CAPITAL ADEQUACY AND PROFITABILITY OF NEPALESE COMMERCIAL BANKS

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RECOMMENDATION

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

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DECLARATION

I hereby declare that the work reported in this thesis entitled **CAPITAL ADEQUACY AND PROFITABILITY OF NEPALESE COMMERCIAL BANKS** " submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of Dhurba Subedi of Shanker Dev Campus, T.U.

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ABBREVIATIONS

AQ	:Asset Quality
CAR	:Capital Adequacy Ratio
NPL	:Non-Performing Loan
CCR	:Core Capital Ratio
CDR	:Credit to Deposit Ratio
CRR	:Cash Reserve Ratio
NIM	:Net Interest Margin
EBL	:Everest Bank Limited
MPBL	:MachhapuchchhreBank Limited
FY	:Fiscal Year
LR	:Liquidity Risk
NPM	:Net Profit Margin
ROA	:Return on Assets
ROE	:Return on Equity
Sig	:Significant
TU	:Tribhuvan University
SPSS	:Statistical Package for Social Science
TU	:Tribhuvan University
GDP	:Gross Domestic Product
LDR	:Loan to Deposit Ratio
CAMELS	:Capital Adequacy Asset Quality Management Earnings Liquidity Sensitivity

CHAPTER-I

INTRODUCTION

1.1 Background of the Study

Capital adequacy refers to the requirement of capital to be maintained by banks to protect them from insolvency. Typically presented as a capital adequacy ratio, this represents the percentage of equity that must be held to risk-weighted assets. The purpose of these requirements is to prevent financial institutions from assuming excessive leverage that could lead to insolvency. Capital requirements specifically regulate the ratio of equity to debt, documented on the assets side of a firm's balance sheet. It's important to differentiate capital requirements from reserve requirements, the latter governing the liabilities side of a bank's balance sheet, specifically determining the proportion of assets that banks must retain in the form of cash or highly liquid assets (Pradhan & Shrestha, 2017).

Harahap (2018) discusses several key parameters crucial to bank performance, including capital structure, operational efficiency, non-performing loans, and capital adequacy ratios. These metrics are interconnected and significantly influence a bank's profitability. Capital structure involves how banks utilize their asset sources to enhance shareholder returns through fixed costs. Both leverage and capital adequacy are pivotal in shaping a bank's financial strategies.

Independent regulatory authorities closely monitor and regulate commercial banks due to the elevated level of risks they face compared to other institutions. Banks are known as the driving force behind the financial stability and economic prosperity of any country. According to Llewellyn, the implementation of rules and guidelines within the banking sector serves to shield customers from exploitative pricing practices and acts as a safeguard against systemic risks.

The establishment of financial stability in banks is effectively achieved through the regulation of bank capital. The capital adequacy requirement, a key element of prudential regulation, significantly impacts the efficiency of banks, as asserted (Fiordelisi& Marques-Ibanez, 2013). The most relevant theory in this context is the buffer theory, suggesting that

banks with capital slightly exceeding regulatory minimum ratios should consistently raise the capital ratio and reduce risk to evade penalties for non-compliance imposed by regulators, as proposed (Milne & Wiley, 2001).

Depositors deposit their savings in banks with the hope of receiving interest and keeping their money safe, but what happens if the bank is unable to pay their money due to some future uncertaintiesarising due to risks like credit, market, and operational risk, so to save the depositors from such risk maintenance of sufficient capital is required.

Benink and Wihlborg (2002) point out that Capital Adequacy is important because capital serves three significant functions: (i) it is a buffer against unexpected losses causing bankruptcy; (ii) equity capital creates incentives for managing risk appropriately from the perspective of the shareholders; and (iii) equity capital of sufficient magnitude signals that lenders to the firm will not be taken advantage of. Under limited liability for shareholders, the third function is particularly important from lenders' point of view. Without sufficient capital, shareholders have the incentive to invest in excessively risky projects, because the project risk will be borne primarily by lenders.

The banking industry plays a pivotal role in the economy's well-being and growth of the economy. (Ranasinghe, Udawatta, Jawasanka, Peris, and Nanayakarra,2018). Profitability is an essential element for the survival of financial institutions

The regulatory oversight of financial institutions is a fundamental responsibility of central banks worldwide. In Nepal, this role is fulfilled by the Nepal Rastra Bank (NRB), which oversees and regulates the operations of commercial banks within the country. NRB plays a pivotal role in ensuring compliance and soundness across financial activities, issuing a comprehensive set of directives aimed at guiding and standardizing these operations. One such directive, Directive no. 1, focuses on establishing norms for capital adequacy within commercial banks. Capital Adequacy Ratio (CAR) is a critical measure stipulated by this directive, mandating that banks maintain a minimum reserve of capital as per NRB guidelines. This ratio holds significant importance as it measures a bank's capital against its risk-weighted assets, ensuring robust financial stability and resilience against potential risks. CAR consists of two vital elements: Tier I (Core) Capital and Tier II (Supplementary)

Capital. Tier I Capital constitutes the fundamental capital foundation of the bank, encompassing equity capital and disclosed reserves. In contrast, Tier II Capital comprises supplementary resources like subordinated debt and undisclosed reserves. Together, these components serve as the foundation for assessing a bank's financial well-being and its capacity to absorb potential losses.

In essence, NRB's directives, including Directive no. 1 on capital adequacy, serve to maintain financial sector stability by enforcing prudent capital management practices among commercial banks. This regulatory framework ensures that banks uphold minimum capital standards, thereby safeguarding depositor funds and promoting a resilient banking system in Nepal.

Tier 1 Capital

It is Fully paid up, has no fixed servicing or dividend cost, is freely available to absorb the loss,high degree of permanence, and includes common equity capital, additional tier 1 capital

Tier 2 Capital

Tier-2 capital comprises reserves that are accounted for in the profit and loss statement, alongside other forms of capital deemed suitable for capital purposes. This includes provisions for general loan losses, revaluation reserves, exchange equalization reserves, redeemable preference shares, among other instruments. However, it is crucial that the total amount of tier-2 capital does not surpass the amount of tier-1 capital. This ensures a structured approach to capital adequacy, balancing different types of reserves and instruments to ensure financial stability and regulatory compliance within the defined limits of capital adequacy frameworks.

1.2 Problem Statement

A problem statement acts as a clear and concise description of a specific issue that needs addressing or improvement. It highlights the gap between the current situation or condition (the problem) and the desired outcome (the goal). Grounded in factual data, a problem statement aims to clarify the key aspects of who is affected, what the issue entails, where and

when it occurs, and why it is significant. Crafting a problem statement is fundamental to understanding the problem thoroughly, laying the groundwork for effective problem-solving.

The significance of maintaining adequate capital is paramount in the banking sector. Failure to uphold this crucial factor can lead to various issues, prompting the need for evaluation. Addressing problems that impact the organization's performance is essential. Identifying solutions and raising awareness about issues related to multiple variables affecting bank performance, such as factors tied to capital adequacy and the maintenance of operational efficiency, is vital for the success of both banks and financial institutions. Numerous challenges exist that can hinder optimal bank performance. Capital adequacy has become one of the important factors determining the soundness of any financial institution. To address the research problem this study tries to answer the following questions

- What are the variables affecting the capital adequacy requirement and profitability of Nepalese Commercial banks?
- What would be the relationshipbetween capital adequacy requirements and the profitability of commercial banks?
- Do the capital adequacy requirements influence the profitability of selected commercial banks?

1.3 Objectives of the Study

The main objectives of the study were:

- To examine the variables affecting capital adequacy and profitability of Nepalese Commercial Banks.
- To analyze the relationshipbetween capital adequacyrequirements and the profitability of commercial banks in Nepal
- To examine the impact of capital adequacyrequirements on the profitability of commercial banks.

1.4 Rationale of the Study

The central banks of countries oversee and regulate banks and financial institutions. In Nepal, the Nepal Rastra Bank is responsible for governing banks and financial entities. The

public trusts banks due to the rules set by the Nepal Rastra Bank regarding capital adequacy, ensuring that capital is maintained appropriately. Adequate capital minimizes the risk for depositors in banks and financial institutions. Currently, there are challenges related to capital and liquidity for various companies in Nepal, particularly financial institutions and multipurpose corporations in rural areas. During liquidations, these entities may face difficulties in meeting liabilities, affecting the repayment of debtors. Proper maintenance of capital adequacy is crucial in such scenarios to ensure stakeholders receive their due payments.

Banking and financial institutions play a vital role in maintaining the required capital adequacy levels imposed by regulatory authorities. These regulations are in place because individuals deposit various amounts in banks, including savings and funds for various purposes. Additionally, banks issue bonds, debentures, preference shares, and general shares to the public, aiming to provide a risk-free investment environment. Maintaining adequate capital not only adheres to regulatory requirements but also safeguards investors from potential losses during liquidation.

Operating efficiency is evaluated as a company's ability to minimize operating costs while achieving objectives through an optimal blend of personnel, processes, and technology. The proper combination of resources enhances a company's operational productivity, measured by dividing operating expenses by operating income. This metric reflects the company's strengths and weaknesses in its operational activities and indicates how much income is generated based on operating-related investments.

This study examines how commercial banks maintain capital adequacy and the impact on their profitability.The research investigates whether the relationship between this factor and profitability is positive or negative and whether it is statistically significant. The findings from this research contribute significantly to understanding these aspects, highlighting the importance of the study.

1.5 Limitations of the Study

The research is following limitations.

- Only ten years of data were used for the research.

- Data were taken from the website of the banks; which means all data are secondary data for studies that are quantitative hence the qualitative factors are ignored.
- Only three sample banks were selected for studies that are based on historical figures, the results cannot be fully generalized
- Only a few variables are taken as dependent and independent variables for analysis in the study
- The main limitation is that this study is unable to include the data of the present year as 2024 is not completed and does not cover the whole banking industry as only 3 banks are taken as sample

1.6 Organization of the Study

The study will be organized into six chapters. These are:-

Chapter I

Chapter one deals with the introduction, problem of the study, objective of the study, limitation of the study, need of the study, research methodology, and method of analysis.

Chapter II

Chapter two consists of a review of the literature. This chapter is subdivided into various sections such as conceptual framework, review from different studies, review from journal, article, and magazine, and review from master's thesis for the concerned topic.

Chapter III

Chapter three presents methodologies adopted for the research. It comprises research design, sources of data method of analysis, and its descriptive presentation.

Chapter IV

Chapter four deals with the techniques used in analyzing the collected data and its presentation descriptively and analytically.

Chapter V: Summary, Conclusions and Recommendations

Chapter five consists of a summary, conclusion, and implication about the topic concerned.

CHAPTER-II

LITERATURE REVIEW

This section constitutes the core of the research effort. The researcher gains a comprehensive understanding of the subject by examining it from various perspectives and exploring every facet of the research topic. Here, "angle" refers to each variable associated with the subject. The researcher delves into the theoretical and conceptual development of each variable, ensuring a fundamental grasp of its core concepts. Without comprehending the nuances of each concept related to the topic, the researcher cannot proceed with subsequent work effectively.

A literature review is a meticulous examination and analysis of a specific segment within the published body of knowledge. It involves summarizing, classifying, and comparing previous studies, literature reviews, and theoretical works. The literature review is structured into three distinct sections, each dedicated to specific studies that follow.

2.1 Theoretical Review

Capital Adequacy

Capital serves as a crucial indicator of financial stability and the safety of banks, reflecting their ability to navigate risk and indicating their growth, sustainability, and survival in a competitive and rapidly evolving financial market. The Capital Adequacy Ratio (CAR) is a key metric that, when maintained, empowers banks to withstand financial crises, safeguarding both the institution and the deposits of its customers (Usman et al., 2019). Capital adequacy, in essence, involves the quantity of equity capital and other securities that a bank reserves against risky assets as a precautionary measure against the potential of bank failure. Assessing capital adequacy is essential in determining whether a bank possesses sufficient capital to underpin the risks on its balance sheet, effectively addressing concerns about bank solvency (Agbeja et al., 2015).

Operational Efficiency

Deposit Money Banks serve a crucial role as intermediaries between savers and borrowers within an economy, and their efficiency is paramount for the overall functioning and growth

of all sectors. The effective delivery of products and services at a reasonable cost without compromising quality defines operational efficiency. Shawk (2008) characterizes operational efficiency as the result of an optimal combination of people, processes, and technology, enhancing productivity and business operation value while minimizing the cost of routine operations.

According to Dhanapal and Ganesan (2012), good corporate governance contributes to financial stability and helps mitigate high-profile breakdowns. The transparency of bank operations is underscored by the principles of corporate governance. Adhering to good governance practices is crucial for instilling public confidence and ensuring accurate reporting.

Loan ratio (LR)

Molyneux et al. (1998) discovered that foreign banks in America exhibited a situation where the loan ratio demonstrated a significantly positive correlation with the Return on Assets (ROA). The loan ratio is the total loan amount divided by the total assets. A higher loan ratio indicates that banks are more inclined to extend loans to the general public instead of investing in securities, which carry higher risks. Operating under the assumption of high risk and high returns, an increase in the total loans to total assets ratio should theoretically have a positive impact on bank performance. However, if risk management is ineffective, it could lead to a higher Non-Performing Loans (NPLs) ratio, resulting in decreased profitability and, consequently, a negative overall effect.

Loan loss provision/ total loans (LLP/T)

Funso and KoladeandOjo (2012) observed that an escalation in loan loss provision results in a reduction in profitability, whereas an increase in total loans and advances leads to enhanced profitability. A loan loss provision is an allocated expense set aside for potential defaults on loans or credits. This reserved amount is designated in anticipation of a loan defaulting. Typically, banks operate by accepting deposits and utilizing those deposits to issue loans. While this represents the fundamental banking model, the process is more intricate. Banks need to balance their loan receivables with the demand for deposits, and within any set of loans, they anticipate that some loans may not perform as expected.

Loan loss provision

A loan loss provision is a specific expense recorded on a company's income statement. It serves as a set-aside amount intended to cover potential losses from loans and loan payments that may not be fully collected in the future. This provision is crucial for accounting purposes, ensuring that financial statements accurately reflect the risks associated with the loans held by the company.The provision is established to anticipate various scenarios where loan repayments might not be received in full. These scenarios include loans that are classified as non-performing (where payments are significantly overdue), situations where customers declare bankruptcy, or cases where renegotiated loan terms lead to lower-than-initially anticipated repayments.Once established, these provisions are then included in the company's loan loss reserves. Loan loss reserves are reported on the company's balance sheet and represent the cumulative amount set aside to cover expected loan losses. By deducting these reserves from the total amount of outstanding loans, the balance sheet reflects a more conservative valuation of the company's assets, aligning with the principle of prudence in accounting.

In summary, loan loss provisions are a critical aspect of financial management, ensuring that companies prepare for potential losses from loans that may not perform as expected due to various economic or customer-specific reasons. This proactive approach helps maintain the accuracy and transparency of financial reporting, providing stakeholders with a clearer understanding of the company's financial health and risk exposure related to its loan portfolio.

Equity

Equity, commonly known as shareholders' equity (or owners' equity for privately held firms), signifies the sum of money that would be distributed to a company's shareholders after liquidating all assets and settling all debts in the event of a liquidation. In the context of an acquisition, it denotes the value of company sales minus any liabilities that are not transferred with the sale.

2.2 Empirical Review

Syafrizal, Ilham, and Muchtar (2023) analyzed to assess the impact of Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), and

Operating Expenses and Operating Income on the profitability of PT. Sharia Aceh Bank, with profitability measured through the return on assets (ROA). Employing a quantitative approach with the Autoregressive Distributed Lag (ARDL) method, the study utilized time series data spanning from 2012 to 2021. The findings revealed that CAR had a partially insignificant effect, NPF had a partially positive and significant effect, and FDR had a partially negative and significant effect on profitability.

Mehzabin, Shahriar, Hoque, Wanke, and Azad (2023) delved into the profitability of the Asian banking sector, exploring the relationship between capital structure (leverage ratio and long-term debt), operating efficiency, non-interest income, and overall profitability in 28 Asian countries.They employed a fixed regression model for the study and concluded that an increase in the total debt ratio enhances the bank's profit margin, as supported by agency cost theory, which suggests that debt financing boosts a firm's profitability. Additionally, the findings indicate that reducing operating expenses and managing costs effectively can significantly increase bank profitability. Moreover, non-interest income becomes crucial when interest rates are low.

Spaseska, Hristoski, and Odzaklieska (2022) explored the relationship among safety, solvency, and the Capital Adequacy Ratio (CAR) within banking institutions. They considered Basel Accords, international regulations, and central bank oversight in defining minimum capital adequacy ratios. The study specifically examined how CAR influences the profitability of Macedonian banks, employing the Auto-Regressive Distributed Lag (ARDL) method for time series analysis. Findings revealed a positive correlation between CAR and Return on Average Assets (ROAA) in both short- and long-term analyses, although this relationship was not statistically significant. Additionally, the Deposit-to-Asset Ratio (DAR) showed a positive and statistically significant impact on ROA.

Uddin (2022) investigated the influence of non-performing loans on the profitability and operational effectiveness of state-owned commercial banks in Bangladesh. Employing a purposive sampling approach, the study utilized descriptive statistics, multiple regression analysis, and path analysis techniques. The results indicated a positive yet statistically insignificant impact of non-performing loans on operational effectiveness. Additionally,

operational effectiveness was found to have a negative and insignificant influence on profitability. Furthermore, the direct impact of non-performing loans on profitability was negative and significant, even in the presence of operational effectiveness. However, the mediation effect of operational effectiveness on the relationship between non-performing loans and profitability was determined to be non-significant.

Kepramareni, Apriada, and Putra (2022) explored the impact of Credit Risk, Capital Adequacy, Liquidity, Operational Efficiency, and Solvency on the Financial Performance of Bank Perkreditan Rakyat in Denpasar City. Financial performance serves as a reflection of a company's financial condition over a specific period, indicating both positive and negative aspects. The study, conducted from 2018 to 2020 with a sample of 23 and 69 observations, employed purposive sampling to select data sources based on specific considerations. The findings revealed a negative effect of Operational Efficiency on the Financial Performance of Bank Perkreditan Rakyat in Denpasar city during 2018-2020. However, Credit Risk, Capital Adequacy, Liquidity, and Solvency did not exhibit a significant impact on the Financial Performance of the bank during the mentioned period.

Hameed, Jothr, and Ali (2022) aimed to illuminate the application of the PATROL model in evaluating the performance of banks, assessing five key elements: capital adequacy, profitability, credit risk, regulation, and liquidity. The PATROL model plays a crucial role in guiding decision-makers within banks by revealing strengths and weaknesses, ultimately facilitating effective and efficient banking performance.

Ghorpade and Lad (2022) discussed the crucial role of the Indian banking sector in the country's economy, emphasizing the need for a thorough evaluation of bank performance. Their research focused on evaluating select Public Sector Banks in India using the CAMEL Rating System, a popular method for measuring banking performance. The study, spanning five years from 2015 to 2019, showed that the Bank of Maharashtra performed the best among the selected banks, ranking top with a composite average of 14.85. IDFC First Bank Ltd occupied the last position with a composite average of 20.60. The CAMEL parameters included Capital Adequacy, Asset Quality, Management Quality, Earnings Quality, and Liquidity.

Kasmawati and Munika (2021) sought to determine the effects of capital structure, liquidity, and operational efficiency on conventional banks listed on the Indonesian stock exchange. Employing a saturated census sampling technique with 28 conventional banks, the study utilized research files and documents for data collection. Multiple regression analysis with a significance level (α) of 0.05 revealed that the F-test variables, including Capital Adequacy Ratio (CAR), Loan to Deposit ratio (LDR), and Operating Expenses, Operating Income (BOPO), had a positive impact on Return on Assets (ROA). In t-tests, CAR and LDR showed positive effects on ROA, while BOPO harmed ROA. The study concluded that there was a sufficient relationship between independent variables and the dependent variable, with a 19.4% contribution of independent variables to the dependent variable.

Iqbal and Anwar (2021) conducted a study to assess the impact of Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), Operational Efficiency Ratio (OER), and Profit-Sharing Ratio (PSR) on the Financial Performance of Islamic Commercial Banks. The research included a sample of nine banks, employing purposive sampling as the sampling technique. Multiple linear regressions with Review application tools were used for the analytical method. The findings revealed that CAR did not influence Return on Assets (ROA), NPF had a significantly negative effect on ROA, FDR did not affect ROA, OER had a significantly negative impact on ROA, and PSR did not affect ROA. Simultaneously, CAR, NPF, FDR, OER, and PSR collectively influenced Return on Equity (ROE).

Ali and Oudat (2021) investigated the influence of accounting information systems (AIS) on the financial sustainability of banks. The study aimed to review the conceptual, theoretical, and empirical foundations related to AIS and firm financial performance. Prior research primarily focused on the cost implications of AIS on financial performance, with inconsistent results. The review highlighted a literature gap and emphasized the need for further studies to explore this relationship, particularly in advanced economies where studies mainly utilized survey research design and computerized accounting systems methods.

Sukmadewi (2020) highlighted concerns regarding the stability of the banking sector and underscored the necessity of conducting thorough assessments of bank health, particularly for investors seeking to safeguard their investments. The study recommended the use of financial

ratios to assess bank performance, incorporating a range of variables. The analysis focused on evaluating financial statements to gauge company performance, with a specific emphasis on using return on assets (ROA) as a key profitability metric in the banking sector. The study aimed to investigate how Capital Adequacy Ratio (CAR), Loan Deposit Ratio (LDR), Operating-Income Expense Ratio (BOPO), Non-Performing Loans (NPL), and Net Interest Margin (NIM) influenced Return on Assets (ROA) as indicators of financial performance for banking companies listed on the Indonesia Stock Exchange from 2016 to 2018. The findings indicated that CAR, BOPO, NPL, NIM, and LDR variables had a positive and statistically significant impact on ROA, underscoring the critical role of operational efficiency in enhancing financial performance.

Mouneswari, Mamilla, and Reddy (2019) emphasized the significance of evaluating the efficiency of commercial banks, particularly in the context of nationalized banks in India. The study addressed concerns about the deteriorating efficiency of the banking sector after nationalization. The review of available studies highlighted a focus on institutional, functional, and developmental aspects of banks in both Indian and international contexts. The academic examination of the nationalized banking sector's performance was deemed crucial given its structural importance.

Lotto (2018) investigated the influence of capital requirements regulation on the operational efficiency of banks in Tanzania. Using bank-level data spanning from 2009 to 2015, the research highlighted a notable positive correlation between capital ratios and bank operational efficiency. This suggests that stricter capital regulations may enhance operational efficiency. Additionally, the study noted a negative relationship between non-performing loans and bank operational efficiency, underscoring the significance of robust risk assessment and internal control mechanisms.

Olarewaju (2016), focused on exploring the correlation between banks' capital bases and their operational efficiency within Nigeria during the period spanning from 2004 to 2013. The research aimed to offer insights into utilizing financial ratio analysis as a tool to assess banks' operational efficiency and evaluate the efficacy of their capital adequacy strategies. Through an analysis of data from fifteen selected publicly listed banks, the study uncovered

noteworthy impacts of variables such as debt-to-total-equity ratio, core capital ratio, and bank risk on the operational efficiency of Nigerian money deposit banks.

Aruwa and Naburgi (2014) examined how capital adequacy affects financial performance, specifically looking at profitability and savings mobilization among publicly traded banks in Nigeria. They analyzed data from 1997 to 2011, sourced from the Nigerian Deposits Insurance Corporation (NDIC), using ordinary least squares regression for time series data. Their findings indicated that capital adequacy had a negligible impact on financial performance. The study concluded that financial performance in Nigeria's banking sector is not predominantly influenced by capital adequacy alone, suggesting the necessity for practical reforms in regulatory focus, enhanced corporate governance, personnel development, and a stable political environment to ensure robust financial health.

Reddy (2013) highlighted the significant role played by the Andhra Pradesh State Financial Corporation (APSFC) in facilitating rapid and high-quality industrial growth in Andhra Pradesh. Serving as a pivotal state-level financial institution, APSFC has made substantial contributions to the country's development financing system. Throughout its more than five decades of operation, APSFC has actively supported industrial financing for small, medium, and micro enterprises, thereby fostering balanced regional development within the state. The corporation has implemented entrepreneur-friendly schemes, providing term loans, working capital term loans, and special and seed capital assistance tailored to meet the diverse needs of entrepreneurs. The paper titled "Operational and Financial Performance of Andhra Pradesh State Financial Corporation – An Overview" aims to offer a comprehensive review of APSFC's performance over the past decade. The study examines various aspects, including the number of approved applications, the distribution of financial assistance, recovery rates, and financial metrics such as income, expenditures, operating profit, net profit, growth in net worth, capital adequacy ratio, asset quality, NPA reduction, cost of funds, and return on average assets. The researcher concludes the analysis by providing constructive recommendations to enhance APSFC's overall performance in driving industrial development in Andhra Pradesh.

Table 1

Summary of Empirical Review

S. No	Authors	Objectives	Methodology	Findings
1.	Syafrizal, Ilham, and Muchtar (2023	To evaluate how Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), and Operating Expenses and Operating Income influence the profitability of PT.	A quantitative approach with the Autoregressive Distributed Lag (ARDL) method	CAR had a partially insignificant effect, NPF had a partially positive and significant effect, and FDR had a partially negative and significant effect on profitability.
2.	Mehzabin, Shahriar, Hoque, Wanke, and Azad (2023)	To explore the correlation between capital structure (leverage ratio and long-term debt), operating efficiency, non-interest income, and overall profitability in 28 Asian countries	Fixed regression model	According to the agency cost theory, an increase in the total debt ratio has been shown to enhance the profit margin of banks. Additionally, effectively managing operating expenses and costs can significantly enhance bank profitability. Moreover, non-interest income assumes a crucial role particularly in environments

				characterized by lower interest rates.
3.	Spaseska, Hristoski, and Odzaklieska (2022)	To study the interplay between safety, solvency, and the capital adequacy ratio (CAR) of banking institutions and to study the impact of CAR on the profitability of Macedonian Banks	Auto-Regressive Distributed Lag (ARDL) method for time series analysis	There exists a positive relationship between CAR and Return on Average Assets (ROAA) in both short-term and long-term analyses, although the statistical significance of this relationship is found to be negligible. Conversely, Deposit to Asset Ratio (DAR) demonstrates a positive and statistically significant impact on ROA.
4.	Uddin (2022)	To investigate how non-performing loans impact the profitability and operational efficiency of state-owned commercial banks in Bangladesh.	A purposive sampling technique, the study applied descriptive, multiple regression analysis, and path analysis methods.	Non-performing loans exhibited a positive yet statistically insignificant influence on operational efficiency, whereas operational efficiency itself demonstrated a negative and insignificant impact on profitability. Furthermore, the direct impact of non-performing loans on

				profitability was noted as negative and significant, even after accounting for operational efficiency. However, the mediating role of operational efficiency in the relationship between non-performing loans and profitability was found to be statistically non-significant.
5.	Kepramareni, Apriada, and Putra (2022)	To investigate how Credit Risk, Capital Adequacy, Liquidity, Operational Efficiency, and Solvency influence the Financial Performance of Bank Perkreditan Rakyat in Denpasar city.		Operational Efficiency had a detrimental impact on the Financial Performance of Bank Perkreditan Rakyat in Denpasar city from 2018 to 2020. In contrast, Credit Risk, Capital Adequacy, Liquidity, and Solvency showed no notable influence on the bank's Financial Performance throughout the specified period.
6.	Aruwa and Naburgi (2022)	To investigate the influence of capital adequacy on the financial performance	The ordinary least square method for regression on the series data.	The influence of capital adequacy on financial performance in the Nigerian banking sector is found to be negligible,

				suggesting that financial performance is not primarily driven by capital adequacy measures.
7.	Hameed, Jothr, and Ali (2022)	To assess five key elements: capital adequacy, profitability, credit risk, regulation, and liquidity.	PATROL model	PATROL model plays a crucial role in guiding decision-makers.
8.	Kasmawati and Munika (2021)	To assess the impacts of capital structure, liquidity, and operational efficiency on conventional banks listed on the Indonesian stock exchange.	Multiple regression analysis and F test	There was a strong correlation between the independent variables and the dependent variable.
9.	Iqbal and Anwar (2021)	To evaluate how Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), Operational Efficiency Ratio (OER), and Profit-Sharing Ratio (PSR) influence the financial performance of Islamic commercial	Multiple Linear Regressions with Reviews application tools	CAR did not influence Return on Assets (ROA), NPF had a significantly negative effect on ROA, FDR did not affect ROA, OER had a significantly negative impact on ROA, and PSR did not affect ROA. Simultaneously, CAR, NPF, FDR, OER, and PSR collectively

		banks.		influenced Return on Equity (ROE).
10.	Ali and Oudat (2021)	To investigate the influence of accounting information systems (AIS) on the financial sustainability of banks.	Survey research design and computerized accounting systems methods.	There exists a literature gap that emphasizes the need for further studies to explore this relationship.
11.	Sukmedewi (2020)	To investigate the effects of Capital Adequacy Ratio (CAR), Loan-to-Deposit Ratio (LDR), Operating-Income to Expense Ratio (BOPO), Non-Performing Loans (NPL), and Net Interest Margin (NIM) on Return on Assets (ROA).	CAMEL Rating System	The results indicated that CAR, BOPO, NPL, NIM and LDR variables positively and significantly affected the importance of operational efficiency for improved financial performance.
12.	Ghorpade and Lad (2020)	To evaluate the role of the banking sector in India's economy.	CAMEL rating	Bank of Maharastra performed the best among the selected banks, ranking top with a composite average of 14.85, while IDFC First Bank Ltd. occupied the last position with a composite average of

				20.60.
13.	Olarewaju (2016)	To investigate the relationship between the capital base of banks and their operational efficiency in Nigeria and to provide insights into financial ratio analysis as a measure of banks' operational efficiency and effectiveness of their capital adequacy policies.	Financial Ratio Analysis	There are significant impacts of debt to toal equity, core capital ratio, and bank risk on the operational efficiency of Nigerian money deposit banks.
14.	Reddy (2013)	To investigate multiple facets, such as the quantity of approved applications, the distribution of aid, recovery efficiency, financial metrics such as revenue, expenses, operational profit, net profit, growth in equity, capital adequacy ratio, asset quality, decrease in non-performing assets (NPAs), borrowing costs, and return on average assets.	The fixed effect regression method	The Andhra Pradesh State Financial Corporation (APSFC) has significantly contributed to promoting fast and high-quality industrial development in Andhra Pradesh.

15.	Hamdi and Zarai (2013)	The study aimed to determine whether executives at Islamic banking institutions practiced efficient earnings management or engaged in opportunistic earnings management.	Fixed regression method	There is a positive and significant relationship between the EM proxy and future profitability.

2.3 Review of literature in the Nepalese context

Tharu's (2023) study thoroughly investigates the liquidity position, profitability status, and their interplay within Nepalese commercial banks. Employing a descriptive and analytical research design, the study primarily relies on secondary data extracted from annual reports of various commercial banks in Nepal. Correlation and regression analyses are employed to scrutinize the impact and relationship between liquidity indicators and profitability metrics. Return on Assets (ROA) and Return on Equity (ROE) serve as key measures of profitability, while liquidity is assessed through metrics such as current ratio, cash reserve ratio, cash and bank balance to current deposit ratio, and cash and bank balance to total deposit ratio.The study encompasses a comprehensive analysis of four major Nepalese commercial banks—ADBL, Nabil, Everest, and Himalayan—over a span of five fiscal years, from 2073/74 to 2077/78. Findings reveal that Capital Adequacy Ratio (CAR) exhibits a positive and statistically significant relationship with ROA, whereas metrics like Cash to Current Assets (CASH TO CA), Cash to Total Deposits (CASH TO TDP), and Cash Reserve Ratio (CR) demonstrate positive but statistically insignificant relationships with ROA. Conversely, CASH TO CA, CASH TO TDP, and CR exhibit negative and statistically insignificant relationships with ROE, whereas CAR shows a positive but statistically insignificant relationship with ROE. These insights underscore the nuanced dynamics between liquidity indicators and profitability metrics across the selected commercial banks throughout the study period.

Bagale (2023) conducted an extensive investigation into the factors influencing bank profitability in Nepal. The study utilized data from a sample of 15 commercial banks operating between 2011 and 2020. Statistical methods such as mean, standard deviation, correlation, and regression analysis were meticulously applied to analyze the data. The analysis employed a pooled regression model (OLS) for panel data, with Return on Equity (ROE) as the primary profitability indicator. Factors including Capital Adequacy Ratio, Cash Reserve Ratio, Loan Loss Provision Ratio, Non-Performing Loan Ratio, and Bank Size were evaluated to gauge credit risk management. The study revealed that credit risk significantly impacts the profitability of Nepalese commercial banks. Specifically, Cash Reserve Ratio, Loan Loss Provision Ratio, and Non-Performing Loan Ratio were found to have minor adverse effects on ROE. In contrast, Bank Size and Liquidity Ratio were observed to positively influence ROE. Notably, Liquidity Ratio was highlighted for its substantial positive impact on ROE in Nepalese commercial banks. Moreover, the study identified Capital Adequacy Ratio as exerting a significant negative impact on ROE, providing nuanced insights into the profitability dynamics within Nepal's banking sector.

Sah and Pokharel (2023) conducted an extensive study spanning from fiscal year 2011/12 to 2020/21, analyzing three prominent commercial banks in Nepal: Rastriya Banijya Bank (RBBL), Nepal SBI Bank Limited (NSBIL), and Prime Commercial Bank Limited (PCBL). The research highlighted NSBIL and PCBL's effective management of risk-weighted assets and robust Tier I and II capital adequacy levels, which underscored their financial stability. NSBIL notably maintained a higher proportion of performing loans compared to its peers. Over the study period, RBBL, NSBIL, and PCBL consistently achieved solid returns on shareholder equity and assets, indicating stable operational performance within Nepal's banking sector. PCBL emerged as the leader in the ratio of liquid assets to total deposits, followed closely by NSBIL and RBBL. These findings provide valuable insights for academics, researchers, and bank management, offering a foundation for strategic financial planning to enhance overall performance and sustainability in Nepal's competitive banking environment.

Shrestha and Gnawali (2022) conducted an extensive analysis into the relationship between the CAMEL framework and Return on Assets (ROA) in Nepalese commercial banks,

investigating how these factors influence profitability. Adopting a descriptive research design, the study employed quantitative research techniques to explore data sourced from secondary financial reports spanning a decade (2011/12–2020/21). The research encompassed a sample of 26 commercial banks, selected through a lottery system from Nepal's total banking population. Key banks included Nabil Bank Limited, Nepal Investment Bank Limited, Century Commercial Bank Limited, Nepal SBI Bank Ltd., Everest Bank Limited, and Prabhu Bank. The study focused on CAMEL variables extracted from annual reports available on the banks' official websites, utilizing correlation and regression analyses for data assessment. Findings revealed a mixed correlation between the CAMEL framework and ROA. Specifically, Capital Adequacy and Asset Quality demonstrated significant negative impacts on ROA, highlighting the critical role of these factors in influencing profitability. Conversely, Earnings Ability exhibited a significant positive effect on ROA, underscoring its importance in driving financial performance. Furthermore, the study found that Management Efficiency and Liquidity Status had insignificant and negative effects on ROA, suggesting that these factors do not significantly impact profitability in Nepalese commercial banks. Overall, the research concluded that ROA, as a measure of profitability, is predominantly influenced by internal factors such as earnings quality, in addition to the pivotal roles played by Capital Adequacy and Asset Quality, while Management Efficiency and Liquidity Status play lesser roles in determining bank profitability in the Nepalese context.

Acharya and Vyas (2022) undertook a comparative study evaluating the financial resilience of joint venture and domestic commercial banks in Nepal, analyzing data from mid-July 2011/2012 to mid-July 2019/2020. Utilizing the CAMELS framework, which assesses Capital Adequacy, Asset Quality, Management Quality, Earnings Performance, Liquidity, and Sensitivity to Market Risk, the research highlighted significant findings. Through a descriptive research approach, the study demonstrated that Nepalese joint venture banks exhibit stronger financial metrics in asset quality, management quality, earnings performance, and liquidity compared to their domestic counterparts. This advantage is attributed to their enhanced IT infrastructure and stronger investment practices facilitated by international collaborations, thereby bolstering their competitive position within Nepal's banking sector.

Aryal (2022) conducted an in-depth investigation into the factors influencing the profitability of commercial banks in Nepal. Employing a descriptive and analytical research design, the study aimed to identify and analyze the key determinants impacting the profitability performance of these banks. The research highlighted that factors such as capital adequacy ratio, non-performing loans, loan loss provisions, asset size, operating efficiency (Cost-to-Income Ratio, CIR), and liquidity ratios play pivotal roles in shaping the profitability of Nepalese commercial banks. These determinants were assessed in relation to their influence on both Return on Assets (ROA) and Return on Equity (ROE), providing insights into how these financial metrics are affected by internal factors within the banking sector of Nepal. The study's findings underscored the critical importance of these determinants in determining the financial performance and sustainability of commercial banks operating in Nepal's dynamic economic environment.

Gautam (2020) conducted an extensive analysis of the financial performance and influencing factors of Nepalese financial depositary institutions within the CAMEL framework. The study employed a descriptive cum casual research design, utilizing secondary data sourced from publications by Nepal Rastra Bank, including banking and financial statistics, financial stability reports, and bank supervision reports. The entire population of financial institutions including A-class commercial banks, development banks, and finance companies served as the study's scope, covering a comprehensive financial performance analysis spanning five years from 2014/15 to 2018/19. The study evaluated key variables such as capital adequacy, asset quality, management efficiency, earnings, and liquidity to assess financial performance across different institutional categories. Descriptive and pooled regression analyses were employed to explore relationships among these variables. The findings from descriptive analysis revealed that financial institutions in each category generally met Nepal Rastra Bank's standards for capital adequacy. Among the sectors analyzed, finance companies ranked highest in terms of capital adequacy and earnings performance, while development banks led in asset quality, and commercial banks excelled in management efficiency. Finance companies also maintained higher levels of liquidity compared to other financial institutions. Regression analysis unveiled significant insights into the relationships between these variables and financial performance metrics. Specifically, Return on Assets (ROA) demonstrated a positive correlation with capital adequacy and Return on Equity (ROE), but

exhibited a negative correlation with asset quality. Conversely, ROE showed a positive relationship with asset quality and ROA, but displayed a negative relationship with capital adequacy. These findings underscored the complex interplay of financial indicators in shaping the performance dynamics of Nepalese financial institutions within the structured framework of CAMEL.

Joshi (2020) conducted a comprehensive evaluation and comparison of the financial performance of Agricultural Development Bank Limited (ADBL) and Rastriya Banijya Bank Limited (RBBL) in Nepal from 2071/72 to 2075/76. The study employed the CAMEL rating system, a robust quantitative technique widely recognized for its effectiveness in evaluating bank performance. Both ADBL and RBBL, being public sector banks, were selected as sample institutions to fulfill the study's objectives. Secondary data were gathered primarily from the annual reports of ADBL and RBBL, supplemented by information obtained from the official websites of Nepal Rastra Bank (NRB) and Securities Board of Nepal (SEBON). The research utilized descriptive tools to organize and analyze data under various categories, employing financial and statistical methods to compare and interpret the findings comprehensively. The results indicated that both banks met the core capital ratio standards set by NRB, demonstrating their financial stability and adherence to regulatory requirements. The study also highlighted a favorable trend in the non-performing loan-to-asset ratio over the study period, indicating sound asset quality management. Notably, ADBL exhibited a higher average Return on Assets (ROA) compared to RBBL, suggesting greater operational efficiency and productivity at ADBL. Both banks showed satisfactory Return on Equity (ROE), reflecting their effective use of shareholder funds. Furthermore, the liquidity ratios of ADBL and RBBL were deemed adequate, meeting the prescribed standards of NRB. This aspect underscored their ability to manage short-term obligations and maintain liquidity levels necessary for operational stability and regulatory compliance. In conclusion, Joshi's study provided a detailed analysis of ADBL and RBBL's financial performance, offering valuable insights into their operational strengths and areas for potential improvement within the Nepalese banking sector.

Hamal and Adhikari (2020) conducted an analysis of the comparative performance of selected public and joint venture commercial banks in Nepal, utilizing the CAMEL rating

system. The study comprehensively evaluated various facets of financial performance over a five-year period spanning from 2015 to 2019. Their research revealed that HBL demonstrated superior capital maintenance capabilities, while EBL excelled in managing a higher proportion of well-performing loans and optimizing earnings efficiency. SCB was noted for its robust managerial effectiveness, whereas ADBL stood out for maintaining strong liquidity positions within the industry. Furthermore, employing an independent sample t-test, the study investigated mean differences across key performance parameters between public and joint venture banks. The findings indicated no significant disparities in capital adequacy, earning performance, and liquidity metrics between these two categories of banks. However, a notable disparity was observed in asset quality and management efficiency, where joint venture banks outperformed their public counterparts significantly. This detailed analysis underscores the nuanced strengths and comparative advantages within Nepal's banking sector, providing valuable insights into the strategic management of financial resources and operational efficiencies among different bank types.

Shrestha (2020) conducted an in-depth analysis of how various bank-specific factors influence the financial performance of Nepalese commercial banks, focusing on Return on Assets (ROA) as the primary performance metric. The study utilized proxies such as Managerial Efficiency (ME), Liquidity (LIQ), Credit Risk (CR), Asset Quality (AQ), and Operational Efficiency (OE) to gauge these factors. Data spanning from 2010/11 to 2017/18 were gathered from a panel of 17 commercial banks for comprehensive analysis.To determine the most suitable regression model, Shrestha employed Breusch and Pagan Lagrangian's multiplier test, which indicated that the Pooled Regression model was inadequate. Subsequently, the Hausman test recommended the Fixed Effect model over the Random Effect model for the study's purposes. Using the Fixed Effect model, the research established significant correlations between bank-specific factors and financial performance in Nepalese commercial banks.The findings of the study underscored that Managerial Efficiency (ME), Asset Quality (AQ), and Operational Efficiency (OE) positively influenced financial performance metrics like ROA. Conversely, Credit Risk (CR) was identified as exerting a negative impact on the financial performance of these banks. This research provides valuable insights into the internal dynamics affecting the profitability and efficiency

of Nepalese commercial banks, highlighting areas for improvement and strategic focus within the banking sector.

Pokhrel (2018) conducted a comprehensive analysis of the asset and liability composition, asset utilization, and deposit and loan trends within the joint venture finance sector in Nepal. The study highlighted that both NABIL and HBL exhibited strong performance in accumulating total deposits, with HBL demonstrating superior management of cash and bank balances. Additionally, the study noted a positive trajectory in net profit for EBL, indicating an improving financial performance over the period under review.

Subedi (2018) examined the financial dynamics of Everest Bank Limited (EBL), focusing on various cost components relative to deposits and their impact on profitability. The study investigated the relationship between staff expenses, interest expenses, and operating costs in relation to total costs. Additionally, it analyzed the proportion of staff expenses and operating expenses in relation to net profit. The findings revealed fluctuations in the ratio of total costs to net profit over the study period. There was observed a rising trend in staff expenses, indicating potential implications for overall cost management strategies within EBL. Importantly, the study identified a positive correlation between staff expenses and net profit, suggesting that effective management of personnel costs could contribute positively to EBL's financial performance over time.

Pradhan and Parajuli (2017), using Return on Assets (ROA) and Net Interest Margin (NIM) as key metrics explored capital adequacy's and cost-income ratios'affects on the performance of Nepalese commercial banks. The study relied on secondary data collected from 20 Nepalese commercial banks spanning the years 2009-10 to 2014-15. Their findings unveiled a positive correlation between bank size and ROA, indicating that larger banks tended to achieve higher returns on their assets. However, the study also unearthed adverse relationships between certain key ratios and ROA. Specifically, higher levels of capital adequacy and cost-income ratios were found to have negative impacts on ROA. This suggests that while maintaining adequate capital is crucial for financial stability, excessively high capital adequacy ratios may hinder profitability in Nepalese commercial banks. Similarly, the study identified negative associations between equity capital to total assets ratio and liquidity ratio with ROA, indicating that overly conservative financial structures

might constrain profitability. Moreover, Pradhan and Parajuli highlighted the detrimental effects of elevated cost-income ratios on both ROA and return on equity (ROE). A high cost-income ratio signifies higher operating costs relative to income, which can erode profitability and returns for shareholders. This underscores the importance of efficient cost management in enhancing bank profitability in the Nepalese context. In summary, while larger bank size was shown to enhance performance in terms of ROA, careful management of capital adequacy, cost-income ratios, and liquidity is crucial to achieving sustainable profitability. This study contributes valuable insights into the complex dynamics shaping the financial performance of Nepalese commercial banks amidst varying economic conditions.

Table 2

Summary of Literature Review in the Nepalese context

S. No	Authors	Objectives	Methodology	Findings
1.	Tharu (2023)	To investigate the liquidity position, profitability status, and the impact and connection between liquidity and profitability of Nepalese commercial banks.	Descriptive and analytical research design	The Capital Adequacy Ratio (CAR) shows a clearly positive and significant relationship with Return on Assets (ROA), whereas the relationships of cash to Current Assets (CA), cash to Total Deposits (TDP), and the Cash Reserve (CR) with ROA are positive but not statistically significant.
2.	Bagale (2023)	Pooled regression analysis model	To study the factors affecting profitability	Credit risk greatly affects how profitable commercial banks are in Nepal. Factors like

				Cash Reserve Ratio (CRR), loan loss provision ratio, and non-performing loan ratio, however, have only minor negative impacts on Return on Equity (ROE).
3.	Sah and Pokharel (2023)	To analyze how well three commercial banks in Nepal performed from 2011/12 to 2020/21.		Rastriya Banijya Bank Limited (RBBL), Nepal SBI Bank Limited (NSBIL), and Prime Commercial Bank Limited (PCBL), all financial institutions, achieved moderate levels of profitability in terms of returns on shareholder equity and assets. Additionally, PCBL led in the ratio of liquid assets to total deposits, followed by NSBIL and RBBL.

4.	Shrestha and Gnawali (2022)	To explore the relationship between CAMEL and Return on Asset (ROA) and assess CAMEL's impact on the ROA (profitability) of Nepalese commercial banks.	Descriptive research design, quantitative research technique.	Capital adequacy and asset quality significantly reduce ROA, whereas earning capacity strongly boosts it. However, management efficiency and liquidity position have a negligible or adverse effect on ROA. Thus, the profitability of Nepalese commercial banks is predominantly shaped by internal factors like earning quality, alongside capital adequacy and asset quality, rather than by management efficiency and liquidity status.
5.	Acharya and Vyas (2022)	To contrast the financial strength framework between joint venture and domestic research commercial banks in Nepal.	CAMEL model, descriptive research.	Nepalese joint venture banks exhibit strong financial health, characterized by superior asset quality, management quality, earning performance, and liquidity compared

				to Nepalese domestic banks.
6.	Aryal (2022)	To examine the relationship of and analytical commercial bank's research profitability with design its determinants.	Descriptive and analytical research design	Capital Adequacy Ratio, Non-performing loan, loan loss provision, assets size, operating efficiency (CIR), and liquidity ratio are the most significant bank-specific determinants that influence Nepalese commercial banks' profitability as measured by ROA and ROE.
7.	Gautam (2020)	To analyze the financial performance and determinants impacting Nepalese financial depositary institutions within the CAMEL framework.	Descriptive combined with causal research design	ROA exhibits a significant positive correlation with capital adequacy and ROE, whereas it demonstrates a significant negative correlation with asset quality. Conversely, ROE shows a significant positive correlation with asset quality and both ROA and ROE, but it exhibits a significant

				negative correlation with capital adequacy in the Financial Performance Analysis of Nepalese Financial Institutions using the CAMEL framework.
8.	Joshi (2020)	To evaluate and compare the financial performance of ADBL and RBBL in Nepal.	Descriptive tool	The average ROA of ADBL was higher than RBBL. It indicates the better productivity of ADBL. The ROE of both banks was satisfactory. The liquidity ratio of ADBL and RBBL was good and met the standard level of NRB.
9.	Hamal and Adhikari (2020)	To analyze the relative performance of selected public and joint venture commercial banks of Nepal	CAMEL rating system	There was no significant difference in capital adequacy, earning performance, and liquidity between public and joint-venture banks. However, a notable disparity in asset quality and management quality was observed between these two types of

				banks.
10.	Shrestha (2020)	To examine how factors specific to banks affect the financial performance of commercial banks in Nepal.	Fixed effect model	Factors specific to banks exert a significant influence on the financial performance of Nepalese commercial banks. Metrics such as ME, AQ, and OE positively impact financial performance, while CR negatively affects it.
11.	Pokhrel (2018)	To analyze the composition of assets and liabilities, utilization of assets, and the trend of deposits and loans for joint venture finance in Nepal.	Ratio Analysis	NABIL and HBL performed well in collecting total deposits, with a better performance in cash a bank balance position in the case of HBL.
12.	Subedi (2018)	To study the relation of staff expenses and interest and operating expenses with total cost, and the proportion of staff expenses and operating expenses concerning net profit of EBL.	Ratio Analysis	There is fluctuation in the total cost-to-net profit ratio, an increasing trend in staff expenses, and a positive correlation between staff expenses and net profit.
13.	Pradhan and	To assess how capital	Correlation and	The findings indicated

Parajuli (2017)	adequacy and the cost-income ratio affect the performance of commercial banks in Nepal.	descriptive statistics	that larger bank size positively influenced bank performance, while increased capital adequacy and cost-income ratios had negative impacts on return on assets and equity.

2.4 Research Gap

This study utilizes correlation and regression analysis to explore the relationships between capital adequacy, operating efficiency, and return on equity (ROE) in commercial banks. The sample consists of three banks chosen from a total of 20 banks, using a combination of cluster and random sampling methods. The primary objectives are twofold: first, to analyze the correlations between the specified variables, and second, to evaluate the impact of these variables on the ROE of commercial banks. The study covers a ten-year period and employs a descriptive research design to achieve its goals.

Previous researchers have used more than three banks and applied different techniques, such as panel analysis, for data analysis. Most studies used data spanning five to eight years (Subedi, 2018) and included the entire population in their studies (Syafrizal, Ilham & Muchtar, 2023). Future research could benefit from using a larger dataset and incorporating more dependent and independent variables for analysis.

CHAPTER- III

RESEARCH METHODOLOGY

The research methodology comprises a series of established procedures and techniques utilized to identify, select, process, and analyze information pertinent to a specific topic. In a research paper, the methodology section offers readers the tools to critically evaluate the study's overall validity and reliability. This section details the comprehensive steps taken to conduct the research, providing a clear and systematic roadmap of the research process.

3.1 Research Design

This research employs both descriptive and causal-comparative research designs to investigate the determinants of dividend policy. The descriptive research design is used to pinpoint the various factors that influence dividend policy and to collect comprehensive information regarding these determinants. Furthermore, the study integrates both descriptive and causal-comparative approaches to examine the nature and strength of the relationships between the dependent variable (profitability) and the independent variables (the determinants).

3.2 Population and Sample

Sampling is done by random sampling. The sample is selected on a random basis. Similarly, financial statements of three commercial banks for a ten-year research period i. e. FY 2014 to FY 2023 have been taken as samples for the same purpose. The sample banks are

Everest bank

Kumari bank Limited

Nepal bank ltd

As of mid-July 2023, Nepal has a total of 20 commercial banks. This study focuses on three specific banks, each with distinct characteristics. Everest Bank Limited operates as a joint venture with Punjab National Bank of India, Kumari Bank represents private-public ownership, and Nepal Bank Limited operates under government ownership.

3.3 Nature and Sources of Data

Within this section, the researcher delineates the nature and origins of the data. Two primary categories of data, namely primary and secondary, are identified. Various research works

utilize different sources, which can be broadly classified as published or unpublished. Published sources encompass articles by researchers, annual reports, newspapers, tax reports, and government policies. Unpublished sources include internal organizational decision-making materials, minutes, vouchers, and other records of management and board of director decisions.

3.4 Instrument of Data Collection

The term "instrument" pertains to the tools employed for data collection. Secondary data is acquired from the respective banks' websites and annual reports. The economic report from the Nepal Rastra Bank (Banking and Financial Statistics), along with other published statistical data, has been referenced. Informal discussions and procedures were utilized for obtaining supplementary information. Primary data, on the other hand, were gathered through various instruments such as questionnaires, observations, interviews, laboratory experiments, quasi-experiments, and the use of scales.

3.5 Methods of Analysis

For the achievement of the objectives of the study, various financial and statistical tools/methods have been used. They are namely following.

3.5.1 Financial Analysis

- Capital adequacy ratio
- Core Capital ratio
- Nonperforming loan
- Return on Assets
- Cash Reserve Ratio
- Net Interest Margin

Capital Adequacy Ratio

This ratio is computed by dividing equity by total assets. It serves as a measure to assess the percentage of equity utilized for asset acquisition. A higher percentage implies greater security for debenture holders and creditors in the event of liquidation. Conversely, a lower ratio suggests that external investment outweighs owner investment. The formula is below:

$$\text{Capital Adequacy Ratio} = \frac{\text{EquityCapital}}{\text{TotalAssets}}$$

Core Capital ratio

Tier 1 capital represents the minimum level of reserves a bank is required to maintain to support its operational activities. This capital ratio evaluates a bank's primary equity capital relative to its total risk-weighted assets. Components of Tier 1 capital include the bank's common stock, retained earnings, accumulated other comprehensive income (AOCI), noncumulative perpetual preferred stock, and any regulatory adjustments to these accounts.

It is calculated as

Core capital ratio= tier 1 capital/risk-weighted assets

Cash reserve ratio(CRR)

The cash reserve ratio (CRR) refers to the mandatory percentage of a bank's total customer deposits that must be held either in cash or deposited with the central bank. This ratio is crucial as it directly influences a bank's lending capabilities and affects short-term interest rates within the economy. When the CRR is increased, a bank's ability to lend money decreases, thereby potentially raising short-term interest rates. Conversely, lowering the CRR expands a bank's lending capacity and can contribute to lower short-term interest rates. If the Nepal Rastra Bank (NRB) sets the CRR at 4%, a bank with deposits totaling NPR 100 million would be required to reserve NPR 4 million in either physical cash or as deposits with the NRB. This reserve ensures that the bank maintains adequate liquidity to meet customer withdrawals promptly and effectively. Thus, the CRR serves as a regulatory tool that balances a bank's ability to extend credit with the necessity to maintain liquidity levels that safeguard against financial instability.

Net interest margin (NIM)

Expressed as a percentage NIM is a profitability indicator that allows investors to determine whether to invest or not in an organization by providing them a visibility into interest income versus the interest expenses. A positive NIM suggests that an entity is operating profitably while a negative figure implies investment inefficiencies.

It is calculated as

$$\text{NIM}=\frac{\text{Net interest income}}{\text{interestgeneratingassets}}$$

Return on Assets

This ratio is used to determine the return generated from asset investment. It serves as a performance indicator for the company, with higher results being more favorable. This can be calculated using the following formula:

$$\text{Return on Assets} = \frac{\text{Net profit after Tax}}{\text{Total Assets}}$$

3.5.2 Statistical Analysis

Descriptive Analysis

Descriptive analysis involves examining the mean, standard deviation, minimum, and maximum values of the provided data variables.

Arithmetic Mean

The arithmetic mean, also known as the average, is computed by adding up all the values in a dataset and dividing the sum by the number of observations. This statistical measure is considered a representation of central tendency and is applied in this research to analyze data concerning sample banks across ten fiscal years. It is calculated as;

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

Where, $\overline{X}$ = Mean

$\sum X$ = Sum of all the variables X

n = Variable involved

Standard Deviation (σ):

Standard deviation, a statistical metric, gauges the extent of variability or spread within a dataset. Computed as the square root of the variance, it involves assessing the deviation of each data point from the mean. It is denoted by (**σ**).

$$\text{Standard Deviation } (\boldsymbol{\sigma}) = \sqrt{\frac{\sum(X - \overline{X})^2}{N}}$$

Where,

X=variables

$\overline{X}$ = mean

N= No. of Period

Minimum

The minimum, representing the lowest value in a given dataset, is also referred to as the smallest data point within the variable under examination. It is the initial data value when the dataset is arranged in ascending order. While the minimum value may be duplicated in the dataset, it is considered a unique figure, as one instance must be lesser than the other if there are repetitions.

Maximum

The maximum, denoting the highest value within a provided dataset, is also known as the largest data point associated with the variable under consideration. It represents the final data value when the dataset is arranged in ascending order. The maximum value is considered unique in a dataset, even if it appears more than once, as one instance must be greater than the other if there are repetitions.

Correlation Analysis

Correlation is a statistical technique employed to determine the direction and strength of the relationship between two sets of variables. It illustrates how two variables co-vary and quantifies the degree of association between them. The Pearson correlation coefficient is utilized to elucidate this relationship, with values ranging from -1 to +1. A correlation coefficient of exactly -1 indicates a perfect negative correlation, signifying that the variables move precisely in opposite directions. Conversely, a correlation coefficient of +1 implies a perfect positive correlation, indicating that the variables are perfectly related in the same direction.

Multiple Regression Model

Multiple regression analysis is a statistical method employed to examine the association between a singular dependent (criterion) variable and multiple independent (predictor) variables. The primary aim of multiple regression analysis is to forecast alterations in the

dependent variable about variations in the independent variables. This method gauges the effectiveness of multiple regressions in predicting outcomes. The multiple determination, or R-squared, denotes the percentage of variability in the dependent variable that can be elucidated by the regression equation. The multiple regression equation for this research can be as follows:

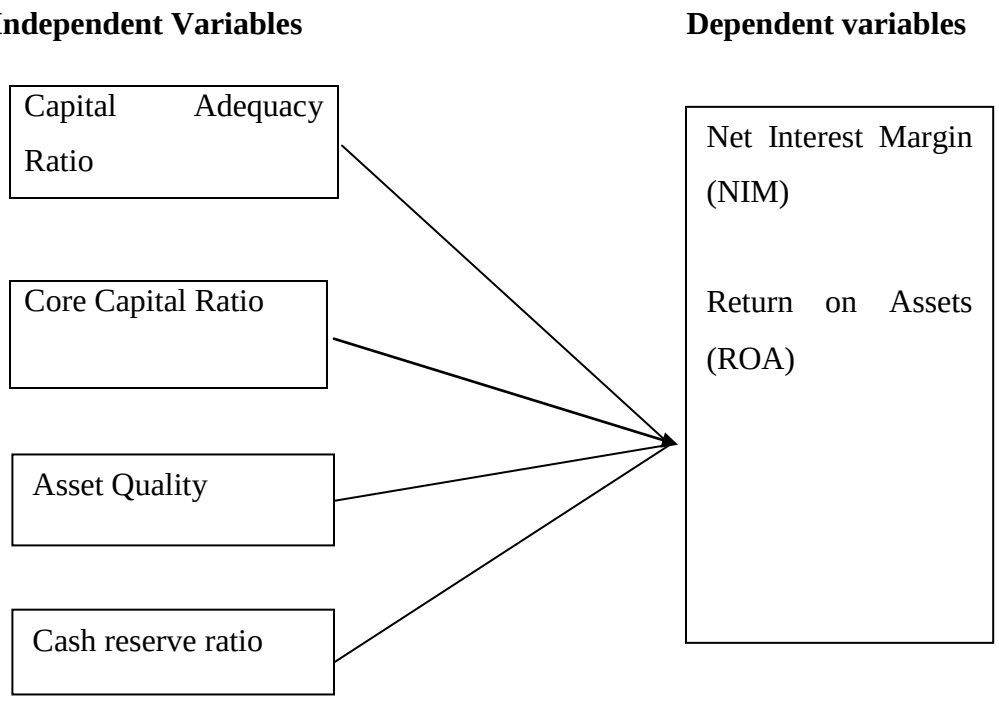
$ROA = \beta_0+\beta_1\times CAR+\beta_2\times CCR+\beta_3\times NPL+\beta_4\times CRR$

$NIM=+\beta_1\times CAR+\beta_2\times CCR+\beta_3\times NPL+\beta_4\times CRR$

Where,

ROA = Return on Assets
CAR= Capital Adequacy ratio
CCR= Core Capital ratio
NPL= Non-Performing loan
CRR= Cash Reserve ratio
NIM=Net Interest Margin

3.6 Research Framework



Source: Chandrasegaran(2020).

Figure 1: Conceptual Framework

3.7 Definition of Variables

For clarity in presenting the research, the variables are abbreviated as follows, as illustrated in the table below:

Capital Adequacy (CAR)

Capital serves as a crucial indicator of financial stability and bank safety, reflecting a bank's ability to manage risk and navigate financial crises. The Capital Adequacy Ratio (CAR) signifies the amount of equity capital and other securities held by a bank as reserves against risky assets, acting as a safeguard against potential bank failure.

Core Capital ratio

Tier 1 capital stands as the foundational reserve that thrift banks must uphold relative to their risk-weighted assets. Specifically, the "tier 1 capital ratio" indicates the proportion of a bank's core capital—referred to as tier 1 capital—to its total risk-weighted assets. This ratio is pivotal in ensuring the financial stability of financial institutions. Essentially, tier 1 capital signifies the minimum reserves that a bank must maintain to sustain its banking operations. It is computed by dividing a bank's core equity capital—which encompasses common stock, retained earnings, accumulated other comprehensive income (AOCI), noncumulative perpetual preferred stock, and regulatory adjustments—by its total risk-weighted assets. This measure offers valuable insights into the robustness of a bank's financial underpinning, evaluating how well its core capital supports the risks associated with its lending and investment endeavors.

It is calculated as

Core capital ratio= tier 1 capital/risk-weighted assets

Assets quality

Loans and advances represent significant assets for financial institutions, and their quality directly impacts a bank's asset portfolio. Assessing this quality involves evaluating the credit

risk associated with these assets. The term "asset quality" pertains to how these loans perform and their overall risk level. It's crucial because it influences both the operational costs of banks and their potential for achieving economies of scale.Research findings consistently demonstrate that an increase in non-performing loans (NPLs) correlates with higher operational costs for banks. This relationship underscores the importance of managing NPLs effectively to maintain cost efficiency. Interestingly, even banks with substantial assets can benefit from economies of scale, as suggested by cost curves derived from those with low non-performing loan ratios.The non-performing loan (NPL) ratio serves as a straightforward indicator of asset quality in banking. It provides a clear measure of the proportion of loans that are not generating income due to non-payment, thereby affecting the overall health of a bank's asset base.NPL is calculated below

$$\text{NPL ratio}=\frac{\text{NPL}}{\text{Total loan outstanding}}$$

Cash reserve ratio(CRR)

The cash reserve ratio (CRR) represents a mandated minimum percentage of the total customer deposits that a bank must maintain either as cash in hand or as deposits with the central bank. As of March 2024, the CRR stands at 4%. The Nepal Rastra Bank (NRB) utilizes the CRR as a tool to regulate the immediate availability of liquid funds within the banking system. By adjusting the CRR, the NRB can influence a bank's lending capacity and impact short-term interest rates. When the CRR is raised, it diminishes a bank's ability to lend, as a larger portion of its deposits must be kept in reserve. Conversely, lowering the CRR increases a bank's capacity to extend loans. If the NRB sets the CRR at 4%, a bank holding NPR 25 million in deposits would be required to retain NPR 1 million either in cash or as deposits with the NRB. This ensures that the bank maintains adequate cash reserves to fulfill customer withdrawal demands and uphold overall liquidity levels.

Net interest margin(NIM)

The Net Interest Margin (NIM) quantifies the amount of interest income generated from interest-generating assets, primarily loans extended by financial institutions. It serves as a crucial profitability metric, expressed as a percentage, that offers investors insight into an organization's financial health. By comparing interest income to interest expenses, NIM aids investors in evaluating whether to invest in a company. A positive NIM indicates that the entity is effectively generating profits from its operations. Conversely, a negative NIM indicates inefficiencies in managing investments, potentially deterring investors due to lower profitability or operational challenges. Thus, NIM serves as a pivotal indicator for assessing financial performance and investment viability.

It is calculated as

$$\text{NIM}=\frac{\text{Net interest income}}{\text{interestgeneratingassets}}$$

Return on Assets

Net Interest Margin (NIM) serves as a critical metric indicating the level of interest income generated by interest-generating assets, primarily loans extended by financial institutions. Represented as a percentage, NIM provides investors with valuable insights into the profitability of an organization by comparing interest income against interest expenses. A positive NIM signifies that the entity is operating profitably, whereas a negative NIM suggests inefficiencies in investment.Return on Assets (ROA) measures how effectively a company utilizes its assets to generate revenue, making it the focal dependent variable in this study. Total assets encompass both fixed and current assets. The ROA ratio falls under the asset management category of financial ratios, offering a clear picture of asset utilization efficiency. ROA figures are sourced from the annual reports of selected banks; when unavailable, they are computed using a specified formula.

$$\text{ROA}=\frac{\text{Net Income}}{\text{Total assets}}$$

CHAPTER IV

RESULTS AND DISCUSSION

This chapter deals with the analysis and interpretation of collected data to conclude. Data are analyzed using descriptive statistics, correlation analysis, and regression analysis.

4.1 Descriptive statistics

In the study, descriptive statistics are used for describing the central tendency of data such as mean and dispersion of data as standard deviation. The study has considered ROA and NIM as independent variables and CAR, core capital ratio, CRR, and NPL as determinant factors of financial performance or independent variables. Mean, minimum, maximum, and standard deviation are considered for the study. The findings of these variables are presented below

Table 3

Descriptive analysis

	N	Minimum	Maximum	Mean	SD Deviation
NIM	30	1.74	14.09	9.62	2.47
ROA	30	0.14	2.79	1.44	0.60
CAR	30	4.55	17.01	12.87	2.57
CCR	30	3.92	16.8	11.13	2.49
CRR	30	3.49	24.27	10.48	6.05
NPL	30	0.12	5.12	1.82	1.48

Table 3 presents data from 30 observations across three commercial banks, detailing various financial indicators. Return on Assets (ROA), calculated as net income divided by total assets, shows an average profitability of 1.44%. This means that for every rupee invested in assets, an average return of 0.0144 rupees is generated. The maximum ROA recorded is 2.79%, with a minimum of 0.14%, and a standard deviation of 0.6 indicates variability around the mean.

Similarly, the average Net Interest Margin (NIM) stands at 9.62%, indicating that for every rupee invested in loans and advances, approximately 0.0962 rupees in interest is earned. The standard deviation of NIM is 2.47%, reflecting variability from the mean, with a maximum value of 14.09% and a minimum of 1.74%.

The Capital Adequacy Ratio (CAR), crucial for regulatory compliance and bank solvency, averages 12.87% across the sampled banks. This ratio, calculated as risk-weighted assets to current liabilities, must meet a minimum requirement of 10%. The range of CAR spans from 4.55% to 17.01%.

Asset management, assessed by the Non-Performing Loans (NPL) ratio to total loans, averages 1.82%. This indicates that, on average, 1.82% of loans are non-performing. The highest credit risk observed is 5.12%, signaling potential challenges in asset quality, while the lowest risk stands at 0.12%. The standard deviation of 1.48 underscores variability around the mean value.

Additionally, Cash Reserve Ratio (CRR) and Core Capital Ratio serve as proxies for capital adequacy, with average values of 10.48% and 11.13% respectively.

4.2 Correlation analysis

The study uses correlation analysis to measure the relationship between the dependent variable and the determinant of profitability. The relationship between ROA and NIM with independent variables is depicted in tables 4.

Table 4

Correlation matrix ROA/NIM

	NIM	ROA	CAR	CCR	CRR	NPL
NIM	1					
ROA	-.130	1				
CAR	-.194	.126	1			
CCR	-.198	.228	.922**	1		
CRR	-.435*	.559**	-.167	-.101	1	
NPL	.493**	-.168	-.411*	-.388*	-.236	1

N=30

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

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

In Table 4, the correlation between ROA and key determinants of capital adequacy is presented. The findings indicate that ROA shows a positive correlation with CAR (0.126), core capital ratio (0.228), and CRR (0.559), but a negative correlation with NPL (-0.168). This negative relationship stems from the fact that nonperforming loans, which affect banks' profitability, primarily impact interest income—the main revenue source for banks. Conversely, the positive correlations suggest direct relationships between the independent variables and ROA, excluding NPL.

The two-tailed test reveals that only the significance value between ROA and CRR is less than 0.05, indicating a significant relationship between them. Conversely, the significance values of ROA with CAR, CCR, and NPL exceed 0.05 at a 0.05 level of significance, suggesting no significant relationships between ROA and these variables.

Similarly, the results indicate that NIM is negatively correlated with CAR (-0.194), core capital ratio (-0.198), and CRR (-0.435), while positively correlated with NPL (0.493). This

negative relationship suggests an inverse connection between these independent variables and NIM, with the exception of NPL, which exhibits a direct positive relationship with NIM.

The two-tailed test shows that the significance values between NIM and CAR, NPL, and core capital ratio are greater than 0.05 at a 0.05 level of significance, indicating no significant relationships between NIM and these variables. However, the significance values of CRR and NPL are less than 0.05, implying a significant negative relationship between NIM and CRR, and a significant positive relationship between NPL and NIM.

4.3 Multiple Regression Analysis

A multiple regression analysis has been conducted to study the relationship between profitability and determining factors of the financial performance of commercial banks in Nepal. Regression analysis is done to find out the effect of predictors (independent variables) on the dependent variables. Regression can estimate the coefficients of the linear equation involving one or more independent variables, which best predicts the value of the dependent variables.

4.4 Overall fitness of the model

Table 5

Model Summary-1

Model	R	R square	AdjustedR square	The std error of estimate
1	.6408[a]	.411	.316	.5014

a.Dependent Variable: ROA

b. Predictors: (Constant), CAR, CCR, CRR, NPL

The indicators of the model 1 fitness are shown in Table 5 the coefficient indicates that the correlation coefficient (R) between the independent variables and ROA is 0.6408 which is a positive strong relationship. The coefficient of determination (R square) of 0.411 indicates

that the model can explain 41.1% of variation in the dependent variable that is ROA is due toCAR, core capital ratio, CRR, NPL the remaining % by other variables which are not included in this study.

4.5 Overall analysis of variance (ANOVA)

Table 6

ANOVA Result-1

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.379	4	1.094	4.35	008
	Residual	6.285	25	.251		
	Total	10.664	29			

a. Dependent Variable: ROA

b. Predictors: (Constant), CAR, CCR, CRR, NPL

Table 6 presents the analysis of variance (ANOVA) on the impact of CAR, core capital ratio, CRR, and NPL on ROA. The results of sig value <.008 indicate that the model is statistically significant in explaining the impact of independent variables on dependent variables. This means that the ANOVA results indicate that the combined effect of CAR, core capital ratio, CRR, and NPLis statistically significant in explaining the financial performance of commercial banks at a 0.05 level of significance.

Table 7

Regression coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.022	.698		.031	.975
	CAR	-.056	.098	-.238	-.572	.572
	CCR	.131	.098	.540	1.344	.191
	CRR	.059	.017	.594	3.552	.002
	NPL	.034	.073	.084	.470	.643

a. Dependent Variable: ROA

Table 7 shows the coefficient results. As indicated the beta value is 0.056 which means the change in an independent variable that is CAR by one unit will bring about the change in the dependent variable i.e. ROA by 0.056. Furthermore, the beta value is negative which indicates the negative relation between CAR and ROA. Similarly, the beta value of NPL is 0.034 means that a change in 1 unit of NPL will bring a change in ROA by 0.034. So by this, we can understand that a change in one unit of the independent variable will bring change in the dependent variable by change of beta value. Since the sig value of CRR is less than 0.05 it is the only significant predictor.

Table 8

Model Summary-II

C	Model Summary			
Model	R	R square	AdjustedR square	The std error of estimate
2	.5990[a]	.3588	.2562	2.1361

Predictors: (Constant), NPL, CRR, CCR, CAR

The indicators of the model 2 fitness are shown in Table 8 the coefficient indicates that the correlation coefficient (R) between the independent variables and NIM is 0.5990 which is a positive strong relationship. The coefficient of determination (R square) of 0.3588 indicates that the model can explain 35.88% of the variables or change in the dependent variables or NIM. In other words, CAR, CRR, core capital ratio, and NPL can explain 35.88% of the change in NIM and the remaining % by other variables that are not included in this study.

Table 9

ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	63.852	5	15.96	3.4981	<.002[b]
	Residual	114.082	25	4.56		
	Total	177.933	29			

a. Dependent Variable:NIM

b. Predictors: (Constant), CAR, CCR, CRR, NPL

Table 9 presents the analysis of variance (ANOVA) on the impact of CAR, core capital ratio, CRR, and NPLon NIM. The results of sig value <.002 indicate that the model is statistically significant in explaining the impact of independent variables on dependent variables. This means that the ANOVA results indicate that the combined effect of CAR, core capital ratio, CRR, and NPL is statistically significant in explaining the financial performance of commercial banks at a 0.05 level of significance.

Table 10

Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	11.451	2.972		3.853	<.001
	CAR	-.130	.416	-.135	-.313	.757
	CCR	.030	.416	.030	.072	.943
	CRR	-.151	.071	-.369	-2.116	.044
	NPL	.604	.312	.362	1.937	.064

Dependent variable NIM

Result of NIM and Independent variable

Table 10 shows the coefficient results. As indicated the beta value of CAR is -0.130which means the change in the independent variable i.e. CAR by one unit will bring about the change in the dependent variable i.e. NIM by -0.130. This also means that an increase in CAR by one unit will decrease NIM by 0.130. The beta coefficient indicates that a change in one unit of the independent variable will bring a change in the dependent variable by a change of beta value. The sig value of NPL is less than 0.05 denoting they are the only significant predictor.

4.6 Discussion

The first objective of the study was to examine the variable affecting capital adequacy and profitability of Nepalese commercial banks. The researcher has used CAR, CCR, NPL, CRR as measure of capital adequacy requirement and ROA and NIM as measure of profitability. The study examined the variables effecting CAR and profitability using descriptive statistics. The maximum, minimum, average and S.D of CAR,CCR,NPL,CRR, NIM and ROA were calculated using 10 years data 3 different banks to identify their position and trend. It was found out the only the standard deviation of ROA is below 1 that is 0.6 which shows the all-

other variables except ROA, that is NIM, CAR, CCR, CRR and NPL highly deviatefrom the mean.

The second objective of this study was to analyze the relationshipbetween capital adequacy requirements and the profitability of commercial banks in Nepal.The present study identified there exist positive relationship between CAR, CCR, CRR with ROA, and negative relationship between NPL and ROA. Only CRR has significant relationship with ROA,The findings of this study further showedCAR, CCR, CRR has negative relationship with NIM except NPL. Only CRR and NPL have significant relationship with NIM.

The third objective of the study was to examine the impact of capital adequacy requirements on the profitability of commercial banks. The finding revealed except CAR the other variables CCR, CRR, NPL have positive impact on NIM but only the impact of CRR on NIM is significant. The findings of this study showed that the non-performing loan has positive but insignificant relationship with NIM.

In the study by Kepramareni, Apriada, and Putra (2022). Credit Risk, Capital Adequacy, Liquidity, and Solvency did not exhibit a significant impact on the Financial Performance of the bank during the mentioned period similar to findings in this study where CAR does not have a significant impact on financial performance. The findings of present study also suggested there exist negative and insignificant relationship between NPL and ROA.

The present study identified there exist positive relationship between CAR, CCR, CRR with ROA, and negative relationship between NPL and ROA. Only CRR has significant relationship with ROA,Similar to the study bySpaseska, Hristoski, and Odzaklieska (2022) where the results indicated a positive yet statistically insignificant relationship between CAR and Return on Average Assets (ROAA) in both short- and long-run analyses, while Deposit-to-Asset Ratio (DAR) had a positive and statistically significant effect on ROA. The findings of this study showed that the non-performing loan has positive but insignificant relationship with NIM which is supported by Uddin (2022) who explored the effects of non-performing loans on the profitability and operating efficiency of state-owned commercial banks in Bangladesh, his findings suggested a positive but insignificant impact of non-performing loans on operating efficiency, with operating efficiency showing a negative and insignificant effect on profitability. Syafrizal, Ilham, and Muchtar (2023) in their research have also found

that CAR had a partially insignificant effect, NPF had a partially positive and significant effect, and FDR had a partially negative and significant effect on profitability. The findings of present study suggested there exist negative and insignificant relationship between NPL and ROA. Through the analysis this study also explored the impact of CAR on ROA and NIM, which resulted the finding that there is no significant impact of CAR on ROA and NIM Sukmadewi (2020) addressed the weakened condition of the banking sector, emphasizing the importance of conducting a bank health assessment, especially for investors seeking security for their invested funds The results indicated that CAR, BOPO, NPL, NIM, and LDR variables positively and significantly affected ROA, emphasizing the importance of operational efficiency for improved financial performance. Capital adequacy and asset quality have a significant and negative effect on ROA, Shrestha and Gnawali(2022).

However, the study by Iqbal and Anwar (2021) concluded non -performing loans had a significant negative effect on ROA unlike this study. Capital adequacy and asset quality have a significant positive effect on ROA, Shrestha, and Gnawali (2022) contrast the finding of the present study where CAR has a positive insignificant impact on ROA. Similarly, capital adequacy has a positive significant relationship with ROA, Gautam (2020), unlike our findings.

An adequate CAR allows a financial institution to become financially strong and meet the financial obligation of their stakeholders. However, to raise capital it should issue its share or raise it through debt financing. Debt financing is often used as tax shield by an organization, but if FIs are highly leveraged they may be more prone to insolvency due to high cost of capital. High cost of capital leads to declination of profit, hence negative relationship of CAR with NIM exists.

Loan is major asset of banks and financial institutions and the interest on loan is major source of income but not all loans generate income as some may turn into non-performing loans that cause more expenditure than income to banks hence non-performing loans have negative relationship with ROA.

CHAPTER V

SUMMARY CONCLUSION AND IMPLICATION

This chapter includes the discussion, conclusion, and implication based on previous chapters,

5.1 Summary

The key source of financing any business is through banking channels. Banks are the major source of providing funds to businesses and regulating them. Therefore, sound health of financial institutions is necessary for all businesses over the country to function well. The main purpose of this study is to examine the major factors affecting the profitability of commercial banks. The study used secondary data for data analysis. The panel data of 10 10-year period are used of three commercial banks as sample study of this research. The researcher has used descriptive data analysis using average, minimum, maximum, standard deviation, Pearson correlation, and regression analysis. The statistical test is made by using ANOVA. The analysis is made using a data analysis tool in Excel. The detailed summary of the study is explained under

The present study has used correlation analysis to measure the relationship between selected independent variables and dependent variables. The correlation analysis in Table 2 and Table 3 show that CAR is positively correlated with ROA but the impact is insignificant at 0.05 level. Similarly, CAR is negatively correlated with NIM as correlation coefficient are-0.19 and the impact of CAR on NIM is insignificant at 0.05 level.This studyagrees with the finding by Iqbal and Anwar (2021)which concludes CAR did not influence Return on Assets (ROA), and the study by Bhattarai(2021) which concludes core capital ratio and total capital fund ratio positively influences return on assets and return on equity.

The study finds a negative correlation of NPL with ROA and a positive with NIM as shown by a correlation coefficient of -0.168 and -0.49 presented in Table 2 and Table 3. The impact of NPL on ROA and NIM is insignificant at 0.05 level.Similar to this study where NPL hurts ROA, a study by Kingu Macha and Gwahula(2018) also shows there is a negative association of NPL with profitability. The previous study by Bhattarai(2019), shows NPL hurts bank

performance and Khalifaturofiah(2023) concludes NPL hurts ROA and ROE. The nonperforming loan creates provision to FIs resulting in shrinkage of profit.

The correlation analysis in Table 2 shows the all-independent variable except NPL is positively correlated with ROA and table 3 shows all independent variables except NPL is negatively correlated with NIM. This denotes that an increase in NPL will decrease ROA. Further, CRR has a positive significant impact on ROA and a negative significant impact on NIM at a 0.05 level of significance.

The result contradicts the study by Aryal (2022) who stated a CAR, and NPL, are the most significant bank-specific determinants that influence Nepalese commercial banks' profitability but, in this study, only the cash reserve ratio is found to be a significant variable.

The model summary shows that the independent variables CAR, core capital ratio, CRR, and NPL can explain 64.08% of the change in ROA and the remaining 35.92% by other variables that are not included in this study.Similarly, the independent variables CAR, core capital ratio, CRR, and NPL can explain 59.1% of the change in NIM and the remaining 40.1% by other variables that are not included in this study. This indicates the selected independent variables are key determinants of change in ROA and NIM. The ANOVA table shows that the independent variables are statistically significant in determining the value of a dependent variable.

5.2 Conclusion

This study examined the capital adequacy requirement and profitability of Nepalese commercial banks using data from 2013/14 to 2023/24. The main objective of how the capital adequacy ratios have affected profitability and the relationship between dependent and independent variables is achieved through this study. The researcher has identified specific factors of capital adequacy which affect the financial performance of commercial banks. The findings from the correlation analysis showed there is a positive relation of CAR, core capital ratio, and CRR with ROA, and a positive relation with NIM means an increase in all independent variables except NPL will lead to an increase in ROA. Only one variable CRR has a significant positive relationship with ROAand a significant negative relation with NIM. As CRR is a part of NRB's monetary policy, an increase in CRR reduces the liquidity

risk of a bank along with the ability of banks to generate loans, hence interest rate rises and this results in the decline of loans as it becomes expensive which ultimately reduces NIM of the bank. This suggests that banks should focus on increasing deposits so that they can increase loans to increase profitability.

As per capital buffer theory, an organization maintains excess of required capital to protect itself from a sudden financial shock or if it has more of a risky portfolio hence risk attribute is associated with capital,in this study increase in CAR has led to a decrease in NIM which means the organization has more of risky portfolio leading to the declination of interest income. The high CAR has resulted reduction in NIM as per result.

Bhattarai (2019), showed NPL hurts bank performance and Khalifaturofiah(2023) stated NPL hurts ROA and ROE. The study by Kingu et al (2018) also showed there is a negative association of NPL with profitability. Banks earn by providing loans but if the loan turns out to be nonperforming it creates expenses hampering the profitability. Non-performing loans are expenses to financial institutions leading to loss instead of profitability as such loan creates provisions to FIs resulting in shrinkage of profit. This explains why NPL has a negative relationship with ROA.

The findings from the result led to the following conclusion regarding the impact of independent variables on dependent variables. There is no significant effect of CAR on ROA and NIM.There is no significant effect of core capital on ROA and NIM. There is a significant effect of CRR on ROA and NIM.There is no significant effect of NPLon ROA and NIM.

In this study also the significant impact of CRR on profitability is witnessed. Hence, an organization should take major measures to increase deposits by enhancing its management skills to increase its financial performance.

5.3 Implications

Based on the finding the following implications are identified.

Among the four independent variables, CRR has a significant impact on ROA and NIM therefore this implies banks must place special emphasis on CRR if they want to focus on

profitability. The selected sample banks have maintained the required minimum CAR as per NRB i.e. 10%. The study has used four independent factors affecting ROA and NIM and as per the fitness table, they only explain certain percentage changes in the dependent variable, and the remaining are explained by the variable not included in the study so this study suggests other researchers use other variables like bank size, leverage, innovation that affect the profitability of an organization. This study can be used as a reference for new researchers making studies on similar subjects.

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