IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL

A Dissertation submitted to the Office of the Dean, Faculty of Management, in partial fulfilment of the requirements for the Degree of Masters of Business Studies

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CERTIFICATE OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "**IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL**" The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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ABBREVIATIONS

AD	:	Anno Domini
AIC	:	Akaike information criterion
ATM	:	Automated Tailor Machine
BS	:	Bank Size
CRR	:	Cash Reserve Ratio
e.g.	:	Example
ETA	:	Total Equity to Total Assets Ratio
F/Y	:	Fiscal Year
i.e.	:	That is
LDR	:	Total Loan to Total Deposit Ratio
LTA	:	Total Liability to Total Assets Ratio
Ltd	:	Limited
MBS	:	Master of Business Studies
NPL	:	Non- Performing Loan Ratio
NPLR	:	Non-performing Loan Ratio
OLS	:	Ordinary Least Squares
ROA	:	Return on Assets
ROE	:	Return on Equity
SD	:	Standard Deviation
SEM	:	Structural Equation Modelling

ABSTRACT

The study looked at the connection between profitability and capital structure through an analysis of commercial banks in Nepal. Based on secondary data collected for five commercial banks between 2013/14 and 2022/2023, the conclusions have been drawn. The study adds to the body of knowledge about the impact of the cash reserve ratio, non-performing loan, loan to deposit ratio, and bank size on the profitability of Nepalese commercial banks. Eighty observations were acquired as a sample. The websites of the relevant banks and the NRB provided the secondary data for this investigation. Bank performance is one of the study's two dependent variables. The outcome demonstrates that the profitability of Nepalese commercial banks as determined by ROE is positively correlated with CRR, NPL, and bank size. Similarly, the outcome demonstrates that the profitability of Nepalese commercial banks as determined by ROE is negatively correlated with both CRR and LDR. The study comes to the conclusion that while CRR and LDR have no discernible effects on the profitability of Nepalese commercial banks as assessed by ROA, bank size, non-performing loans, and loan to deposit have a major influence. The study also finds that the most important factors driving changes in Nepalese commercial banks' profitability are bank size, loan to deposit ratios, and non-performing loans. The study's result highlights the importance of capital structure factors in determining Nepalese commercial banks' profitability. These results offer banks, regulators, and policymakers in Nepal useful information that helps them decide what capital structure requirements to set and how those decisions will affect the financial stability and performance of the banking sector.

Keywords: Return on Assets, Return on Equity, Capital Adequacy Ratio, Cash Reserve Ratio, Non-Performing Loans Ratio, Bank Size

CHAPTER I

INTRODUCTION

1.1 Background of the Study

The nation's financial system's health is crucial since its collapse could impede the growth of its economy (Das & Ghosh, 2007). One of the key foundations for any nation's economic progress is the banking and finance industry. One of the main pillars of the banking system, commercial banks, must function well because they connect the numerous economic sectors—such as trade, industry, energy, and services—with the growth of the economy (Kithandi, 2022).

This division of ownership and control could lead to conflicts of interest between managers and owners, as noted by Gazi et al. (2022). Particularly in emerging nations, foreign-owned bank46s perform better than other banks (Micco et al., 2007). In terms of the type of owners, Bui et al. (2023) proposed that private companies ought to operate more profitably and efficiently than both government-owned and mutual companies. Credit availability is one component of global economic development and financial stability that depends on bank performance and efficiency. According to Fungacova et al. (2014), authorities mandate that banks maintain a sufficient level of capital to absorb losses and control moral hazard behaviour in order to support a healthy financial system. Commercial banks' profitability is strongly and actively stimulated, improved, and grown by capital adequacy. Sufficient capital and appropriate management can also result in increased performance (Udom & Eze, 2018).

Return on capital has a negative relationship with management effectiveness as determined by operational expense indices. According to Goddard et al. (2004), a high capital adequacy ratio should indicate that a bank is performing poorly and is stifling possibilities for lucrative trades, which suggests a negative correlation between the equity to asset ratio and bank performance. According to Kithandi (2022), the capital requirement is the capital ratio that maximises the bank's value when all regulatory mechanisms protecting the safety and soundness of banks are present, but when regulatory capital requirements and all other regulatory mechanisms that enforce them are absent.

However, the widespread issues that have recently beset the banking sector have prompted worries about the amount of capital in the banking system as a whole as well as questions about how the capital requirements were created. Because of this, regulators everywhere are reconsidering the more basic impact that regulatory capital requirements have on bank practices and market attitudes towards bank risk (Francis & Osborne, 2010). In particular, capital structure is crucial to the oversight of the banking sector since it sets minimum capital requirements for banks, acting as a safety net against unforeseen losses or unfavourable shocks that would cause them to fail. However, the widespread issues that have recently beset the banking sector have prompted questions about how capital requirements were created as well as concerns about the overall amount of capital in the banking system (Bui et al., 2023). Legally, commercial banks must keep sufficient capital reserves. This could be because of a potential information gap between the borrower and the banks, which could lead to loan default. As a result, banks experience losses. Consequently, in order for banks to continue operating efficiently and to prevent the financial system from collapsing, they must maintain sufficient capital (Bui et al., 2023).

During the current global crisis, inadequate risk management, weak capital structures, excessive leverage, and insufficient liquidity buffers in the banking sector put the entire global financial system at risk (Basel Committee on Banking Supervision, 2013). Naturally, the banks are lending money to more clients in order to increase their interest income, but there is also a chance that there will be a liquidity risk. It also has a detrimental effect on the bank's profitability simultaneously (Devinaga & Tan, 2010). Deposits are the bank's primary means of raising capital; it provides a variety of deposit options to both financial institutions and its clientele. The simplest and least expensive approach for the bank to mobilise funds among its many sources is through deposits. This deposit is related to the bank's profitability. The bank incurs responsibility when it accepts deposits and is also responsible for paying interest to depositors. According to Husni (2011), the ratio of total liabilities to total assets is positively and significantly correlated with return on assets.

Neupane (2013) investigated the relationship between the capital ratio, efficiency, and debt to assets of Nepalese commercial banks in the setting of that country. To the best of my knowledge, no such thorough research has been done to look at how Nepal's commercial banks' profitability relates to different aspects of their capital structure.

The goal of this study is to close a research gap on the relationship between Nepalese commercial banks' profitability and capital structure characteristics. New banks entered the Nepalese financial market as a result of the financial sector's liberalisation, and this increased competition among banks was brought about by globalisation. Additionally, deregulation expanded the purview of banking activities and defined them, while information technology advancements led to the adoption of sophisticated methods and instruments for carrying out the various banking activities (Gajurel & Pradhan, 2012). The capital adequacy ratio and business size were found to positively correlate with bank profitability as assessed by return on assets by Chalise & Adhikari (2022).

A variety of public and private banks make up Nepal's commercial banking industry, and they all provide a wide range of financial services to citizens, companies, and governmental bodies. These banks offer both retail and business clients basic services such savings and current accounts, loans, foreign currency, remittances, and investment possibilities. In order to maintain stability and compliance with industry norms, the central bank of Nepal, the Nepal Rastra Bank (NRB), is essential to the regulation and supervision of the sector. These banks have embraced technology by incorporating extensive ATM networks, online and mobile banking options, and other services to improve client convenience. The industry contributes to Nepal's economy, but it also has issues with governance, regulatory compliance, and credit quality. When looking for the most recent information on Nepalese commercial banks, it's crucial to examine recent sources as the industry's landscape is constantly changing due to political and economic factors.

The discussion above demonstrates the importance of research that examine how capital structure requirements affect bank profitability. While there are a number of discoveries in the context of other nations, Nepal does not have any findings of this kind utilising more current data. Thus, the impact of capital structure on the profitability of Nepalese commercial banks is the main emphasis of this study.

1.2 Problem Statement

There are two ways to look at how capital structure affects the banking sector's profitability. In the first case, more capital, CRR, and NPL would all have a negative impact on bank profitability, resulting in lower profitability or lower returns for banks

with bigger capital buffers. A second possibility would be a positive effect, which would mean that banks with higher capital buffers would be more profitable since they would be better equipped to withstand economic downturns. Kithandi (2022) discovered that banks with tight capital structures decrease the amount of loan they extend, which in turn causes a decline in profitable investment (Barrios and Blanco, 2003). According to the study, the ideal level of bank capital should be determined by calculating the point at which the opportunity cost of reallocating capital from other profitable uses to the marginal public costs of the bank capital structure (reduced likelihood of failure and disruption of the payments system) exactly equals the former. However, under some political and legal frameworks, regulators might not take the social costs into account and end up adding more capital to the system than society might want. According to Kithandi's (2022) research, there is a negative correlation between the Central Bank rate, the requirement for a cash reserve ratio, and the profitability, or return on equity, of Kenya's commercial banks. The study's conclusions also demonstrated a favourable correlation between Kenya's commercial banks' profitability (return on equity) and their repo rate.

Neupane (2013) came to the conclusion that, in the context of Nepal, there is a positive relationship between capital structure and profitability, meaning that a bank's profitability will increase with its capital. Chalise and Adhikari (2022) noted that state firms exhibited low capital gearing and even an uneven capital structure pattern. Concern has recently grown over the relationship between bank capital structure and profitability, particularly given that the amount of capital can have both positive and negative effects on bank profitability. A number of empirical findings about the connection between bank profitability and capital structure may be discovered in global contexts. Nevertheless, no research of this kind has been done in relation to Nepal. Thus, the following problems are addressed in this study.

i. What is the status of total liability to total assets ratio, total equity to total assets ratio, cash reserve ratio, loan to deposit ratio, non-performing loan and bank size changed over the period of time?

ii. Is there any relationship between factors of capital structure with the profitability of Nepalese commercial banks?

iii. Do the factors of factors of capital structure influence on the profitability of Nepalese commercial banks?

1.3 Objectives of the Study

The objective of this study is to evaluate the impact of capital structure on the profitability of commercial banks of Nepal. Whereas the general objectives of the study are:

i. To assess the status of total liability to total assets ratio, total equity to total assets ratio, cash reserve ratio, loan to deposit ratio, non-performing loan and bank size.

ii. To examine the relationship between factors of capital structure with the profitability of Nepalese commercial banks.

iii. To analyze the impact of factors of capital structure on the profitability of Nepalese commercial banks.

1.4 Hypothesis of the Study

This study is conducted to evaluate the impact of capital structure on profitability of commercial banks of Nepal. Based on the above objectives following hypothesis have been proposed for the study:

According to Abid and Lodhi (2015), there is a connection between Pakistani banks' profitability and their reserve requirement ratio. It placed special emphasis on how changes in CRR impact ROE and ROA as well as the profitability of commercial banks. Secondary, quantitative time series data covering the ten-year period 2005–2014 were gathered for the study. The empirical analysis of the study is carried out using correlation analysis and linear regression. The study's conclusions showed that banks' profitability, as determined by ROA and ROE, had a substantial inverse relationship with CRR when used as a reserve requirement measure. According to the study's findings, variations in CRR will negatively affect banks' profitability. The results above indicate that banks' ROA will decrease when SBP raises CRR and vice versa.

Based on this study following hypothesis has been developed:

H_1: There is a significant impact of total liability to total assets ratio on bank performance of Nepalese commercial bank.

According to research by Bourke (1989), there is a substantial positive correlation between capital adequacy and profitability, meaning that banks with greater capital ratios have higher profitability than those with lower ratios. Based on a research of 28 banks in Nepal, Poudel (2012) and Dahal et al. (2017) discovered that the capital adequacy ratio has an adverse effect on the performance of the bank as evaluated by ROA. In light of this, the following theory has been established:

H_2: There is a significant impact of total equity to total assets ratio on bank performance of Nepalese commercial bank.

According to research by Bourke (1989), there is a substantial positive correlation between capital adequacy and profitability, meaning that banks with greater capital ratios have higher profitability than those with lower ratios. Based on a research of 21 banks in Nepal, Poudel (2012) and Dahal et al. (2017) discovered that the capital adequacy ratio had an adverse effect on the performance of banks as evaluated by ROA. In light of this, the following theory has been established:

H_3: There is significant impact of cash reserve ratio on profitability of Nepalese commercial bank.

The study conducted by Banik and Das (2013), Edem (2017), and Wasiuzzaman and Tarmizi (2010) revealed that the credit to deposit ratio had an adverse effect on bank performance. In a similar vein, Siddikee et al. (1999) demonstrated that the credit to deposit ratio has a detrimental effect on bank performance. This study formulates the following hypothesis in light of it:

H_4: There is significant impact on total loan to total deposit ratio on bank performance of Nepalese commercial bank.

Non-performing loans had a statistically significant negative impact on profitability proxy by ROA, according to the findings of Chege and Bichanga (2017), Balango and Rao (2017), Shakya (2017), and Bonin and Huang (2001). Kithinji (2010), however, found that NPLR is not the only factor influencing earnings. This study formulates the following hypothesis in light of it.

H_5: There is significant impact of non-performing loan on bank performance of Nepalese commercial bank.

According to Bhattarai's (2014) research, bank performance and size are positively correlated, suggesting that as banks grow in size, they will likely become more profitable—especially small and medium-sized banks. According to AL-Omar and AL-Mutairi (2008), scale efficiency is seen in the positive relationship between bank size and profitability. However, Athanasoglouet al. (2008) argued that the relationship between size and profitability was not linear and that growth might have a negative impact for a variety of reasons, including bureaucracy. The study formulates the following hypothesis in light of it.

H_6: There is a significant impact of bank size on bank performance of Nepalese commercial bank.

1.5 Rationale of the study

There is still little knowledge about how capital structure affects the profitability of Nepalese commercial banks despite the fact that very few studies have been conducted in the past on the effects of nonperforming assets on profitability, the relationship between capital structure and profitability, the impact of bank size on profitability, and the effects of capital adequacy and bank operation efficiency on profitability of Nepalese commercial banks. This study uses empirical research methods to explore the factors that influence bank profitability and determines if capital structure affects the profitability of commercial banks in Nepal. In this study, the capital structure was measured by the cash reserve ratio, loan to deposit ratio, non-performing loan, and bank size variable; the profitability of Nepalese commercial banks was measured by return on assets (ROA). As a result, this study is important to academics, students, government officials, bankers, managers, regulators, investors, and any other stakeholder who wants to know how capital structure affects commercial banks' profitability.

In particular, the study will be useful for policy and practice for a wide range of stakeholders, such as but not restricted to:

Investors: The study's conclusions will assist investors and shareholders in determining whether the banks' historical and current financial standing are adequate. They might then use business profits and profitability to inform their investment plans.

Management: The study's findings will assist bank management in determining if certain regulatory standards, such as the cash reserve ratio and non-performing loan percentage, are acceptable. They might then develop plans to improve the performance and efficiency of the bank.

Policymakers and regulators: The study's conclusions will assist market regulators, especially the Nepal Rastra Bank, in determining how capital structure requirements and profitability relate to one another. This can assist them in creating and implementing policies that will improve the informational and operational efficiency of the banking sector.

Academicians and other academics will find the study's material useful in furthering their analysis of the research field.

In Nepal, the banking sector is considered to be the most regulated of all, however there are surprisingly few studies on this subject. As a result, the banks are unable to support how capital structure affects Nepalese commercial banks' performance. Banks frequently experience these issues as a result of their poor upkeep of the necessary capital and ratios as mandated by regulatory organisations. Thus, research of this kind will be very helpful.

1.6 Limitations of the Study

Following are the major limitations of this study:

i. This study does not consider all the factors that affect the profitability of Nepalese commercial banks. There can be other factors such as Spread rate, Statutory Liquidity ratio, bank rate which affect the bank performance and profitability of the commercial banks.

ii. The premise of the study is that dependent and independent variables have linear relationships with one another. Consequently, the non-linearity bases that are typically found in emerging country markets have not been taken into account in this study.

iii. It may also be noted that only secondary data are considered for the study purpose. Data collection conducting primary survey is not taken into consideration. Hence, the result of the study is not broad and flexible. It is limited to the data available in the annual reports of the sample banks.

iv. Furthermore, only data from commercial banks are included in this analysis. Research on other financial and non-financial organizations is not taken into account, including development banks, manufacturing firms, insurance businesses, microfinance, and finance corporations. The limited perspective of profitability factors influencing them was the outcome.

CHAPTER II

LITERATURE REVIEW

2.1 Theoretical Review

Capital Structure Theory

Franco Modigliani and Merton Miller developed the capital structure theory, also referred to as the Modigliani-Miller (1958) theorem, in 1958 when they published their seminal work titled "The Cost of Capital, Corporation Finance, and the Theory of Investment." This theory states that, under certain circumstances, a firm's value is unaffected by its capital structure. If there were no taxes, bankruptcy fees, transaction costs, or information asymmetry in the market, a company's decision to finance its operations through debt or stock would have no effect on the company's total worth.

Assuming investors can lend and borrow money at risk-free rates, this approach is predicated on the notion of arbitrage. According to Modigliani and Miller, when a company adds debt to its capital structure, the cost of stock increases to offset the increased risk. On the other hand, lowering debt keeps the firm's overall worth steady by lowering the cost of equity due to less risk. Modigliani and Miller's ideal conditions may not always be met because of real-world issues that affect a company's capital structure, such as taxes, bankruptcy expenses, and information gaps.

The conventional belief that a firm's value is directly determined by its capital structure was challenged by the Modigliani-Miller (1958) theorem. However, it is important to remember that a firm's capital structure and profitability can be impacted by a number of real-world circumstances, including taxes, bankruptcy costs, and information asymmetries. Consequently, the focus of further study has been on comprehending the ramifications and departures from the ideal market assumptions put forward by Modigliani and Miller in the real world.

Agency Theory

In economics and organisational behaviour, agency theory is a concept that centres on the interaction between principals and agents in a principal-agent relationship. The theory looks at the possible conflicts of interest that can occur when one party (the principal) gives another party (the agent) the power to make decisions on their behalf.

It was first proposed in the landmark work "Theory of the Firm: Managerial Behaviour, Agency Costs, and Ownership Structure" by Michael and William (1976).

Important components of agency theory comprise:

Relationship between Principal and Agent: When a principal appoints an agent to carry out a duty or make decisions on their behalf, a principal-agent relationship is created. In this partnership, the principle assigns the agent authority while the agent carries out specified tasks to satisfy the principal's goals.

Conflicts of Interest: According to agency theory, a principal and an agent may have conflicts of interest as a result of different objectives, varying risk tolerances, and information asymmetry. Potential agency issues could arise from the agent's incentives deviating from the principal's best interests.

Moral Hazard: When an agent acts more in their own self-interest than the principal's best interest, this is referred to as moral hazard. Because they may not be entirely responsible for the results, the agent may neglect their duties, take unwarranted risks, or act opportunistically.

Adverse Selection: Before starting a connection, the principal may be unaware of all the agent's qualities or skills. This is known as adverse selection. The principal runs the risk of choosing an agent who is not qualified for the job or does not have the requisite abilities, which could result in less than ideal results.

Agency Costs: These are the expenses borne by the principle in keeping an eye on, managing, and motivating the agent to align their goals with the principal's. These expenses consist of residual loss in cases when conflicts of interest cannot be entirely resolved, bonding costs, and monitoring costs.

According to agency theory, a number of strategies can be used to lessen agency issues and balance the interests of principals and agents. These mechanisms include contracts, governance structures, ownership and control alignment, performance-based incentives, and monitoring and reporting systems.

Numerous disciplines, including financial economics, executive remuneration, corporate governance, and organisational behaviour, have made extensive use of agency theory. It sheds light on the difficulties of leading and controlling organisations in which agents have decision-making authority.

Trade-off Theory

According to trade-off theory, which was first put forth by Franco and Merton (1958), a corporation can have an ideal capital structure. The theory investigates the trade-off between the costs of financial crisis and the tax benefits of debt financing.

The tax shield and the expenses of financial distress are the two main considerations that enterprises take into account when determining their capital structure, according to the trade-off hypothesis.

Tax Shield: Since interest payments on debt are tax deductible, debt financing offers a tax benefit. A company can minimise its taxable income by taking on debt, which lowers tax obligations and increases cash flow accessible to shareholders.

Costs of Financial difficulty: The likelihood of financial difficulty rises when businesses take on more debt. When a business can't make its debt payments or other financial commitments, it's said to be in financial trouble. Legal fees, bankruptcy expenses, and possible reputational and client damage are some examples of these expenditures.

According to the trade-off principle, businesses should try to find a balance between the tax benefits of debt and the possible expenses associated with financial difficulty. Because of this, businesses will choose their ideal capital structure by taking into account the amount of debt that will optimise the tax shield's advantages while lowering the expenses related to financial hardship.

It is crucial to remember that the trade-off theory operates under the assumption of a perfect world devoid of market defects like taxes and agency costs. In actuality, a firm's capital structure decisions can also be influenced by other factors, such as asymmetric information, market conditions, and agency conflicts between shareholders and managers (Franco & Merton, 958).

2.2 Empirical Review

The profitability of commercial banks has been the subject of numerous studies. The majority of studies use microeconomic, industrial, and bank variables to assess a bank's performance. The researcher examines profitability in relation to articles and scholarly theses in this section.

Bui et al. (2023) examined the effect of capital structure on the risk-taking of Vietnamese commercial banks for the years 2012–2020. The study estimates the findings based on panel data gathered annually from the financial statements of 30 Vietnamese commercial banks using the system GMM regression model (SGMM). Z-score is a variable that represents bank risk-taking; customer deposits and non-deposit liabilities are variables that represent commercial banks' capital structure. The findings of the study indicated that non-deposit liabilities and client deposits encourage commercial banks to take on more risk. Bank managers will be able to make decisions about the right capital structure and add value to the bank based on the study's findings.

Chalise and Adhikari (2022) investigated the effect of business size and capital structure on the profitability of Nepalese commercial banks. The study included secondary sources of data with a sample of 14 commercial banks that included government-owned, joint venture, and private banks throughout the years 2013/2014–2018/2019. Functions linking the Return on Assets (ROA) and Earnings per Share (EPS) with indicators of capital structure and business size (total assets) were estimated using regression analysis. The findings showed that ROA and EPS had a negative relationship with capital structure (debt/equity). On the other hand, it demonstrated that ROA and EPS increased with size (total assets). The results offered proof for the high-level equity capital used in Nepalese commercial banks' capital structures.

Gazi et al. (2022) analyzed the standardized CAMELS grading system to compare the profitability of each company before and during the COVID-19 period. Following an evaluation of the situation, the fixed-effect regression model is employed to investigate the effects of the bank's unique factors, macroeconomic variables, and other variables on the profitability of the bank. The banks with superior pre-pandemic performance during COVID-19 also demonstrated superior pandemic performance. During both eras, AIBL, EBL, and BBL performed nearly independently better. Regarding bank profitability, our article found that high rates of non-performing loans, retaining more liquid assets, having a large amount of capital set aside for hedging, and having an inappropriately small bank all reduced the profitability of the banks during the COVID-19 epidemic. By contrast, the bank's profits during this period was boosted by a low inflation rate and leverage situation. The study's findings

will assist bank regulators in identifying weak points and implementing preventative actions that will increase banks' profitability during a crisis like COVID-19. The portfolios of depositors and investors in banks are exactly customizable.

Kithandi (2022) examined the effect of reserve ratio requirements, repo rates, and changes in central bank rates on the profitability of commercial banks in Kenya. The study was conducted between 2016 and 2020, spanning a five-year period. The cash reserve ratio, the repo rate, and the central bank rate were the study's independent variables. The dependent variable was return on equity. A descriptive longitudinal research design was adopted in the study. The forty-two commercial banks that hold operating licences from the Central Bank of Kenya comprised the total population. The study used a variety of research tests; the normalcy test, quantile-quantile plot, and Durbin-Watson tests were used to analyse the research findings. The study discovered that the return on equity (profitability) of Kenya's commercial banks is negatively correlated with the Central Bank rate as well as the demand for a cash reserve ratio. The study's conclusions also demonstrated a favourable correlation between Kenya's commercial banks' profitability (return on equity) and their repo rate. The study's conclusion was that Kenyan commercial banks' profitability is impacted by monetary policy. The study suggests that the central bank should monitor and maintain a low central bank rate in order to boost economic growth.

Akber and Dey (2020) conducted an analysis and evaluation of the performance of Islamic banks and traditional private commercial banks in Bangladesh. The CAMEL test served as the foundation for the analysis in this work. Every pertinent piece of information was gathered from the bank's websites. This article used a sample of five Islamic banks and five traditional private commercial banks to measure and compare the performance. It took each year's average ratio into account. The performance of private commercial banks, both Islamic and conventional, has been assessed using a common test framework called the CAMELS tests. T-tests have been utilised in this paper to support the data's dependability. According to the paper's findings, there is no discernible difference in the performance of Islamic banks and traditional private commercial banks in Bangladesh using the CAMEL test, with the exception of managerial quality. Islamic banks outperform traditional private commercial banks in Bangladesh in terms of capital adequacy and liquidity position, while traditional

private commercial banks perform better when it comes to management quality and asset quality.

Daoud and Kammoun (2017) analyzed the Islamic banking industry's profitability in Tunisia from 2010 to 2014. In Tunisia, Islamic banking is relatively recent compared to traditional banking. According to the examination of the literature, this study is the first to focus on Islamic banking in Tunisia. Thus, an analysis of the financial standing of the two Islamic banks in Tunisia has been conducted in order to provide stakeholders with a thorough understanding of Islamic banks. The most important financial statistics and analysis are used to assess each bank's performance estimate in terms of profitability, liquidity, risk, and solvency. The general stability of every bank is evaluated by the study as well. The performance was classified using the descriptive statistical measures of mean, standard deviation, and coefficient of variation, which measure the variability and dispersion of these ratios. The outcome shows that over the examined time, both banks maintained a strong position of profitability in the banking sector. In contrast, Baraka Bank's profitability and risk management are marginally higher than ZBL Bank's. Both Islamic banks are generally financially sound, however in terms of stability, Al Baraka Bank is in a better position than ZBL Bank.

Rahman et al. (2014) examined the banks which are the primary financial institutions have a significant role in Bangladesh's financial and economic development. The performance of Bangladesh's banking industry has drawn a lot of attention lately. It is unquestionably a significant issue. The three main factors used to assess a bank's success are profitability, productivity, and the risks related to these two factors. The goal of this study was to determine NCB performance in a very short amount of time (2008 to 2012). In Bangladesh, there are four commercialized nationalized banks. Three banks have been selected for this research study's convenience. The study uses data from secondary sources. The study's tables illustrate changes in banking variables as they relate to branch growth, deposit mobilisation, credit deployment, operational effectiveness, and relative risk measurements. Comparative and descriptive research designs were employed in this study. The ratio analysis results obtained thus far are not particularly promising. Based on this discovery, it is evident that the public's trust in the stability of the banking system is maintained, and the banks' financial stability improves. The public wants to rely on these NCBs. Additionally, several suggestions

are made to cover the entire financial system in a timely manner and to focus more on accomplishing the main goals.

Francis (2013) analyzed the factors that affect Sub-Saharan Africa's commercial banks' profitability. An imbalanced panel of 216 commercial banks from 42 Sub-Saharan African nations was utilised for the analysis from 1999 to 2006. Bank profitability was calculated in a static framework using the panel random effects method and the cost efficiency model. Along with the macroeconomic variables of GDP and inflation growth, the explanatory factors are growth in bank assets, growth in bank deposits, capital adequacy, operational efficiency (inefficiency), and liquidity ratio. The results unequivocally demonstrate that the variation in commercial bank profitability across the study period is explained by both macroeconomic and bank-specific factors. These results highlight the significance of macroeconomic and bank-level variables in elucidating Sub-Saharan African commercial bank profitability. This paper's policy implications include that macroeconomic variables and bank levels both matter if banks are to increase their profitability.

Nedunchezhian and Premalatha (2013) examined the banks have achieved performance efficiency in the areas of capital adequacy ratio, management efficiency ratio, earnings and profitability ratio, and leverage ratio during the post-merger period. Basically, two approaches were utilised to compare pre- and post-merger performance: first, local banks' pre-merger (2003–2006) and post-merger (2008–2011) performance is compared using comparison and ratio analysis. The significance of the changes in profitability before and after the merge activity is then ascertained using a paired sample t-test. The study discovered that, when examining the increase in the debt-to-equity ratio, all the chosen banks—aside from an Indian foreign bank—show less improvement following mergers. With the exception of India, international banks exhibit less improvement following mergers when it comes to the growth rate of total advances to total assets. When it comes to the equity capital to total assets ratio, all of the chosen banks perform worse following mergers. With the exception of Indian overseas banks, all the chosen banks perform better after the merger in terms of dividend payout ratio. Growth rates of assets and total deposits have also improved. With the exception of Indian foreign banks, growth rates, return on assets ratios, and other income to total income show less improvement following mergers. All of the chosen banks' current ratios and quick ratios demonstrated improved performance

following the merger. The performance of the chosen banks following the merger has generally improved in the majority of categories.

Ongore and Kusa (2013) explored the moderating influence of ownership structure on bank performance. To estimate the parameters, the authors employed panel data and a linear multiple regression model, as well as generalised least square. With the exception of the liquidity variable, the results demonstrated that bank-specific characteristics had a considerable impact on Kenya's commercial banks' performance. However, at the 5% significance level, the overall impact of the microeconomic variables was deemed inconclusive. Ownership identity has a negligible moderating effect on commercial banks' profitability. Therefore, it can be said that management and board actions have a major influence on a commercial bank's profitability in Kenya, with macroeconomic considerations playing a minor role.

Nassreddine et al. (2013) researched on external determinants are variables that represent the economic and regulatory context in which the bank functions, whereas internal determinants are also referred to as inherent performance or microeconomic determinants. This study used a cognitive method to accomplish its goals. In an effort to pinpoint the factors that influence banks' performance in the Tunisian banking industry and offer helpful recommendations for enhancing profitability, this study looks at those factors. Based on our findings, the key factors that affect a bank's performance are its size, control, and credit quality.

Jha and Hui (2012) analyzed the profitability of various ownership structured commercial banks in Nepal and identified the performance factors disclosed by the financial measures, which were based on the CAMEL Model. Financial data for eighteen commercial banks was analysed from 2005 to 2010. Furthermore, the impact of the capital adequacy ratio, non-performing loan ratio, interest expenses to total loan, net interest margin ratio, and credit to deposit ratio on the financial profitability, or return on assets and return on equity of these banks, was estimated using an econometric model (multivariate regression analysis) by creating two regression models. The findings indicate that while local private banks are just as efficient as foreign-owned (joint venture) banks, public sector banks are noticeably less efficient than their counterparts. Additionally, the estimation findings show that the capital adequacy ratio had a large impact on return on equity, but it had no effect on return on

assets. Interest expenses to the total loan and net interest margin also had a significant impact.

Alkhatib (2012) examined the profitability of five Palestinian commercial banks that are listed on the Palestine Securities Exchange (PEX). Three indicators were used to quantify profitability in this paper: return on assets, which is an internal indicator; Tobin's Q model, which is a market indicator based on price/book value of stock; and economic value add, which is an economic indicator based on performance. In order to determine the effects of bank size, credit risk, operational efficiency, and asset management on profitability as measured by the three indicators, the study used correlation and multiple regression analysis of annual time serious data from 2005 to 2010. It also created a well-fitting regression model to forecast the profitability of these banks in the future. The premise that "bank size, credit risk, operational efficiency, and asset management of profitability of Palestinian commercial banks exist statically insignificantly" was refuted by the study.

Almazari (2011) conducted research on the profitability of a few chosen commercial banks in Jordan. It is an evaluator by nature, obtaining information sources from secondary data. Financial ratios and variables provide the foundation for research on the profitability of banks. This study aimed to determine the influence of the independent variables—bank size, asset management, and operational efficiency—on the dependent variable by utilizing a simple regression analysis on the profitability of 20 chosen commercial banks in Jordan. Profitability is measured by interest income and return on assets. It was discovered that banks' financial performance is not necessarily correlated with their total deposits, loans, assets, and shareholders' equity. Regression analysis was used to validate the findings that profitability, asset size, asset utilization, and operational efficiency all had a positive association. These independent characteristics have a significant impact on financial performance. Bank managers may find this study useful in increasing their profitability and creating policies that will support a strong financial system. The report also suggests actions that banks should take to guarantee the stability of their business operations.

Sangmi and Nazir (2010) looked on how profitable Indian commercial banks were. A bank's good financial condition offers assurance to its workers, shareholders, depositors, and the economy at large. As a reaction to this proverb, efforts have periodically been undertaken to evaluate the financial health of each bank and manage

it effectively. This article aims to evaluate the profitability of the major banks in northern India. This evaluation was conducted using camel Parameters, the most latest financial analysis model. This model demonstrates that, in terms of capital adequacy, asset quality, managerial capability, and liquidity, the banks that are the subject of the inquiry are in a sound and satisfactory state.

Kumbirai and Webb (2010) conducted research on South Africa's commercial banking sector. Financial metrics are used to assess the profitability, liquidity, and credit quality of five large commercial banks with headquarters located in South Africa. The study states that overall bank performance increased significantly throughout the first two years of the evaluation. The trend peaked in 2008–2009, however there was a dramatic change when the global financial crisis erupted in 2007. As a result, the South African banking sector saw a decline in loan quality, inadequate liquidity, and diminishing profitability.

The impact of bank-specific attributes, such as liquidity, credit, capital, operating expenses, and size of commercial bank, on performance as measured by return on average assets (ROAA) and return on average equity (ROAE), were studied by Said and Tumin (2007). The results indicate that the ratios utilized in this study have different effects on the performance of banks in both countries, with the exception of the loan and capital ratios. Operating ratios affect bank performance in China regardless of the performance indicator, but not in Malaysian banks.

Table 1

Summary of Empirical Review

Authors (Year)	Objectives	Methodology	Variables	Major Findings
Bui et al. (2023)	This study aims to investigate effect of capital structure on the risk-taking	It considered the average ratio of each year. A standard format (CAMEL	Dependent variable: return on asset Independent variables: capital	The findings of the study indicated that non-deposit liabilities and client deposits encourage

	of Vietnamese commercial banks	tests) has used to analyze the performance of Vietnamese commercial banks. To the reliability of the data this paper used t-tests.	adequacy ratio, profitability, loan to deposit, bank size and equity ratio.	commercial banks to take on more risk. Bank managers will be able to make decisions about the right capital structure and add value to the bank based on the study's findings.
Kithandi (2022)	This study aims to investigate the impact of bank-specific factors which include the liquidity, credit, capital, operating expenses and the size of commercial banks on their performance,	The study was carried out covering a five-year time frame period from 2016 to 2020. The study used descriptive longitudinal research design	Dependent Variables return on average assets (ROAA) and return on average equity (ROAE) Independent: liquidity, credit, capital, operating expenses and the size	The study found out that a negative relationship exists between both Central Bank rate and cash reserve ratio requirement and return on equity (profitability) of commercial banks in Kenya. The research findings also showed that a positive relationship exists between

				repo rate and the return on equity (profitability) of commercial banks in Kenya.
Gazi et al. (2022)	This study was done to analyze the internal (bank specific) and external (industry specific and macroeconomic specific) determinants of profitability	The standardized CAMELS rating system. After assessing the position, the fixed-effect regression model is used	Dependent Variables: Return on Assets (ROA), Return on Equity (ROE) Independent Variables: Capital adequacy, Asset quality, Management capability, Earnings capacity, and Liquidity	This paper discovered that during the pandemic period of COVID-19, high non-performing loan rates, holding more liquid assets, a high amount of hedging capital, and inappropriate bank size lessened the banks' profitability. In contrast, a position and inflation rate enhanced the bank's profitability during this

				period.
Yusuf & Ichsan (2021)	This paper aims at examining the impact of capital structure on bank profitability.	The research method used is a statistical descriptive test, descriptive test by analyzing ROA through ROA implementation report using content analysis method, classic assumption test, some regression test.	Dependent variable: return on asset Independent variables: capital adequacy ratio, profitability, loan to deposit, bank size and equity ratio.	Results show that the variables NPF, FDR, BOPO, and CAR are simultaneously profitability of Sharia Commercial Banks in Indonesia in the period 2011-2020. Simultaneously, the variables of NPF, FDR, BOPO and CAR have a significant impact on the profitability (ROA) of sharia commercial banks in Indonesia in the period 2011-2020. Based on the

				amount adjusted R2 is 0.979 which means that 97.9% of profitability (ROA) of sharia commercial banks is influenced by independent variables.
Akber & Dey (2020)	This study aims to investigate the impact of bank-specific factors which include the liquidity, credit, capital, operating expenses and the size of commercial banks on their performance,	It considered the average ratio of each year. A standard format (CAMEL tests) has used to analyze the performance of Islamic commercial banks. To the reliability of the data this paper used t-tests.	Dependent Variables: Return on Assets (ROA), Return on Equity (ROE) Independent Variables: Capital adequacy, Asset quality, Management capability, Earnings capacity,	The outcome of this paper says that apart from the quality of the management significant difference doesn't exist between the performance of Islamic Banks and Traditional private commercial banks in Bangladesh based on CAMEL test.

			and Liquidity	Considering the quality of the management and asset quality Traditional private commercial banks perform better, but for the capital adequacy and liquidity position Islamic banks perform better in Bangladesh.
Shrestha (2018)	This paper examines the impact of capital adequacy and bank operational efficiency on profitability of Nepalese commercial banks.	Descriptive and analytical research designs	Dependent variable: return on asset Independent variables: capital adequacy ratio, profitability, loan to deposit, bank size and equity	SCBL is efficient in controlling expense and maintaining appropriate service policy. SCBL is better for the operation and profit maximum

			ratio.	
Daoud & Kammoun (2017)	This study was done to analyze the internal (bank specific) and external (industry specific and macroeconomic specific) determinants of profitability	Comparative Analysis.	Dependent variables: Return on Equity (ROE) and Net Interest Independent variables: Capital Adequacy Ratio, Asset Quality Ratio, Management Efficiency, Earnings ratio, Liquidity Ratio, Industry Growth Rate, Gross Domestic Product.	The result indicates that there is no significant difference in the profitability levels of both Islam banks. The finding declared that al Barake bank has managed to control their risk and in solvency ratio better than Zitouns banks.
Rahman et al. (2014)	This paper examines the impact of	Comparative and descriptive	Dependent: operating expense	The confidence of the general

	capital adequacy and bank operational efficiency on profitability.	research design	over operating income Independent: capital adequacy ratio, size of the bank, non-performing loans and ratio of loans to deposits	public, who wants to rely on these NCBs, in the soundness of the banking system, remains unimpaired and the financial strength of the banks gets increased.
Francis (2013)	This paper aims at examining the impact of capital structure on bank profitability	Panel Random Effects Method	Dependent: operating expense over operating income Independent: capital adequacy ratio, size of the bank, non-performing loans and ratio of loans to deposits	Both bank-specific as well as macroeconomic factors had an influence on bank total factor productivity growth over the study period.

Nedunchezhian & Premalatha (2013)	This study aims to investigate the impact of bank-specific factors which include the liquidity, credit, capital, operating expenses and the size of commercial banks on their performance,	Ratio analysis and T test methodology	Dependent variable: return on asset Independent variables: capital adequacy ratio, profitability, loan to deposit, bank size and equity ratio.	The study found that while analyzing the growth of debt Equity ratio all the selection except India overseas Banks shows less improvement after mergers. The Current ratio and quick ratio of all the selected banks shown better performance after merger.
Ongore & Kusa (2013)	This paper aims at examining the impact of capital structure on bank profitability	Linear multiple regression model and Generalized Leas Square on Panel data	Dependent: operating expense over operating income Independent: capital adequacy ratio, size of the bank, non-	The finding showed that banks specific factors significantly affect the performance of commercial banks in Kenya, except for liquidity variable.

			performing loans and ratio of loans to deposits	The moderating role of ownership identity on the profitability of commercial banks was insignificant.
Nassreddine et al. (2013)	This paper aims at examining the impact of capital structure on bank profitability	Cognitive Approach	Dependent: return on average assets (ROAA) and return on average equity (ROAE) Independent: liquidity, credit, capital, operating expenses and the size	Result, size, control and credit quality are the important variables can determine the performance of bank
Jha & Hui. (2012)	This study aims to investigate the impact of bank-specific	Multivariate regression analysis	Dependent: return on average assets (ROAA) and return	The results show that public sector banks are significantly less efficient than their

	factors which include the liquidity, credit, capital, operating expenses and the size of commercial banks on their performance,		on average equity (ROAE) Independent: liquidity, credit, capital, operating expenses and the size	counterpart are however domestic private banks are equally efficient to foreign-owned (joint venture) banks. The estimation results reveal that return on assets was significantly influenced by capital adequacy ratio had considerable effect on return on equity.
Alkhatib (2012)	This paper examines the impact of capital adequacy and bank operational efficiency on profitability	Correlation and multiple regression analysis	The dependent variable is return on asset while the independent variables are capital	There exist an insignificant impact of Asset Size, Credit risk, Operational Efficiency and Asset management

			adequacy ratio, profitability, loan to deposit, bank size and equity ratio.	on market profitability of commercial banks measured by ROA. There exist an impact of Asset Size, Credit risk, Operational Efficiency and Asset management on market profitability of commercial banks measured by Tobin's Q Model.
Almazari (2011)	This paper principally aims at examining the impact of capital structure on bank profitability	Simple regression method	Dependent: operating expense over operating income Independent: capital adequacy ratio, size of the bank,	Found that banks with higher total deposits, credits, assets and shareholders' equity does not always mean that has better

			non-performing loans and ratio of loans to deposits	profitability performance. Found that there exists a positive correlation between profitability and asset size, asset utilization and operational efficiency
Sangmi & Nazir (2010)	The objectives of the study was to to analyse the profitability of the banks under study; and to undertake the factors which have led to the current profitability.	Camel parameters model	Dependent Variables: Return on Assets (ROA), Return on Equity (ROE) Independent Variables: Capital adequacy, Asset quality, Management capability, Earnings capacity,	Through this model found that the position of the banks under study is sound and satisfactory as far as their capital adequacy, assets quality, management capability & liquidity is concerned.

			and Liquidity	
Shrestha (2010)	This paper examines the impact of capital adequacy and bank operational efficiency on profitability of Nepalese commercial banks.	Comparative Research Approach	The dependent variable is return on asset while the independent variables are capital adequacy ratio, profitability, loan to deposit, bank size and equity ratio.	The study shows the solvency position of EBL is better than HBL and Nepal SBI. It indicates that EBL is able to make immediate payment to its depositors. It also shows the earning per share of EBL has the highest than other selected joint venture banks
Zergaw (2010)	This study aims at examining the impact of capital adequacy and bank profitability on profitability	Comparative Analysis	Dependent variables: profitability Independent variables: profitability, Liquidity, Risk and Risk and solvency	Weak performance has been reported continuously in all the financial ratios (profitability, Liquidity, Risk and Risk and

			Efficiency and credit Quality	solvency Efficiency and credit Quality) taken for analyzing the profitability
Said & Tumin (2007)	This study aims at examining the impact of capital adequacy and bank profitability on profitability	Ratio analysis and regression analysis	Dependent: operating expense over operating income Independent: capital adequacy ratio, size of the bank, non-performing loans and ratio of loans to deposits	The results imply ratios employed in this study have different effects on the performance of banks in both countries, except credit and capital ratios. Operating ratio influence performance of banks in China, but this influence is not true for Malaysian banks regardless of the measure of the performance.

2.3 Research Gap

In above literature review capital structure variable impact the profitability both positively and negatively. In the context of Nepal, we also need to understand which capital structure variable positively and negatively impact the profitability of Nepalese commercial bank. A review of the available literature on the impact of capital structure on profitability, most of the studies have used either time series or cross section data. These studies have attempted to identify the effect of various capital structure factors on profitability using panel data. However, such studies have applied the conventional regression analysis and examined whether the data files into fixed effect or random effect model. The exercises ignore the time series properties of the data and hence, it is likely that the results generated might be suffering from spurious relationship.

CHAPTER III

RESEARCH METHODOLOGY

This chapter goes into the research approach used in the study. The overall plan for doing the research is provided in this chapter. The goal of the current study is to examine how a Nepalese commercial bank's capital structure affects its profitability. The research concept and plan, population and sample size calculations, data collection process, data instrumentation, and data analysis technique are all covered in this chapter.

3.1 Research Design

The research designs used for this study include descriptive and casual comparative research design. The descriptive study design has been used to gather facts and look for sufficient information regarding the underlying problems connected to the factors influencing the profitability of commercial banks in Nepal. It explains the factual and true state, circumstance, and circumstances. As a result, a descriptive research approach was used for this study. A number of statistical tests and analyses form the basis of the study. Calculating mean and standard deviation requires the use of descriptive statistics. Calculations are used to analyses and interpret the data using regression and correlation.

In order to determine the type of naturally occurring variable link between capital structure and profitability of Nepalese commercial banks, the study also used a causal comparative research approach. More precisely, the study examines how capital structure affects Nepalese commercial banks' profitability from 2013/14 to 2022/23.

3.2 Population and Sample

As of March 2024, Nepal has 20 commercial banks. All currently operating listed commercial banks in Nepal make up the study's population. There are five commercial banks in the sample. The net profit has been used to determine the sample size. The sample for this study was chosen using the convenience sampling method, which can accurately reflect the capital structure of Nepal's commercial banks as it stands today.

Under the study of the impact of capital structure on profitability of Nepalese commercial banks, the total number of commercial banks operating in Nepal has been

the population. All 20 commercial banks have been considered as the total population of the study. Out of them this study is concerned with five commercial banks as a sample. In the sample, banks are taken by using purposive sampling technique. These five banks represent strong, average and lower profit performer banks from 20 commercial banks. Banks with above 3.5 Arba profits are considered as strong, between 2.5 to 3.5 considered averages and below 2.5 are considered as lower profit performer banks. Agriculture Development Bank Limited and Nepal Investment Bank Limited represent strong profit performer with 3.69, 3.65 Arba profit respectively. Similarly, NIC ASIA Bank Limited and Himalayan Bank Limited represent average profit performer with 3.25, 2.99 Arba respectively and Everest Bank Limited represent lower profit performer with 1.13 Arba respectively from 20 commercial banks. Therefore, this study choose the samples which are likely to give the required information.

3.3 Nature and Source of Data

Since the sole goal of this research is academic, an appropriate protocol was followed in order to conduct the research. This study is primarily grounded in secondary data. The study's variables include total liability to total assets, total equity to total assets, cash reserve ratio, total loan to deposit ratio, non-performing loan, and bank size. The dependent variables are ROA and ROE. The Central Bureau of Statistics of Nepal, Nepal Rastra Bank's banking and Financial Statistics, and the annual reports of a few commercial banks have provided the relevant secondary data and information.

3.4 Method of Data Collection

The necessary data is gathered from the sample bank's yearly reports, which may be accessed on its official website for the study periods. You can also acquire NRB regulatory directives, Nepalese commercial bank statistics, and other relevant documents by visiting the official websites.

3.5 Method of Data Analysis

The statistical and econometric models used to analyse secondary data are covered in this section. The study employs regression, co-relational, and descriptive analytic techniques. The variables' mean, standard deviation, minimum and maximum values are included in the descriptive statistics in order to explain the features of the sample firms. The direction and strength of the relationship between dependent and

independent variables are determined using the correlation analysis. Regression analysis is used to determine how much an independent variable, either alone or in combination with other variables, influences a dependent variable. It describes the various statistical tests of significance, including as the t-test, F-test, detection, and linear regression analysis, for the validation of models. The F-test is used to examine each model's distinct impacts. The ensuing sections have addressed the statistical test of significance and a detailed study of the models.

3.5.1 Regression Analysis

The models used in this study aim to examine the link between the dependent variable and the independent variables in this study, which include bank size, non-performing loans, loan to deposit ratios, and cash reserve ratio. This study attempts to investigate the effect of capital structure on the profitability of a Nepalese commercial bank using the regression model that follows. In order to test the hypothesis, the model equation that follows has been created.

More specifically, the given model has been segmented into following model:

Model 1:

$$ROA= \beta 0+ \beta_1 ETA +\beta_2 LTA +\beta_3 CRR +\beta_4 LDR +\beta_5 NPL +\beta_6 BS +e$$

Model 2:

$$ROE= \beta 0+ \beta_1 ETA +\beta_2 LTA +\beta_3 CRR +\beta_4 LDR +\beta_5 NPL +\beta_6 BS +e$$

Return on equity and return on assets, which are calculated by dividing net income by total assets, are the dependent variables in the model mentioned above. Testing is done to determine how the cash reserve ratio, loan-to-deposit ratio, non-performing loan ratio, and bank size affect the banks' return on assets.

Where,

β_0 = Constant term

ROA = Return on Assets

ROE = Return on Equity

ETA = Total equity to total assets ratio

LTA = Total liability to total assets ratio

CRR= Cash reserve ratio is the balance with NRB to total deposits, in percentage

LDR = Total loan to total deposit ratio is the ratio of total loans to total deposits, in percentage

NPL= Non-performing loan ratio is measured by the ratio of non-performing loan to total loan, in percentage

BS= Bank size is measured be the total assets, Rupees in billion.

e = error term

β_1 to β_6 = Beta coefficients

The description of the variables used in the study is presented in Table 2.

Table 2

Description of the variables

S.N.	Variables	Description	Measurement
1	ETA	Total equity to total assets ratio	Percentage of total equity to total assets ratio
2	LTA	Total liability to total assets ratio	Percentage of total liability to total assets ratio
3	CRR	Cash Reserve Ratio	Percentage of balance with NRB to total deposits
4	LDR	Total loan to total deposit ratio	Ratio of loans to deposit
5	NPLR	Non -performing loan Ratio	Ratio of bad loans over its total assets
6	BS	Bank Size (Rs)	Total assets of the bank
7	ROA	Return on assets	Percentage of return on total assets
8	ROE	Return on equity	Percentage of return on total equity

3.6 Research Framework and Definition of Variables

A conceptual framework is a theoretical construction made up of tenets, guidelines, and presumptions that serves to organize the concepts that make up a large notion. It

is the researcher's compilation of existing study on the subject of a phenomenon's explanation. Given his prior understanding of other researchers' perspectives and his observations regarding the research topic, it lays out the steps that must be taken during the study. In order to demonstrate how capital structure affects the profitability of Nepalese commercial banks, it provides a methodical explanation of the relationship between the dependent and independent variables.

In this study, the capital structure is measured by the cash reserve ratio, non-performing loan, loan to deposit ratio, and bank size, while the dependent variable is profitability, which is determined by the ratio of operating expense over operating income and profitability, which is determined by return on assets. The following conceptual framework is intended to provide an overview of the primary emphasis and breadth of the study in terms of variables covered, based on the objectives and literature evaluations of the investigation. Figure 1 explains the link between dependent and independent variables.

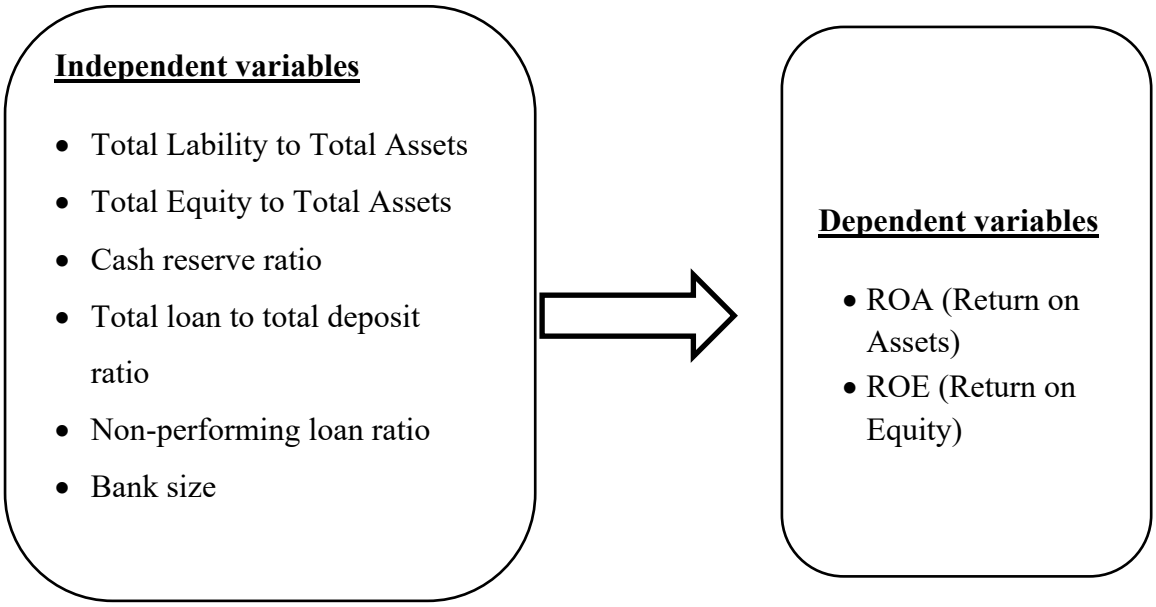

Figure 1: Conceptual Framework

Source: Gautam (2019)

3.6.1 Definition of Variables

Dependent Variable

Profitability

There are many statistics used to assess the profitability of commercial banks, but the three most important ones are Return on Equity, Return on Asset, and Net Interest Margin (Murthy & Sree, 2003; Alexandru et al., 2008). There are a number of widely used bank performance metrics in the literature for defining bank performance. Return on assets is the most typical use of performance factors (Demirguckunt & Huizinga, 1999).

Return on Assets (ROA)

Another important number that shows a bank's profitability is ROA. According to Khrawish (2011), it is a ratio of income to total assets. It assesses how well bank management can turn a profit using the resources available to them. According to Wen (2010), a greater ROA indicates that the business is employing its resources more effectively.

Return on Equity (ROE)

Another important number that shows a bank's profitability is ROE. According to Khrawish (2011), it is a ratio of income to total equity. It assesses the bank management's capacity to turn a profit using the firm equity at their disposal. According to Wen (2010), a greater ROE indicates that the business is employing its resources more effectively.

Independent Variables

Total Liability to Total Assets Ratio (LTA)

Overall Debt to Total Assets A financial indicator called a ratio is used to assess the financial leverage of a company. It is computed as a percentage by dividing the total liabilities of an organization by its total assets. A higher ratio suggests that activities are more dependent on debt financing, which could raise financial risk. A smaller ratio, on the other hand, denotes a more cautious financial structure with a higher percentage of assets backed by equity. Investors and creditors can evaluate a company's capacity to handle risk and fulfil its financial commitments by looking at

this ratio. But its importance fluctuates according to the sector and particular financial situation (Khrawish, 2011).

Total Equity to Total Assets Ratio (ETA)

Equivalent of Total Equity to Total Assets A crucial financial indicator that shows a company's capital structure and overall health is a ratio. It shows the percentage of a company's assets financed by shareholders' equity as opposed to debt and is computed by dividing total equity by total assets. A higher ratio typically denotes more financial stability since it represents a more cautious financial strategy with a larger dependence on equity. A lower ratio, on the other hand, indicates more debt and possible financial risk. This ratio, which varies depending on industry and particular financial goals, is used by creditors and investors to evaluate a company's financial health and ability to weather economic downturns (Bhattarai, 2016).

Cash Reserve Ratio (CRR):

The minimum percentage of all client deposits that commercial banks are required to retain as reserves, either in cash or as deposits with the central bank, is known as the cash reserve ratio, or CRR. CRR is determined in accordance with national central banks' policies.The relationship between bank profitability and the private sector's monetary policy tool is explained by CRR (Nwannebuik, 2015). In addition to decreasing excess reserves, a greater reserve requirement also weakens the reserves' ability to be lent, which has an impact on the corporation's overall performance (Schiller, 1950). Olokoyo (2011) discovered that the banks' ability to lend money would decrease as the CRR increased.

Total loan to total deposit ratio (LDR):

The credit to deposit ratio, as used by Rijal (2019), gauges a bank's capacity to use deposits to meet its financial obligations. A higher ratio means that the bank is more at risk because extending more loans will cause the bank's reserve to drop; a lower ratio suggests that the bank may not be making much money (Murphy, 2019).

Non- Performing Loan Ratio (NPL):

A loan that is in default or almost in default is referred to as a non-performing loan (NPL). After 90 days of default, many loans become non-performing, though this might vary depending on the conditions of the contract. A loan on which the borrower

is not repaying any principal or interest is known as a non-performing loan ratio. Local laws determine when a loan is deemed bad debt and when the bank classifies it as non-performing. The reasons behind nonperforming loans are typically ascribed to inadequate bank oversight and monitoring, insufficient lender recourse, deficiencies in the legal system, and a deficiency of efficient debt recovery tactics (Adhikary, 2006).

Bank Size (BS):

A person or entity's entire asset holdings are referred to as their "bank size."Assets are things with economic worth that are used over time to provide the owner with benefits. In the banking industry, bank size is typically utilised to take advantage of potential economies or diseconomies of scale (Bhattarai, 2016). Bigger banks typically offer a wider range of products, are more active in the market, and offer larger opportunities for diversification (Lehar, 2005). The natural logarithm of the banks' total assets is employed as a stand-in for their size.

CHAPTER IV

RESULTS AND DISCUSSION

Through an empirical analysis of the information gathered from the respondents, this chapter seeks to accomplish the study's goals. The goal of this chapter is to summarize the findings from the study technique and data analysis covered in chapter three. Based on the hypothesis and secondary data, the data results are analyzed. For the aim of the study, we have gathered various types of data and ratios from the twenty-one banks that have been chosen. Subsequently, information is tallied, scrutinized, and deciphered, and contrasted across the banks in question. The study's methodical and organised findings are presented in this chapter together with interpretations and analyses of secondary data pertaining to a range of topics related to the connection between capital structure and the profitability of commercial banks in Nepal.

4.1 Results

The results of a dissertation typically encapsulate the findings derived from the researcher's investigation into a specific research question or topic. These findings are often presented through quantitative data analysis, qualitative interpretation, or a combination of both, depending on the nature of the research design. The results section of a dissertation outlines key discoveries, patterns, relationships, or insights uncovered during the research process. This may include statistical analyses, thematic analysis of qualitative data, or descriptions of observed phenomena. Moreover, the results section often contextualizes these findings within existing literature, highlighting how they contribute to the broader understanding of the subject area. Overall, the results of a dissertation serve to answer the research question(s), fulfill the objectives of the study, and provide valuable insights for the academic community or relevant stakeholders.

Table 3 shows the descriptive statistics for dependent and independent variables of selected Nepalese commercial banks for the study period of 2014/15 to 2021/22. The dependent variable is profitability indicator ROA and ROE. Profitability is the ratio of operating expense over operating income, in percentage). The independent variables are LTA (Total liability to total assets ratio), ETA (Total equity to total assets ratio), CRR (Cash reserve ratio is the balance with NRB to total deposits, in percentage), LDR (Loan to deposit ratio is the ratio of total loans to total deposits, in percentage),

NPL (Non-performing loan is measured by the ratio of non-performing loan to total loan, in percentage) and BS (Bank size is measured be the total assets, Rupees in billion).

Table 3

Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
ROA	.55	2.89	1.6065	.55910
ROE	10.43	32.09	15.7968	4.56010
LTA	.73	.92	.8752	.02766
ETA	.08	.27	.1248	.02766
CRR	3.49	36.21	16.8596	9.74874
LDR	64.43	107.01	85.0236	7.61851
NPL	.12	5.35	1.4919	1.08420
BS	37.38	419.82	144.5042	74.76104

Valid N (listwise) 50

Table 3 shows descriptive statistics for eight variables related to the banking sector. Return on Assets (ROA) ranges from 0.55 to 2.89, with an average of 1.6065 and a standard deviation of 0.55910. Return on Equity (ROE) varies between 10.43 and 32.09, with a mean of 15.7968 and a standard deviation of 4.56010. The Total Liability to Total Assets ratio (LTA) ranges from 0.73 to 0.92, with an average of 0.8752 and a standard deviation of 0.02766. Equity to Total Assets ratio (ETA) varies between 0.08 and 0.27, with a mean of 0.1248 and a standard deviation of 0.02766.

Additionally, the dataset includes the Cash Reserve Ratio (CRR), which ranges from 3.49 to 36.21, with an average of 16.8596 and a standard deviation of 9.74874. The Loan to Deposit Ratio (LDR) varies between 64.43 and 107.01, with a mean of 85.0236 and a standard deviation of 7.61851. Furthermore, the dataset contains the Non-Performing Loans ratio (NPL), which ranges from 0.12 to 5.35, with an average of 1.4919 and a standard deviation of 1.08420. Finally, the Bank Size (BS) metric spans from 37.38 to 419.82, with an average of 144.5042 and a standard deviation of 74.76104.

4.2 Correlation Analysis

Correlation Analysis between variables was studied to find relations among them. Pearson's Correlation analysis is used to determine the relation between various independent and dependent variables associated with the research. It measures the linear correlation between any two variables.

This Table presents the bivariate Pearson's correlation coefficients between different variables used in the study. The correlation coefficients are based on the data from of 21 commercial banks with 50 observations for the period of 2014/15 to 2021/22. The dependent variables are ROA (Return on asset is the ratio of net profit to total assets, in percentage) and ROE (Profitability is the ratio of operating expense over operating income, in percentage). The independent variables are LTA (Total liability to total assets ratio), ETA (Total equity to total assets ratio), CRR (Cash reserve ratio is the balance with NRB to total deposits, in percentage), LDR (Loan to deposit ratio is the ratio of total loans to total deposits, in percentage), NPL (Non-performing loan is measured by the ratio of non-performing loan to total loan, in percentage) and BS (Bank size is measured be the total assets, Rupees in billion).

Table 4

Correlation Analysis

	ROA	ROE	LTA	ETA	CRR	LDR	NPL	BS
ROA	1							
ROE	.091	1						
LTA	-.171	-.241*	1					
ETA	.170	.241*	-1.000**	1				
CRR	.220*	.104	-.040	.040	1			
LDR	-.252*	-.300**	.125	-.125	.111	1		
NPL	.214	.357**	-.495**	.495**	.136	-.003	1	
BS	-.226*	-.170	.125	-.125	-.084	.346**	-.056	1

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

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

Table 4 shows the relationships between various financial metrics and the dependent variables, Return on Assets (ROA) and Return on Equity (ROE). For ROA, we find weak positive correlations with Equity to Total Assets ratio (ETA), implying that entities with higher ROE and ETA tend to have slightly higher ROA. However, these correlations are not statistically significant at the 0.05 level. On the other hand, ROA displays weak positive correlations with Cash Reserve Ratio (CRR), indicating that an increase in CRR is associated with a slight increase in ROA, and this correlation is statistically significant at the 0.05 level. Conversely, we observe weak negative correlations between ROA and Total Liability to Total Assets ratio (LTA) as well as Loan to Deposit Ratio (LDR). These correlations suggest that entities with higher LTA and LDR tend to have slightly lower ROA, and both correlations are statistically significant at the 0.05 level. There is no statistically significant correlation between ROA and Bank Size (BS).

As for ROE, there is a moderate positive correlation with Equity to Total Assets ratio (ETA), indicating that entities with higher ETA tend to have higher ROE. This correlation is statistically significant at the 0.05 level. Additionally, we find a weak positive correlation between ROE and Cash Reserve Ratio (CRR), suggesting that an increase in CRR is associated with a slight increase in ROE, but this correlation is not statistically significant. On the other hand, there are moderate negative correlations between ROE and Total Liability to Total Assets ratio (LTA) as well as Loan to Deposit Ratio (LDR). These correlations imply that entities with higher LTA and LDR tend to have lower ROE, and both correlations are statistically significant at the 0.01 level. Furthermore, there is a strong positive correlation between ROE and Non-Performing Loans ratio (NPL), indicating that entities with higher NPL tend to have lower ROE, and this correlation is statistically significant at the 0.01 level. Similar to ROA, there is no statistically significant correlation between ROE and Bank Size (BS).

4.3 Regression Analysis

The regression analysis has been computed and results are presented in the Table 3. More specifically, it shows the regression results of cash reserve ratio, bank size, loan to deosit ratio, non-performing loan ratio on profitability of selected Nepalese commercial banks.

While correlation analysis assumes no causal relationship between variables, regression analysis assumes causal relationship between two or more variables. Simple linear regression shows the effect of an independent variable on single dependent variable while multiple linear regressions show the effects of multiple independent variables on single dependent variable. Correlation analysis only provides the degree of relationship between two variables. Thus, regression analysis is done to have better understanding of the strength of relationship between two or multiple variables. Multiple regression analysis is used to analyze the impact of multiple independent variables on single dependent variable. Thus, multiple regression analysis is used to analyze the impact of various independent variables of job-hopping behavior. Multiple regression analysis is also used to analyze the effect of perceived risk on the relation between readiness to learn and change and behavioral intention.

Table 5

Model Summary (ROA)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.533[a]	.284	.262	.43366

a. Predictors: (Constant), CRR, ETA, LDR, NPL, BS, LTA

The adjusted R-square is 0.262 which means 26.20% in bank performance of Nepalese commercial bank in Nepal is explained by BS, NPL, CRR, LDR, ETA, LTA after adjusting degree of freedom (df). Model summary also indicates the standard error of the estimate of 0.433 which shows the variability of the observed value of profitability of Nepalese commercial bank.

Table 6

ANOVA (ROA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.087	5	2.417	12.855	.000[b]
	Residual	30.465	44	.188		
	Total	42.552	49			

a. Dependent Variable: ROA

b. Predictors: (Constant), CRR, ETA, LDR, NPL, BS, LTA

F value is 12.855 and p value is 0.00 i.e. p value is less than 0.05 and significant at 5 percent level of significance which indicates that independent variables significantly impact the bank performance of Nepalese commercial bank.

The p-value is 0.00 which is less than alpha value 0.05. Therefore, the model is a good predictor of the relationship between the dependent and independent variables. As a result, the independent variables (BS, NPL, CRR, LDR, ETA, LTA) are significant in explaining the variance in bank performance of Nepalese commercial bank in the context of Nepal.

Table 7

Coefficients (ROA)

	Coeff.	S.E.	t- value	Sig.	Results
Constant	2.396	.432	5.550	.000	Significant
ETA	.823	2.492	3.330	.002	Significant
LTA	.348	1.245	.412	.624	Insignificant
CRR	.005	.004	1.443	.151	Insignificant
LDR	-.019	.004	-4.354	.000	Significant
NPL	.016	.022	.727	.468	Insignificant
BS	-.002	.000	-3.636	.000	Significant

a. Dependent Variable: ROA

Table 5 also depicts the beta for all the attributes or independent variables under taken in the study to determine their impact on Nepalese commercial bank in Nepal. It shows that bank size has Beta of -0.002. Further the beta coefficient implies that 1% change in bank performance of Nepalese commercial bank leads to 0.2% negatively change in bank size factor with other factors remain unchanged.

Change in NPL has Beta of 0.016; the beta coefficient implies that 1% change in bank performance of Nepalese commercial bank leads to 1.6% changes in NPL factor with other factors remain unchanged. LDR has Beta of -0.019%, similarly the beta coefficient signifies that 1% change in profitability of Nepalese commercial bank leads to 1.9% negative change in LDR variable with other factors remain unchanged. CRR has Beta of 0.005; the beta coefficient signifies that 1% change in profitability

of Nepalese commercial bank leads to 0.5% change in CRR variable with another variable remain unchanged.

Table 8

Model Summary (ROE)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.504[a]	.254	.231	5.82825

a. Predictors: (Constant), CRR, ETA, LDR, NPL, BS, LTA

Source: SPSS Output

In this study the adjusted R-square is 0.231 which means 23.10% in bank performance of Nepalese commercial bank in Nepal is explained by BS, NPL, CRR, LDR, ETA, LTA after adjusting degree of freedom (df). Model summary also indicates the standard error of the estimate of 5.828 which shows the variability of the observed value of profitability of Nepalese commercial bank.

Table 9

ANOVA (ROE)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1876.515	5	375.303	11.049	.000[b]
	Residual	5502.899	44	33.969		
	Total	7379.414	49			

a. Dependent Variable: ROE

b. Predictors: (Constant), CRR, ETA, LDR, NPL, BS, LTA

Source: SPSS Output

F value is 11.049 and p value is 0.00 i.e., p value is less than 0.05 and significant at 5 percent level of significance which indicates that independent variables significantly impact the bank performance of Nepalese commercial bank.

The p-value is 0.00 which is less than alpha value 0.05. Therefore, the model is a good predictor of the relationship between the dependent and independent variables. As a result, the independent variables (CR BS, NPL, CRR, LDR, ETA, LTA) are significant in explaining the variance in bank performance of Nepalese commercial bank in the context of Nepal.

Table 10

Coefficients (ROE)

	Coeff.	Std. Error	t	Sig.	Results
Constant	39.018	5.501	6.725	.000	Significant
ETA	5.862	19.65	3.299	.006	Significant
LTA	6.56	5.54	.260	.796	Insignificant
CRR	.115	.049	2.357	.020	Significant
LDR	-.318	.058	-5.500	.000	Significant
NPL	-.089	.291	-.305	.761	Insignificant
BS	-.019	.006	-3.116	.002	Significant

a. Dependent Variable: ROE

Source: SPSS Output

Table 10 also depicts the beta for all the attributes or independent variables under taken in the study to determine their impact on Nepalese commercial bank in Nepal. It shows that bank size has Beta of -0.019. Further the beta coefficient implies that 1% change in bank performance of Nepalese commercial bank leads to 1.9% negatively change in bank size factor with other factors remain unchanged. CRR of bank has Beta of 0.115. Likewise, the beta coefficient signifies that 1 % change in bank performance of Nepalese commercial bank leads to 11.5% change in CRR with other factors remain unchanged.

Change in NPL has Beta of -0.089; the beta coefficient implies that 1% change in bank performance of Nepalese commercial bank leads to 8.9% negatively changes in

NPL factor with other factors remain unchanged. LDR has Beta of -0.318%, similarly the beta coefficient signifies that 1% change in profitability of Nepalese commercial bank leads to 31.8% negative change in LDR variable with other factors remain unchanged. CRR has Beta of 0.115; the beta coefficient signifies that 1% change in profitability of Nepalese commercial bank leads to 11.5% change in CRR variable with another variable remain unchanged.

4.4 Discussion

The analyses revealed that loan to deposit ratio (LDR) has a negative and statistically significant impact on profitability of Nepalese commercial banks measured by ROA and ROE. This finding is same as to the findings of Edem (2017).

This analysis revealed that Cash reserve ratio (CRR) could not be regarded as influencing variable on bank performance as they are found to be insignificant at 5 percent level of significance. This finding is similar to the finding of Bhattarai (2014), but contradictory to that of Gupta (2017), found that there is a positive and significant impact of CRR on bank performance.

Further the analysis revealed that Bank size (BS) has a positive and a strong significant relationship with the profitability of Nepalese commercial banks. This finding is similar to the finding of Bhattarai (2014) but contradictory to that of Abdelrahim (2013). In this research LDR shows significant negative impact on Nepalese commercial bank's performance indicators ROA and ROE. Similarly, Edem (2017) observed the negative impact of credit to deposit ratio on bank performance. Similarly, Siddikee et al. (1999) revealed that there is negative impact of credit to deposit ratio on bank performance. Shakya (2017) concluded that non-performing loans had a statistically significant negative effect on profitability proxy by ROA. Similarly, in this research NPL shows significant negative impact in Nepalese commercial bank's performance indicators ROA. But NPL shows positive and not significant impact on Nepalese commercial bank's performance indicators ROE.

According to this study, the performance metrics ROA of Nepalese commercial banks are significantly positively impacted by bank size. However, bank size has a favorable and negligible effect on Nepalese. In a similar vein, Masood and Ashraf (2012) and Perera et al. (2013) discovered a positive and statistically significant association between bank size and profitability that is linear in nature. Furthermore, AL-Omar

and AL-Mutairi (2008) contended that scale efficiency demonstrates a favorable relationship between bank size and profitability.

The results of the research showed that Nepalese commercial banks' profitability is negatively impacted by NPLR in a statistically significant way. The results conflict with those of Alshatti (2015) but are comparable to those of Aduda and Gitonga (2011). While other research has produced contradictory findings, it has not been possible to link non-performing loans (NPLs) to bank performance. This demonstrates that credit evaluation processes used by Nepalese commercial banks are effective. The results demonstrate that non-performing loans (NPLs) in Nepalese commercial banks reduce loan payments, which in turn results in lower income and fewer capital available for investment, ultimately decreasing bank profitability.

CHAPTER V

SUMMARY AND CONCLUSION

This chapter presents a brief summary of the entire study and highlights the major findings of the study. Additionally, the major conclusion is discussed in a separate section of this chapter that is followed by some implications and the recommendations regarding the impact of capital structure on profitability of Nepalese commercial banks. Finally, this chapter ends with the scope of the future of the study in the same field.

5.1 Summary

The main purpose of this study is to know the impact of capital structure variable on performance of Nepalese commercial bank. The findings are predicated on secondary data that was gathered for 20 commercial banks between 2013–14 and 2022–23. The study contributes to the investigation of the effects on the profitability of Nepalese commercial banks of the cash reserve ratio, non-performing loan, loan to deposit ratio, and bank size. A sample of fifty observations was obtained. The secondary data used in this study were gathered from the websites of the relevant banks and the NRB. The two dependent variables in this study are bank performance, whose indicators are ROA and ROE, and the five independent variables, BS, NPL, CRR, LDR, ETA, and LTA.

There was a presentation and discussion of the study's importance and goal. As previously said, the study's main goal is to investigate how a capital structure variable affects a Nepalese commercial bank's profitability. Chapter II included a presentation of the numerous research on the subject that were examined in relation to developed and emerging nations. Appropriate variables were chosen for the study based on the review. After that, each variable was defined and the reasoning for their selection was presented. We also spoke about the predicted sign and the calculating formula. Nevertheless, the final models included two independent variables that were not included in the earlier research. ROA and ROE were chosen as dependent variables to indicate the profitability of Nepalese commercial banks since they were the most often mentioned in the literature. The capital structure variables BS, NPL, CRR, LDR, ETA, and LTA are examples of explanatory variables. Regression analysis and panel

data analysis were used in this study to examine all five of Nepal's commercial banks from 2013–14 to 2022–23. Using the findings from several statistical analyses, the main study question is "What is the impact of capital structure variable and profitability of Nepalese commercial banks from 2013/14 to 2022/23?" Overall, the findings suggest that capital structures and the profitability of Nepal's commercial banks are related.

According to the study, bank size, loan-to-deposit ratio, and non-performing loan levels all significantly affect profitability as determined by ROA. Nevertheless, as measured by ROA and ROE, the cash reserve ratio has no appreciable effect on the profitability of Nepalese commercial banks. Furthermore, the remaining variables have little effect on profitability as determined by ROE, whereas the loan to deposit ratio has a considerable influence. The study comes to the conclusion that Nepalese commercial banks' performance is significantly impacted by the capital structure requirement.

The results point to a connection between these institutions' performance and capital structure. Particularly, it was discovered that non-performing loans, bank size, and loan to deposit ratio had a major influence on profitability as determined by ROA. The cash reserve ratio, as determined by both ROA and ROE, did not, however, significantly affect profitability. Furthermore, compared to the other factors, the loan to deposit ratio significantly affected profitability as determined by ROE. The study's result shows that capital structure regulations do, in fact, have a big impact on how well Nepalese commercial banks function.

5.2 Conclusion

This study looked into how Nepalese commercial banks performed from 2013–14 to 2022–23 in relation to several capital structure factors. The research covered a number of important variables, such as bank size, loan to deposit ratio, non-performing loan ratio, and cash reserve ratio. Return on equity (ROE) and return on assets (ROA) were used to measure profitability. Without a question, one of the most regulated sectors of the global economy is the banking sector.

Bankers believe that capital structure is the most important factor in determining a bank's performance in the global setting. A bank's capital structure is one of the most important regulatory criteria since it affects the profitability of the bank and plays a

significant role in its risk-taking and soundness. The study demonstrates that the profitability of Nepalese commercial banks as determined by ROA is positively correlated with bank size and cash reserve ratio. Nonetheless, there is a negative correlation between Nepalese commercial banks' ROA-measured profitability and LDR and NPL.

Similarly, the outcome demonstrates that the profitability of Nepalese commercial banks as determined by ROE is positively correlated with CRR, NPL, and Bank Size. Similarly, the outcome demonstrates that the profitability of Nepalese commercial banks as determined by ROE is negatively correlated with both CRR and LDR. The study comes to the conclusion that while CRR and LDR have no discernible effects on the profitability of Nepalese commercial banks as assessed by ROA, bank size, non-performing loans, and loan to deposit have a major influence. The study also finds that the most important factors driving changes in Nepalese commercial banks' profitability are bank size, loan to deposit ratios, and non-performing loans.

The study's result highlights the importance of capital structure factors in determining Nepalese commercial banks' profitability. These results offer banks, regulators, and policymakers in Nepal useful information that helps them decide what capital structure requirements to set and how those decisions will affect the financial stability and performance of the banking sector.

5.3 Implications

The study has examined the impact of capital structure on profitability of Nepalese commercial banks. There remains enough ground of scope in terms of data, models and methodology for studies in days to come. The study leaves enough ground for the further studies, which are listed below:

5.3.1 Managerial Implications

- Generally speaking, banks must maintain an optimal level of CRR (or as required by regulation) in order to safeguard the investments of their depositors, avoid financial difficulties in completing their commitments, and support the stability of the financial system.
- Moreover, the research advises banks to monitor and regulate non-performing loans (NPLs) and maintain the lowest feasible level of NPL by placing a

greater emphasis on repayment capacity prior to granting credit approvals. This would help banks perform better.

- It is recommended that banks in Nepal be informed that their size has an impact on their performance. Due to their ability to diversify their risk and distinguish their offerings in less competitive markets, larger banks often see better profits.
- The report also suggests that in order for banks to perform better, they should monitor and regulate loan loss reserves (LDR) and maintain the amount of LDR in accordance with NRB guidelines by placing a strong emphasis on the banks' capacity to repay client deposits.

5.3.2 Research Implications

- Essentially, Nepal's commercial banks are the source of this finding. Therefore, in order to determine the effect of capital structure on the profitability of Nepalese commercial banks, future research can do this kind of study using other financial institutions such as development banks, financial businesses, and so on.
- Similarly, more research may be conducted with the use of sophisticated statistical instruments. Future research, for instance, can make advantage of causality and non-linear statistical methods.
- This research solely relies on secondary data. Therefore, by employing primary sources like surveys, questionnaires, special group discussions, etc., future research may be conducted in a more thorough manner. Further research on the qualitative phenomena might be contemplated.
- Various capital structures implemented by central banks, such as spread rates, bank rates, statutory liquidity ratios, and leverage ratios, have an impact on the profitability of banks. Therefore, these characteristics can be included in future research, which will provide more study findings.

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APPENDIX

Year	Banks	ROA	ROE	LTA	ETA	CRR	LDR	NPL	BS
2013/14	ADBL	0.55	32.09	0.86	0.14	28.74	93.77	5.35	100.93
	NIBL	1.95	25.57	0.83	0.17	8.20	74.95	1.53	41.45
	NICA	1.85	23.25	0.84	0.16	24.27	66.63	0.66	99.15
	HBL	1.39	13.11	0.86	0.14	30.12	83.47	2.23	69.19
	EBL	1.94	15.98	0.89	0.11	28.74	79.12	1.23	82.81
2014/15	ADBL	1.06	13.10	0.88	0.12	7.48	81.00	2.49	37.38
	NIBL	1.04	10.95	0.86	0.14	12.59	78.91	1.30	45.59
	NICA	1.26	16.15	0.87	0.13	27.63	78.77	0.64	48.75
	HBL	2.89	11.27	0.89	0.11	11.32	74.55	2.23	115.99
	EBL	0.55	27.97	0.84	0.16	11.55	68.45	3.98	88.21
2015/16	ADBL	2.79	17.78	0.83	0.17	23.33	95.46	4.36	111.79
	NIBL	2.24	29.13	0.89	0.11	12.40	77.63	1.38	55.07
	NICA	1.59	10.88	0.88	0.12	16.61	75.14	0.38	113.89
	HBL	1.58	15.88	0.88	0.12	35.14	81.47	1.89	87.70
	EBL	2.03	21.94	0.88	0.12	26.64	83.59	0.85	99.87
2016/17	ADBL	2.78	13.68	0.84	0.16	31.18	92.90	4.60	126.87
	NIBL	1.80	14.90	0.86	0.14	16.88	78.63	2.02	65.41
	NICA	1.83	11.20	0.84	0.16	16.52	84.05	0.25	116.51
	HBL	1.75	18.00	0.86	0.14	33.54	79.30	1.60	116.59
	EBL	2.19	19.72	0.87	0.13	26.64	85.10	0.85	107.26
2017/18	ADBL	2.71	12.09	0.86	0.14	29.15	95.64	3.50	134.86
	NIBL	1.72	11.22	0.87	0.13	14.37	77.87	1.48	77.71
	NICA	1.97	16.39	0.88	0.12	17.75	81.86	0.20	144.82
	HBL	1.67	15.48	0.84	0.16	25.34	84.70	0.77	128.84
2018/19	EBL	2.77	13.63	0.84	0.16	27.20	93.62	3.29	151.46
	ADBL	1.62	11.72	0.86	0.14	13.84	76.79	1.13	91.13
	NIBL	1.94	17.41	0.90	0.10	18.56	87.01	0.16	170.08
	NICA	1.82	16.91	0.89	0.11	22.13	91.62	0.55	151.65
	HBL	2.21	18.34	0.88	0.12	26.25	87.37	1.12	133.15
2019/20	EBL	1.86	14.21	0.84	0.16	33.98	85.84	2.84	179.32
	ADBL	1.08	11.50	0.90	0.10	7.97	89.56	1.55	185.02
	NIBL	1.42	15.05	0.90	0.10	14.43	83.52	0.22	185.02
	NICA	1.06	12.54	0.89	0.11	24.58	88.25	1.74	273.88
	HBL	1.79	15.40	0.89	0.11	31.39	82.31	1.01	155.88
2020/21	EBL	1.59	13.25	0.86	0.14	36.21	92.93	1.88	222.44
	ADBL	1.29	21.24	0.89	0.11	10.79	87.52	1.64	168.33
	NIBL	0.89	14.47	0.90	0.10	18.15	85.30	0.12	211.65
	NICA	1.20	17.24	0.91	0.09	29.89	85.59	1.41	345.42
	HBL	1.68	14.89	0.89	0.11	26.51	89.87	0.48	178.49
2021/22	EBL	0.90	12.82	0.86	0.14	25.96	107.01	2.09	246.87

	ADBL	1.11	16.20	0.73	0.27	10.14	89.08	2.22	194.41
	NIBL	1.13	15.68	0.90	0.10	6.50	90.77	0.12	225.38
	NICA	1.38	18.24	0.90	0.10	23.55	94.99	1.28	360.54
	HBL	1.09	10.76	0.90	0.10	23.48	92.14	1.59	216.29
2022/23	EBL	1.22	14.14	0.90	0.10	3.78	86.58	1.11	212.11
	ADBL	0.93	11.51	0.90	0.10	4.65	95.12	0.89	173.38
	NIBL	0.94	14.54	0.92	0.08	21.40	86.32	1.04	178.73
	NICA	1.12	11.58	0.87	0.13	4.13	92.49	1.62	419.82
	HBL	1.12	19.75	0.86	0.14	3.49	86.97	1.83	260.08

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ABSTRACT The study examined that

the relationship between capital structure and profitability : a study of Nepalese commercial banks. The findings are based on secondary data 4

that was gathered for five commercial banks between 2013–14 and 2022–2023. The study contributes to the investigation of the

effects on the profitability of Nepalese commercial banks of the cash reserve ratio, non-performing 5

loan, loan to deposit ratio, and bank size. A sample of 80 observations was obtained. The secondary data used in this study were gathered from the websites of the relevant banks and the NRB. The two dependent variables in this study are bank performance.

The result shows that CRR, NPL and Bank Size have positive relationship on profitability of Nepalese commercial 15

bank measured by ROE. Similarly,

the result shows that CRR and LDR have negative relationship on profitability of Nepalese commercial banks measured by ROE. The 15

study concludes that Bank size,

non-performing loan and loan to deposit have significant impact on the profitability of Nepalese commercial banks 7

measured by ROA but CRR and LDR does not significant impact on profitability of Nepalese commercial bank measured by ROA. The study also concludes that bank size loan to deposit and

non-performing loan is the most influencing factor that explains the changes in the profitability of Nepalese commercial 4