loss provisioning is trending downward, this suggests that credit policy is effective and that interest rates have an impact on deposit amounts, which in turn have an impact on credit.
10	Lamichhane (2018)	Non-performing assets management of commercial banks (With Reference to Nepal Investment Bank Ltd. and Bank of Kathmandu Ltd.)	The main objective of the study was to compare the NPL level of the bank, to extract the impact of non-performing assets in the profit of NIBL and BOK and to assess the trend of non-	The researcher used financial ratios to find out the loan performance and also analyzed the non-performing loan and its relation with net profit with the help of statistical tools to achieve the	The correlation coefficient between non-performing loans and loan and advance of NIBL revealed a negative association, indicating that a rise in loan and advance has led to a reduction in non-performing loans.

			performing loans, loan loss provision, loan and advance and net profit of NIBL and BOK.	objectives of the study.	
11	Rana (2018)	A study on credit management of Siddhartha Bank Limited.	The main objectives were to analyze the trends of deposit collection and lending, to assess total amount of loan and to evaluate the performance of SBL in terms of liquidity, profitability, sector wise loan, and non-performing loan.	The financial and statistical analysis tools were used in this study.	It was discovered that there has been a noticeable increase in SBL deposit collecting. The percentage increased steadily from 10 to 100 percent. Over the whole year, total fixed deposits have contributed more than total deposits. Savings deposits therefore make up a larger contribution than call and current deposits. Credit risk has the most SBL risk.
12	Shrestha (2017)	The impact of credit risk management on profitability: evidence from Nepalese commercial banks	To examine the impact of credit risk management on profitability of Nepalese commercial banks	Descriptive statistics, correlation analysis and linear regression model were analyzed in this study.	The results showed that the capital adequacy ratio significantly increases ROA, the non-performing loan ratio significantly decreases ROA, the cash reserve ratio significantly increases ROA negatively, the assets growth rate significantly increases ROA positively, and the leverage ratio significantly decreases ROA negatively.
13	Sharma (2017)	A comparative study on credit management of commercial	The main objectives of this study were to analyze the	In this study various financial ratios relating to loan	It was discovered that NIC appears capable of mobilizing its whole

		banks (with reference to NIB & NICA Bank).	functions, procedures and activities of commercial banks, analyze the credit and advances provided by banks, analyze the recovery status of credit disbursed and find out the strength and weakness in credit administration of commercial banks.	management in the study and had used some simple statistical tools to achieve the following objectives of the study.	deposit for loans and advances. More than half of deposits can be used by any bank for loans and advances. If kept up, this contributes to the banks' profits being consistent. With regard to average interest income, the NIBL's average interest income to loan and advances ratio of 0.05 is ambiguous. With a lower non-performing loan percentage compared to total loans and advances, NIBL outperforms NIC in terms of performance.
14	Manandhar (2016)	Credit management in commercial banks of Nepal (With Reference to NABIL Bank, Standard Chartered Bank, Everest Bank and Himalayan Bank)	The main objectives of the study were to analyze the volume contribution made by sample banks in credit and advances, analyze the mobilization of deposit in credit, study the relationship of deposit, loan and advances and net profit of sample banks and provide suitable suggestions for effective credit management.	This study used analytical and descriptive research design and put on the various ratio analysis tools in statistical analysis and try to achieve the objectives of the study.	The largest credit and advances have been disbursed by SCBNL compared to other banks. Compared to other banks, SCBNL has made the best use of the entire deposit while issuing loans and advances. In order to maximize interest revenue, SCBNL has continued to be increasingly successful at controlling credit. Credit and advances are a significant source of revenue for banks, as seen by the interest income on credit and advances relative to total assets.

15	Bhattarai (2015)	Determinants of non-performing loan in Nepalese commercial banks.	This study aimed to identify the impact of macroeconomic variables (GDP, Inflation, and Real Effective Exchange Rate) and bank specific variables (size, change in loan, real lending rate of interest, and share of loan to total assets) on the non-performing loan of the commercial banks in Nepal.	The study was conducted mainly with secondary sources and using time series data analysis.	The influence of GDP growth rate was determined to be negligible in this investigation. The impact of a year-lagged inflation rate on non-performing loans is notably beneficial. According to the report, macroeconomic factors that have a strong negative influence on non-performing loans include the real effective exchange rate. This study indicated that the GDP growth rate had no effect. Non-performing loans are significantly improved by an inflation rate that is one year behind.
16	Shakya (2015)	Credit management of Standard Chartered Bank Nepal Ltd.	The main objective of the study was to analyze the lending system of the bank, to examine the import of growth in deposit on liquidity and lending practices, to assess Credit practice of the bank and to explore the relationship with loan and advances and net profit of the bank.	In this study various financial ratios relating to credit management and statistical tools were used to check the consistency in the ratios and loan portfolio.	It was discovered that the new lending strategy passes out collateral-based loans with an emphasis on cash flow lending. Despite financial investments made by SCBNL to expand credit and advances, the bank is nevertheless recovering slowly. Management efficiency is not up to par.

2.4 Research Gap

Several research studies on credit risk management and commercial bank profitability have been undertaken by various students, professionals, and researchers. Because prior research yielded limited results, more rigorous testing and modification of key factors are required to be more decisive regarding credit management. Due to Nepal's politically and economically uncertain environment, banks are susceptible to a wide range of risks, including worries about interest rates, foreign currency rates, liquidity, and operational and credit issues.

This study is different from the previous studied in term of sample data and time period considered for the study. This study is concentrated on the data analysis of three sample banks which has not been analyzed by previous researchers i.e. Nepal Investment Mega Bank Limited, Global IME Bank Limited and NIC Asia Limited. This study analyzed the ten-year data from 2013/14 to 2022/23. For the data analysis comparative analysis as well as relationship analysis using the panel data of sample banks has been used in this study. This study covers advanced methods such as ratio analysis, correlation analysis, and co-efficient of variation, t- tests, and multiple regression analysis, which were not employed in earlier research. The use of multiple regression analysis to assess the influence of credit management factors on profitability in this study distinguishes it from earlier studies. In this study the independent variables such as; capital adequacy ratio, loan to deposit ratio, non-performing loan ratio and loan loss provision ratio are used for the effect analysis on return on assets and return on equity which has not been analyzed the previous studies.

CHAPTER - III
RESEARCH METHODOLOGY

The research approach used in this chapter follows a few simple but critical procedures to reach the research's goal. The term research technique refers to the different sequential processes that can be used to evaluate the influence of credit management on the profitability of Nepalese commercial banks.

3.1 Research Design

To achieve the specific objective of the study, descriptive and casual comparative research design have been carried out. Descriptive method is used to compare the credit risk management and profitability position of Nepalese commercial banks while casual comparative research design is used for the relationship and effect analysis of credit management variables i.e. capital adequacy ratio (CAR), loan to deposit ratio (LDR), non-performing loan to total loan ratio (NPLR) and loan loss provision to non-performing loan ratio (LLPR) on profitability. This study used descriptive statistics, correlation analysis and multiple regression analysis model for data analysis.

3.2 Population and Sample of the Study

Recently 20 commercial banks are operating in Nepal till July 2023 which is population of this study and for this study only three banks are taken as sample. The bank in the study consist of three commercial banks which are found to be growing banks in term of assets, equity, deposit and lending throughout the study period i.e. NIMBL, GIBL and NICA. The sample banks are selected using purposive sampling technique since this study tries to analyze the credit risk management of commercial banks in Nepal and the selected sample banks have followed the credit risk guideline as per NRB throughout the period.

3.3 Nature and Sources of Data

Basically this study is concerned with those data and information obtained from the secondary sources. Thus, this study is mainly based on secondary data to fulfill above-mentioned objectives. The secondary data are collected from various reports of selected commercial banks which are either published or kept into their websites. Here, in this

research study the research period is taken from the year of 2013/14 to the year of 2022/23 to give the recent research result.

3.4 Research Framework and Definition of Variables

The influence of credit risk management on commercial bank profitability is examined in this study using correlation analysis and multiple regression analysis. The dependent variables of profitability in this study are ROA and ROE, while the independent factors of credit risk management analysis are capital adequacy ratio (CAR), loan to deposit ratio (LDR), non-performing loan to total loan ratio (NPLR) and loan loss provision to non-performing loan ratio (LLPR). The conceptual framework for this study is;

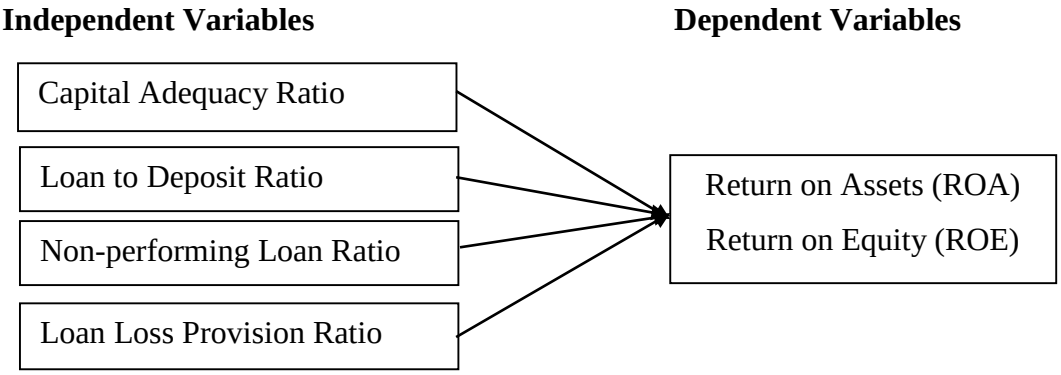

Figure 1: Research Framework

Source: (Kosumi & Kosumi, 2021; Al-Amin et al., 2021 and Yeasin, 2022)

Definition of Variables

Capital Adequacy Ratio

In this research, the capital adequacy ratio refers to the amount of equity and other reserves held by the bank in relation to its total assets. It is believed that there would be a considerable association between total equity ratio or capital adequacy ratio and financial performance (Al-Amin et al., 2021). The ratio is calculated as;

$$\text{Capital Adequacy Ratio} = \frac{\text{Total Equity}}{\text{Total Assets}} \times 100$$

Non-Performing Loans to Loan and Advances Ratio

The NRB has required all commercial banks to set up loan loss reserves for questionable and bad loans. This ratio aids in the reduction of non-performing loans and the control of credit. Non-performing loans demonstrate bank management's capacity to manage

non-performing loans issued by banks. As a result, the larger the ratio, the lower the quality of a bank will be, with the likelihood of a problematic bank increasing (Yeasin, 2022 and Nugraha et al., 2021). This ratio is calculated as;

$$\text{Non-performing Loans to Loan and advance Ratio} = \frac{\text{Non-performing Loans}}{\text{Loan and advances}} \times 100$$

Loan to Total Deposit Ratio

The main sources of bank's lending depend on its deposit. This ratio is calculated to find out how successfully the banks are utilizing their deposits on loans and advances for profit generating activities. The Loan to Deposit Ratio states how far a bank has used depositors' money to provide loans to its customers (Nugraha et al., 2021). Greater ratio indicates the better utilization of total deposits. It is calculated as;

$$\text{Loan and Advances to Total Deposit Ratio} = \frac{\text{Loan and Advance}}{\text{Total Deposits}} \times 100$$

Loan Loss Provision to Non-Performing Loan Ratio

The compulsion element in lending practices is loan loss provision, and the harmful factor in banks is non-performing loans. This ratio calculates the percentage of provided loans that are non-performing loans. It is the compulsion component since all loans must provide provision. Rather, the difference in comparison to non-performing loans is insufficient to provide a decent return. This ratio is used by Al-Amin et al. (2021); Islam et al. (2020) and Zeleke and Sindhu (2021) in their study before and it is calculated as;

$$\text{Loan Loss provision to Non-performing Loan Ratio} = \frac{\text{Loan Loss Provision}}{\text{Non-performing Loan}} \times 100$$

Return on Assets

The ratio is a key metric of management effectiveness. It reflects how well the bank used its assets. The ratio evaluates how far the bank's management has used all of its assets to generate profits. Higher ROA shows more efficiency in the use of total assets, and vice versa.

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

Return on Equity

This ratio measures how responsibly management has used shareholder funds to protect shareholders' interests and enhance their net value. It is a calculation of the rate of return accessible to bank shareholders. The ratio ensures that the firm offers a decent return on equity. Net profit is divided by total equity capital to compute it.

$$\text{Return on Equity (ROE)} = \frac{\text{Net Profit After Tax}}{\text{Shareholders Equity}} \times 100$$

3.5 Methods of Analysis

This study examines the credit position and financial performance of the sample banks using descriptive statistical analysis, and the connection between the variables is evaluated using correlation and regression.

- **Arithmetic Mean**

The arithmetic or basic mean of a group of observations. It is the best number that represents the arithmetic average of a variable to the entire group. It is used to calculate the average of the capital adequacy ratio, loan to deposit ratio, non-performing loan ratio, loan loss provision ratio, return on assets and return on equity. Mean is calculated as:

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

Where,

ΣX = Sum of given Observation

n = No. of Observation

- **Standard Deviation**

The standard deviation is an absolute measure of dispersion that overcomes the disadvantages of other measures of dispersion by meeting the majority of the requirements of a good measure of dispersion. The greater the standard deviation the greater the variability, and vice versa. The fluctuation of the data from the center value is measured by dispersion. In other words, it aids in the analysis of data quality in terms of variability. It is used to compute the standard deviation of all calculated ratios, such as; capital adequacy ratio, loan to deposit ratio, non-performing loan ratio, loan loss provision ratio, return on assets, and return on equity. It is calculated as:

Standard Deviation (SD) = $\sqrt{\frac{\Sigma(X - \bar{X})^2}{n-1}}$

- **Correlation Analysis**

The relationship between the independent variable and the independent variable is defined as the correlation coefficient. It's a strategy for figuring out how these two variables are related. If the two variables are so closely associated that a change in the value of one variable is caused by a change in the value of the other, the variable is said to have a correlation coefficient.

Correlation Coefficient (r) = $\frac{n\Sigma XY - \Sigma X\Sigma Y}{\sqrt{n\Sigma X^2 - (\Sigma X)^2}\sqrt{n\Sigma Y^2 - (\Sigma Y)^2}}$

Where,

X & Y = Variables used for the correlation analysis i.e. capital adequacy ratio, loan to deposit ratio, non-performing loan ratio, loan loss provision ratio, return on assets and return on equity etc.

- **Test of Significance**

For this study, t-test for significance of an observed and sample correlation coefficient between capital adequacy ratio, loan to deposit ratio, non-performing loan ratio, loan loss provision ratio, return on assets and return on equity etc. are calculated and tested using t-distribution analysis. The t-distribution analysis consists of;

Null hypothesis (H_0); $\rho = 0$ i.e. The correlation between the variables are not significant in the population.

Alternative Hypothesis (H_1); $\rho \neq 0$ i.e. The correlation between the variables are significant in the population.

Test statistic under H_0;

$t = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2}$

Where,

r = Sample correlation between two variables

r^2 = Coefficient Determination

n = No. observations

Level of significance: Level of significance $\propto = 5\%$

Decision: If p-value for the calculated correlation coefficient is less than the significance level the null hypothesis is rejected concluding the coefficient is significant in the population and if p-value for the calculated correlation coefficient is greater than the significance level null hypothesis is accepted concluding that the coefficient is not significant in the population.

- **Regression Analysis**

The regression analysis approach was utilized to determine the effects of credit risk management on the financial performance of Nepalese commercial banks. The dependent variables in this study are the banks' ROA and ROE, whereas the independent factors are the institutions' CAR, LDR, NPLR, and LLPR. Regression analysis, in particular, helps one understand how the usual value of the dependent variable (or 'criterion variable') varies when any one of the independent variables is altered while the other independent variables are held constant (Yadav et al., 2010). The regression has been determined based on regression and other tests of these variables that may have a linear relationship with the variables.

Model 1: $ROA = \beta_0 + \beta_1 CAR + \beta_2 LDR + \beta_3 NPLR + \beta_4 LLPR + e$

Model 2: $ROE = \beta_0 + \beta_1 CAR + \beta_2 LDR + \beta_3 NPLR + \beta_4 LLPR + e$

Where,

ROA = Return on Assets

ROE = Return on Equity

b_0 = Beta coefficient of regression equation

β_1 = Beta coefficient for capital adequacy ratio

β_2 = Beta coefficient for loan to deposit ratio

β_3 = Beta coefficient for non-performing loan ratio

β_4 = Beta coefficient for loan loss provision ratio

CAR = Capital adequacy ratio

LDR = Loan to deposit ratio

NPLR = Non-performing ratio

LLPR = Loan loss provision ratio

e = Residual term of the regression equation

CHAPTER - IV
RESULTS AND DISCUSSION

In this chapter, the data have been analyzed and interpreted using financial and statistical tools following the research methodology. The data analysis has been presented in two section presentation of data and analysis of data.

4.1 Results

The study consists of the comparative credit management and profitability ratios analyze of Nepal Investment Mega Bank Limited, Global IME Bank Limited and NIC Asia Limited. In this part of the study collected data are analyzed using descriptive statistics, correlation analysis and regression analysis tools and the results are presented below;

4.1.1 Descriptive Analysis

In this part of the study summary of credit management indicators and profitability of NIMBL, GIBL and NICA in term of CAR, LDR, NPLR and LLPR and profitability in term of ROA and ROE are compared using the summary calculated in the descriptive summary.

Table 4

Descriptive Summary of Variables

Variables	N	Minimum	Maximum	Mean	SD
ROA	30	.79	2.25	1.47	.37
ROE	30	6.69	24.48	14.68	3.63
CAR	30	6.04	14.47	10.29	2.34
LDR	30	70.46	93.82	83.11	5.33
NLPR	30	.07	4.67	1.56	1.04
LLPR	30	108.00	1489.16	237.33	246.68

Source: Appendix-II

Note: ROA is Return on equity, ROE is Return on equity, CAR is Capital adequacy ratio, LDR is Loan to deposit ratio, NLPR is non-performing loan ratio and LLPR is Loan loss provision ratio

Table 4 shows the descriptive summary of the variables over the study period. The profitability of the banks shows that there is on average 1.47 percent ROA during the study period. ROA of the banks reached maximum of 2.25 percent and, minimum ROA of the banks during the study period 0.79 percent. It is clear that there is higher gap in maximum and minimum ROA of the banks which indicates that there is higher variation in ROA during the study period. The profitability of the banks in term on ROE shows that there is on average 14.68 percent ROE during the study period. ROE of the banks reached maximum of 24.48 percent and, minimum ROE of the banks during the study period 6.69 percent. It is clear that there is higher variation in ROE of the banks since there is higher standard deviation in ROE of the banks i.e. 3.63 percent.

Capital adequacy ratio has been maintained at 10.29 percent on average by the banks over the study period, while the requirement of capital adequacy ratio of commercial banks is 11 percent. It is clear that banks have not maintained capital requirement as per NRB guidelines. There is quite consistent capital adequacy ratio in the banks during the study period since the standard deviation in capital adequacy ratio of the banks is only 2.34 percent. The average loan to deposit ratio of the banks is 83.11 percent, while the guideline for CD ratio by NRB guideline is 80 percent, meaning that banks have crossed the average loan to deposit ratio as per the NRB guideline. There is quite consistent loan to deposit ratio in the banks during the study period since the standard deviation in loan to deposit ratio of the banks is only 5.33 percent.

The average non-performing loan ratio of the banks over the study period is 1.56 percent with, maximum of 4.67 percent and minimum 0.07 percent. It is clear that average non-performing loan ratio of the banks is less than 5 percent indicating that banks are quite efficiently managing their loan recovery over the study period. The standard deviation in non-performing loan ratio is 1.04 percent indicating that there is higher variation in non-performing loan ratio of the banks. The average loan loss provision ratio of the banks over the study period is 237.77 percent with, the standard deviation of 246.68 percent. It is clear that average loan loss provision ratio of the banks is more than 100 percent indicating that banks are quite efficiently maintaining security to their non-performing loans over the study period. The higher standard deviation in loan loss provision ratio is indicating that there is higher variation in loan loss provision ratio of the banks.

4.1.2 Correlation Analysis

The relationship between profitability (i.e. ROA and ROE) and credit management (i.e. CAR, LDR, NPLR and LLPR) of the banks are analyzed in this part using Pearson correlation coefficient. The data analysis is done in the SPSS software using panel data of three sample banks i.e. NIMBL, GIBL and NICA. Correlation analysis results are;

Table 5

Correlation Analysis

Variables	ROA	ROE	CAR	LDR	NLPR	LLPR
ROA	1					
ROE	.590**	1				
CAR	.431*	-.454*	1			
LDR	-.278	-.512**	.265	1		
NLPR	-.106	-.496**	.509**	.010	1	
LLPR	-.339	-.074	-.371*	-.149	-.483**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Source: Appendix-III

Table 5 highlights the relationship analysis result between profitability (i.e. ROA and ROE) and credit management variables (i.e. CAR, LDR, NLPR and LLPR) of NIMBL, GIBL and NICA during the study period. The correlation of ROA with capital adequacy ratio is also very low degree positive i.e. 0.431 meaning that ROA of the banks increases with increment in capital adequacy ratio of the banks and the positive between capital adequacy ratio and ROA of the banks is statistically significant at 5 percent. Likewise, correlation of ROA with loan to deposit ratio is low degree negative i.e. -0.278 meaning that ROA of the banks decreases with increment in loan to deposit ratio of the banks and the negative between loan to deposit ratio and ROA of the banks is statistically not significant at 5 percent. In contrast, correlation of non-performing loan ratio with ROA is low degree negative i.e. -0.106 meaning that ROA of the banks decreases when non-performing loan ratio increases and the relation is statically not significant at 1 percent level of significance. However, there is low degree negative correlation between ROA and loan loss provision ratio of the banks i.e. -0.339 meaning that ROA of the banks decreases with the increment in loan loss provision ratio of the banks and the negative relationship between loan loss provision ratio and ROA is statistically not significant at 5 percent.

The correlation of ROE with capital adequacy ratio is also low degree negative i.e. -0.454 meaning that ROE of the banks decreases with increment in capital adequacy ratio of the banks and the negative relationship between capital adequacy ratio and ROE is statistically significant and 5 percent. Likewise, correlation of ROE with loan to deposit ratio is high degree negative i.e. -0.512 meaning that ROE of the banks decreases with increment in loan to deposit ratio of the banks and the negative between loan to deposit ratio and ROA of the banks is statistically significant at 1 percent level of significance. In contrast, correlation of non-performing loan ratio with ROE is low degree negative i.e. -0.496 meaning that ROE of the banks decreases when non-performing loan ratio increases and the relation is statically significant at 1 percent level of significance. However, there is low degree negative correlation between ROE and loan loss provision ratio of the banks i.e. -0.074 meaning that ROE of the banks decreases with the increment in loan loss provision ratio of the banks and the relationship between loan loss provision ratio and ROE is statistically not significant at 5 percent level of significance.

4.1.3 Regression Analysis

Here in this section a regression analysis is presented to analyze the impact of credit management variables i.e. CAR, LDR, NPLR and LLPR on profitability i.e. ROA and ROE of the NIMBL, GIBL and NICA during the study period. Since, the panel ordinary least square regression model is adopted for the analysis and the results are;

Table 6

Model Summary (Dependent Variable ROA)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.851	.724	.679	.212

a. Predictors: (Constant), LLPR, LDR, CAR, NLPR
Source: Appendix- IV

Table 6 presents the model summary for the dependent variable ROA and independent variables CAR, LDR, NPLR and LLPR for the regression analysis. The table shows that the total effect of independent variables into dependent variable i.e. R-squared is 0.724 which means that out of total change in ROA of the banks is 72.40 percent change is explained by capital adequacy ratio, loan to deposit ratio, non-performing loan ratio and loan loss provision ratio of the banks and the remaining change in ROA is affected by other variables which are not included in this regression analysis.

Table 7

ANOVA Table (Dependent Variable ROA)

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.941	4	.735	16.361	.000
	Residual	1.123	25	.045		
	Total	4.064	29			

a. Dependent Variable: ROA
b. Predictors: (Constant), LLPR, LDR, CAR, NLPR
Source: Appendix- IV

Table 7 shows the significance test of the regression model through ANOVA analysis. The total effect of the independent variables into dependent variable is statistically significant at 1 percent, since the Sig. of F-statistics (i.e. 16.361) for the regression model is less than 1 percent i.e. 0.000.

Table 8

Regression Coefficients (Dependent Variable ROA)

	Model	Beta Coefficients	t	Sig.	Tolerance	VIF
	(Constant)	3.981	6.196	.000		
	CAR	.122	5.919	.000	.663	1.509
1	LDR	-.038	-4.913	.000	.895	1.117
	NLPR	-.261	-5.421	.000	.619	1.616
	LLPR	-.001	-3.971	.001	.735	1.361

a. Dependent Variable: ROA
Source: Appendix- IV

Table 8 shows the effect of capital adequacy ratio into the ROA of the banks is positive i.e. 0.122 which indicates that if capital adequacy ratio of the banks increases by 1 percent ROA of the banks also increases by 0.122 percent and the coefficient is statistically significant at 1 percent level of significance since Sig. i.e. 0.000 is less than 1 percent level of significance. Likewise, the effect of loan to deposit ratio into the ROA of the banks is negative i.e. -0.038 which indicates that if loan to deposit ratio of the banks decreases by 1 percent ROA of the banks decreases by 0.038 percent and the coefficient is statistically significant at 1 percent level of significance since Sig. i.e. 0.000 is less than 1 percent level of significance.

On the other hand, the coefficient of non-performing loan ratio is -0.261 which indicates that if non-performing loan ratio of the banks increases by 1 percent ROA of the banks

decreases by 0.261 percent but the coefficient is significant at 1 percent level of significance since the Sig. i.e. 0.000 for the coefficient is less than 1 percent. Likewise, the coefficient of loan loss provision ratio is -0.001 which indicates that if loan loss provision ratio of the banks increases by 1 percent ROA of the banks decreases by 0.001 percent and this coefficient is statistically significant at 1 percent level of significant since the Sig. i.e. 0.001 for the coefficient is less than 1 percent.

Table 9

Model Summary (Dependent Variable ROE)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.850	.723	.679	2.059

a. Predictors: (Constant), LLPR, LDR, CAR, NLPR
Source: Appendix- IV

Table 9 presents the model summary for the dependent variable ROE and independent variables CAR, LDR, NPLR and LLPR for the regression analysis. The table shows that the total effect of independent variables into dependent variable i.e. R-squared is 0.723 which means that out of total change in ROE of the banks is 72.30 percent change is explained by capital adequacy ratio, loan to deposit ratio, non-performing loan ratio and loan loss provision ratio of the banks and the remaining change in ROE is affected by other variables which are not included in this regression analysis.

Table 10

ANOVA Table (Dependent Variable ROE)

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	276.557	4	69.139	16.305	.000
	Residual	106.006	25	4.240		
	Total	382.563	29			

a. Dependent Variable: ROE
b. Predictors: (Constant), LLPR, LDR, CAR, NLPR
Source: Appendix- IV

Table 10 shows the significance test of the regression model through ANOVA analysis. The total effect of the independent variables into dependent variable is statistically significant at 1 percent, since the Sig. of F-statistics (i.e. 16.305) for the regression model is less than 1 percent i.e. 0.000.

Table 11

Regression Coefficients (Dependent Variable ROE)

Model		Beta Coefficients	t	Sig.	Tolerance	VIF
1	(Constant)	53.481	8.568	.000		
	CAR	-.269	-1.341	.192	.663	1.509
	LDR	-.368	-4.851	.000	.895	1.117
	NLPR	-2.308	-4.943	.000	.619	1.616
	LLPR	-.008	-4.381	.000	.735	1.361

a. Dependent Variable: ROE
Source: Appendix- IV

Table 11 shows the effect of capital adequacy ratio on the ROE of the banks is negative i.e. -0.269 which indicates that if capital adequacy ratio of the banks increases by 1 percent ROE of the banks decreases by 0.269 percent and coefficient is statistically not significant at 5 percent since Sig. i.e. 0.192 is higher than 5 percent level of significance. However, the effect of loan to deposit ratio on the ROE of the banks is negative i.e. -0.368 which indicates that if loan to deposit ratio of the banks increases by 1 percent ROE of the banks decreases by 0.368 percent and coefficient is statistically significant at 1 percent since Sig. i.e. 0.000 is less than 1 percent level of significance.

On the other hand, the coefficient of non-performing loan ratio is -2.308 which shows the negative effect of non-performing loan ratio on ROE of the banks, which indicates that if non-performing loan ratio of the banks increases by 1 percent ROE of the banks decreases by 2.308 percent and the coefficient is significant at 1 percent level of significance since the Sig. i.e. 0.000 for the coefficient is less than 1 percent. Likewise, the coefficient of loan loss provision ratio is -0.008 which indicates that if loan loss provision ratio of the banks increases by 1 percent ROE of the banks decreases by 0.008 percent and this coefficient is statistically significant at 1 percent level of significant since the Sig. for the coefficient i.e. 0.001 is less than 1 percent.

4.2 Discussion

The relationship analysis revealed that correlation of ROA with capital adequacy ratio is very low degree negative meaning that ROA of the banks decreases with increment in capital adequacy ratio of the banks. Similarly, correlation between ROA and loan to deposit ratio low degree negative relationship, meaning that ROA of the banks decreases when assets of the banks increases total. In contrast, correlation of non-performing loan

ratio with ROA is low degree negative which is not significant. However, there is low degree negative correlation between ROA and loan loss provision ratio of the banks.

The negative relation between ROA and CAR is not consistent with the finding of Sharma and Kaur (2021), Al-Amin et al. (2021) and Naji and Shabib-Ul-Hassan (2023) who found positive relation of capital adequacy ratio and ROA. This negative relation between ROA and LDR is inconsistent with the findings of Shrestha (2017) who stated that ROA of the banks increases with increment in loan to deposit ratio of the banks. On the other hand, Naji and Shabib-Ul-Hassan (2023) found the negative relaionship betweem loan to deposit ratio and ROA of the banks which is consistent with this study. The negative relation between ROA and NPLR is consistent with the finding of Sharma and Kaur (2021); Al-Amin et al. (2021); Nugraha et al. (2021); and Islam et al. (2020) who have showed that ROA of the banks decreases when non-performing loan ratio increases. The negative relation between ROA and LLPR is not consistent with the findings of Al-Amin et al. (2021); Islam et al. (2020); and Zeleke and Sindhu (2021) who showed that ROA of the banks increases with the increment in loan loss provision ratio of the banks.

The correlation of ROE with capital adequacy ratio is low degree negative meaning that ROE of the banks decreases with increment in capital adequacy ratio of the banks the negative relation between is statistically significant. Similarly, the correlation between ROE and loan to deposit ratio is high degree negative. In contrast, correlation of non-performing loan ratio with ROE is low degree negative. However, there is low degree negative correlation between ROE and loan loss provision ratio of the banks.

The negative relation between ROE and CAR is contradicts with the finding of Rahmanullah (2021) and Naji and Shabib-Ul-Hassan (2023) who foud positive relation of capital adequacy ratio with ROE of the banks. The negative relation between ROE and LDR is consistent with the finding of Rahmanullah (2021) meaning that ROE of the banks decreases with increment in loan to deposit ratio of the banks but the negative relation is not statistically significant. The negative relation between ROE and NPLR is consistent with the result of Sharma and Kaur (2021) who found that ROE of the banks decreases when non-performing loan ratio increases and the result contradicts with the finding of Zeleke and Sindhu (2021) who found increasing non-performing loan ratio increases return on equity of the banks. The negative relation between ROE and LLPR is

consistent with the finding of Zeleke and Sindhu (2021) meaning that ROE of the banks decreases with the increment in loan loss provision ratio of the banks. But the result is not consistent with the finding of Rahmanullah (2021) and Naji and Shabib-Ul-Hassan (2023) who found positive relation of ROE with loan loss provision ratio.

The regression analysis found that the capital adequacy ratio on the ROA of the banks is positive i.e. 0.122 which means that that if capital adequacy ratio of the banks increases by 1 percent ROA of the banks increases by 0.122 percent. However, the coefficient of loan to deposit ratio is -0.038 which indicates that if loan to deposit ratio of the banks increases by 1 percent ROA of the banks decreases by 0.038 percent. On the other hand, the coefficient of non-performing loan ratio is -0.261, which indicates that ROA of the banks decreases when non-performing loan ratio increases. Likewise, the coefficient of loan loss provision ratio is -0.001, which shows the significant negative effect of loan loss provision ratio on ROA of the banks.

The positive effect of CAR on ROA is consistent with the finding of Qazi et al. (2022) and Sharma and Kaur (2021) who indicated that if capital adequacy ratio of the banks increases profitability of the banks significantly increases. But the positive effect of capital adequacy ratio on ROA of the banks is not consistent with the finding of Yeasin (2022) who found negative effect of capital adequacy ratio on ROA of the banks. The negative effect of LDR on ROA is similar with the finding of Naji and Shabib-Ul-Hassan (2023) who stated that loan to deposit ratio has significnat negative effect on ROA of the banks. The negative effect of NPLR on ROA is consistent with the findings of Yeasin (2022); Al-Amin et al. (2021) and Sharma and Kaur (2021) who showed the negative effect of non-performing loan ratio into ROA of the banks. But the negative effect of non-performing loan ratio on ROA of the banks is not consistent with the finding of Qazi et al. (2022) who found significant positive effect of non-performing loan ratio on ROA of the banks. The negative effect of LLPR on ROA is consistent with the findings of Rahmanullah (2021) who showed the negative effect of loan loss provision ratio on ROA of the banks. But the negative effect of loan loss provision ratio on ROA of the banks is inconsistent with the finding of Al-Amin et al. (2021) who found significant positive effect of loan loss provision ratio on ROA of the banks.

Another regression analysis found that the effect of capital adequacy ratio into the ROE of the banks is negative i.e. -0.269. However, the coefficient of loan to deposit ratio is -0.368 which indicates that if loan to deposit ratio of the banks increases by 1 percent ROE of the banks decreases by 0.368 percent and the coefficient is statistically significant. On the other hand, the coefficient of non-performing loan ratio is -2.308 which shows the negative effect of non-performing loan ratio on ROE of the banks. Likewise, the coefficient of loan loss provision ratio is -0.008 which shows negative effect of loan loss provision ratio on ROE of the banks.

The negative effect of CAR on ROE is not consistent with the finding of Sharma and Kaur (2021); Qazi et al. (2022) and Naji and Shabib-Ul-Hassan (2023) who found sigificant positive effect of capital adequacy ratio on ROE of the banks. But the negative effect of capital adequacy ratio on ROE of the banks is consistent with the finding of Mendoza and Rivera (2017) who indicated that capital adequacy ratio has negative effect on ROE of the banks. The negative effect of LDR on ROE is consistent with the finding of Naji and Shabib-Ul-Hassan (2023) who found signifincat negative effect of loan to deposit ratio on ROE of the banks. The negative effect of NPLR on ROE is consistent with the result of Sharma and Kaur (2021) Naji and Shabib-Ul-Hassan (2023) who found negative effect on non-performing loan ratio on ROE of the banks. On the other hand, the result is not consistent with the result of Zeleke and Sindhu (2021) and Qazi et al. (2022), who showed the significant positive effect on non-performing loan ratio on profitabilit of the banks. The negative effect of LLPR on ROE is similar with the finding of Rahmanullah (2021) and opposite with the finding of Zeleke and Sindhu (2021) who showed the negative effect of loan loss provision ratio on ROE of the banks. But the result is not consistent with the result of Naji and Shabib-Ul-Hassan (2023) who showed the positive effect on loan loss provision ratio on ROE of the banks.

CHAPTER - V
SUMMARY AND CONCLUSION

The summary of the study has been offered in this chapter, along with findings and practical suggestions for the sample banks for improving credit management and commercial bank profitability.

5.1 Summary

Commercial banks have faced difficulties for a variety of reasons over the years, with the major cause of serious financial problems remaining directly related to borrowers' credit standards, poor portfolio risk management, or a failure to pay attention to changes in economic circumstances and competitive climate. Most commercial banks in Nepal have been shown to approve loans without sufficient inspections, potentially increasing the amount of loan defaults and non-performing loans. In light of this statement, the purpose of this research is to examine the credit management and profitability positions of NIMBL, GIBL and NICA as well as the influence of credit management on profitability. This study is expected to be crucial in identifying best practices and concepts for prudent lending to improve credit management performance to all bank managers and policymakers, as well as to all financial institutions and banks.

To develop the idea for this research, relevant studies, journals, publications, connected websites, and so on are evaluated in the study's review portion. The influence of credit management on commercial bank profitability is examined in this study using correlation analysis and multiple regression analysis. This study focuses on the data analysis of three sample banks that have not been studied previously, namely NIMBL, GIBL and NICA.

To achieve the specific objective of the study, descriptive and casual comparative research design have been carried out in terms of credit management and profitability of sample banks. The bank in the study consist of the three commercial banks which are found to be growing banks in term of assets, equity, deposit and lending throughout the study period i.e. NIMBL, GIBL and NICA. The sample banks are selected using purposive sampling technique since this study tries to analyze the credit management

of commercial banks in Nepal. Here, in this research study the research period is taken from the year of 2013/14 to the year of 2022/23 to give the recent research result. In this study dependent variable of profitability i.e. ROA and ROE and independent variables of credit management analysis are capital adequacy ratio (CAR), loan to deposit ratio (LDR), non-performing loan to total loan ratio (NPLR) and loan loss provision to non-performing loan ratio (LLPR). For the data analysis line charts, descriptive statistics, correlation analysis and multiple regression analysis model are used.

Results of the data analysis in the study revealed that there is fluctuating trend in capital adequacy ratio of the banks during the study period. There is lowest capital adequacy ratio in NICA during the study period. There is quite consistent capital adequacy ratio in the banks during the study period since the standard deviation in capital adequacy ratio of the banks is quite less. The average loan to deposit ratio of GIBL is highest among the banks showing that the bank has distributed more of the deposit as loan and advances in comparison to other banks under the study. Similarly, average non-performing loan ratio of the banks is less than 5 percent indicating that banks are quite efficiently managing their loan recovery over the study period. Likewise, loan loss provision ratio of NICA is highly fluctuated in comparison to other banks during the study period. It is clear that average loan loss provision ratio of the banks is more than 100 percent indicating that banks are quite efficiently maintaining security to their non-performing loans over the study period. In contrast, return on assets of all three the banks are in fluctuating trend in return on assets during the study period. There is lowest average return on assets and return on equity in NICA. It is clear that there is higher variation in ROE of the banks in comparison to the variances in ROA of the banks during the study period.

The relationship analysis revealed that ROA of banks has significant positive relation with capital adequacy ratio of the banks i.e. 0.431 while loan to deposit ratio, non-performing loan ratio and loan loss provision rate have negative relation with ROA of the banks i.e. -0.278, -0.106 and -0.339 respectively. On the other hand, ROE of the banks has significant negative relation with capital adequacy ratio, loan to deposit ratio and non-performing loan ratio of the banks i.e. -0.454, -0.512 and -0.496 respectively. However,

ROE has no significant negative relation with loan loss provision ratio of the banks i.e.-0.074 respectively during the study period.

The effective analysis found that capital adequacy ratio has significant positive i.e. 0.122 effect on ROA of the banks. Loan to deposit ratio has significant negative i.e. -0.038 effect on ROA of the banks. On the other hand, non-performing loan ratio has significant negative -0.261 effect on ROA of the banks. Likewise, loan loss provision ratio has significant negative -0.001 effect on ROA of the banks. In the same way, capital adequacy ratio has no significant negative i.e. -0.269 on ROE of the banks. However, loan to deposit ratio has significant negative i.e. -0.368 on ROE of the banks. Non-performing loan ratio has significant negative i.e. -2.308 effect on ROE of the banks. Likewise, loan loss provision ratio has significant negative i.e. -0.008 on ROE of the banks.

5.2 Conclusion

The financial analysis regarding the credit management and profitability of NIMBL, GIBL and NICA leads to conclude that credit management in term of long-term solvency in the banks are properly managing capital adequacy as per the NRB directive in the recent period. The loan distribution of the banks seems quite consistent during the period and banks have distributed loan as per the NRB guidelines. The non-performing loan ratio in the banks are quite less on average concluding that there is better loan recovery mechanism in the banks. The credit management through loan loss provision ratio in the banks seems much secured during the study period. Likewise, profitability of the banks concludes that there is more consistent return on assets than return on equity during the study period.

The relationship analysis leads to conclude that ROA of banks has significant positive relation with capital adequacy ratio of the banks while loan to deposit ratio, non-performing loan ratio and loan loss provision rate have negative relation with ROA of the banks. On the other hand, ROE of the banks has significant negative relation with capital adequacy ratio, loan to deposit ratio and non-performing loan ratio of the banks. However, ROE has no significant negative relation with loan loss provision ratio of the banks.

The effect analysis concludes ROA of the banks positively affected by capital adequacy ratio, while there is significant negative effect of capital adequacy ratio on ROE of the banks. The negative effect of capital adequacy ratio on profitability of the banks leads to conclude that the management efficiency of the banks during the study period seems not adequate to generate earnings as capital growth. Similarly, loan to deposit ratio of the banks has significant negative effect on profitability of the banks. Likewise, non-performing loan ratio has significant negative effect the profitability i.e. ROA and ROE of the banks. Non-performing loan leads to an increase in the level of risk, which ultimately adversely affects the profitability of the banks. In the same way, loan loss provision ratio has significant negative effect on profitability i.e. ROA and ROE of the banks. Since, managing provision against non-performing loan from the earnings also decreases the profitability for the current year.

5.3 Implications

- Strong credit risk and loan service process management must be adopted to keep the level of NPL as low as possible which will enable to maintain the high profitability of the banks. Senior management must ensure that there is a periodic independent internal assessment of the bank credit-granting and management functions.
- Regulators and policymakers should assess the level of non-government stake in order to boost commercial bank profitability. Due to a lack of sufficient and adequate data, the research was unable to investigate other types of banks functioning in Nepal, such as development banks, financing businesses, and microfinance institutions. The current analysis may be expanded to include these sectors, which are critical to the Nepalese economy.
- This study attempts to fill an important gap in the existing body of commercial bank literature on credit management and its effect on commercial bank profitability by providing new empirical confirmation, and this report is useful to researchers who are interested in analyzing the credit management of commercial banks in Nepal.
- This study attempts to fill an important gap in the existing body of commercial bank literature on credit management and its effect on commercial bank profitability by providing new empirical confirmation, and this report is useful to researchers who are interested in analyzing the credit management of commercial banks in Nepal.

- Further, this study is concentrated on only four factors such as, capital adequacy ratio, non-performing loan ratio and loan loss provision ratio of the banks thus, further study should be carried out on the topic to point out the other macro-economic factors that enhance mitigation of credit risk to improve performance of Nepalese commercial banks.

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