

**CAPITAL STRUCTURE AND ITS IMPACT ON PERFORMANCE
OF NEPALESE COMMERCIAL BANKS**

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(MBS)

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CERTIFICATE OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**Capital Structure and its Impact on Performance of Nepalese Commercial Banks**” The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has 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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REPORT OF RESEARCH COMMITTEE

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ABBREVIATION

ADBL:	Agriculture Development Bank Limited
BAFIA:	Bank and Financial Institution Act
CADR:	Cash deposit ratio
CAR :	Capital Adequacy Ratio
CATAR:	Current assets to total assets ratio
CDR:	Credit deposit ratio
CHTDR:	Cash in hand to total deposit ratio
CV:	Coefficient of Variation
D/E:	Debt Equity Ratio
DTOR:	Debtor Turnover Ratio
EPS:	Earnings Per Share
F&D:	Fixed Deposit
FIs:	Financial Institutions
FY:	Fiscal Year
LADR:	Loan and advances to deposit ratio
MPS:	Market Price Per share
NABIL:	NABIL Bank Limited
NMB:	NMB Bank Limited
NPA:	Non-performing Assets
NPAT:	Net Profit after Tax
NPL:	Non-performing Loan
ROA:	Return on Asset
SBL:	Siddhartha Bank Limited
SD:	Standard Deviation
TA:	Total Assets
TDTA:	Total Debt to Total Assets
TDTE:	Total Debt to Total Equity

ABSTRACT

This study examines the capital structure and its impact on performance of Nepalese commercial banks. The main objectives of this study are to examine the determinants of capital structure in Nepalese commercial banks, to examine the relationship between ROA, Bank size, Growth rate and Tangibility on TDA and TDE and to analyze the impact of ROA, Bank size, Growth rate, and Tangibility on TDA and TDE in commercial banks of Nepal. Return on Assets, Bank size, Growth rate and Tangibility are independent variables and Total debt assets and Total debt equity are the dependent variables in this study. Descriptive statistics, correlation analysis, and multiple regression were used to present data. The major finding of this study showed that TDA shows a strong positive correlation with TDE, indicating that higher asset financing through debt increases the debt-to-equity ratio. TDA and ROA are positively correlated, linking higher debt levels to increased profitability. TDE also correlates positively with ROA, highlighting the relationship between leverage and profitability. Larger banks exhibit higher leverage and profitability, as shown by their positive correlation with both TDE and ROA. Tangibility strongly correlates with TDA and TDE, suggesting that more tangible assets lead to higher leverage ratios. ROA has a significant negative relationship with TDA, while Bank Size shows an insignificant negative association. GR positively and significantly relates to TDA, whereas Tangibility has a positive but insignificant relationship. These results reflect varying impacts of the variables on TDA. The unstandardized coefficients show how changes in predictors affect Total Debt to Equity (TDE). ROA has a significant negative relationship with TDE, indicating an inverse association. Bank Size shows a positive but insignificant relationship with TDE. GR demonstrates a significant positive relationship with TDE, suggesting higher growth rates increase TDE. Tangibility has a negative association with TDE, but the relationship is not statistically significant.

Keywords: *Financial Institution, Growth rate, Total Debt Assets, Total Debt Equity, Return on Assets and Tangibility.*

CHAPTER- I

INTRODUCTION

1.1 Background of the Study

Capital structure refers to the blend of debt and equity employed by a firm to support its long-term operations, representing the enduring financing arrangement. The concept involves the total items listed on the liability side of a balance sheet, excluding current liabilities (Khan & Jain, 1997). The choice of capital structure plays a crucial role in business operations, aiming to maximize shareholder wealth and enhance the organization's adaptability in a competitive environment. Managers face the complex task of determining the ideal balance between debt and equity to reduce financing costs and increase firm value. As a result, the relationship between capital structure and firm performance becomes a significant area of theoretical interest. The influence of capital structure on a firm's success can be understood through various mechanisms. For instance, utilizing debt can boost profitability since interest expenses are tax-deductible, thereby enhancing returns for shareholders. To analyzes the relationship between capital structure and the financial performance of Nepalese securities companies (Jaish, 2020) Within corporate decision-making, funding and investment are among the most critical areas, with the capital structure decision funding the firm through a mix of debt and equity being a strategic consideration referred to as the optimal capital structure. Terms such as capitalization, leverage ratio, capital structure, and financial structure are often used interchangeably, collectively describing the sources and allocation of funds employed by a firm to acquire and manage assets (Barges, 2009).

The Optimum Capital Structure is characterized by the lowest overall cost of capital and the highest firm value. The optimal debt-to-equity ratio is one that maximizes a firm's value by maintaining a balance within an ideal range and minimizing the overall cost of capital. The main objective of this structure is to lower capital costs, reducing the firm's dependence on external creditors while strengthening its capacity to finance core business activities. Determining the appropriate level of risk, where the expected return on capital exceeds its cost, requires calculating the weighted average cost of capital (Bhattarai, 2017).

The financial structure of a business refers to the arrangement of funds, incorporating both short-term and long-term financing sources. Within this framework, capital structure

represents a specific focus on the proportion of long-term funding. The objective is to organize these sources in a balanced way, considering their relative sizes and distribution. Key components of capital structure include long-term debt, preferred stock, and equity, which collectively provide lasting financing for the company's assets. Unlike short-term liabilities, capital structure elements are more permanent in nature. Each component carries its own cost, making decisions regarding capital structure critical for maximizing returns and strengthening the firm's competitive advantage. These decisions play a pivotal role in shaping business performance (Birru, 2016) and are vital for thriving in a competitive environment (Abor, 2005).

To finance their assets, businesses have the option to utilize either debt or equity capital, though an effective approach typically involves maintaining a balanced combination of both. The importance of choosing between debt and equity may lessen for business owners in situations where interest expenses do not qualify for tax deductions. However, when interest payments are tax-deductible, owners might seek to maximize the organization's value by opting for a heavy reliance on debt financing, potentially up to 100% (Champion, 2000). An ideal capital structure is one where the mix of debt and equity is such that it maximizes the value of the firm and enhances shareholder wealth. This combination leads to optimal financial performance and value creation (Thapa & Gautam, 2021).

A company's capital structure represents the framework it uses to finance its assets. By raising capital through methods such as issuing preferred shares, common shares, or utilizing retained earnings, a business can reduce the risks associated with debt, thereby decreasing the chances of bankruptcy. Alternatively, relying on debt financing allows owners to retain control while potentially increasing operational returns. Debt financing may include corporate bonds, long-term loans, or short-term obligations, with the latter directly influencing working capital. For example, if a company relies on debt for 70% of its financing and equity for 30%, its debt-to-equity ratio would be 70%, reflecting its level of leverage. Effective management of debt and equity is critical, as achieving a favorable ratio is often a significant consideration for potential investors. The relationship between capital structure and financial performance is especially relevant in the banking sector, where variations in financial leverage due to the typically low

equity capital relative to total assets can significantly influence outcomes (AL-Kayed et al., 2014).

Profitability indicates how efficiently an organization generates profit relative to its expenses. A more efficient organization achieves a higher profit margin compared to its costs, whereas a less efficient one incurs greater expenses to generate the same level of profit. In the banking sector, capital structure decisions are further complicated by stringent regulatory requirements. A key aspect of these decisions involves identifying the optimal capital structure that aligns with the firm's goals, as emphasized by (Chandra & Sharma, 2015). The determinants of capital structure in Nepalese commercial banks are influenced by various internal and external factors, including profitability, asset tangibility, growth opportunities, firm size, and economic conditions. Empirical analysis reveals that highly profitable banks tend to rely less on debt, while larger banks with stable income streams are more inclined to adopt higher leverage. Additionally, banks with significant tangible assets have greater access to secured debt, whereas growth opportunities often lead to increased equity financing to minimize financial risk. The findings underscore the importance of aligning capital structure decisions with financial performance, regulatory requirements, and market dynamics to achieve sustainable growth and stability in Nepal's banking sector.

1.1.1 Introduction of Sample Organizations

NMB Bank Limited (NMB)

NMB Bank Limited, established in October 1995, stands as one of the prominent players in Nepal's banking sector. The capital structure of NMB Bank Limited is a crucial factor in determining its operational efficiency and overall performance. It represents the mix of financial resources the bank uses, including equity and debt. A balanced capital structure is vital for NMB Bank, as it provides financial stability and reduces exposure to risks. This balance helps the bank comply with regulatory standards while capitalizing on growth opportunities. By achieving an optimal combination of equity and debt, NMB Bank effectively finances its operations, investments, and expansion activities, strengthening its position in Nepal's competitive banking sector.

NMB Bank Limited has a Joint Venture Agreement with Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden (FMO), under which FMO holds a 13.69% stake in the Bank, making it the largest shareholder. In September 2016, the Bank formalized this partnership with FMO, the Dutch development bank, through a Joint Venture Agreement. This collaboration has positioned NMB Bank as a leader in managing environmental and social risks, as well as a prominent player in renewable energy and agribusiness sectors. In the context of Nepalese commercial banks, capital structure has a profound impact on performance. A robust capital base enhances a bank's financial stability and significantly affects its capacity to generate profits and weather economic challenges. For example, banks with higher equity levels are better prepared to absorb losses during unfavorable market conditions, reducing the risk of financial instability. On the other hand, an overdependence on debt financing can increase financial risk, potentially undermining the bank's performance and credit standing. Achieving an optimal balance between equity and debt is, therefore, essential for maximizing efficiency and ensuring sustainable growth in Nepal's competitive banking industry.

The performance of Nepalese commercial banks is closely tied to macroeconomic conditions, regulatory frameworks, and technological progress. While a strong capital structure serves as a fundamental pillar, banks must also respond to changing market trends and customer expectations to remain competitive. NMB Bank Limited, like other institutions in the sector, regularly assesses its capital allocation strategies and risk management approaches to improve efficiency, profitability, and shareholder returns. By aligning its capital structure with its strategic goals and prevailing market conditions, NMB Bank is better positioned to manage uncertainties, leverage growth opportunities, and play a key role in strengthening and advancing Nepal's banking industry.

<https://www.nmb.com.np>

Siddhartha Bank Limited (SBL)

Siddhartha Bank Limited, established in 2022, stands as a significant player in Nepal's banking sector, with a carefully crafted capital structure that influences its operational capabilities and overall performance. Siddhartha Bank's capital structure is carefully managed, incorporating a mix of equity and debt to maintain financial stability and support its growth strategies. Equity represents a significant portion of the bank's capital, consisting of retained earnings, additional

paid-in capital, and shareholder equity. According to recent financial statements, the bank's equity-to-total assets ratio stands at approximately 14%, reflecting a strong financial foundation capable of supporting operations and withstanding market fluctuations. Alongside equity, debt financing is a key component of Siddhartha Bank's capital structure, allowing the bank to utilize external funding to drive expansion initiatives. Debt sources include instruments such as bonds, customer deposits, and loans from financial institutions, which enhance the bank's liquidity and operational flexibility. Siddhartha Bank employs a cautious approach to managing debt, ensuring its debt-to-equity ratio remains within sustainable levels to minimize financial risks. By maintaining an optimal balance between equity and debt, the bank effectively strengthens its capital structure, enabling it to achieve profitability, contribute to economic activities, and comply with regulatory capital adequacy standards.

Siddhartha Bank's capital structure has a notable influence on the performance of Nepalese commercial banks, mirroring broader trends within the nation's banking sector. A sound capital base enhances a bank's financial stability, profitability, and ability to manage risks while bolstering resilience during economic challenges. The bank's careful approach to capital management plays a crucial role in maintaining its competitive edge within Nepal's banking industry. Additionally, Siddhartha Bank's strategic use of its capital resources builds trust among investors and stakeholders, supporting sustainable growth and contributing to value creation in Nepal's dynamic economic environment.

<https://www.siddharthabank.com>

Agriculture Development Bank Limited (ADBL)

Agriculture Development Bank Limited (ADBL), established in 1968, holds a unique position in Nepal's banking sector, focusing primarily on financing agricultural and rural development initiatives. The capital structure of ADBL plays a crucial role in shaping its operational efficiency and overall performance within Nepal's commercial banking sector. ADBL's capital structure consists of a balanced mix of equity and debt, carefully managed to further its mission of fostering agricultural growth and rural development. Equity represents a substantial portion of the bank's capital structure, including retained earnings, additional paid-in capital, and shareholder equity. According to the most recent financial data, ADBL holds a strong equity position, with its equity-to-total assets ratio reflecting a solid financial base that supports its

operations and developmental goals. Alongside equity, debt financing is an integral part of ADBL's capital structure, enabling the bank to secure funds for agricultural loans and rural development initiatives. Debt sources such as bonds, customer deposits, and borrowings from financial institutions help enhance ADBL's capital base, providing the liquidity needed to expand its lending activities and meet the financing requirements of rural communities. ADBL adopts a cautious approach to managing its debt, ensuring that its debt-to-equity ratio remains at manageable levels to reduce financial risks and maintain long-term sustainability. By striking a balance between equity and debt, ADBL optimizes its capital structure, improving its capacity to fulfill its developmental mission and contribute to the economic growth and prosperity of rural Nepal.

The capital structure of ADBL has a significant impact on the performance of Nepalese commercial banks, reflecting broader trends in the country's banking sector and rural economy. As a specialized institution focused on agricultural and rural financing, ADBL's capital structure plays a key role in its ability to direct resources effectively toward critical sectors such as agriculture, livestock, and rural infrastructure. A well-managed capital base strengthens ADBL's financial standing, allowing it to generate sustainable profits, mitigate risks, and promote inclusive growth in rural communities. Additionally, ADBL's careful approach to capital management enhances the stability and resilience of Nepal's banking system, building trust among investors, stakeholders, and the general public.

<https://www.adbl.gov.np>

Nabil Bank Limited (NABIL)

Nabil Bank Limited, founded in 1984, stands as a prominent institution in Nepal's banking sector, renowned for its innovative financial products and services. Nabil Bank's capital structure is a key element of its operational framework, playing a crucial role in its performance within the competitive Nepalese commercial banking sector. The bank's capital structure combines both equity and debt, carefully managed to enhance its financial strength and operational flexibility. A significant portion of Nabil Bank's capital structure is made up of equity, which includes retained earnings, additional paid-in capital, and shareholder equity. According to the most recent financial reports, Nabil Bank holds a strong equity base, with its

equity-to-total assets ratio indicating a solid financial foundation to sustain its operations and support its strategic goals.

Debt financing is an essential component of Nabil Bank's capital structure, enabling the bank to secure external funding for expansion and manage liquidity. Instruments such as bonds, deposits, and borrowings from financial institutions enhance Nabil Bank's capital base, providing the resources needed to support lending activities and address the varied needs of its customers. Nabil Bank adopts a cautious approach to managing debt, ensuring its debt-to-equity ratio remains within sustainable limits to reduce financial risks and maintain long-term viability. By balancing equity and debt effectively, Nabil Bank optimizes its capital structure, boosting its capacity to generate profits, manage risks, and achieve its strategic goals in meeting the financial demands of the Nepalese market.

Nabil Bank's capital structure has a significant impact on the performance of Nepalese commercial banks, mirroring broader trends within the nation's banking industry and economic environment. A well-organized capital base fortifies Nabil Bank's financial standing, enabling it to navigate market fluctuations, seize growth opportunities, and deliver consistent returns to its shareholders. Furthermore, the bank's prudent approach to capital management enhances the stability and resilience of Nepal's banking sector, building trust among investors, regulators, and the public. As a key player in Nepal's banking industry, Nabil Bank's capital structure reflects its dedication to financial strength, operational excellence, and long-term value creation, solidifying its position as a reliable partner in the country's economic development.

<https://www.nabilbank.com>

1.2 Problem Statement

Capital structure is a crucial strategic financial decision for companies. Capital structure refers to the blend of long-term funding sources, such as debt and equity securities, that provide lasting financial support to a company. This includes long-term debt, preference shares, and equity from shareholders. Essentially, it is the financial framework that enables a company to finance its assets. In practice, some companies secure funding without performing adequate

analysis, which can threaten their long-term viability in today's competitive business environment.

Exploring the impact of capital structure on the profitability of development banks in Nepal is an important area of research, given the central role these institutions play in the country's economic development. The capital utilized by development banks has a significant effect on their financial stability, operational effectiveness, and long-term sustainability. Despite this, there is a clear gap in existing literature regarding a thorough understanding of how the specific elements of capital structure influence the profitability of these banks in the Nepalese context. Recent changes in economic conditions and regulatory frameworks have had a profound impact on Nepal's banking sector, particularly among development banks. The shifting financial landscape and evolving regulations highlight the need for a detailed examination of the relationship between capital structure and profitability. As noted by Shakya and Subba (2018), while various aspects of Nepal's banking sector have been studied, there is a lack of research focusing on the complex relationship between capital structure decisions and the financial performance of development banks.

The absence of a thorough analysis poses a challenge for policymakers, banking professionals, and academics, as there is no clear understanding of the ideal capital structure that aligns with the unique characteristics and challenges faced by development banks in Nepal. The limited research on this topic impedes the development of specific strategies designed to enhance the profitability and long-term viability of these institutions. Moreover, most existing studies focus on factors like liquidity and risk, leaving a significant gap in understanding how capital structure directly impacts the profitability of Nepalese development banks (Shrestha, 2021; Rai, 2023).

To address this gap in research, it is crucial to explore the intricate relationship between capital structure and profitability within the context of Nepal Development Bank. This study aims to offer valuable insights, enrich the existing body of knowledge, and lay the groundwork for evidence-based decision-making in Nepal's banking sector. By analyzing the banking industry in Nepal, the study will examine the factors influencing capital structure and its effects on key profitability indicators such as return on assets (ROA) and return on equity (ROE). The objective is to provide actionable recommendations for stakeholders. Given the significant

progress of Nepal's banking sector, the industry faces various challenges, particularly arising from an unstable domestic economic and political environment. A key issue for both the banking and business sectors is the lack of profitable investment opportunities, compelling banks to reduce interest rates to encourage loans and discourage deposits. Moreover, political instability and security concerns have hindered the government's ability to support the business and industrial sectors effectively. Weak government regulation and oversight, coupled with increasing unfair competition, have further complicated the situation.

Considering that different perspectives exist regarding the factors that influence capital structure and firm value, this study aims to analyze various aspects of the capital structure of commercial banks in Nepal. The research will assess the current capital structure and solvency of these banks, as well as the relationship between debt ratio, long-term debt ratio, debt-equity ratio, return on assets, and return on equity, in order to better understand how these elements affect the performance of Nepalese commercial banks.

- i. What are the determinants of capital structure in Nepalese commercial banks?
- ii. Is there any relationship between ROA, Bank size, Growth rate and Tangibility on TDA and TDE?
- iii. What is the impact of ROA, Bank size, Growth rate and Tangibility on TDA and TDE in commercial banks of Nepal?

1.3 Objectives of the Study

Every research is conducted to achieve certain goals and this study is no exception. The main objective of the study is to examine and identify the determinants of capital structure of Nepalese commercial bank. The specific objectives of this study are as follows:

- i. To examine the determinants of capital structure in Nepalese commercial banks.
- ii. To examine the relationship between ROA, Bank size, Growth rate and Tangibility on TDA and TDE.
- iii. To analyze the impact of ROA, Bank size, Growth rate, and Tangibility on TDA and TDE in commercial banks of Nepal.

1.4 Rationale of the Study

Commercial banks can influence the economic situation of the entire country. Efforts are underway to emphasize the capital structure policies of commercial banks, with the goal of finding an optimal balance between equity and debt capital. In the modern era, banking has evolved to encompass a broader range of services, moving beyond the traditional roles of accepting deposits and providing loans to include a variety of additional offerings.

This study was conducted to provide an overview of the capital structure of commercial banks. It aims to assess various components of capital structure, including earnings per share, cost of capital, and equity capital. Focusing on Nepal Commercial Bank, the study examines the bank's financial performance over several years using various capital structure tools and approaches. While the primary focus is on the capital structure of Nepalese commercial banks, the study also explores other factors such as management practices, profitability, and overall bank performance. This study was conducted with a focus on the periodic operations of Nepalese commercial banks. It aims to examine the bank's capital structure and its role in the initial adjustment of the capital structure over the past five years. The findings of this research can provide valuable insights to various stakeholders in the following ways:

Investors: This study offers important insights into the debt-to-equity ratio (leverage) of the chosen Nepali company. Investors can use this information to analyze stocks and make informed investment decisions.

Financial management: Financial managers of Nepali companies can benefit from this study by gaining valuable insights into the optimal capital structure, which allows them to balance debt and equity in a way that minimizes costs.

Future researchers: The researcher gathered supplementary information on capital structure and cost of capital from financial reports, benefiting from the use of secondary data. This research contributes to enhancing the understanding of capital structure for researchers, management scholars, and other stakeholders.

1.5 Limitation of the Study

The research was carried out using financial reports and publications from the bank. The study was undertaken to understand different aspects of the bank's capital structure, with calculations based on the data provided by the bank. Moreover, since this study was conducted by students rather than professional economic or financial analysts, it has some distinct limitations, as outlined below:

- i. Study is mainly based on secondary data which have been collected from websites, book, financial statement and report of the sample banks.
- ii. The data is used from the secondary data.
- iii. This study has concentrated only in the profitability measurement of NMB, SBL, NABIL, and ADBL among 20 Nepalese commercial banks because these banks are top level of commercial banks in Nepal.
- iv. The reliability of the secondary data is highly depending on the accuracy of the annual report of the concerned banks.
- v. This study focuses on specific internal variables those determinants the capital structure of the banks such as return on assets, growth rate, bank size, assets tangibility so other variables are not focus for the study.
- vi. The study covers only ten years data from 2013/14 to 2022/23.
- vii. In this study, descriptive and casual comparative design methods are used to analyze data.

CHAPTER- II

LITERATURE REVIEW

2.1 Conceptual Review

This chapter outlines the theoretical framework for the study, aiming to establish the connection between profitability and capital structure. It also includes an analysis of the empirical literature on the impact of capital structure on profitability.

Capital structure refers to the blend of debt and equity employed by a firm to support its long-term operations, representing the enduring financing arrangement. The concept involves the total items listed on the liability side of a balance sheet, excluding current liabilities (Khan & Jain, 1997). The choice of capital structure plays a crucial role in business operations, aiming to maximize shareholder wealth and enhance the organization's adaptability in a competitive environment. Managers face the complex task of determining the ideal balance between debt and equity to reduce financing costs and increase firm value. As a result, the relationship between capital structure and firm performance becomes a significant area of theoretical interest. The influence of capital structure on a firm's success can be understood through various mechanisms. For instance, utilizing debt can boost profitability since interest expenses are tax-deductible, thereby enhancing returns for shareholders. Within corporate decision-making, funding and investment are among the most critical areas, with the capital structure decision funding the firm through a mix of debt and equity being a strategic consideration referred to as the optimal capital structure. Terms such as capitalization, leverage ratio, capital structure, and financial structure are often used interchangeably, collectively describing the sources and allocation of funds employed by a firm to acquire and manage assets (Barges, 2009).

The Optimum Capital Structure is characterized by the lowest overall cost of capital and the highest firm value. The optimal debt-to-equity ratio is one that maximizes a firm's value by maintaining a balance within an ideal range and minimizing the overall cost of capital. The main objective of this structure is to lower capital costs, reducing the firm's dependence on external creditors while strengthening its capacity to finance core business activities. Determining the appropriate level of risk, where the expected return on capital exceeds its cost,

requires calculating the weighted average cost of capital (Bhattarai, 2017). A company's capital structure represents the framework it uses to finance its assets. By raising capital through methods such as issuing preferred shares, common shares, or utilizing retained earnings, a business can reduce the risks associated with debt, thereby decreasing the chances of bankruptcy. Alternatively, relying on debt financing allows owners to retain control while potentially increasing operational returns. Debt financing may include corporate bonds, long-term loans, or short-term obligations, with the latter directly influencing working capital. For example, if a company relies on debt for 70% of its financing and equity for 30%, its debt-to-equity ratio would be 70%, reflecting its level of leverage. Effective management of debt and equity is critical, as achieving a favorable ratio is often a significant consideration for potential investors. The relationship between capital structure and financial performance is especially relevant in the banking sector, where variations in financial leverage due to the typically low equity capital relative to total assets can significantly influence outcomes (AL-Kayed et al., 2014).

Capital structure refers to the proportion of debt and equity financing used by a firm. This concept is central to financial management as it involves decisions regarding the balance between debt and equity to meet investment needs. An optimal capital structure strikes a balance between risk and return for shareholders, where the firm manages enough debt to leverage returns, without overexposing itself to financial risk. An ideal capital structure is one where the mix of debt and equity is such that it maximizes the value of the firm and enhances shareholder wealth. This combination leads to optimal financial performance and value creation (Thapa & Gautam, 2021).

Capital structure can be broadly divided into two main categories: debt capital and equity capital. Debt capital refers to funds raised through long-term borrowing, such as bonds and loans, while equity capital consists of funds raised from the shareholders, which includes common stock, retained earnings, and additional paid-in capital. A company's capital structure represents the mix of these sources of financing and is essential for determining the firm's liquidity and long-term financial stability. The capital structure not only influences a company's liquidity but also plays a crucial role in its ability to achieve sustained profitability. While liquidity is affected by the firm's productivity, its capacity to maintain long-term

profitability is somewhat reliant on how well the capital structure is managed. Essentially, capital structure is concerned with both long-term liabilities and equity investments, and its configuration is a key factor in shaping a firm's financial health and operational success (Western & Brigham, 2019).

Capital structure refers to the long-term financing of a company, including equity capital and debt capital. Equity capital includes funds raised from the owners of the business, such as common stock, paid-in capital, retained earnings, and surplus funds. On the other hand, debt capital comprises long-term borrowing, including debentures, bonds, and loans. These sources of debt allow firms to access capital while taking advantage of tax benefits due to interest deductions, flexibility in financing, and lower overall costs. However, an excessive reliance on debt increases financial risk, as high debt levels expose a company to the possibility of insolvency if it cannot meet its repayment obligations. Debt capital typically involves borrowing from external sources with the obligation to repay over a period of time, often with interest (Gautam & Thapa, 2021).

2.2 Theoretical Review

One of the primary objectives of a company is to maximize the wealth of its shareholders or owners. Shareholder wealth is typically measured by the current market value of the company's outstanding shares. To achieve this goal and minimize the cost of capital, the company's management must make sound financial decisions regarding the optimal capital structure (Goyal, 2013). This section explores the theories relevant to the analysis of capital structure, including the Modigliani and Miller Model, the Net Income Approach, the Net Operating Income Approach, and the Traditional Theory.

2.2.1 Net Income Theory

The Net Income Theory suggests that increasing the proportion of debt in a firm's capital structure can lower the overall cost of capital and subsequently enhance the firm's value. This theory relies on three fundamental assumptions: first, the absence of taxes; second, the cost of debt being lower than the cost of equity; and third, the use of debt not affecting investors' perceptions of financial risk. As leverage grows, the share of lower-cost debt in the capital structure increases, resulting in a reduced weighted average cost of capital and a rise in the

firm's overall value. This ultimately leads to higher returns for shareholders and an increase in the market value of the firm's equity.

The Net Income Theory underscores the critical role of financial leverage in shaping a firm's capital structure. By strategically balancing debt and equity, firms can minimize their overall cost of capital while maximizing the market value of their shares. However, this approach entails a trade-off between risk and return. An increased reliance on debt may elevate the risk associated with the firm's earnings but simultaneously boost the potential return on equity. The ideal capital structure is one that effectively balances this risk-return trade-off, ultimately maximizing the firm's stock value and reducing its total cost of capital (Pandey, 1992).

In essence, the Net Income Theory highlights the strategic use of debt to refine a firm's capital structure. By carefully integrating debt and equity, firms can amplify shareholder returns, enhance share market value, and achieve a lower cost of capital. This principle underscores the intricate balance of risk and reward in capital structure decisions.

2.2.2 Net Operating Theory

The Net Operating Income (NOI) Theory, often referred to as the Modigliani-Miller Proposition II (MM-II), argues that a firm's overall value is unaffected by changes in its capital structure but that these changes influence its cost of capital. Introduced by economists Franco Modigliani and Merton Miller in their groundbreaking work in 1958, the theory posits that a firm's value depends solely on its operating income (EBIT) and the risk associated with its business activities, regardless of the proportion of debt and equity in its financing mix (Modigliani & Miller, 1958). According to MM-II, any adjustments in leverage modify the cost of both debt and equity in such a way that the weighted average cost of capital (WACC) remains stable, thereby preserving the firm's overall value.

The NOI Theory operates on the assumption that financial markets are efficient and that investors act rationally. Under this framework, investors view the risk associated with a firm's operations as independent of its financing structure (Modigliani & Miller, 1958). Consequently, changes in the debt-to-equity ratio do not affect the perceived risk of the firm's cash flows or its market valuation. The theory maintains that any decrease in the cost of debt

from increased leverage is counterbalanced by a rise in the cost of equity, leaving the WACC unchanged (Modigliani & Miller, 1958).

In practical terms, the NOI Theory implies that modifying a firm's capital structure is unlikely to significantly alter its market value. Instead, capital structure decisions should consider factors such as financing costs, taxation, and risk management objectives. By applying the principles of Modigliani and Miller, firms can make well-informed decisions regarding their capital structure, aligning these choices with strategic objectives to enhance shareholder value within an efficient market framework (Modigliani & Miller, 1958).

2.2.3 The Modigliani and Miller model Theory

The Modigliani-Miller (M&M) model, introduced by Franco Modigliani and Merton Miller in 1958 and expanded in 1963, significantly transformed the field of corporate finance by offering a new perspective on capital structure decisions. This groundbreaking theory asserts that, under specific assumptions, a firm's value remains unaffected by its choice of capital structure. In a scenario free from taxes, bankruptcy costs, and information asymmetry, the model contends that a firm's market value depends solely on its operating income and the associated investment risks (Modigliani & Miller, 1958).

A key aspect of the M&M model is the proposition that leverage does not influence a firm's overall value. Instead, changes in the capital structure simply redistribute risk between debt and equity holders. The theory explains that as a firm increases its reliance on debt, the risk for equity holders grows, resulting in a rise in the cost of equity. Simultaneously, the cost of debt remains stable due to the tax benefits associated with interest payments. This interplay ensures that the weighted average cost of capital (WACC) remains unchanged, leaving the firm's total value unaffected by its leverage decisions (Modigliani & Miller, 1963).

The practical takeaway from the Modigliani-Miller model is that firms should prioritize optimizing their operations and investments to maximize their operating income rather than focusing on altering their capital structure to enhance shareholder value. Nonetheless, the real-world application of the model's assumptions has sparked debates, especially considering factors such as taxes, bankruptcy risks, and market inefficiencies. Despite these criticisms, the M&M model continues to serve as a cornerstone in corporate finance, offering critical insights

into the interplay between capital structure, firm value, and risk distribution (Modigliani & Miller, 1958).

2.2.4 Traditional Theory

The traditional theory of capital structure, often referred to as the trade-off theory, provides an alternative viewpoint to the Modigliani-Miller model by highlighting the importance of balancing the advantages and disadvantages of debt financing. Economists such as Donaldson (1961) and Miller (1977) proposed that firms aim to achieve an optimal capital structure by weighing the tax benefits of debt such as the tax deductibility of interest payments against the potential costs of financial distress, including bankruptcy and agency costs. This theory posits that by leveraging debt effectively, firms can enhance their value by utilizing tax shields while minimizing financial risks (Donaldson, 1961).

The core idea of the traditional theory is the existence of a trade-off between the benefits and costs associated with debt financing. While increasing debt levels initially provides tax advantages, such as reduced overall capital costs, excessive reliance on debt can heighten financial distress risks. Consequently, firms aim to identify an optimal debt level that maximizes value by balancing the benefits of tax savings against the risks of financial instability (Miller, 1977). In practice, the traditional theory advises firms to consider both the tax benefits and the financial risks involved in their debt decisions. By carefully assessing this trade-off, companies can determine the appropriate level of leverage to enhance shareholder value. Despite subsequent critiques and refinements, the traditional theory remains a foundational concept in corporate finance, offering significant insights into the relationship between debt financing, tax efficiency, and firm valuation (Donaldson, 1961).

2.2.5 Determinants of Profitability

Bank productivity is typically assessed using indicators such as return on assets (ROA), return on equity (ROE), and, in some cases, net interest margin (NIM). The factors influencing bank profitability can generally be categorized into internal and external elements. Internal factors are those within the bank's control and arise from management decisions, including liquidity risk, credit risk, bank size, financial leverage, and cost management strategies. On the other hand, external factors stem from industry dynamics and broader macroeconomic conditions,

such as market competition, industry concentration, unemployment rates, inflation, and real per capita income.

Various determinants impact a firm's profitability, either positively or negatively. This study focuses on key factors influencing profitability, including liquidity, firm size, leverage, and operational efficiency. By exploring these elements, the research aims to provide a deeper understanding of the factors that shape bank productivity and profitability.

Liquidity

Liquidity and profitability are interrelated, as liquidity reflects a firm's ability to manage working capital and liquid assets, such as accounts receivable, inventory, and cash, to meet short-term obligations. Maintaining adequate liquidity is essential for ensuring the firm can fulfill its immediate commitments. However, achieving an optimal level of liquidity is crucial to balancing financial stability and profitability. Excessive liquidity can negatively impact profitability, as idle assets generate little to no returns, leading to lower overall efficiency. When a firm holds an unnecessarily high level of current assets, its ability to generate income may decrease due to underutilized resources.

Conversely, insufficient liquidity can impair a firm's capacity to meet its short-term obligations, potentially leading to a loss of reputation and goodwill over time. Therefore, maintaining an appropriate balance between liquidity and profitability is essential to ensure the firm can meet its financial commitments while maximizing its earnings potential.

Firm Size

Firm size is a critical determinant of profitability, which is why it is often included as a control variable in financial studies. Research indicates a positive correlation between firm size and the proportion of short-term debt (Abor, 2008). According to Penrose (1959), larger firms benefit from economies of scale and scope, which tend to enhance profitability. These firms can also increase their market power, which positively influences their performance and profitability. Larger firms are generally better positioned to take on more debt or increase leverage due to their stable earnings, which can support debt repayments (Shepherd, 1989).

Additionally, larger firms benefit from diversification, which reduces the volatility of their profits, enabling them to handle higher debt levels or maintain elevated leverage ratios (Castanias, 1983; Titman and Wessels, 1988; Wald, 1999).

In contrast, smaller and younger firms often struggle to sustain high debt levels as their earnings may not be consistent. Creditors perceive lending to larger firms as less risky, as these firms are more likely to meet their interest and principal repayment obligations. This reduces the agency costs associated with debt, allowing larger firms to access more significant amounts of financing. Empirical evidence supports a positive relationship between firm size and capital structure, with larger firms more likely to utilize debt financing (Barclay and Smith, 1996; Friend and Lang, 1988; Hovakimian et al., 2004). Conversely, smaller firms are more inclined to rely on equity financing rather than debt to fund their operations.

Leverage

Leverage reflects the proportion of debt capital relative to the total capital employed by a firm. Higher leverage or reliance on debt capital increases the financial risk for a firm. While elevated levels of leverage can enhance returns due to the potential for greater earnings, excessive debt usage may adversely impact the firm's long-term solvency. Therefore, maintaining an optimal level of debt within the firm's capital structure is critical. Generally, an ideal capital structure comprises around 40% debt and 60% equity. Abor (2005) studied the role of debt in financing company assets, noting that firms with higher levels of debt relative to equity are considered highly leveraged. Empirical studies have shown mixed results regarding the relationship between leverage and profitability. For instance, Robb and Robinson (2009) and Ruland and Zhou (2011) identified a positive relationship between leverage and profitability. Similarly, Jensen (1976) demonstrated an optimistic link between leverage and firm profitability, suggesting that the use of debt can enhance a firm's market value.

Financial leverage has been found to contribute positively to return on equity, as the earnings generated from a firm's assets exceed the cost of debt. This demonstrates the beneficial impact of debt on equity returns when managed effectively. Abor (2005) highlighted a positive association between total debt and profitability, measured by return on equity. Likewise,

Chandra and Sasamy (2010) observed that leverage positively influences profitability and shareholder wealth, emphasizing that excessive debt usage can maximize these metrics under favorable conditions.

Efficiency

The production and productivity of a company are closely linked to its efficiency. A firm that operates efficiently is able to produce more output while minimizing costs. As a result, higher productivity directly leads to greater profitability. Therefore, there is a positive relationship between a companies.

2.3 Empirical Review

A review of prior studies helps the researcher conduct the project with a high level of quality. The main objective of this review is to apply relevant concepts explored by previous researchers in a new and innovative way. To enhance the effectiveness of this research, various journals, theses, radical papers, and articles on related topics will be examined. The literature review provides the guidance and framework for this research.

2.3.1 Summary and Empirical Review at International Context

Hajisaaid (2023) examined the relationship between capital structure and profitability of eight companies in the basic materials sector in Saudi Arabia from 2009 to 2018. The statistical methods employed include regression analysis, fixed effects model, random effects model, and the Hausman test. The dependent variable is return on equity (ROE), while the independent variables include the short-term debt to total assets ratio (SDA), long-term debt to total assets ratio (LDA), and total debt to total assets ratio (DA). The results show that short-term debt, long-term debt, total debt, and the debt-to-equity ratio all have a significant negative effect on operational performance (return on assets). Additionally, long-term debt, total debt, and the debt-to-equity ratio negatively impact financial performance (return on equity) and market performance (measured by Tobin's Q). These findings suggest that agency problems within firms, driven by high levels of debt, may lead to a decline in overall firm performance.

Francisa (2023) investigated the relationship between profitability and capital structure of eight Saudi Arabian companies in the basic materials sector, covering the period from 2009 to 2018. The independent variables include the ratios of total debt to assets (DA), long-term debt to assets (LDA), and short-term debt to assets (SDA). The analysis uses the Hausman test, fixed effect model, random effect model, and regression analysis. Return on equity (ROE) is one of the dependent variables. The results reveal a negative relationship between ROE and the short-term debt to total assets (SDA) ratio. In contrast, a positive correlation is observed between profitability and total debt (DA), while the long-term debt to total assets ratio (LDA) shows a negative correlation with return on equity (ROE).

Xio and Zhang's (2023) examined the impact of capital strength and tangibility on the financial performance of insurance and banking firms listed on the Sri Lankan Colombo Stock Exchange. The independent variables include total assets, firm size, and the debt-to-asset ratio, while the dependent variables are return on assets (ROA) and return on equity (ROE). The analysis utilizes tools such as regression models, mean, correlation, and coefficient variation. The Statistical Package for Social Sciences (SPSS) was employed to perform correlation and regression analysis to assess the relationships and impacts of these variables. The findings of the study reveal a significant correlation between financial performance and both capital intensity and tangibility.

Alshantti (2022) investigated how the management of banking liquidity affects the profitability of Jordanian commercial banks. The independent variables include investment ratio, quick ratio, capital ratio, net credit facilities to total assets, and liquid assets ratio. The dependent variables are return on equity (ROE) and return on assets (ROA). Regression analysis and hypothesis testing were utilized to examine the relationships between these variables. The results show that return on equity (ROE), a key profitability measure, is negatively influenced by most of the liquidity management ratios, except for the investment and quick ratios, which have a positive impact on ROE. Similarly, return on assets (ROA) is negatively affected by the other liquidity ratios but positively influenced by the investment and acid test ratios.

Kukaj et al. (2022) examined the financial performance of both domestic and foreign banks in Kosovo's banking sector over the period from 2008 to 2018. To assess the financial performance, the financial statements of these banks were analyzed over the 10-year period,

drawing insights from the data. In order to determine whether foreign-owned banks in Kosovo are more profitable than those with domestic capital, a literature review was conducted to explore findings from previous studies on this subject, as well as the methodologies and models used to collect, process, and analyze data. The analysis of the financial reports was performed using the STATA program, with specific techniques including linear regression, Fixed Effects, Random Effects, Hausman-Taylor regression, and Generalized Method of Moments (GMM) modeling. The key findings of the study suggest that all independent variables return on equity, net sales to net assets ratio, and profit margin ratio are statistically significant at the 5% level. Specifically, return on equity and profit margin have a positive impact on return on assets for commercial banks in Kosovo, while an increase in the net sales/net assets ratio has a negative effect on return on assets. Practical implications: This paper offers a detailed analysis of the profitability of commercial banks in Kosovo and, through comparative analysis, identifies which banks are more profitable: those with foreign capital or those with domestic capital.

Nicolae (2021) examined the key factors affecting the profitability of banks in the EU27 over the period from 2004 to 2011. The research categorizes the variables influencing bank profitability into two main groups: bank-specific (internal) factors and industry-specific and macroeconomic (external) factors. The empirical findings align with the expected results, highlighting that credit risk, liquidity risk, management efficiency, business diversification, market concentration/competition, and economic growth all have significant effects on bank profitability, as measured by both Return on Assets (ROA) and Return on Equity (ROE). One particularly interesting and valuable finding is the positive impact of competition on bank profitability in the EU27.

Javed et al. (2020) analyzed the impact of capital structure on the performance of 63 companies listed on the Karachi Stock Exchange, using data from 2007 to 2011. The data was collected from the Balance Sheet Analysis provided by the State Bank of Pakistan. A Fixed Effects model was employed as a pooled regression method to examine the relationship between firm performance (measured by ROA, ROE, and ROS) and capital structure (represented by Debt to Assets ratio (DTA), Equity to Assets ratio (EQA), and Long-Term Debt to Assets ratio (LDA)). The results revealed that a relationship exists between capital structure and firm performance, although the direction of the relationship varied. Specifically, when Return on

Assets (ROA) was used as the dependent variable, capital structure had a positive effect on firm performance. However, when Return on Equity (ROE) was used, the Debt to Assets ratio (DTA) had a positive impact, but both the Equity to Assets ratio (EQA) and the Long-Term Debt to Assets ratio (LDA) showed negative effects. In the case of Return on Sales (ROS), DTA and EQA had a negative correlation, while LDA demonstrated a positive influence. The findings indicate that capital structure does indeed affect firm performance, suggesting that managers should exercise caution when making capital structure decisions.

Khalifa (2019) analyzed the impact of capital structure on financial performance, utilizing two primary groups of factors. Profitability is measured using Return on Assets (ROA), which is the ratio of net income to total assets, and Return on Equity (ROE), which is the ratio of net income to total shareholders' equity. Capital structure is represented by short-term debt, long-term debt, total debt, the debt-to-equity ratio, and the firm's size. A sample of 30 major American energy firms over a period from 2005 to 2013 was analyzed. The data was gathered from financial statements available online. The analysis, conducted using Smart PLS (Partial Least Squares) version 3, showed that 10% of the variation in ROE and 34% of the variation in ROA were explained by the independent variables. The results indicated that total debt had a significant negative impact on both ROE and ROA. In contrast, firm size, measured by sales, had a significantly negative effect on ROE but not on ROA. Short-term debt, however, had a positive effect on ROE. No significant relationship was observed between long-term debt, the debt-to-equity ratio, or total assets with profitability. The generalizability of these findings is limited due to the small sample size. For future research, the author recommends extending the study over a longer period with a larger sample size and incorporating additional independent variables, such as taxation and market concentration, for a more accurate analysis.

Yegon et al. (2018) examined the impact of capital structure on the productivity of selected banks in Kenya. The findings revealed a positive relationship between short-term debt and profitability, while a negative relationship was observed between long-term debt and profitability. No significant relationship was found between total debt and profitability. The authors suggest that these results support the passive trade-off theory, where short-term debt positively affects financial performance, contrasting with the negative impact of long-term debt. However, the study did not provide practical implications beyond linking the findings to

the passive trade-off theory. Additionally, the study used a small sample size of only 11 banks, which limits the generalizability of the results, a common challenge in research focusing on developing countries. Despite this, the study acknowledges that capital structure decisions are complex and influenced by multiple factors, making it difficult, if not impossible, to account for all relevant variables with limited rationality. The authors suggest that more in-depth case studies on individual institutions' financing choices over time could be valuable for exploring these variations in greater detail.

Raja and Dave (2018) examined the choice of capital structure is a critical decision for any firm, regardless of its type or size. Selecting the right mix of debt and equity is of utmost importance for financial managers. This study aims to examine the relationship between capital structure and profitability, with return on equity (ROE) used as the measure of profitability. The independent variables considered include short-term debt, long-term debt, and total debt. The sample consists of BSE-100 companies, analyzed over a five-year period from 2007 to 2012. To assess the impact of each variable on profitability, the researchers employed regression analysis (OLS). The findings suggest that financing a firm with debt negatively impacts its profitability. Additionally, it is crucial for firms to adopt the right balance between long-term and short-term debt to optimize their financial performance.

Arabahmadi (2017) examined the relationship between capital structure and profitability in non-financial companies listed on the Tehran Stock Exchange (Iran) over the period from 1999 to 2008. The findings reveal a positive correlation between short-term debt and return on equity, supporting previous theories. This suggests that increasing short-term debt, which typically carries lower interest rates, can enhance a company's profitability. However, the study also shows that an increase in long-term debt leads to a decline in profitability.

Nirajini and Priya (2016) analyzed the relationship between capital structure and financial performance for companies listed on the Sri Lankan Stock Exchange from 2006 to 2010. Data was collected from the annual reports of selected firms. Correlation and multiple regression analyses were employed to analyze the data. The results indicated a positive relationship between capital structure and financial performance. Specifically, the debt-to-assets ratio, debt-to-equity ratio, and long-term debt were significantly associated with key financial performance indicators, including Gross Profit Margin (GPM), Net Profit Margin (NPM),

Return on Capital Employed (ROCE), Return on Assets (ROA), and Return on Equity (ROE) at significance levels of 0.05 and 0.1.

Xuezhi and Pastory (2015) analyzed the productivity of development banks in Tanzania over a period of ten years (2000-2009). The research focuses on three banks: the National Microfinance Bank (NMB), the National Bank of Commerce (NBC), and CRDB. It evaluates the banks' performance using profitability measures such as return on average assets, net interest income to average assets, and non-interest expenses to average assets. Panel data was collected from these banks over the ten-year period, and the hypothesis was tested using an ANOVA test to assess whether there were significant differences in profitability. A regression model was then employed to analyze the impact of capital adequacy, liquidity, and asset quality on bank profitability. The results indicated no significant difference in profitability among the development banks. The regression analysis revealed that liquidity and asset quality had a positive effect on profitability, except for the level of non-performing loans, which negatively impacted profitability. Additionally, capital adequacy was found to have a negative effect on profitability. The study concluded that the development banks were profitable and complied with the regulatory requirements set by the Bank of Tanzania (BOT).

Shubita and Alsawalhah (2015) examined The study examined the impact of capital structure on the profitability of industrial companies listed on the Amman Stock Exchange over a six-year period (2004-2009). The analysis focused on 39 companies, utilizing correlation and multiple regression techniques. The findings revealed a significant negative relationship between debt and profitability, indicating that an increase in debt levels is associated with a decrease in profitability. In other words, higher debt leads to lower profitability for these firms. Additionally, the study showed that profitability improved with control factors such as firm size and sales growth, which contradicts earlier empirical studies.

Table 1*Summary of Empirical Review at International context*

S. N	Authors	Objectives	Variables	Methodology	Finding
1.	Hajisaaid (2023)	To investigate the relationship between capital structure and profitability in eight companies operating within the manufacturing sector in Saudi Arabia.	SDA, LDA, DA are the independent variables and ROA and ROE are the dependent variables were used.	Relapse examination, settled impact demonstrate, irregular impact demonstrates, and Housman test were applied.	The findings reveal that short-term debt, long-term debt, total debt, and the debt-to-equity ratio all exert a significant negative influence on the firm's operational performance (measured by return on assets). Additionally, long-term debt, total debt, and the debt-to-equity ratio also impact the firm's financial performance (return on equity) and market performance.
2.	Francisca (2023)	The study aims to analyze the relationship between the profitability and capital structure of eight companies in the basic materials sector in Saudi Arabia, covering the period from 2009 to 2018.	The ratios of total debt to assets (DA), long-term debt to assets (LDA), and short-term debt to assets (SDA) are independent variables.	The Housman test, fixed effect model, random effect model, and regression analysis were applied. One of the dependent variables is the return on equity (ROE).	The results reveal a negative correlation between return on equity (ROE) and the short-term debt to total assets (SDA) ratio. Additionally, profitability is positively correlated with total debt (DA), while the long-term debt to total assets (LDA) ratio shows a negative relationship with return on equity (ROE).
3.	Xio and Zhang (2023)	The study aims to investigate the impact of asset tangibility and capital strength on the financial performance of insurance and banking companies listed on the Colombo Stock Exchange in Sri Lanka.	The independent variables are total assets, size, and debt to asset ratio. These are the dependent variables: ROA and ROE.	Regression modelling, correlation, mean, and coefficient variation were applied.	Correlation and regression analyses were conducted using the Statistical Package for Social Sciences (SPSS) to assess the relationship and impact of the variables. The results of the study revealed a significant correlation between financial performance and both asset tangibility and capital intensity.
4.	Alshantti (2022)	To explore how the profitability of Jordanian commercial banks is influenced by their management of banking liquidity.	The following ratios are dependent: investment ratio, quick ratio, capital ratio, net credit facilities total assets, and liquid assets ratio. ROE is dependent upon ROA.	Regression and hypothesis were applied.	Return on equity, an indicator of profitability, is negatively influenced by the other variables, while it shows a positive relationship with both the investment and acid-test ratios.

5.	Kukaj et al. (2021)	To analyze the financial reports of both foreign and domestic banks in Kosovo over a ten-year period (2008-2018) to evaluate their financial performance.	The dependent variables are ROA and ROE, and the independent variables are net sales to net assets ratios and profit margin ratios.	Hausman Taylor Regression, Random Effect, Fixed Effects, Linear Regression, and GMM Modelling.	At a 5% level of statistical significance, the study concludes that all independent variables return on equity, net sales to net assets ratio, and profit margin ratios are significant. In Kosovo, the return on assets of commercial banks is positively influenced by return on equity and profit margin, while an increase in the net sales to net assets ratio negatively affects return on assets.
6.	Nicole (2020)	To examine the factors affecting the profitability of banks.	The independent variables are debt, both long-term and short-term. These are the dependent variables: ROA and ROE.	Regression and correlation were employed.	The findings align with the expected outcomes, highlighting the importance of managing credit and liquidity risks, along with effective management practices and business diversification.
7.	Javed et al. (2019)	To analyze the impact of the capital structure on the performance of 63 companies listed on the Karachi Stock Exchange.	The three independent variables are DTA, EOQ, and LDA. Among the dependent variables are ROA, ROE, and ROS.	Regression modelling and fixed effects were applied.	The study explore the relationship between capital expenditure (DTA, EQA, LDA) and firm performance (ROA, ROE, and ROS). The results revealed a mixed correlation between these variables.
8.	Khalifa (2018)	To investigate how financial performance influences capital structure.	The ratios of total debt to equity, short-term debt, long-term debt, and capital structure were used.	Multiple regression analysis and partial least square version were employed.	The findings reveal that sales size has a significant negative effect on both ROE and ROA, while total debt also negatively impacts both. However, sales size only significantly negatively affects ROE for American firms. Future studies could enhance accuracy by including additional independent variables such as taxation and market concentration.
9.	Yegon et.al (2018)	To evaluate the relationship between performance and liquidity.	The independent variables are the capital, liquidity, and investment ratios. Two of the dependent variables are ROE and ROA.	Descriptive statistics, correlation, and regression were applied.	The quick ratio and liquidity ratio show a negative correlation with ROE and ROA, whereas the capital ratio exhibits a positive correlation with ROE.
10.	Raja and Dave (2017)	To analyze that shows that profitability is strongly	The independent variables are total debt, long-term debt, and short-term debt. These are the dependent	Regression model was used.	The researchers found that a company's profitability declines when it relies on debt financing. Additionally, maintaining an appropriate balance between

		connected to capital structure.	variables: ROA and ROE.		long-term and short-term debt is crucial for businesses.
11.	Arabahmadi (2017)	To analyze the relationship between capital structure and profitability, data from 252 non-financial companies listed on the Tehran Stock Exchange was utilized.	The dependent variable is ROE, while the independent variables are short- and long-term debt.	Correlation and regression was used.	The study found a positive relationship between short-term debt and return on equity (ROE). This suggests that companies' profitability increases when they take on more short-term debt with lower interest rates, while it decreases as they incur more long-term debt.
12.	Nirajini and Priya (2016)	To evaluate the capital structure and financial performance of publicly listed trading companies in Sri Lanka.	The independent variables are long-term debt, debt-to-asset ratio, and debt-to-equity ratio. The dependent variables are ROE, NPM, and GPM.	Regression analysis and correlation were employed.	The results revealed a positive correlation between capital structure and financial performance, indicating that capital structure has a significant impact on a company's financial outcomes.
13.	Xuezhi and Dickson (2015)	To examine the profitability of development banks in Tanzania over a span of ten years, focusing on case studies of CRBD, National Bank of Commerce, and National Microfinance Bank.	The independent variables are asset quality, liquidity, and capital sufficiency. Dependent variables include return on average assets, net interest income to average bearing assets, and non-interest expenses to average assets.	Regression modelling, ANOVA, and hypothesis were applied.	The results revealed no significant difference in the profitability of the development banks. However, the regression analysis indicated that asset quality and liquidity positively affected profitability, while the level of non-performing loans negatively influenced it. Additionally, capital adequacy was found to have a negative impact on profitability.
14.	Shubta and Alsawalhah (2015)	To examine the impact of capital structure on the profitability of industrial companies.	ROA is a dependent variable, while size and sales growth are independent variables.	Regression and correlation analysis were performed.	The findings indicate that an increased debt burden is associated with reduced profitability. However, the results also show that when control variables are factored in, profitability tends to rise.

2.3.2 Review of Literature in Nepalese Context

Neupane (2023) examined the determinants of profitability for Nepalese development banks, using descriptive statistics to outline the key factors affecting their financial performance. To assess the relationship between various profitability indicators and their determinants, correlation coefficients were calculated. The study employed panel data regression models (Fixed Effects and Random Effects) to analyze the impact of different variables on the

profitability of Nepalese development banks. The findings reveal that bank profitability, measured by Return on Assets (ROA), is significantly influenced by external factors such as concentration ratio, banking sector development, GDP growth, inflation, and exchange rate, typically in a negative direction. However, internal factors like bank size, capital base, deposits, loans, off-balance sheet activities, and branch numbers had little to no significant impact on profitability. Additionally, Net Interest Margin (NIM), another measure of profitability, is primarily influenced by capital adequacy, the total number of branches, and inflation rate. The study concludes that the profitability of Nepalese development banks, as measured by ROA, is more affected by external industry-specific variables, with macroeconomic factors also exerting a notable yet weaker influence. Conversely, NIM profitability is mainly impacted by capital adequacy, branch count, and inflation

Sudha (2022) examined This study compares the deposit mobilization of two commercial banks, Pivot Ltd and Whelp Ltd, focusing on their activities from 2011-2012 to 2020-2021. Deposit mobilization is a key aspect of banking operations, particularly in India, where the collection of savings through various deposit schemes is considered essential for the growth of the banking sector. This paper aims to evaluate the trends and growth in deposit mobilization for both Pivot Ltd and Whelp Ltd over the mentioned period. The study examines three types of deposits: demand deposits, savings deposits, and term deposits. Data on the total amount of deposits mobilized by both banks during the specified years was gathered from the official websites of the respective banks. The collected time-series data was analyzed using descriptive statistics, including mean, standard deviation, coefficient of variation, and Compound Annual Growth Rate (CAGR). The results show significant growth in the mobilization of all deposit types for both Pivot Ltd and Whelp Ltd over the analyzed period.

Shrestha (2021) analyzed the portfolio behavior of commercial banks in Nepal, focusing on various aspects such as investment portfolios, debt portfolios, and asset portfolios. The research found that Nepalese domestic banks primarily invest in government securities, national savings bonds, debentures, and shares of companies. The study further revealed that the supply of bank credit is influenced by factors such as total deposits, lending rates, bank rates, lagged variables, and external factors. Additionally, the demand for bank credit is impacted by national income, lending rates, Treasury bill rates, and other influencing factors.

Timilsina (2020) examined This study examines the determinants of capital structure in Nepalese commercial banks, focusing on data from 17 development banks with 112 observations for the period 2011/12 to 2017/18. The study uses total debt to total assets and total debt to total equity as dependent variables, while independent variables include return on assets, bank size, asset tangibility, asset growth, and liquidity. Data were gathered from the annual reports of the selected banks. Pearson's correlation coefficients and regression models were used to assess the significance and impact of bank-specific factors on capital structure. The findings reveal a positive relationship between bank size and asset tangibility with total debt to total assets, while return on assets, asset growth, and liquidity are negatively related to total debt to total assets. Additionally, return on assets, bank size, asset tangibility, asset growth, and liquidity show negative relationships with total debt to equity ratio. The results suggest that higher asset growth, return on assets, and liquidity lead to lower total debt ratios, while higher bank size and asset tangibility result in higher total debt ratios. The study concludes that return on assets, bank size, and asset tangibility are the most significant factors influencing the capital structure of Nepalese development banks, with asset growth and liquidity having a lesser impact.

Kathi (2020) analyzed the impact of liquidity on the profitability of Nepalese commercial banks, focusing on ten out of the twenty-seven listed commercial banks over the period from 2013 to 2019. The data for the study were obtained from the Bank Supervision Reports published by the Nepal Rastra Bank (NRB) and the annual reports of the selected commercial banks. The liquidity indicators considered in the study include the credit-deposit ratio, cash-deposit ratio, and asset quality, while return on equity (ROE) and return on assets (ROA) are used as measures of profitability. Using the Hausman test and the fixed effects approach, the results indicate a significant negative relationship between asset quality and return on assets (ROA), whereas it shows a significant positive relationship with return on equity (ROE). Additionally, the cash-deposit ratio (CADR) exhibits a positive but insignificant relationship with both ROA and ROE. Conversely, the credit-deposit ratio (CDR) shows a positive but insignificant relationship with ROA, while it has a negative and insignificant relationship with ROE.

Bhatt and Jain (2020) examined the relationship between capital structure and the profitability of commercial banks in Nepal. Seventeen Nepalese development banks were selected for the study, and their financial data was collected from the NRB BI Insights and Bank Supervision Reports for the period 2010-2019. Return on equity (ROE) was used as the profitability indicator, while short-term debt, long-term debt, deposits, and total debt-to-assets ratio were considered as measures of capital structure, along with control factors like bank size and asset growth. The findings reveal that over 40% of bank profitability, as measured by return on equity, is explained by the capital structure factors. The study also shows that return on equity is insignificantly positively related to long-term debt and deposits, while it has an insignificant negative relationship with short-term debt and total debt. Across all regression models, profitability is significantly and positively associated with bank size, suggesting that larger banks tend to provide higher returns to their shareholders.

Jaish (2020) analyzes the relationship between capital structure and the financial performance of Nepalese securities companies. Return on assets (ROA) and earnings per share (EPS) are used as dependent variables, while the independent variables include total debt ratio, equity-to-total-assets ratio, liquidity, and asset tangibility. The study employs both descriptive and causal-comparative research methods to analyze the structure of capital structure and its relationship with financial performance. Data was collected from the annual reports of 14 listed securities companies in Nepal, covering 84 observations from 2013/14 to 2018/19. Regression analysis was conducted to assess the impact of these factors on financial performance, specifically ROA and EPS. The results show that securities companies with higher debt ratios tend to have better financial performance. An increase in debt ratio and asset tangibility leads to higher return on assets, while higher equity, firm size, and liquidity are associated with lower return on assets in the industry. The debt ratio and asset tangibility have a positive effect on earnings per share, while equity, firm size, and liquidity negatively affect EPS. The main conclusion of this study is that total debt ratio, equity-to-assets ratio, firm size, liquidity, and asset tangibility are crucial factors in determining the financial performance of Nepalese securities companies. To enhance financial performance, these companies could consider increasing their debt ratio and tangible assets while reducing equity, firm size, and liquidity.

Shrestha and Jha (2020) analyzed the effect of liquidity on the profitability of foreign joint venture commercial banks in Nepal, specifically focusing on Himalayan Bank Limited (HBL), Everest Bank Limited (EBL), and Nepal Bangladesh Bank (NBB). These three banks were selected from a total of 17 development banks in Nepal for analysis over the period from 2014/15 to 2018/19. Data was gathered from the annual reports and financial statements of the banks during this period. Both correlation and regression analysis were used to investigate the nature and strength of the relationship between liquidity and profitability, and to determine if any causal relationships exist. The study highlights that liquidity management can enhance a bank's profitability. The findings reveal a generally fluctuating trend in the average profitability of these banks, with liquidity ratios showing instability. The study concludes that the liquidity ratios of the banks are below the recommended standards. The analysis found that the Loan to Deposit Ratio (LADR) significantly affects both Return on Assets (ROA) and Return on Equity (ROE) for all three banks (HBL, EBL, and NBB). However, the NRB's Total Deposit to Credit Ratio (NRBTDR/CRR) has a weak significant effect on ROA across all banks, with a negative impact on the ROE of NBB, while it positively influences the ROE of the other two banks. Furthermore, the Cash to Assets Ratio (CACL) significantly impacts ROA for HBL and EBL, but has no significant effect on NBB's ROA. However, CACL does have a significant effect on ROE for all three banks. The Credit to Total Deposits Ratio (CHTDR) significantly influences both ROA and ROE for HBL and EBL, though its effect on NBB is weak. The Cash to Assets Ratio (CATA) also significantly affects ROA for all three banks, with a notable effect on ROE, especially for HBL and EBL, while the effect on NBB is weak but positive. Overall, the LADR has a notable impact on both ROA and ROE across all three banks. The findings are based on an analysis of the selected foreign joint venture banks, and thus, the results are not directly applicable to other types of commercial banks in Nepal. Moreover, the study's results are specific to foreign joint venture commercial banks, making the conclusions relevant only to this segment of the banking sector.

Agarwal (2019) evaluated the profitability of public and private sector banks in India, analyzing key financial metrics such as return on assets (ROA), return on equity (ROE), net interest margin (NIM), and operating profit. The analysis, covering the period from 2005 to 2017, reveals that private sector banks have consistently outperformed public sector banks in

terms of profitability. Public sector banks, facing a growing proportion of non-performing assets (NPAs), have struggled with negative returns on assets in recent years, which has adversely impacted their overall financial performance.

Pokhrel (2019) examined the liquidity management and its effect on the profitability of commercial banks using various statistical and financial tools. The results reveal a generally inconsistent pattern in the average profitability of banks, despite fluctuations in the banks' liquidity ratios. The research concludes that the liquidity ratios of the banks are generally below the recommended levels. Additionally, the Cash Reserve Ratio (CRR) is found to be significantly higher than the levels prescribed by the 2016/17 monetary policy. Both CRR and the Interest-Gaining Securities to Current Assets ratio (IGSCA) show a positive relationship with Return on Assets (ROA), while CRR and the Cash to Borrowed and Borrowed-Security Debt ratio (CBBISD) exhibit a negative relationship with ROA. In terms of liquidity and Return on Equity (ROE), the Current Ratio (CR) is negatively associated with ROE, while other liquidity ratios such as CRR, CBBISD, and IGSCA are positively correlated with ROE. The study further reports a significant relationship between liquidity ratios and profitability, particularly between IGSCA and ROA.

Pangeni (2018) investigated the liquidity position, profitability status, and the relationship between liquidity and profitability in Nepalese commercial banks. To achieve this, an analytical research design was adopted, using secondary data collected from the annual reports of Nepalese commercial banks. Correlation and regression analyses were employed to assess the relationship between liquidity and profitability. Profitability was measured using Return on Assets (ROA), Return on Equity (ROE), and net profit margin, while liquidity was measured using the current ratio, cash and bank balance to total deposits ratio, and cash and bank balance to current deposits ratio. The study covered ten Nepalese commercial banks (ADBL, Everest, Himalayan, Nepal SBI, Nepal Investment, Nabil, Laxmi, Global IME, Kumari, and Prime Commercial Banks) over a period of ten fiscal years from 2007/08 to 2019/17. The findings revealed a positive and significant relationship between liquidity and profitability among the Nepalese commercial banks during the period. Specifically, ADBL and NABIL were found to have strong liquidity and profitability positions. However, the results

are based on a study conducted on the selected banks, meaning the findings may not be generalized across the entire banking sector.

Pradhan (2016) examined This study investigates the impact of liquidity on the performance of Nepalese commercial banks, using the capital ratio, liquidity ratio, capital adequacy ratio, and quick ratio as independent variables, and Return on Equity (ROE) and Return on Assets (ROA) as dependent variables. The findings revealed a positive relationship between the capital ratio and ROE, while the quick ratio and liquidity ratio showed negative relationships with both ROE and ROA. The empirical evidence indicates a mixed relationship between liquidity risk and the financial performance of banks. Consequently, this study aims to explore how liquidity affects the profitability of commercial banks in Nepal.

Adhikari (2015) analyzed This study examines the liquidity and profitability situations of three commercial banks, focusing on key performance ratios such as return on equity, total assets, and deposits. It also assesses the cash reserve ratio (CRR) maintained by the banks and explores the relationship between net profit and total deposits, as well as net profit and investments. The research relies on secondary data obtained from the Nepal Stock Exchange, financial studies, reports, and the annual statements of the selected banks. Both financial and statistical tools were applied in the analysis. The liquidity position of Nabil Bank is relatively lower than that of SBI Bank, although Nabil maintains the highest ratio of government securities to current assets. Nabil Bank also holds the highest ratio of investments to total deposits and government securities to total working capital, though its ratio of shares and debentures to total working capital is lower. When analyzing profitability, Nabil Bank outperforms SBI Bank in terms of return on total working capital and return on loans and advances. However, Nabil's total interest paid to total working capital is lower compared to SBI. From a risk perspective, Nabil Bank has lower liquidity and credit risk ratios than SBI Bank, but it faces a higher capital risk. Trend analysis indicates that Nabil Bank has higher ratios of loans and advances to total deposits, as well as investments to total deposits, compared to SBI Bank, suggesting that Nabil Bank may have a stronger position than SBI. Nonetheless, SBI Bank maintains a solid liquidity position.

Table 2*Summary of Empirical Review at National Context*

S.N	Authors	Objectives	Variables	Methodology	Findings
1.	Neupane (2023)	To explore the key factors that impact the profitability of Nepalese development banks.	The independent variables include things like bank size, capital base, deposits, loans, and off-balance sheet activities. The dependent variables are inflation, exchange rate, and GDP growth.	panel data regression model and correlation coefficient were applied.	This study revealed that external factors significantly influence the profitability of Nepalese development banks, as measured by return on assets.
2.	Sudha (2022)	To compare AXIS LTD and CUB LTD to evaluate the methods used by commercial banks to mobilize deposits.	The independent variables include term deposits, demand deposits, savings deposits, and compound annual growth rate.	Mean, standard deviation, coefficient variance, and descriptive statistics.	This study aims to evaluate the growth and trends in deposit mobilization by AXIS LTD and CUB LTD from 2011-2012 to 2020-2021. Three types of deposits demand, savings, and term deposits are considered for analysis.
3.	Shrestha (2021)	To evaluate the performance of commercial bank portfolios in Nepal, with a focus on analyzing the various portfolio behaviors within the country's banking sector.	Independent variables include total deposit, bank rate, lending rate, and lag. The dependent variables are the rate of Treasury bills, national income, and lending rate.	Multiple regression, correlation, and descriptive statistics were applied.	The result showed that factors such as total deposits, lending rates, bank rates, dummy variables, and lag variables were expected to influence the availability of bank credit. Additionally, similar predictions were made regarding the impact of national income, lending rates, Treasury bill rates, and other variables on the demand for bank credit.
4.	Timilsina (2020)	To examine the factors that affect the management of investment portfolios and the capital structure of commercial banks in Nepal.	The dependent variable is ROA, while the independent variables are bank size, assets tangibility, assets growth, and liquidity.	Regression modelling and Pearson's correlation coefficient were applied.	The results show that return on assets, asset growth, and liquidity have a negative correlation with the total debt to total assets ratio, while bank size and asset tangibility exhibit a positive correlation.
5.	Kathi (2020)	The study aims to explore the impact of liquidity on the profitability of	The independent variables are assets quality, cash-deposit ratio, and credit-deposit ratio. These	Regression, correlation, and descriptive	The findings revealed that asset quality has a negative and significant relationship with return on assets (ROA), while it shows a positive and significant

		Nepalese commercial banks.	are the dependent variables: ROA and ROE.	statistics were applied.	relationship with return on equity (ROE). Additionally, the cash deposit ratio (CADR) exhibits a positive but weak relationship with both return on equity (ROE) and return on assets (ROA).
6.	Bhatt and Jain (2020)	The aim of this study is to examine the relationship between the profitability and capital structure of commercial banks in Nepal.	The independent variables are bank size, asset growth, short-term debt, and long-term debt. ROE and ROA are variables that depend.	A regression model was applied.	The capital structure variables used in the analysis were found to explain over 40% of the variation in bank profitability, as measured by return on equity. Furthermore, the study revealed that both deposits and long-term debt exhibit a small positive correlation with return on equity.
7.	Jaish (2020)	To examine the relationship between the capital structure of Nepalese insurance companies and their financial performance.	The independent variables are size, tangibility, liquidity, equity to total assets ratio, and total debt ratio. The dependent variables are earnings per share and return on assets.	Regression with multiple variables was employed.	The financial performance of Nepalese insurance companies is primarily influenced by factors such as the total debt ratio, equity-to-total-assets ratio, leverage, size, liquidity, and tangibility. To enhance their financial performance, these companies can focus on increasing their tangible assets and total debt ratio while reducing their equity, firm size, and liquidity ratio.
8.	Shrestha and Jha (2020)	(i) To evaluate the profitability position of HBL, NBB, and EBL. (ii) To analyze the liquidity position of HBL, NBB, and EBL. (iii) To examine the relationship between profitability and liquidity for HBL, NBB, and EBL.	The independent variables are CATA, CHTDR, NRBTD, LADR, and LACL. Two of the dependent variables are ROA and ROE.	Multiple regression, correlation, and descriptive statistics were applied.	The study's findings reveal that LADR has a significant effect on ROA and ROE. NRBTD/CRR positively influences the ROE of two sampled banks, but it has a negative impact on NBB's ROE and a weakly significant effect on the ROA of all sampled banks. Additionally, while CACL has a significant impact on ROA for HBL and EBL, it shows no noticeable effect on NBB's ROA.
9.	Agarwal (2019)	To analyze of the profitability of public and private sector banks. Profitability is the ultimate objective of every business venture.	The independent variables are operating profits and net interest margin. The dependent variables are return on equity and return on assets.	Simple regression and correlation were applied.	The analysis conducted for the period between 2005 and 2017 reveals that private sector banks are more profitable compared to public sector banks. In recent years, public sector banks have experienced a decline in profits due to the rising levels of non-performing assets, leading to a negative return on their assets.

10.	Pokhrel (2019)	(i) To assess the profitability performance of Nepalese commercial banks; (ii) To analyze the liquidity position of these banks.	To interest-sensitive deposits and investments of government securities in current assets, consider CR, CRR, cash, and bank balance.	Both hypothesis and descriptive statistics were applied.	The findings reveal that CRR and CBBISD are negatively correlated with ROA, whereas CRR and IGSCA exhibit a positive correlation with ROA. In terms of the liquidity-ROE relationship, CR shows a negative correlation with ROE, while CRR, CBBISD, and IGSCA demonstrate a positive correlation with ROE.
11.	Pangeni (2018)	To evaluate the liquidity position and profitability of commercial banks, as well as the relationship between liquidity and profitability.	These three variables are independent: CR, CBBTDR, and CBBDR. The dependent variables include NPM, ROA, and ROE.	Regression, correlation, and descriptive statistics were applied.	The conclusions of this paper are based on the research conducted on the selected banks. The findings indicate that ADBL and NABIL hold strong positions in both profitability and liquidity.
12.	Pradhan (2016)	To examine the impact of liquidity on the performance of commercial banks in Nepal.	The independent variables are the investment ratio, liquidity ratio, capital ratio, and quick ratio. These are the dependent variables: ROA and ROE.	Correlation was used.	The study reveals a positive relationship between return on equity (ROE) and capital ratio, while showing a negative relationship between ROE and both return on assets (ROA) and quick and liquidity ratios. Empirical evidence suggests an inconsistent connection between a company's financial performance and liquidity risk.
13.	Adhikari (2015)	(i) To assess the liquidity position of selected commercial banks. (ii) To evaluate the risk levels and profitability of a group of Nepalese commercial banks.	The dependent variables are CR, CRR, CBBCAR, LACAR, LATDR, and TITDR. The dependent variables are interest earned on outside assets, return on advances and loans, and return on working capital.	Regression, correlation, and descriptive statistics were applied.	Nabil has a higher return on total working capital and return on loans and advances compared to SBI Bank. However, Nabil pays less interest on its total working capital than SBI Bank. While Nabil exhibits lower liquidity and credit risks than SBI Bank, its capital risk is higher.

2.4 Research Gap

Previous studies on determining the optimal capital structure and profitability of companies have often overlooked the relationship between capital structure and profitability. A review of past research indicates that only a few studies have focused on the sample companies selected in this research. Furthermore, there exists a gap in the literature, particularly with respect to the limited time frame, as previous studies typically relied on just five years of data. This

research aims to fill this gap by investigating the connection between capital structure and profitability. The researcher specifically selected top-tier commercial banks as the sample for this study, which offers a clearer view of how sensitive capital structure is to performance changes. In previous studies, Return on Assets (ROA), Bank Size, and Tangibility were considered as independent variables, while Total Debt to Assets (TDA) served as the dependent variable. Statistical tools such as mean, standard deviation, and correlation analysis were used to analyze the data. Additionally, this study explores how capital structure decisions impact performance by considering the perspectives of various stakeholders, including shareholders, financial analysts, and company executives. This approach aims to provide a more comprehensive understanding of how capital structure decisions influence stock prices and contribute to overall market efficiency.

There has been limited research on the capital structure and its impact on the performance of Nepalese commercial banks, particularly within the context of Nepal. This study seeks to address the gap in understanding the dynamics of capital structure and performance by focusing on four selected commercial banks, each with distinct founding periods. However, the research is based on a relatively short timeframe, spanning from the fiscal year 2013/14 to 2022/23, which may affect the reliability of the findings. The main objective of this study is to assess the risk factors and the relationships between Return on Assets (ROA), Bank Size, Growth Rate, and Tangibility, with Total Debt to Assets (TDA) and Total Debt to Equity (TDE) as the dependent variables. Previous studies have predominantly employed technical and statistical methods such as descriptive statistics, correlation coefficients, and multiple regression models to analyze the data. In this research, ROA, Bank Size, Growth Rate, and Tangibility are considered independent variables, while TDA and TDE are the dependent variables.

Thus, from both an academic and policy perspective, this study has provided valuable insights for various stakeholders, including researchers, educators, students, and industry professionals. It is anticipated that the findings of this research will prove useful to others in related fields in the future.

CHAPTER – III

RESEARCH METHODOLOGY

This chapter outlines the overall research process, encompassing the theoretical framework, data collection, and analysis. It focuses on employing appropriate methods and techniques to explore relevant variables and uncover relationships between interconnected topics. Both financial and statistical approaches were applied to achieve the primary objectives. The chapter also discusses the population and sample, data collection methods and sources, tools for data processing and analysis, and the research design.

3.1 Research Design

The research design serves as the foundation for the methodologies and procedures selected for the study. It includes plans that guide the establishment of parameters for data collection and analysis. This study examines the internal operations of development banks and the factors influencing their performance. Depending on the study's objectives, descriptive, causal, and comparative research designs have been employed. To achieve the research objectives, secondary data has been utilized.

3.2 Population and Sampling Design

The research focuses on 20 commercial banks operating in Nepal as of 2023. From this group, a sample of four banks NMB Bank Limited (NMB), Siddhartha Bank Limited (SBL), Agricultural Development Bank Limited (ADB), and Nabil Bank Limited (NABIL) was selected using a convenience sampling method. The primary objective of the study is to examine the factors affecting the capital structure of the chosen banks. The analysis is based on data covering a ten-year period, from the fiscal year 2013/14 to 2022/23.

3.3 Nature and Sources of Data

This study is based on secondary data collected from the selected banks. The primary data sources include annual reports of the sampled banks, which were obtained from their official websites and respective institutions. Additional information was gathered from various

sources, such as relevant papers and journals available in the University Library, as well as periodicals, newspapers, magazines, brochures, pamphlets, and newsletters. Institutions such as Shanker Dev Campus, Tribhuvan University, and Nepal Rastra Bank also provided valuable resources for the study.

3.4 Data Collection Procedure

This study relies on diverse data published by banks. Information was collected by reviewing websites, publications, journals, annual reports, financial performance reports, and reference materials. Additional data was obtained from various organizations and institutions, including the Ministry of Finance, the Nepal Stock Exchange, and the Nepal Rastra Bank. Relevant insights were also gathered from economic journals, periodicals, newsletters, magazines, and both published and unpublished reports and documents from various sources. Key reference materials were sourced from Shanker Dev Campus, Tribhuvan University Kirtipur, and the Central Library.

3.5 Data Processing Procedure

The data for this study was initially extracted from the banks' annual reports and organized into tables. Subsequently, the information was input into a spreadsheet to calculate financial ratios and derive the necessary figures for the analysis. The collected data was processed using software tools such as Microsoft Word and Excel to facilitate this process.

3.6 Data Analysis Tools and Techniques

Data collected from various sources is systematically documented, with relevant and significant information categorized based on the research requirements. The data is organized appropriately, ensuring that only systematically recorded information in the form of tables, graphs, and diagrams is utilized. This study highlights the application of various financial and statistical techniques to analyze the gathered data effectively.

3.6.1 Financial Tools

Ratio analysis is one of the most efficient tools for conducting precise financial evaluations. It involves the use of ratios as fundamental analytical methods to illustrate the relationship between two or more data points. By applying ratio analysis, the researcher can establish connections between the data and the study, enabling meaningful conclusions. As part of this process, specific financial ratios related to the banks will be analyzed.

3.6.2 Statistical Tools

Statistical tools refer to mathematical techniques utilized for analyzing and interpreting performance data. These tools are applied to describe results and examine relationships between variables. Additionally, statistics are used to validate the objectives outlined for the population data. This study incorporates various statistical tools, which are described below.

i. Arithmetic Mean

The arithmetic mean is calculated by summing all the values in a series and dividing the total by the number of items. It serves as a valuable tool in statistical analysis and is the simplest and most widely used method for determining an average. This process involves adding together all the numbers in a dataset and then dividing the sum by the total count of values in the series.

$$\bar{X} = \frac{\sum x}{N}$$

Where,

\bar{X} = Arithmetic Mean

$\sum X$ = Sum of Elements

N = Number of Observation

ii. Standard Deviation

Standard deviation is a statistical measure that indicates the extent of variation or dispersion in a dataset relative to its mean. It is calculated as the square root of the variance, which is derived by measuring the difference between each data point and the mean. A higher standard deviation

reflects greater dispersion, meaning the data points are spread out more widely from the mean. Conversely, a lower standard deviation indicates that the data points are closer to the mean, signifying less variability within the dataset.

$$S. D = \sqrt{\frac{\sum(X-\bar{X})^2}{N}}$$

iii. Coefficient of Variation

The standard deviation quantifies the spread of data in absolute terms, while the coefficient of variation (CV) is a relative measure of dispersion, expressed as a percentage of the standard deviation. A lower coefficient of variation indicates greater consistency and uniformity in the data, whereas a higher CV suggests more variability. The coefficient of variation allows for a meaningful comparison of variability between two different variables, unlike the standard deviation, which is not suitable for such comparisons. The formula for calculating the coefficient of variation is as follows:

$$\text{Coefficients of variation (C.V)} = \frac{S.D}{\bar{X}} * 100$$

iv. Correlation of Coefficient

The correlation coefficient is a statistical measure used to quantify the strength and direction of the relationship between two variables. It is particularly useful for assessing the degree of linear correlation between them. The most widely used method to calculate this correlation is Pearson's correlation coefficient. A positive correlation occurs when both variables move in the same direction, meaning that as one variable increases, the other does as well. In contrast, a negative correlation exists when the variables move in opposite directions, where an increase in one variable corresponds to a decrease in the other. The correlation coefficient always falls within the range of +1 to -1, with +1 indicating a perfect positive correlation and -1 indicating a perfect negative correlation. The formula for calculating the correlation coefficient (r) between two variables, X and Y, is as follows:

$$r = \frac{N\sum XY - \sum X, EY}{\sqrt{N\sum X^2 - (\sum X)^2} \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

Where,

r = the correlation coefficient between two variables of X and Y

Proprieties

- a) It lies between -1 and +1
- b) If $r = +1$, then there is perfect positive correlation.
- c) If $r = -1$, then there is perfect negative correlation.
- d) If $r = 0$, then there is no correlation.
- e) If $r = 0.7$ to 0.99 (or- 0.7 to -0.99) then there is high degree positive or negative correlation.

v. Multiple of Regression

Multiple linear regression (MLR) is a widely used statistical technique to explore the relationship between one continuous dependent variable and two or more independent variables. These independent variables can be either continuous or categorical. MLR models the linear relationship between multiple explanatory (independent) variables and the response (dependent) variable, aiming to predict the value of the dependent variable based on the values of the independent variables. Essentially, multiple regression extends ordinary least squares (OLS) regression by incorporating multiple explanatory variables, allowing for a more comprehensive understanding of how several factors influence the dependent variable.

Model I

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \dots \dots \dots (i)$$

Where,

Y = Total Debt Assets (TDA)

X1 = Return on Assets

X2 = Bank Size

X3 = Growth Rate

X4 = Tangibility

Model II

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots\dots\dots(ii)$$

Where,

Y = Total Debt Equity (TDE)

X1 = Return on Assets

X2 = Bank Size

X3 = Growth Rate

X4 = Tangibility

3.7 Research Framework and Definition of Variables

In order to investigate the factors that influence capital structure, this research tracks five different variables. Four independent variables are tracked from the independent variables of the existing literature, and capital structure is included as a dependent variable based on the dependent variables of the existing literature:

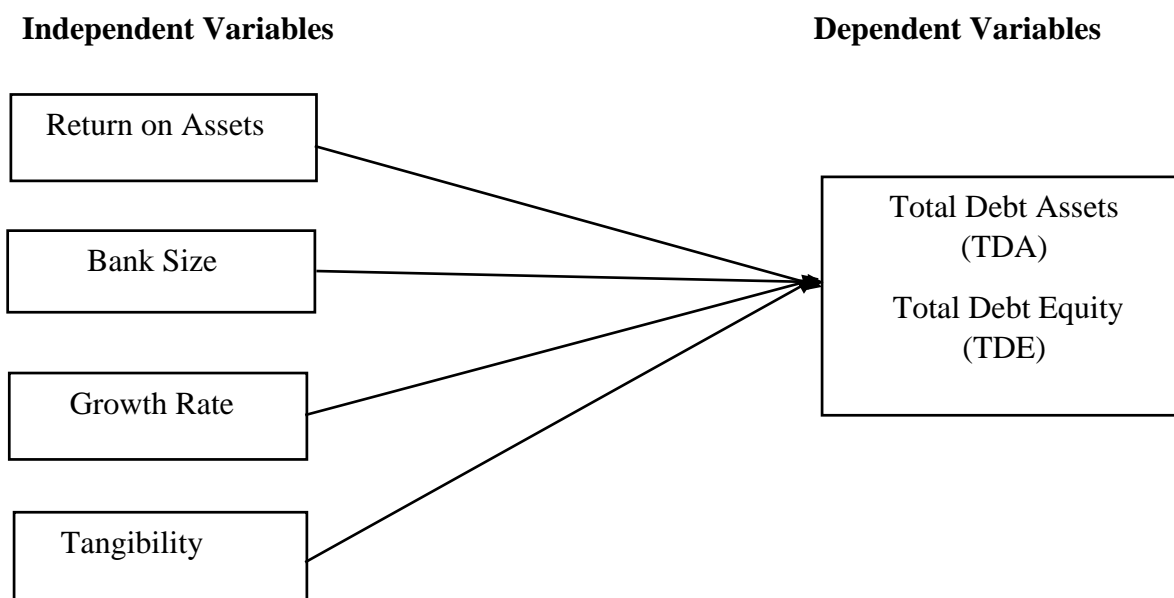


Figure: The Theoretical Framework

Source: Timilsina (2020)

Definition of the Variables

Independent Variables

Total Debt Assets

Total debt assets refer to the overall value of financial obligations or instruments representing borrowed funds owed by an individual, company, or government. These assets include various debt instruments such as bonds, loans, mortgages, and credit lines. For businesses, total debt assets are important indicators of financial leverage and solvency, showcasing their capacity to fulfill debt obligations and maintain operations. For investors and analysts, understanding the total debt assets of an entity offers valuable insights into its financial stability, risk level, and ability to generate returns. Tracking fluctuations in total debt assets over time helps evaluate the effectiveness of debt management strategies and guides decisions related to investment risks and allocations.

$$\text{Total Debt Assets} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Total Debt Equity

The debt-to-equity ratio, also referred to as total debt equity, is a financial metric used to compare a company's total debt to its total equity. This ratio provides an understanding of the extent to which a company relies on debt financing versus equity financing to support its operations and investments. A higher ratio suggests that a company is more dependent on debt, which could increase returns but also heighten financial risk due to higher interest costs and repayment obligations. In contrast, a lower ratio indicates a more conservative approach, with a greater emphasis on equity financing. Monitoring fluctuations in this ratio over time helps evaluate a company's financial leverage and stability, impacting decisions related to investments and risk management.

$$\text{Total Debt Equity} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

Independent Variables

Return on Assets

Return on assets (ROA) is a financial measure used to assess a company's ability to generate profits relative to its total assets. It is calculated by dividing net income by total assets. ROA reflects how effectively a company uses its assets to produce earnings. A higher ROA indicates better efficiency in generating profit from assets, while a lower ROA suggests less efficient use of resources. This metric is crucial for investors and analysts to evaluate a company's operational efficiency and profitability in relation to its asset base, helping guide investment choices and enabling comparisons between companies and sectors.

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Bank Size

The size of a bank is often measured by its total assets. According to Pervan and Visic (2012), a firm's size has a significant (albeit weak) positive effect on its debt levels. Similarly, research by Dogan (2013) shows a positive relationship between size indicators and a company's capital structure. The findings suggest that larger firms tend to achieve greater financial efficiency than smaller ones, highlighting the potential role of economies of scale (Kuncova et al., 2016). However, Olawale et al. (2017) indicate that company size, measured by total assets, can have a negative impact on financial leverage. Larger companies are often more diversified and exhibit more stable cash flows, which reduces their risk and can lead to lower debt costs, as well as easier access to external debt markets. Research also shows a positive connection between firm size and debt levels (Alzomaia, 2014).

$$\text{Bank size} = \frac{\text{Natural log of banks}}{\text{Total Assets}}$$

Assets Growth Rate

Resource development is defined as the ratio of current year's assets to past auto assets, calculated by dividing the current year's assets by the previous year's assets. Assets are financial resources that a company expects will contribute to its future operations. Mutai (2014) identifies a positive yet insignificant relationship between financial leverage and asset

growth. Sarchah & Hajiha (2013) found that asset growth has a significant positive impact on leverage. Zhao and Wijewardana (2012) revealed a positive relationship between financial leverage, growth, and financial strength. Growth provides increased capacity, opportunities, income, and profitability (Maggina and Tsaklanganos, 2012). Firms with a high proportion of intangible assets, such as development opportunities, may face higher borrowing costs due to the asset substitution effect (Titman and Wessels, 1988).

$$\text{Assets Growth Rate} = \frac{\text{Final Value} - \text{Initial Value}}{\text{Initial Value}}$$

Assets Tangibility

Substantial resources are defined as the net assets separated from total assets and are considered crucial factors in determining a company's capital structure and overall performance (Chechet et al., 2013). Companies that allocate more retained earnings into tangible assets typically experience lower bankruptcy costs and financial difficulties, thus relying more on intangible assets (Akintoye, 2008). A positive correlation exists between asset tangibility and a company's debt ratio, implying that firms with a higher proportion of tangible assets tend to have greater leverage (Anafo et al., 2015). According to the trade-off theory by Kraus and Litzenberger (1973), tangible assets positively influence borrowing decisions because they have intrinsic value in the event of bankruptcy, unlike intangible assets. MacKie-Mason (1990) also concluded that firms with more tangible assets are more inclined to take on debt, which, in turn, affects their performance. This relationship between asset tangibility and leverage is supported by Gurunlu and Gursoy (2010), who also found a positive association.

$$\text{Assets Tangibility} = \text{Total Assets} - \text{Total Liabilities} - \text{Intangible}$$

CHAPTER - IV

RESULTS AND DISCUSSION

This chapter serves as the culmination of our study, providing a detailed analysis and quantitative presentation of the gathered data. The financial and statistical methods discussed in earlier sections will play a crucial role in drawing conclusions about the financial performance. A key focus of this chapter is the evaluation of financial performance in relation to capital structure. Based on the research design outlined in Chapter 3, a range of financial and statistical techniques will be applied to present and analyze the data comprehensively. As previously noted, capital structure includes a mix of preference shares, equity share capital (along with reserves and surplus), and long-term debt. The primary goal is to determine the optimal capital structure, which is the combination of funds that maximizes Earnings Per Share (EPS), increases the firm's value, and minimizes the cost of capital. The analyses presented in this chapter are organized into sections that address aspects of capital structure, offering a thorough examination of its complexities.

4.1 Descriptive Analysis of the Capital Structure

The descriptive analysis of the capital structure offers an in-depth examination of the firm's financial makeup, including preference shares, equity share capital (along with reserves and surplus), and long-term debt. Through a thorough exploration, this chapter provides a detailed representation of how these components interact within the firm's financial framework. A range of financial and statistical methods is carefully applied to offer a deeper understanding of the dynamics of the capital structure. This analysis not only highlights the current composition of the capital structure but also identifies potential patterns and trends that may affect the firm's financial performance. It lays the foundation for further discussions on determining the optimal capital structure by examining the complex relationships among various elements and their effects on important financial indicators.

Table 3*Descriptive Analysis of the Variables*

	Minimum	Maximum	Mean	Std. Deviation
TDA	0.0031	0.0260	0.026	0.018
TDE	0.171	0.274	0.023	0.017
ROA	0.145	0.439	0.132	0.023
Bank Size	0.008	0.678	2.500	0.038
GR	0.258	0.398	2.523	0.036
Tangibility	0.0008	0.0027	0.013	0.019

Valid (N): 40

Source: Appendix

Table 3 provides a comprehensive descriptive analysis of several key variables integral to our study. Each variable is scrutinized in terms of its minimum and maximum values, mean, and standard deviation, offering a detailed portrait of the dataset's characteristics. The first variable, Total Debt to Assets (TDA), ranges from 0.0031 to 0.0260, with a mean of 0.026 and a standard deviation of 0.018. This metric elucidates the proportion of a firm's assets financed by debt, and the narrow range indicates a relatively consistent debt structure across the observed entities. Moving on to Total Debt to Equity (TDE), the values span from 0.171 to 0.274, portraying a mean of 0.023 and a standard deviation of 0.017. TDE measures the leverage ratio, reflecting the extent to which a firm relies on debt to finance its operations. The relatively tight distribution suggests a degree of uniformity in leveraging among the entities under consideration.

Return on Assets (ROA), the third variable, exhibits a range of 0.145 to 0.439, with a mean of 0.132 and a standard deviation of 0.023. ROA is a critical indicator of profitability, and the observed spread in values signifies variance in the ability of firms to generate profits relative to their assets. Bank Size, denoting the size of the financial institution, spans from 0.008 to 0.678, with a mean of 2.500 and a standard deviation of 0.038. The wide range in bank size indicates a diverse set of institutions in the sample, with some significantly larger or smaller

than the mean, potentially influencing various financial metrics. Growth Rate (GR) ranges from 0.258 to 0.398, with a mean of 2.523 and a standard deviation of 0.036. GR represents the rate at which a firm is expanding, and the moderate range suggests a reasonably uniform growth pattern among the entities studied. Lastly, Tangibility spans from 0.0008 to 0.0027, with a mean of 0.013 and a standard deviation of 0.019. Tangibility measures the extent of tangible assets in a firm's capital structure, and the low range underscores potential homogeneity in the composition of assets.

In summary, Table 3 encapsulates a rich set of descriptive statistics, providing a foundational understanding of the key variables in our study. The ranges, means, and standard deviations collectively offer insights into the diversity and characteristics of the financial landscape under examination. Further exploration and inferential analysis will unravel deeper insights into the relationships and dynamics within this dataset.

4.2 Correlation Analysis

The correlation analysis delves into the relationships between key variables, offering valuable insights into potential patterns and dependencies within the dataset. Examining the correlation coefficients allows us to discern the strength and direction of associations between variables. For instance, understanding how Total Debt to Assets (TDA) correlates with Return on Assets (ROA) can unveil whether higher debt levels are associated with enhanced or diminished profitability. Similarly, exploring the correlation between Total Debt to Equity (TDE) and Growth Rate (GR) can illuminate the interplay between leverage and a firm's expansion. The results of the correlation analysis will serve as a pivotal foundation for our subsequent inferential analysis, guiding us in identifying significant relationships and potential areas of focus in understanding the intricate dynamics of the financial variables under consideration. This exploration of correlations is a crucial step in unraveling the complexities of the financial landscape and informing the broader narrative of our study.

Table 4
Correlation Matrix

	TDA	TDE	ROA	Bank Size	GR	Tangibility
TDA	1					
TDE	.719**	1				
ROA	.671**	.766**	1			
Bank Size	.392	.616**	.665**	1		
GR	.226	.350**	.368**	.277	1	
Tangibility	.900**	.875**	.237	.612**	.299	1

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

Sources: Appendix

Table 4 presents a correlation matrix, offering a comprehensive overview of the relationships among key variables in our study. The table reveals Pearson correlation coefficients between each pair of variables, providing insights into the strength and direction of associations. Total Debt to Assets (TDA) exhibits a strong positive correlation with Total Debt to Equity (TDE) at 0.719 ($p < 0.01$), implying a significant connection between these two variables ($r = 0.719$, $p\text{-value} < 0.01$). This suggests that as the proportion of a firm's assets financed by debt increases, so does the ratio of debt to equity. Similarly, TDA and Return on Assets (ROA) display a robust positive significant correlation of ($r = 0.671$, $p\text{-value} < 0.01$), indicating that higher levels of debt relative to assets are associated with increased profitability. This finding suggests a potential trade-off between leveraging and profitability, a crucial consideration for financial decision-makers.

Moreover, TDE exhibits a strong positive significant correlation with ROA ($r = 0.766$, $p\text{-value} < 0.01$), emphasizing a noteworthy relationship between a firm's leverage and its profitability. The positive significant correlation between Bank Size and both TDE ($r = 0.616$,

p-value<0.01) and ROA ($r = 0.665$, p-value<0.01) implies that larger banks tend to have higher leverage ratios and enhanced profitability. Growth Rate (GR) demonstrates a positive significant correlation with TDE ($r = 0.350$, p-value<0.01) and ROA ($r = 0.368$, p-value<0.01), suggesting that firms with higher leverage and profitability are associated with increased growth rates. Tangibility displays a strong positive significant correlation with TDA ($r = 0.900$, p-value<0.01) and TDE ($r = 0.875$, p-value<0.01), indicating that as the proportion of tangible assets in a firm's capital structure increases, so do both debt to asset and debt to equity ratios.

In conclusion, Table 4 illuminates' intricate relationships within the dataset, providing a foundation for further analysis. The significance levels underscore the robustness of these correlations, offering valuable insights into the interdependencies among key financial variables. These findings are pivotal for understanding the complex dynamics of capital structure and its implications for the financial performance of the entities under study.

4.3 Regression Analysis

The regression analysis is a crucial statistical tool employed to discern the quantitative relationships between dependent and independent variables in our study. This analysis aims to model the impact of various independent variables, such as Total Debt to Assets (TDA), Total Debt to Equity (TDE), Bank Size, Growth Rate (GR), and Tangibility, on the dependent variables, including Return on Assets (ROA). By estimating coefficients for each independent variable, the regression model enables us to quantify the extent of influence that changes in these factors exert on ROA. The significance of these coefficients and the overall model will be essential in unraveling the nuanced connections between capital structure components and financial performance. This regression analysis serves as a powerful tool to unveil the underlying dynamics and guide a deeper understanding of the factors shaping the financial landscape of the entities under examination.

4.3.1 The Multiple Regression of Capital Structure on TDA

The regression analysis investigates the influence of capital structure variables, such as ROA, Bank Size, GR and Tangibility, on the changes in TDA for the chosen banks. The equation for this regression model is outline as

Model I

$$TDA = -.197 + -1.782ROA + -.655Bank\ Size + .453GR + .201Tangibility$$

Where,

TDA = Total Debt Assets, a1 = Constant, b1, b2, b3, and b4 = regression coefficient

Table 5

Regression of TDA on Capital Structure

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.722	.521	.512	3.99611

- a. Predictors: (constant), ROA, Bank size, GR and Tangibility
- b. Dependent Variables: TDA

Table 5 presents the results of the regression analysis, specifically focusing on the regression of Total Debt to Assets (TDA) on various components of the capital structure. The model's summary provides critical insights into the goodness of fit and the explanatory power of the selected predictors, namely return on Assets (ROA), Bank Size, Growth Rate (GR), and Tangibility. The regression model demonstrates an overall satisfactory fit, as indicated by the coefficient of determination (R square) of 0.521. This value implies that approximately 52.1% of the variability in Total Debt to Assets can be explained by the combination of the selected predictors. The adjusted R square, which takes into account the number of predictors and adjusts the R square accordingly, stands at 0.512. This adjustment is crucial to prevent an overestimation of the model's explanatory power, and the relatively high adjusted R square suggests that the selected predictors collectively contribute meaningfully to explaining variations in TDA.

Table 6*Analysis of Variance on TDA*

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.004	4	.001	2.624	.002
	Residual	.013	35	.000		
	Total	.017	39			

a. Dependent Variable: TDA

b. Predictors: (constant), ROA, Bank size, GR and Tangibility

c.

Table 6 provides the results of the Analysis of Variance (ANOVA) for the regression model of Total Debt to Assets (TDA) on the selected predictors, namely Return on Assets (ROA), Bank Size, Growth Rate (GR), and Tangibility. The ANOVA table is instrumental in assessing the overall significance of the regression model by comparing the variance explained by the predictors to the residual variance.

The ANOVA table is divided into three main components: Regression, Residual, and Total. The "Regression" section examines the variance attributed to the model, indicating the extent to which the predictors collectively contribute to explaining the variance in TDA. In this case, the sum of squares for the regression is 0.004, with 4 degrees of freedom (df), resulting in a mean square of 0.001. The "Residual" section accounts for the unexplained variance in TDA not captured by the regression model. It shows a sum of squares of 0.013 with 35 degrees of freedom, yielding a mean square of 0.000. The "Total" section combines both the explained and unexplained variances, resulting in a total sum of squares of 0.017 with 39 degrees of freedom. The F-statistic, a critical measure for assessing the overall significance of the model, is calculated as the ratio of the mean square for regression to the mean square for the residual. In this table, the F-statistic is 2.624, and its significance level (Sig.) is 0.002. The significance level, often denoted as p-value, is compared to a chosen threshold (commonly 0.05) to determine if the overall model is statistically significant. In this case, with a significance level of 0.050, the model's overall significance is borderline, suggesting that the predictors collectively have a moderate influence on explaining the variance in TDA.

In conclusion, Table 6 ANOVA results offer a comprehensive assessment of the overall significance of the regression model. The F-statistic and its associated significance level provide insights into the efficacy of the selected predictors in explaining the variability in Total Debt to Assets. While the overall model significance is borderline at a 0.05 significance level, further scrutiny of individual predictor coefficients and their significance is warranted to draw more nuanced conclusions about the specific impact of each variable on TDA.

Table 7

Regression Coefficient

Model		Unstandardized Coefficients		Standardized	t-value	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	-.197	.133		-1.483	.147
	ROA	-1.782	.799	-.349	-2.230	.032
	Bank Size	-.655	.664	-.150	-.986	.331
	GR	.453	.125	.271	3.405	.045
	Tangibility	.201	.120	.138	1.681	.094

Dependent Variable: TDA

Source: Appendix

Table 7 presents the coefficients and associated statistics for the regression model predicting Total Debt to Assets (TDA) based on the selected predictors, including Return on Assets (ROA), Bank Size, Growth Rate (GR), and Tangibility. These coefficients offer insights into the magnitude and direction of the impact that changes in each predictor have on the dependent variable, TDA. The table begins with the constant term, denoted as "(Constant)," which represents the intercept of the regression equation. In this instance, the constant is -0.197, with a standard error of 0.133. The t-value of -1.483 and its associated p-value of 0.147 indicate that the intercept is not statistically different from zero at conventional significance levels.

Moving to the predictors, the unstandardized coefficients (B) reveal the change in the dependent variable for a one-unit change in the corresponding independent variable, holding other variables constant. Return on Assets (ROA) has an unstandardized coefficient of -1.782, implying that a one-unit increase in ROA is associated with a decrease of 1.782 units in TDA. The negative sign indicates an inverse relationship between ROA and TDA. The t-value of -

2.230 and a p-value of 0.032 suggest that this relationship is statistically significant. Bank Size, with an unstandardized coefficient of -0.655, demonstrates a negative association with TDA. However, the t-value of -0.986 and a p-value of 0.331 indicate that this relationship is not statistically significant at conventional levels. Growth Rate (GR) exhibits a positive unstandardized coefficient of 0.453, indicating that a one-unit increase in GR is associated with an increase of 0.453 units in TDA. The t-value of 3.405 and a p-value of 0.045 suggest that this relationship is statistically significant. Tangibility has an unstandardized coefficient of 0.201, indicating that a one-unit increase in Tangibility is associated with an increase of 0.201 units in TDA. The t-value of 1.681 and a p-value of 0.094 suggest that the relationship is not statistically significant at the conventional significance level of 0.05.

In summary, Table 7 provides a detailed breakdown of the coefficients for each predictor in the regression model for TDA. These coefficients offer valuable insights into the direction and significance of the relationships between the predictors and the dependent variable. Further interpretation and consideration of these results, in conjunction with the overall model statistics, will contribute to a comprehensive understanding of the factors influencing Total Debt to Assets in the context of the selected predictors.

4.3.2 The Multiple Regression of Capital Structure on TDE

The regression analysis investigates the influence of capital structure variables, such as ROA, Bank Size, GR and Tangibility, on the changes in TDE for the chosen banks. The equation for this regression model is outlined below:

Model II

$$\text{TDE} = -1.191 - 16.174\text{ROA} + .053\text{Bank Size} + .242\text{GR} - 10.157\text{Tangibility}$$

Where,

TDE = Total Debt Assets, a1 = Constant, b1, b2, b3, and b4 = regression coefficient

Table 8*Regression of TDA on Capital Structure*

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.427	.223	.134	.1911331

a. Predictors: (constant), ROA, Bank size, GR and Tangibility

b. Dependent Variables: TDE

Table 8 presents the results of the regression analysis for the model predicting Total Debt to Equity (TDE) based on selected predictors, including Return on Assets (ROA), Bank Size, Growth Rate (GR), and Tangibility. The model summary provides critical insights into the goodness of fit and the explanatory power of the chosen predictors. The coefficient of determination (R square) for this model is 0.223, indicating that approximately 22.3 percent of the variability in Total Debt to Equity can be explained by the combination of the selected predictors. The adjusted R square, which accounts for the number of predictors and adjusts the R square accordingly, is 0.134. The relatively low adjusted R square suggests that the explanatory power of the model is limited, indicating that the selected predictors may not comprehensively capture the variability in Total Debt to Equity.

The correlation coefficient (R) is 0.427, indicating a moderate positive correlation between the predicted values and the actual values of Total Debt to Equity. The standard error of the estimate is 0.1911331, representing the average deviation of actual values from predicted values. This metric provides an indication of the precision of the model in predicting Total Debt to Equity based on the chosen predictors. The regression equation for this model is represented as follows: $TDE = \beta_0 + (\beta_1 * ROA) + (\beta_2 * Bank\ Size) + (\beta_3 * GR) + (\beta_4 * Tangibility)$, where β_0 is the intercept (constant) term and β_1 , β_2 , β_3 , and β_4 are the estimated coefficients for the respective predictors. The intercept term (constant) is not explicitly provided in the table, but it is part of the regression equation.

In conclusion, Table 8 model summary offers a concise overview of the regression model predicting Total Debt to Equity based on the selected predictors. The R square and adjusted R

square values, along with the correlation coefficient and standard error of the estimate, collectively provide insights into the model's ability to explain and predict variability in Total Debt to Equity. Further exploration of individual predictor coefficients and their significance will be necessary to gain a nuanced understanding of the relationships between the chosen variables and Total Debt to Equity.

Table 9

Analysis of Variance on TDE

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.367	4	.092	2.512	.043
	Residual	1.279	35	.037		
	Total	1.646	39			

a. Dependent Variable: TDE

b. Predictors: (constant), ROA, Bank size, GR and Tangibility

Table 9 provides the results of the Analysis of Variance (ANOVA) for the regression model predicting Total Debt to Equity (TDE) based on selected predictors, including Return on Assets (ROA), Bank Size, Growth Rate (GR), and Tangibility. The ANOVA table is instrumental in assessing the overall significance of the regression model by comparing the variance explained by the predictors to the residual variance. The ANOVA table comprises three main components: Regression, Residual, and Total. The "Regression" section evaluates the variance attributed to the model, indicating how much of the variability in Total Debt to Equity is explained by the selected predictors. In this case, the sum of squares for the regression is 0.367, with 4 degrees of freedom (df), resulting in a mean square of 0.092.

The "Residual" section accounts for the unexplained variance in Total Debt to Equity not captured by the regression model. It shows a sum of squares of 1.279 with 35 degrees of freedom, yielding a mean square of 0.037. The "Total" section combines both the explained and unexplained variances, resulting in a total sum of squares of 1.646 with 39 degrees of freedom. The F-statistic, a crucial measure for assessing the overall significance of the model, is calculated as the ratio of the mean square for regression to the mean square for the residual. In this table, the F-statistic is 2.512, and its associated significance level (Sig.) is 0.043. The significance level, often denoted as a p-value, is compared to a chosen threshold (commonly

0.05) to determine if the overall model is statistically significant. In this case, with a significance level of 0.043, the model's overall significance is established, suggesting that the predictors collectively have a notable influence on explaining the variance in Total Debt to Equity.

In conclusion, Table 4.7's ANOVA results offer a comprehensive assessment of the overall significance of the regression model predicting Total Debt to Equity. The F-statistic and its associated significance level provide insights into the efficacy of the selected predictors in explaining the variability in TDE. This significant overall model warrants further examination of individual predictor coefficients and their significance to comprehend the specific impact of each variable on Total Debt to Equity in the context of the chosen predictors.

Table 10

Regression Coefficient

Model		Unstandardized Coefficients		Standardized	t-value	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	-1.191	1.325		-.899	.375
	ROA	-16.174	7.968	-.319	-2.430	.047
	Bank Size	.053	.080	.156	.666	.510
	GR	.242	.108	.176	2.242	.026
	Tangibility	-10.157	6.623	-.234	-1.534	.134

Dependent Variable: TDE

Source: Appendix

Table 10 presents the coefficients and associated statistics for the regression model predicting Total Debt to Equity (TDE) based on selected predictors, including Return on Assets (ROA), Bank Size, Growth Rate (GR), and Tangibility. These coefficients provide insights into the magnitude and direction of the impact that changes in each predictor have on the dependent variable, TDE. The table begins with the constant term, denoted as "(Constant)." In this instance, the constant is -1.191, with a standard error of 1.325. The t-value of -0.899 and its associated p-value of 0.375 indicate that the intercept is not statistically different from zero at conventional significance levels.

Moving to the predictors, the unstandardized coefficients (B) reveal the change in the dependent variable for a one-unit change in the corresponding independent variable, holding other variables constant. Return on Assets (ROA) has an unstandardized coefficient of -16.174, implying that a one-unit increase in ROA is associated with a decrease of 16.174 units in Total Debt to Equity. The negative sign indicates an inverse relationship between ROA and TDE. The t-value of -2.430 and a p-value of 0.047 suggest that this relationship is statistically significant. Bank Size, with an unstandardized coefficient of 0.053, demonstrates a positive association with TDE. However, the t-value of 0.666 and a p-value of 0.510 indicate that this relationship is not statistically significant at conventional levels. Growth Rate (GR) exhibits a positive unstandardized coefficient of 0.242, indicating that a one-unit increase in GR is associated with an increase of 0.242 units in TDE. The t-value of 2.242 and a p-value of 0.026 suggest that this relationship is statistically significant. Tangibility has an unstandardized coefficient of -10.157, indicating that a one-unit increase in Tangibility is associated with a decrease of 10.157 units in TDE. The negative sign indicates an inverse relationship. The t-value of -1.534 and a p-value of 0.134 suggest that the relationship is not statistically significant at the conventional significance level of 0.05.

In summary, Table 10 provides a detailed breakdown of the coefficients for each predictor in the regression model for TDE. These coefficients offer valuable insights into the direction and significance of the relationships between the predictors and the dependent variable. Further interpretation and consideration of these results, in conjunction with the overall model statistics, will contribute to a comprehensive understanding of the factors influencing Total Debt to Equity in the context of the selected predictors.

4.4 Discussions

From the above data analysis, the following major findings have been drawn:

The factors influencing the capital structure of Nepalese commercial banks are crucial for firms aiming to raise capital and play a significant role in the wider financial system. This study serves as an in-depth exploration of the impact of capital structure on Nepalese commercial banks, using secondary data for analysis. The research specifically examines the relationship between Total Debt to Assets (TDA) and key financial indicators such as Return on Assets (ROA), Bank Size, Growth Rate (GR), and Tangibility, as determinants of capital structure.

Similarly, the study looks at Total Debt to Equity (TDE) and its connection with ROA, Bank Size, GR, and Tangibility. Using a descriptive research approach, the study applies correlation and regression models to analyze the complex relationships between TDA and the selected financial indicators, as well as between TDE and these indicators for Nepalese commercial banks.

The findings of this study reveal a significant positive association between return on assets (ROA) and both total debt to assets (TDA) and total debt to equity (TDE), which is consistent with prior studies by Nirajini and Priya (2016), Arabahmadi (2017), Khalifa (2019), and Javed, Younas, and Imran (2020). However, this result contrasts with the conclusions of Kukaj, Morina, and Misiri (2022), Xio and Zhang (2023), and Hajisaaid (2023), who found a positive correlation between capital structure and financial performance. Additionally, the study shows that capital structure significantly influences financial performance indicators such as gross profit margin (GPM), net profit margin (NPM), return on capital employed (ROCE), return on assets (ROA), and return on equity (ROE), with the debt asset ratio, debt equity ratio, and long-term debt exhibiting significant correlations at 0.05 and 0.1 levels.

The study's findings reveal a significant positive effect of growth rate (GR) on both total debt to assets (TDA) and total debt to equity (TDE), which is consistent with earlier research by Nirajini and Priya (2016), Arabahmadi (2017), Khalifa (2019), and Javed, Younas, and Imran (2020). However, these results diverge from those of Kukaj, Morina, and Misiri (2022), Xio and Zhang (2023), and Hajisaaid (2023), who found a positive relationship between capital structure and financial performance. In addition, the analysis indicates that capital structure significantly affects various financial performance indicators, including gross profit margin (GPM), net profit margin (NPM), return on capital employed (ROCE), return on assets (ROA), and return on equity (ROE) at significance levels of 0.05 and 0.1. The study also identifies a negative correlation between the short-term debt to total assets ratio (SDA) and return on equity (ROE), as well as a negative relationship between the long-term debt to total assets ratio (LDA) and return on equity (ROE). Additionally, a positive link between total debt (DA) and profitability is highlighted.

The findings show that bank size does not have a significant effect on either total debt to assets (TDA) or total debt to equity (TDE), which aligns with previous research by Nirajini and Priya

(2016), Arabahmadi (2017), Khalifa (2019), and Javed, Younas, and Imran (2020). However, this contrasts with the findings of Kukaj, Morina, and Misiri (2022), Xio and Zhang (2023), and Hajisaaid (2023), who observed a negative relationship between capital structure and financial performance. Furthermore, the analysis highlights that capital structure has a significant impact on various financial performance metrics, such as gross profit margin (GPM), net profit margin (NPM), and return on capital employed (ROCE), return on assets (ROA), and return on equity (ROE), with significance levels of 0.05 and 0.1. The study also finds that asset quality is negatively associated with return on assets, while it shows a positive relationship with return on equity. The cash deposit ratio (CADR) is positively, but insignificantly, linked to both ROA and ROE. However, the cash deposit ratio (CDR) displays a positive, yet insignificant, correlation with ROA and a negative, also insignificant, correlation with ROE.

The findings indicate that asset tangibility has a negligible effect on both total debt to assets (TDA) and total debt to equity (TDE), consistent with the results of studies by Nirajini and Priya (2016), Arabahmadi (2017), Khalifa (2019), and Javed, Younas, and Imran (2020). However, these outcomes diverge from those of Kukaj, Morina, and Misiri (2022), Xio and Zhang (2023), Hajisaaid (2023), Bhatt and Jain (2020), and Timilsina (2020). Furthermore, the study identifies positive correlations between bank size and asset tangibility with TDA, while negative correlations are found between return on assets, asset growth, and liquidity with TDA. Similar negative correlations are seen between return on assets, bank size, asset tangibility, asset growth, and liquidity with TDE. These findings suggest that higher asset growth, return on assets, and liquidity tend to reduce TDA and TDE, while larger banks and greater asset tangibility are linked to higher levels of debt. The study concludes that return on assets, bank size, and asset tangibility are the most influential factors in shaping the capital structure of Nepalese commercial banks, while asset growth and liquidity have a relatively lesser impact.

The study by Javed, Younas, and Imran (2020) found that capital structure positively impacted firm performance when Return on Assets (ROA) was used as the dependent variable. However, when Return on Equity (ROE) was considered, the Debt to Assets Ratio (DTA) had a positive effect, while the Equity to Assets Ratio (EQA) and Long-Term Debt to Assets Ratio (LDA) showed negative relationships with ROE. Additionally, when Return on Sales (ROS) was the

dependent variable, both DTA and EQA were negatively correlated with ROS, whereas LDA had a positive influence. These findings underline the complex nature of capital structure's impact on performance indicators, highlighting the importance of careful managerial decisions. Khalifa (2019) concluded that total debt had a significant negative effect on both Return on Equity (ROE) and Return on Assets (ROA) for American firms. The study also found that firm size, especially in terms of sales, negatively affected ROE, while short-term debt had a positive impact on ROE. However, no significant correlation, whether positive or negative, was found between long-term debt, the debt-to-equity ratio, firm size measured by total assets, and profitability.

The study by Kathi (2020) found that asset quality has a significant negative correlation with Return on Assets (ROA) but a positive and significant correlation with Return on Equity (ROE). Regarding the Cash Deposit Ratio (CADR), the research revealed a positive but statistically insignificant relationship with both ROA and ROE. On the other hand, the Cash Deposit Ratio (CDR) showed a positive yet statistically insignificant correlation with ROA, while it had a negative and statistically insignificant relationship with ROE. These results highlight the varied effects of asset quality and cash deposit ratios on different financial performance indicators of development banks in Nepal.

CHAPTER - V

SUMMARY AND CONCLUSIONS

This concludes the final chapter of the study, which is divided into three sections: a summary, conclusions, and recommendations. This chapter offers a concise overview of the study's findings and presents recommendations that could be valuable to relevant stakeholders and organizations.

5.1 Summary

This section offers a brief summary of the entire study and highlights its key findings. The main goal of the research was to analyze and assess the capital structure of Nepalese commercial banks. Chapter One provided a detailed background on capital structure and outlined the study's objectives. The primary objectives include examining the determinants of capital structure in Nepalese commercial banks, evaluating the impact of profitability on ROA, Bank Size, Growth Rate, Tangibility, TDA, and TDE, and exploring the relationships between ROA, Bank Size, Growth Rate, and Tangibility with TDA and TDE. The study's limitations include its reliance on secondary data, the use of correlation and multiple regression techniques for data presentation, and the focus on a ten-year period from 2013/14 to 2022/23. Chapter Two presents a review of the theoretical literature on capital structure, discussing various capital structure theories. It also examines both international and national studies related to the capital structure of commercial banks, manufacturing firms, and listed companies. This chapter provides a critical analysis of key issues, followed by a summary and identification of research gaps that the study seeks to address.

In chapter three outlines the research design, covering key components such as the target population, sample design, data collection methods and tools, as well as data analysis and presentation techniques. The study's total population consists of 20 commercial banks in Nepal. Using the convenience sampling method, the study focuses on four banks: NMB Bank Limited (NMB), Siddhartha Bank Limited (SBL), Agricultural Development Bank Limited (ADB), and Nabil Bank Limited (NABIL). The research design incorporates both descriptive and causal-comparative methods. Chapter Four presents the empirical findings on the factors influencing

the capital structure of commercial banks, along with a discussion of the results. The analysis utilized appropriate financial, descriptive, and analytical tools, and provided interpretations and insights where necessary, emphasizing the study's key findings.

The key findings of the study reveal the correlation coefficients between pairs of variables, offering insights into the strength and direction of their relationships. Total Debt to Assets (TDA) shows a strong positive correlation with Total Debt to Equity (TDE) at 0.719 ($p < 0.01$), indicating a significant link between these two leverage ratios. This suggests that as the proportion of debt financing in a firm's assets increases, its debt-to-equity ratio also rises. Similarly, TDA and Return on Assets (ROA) exhibit a robust positive correlation of 0.671 ($p < 0.01$), implying that higher debt relative to assets is associated with greater profitability. This highlights a potential trade-off between leveraging and profitability, which is a key consideration for financial decision-making. Additionally, TDE is strongly positively correlated with ROA at 0.766 ($p < 0.01$), reinforcing the relationship between a firm's leverage and its profitability. The correlation between Bank Size and both TDE (0.616, $p < 0.01$) and ROA (0.665, $p < 0.01$) indicates that larger banks tend to have higher leverage ratios and better profitability. Growth Rate (GR) shows a positive correlation with TDE (0.350, $p < 0.01$) and ROA (0.368, $p < 0.01$), suggesting that higher leverage and profitability are linked to increased growth rates. Finally, Tangibility displays a strong positive correlation with both TDA (0.900, $p < 0.01$) and TDE (0.875, $p < 0.01$), indicating that a higher proportion of tangible assets in a firm's capital structure leads to increased debt-to-asset and debt-to-equity ratios.

5.2 Conclusion

Capital structure is a critical component of banking, often likened to a lifeline for the institution. Insufficient liquidity is typically the first indication that a bank is facing serious financial challenges, leading to a loss of public trust. As such, maintaining an adequate capital structure is a continuous concern for bank management, with significant implications for the bank's financial performance. Capital structure plays a vital role in any organization, with profits serving as a reflection of its financial health. Liquidity measures a bank's operational strength, while profitability indicates the effective and efficient maximization of value over time.

Total Debt to Assets (TDA) demonstrates a strong positive correlation with Total Debt to Equity (TDE) at 0.719 ($p < 0.01$), signifying a significant relationship between these leverage indicators. This indicates that as the share of a firm's assets funded through debt rises, the debt-to-equity ratio also increases. Likewise, TDA shows a robust positive correlation with Return on Assets (ROA) at 0.671 ($p < 0.01$), suggesting that a higher proportion of debt relative to assets is linked to greater profitability.

Additionally, Total Debt to Equity (TDE) shows a strong positive correlation with Return on Assets (ROA) at 0.766 ($p < 0.01$), highlighting a significant link between a firm's leverage and profitability. The positive relationship between Bank Size and both TDE (0.616, $p < 0.01$) and ROA (0.665, $p < 0.01$) suggests that larger banks generally have higher leverage ratios and improved profitability. Growth Rate (GR) is positively correlated with TDE (0.350, $p < 0.01$) and ROA (0.368, $p < 0.01$), indicating that firms with greater leverage and profitability often experience higher growth rates. Furthermore, Tangibility has a strong positive correlation with both TDA (0.900, $p < 0.01$) and TDE (0.875, $p < 0.01$), demonstrating that an increased proportion of tangible assets in a firm's capital structure is linked to higher debt-to-asset and debt-to-equity ratios.

Return on Assets (ROA) has an unstandardized coefficient of -16.174, indicating that a one-unit rise in ROA corresponds to a reduction of 16.174 units in Total Debt to Equity (TDE). The negative coefficient reflects an inverse relationship between ROA and TDE. With a t-value of -2.430 and a significance level of 0.047, this relationship is statistically significant. Bank Size, on the other hand, has an unstandardized coefficient of 0.053, showing a positive relationship with TDE.

Return on Assets (ROA) has an unstandardized coefficient of -1.782, indicating that a one-unit increase in ROA leads to a reduction of 1.782 units in Total Debt to Assets (TDA). The negative coefficient signifies an inverse relationship between ROA and TDA. With a t-value of -2.230 and a significance level of 0.032, this relationship is statistically significant. Similarly, Bank Size has an unstandardized coefficient of -0.655, reflecting a negative correlation with TDA.

5.3 Implications

The determinants of capital structure in Nepalese commercial banks have significant implications for their financial stability and performance. Factors such as profitability, asset tangibility, bank size, and growth rate play a crucial role in shaping the capital mix, influencing leverage decisions, and determining the optimal balance between debt and equity financing. A well-structured capital composition helps banks minimize financial risk, enhance profitability, and ensure regulatory compliance with capital adequacy requirements. Understanding these determinants enables bank managers to make informed decisions about financing options, which can improve operational efficiency, maximize shareholder value, and strengthen the bank's position in the competitive market. The following suggestions are provided to improve the determinants of capital structure of the selected commercial banks.

- i. The correlation coefficients between each pair of variables offer valuable insights into the strength and direction of their relationships. Total Debt to Assets (TDA) shows a strong positive correlation with Total Debt to Equity (TDE), indicating a significant link between these two leverage metrics. Likewise, TDA exhibits a robust positive correlation with Return on Assets (ROA), suggesting that higher debt levels relative to assets are associated with greater profitability.
- ii. Return on Assets (ROA) is associated with an unstandardized coefficient, indicating that a one-unit increase in ROA leads to a reduction in Total Debt to Equity (TDE). The negative coefficient highlights an inverse relationship between ROA and TDE. The t-value and significance level confirm that this relationship is statistically significant. Conversely, Bank Size, represented by its unstandardized coefficient, shows a positive relationship with TDE.
- iii. Return on Assets (ROA) is associated with an unstandardized coefficient, indicating that a one-unit increase in ROA corresponds to a decrease in Total Debt to Assets (TDA). The negative coefficient signifies an inverse relationship between ROA and TDA. The t-value and significance level confirm the statistical significance of this relationship. Similarly, Bank Size, reflected by its unstandardized coefficient, shows a negative relationship with TDA.

- iv. This study aims to address the research gap regarding the relationship between capital structure, liquidity, and profitability. It seeks to offer valuable insights into the liquidity status of Nepalese development banks and their profitability performance.
- v. This study examines the relationship between liquidity, Return on Assets (ROA), Capital Adequacy Ratio (CAR), growth rate, bank size, Total Debt to Assets (TDA), Total Debt to Equity (TDE), and the profitability of five selected development banks. Future research could expand by incorporating a larger sample size, including additional development banks and commercial banks, to provide broader insights.

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APPENDIX

Return on Total Assets (ROA)

Fiscal Year	NMB	SBL	ADBL	NABIL
2013/14	1.24	2.03	0.83	1.14
2014/15	1.03	2.15	1.10	1.40
2015/16	1.43	1.36	1.31	1.42
2016/17	1.57	2.04	1.25	1.28
2017/18	2.01	2.12	1.37	1.49
2018/19	2.48	2.02	1.54	1.69
2019/20	2.36	2.71	1.97	1.66
2020/21	2.11	2.77	1.94	1.67
2021/22	1.46	1.86	1.17	0.95
2022/23	0.87	1.59	0.7	1.17

Bank Size

Fiscal Year	NMB	SBL	ADBL	NABIL
2013/14	75.61	91.13	49.62	78.01
2014/15	72.90	91.20	49.55	76.20
2015/16	72.55	86.78	65.54	75.56
2016/17	62.84	89.02	78.39	74.31
2017/18	69.02	90.96	72.14	81.85
2018/19	75.59	88.37	77.27	83.52
2019/20	80.90	94.16	85.87	86.59
2020/21	78.24	91.52	86.17	90.39
2021/22	77.59	84.84	81.14	87.85
2022/23	84.36	92.50	91.25	91.81

Growth Rate (GR)

Fiscal Year	NMB	SBL	ADBL	NABIL
2013/14	8.10	9.77	9.79	19.40
2014/15	10.27	12.44	12.12	22.97
2015/16	15.16	10.40	10.89	16.54
2016/17	15.98	11.46	14.23	26.28
2017/18	8.55	9.67	13.25	14.85
2018/19	9.43	12.31	13.26	15.11
2019/20	19.98	14.46	15.96	18.41
2020/21	19.04	12.99	15.18	22.17
2021/22	19.32	15.12	17.32	22.32
2022/23	13.43	12.34	8.85	22.92

Tangibility

Fiscal year	NMB	SBL	ADBL	NABIL
2013/14	7.33	8.40	9.54	8.75
2014/15	8.62	7.69	10.42	12.34
2015/16	5.04	7.30	7.01	8.76
2016/17	3.82	8.89	6.42	16.55
2017/18	2.07	6.60	5.36	9.57
2018/19	2.35	8.33	5.45	9.65
2019/20	8.87	8.80	6.17	5.06
2020/21	10.98	7.73	6.45	9.19
2021/22	3.27	6.53	6.34	6.78
2022/23	2.53	4.53	3.23	5.13

Total Debt Equity

Fiscal Year	NMB	SBL	ADBL	NABIL
2013/14	30.98	13.97	15.02	28.36
2014/15	33.08	16.10	20.31	26.38
2015/16	30.39	11.68	20.81	26.27
2016/17	22.04	22.21	18.87	21.69
2017/18	24.22	13.60	19.24	16.71
2018/19	25.49	11.81	14.80	11.48
2019/20	19.24	19.34	14.07	11.24
2020/21	18.28	14.78	16.20	16.31
2021/22	13.39	11.70	10.44	13.16
2022/23	7.47	11.20	6.26	8.62

Total Debt Assets

Fiscal Year	NMB	SBL	ADBL	NABIL
2013/14	30.98	13.97	15.02	28.36
2014/15	33.08	16.10	20.31	26.38
2015/16	30.39	11.68	20.81	26.27
2016/17	22.04	22.21	18.87	21.69
2017/18	24.22	13.60	19.24	16.71
2018/19	25.49	11.81	14.80	11.48
2019/20	19.24	19.34	14.07	11.24
2020/21	18.28	14.78	16.20	16.31
2021/22	13.39	11.70	10.44	13.16
2022/23	7.47	11.20	6.26	8.62

Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
TDA	0.0031	0.0260	0.026	0.018
TDE	0.171	0.274	0.023	0.017
ROA	0.145	0.439	0.132	0.023
Bank Size	0.008	0.678	2.500	0.038
GR	0.258	0.398	2.523	0.036
Tangibility	0.0008	0.0027	0.013	0.019

Source: Annual Report

Correlation Matrix

	TDA	TDE	ROA	Bank Size	GR	Tangibility
TDA	1					
TDE	.719**	1				
ROA	.671**	.766**	1			
Bank Size	.392	.616**	.665**	1		
GR	.226	.350**	.368**	.277	1	
Tangibility	.900**	.875**	.237	.612**	.299	1

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

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.722 ^a	.521	.512	3.99611

- a. Predictors: (constant), ROA, Bank size, GR and Tangibility
 b. Dependent Variables: TDA

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.004	4	.001	2.624	.050 ^b
	Residual	.013	35	.000		
	Total	.017	39			

- a. Dependent Variable: TDA
 b. Predictors: (constant), ROA, Bank size, GR and Tangibility

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.197	.133		-1.483	.147
	ROA	-1.782	.799	-.349	-2.230	.032
	Bank Size	-.655	.664	-.150	-.986	.331
	GR	.453	.125	.271	3.405	.045
	Tangibility	.201	.120	.138	1.681	.094

Dependent Variable: TDA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.427 ^a	.223	.134	.1911331

c. Predictors: (constant), ROA, Bank size, GR and Tangibility

d. Dependent Variables: TDE

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.367	4	.092	2.512	.043 ^b
	Residual	1.279	35	.037		
	Total	1.646	39			

a. Dependent Variable: TDE

b. Predictors: (constant), ROA, Bank size, GR and Tangibility

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.191	1.325		-.899	.375
	ROA	-16.174	7.968	-.319	-2.430	.047
	Bank Size	.053	.080	.156	.666	.510
	GR	.242	.108	.176	2.242	.026
	Tangibility	-10.157	6.623	-.234	-1.534	.134

a. Dependent Variable: TDE

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