

**DETERMINANTS OF CAPITAL STRUCTURE OF JOINT
VENTURE COMMERCIAL BANKS IN NEPAL**

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

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July, 2025

Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**Determinants of Capital Structure of Joint Venture Commercial Banks in Nepal**”. 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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Acknowledgements

I would like to forward my deepest gratitude to Madhusudan Gautam of Shanker Dev Campus who supports me with his invaluable scholarly supervision, constructive comments and suggestions that allow me to furnish this thesis report in this final format.

I would like to pay my sincere thanks to Asso. Prof. Dr. Sajeeb Kumar Shrestha, Head of Research Department and Asso. Prof. Dr Kapil Khanal, Campus Chief of Shanker Dev Campus. Besides, I would also like to thank to other respected teachers of Shanker Dev Campus and all the staff of this campus for their help in providing me various kinds of suggestions, information and comments.

It is the matter of my immense pleasure to express my deep sense of gratitude and heartfelt respect to my parents, teachers and friends for their affection, inspiration and incredible support to precede my academic career.

Sanjeev Pyakurel

Thanks.

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Abbreviations

ANOVA	Analysis of Variance
CRR	Cash Reserve Ratio
CV	Coefficient of Variation
ER	Equity Ratio
FY	Fiscal Year
GDP	Gross Domestic Product
i.e.	That is
JVB	Joint Venture Bank
LR	Leverage Ratio
MRA	Multiple Regression Analysis
NRB	Nepal Rastra Bank
OLS	Ordinary Least Squares
PCSE	Panel corrected standard error
P.E. Ratio	Price-to-Earnings Ratio
POT	Pecking Order Theory
ROA	Return on Assets
SFA	Stochastic frontier analysis
SPSS	Statistical Package for the Social Sciences
TOC	Table of Contents
TOT	Trade-off Theory
T.U.	Tribhuvan University

Abstracts

This study investigates the key determinants of capital structure decisions in Nepalese joint venture commercial banks, focusing on the impact of profitability, firm size, liquidity, and growth. Using secondary data collected from six leading joint venture banks over a 14-year period (FY 2009–2022), the study employs descriptive statistics, correlation, and multiple regression analysis to examine the relationship between selected variables and two capital structure indicators: equity ratio and leverage ratio.

The findings indicate that profitability and size are the most influential determinants of capital structure among the sampled banks. Specifically, profitability shows a significant positive relationship with equity ratio and a negative association with leverage, supporting the pecking order theory. Firm size also plays a critical role, with larger banks tending to rely more on debt, consistent with the trade-off theory. Liquidity and growth, however, exhibit weak and statistically insignificant effects on capital structure decisions.

These results have important implications for bank managers, investors, and policymakers in Nepal. The study recommends that banks emphasize internal profitability and strategic asset growth to optimize their financing mix. Furthermore, regulatory bodies such as Nepal Rastra Bank may consider these findings when developing capital adequacy frameworks and financial stability policies. The study contributes to the limited literature on capital structure in Nepal's banking sector and provides a foundation for further research in emerging markets.

Keywords: Determinants of capital structure of joint venture commercial bank in Nepal

CHAPTER I

INTRODUCTION

1.1 Background of the study

Capital Structure is the combination of equity and debt that is put into use by a company in order to finance the overall operations of the company. It relates to how much capital/money is used to finance the company's assets, to support its business and to fund the operation. As such determining capital structure is essential for any company which results in centralization around the determination of optimal capital structure as the major financial decision making process. The company will want to make sure that the company value is maximized while minimizing the cost of capital. The theory of capital structure advocates that company determine target debt ratio, which is basically centered on various trade-off between the costs and benefits of debt versus equity. (Modigliani and Miller, 1958) were the first pioneer to establish capital structure theory, which is also known as the modern theory of capital structure. After the formulation of theory from Modigliani and Miller (1958), many new literatures were developed to shed new light on this topic which saw creation of new alternative theories, some of them are pecking order theory, static trade-off theory and agency cost theory.

Pecking Order Theory underlines the information asymmetry between the company's outside investors and insiders suggesting that when there is no availability of the internal funds the company uses debt (Myers and Majluf, 1984). Trade-off theory proposes that the optimal debt ratio is set by balancing the trade-off between the cost of debt and benefit. This theory believes that when the marginal present value of the financial distress cost on additional debt is equal to the marginal present value of the tax shield on additional debt then the optimal capital structure is achieved (Myers, 1984). Another theory that dwells in the capital structure is agency cost theory. This theory prophesies that the choice in capital structure is made on the basis of the cost of agency. It examines the relationship among the outside equity and debt holders and the manager of the firm.

Ever since Modigliani and Miller (1958), formulated their theory many other empirical and theoretical contribution has been made in the literature on capital structure. For non-financial firms some common particular variables are noted by the empirical literature that are found to be consistently correlated with the debt of the company. These variables

are growth, age, market-to-book ratio, profitability, dividend policy, size and collateral value. But in the cases of banks and its study of capital structure, it is still an under exploited area. There is still lack of understanding on the capital structure of bank and the various factors that affect the corporate financing behavior. In short there does not exist any universally accepted capital structure theory, even though many researchers have developed a lot of conditional theories that exist which tries to tackle on the issue to determine the optimal capital structure. This study is also one that tries to find the optimal capital structure through empirical studies.

In the case of Nepal as well many researchers have also further studied and researched in the issue. Some of these study on the determination of company's capital structure determination and the papers published are made by (Shrestha, 1993) capital structure in public enterprises, (Baral, 1996) capital structure of listed firms, (Gajurel, 2005) capital structure and cost of capital, (Ghimire, 1999) capital structure and cost of capital in public enterprises, (Alam, 2008) capital structure of Nepalese enterprises, (Bajracharya, 2007) capital structure management in Nepalese enterprises but the common problem in all of these study are they have not focused on the financial company's capital structure.

Khatri (2024) examined how Nepalese commercial banks' profitability is affected by capital structure and growth. The study showed that debt to equity ratio has a negative effect on return on assets. This indicates that a higher debt-to-equity ratio results in a lower return on assets. In bank especially in Joint venture banks there are many unique financial features and the operational environment also differ compared to other organizations which creates a strong ground to further study these firms to analyze the capital structure determinants of commercial banks in Nepal. So, this study main purpose is to analyze and research the relationship that exist among the debt and various determinants of capital structure decision of joint venture commercial banks in Nepal.

Neupane (2025) investigated the relationship between working capital management and profitability in banks of Nepal. This study utilizes secondary data sourced from six commercial banks over the fiscal years 2018/19 to 2023/24. A cross-sectional panel framework supports the research design, with all relevant information extracted from the annual reports and publications of Nepal Rastra Bank. The data were analyzed using descriptive statistics, correlation analysis, and multiple linear regression to examine the

relationship between elements of working capital and financial performance metrics such as ROA and ROE. The results indicate that the current ratio exhibit a negative association with profitability, while the size of the bank shows no significant effect.

With the help of this study financial managers can use the results as a knowledge to determine the capital structure which will help them to make decision on the capital structure. In the context of Nepal, the determinants affecting the decision are determined with the help of capital structure theories. This study tests the impact that various explanatory variables of capital structure especially have in the case of joint venture commercial banks that are listed in the Nepal Stock exchange (NEPSE). For the purpose of the study six different companies are chosen.

A joint venture commercial bank is a financial institution formed through a collaboration between two or more separate entities, often from different countries or industries, with the aim of conducting banking and financial activities together. This type of partnership allows the participating entities to combine their resources, expertise, and market access to create a stronger presence in the banking sector and capitalize on shared opportunities. In the case of Nepal there are six joint venture commercial banks. They are NABIL bank, standard chartered bank Nepal ltd., Himalayan bank, Nepal SBI bank, Everest bank and finally NMB bank. Among these banks NMB has the lowest percentage of foreign investment (15%) while NABIL has 50% of foreign share. As financial institutions increasingly seek innovative ways to expand their reach and optimize resources, joint ventures emerge as a compelling strategy that fosters collaboration, resource sharing, and risk mitigation

1.2 Problem Statement

Among various debatable topic in finance, determination of optimal capital structure is one. The capital structure of joint venture commercial banks in Nepal is a critical determinant of their financial health, performance, and sustainability. The intricate interplay of factors influencing capital structure decisions demands comprehensive investigation. This study seeks to uncover the key determinants that shape the capital structure of these banks and analyze their impact on crucial financial ratios, specifically the debt to asset ratio and Equity ratio. By exploring this relationship, we aim to illuminate the underlying dynamics and complexities that guide capital structure choices

within the unique context of Nepal's banking sector, contributing to a deeper understanding of the intricate financial landscape in which these institutions operate. Moreover, the significance of a well-balanced and optimal capital structure cannot be overstated, particularly in an industry marked by volatility, regulatory changes, and global economic shifts. Baral (2004) studied Joint venture commercial banks in Nepal and found that they must navigate a multifaceted environment, where factors such as profitability, size, growth and liquidity intertwine to shape their financial structure. By delving into these determinants, we can unravel the strategic considerations that guide their capital allocation decisions. Furthermore, understanding the intricate relationship between these determinants and the debt to asset and Equity ratios holds the potential to offer insights into the banks' risk appetite, leverage levels, and capacity to absorb financial shocks.

In the realm of empirical evidence, while some studies have examined capital structure determinants in the broader context of finance, there is a lack of research focused on the unique landscape of joint venture commercial banks in Nepal (khatri 2024). Similar studies can be found but the analysis are mostly done in the context of developed nations. As such, this study aims to bridge this gap by adopting a comprehensive approach that integrates both quantitative analysis over a long period of time. Through a meticulous examination of financial data, industry reports, this research seeks to unravel the intricate mechanisms that underline the capital structure decisions. By contextualizing our findings within the specific challenges and opportunities faced by joint venture commercial banks in Nepal, this study aspires to offer a clear understanding of how these determinants interact to influence the banks' financial structure. To get a clear understanding many research papers are analyzed as well.

Rajan and Zingales (1995) used an analysis of public company financing decisions from the G-7's main industrialized nations to look into the factors that influence capital structure choice. From 1987 to 1991, a total of 4557 non-financial enterprises were used in their cross-sectional analysis. They investigated the level of leverage in various nations using various leverage measurements. As in past research, they concentrated on four factors—tangibility of assets, investment possibilities (growth), business size, and profitability—as predictors of capital structure. The authors of the study discovered that leverage was negatively correlated with growth potential and profitability and favorably correlated with the tangibility of assets and size. Italy was the exception, as none of these

figures applied there. They also noticed that companies with a majority state ownership seemed to have stronger leverage.

Goyal (2021) investigated how capital structure affected the profitability of Indian public sector banks listed on the national stock exchange. The association between EPS, Return on Equity, Return on Assets, and capital structure has been established using a regression analysis. According to the data, there is a link between profitability and short-term debt as indicated by EPS, ROE and ROA. Earnings per share (EPS), return on assets (ROA) and return on equity (ROE), all have a negative correlation with TDC and LTTDC (long term total debt capital). Earnings per share (EPS), return on assets (ROA) and return on equity (ROE) has a positive impact on the Assets Growth. Meanwhile, (ROA and EPS) has a positive relationship with the size of the company and ROE has negative relationship with size of the company.

Hardiyanto (2024) investigated the effect that leverage has on the profitability by taking a sample of 19 companies. Using panel data regression analysis, the study found that firm size has insignificant effect on the leverage of the company. The result was analyzed using t test statistics with data from two years. There are many studies conducted all over the world where the findings contradict with other researchers findings. Rather than viewing contradictory research findings as obstacles, this study embraces them as catalysts for deeper exploration. Through meticulous analysis and comparative assessments, this research endeavors to provide a more comprehensive and clear understanding of the determinants that shape the capital structure of joint venture commercial banks in Nepal. By acknowledging and addressing the global pattern of contradictory research, this study contributes to the evolving body of knowledge in a manner that is both intellectual and practical.

Khatri (2024) conducted a study on leverage and growth. The dependent variables chosen are return on equity and return on assets. The capital adequacy ratio, the debt to equity ratio, the debt to asset ratio, the asset growth, the deposit growth, and the loan to deposit ratio are the selected independent variables. The study is based on secondary data of 12 commercial banks with 108 observations for the period from 2013/14 to 2021/22. The study showed that debt to equity ratio has a negative effect on return on assets. This

indicates that a higher debt-to-equity ratio results in a lower return on assets. Similarly, it demonstrates that return on assets and return on equity decrease with asset growth.

Bhandari (2025) investigated the relationship between profitability and leverage. The analysis was done through panel data while analyzing 45 banks. In theoretical and empirical studies of capital structure, profitability typically exhibits a negative association with leverage and a positive relationship with equity ratio (i.e., retained earnings allow internal financing and reduce reliance on debt). This aligns with the pecking order theory, which theorizes that firms prefer internal financing and issue debt only when internal resources are exhausted. Empirical findings reinforce this, showing consistently negative relationship between profitability and leverage. Conversely, firm size often shows a positive relation with leverage, as large firms typically enjoy better credit access and can safely issue more debt consistent with trade-off theory. Studies confirm that larger firms tend to have higher debt ratios.

As for liquidity and asset growth, their effects are more mixed. Inrawan, (2025) showed that liquidity may reduce the need for external capital, leading to lower leverage although this is contingent on business context. Likewise, firms experiencing rapid growth may increase leverage to fund expansion, but the evidence remains inconclusive and dependent on profitability and efficiency.

By establishing a foundation of knowledge in this area, we not only contribute to academic discourse but also provide invaluable insights for banking professionals, policymakers, and stakeholders. In the pages that follow, we will explore these determinants, examine their relationships with relevant financial ratios, and unravel the potential implications of our findings for the continued growth and resilience of Nepal's banking sector. Thus, study aimed to answer the following main questions:

- What are the determinants that affect capital structure of Joint venture commercial banks in Nepal?
- Is there any relationship between determinants (Size, Liquidity, Growth and Profit) of capital structure with Leverage ratio and Equity ratio?
- What is the effect of determinants (Size, Liquidity, Growth and Profit) on capital structure?

1.3 Objectives of the Study

The main objective of this study is to test the relationship between leverage and firm's specific determinants of capital structure decision and to understand about the theories of capital structure that can explain the capital structure of the Joint Venture Commercial Banks in Nepal. The specific objectives of the study are as follows:

- To identify the relationship between various determinants (profitability, size, liquidity, growth and capital structure of joint venture commercial banks in Nepal.
- To analyze if predictions of pecking order and trade-off theories hold true in capital structure determinants of joint ventures commercial banks in Nepal.
- To evaluate the extent to which selected firm-specific factors (profitability, size, liquidity, and growth) influence the capital structure (leverage and equity ratios) of joint venture commercial banks in Nepal.

1.4 Hypothesis of the Study

This study tests the following null hypotheses on relationship between the independent variables and capital structure of listed joint venture commercial banks in Nepal:

H_{01} : There is no significant relationship between profitability and Equity ratio.

H_{02} : There is no significant relationship between profitability and Leverage ratio.

H_{03} : There is no significant relationship between the size and Equity ratio.

H_{04} : There is no significant relationship between the size and Leverage ratio.

H_{05} : There is no significant relationship between liquidity and Equity ratio.

H_{06} : There is no significant relationship between liquidity and Leverage ratio.

H_{07} : There is no significant relationship between the growth and Equity ratio.

H_{08} : There is no significant relationship between the growth and Leverage ratio.

1.5 Rationale of the study

Since the study focused on the determinants of capital structures of joint venture commercial banks in Nepal, it is of great importance to determining the optimum capital structure and see the validity of capital structure theories in developing countries like Nepal. The research focused on the deep study and analysis of existing theories, their assumptions and limitations and as well the study of financial statements and reports of banks taken into consideration so it certainly has great significant to the following:

- The study would be of enormous assistance to the executives of joint venture banks on how they should manage the capital structure and gain the leverage benefits and maximize shareholders' wealth.
- The study will also be fruitful to those interested person, scholars, students, teachers, civil society, stakeholders, businessmen and government for academically as well as policy perspectives regarding optimal capital structure.
- Furthermore, this study can be used as an input to researchers for further study on the determinant of capital structure.

1.6 Limitations of the Study

The study has some limitations. The main limitations found during the study are as follows:

- The study focused only on the capital structure determinants of joint venture commercial banks in Nepal.
- Only four determinants of capital structure profitability, size, liquidity and growth have been taken into consideration to conduct the study.
- Only fourteen years data beginning from fiscal year 2009 to 2022 have been taken into consideration.
- There is ample literature in theories of capital structure including hundreds of empirical studies; this study didn't review all those literatures.
- This study relied on secondary data.
- For quantitative analysis, an excel program was used. Statistical tools like mean, standard deviation, minimum and maximum value analysis, and F-test have been used to examine the data.
- The findings of this study will be applicable only for the joint venture commercial banks in Nepal and may vary from others institutions.

CHAPTER II

LITERATURE REVIEW

2.1 Theoretical review

In this section, various books are reviewed that are written by the different writers that make clear about the conceptual foundation of capital structure. It helps to assess new idea by examining views of different writers and scholars. In this section concept of capital structure, assumptions and definitions, optimal capital structure, business and financial risk, articles, theories of capital structure, approaches of capital structure, factors affecting capital structure are reviewed.

The terms "capital structure" and "financial structure" are frequently and synonymously used in finance literature, there is a technical distinction between the two terms: the capital structure does not include short-term debt or liabilities, whereas the financial structure includes all combinations of equity capital, short-term debt and liabilities, long-term debt and preferred capital. The company can choose from a variety of sources or combinations of sources for its investment project, but ultimately, the question that arises in this context is which source or pairing is best for maximizing the firm's value.

Therefore, it is important to look at the capital structure in terms of how it affects the firm's value. The debt and equity ratio that maximizes the firm's value is the ideal capital structure. In this regard, the capital structure can be viewed in relation to the target capital structure, which seeks to balance risks and rewards in order to increase the firm's value. The riskiness of the firm's earnings stream increases with increased debt use. However, a higher predicted rate of return is typically associated with a higher debt ratio. A higher projected return drives a stock price up and toward equilibrium whereas a larger risk tends to drive a stock price down.

From a global viewpoint, the capital sources for the company can be divided into two main groups: equity and debt. Both of these capitals possess certain innate qualities. On the one hand, equity capital gives investors ownership rights over the company. The company might not be able to use exclusively equity, though, as the cost of new equity would be more expensive than current equity, and as equity carries a higher degree of risk, the higher projected rate would force equity to be sold in the market at a lower price.

The debt capital, on the other hand, gives investors a fixed return and the first claim during the liquidation. The company can gain from debt capital raising in a variety of ways. The first factor lowering the true cost of debt is the fact that interest is tax deductible. Second, if the company does make an extra profit, owners are not required to share it because debt holders are only entitled to a fixed return (the coupon amount). Thirdly, because debt holders lack voting privileges, investors can nevertheless exercise control over an organization while making a smaller initial investment than would otherwise be necessary.

Because of this, the core of capital structure theories can be found between and among equity and debt, two fundamental sources of capital, as well as the interests of three key stakeholders in the company: stockholders, managers, and debt holders, in that order.

2.1.1 Theories of Capital Structure

The financial literature has a wealth of information on capital structure theories. The study by Modigliani and Miller, (1958) has had the greatest impact since it provided the theoretical framework for additional research into the capital structure theory. The ideas and findings made by different financial economists as well as researchers have given fresh perspectives to capital structure theories, most notably by taking into account corporate taxes (Modigliani and Miller 1963); bankruptcy costs (Stiglitz 1972); Myers and Majluf 1984; Myers (1984), Kraus and Litzenberger 1973; Titman 1984); information asymmetries (Ross 1977), agency cost (Jensen and Meckling 1976; Myers 1977; Jensen 1986); personal taxes (Miller 1977). A brief explanation of these theories is provided in this subsection. The independent hypothesis put forth by Modigliani and Miller in 1958 is treated separately. Under the tradeoff hypothesis, taxes, bankruptcy costs, and agency cost issues are addressed and under pecking order theory information asymmetry approaches are dealt.

2.1.1.1 Modigliani and Miller (MM) Model

Until 1958, capital structure theory considered the loose assertions about investors rather than carefully constructed model, which could test by formal statistical analysis. In what has been called the most influential setoff financial paper ever published, Franco Modigliani and Merton Miller (MM) addressed capital structure in a rigorous, scientific fashion, and they set off a chain of research that continues to this day.

The Modigliani and Miller (MM) theory is identical with a net operating income approach. They argue that, in an absence of taxes, a firm's market value and cost of capital remain invariant to the capital structure changes. In their 1958 article, they provide analytically sound and logically consistent behavioral justification in favor of their hypothesis, and reject any other capital structure theory as incorrect.

Modigliani and Miller (MM) in their original position advocate the relationship between leverage and the cost of capital, which is explained by the net operating approach. They make the formidable attack on the traditional position by offering behavioral justification for having the cost of capital remain constant throughout all degree of leverage.

Modigliani and Miller explain their theory based on the following important assumptions:

- Capital market is perfect. All investors have easy access to free information. There are no transaction fees and endless divisions between all securities. The rationality and appropriate behavior of investors are presumptions.
- Subjective random variables serve as a representation of the average future operating earnings of businesses. The expectation of the probability distribution for each investor is taken to be the same. According to the MM picture, the probability distribution of predicted operating profits is expected to have a value equal to present operating earnings for all future periods.
- Firm can be categorized into "equivalent return" classes. All firms within a class have the same degree of business risk. As it is seen later, this assumption is not essential for their proof.
- The absence of corporate taxes is assumed. MM removes this assumption later.

The Modigliani and Miller position is based on the idea that no matter how you divide up the capital structure of a firm is divided among debt, equity and other claims, there is a conservation of investment value. (Rajan and Zingales 1995).

Modigliani and Miller recognized the advantages of personal taxation and developed a capital structure model that incorporated it. To summarize, according to the notion, when there is no corporate income tax and no bankruptcy penalty, a firm's value is constant

with respect to its leverage strategy in an arbitrage-free market: Regardless of how a company is financed, its worth is constant.

2.1.1.2 The Arbitrage Proof:

M-M used an arbitrage proof to support their proportions. They demonstrated that, based on their presumptions, if two businesses only varied in terms of how they are financed and total market value, the investor would buy shares of the lower-valued business and sell those of the higher-valued business until both businesses had the exact same market value. M-M assumed that all firms are in zero growth situations, i.e., EBIT is expected to remain constant and all earnings are paid out as dividends. M-M argues that the total risk of the firm is not altered by changes in capital structure.

The total value of the firm is same as levered or unlevered firm. This hypothesis is supported by arbitrage process. On the basis of arbitrage process M-M conclude that the market value a firm or its cost of capital is not affected by leverage. Thus, the capital structure decision is irrelevant. It does not have any impact on the maximization of market price per share. This implies that one capital structure is as much desirable as the other. Each of the assumptions listed on the beginning of M-M theory is necessary for the arbitrage proof to work. For example- if the companies do not have identical business risk, or transaction costs are significant, then the arbitrage process cannot be involved.

2.1.1.3 The Trade-off Theory (TOT)

The traditional form of the concept may be traced back to Kraus and Litzenberger (1999), who analyzed a trade-off between the dead-weight costs of bankruptcy and the tax-saving advantages of debt. Explaining why businesses frequently use a combination of debt and equity financing is one of the theory's primary objectives. It claims that borrowing money has benefits in terms of taxes and drawbacks in terms of the costs associated with financial hardship, such as bankruptcy costs and non-bankruptcy costs. It was considered that each source of money has its own cost and return, which are related to the firm's earning potential as well as its business and bankruptcy risks.

Target leverage ratios will differ from company to firm due to differences in firm-specific factors. Different financial systems, tax rates, and bankruptcy laws, among other factors, will cause goal ratios to change among nations. According to the principle, businesses

should have larger debt ratios if they have more tangible assets and taxable revenue to preserve. Businesses with more tangible assets, whose value would be lost in a liquidation, should rely more on equity funding. In terms of profitability, trade-off theory predicts that more profitable enterprises would have more debt-serving capacity and more taxable revenue to conceal, implying a greater debt ratio. Firms with significant growth possibilities, according to trade-off theory, should borrow less since they are more likely to value in financial difficulties.

2.1.1.4 Pecking Order Theory (POT)

Myers (1984) was the pioneer who introduced the Pecking order theory of the corporate capital structure which has contributed hugely for many theories and research in the future generation as well for determining the optimal capital structure which has a huge impact in today's corporate world. According to the pecking order principle, corporations will prioritize debt over equity and internal funding over external financing, such as retained earnings. Myers (1984) provides a definition in two sections. The preference for internal funding over external financing is emphasized in the first half of the term, while the preference for debt over equity is clarified in the second. What does "preferring internal financing" mean? Does this imply that the company exhausts all internal funding options before turning to debt or equity? Or does it imply that other factors will remain the same and the company will prioritize internal finance over external ones?

According to Frank and Goyal, (2009), the final two questions generate rigorous and flexible modes, respectively, for assessing the definition's first section. The idea might be easier to test if we apply a strict interpretation. However, assuming a flexible interpretation, any hypothesis testing will be subject to changes in other factors. Due to its reference to the preference of debt over equity, the second portion of POT's definition is much trickier to understand. According to the stringent mode of interpretation, the company will never issue shares if borrowing money is an option (Frank and Goyal, 2009). However, it has become abundantly evident that scholars no longer accept the rigid reading of POT's definition, and more recent publications continue to use the flexible mode.

The question of how a corporation determines its debt capacity now arises. Or what are the signs that indicate the debt boundary? Numerous recent works have employed variables that are frequently used in the testing of trade-off theory to estimate the upper

limit of debt in the pecking order theory. Goyal and Frank, (2009). Starting from the second half of the definition of POT, it could be difficult to tell POT from TOT. The reader may wonder why businesses want to operate in the manner suggested by pecking order theory. Focusing on the benefits and drawbacks of various funding sources can help us respond to the question.

Retained Earnings:

In simple terms, Retained earnings are the percentage of net income that a company invests back into its operations. It is at top of preference in pecking order theory. If a business chooses to finance their business with retained earnings, then there are bound to be certain advantages and disadvantages which will be studied in this section.

Debt:

Debt is the term used to coin a company's borrowing, and as per the pecking order preference theory, it lies between retained earnings and equity. Similar to retained earnings, debt has pros and cons.

Advantages of Debt:

- Debt provides a tax shield because interest and other debt costs are tax deductible.
- Debt issuance reduces shareholders' holdings in the company, which helps lessen the agency issue.
- Debt repayments alert management to the need to create enough cash flow to meet the firm's creditors' financial commitments.

Disadvantages of Debt:

- High debt can lead the company to bankruptcy and financial distress.
- Unlike retained earnings, it is difficult to get.
- In situations like underinvestment and overinvestment, the issuing of debt can lead to conflicts of interest between creditors and shareholders.

Equity:

To raise fund for the company the stock issued by the company can be termed as Equity. The total stock sold by the company is shown as equity in capital structure.

If we examine the benefits and drawbacks of retained earnings, debt, and equity, we can quickly see that, according to the pecking order theory's order of selection, the advantages

of each succeeding tier offset the drawbacks of the preceding one. It follows that the drawbacks of retained earnings are the benefits of debt, the benefits of debt are the drawbacks of equity, and a few of the disadvantages of equity are the benefits of retained earnings. According to the pecking order concept, this process is circular, with each source of funding responding to the harm caused by the previous source.

2.1.1.5 Agency Theory

The agency theory of capital structure is based primarily on conflicts between managers and shareholders, because managers operate primarily for their own gain, whereas they are required to act for the interest of shareholders. With these steps, shareholders will be deterred from the managers' part by monitoring and controlling, but to what degree will this monitoring and regulating continue given how expensive it is. This agency theory leads to the capital structure pecking order hypothesis. Dividend payments to shareholders lower the resources under managers' control, so reducing manager authority, and there is a high likelihood of incurring capital market monitoring for the purpose of fresh capital financing. Managerial incentives, rather than optimal size, are one of the reasons of business expansion.

According to agency costs theory, a firm's capital structure is defined by agency costs, which include the expenses for both debt and equity issues. The costs associated with an equity issue may include:

- Cost associated with the principal (the equity holders) monitoring expenses
- Cost associated with the agent (the manager) bonding expenses
- Reduced welfare as a result of the agent's decisions deviating from the ones that helps to maximize the principal's welfare.

Furthermore, debt enhances the owner-motivation managers to engage in high-risk initiatives that give large profits to the owner-manager but raise the possibility of failure, which the debt holders must share if it is realized. If debt holders anticipate this, a greater premium will be required, increasing debt expenses. The agency costs of debt thus include the opportunity costs connected with the impact of debt on the firm's investment decisions; bond monitoring and bond expenditures by both bondholders and the owner-manager; and the expenses associated with bankruptcy and restructuring.

According to this theory, the choice of a firm's capital structure indicates insider information to outside investors. Further, it also says that asymmetric or incomplete information in organizations makes it difficult for lenders to appropriately estimate the amount of risk. Managers are driven to transmit insider information about a firm's worth to the public stock market, and their inclination or willingness to execute costly capital structure rearrangement reform programs serves as a verified signal of this information. Dividend signaling models show that managers raise dividends only when they are certain that greater payouts can be sustained while generating higher subsequent cash flow(Ibrahim 2014).

Zhao, Barry and Karchova, (2008) conducted research to find whether these capital structure theories could be used to help agricultural businesses. The application of the pecking order theory and the signaling theory to farm companies is investigated in this research. The findings suggest that farm enterprises adhere to both the pecking order theory and the signaling theory. The pecking order hypothesis provides the financing order for agricultural enterprises based on the premise of asymmetric knowledge, implying a negative link between their cash flow and leverage. Meanwhile, signaling theory recommends a farm's finance strategy, which means that high-quality farms seek to assist capital growth by providing various signals to potential lenders.

2.1.1.6 The Market Timing Theory

According to this capital structure hypothesis, companies schedule their equity issuance so that new shares are issued when the stock price appears to be overvalued and they buy back their own stock when the stock price appears to be undervalued. As a result, changes in share prices disrupt the firm's capital structure. Two types of equity market timing can explain similar capital structure dynamics. Economic mediators are assumed to be balanced. When favorable information is released, firms are supposed to issue equity promptly, which removes the information asymmetry problem between shareholders and management, as well as external investors. Share prices fall as a result of this. As a result, businesses create suitable scheduling opportunities with which they are compatible. Second, the notion suggests that economic agents are illogical. As a result, there is a time-varying mispricing of the company's stock. Because management is not supposed to accurately estimate stock returns, the second argument of market timing does not require

market inefficiency. Managers believe they can time the market, according to the research, but they cannot tell the difference between mispricing and asymmetric information market timing. "A company's capital structure is obstinately affected by equity market timing" (Baker and Wurgler, 2002).

Baker and Wurgler looked at how the historical market-to-book equity ratio affects capital structure. They also come to the following conclusions:

Firms with low leverage tend to raise funds when their valuation is high, while high leverage firms tend to raise funds when their valuation is low.

Market valuation volatility has a significant impact on capital structure decisions, reducing the likelihood of bankruptcy.

2.2 Empirical Review

After the MM works in 1958, a large number of empirical works were conducted. Early research focused on the MM Hypothesis. The factors that determine capital structure have been the focus of research since the 1970s. Many researchers have focused their attention on this subject as such there have been many studies from diverse perspective, which are discussed and analyzed in this section, many international and national study are also analyzed briefly to scrutinize their relevance and authenticity.

Rajan and Zingales (1995) used an analysis of public company financing decisions from the G-7's main industrialized nations to look into the factors that influence capital structure choice. From 1987 to 1991, a total of 4557 non-financial enterprises were used in their cross-sectional analysis. They investigated the level of leverage in various nations using various leverage measurements. As in past research, they concentrated on four factors—tangibility of assets, investment possibilities (growth), business size, and profitability—as predictors of capital structure. The authors of the study discovered that leverage was negatively correlated with growth potential and profitability and favorably correlated with the tangibility of assets and size. Italy was the exception, as none of these figures applied there. They also noticed that companies with a majority state ownership seemed to have stronger leverage.

Yegon, Cheruiyot, Sang and Cheruiyot (2012) used panel data derived from the financial statements of firms registered on the Nairobi Stock Exchange to explore the link between

capital structure and company profitability in Kenya's banking industry. The study's reference period spans eight years, from fiscal year 2004 to 2012. Because various businesses have distinct funding needs, the research is confined to the banking industry. The study's conclusions indicate that short-term debt and profitability are significantly positively correlated. This suggests that short-term debt is less expensive, making it the ideal type of debt to add to the capital structure because doing so will increase profits. This shows that for profit-motive organizations the preferred form of financing is short-term debt.

Bourke (2015) analyzed the performance of banks in twelve countries or territories in Europe, North America and Australia. The data collected were analyzed using both descriptive and regression analysis statistics. This study examined the internal and external determination of profitability. The study used multiple regression model represented by Ordinary Least Square (OLS) as a technique to examine the impact of financial leverage on the financial performance of the selected banks. The results parallel those in domestic U.S. studies and provide some support for the Edwards-Heggstad-Mingo hypothesis of risk avoidance by banks with a high degree of market power. The study found that debt ratios are positively related to profitability under the assumption that well capitalized banks may enjoy access to the cheaper and the less risky sources of funds.

Gleason, Mathur and Mathur (2015) assessed a study on the interrelationship between culture, capital structure and performance. The study collected the data from retailers in 14 European countries, which were grouped into four clusters. The data collected were analyzed using both descriptive and regression analysis statistics. The major objective of the study was to determine the factors affecting the financial performance. The study used both financial and operational measures of performance and showed that capital structure influenced the financial performance, although not exclusively. The study concluded that high levels of debt in capital structure would reduce the firm's performance. They observed that firm's capital structure has a statistically significant negative effect on a firm's performance.

Timilsina (2019) assessed the factors that influenced capital structure in Nepalese commercial banks. The research was based on secondary data from 16 commercial banks,

totaling 112 observations from 2011/12 to 2017/18. The dependent variables used were total debt to total assets and total debt to total equity, whereas the independent variables are return on assets, bank size, asset tangibility, asset growth, and liquidity. The information was gathered from the yearly reports of the relevant sample bank. The findings showed that while bank size, asset tangibility, and total debt to total assets are all positively correlated, return on assets, liquidity and asset growth are all negatively correlated. Similar to this, asset growth, liquidity, return on assets, asset tangibility, and bank size are negatively correlated with total debt to total equity. It denotes that the total debt to total assets and total debt to total equity ratios would be reduced with stronger asset growth, return on assets, and liquidity. Similarly, the greater the bank's size and the tangibility of its assets, the greater the total debt to total assets. This study showed that return on assets, bank size, and asset tangibility are the most influential elements determining the capital structure of Nepalese commercial banks, whereas asset growth and liquidity are the least influential ones.

Chalise and Adhikari (2021) investigated the influence of capital structure and company size on the financial performance of Nepalese commercial banks. The study used secondary data to examine a sample of 14 commercial banks, including government-owned, joint venture, and private banks, from 2013/2014 to 2018/2019. Regression analysis was used to estimate functions connecting Return on Assets (ROA) and Earnings per Share (EPS) to capital structure and company size indicators (total assets). The findings demonstrated a negative relationship between ROA and EPS and capital structure (debt/equity). However, it revealed a favorable link between ROA and EPS and size (total assets). The findings offered evidence in favor of the use of high-level equity capital in Nepalese commercial banks' capital structures.

Khatri (2024) examined how Nepalese commercial banks' profitability is affected by capital structure and growth. The dependent variables chosen are return on equity and return on assets. The capital adequacy ratio, the debt to equity ratio, the debt to asset ratio, the asset growth, the deposit growth, and the loan to deposit ratio are the selected independent variables. The study is based on secondary data of 12 commercial banks with 108 observations for the period from 2013/14 to 2021/22. The study showed that debt to equity ratio has a negative effect on return on assets. This indicates that a higher debt-to-

equity ratio results in a lower return on assets. Similarly, it demonstrates that return on assets and return on equity decrease with asset growth.

2.2.1 Profitability and capital structure

Berger and Di Patti (2006) revealed that study on capital structure and performance as a new approach to test the agency theory and application to banking industry. The data were taken for the US banking industry and over the period 1989-2003. The result of the study revealed a significantly positive association between profitability and debt to assets ratio. Finally, this study found that U.S. banking industries are constituent with the theory, and results are statistically significant, economically significant, and robust.

Goyal (2011) investigated how capital structure affected the profitability of Indian public sector banks listed on the national stock exchange. The association between EPS, Return on Equity, Return on Assets, and capital structure has been established using a regression analysis. According to the data, there is a link between profitability and short-term debt as indicated by EPS, ROE and ROA. Earnings per share (EPS), return on assets (ROA) and return on equity (ROE), all have a negative correlation with TDC and LTDTTC. Earnings per share (EPS), return on assets (ROA) and return on equity (ROE) has a positive impact on the Assets Growth. Meanwhile, (ROA and EPS) has a positive relationship with the size of the company and ROE has negative relationship with size of the company.

Huang and Pan (2016) conducted a study on the impact of capital structure of China's listed commercial banks on profitability. The study analyzed the annual report data of 13 listed commercial banks from 2009 to 2011 to find out the impact of capital structure of China's listed commercial banks on profitability. The study found significant positive linear relationship with the proportion of the top five shareholders and the proportion of supplementary capital to core capital, return on equity (ROE) has a significant negative linear relationship with the proportion of the largest shareholder, capital adequacy ratio, non-performing loan ratio and loan-to-deposit ratio, also it has no significant linear relationship with the nature of the largest shareholder and asset scale. the impact of capital structure of commercial banks on profitability are mainly reflected in two aspects: on one hand, there is a direct impact on the profitability by affecting the cost of capital; on the other hand, there is an indirect impact on the profitability by affecting governance structure.

Bolarinwa and Adegboye (2020) investigates the determinants of capital structure and the speed of adjustment of capital structure decisions of Nigerian firms. The paper adopts three methods: system GMM, difference GMM and stochastic frontier analysis (SFA). He measured profitability as return of assets (ROA). For this research, the authors relied on firm-level data from 107 companies that are listed on the Nigeria Stock Exchange (NSE). This data is managed by Bureau van Dijk and is sourced from the Osiris database that contains information on listed firms from around the world. All the variables used in the study are denoted in US Dollars. The research period spans from 2005 to 2018. The sample of firms was selected from different industries, including materials, consumer staples, information technology, energy, industrials, telecommunication services, utilities, consumer discretionary, healthcare, and real estates. The study's findings revealed interesting patterns regarding the use of debt instruments by firms. Highly profitable firms tend to adopt fewer debt instruments, while new and emerging companies heavily rely on debts for survival. When examining the profitability indicator, Return on Assets (ROA), the empirical results demonstrated a significant and negative effect on Capital structure. This suggests that Nigerian firms should reconsider their strategies and reduce the proportion of total debt in their capital structure. The results align with the pecking order theory, thus validating the hypothesis.

Molla (2022) researched on the Bangladesh banks. For the empirical study that examined the relationship between capital structure and the performance of listed banks in Bangladesh, the researcher used panel data from 2016 to 2020. The results of this study, which examined the relationship between bank performance and leverage level using the Panel Corrected Standard Error (PCSE) model, revealed that the capital structure component of total debt has no statistically significant impact on ROA, ROE and EPS but it has a significant positive impact on the performance of banks measured by price earning ratio. Furthermore, this analysis finds no relationship of long term debt and total debt with the EPS. This shows a connection between long-term debt and the stronger achievement of banks listed in Bangladesh Dhaka Stock Exchange. The analysis of the impact of capital structure on the performance of all Bangladeshi banks is the first step in this study.

2.2.2 Size and capital structure

To investigate the dynamics involved in determining the capital structure of Ghanaian banks, Amidu (2010) conducted a study on the determinants of capital structure of banks in Ghana. The Bank of Ghana, the nation's central bank, regulates all the banks in the sample. 19 banks in all met the criteria for this investigation. The Bank of Ghana was consulted for the statistics. The suggested time frame of sample was between 2001 and 2006. The study considered three dependent variables: leverage, short-term leverage, and long-term leverage the portion of the bank's total debt that is repayable within a year is referred to as short-term debt. Deposits and current accounts receivable within a year are included in short-term debt. The entire amount of debt held by the bank that can be repaid over a longer period is its long-term debt. Total debt divided by total capital results in leverage (LEV). The total short-term debt divided by the total capital is the short-term debt ratio (SHORT), while the total long-term debt divided by the whole capital is the long-term debt ratio (LONG). The panel data methodology was used to carry out the investigation. Panel data is a technique for identifying effects that are just not observable in pure cross-sections or pure time-series investigations. It entails aggregating measurements on across-section of units over multiple time periods. Because each variable has a double subscript, the panel regression equation differs from a typical time-series or cross-section regression. Bank size seems to allow banks to operate with less capital and, at the same time, engage in more lending. The findings indicate an adverse relationship between size and long-term debt. This means that smaller banks typically rely on long-term debt for their financing needs because they have less access to the equity capital market. Short-term debt is positively related to bank size, growth and corporate tax. Larger banks are more diversified and hence have lower variance of earnings, enable them to manage high debt ratios. The providers of the debt capital are more willing to lend to larger banks as they are perceived to have lower risk levels.

Woldemikael Shibr (2018) conducted a study to examine the relationship between leverage and determinants of capital structure decision and to explore which capital structure theory is applicable in commercial banks in Ethiopia. He uses profitability, tangibility, growth, risk, size and liquidity as a factor that determine the mix of debt equity ratio. The researcher use mixed research methods by combining qualitative and quantitative approach together to achieve the stated objective. The data source for the study is documentary analysis and depth interviews. The study uses eight banks data for

twelve consecutive years (2006-2017). The results of the analysis indicate that profitability, tangibility, liquidity and growth have negative relationship with leverage. Size and leverage has a positive relationship. Another explanation of the positive relationship between size and leverage is that larger banks pay lower cost of funding (Ooi 1999 and Booth et al. 2001). There is no support to identify the level of leverage is affected by risk. The conclusion of the study made by Shibru (2018) is that profitability, liquidity, tangibility and bank size are the major factor to determine capital structure of commercial banks in Ethiopia and the predominant capital structure theory applied in Ethiopian banking industry is pecking order theory.

Pervin and Nowreen (2021) conducted a study on Determinants of Capital Structure of Commercial Banks in Bangladesh Listed in the Dhaka Stock Exchange Limited. The researcher used data of 30 private commercial banks in Bangladesh listed in the Dhaka Stock Exchange (DSE) Limited over a period of 10 years from 2010 to 2019. The research is done through econometric procedure in estimating the relationship between bank's capital structure and its key determinants. The ordinary least square (OLS) technique is used to obtain the numerical estimates of the coefficient that measures the extent of impact of the determinants on the capital structure of banks. The study reveals that capital structure is significantly and negatively associated with size of the banks. The positive relationship between leverage and profitability implies that profitable firms generally have less amount of leverage. Usually, profitable firms have the ability to finance their growth internally by using retained earnings. The study also recommends significant negative relationship between debt level and size, demonstrating that with the increase in total assets, dependence on leverage will be lower. Due to fluctuation in profitability, banks may face risk that may lead them to finance more with leverage. Liquidity, age, tangibility and asset growth demonstrate no significant impact on the capital structure of banking industry in Bangladesh.

2.2.3 Liquidity and capital structure

Sharma and Paul (2015) explored the relationship between liquidity of a firm's equity and its capital structure where he noted that firms with more liquid stocks benefit from lower costs of equity issuance. Such firms are likely to have a preference for equity in their capital structure. Contrary to the existing literature, he found no empirical evidence for an

inverse relationship between liquidity and leverage among Indian firms. The results are indicative of the fact that due to distinctive features of emerging markets, namely, less sophisticated capital markets, higher information asymmetry concentrated ownership, constrained access to debt and prevalence of family-owned business; there are other more significant determinants of capital structure that subsume the explanatory power of liquidity variables. High stock liquidity decreases issuance costs thereby decreasing the cost of capital and enhancing firm value. Firms with more liquid equity are likely to show preference to raise capital through equity over debt issuance. Therefore, firms those have more liquidity are expected to have relatively less leverage in their capital structure.

Ghassemi and Ab Razak (2016) investigated the effect of liquidity on the capital structure among the 300 listed companies in the main market of Bursa Malaysia from 2005 to 2013 fiscal years. Pooled OLS was applied to investigate the impact of liquidity ratios on different Debt ratios. Liquidity of a company, which was the independent variable of this study, was measured by two common ratios which are: quick ratio and current ratio. Additionally, the DE and DT ratios represented the capital structures based on the short-term, long-term and total debt. The results showed that all the measures of liquidity have significant impacts on all the proxies of leverage. According to the results, Leverage is positively impacted by the Quick ratio, but negatively by the Current ratio. Firms preferred to use less debt in capital structure after the year 2008; although they tend to have more liquidity in their assets Furthermore, compared to long-term debt, short-term debt is more affected by liquidity.

Saif-Alyousfi (2020) analyzed the factors affecting capital structure using a dataset of Malaysian companies. Over the period 2008-2017, this study examined 8,270 observations from 827 listed firms on the Malaysian stock market. Based on data collected from DataStream and World Bank databases, a two-step difference and system dynamic GMM estimator was used to estimate the model. The two-step method GMM for firms in Malaysia demonstrates that the coefficients of liquidity are significant and negative in all regressions at the 1% level. This shows that Malaysian businesses with greater liquidity have a reduction in debt. This might be because the companies were compelled to look for alternative sources of funding because they couldn't meet their short-term obligations. The findings of this study align with agency theory, which posits that in situations where agency costs related to liquidity are high, external creditors tend

to limit the availability of debt financing (Myers and Rajan, 1998). These results are also consistent with pecking order theory and supported by previous empirical studies. Consequently, the overall hypothesis was confirmed, suggesting a significant relationship between the firm's liquidity and its capital structure. These results contribute to a deeper understanding of how liquidity considerations play a crucial role in shaping a firm's financing decisions on capital structure.

Bolarinwa and Adegboye (2022) used the ratio of current assets to current liabilities to measure liquidity. The study explores the influence of liquidity on the capital structure decisions of Nigerian firms. The coefficient analysis reveals a significant negative impact on total debt, indicating that these firms face difficulties in meeting short-term financial obligations and liabilities. As a result, they are compelled to seek alternative financing sources. The pecking order idea is supported by the discovery. Additionally, the long-term debt model's positive association between leverage and liquidity demonstrates that total and short-term debt policies are more likely to be encouraged by liquidity than long-term debt. This is due to the fact that these companies do not have plans to pay off their debts and short-term financial responsibilities. In order to avoid dividing cash for short-term financial obligations, long-term debt policy pushes businesses to be more liquid. Furthermore, this supports the pecking order theory's contention that highly liquid firms frequently prefer to employ shareholders' funds rather than debt to achieve their liquidity goals.

2.2.4 Growth rate and capital structure

Baral (2004) explored determinants of capital structure of financial institutions in Nepal Stock Exchange as of July 2003. He provided evidence that size of the financial institutions has statistically significant influence on financial leverage which is consistent with the theoretical relation explained by the bankruptcy costs theory. He also found growth rate has positive relationship with leverage ratio suggesting high significant coefficient of relation postulated by pecking order theory. Baral further observed that financial institutions do not care of their debt service capacity but do care about the expansion of their businesses.

Diaz (2017) conducted a study on various factors that influences the capital structure. Thirty-one banks data were collected from the period of 2009 to 2014. Growth rates

shows its negative impact on small banks group, assuming that small Vietnamese banks mostly use their profit for their investment rather than borrowing from external sources, which actually supports the Pecking order theory. Moreover, macroeconomic factors like stock market and economic conditions also have important influence on small-sized banks group. The study concludes that small banks tend to be more sensitive to every change of macroeconomic factors. In economic booms, small banks get more profit than usual, so they can utilize these profits for future investments, because this is the cheapest capital source. Furthermore, with a chance of accessing low interest capital in good economic condition, small banks can seize this opportunity to absorb a controllable amount of debt to increase their profit. The regression coefficient of the growth rate variable is negative under the RE model, which is similar with the all bank group result. However, this result supports the studies of Barclay et al. (2006), and Pandey (2001), which explained that when firms foresee the potential growth from their investments, companies prefer using their own capital over funds coming from creditors to avoid decisions being affected by creditors. This explanation is also related to the Agency cost theory. Thus, this paper suggests that banks should avoid borrowing too much money when experiencing a greater degree of profitability; because as Mayers (1977) put it, sometimes higher profit leads to higher risk due to the greater uncertainty connected with expansion.

Sheikh and Qureshi (2017) defined growth as the changes in the total assets compared to previous year divided by the total assets of the year. They researched the factors that affects the capital structure of Pakistani Islamic commercial banks. The sample is a panel data since it includes information from several banks and across time. As a result, they estimated the impacts of bank-specific variables on book leverage (a proximate measure of capital structure) of conventional and Islamic commercial banks using panel data approaches (i.e., pooled ordinary least squares [OLS], fixed effects, and random effects). The pooled OLS works best in a simple situation where there are no specific effects for particular banks or time periods. The fixed effects method maintains constant slope parameters across all banks and time periods while allowing variation in intercepts for each bank. The random effects method, on the other hand, makes the assumption that variance amongst banks is random and unrelated to explanatory factors. Researchers found that growth and book leverage had a bad association in their study. Notably, both

the fixed effects method and the random effects method showed this negative association to be statistically significant.

Pervin (2022) studied the determinants of Capital Structure of Commercial Banks in Bangladesh Listed in the Dhaka Stock Exchange Limited. The study attempts to identify the determinants and analyze their impact on capital structure of commercial banks in Bangladesh. For the study purpose, 30 private commercial banks data listed in the Dhaka Stock Exchange (DSE) Limited over a period of 10 years from 2012 to 2021 were used. The research is done through econometric procedure in estimating the relationship between bank's capital structure and its key determinants. The ordinary least square (OLS) technique is used. Growth exhibits no significant influence on the capital structure of the banks in Bangladesh. Profitable firms have the ability to finance their growth internally by using retained earnings. Moreover, less profitable firms may not have such alternatives that may force them to go for debt financing. The study also recommends significant negative relationship between debt level and size, demonstrating that with the increase in total assets, dependence on leverage will be lower.

2.3 Research Gaps

In this chapter various research done on the topic of determinants of capital structure decision are reviewed. The classic irrelevance hypothesis of Modigliani and Miller (1958) was the starting point for this chapter's analysis of the research on the factors that influence capital structure decisions. However, a number of theoretical frameworks, including static trade-off theory, agency theory, and pecking order theory, have been developed to explain the firm's capital structure by relaxing the theory of Modigliani and Miller's (1958) assumptions of ideal capital markets.

The static trade-off theory hypothesizes that, while leaving the firm's assets and investment goals constant, the optimal debt ratio for a company is defined by a trade-off between the cost of bankruptcy and the tax benefits of borrowing. Pecking order theory, on the other hand, is an additional aspect of capital structure theories. This theory states that a firm's desire to finance future investments determines capital structure as it seeks the fund internally i.e. retained earnings at first then low-risk debt, and lastly equity. Compared to the external financing companies prefer internal financing.

Similar to this, other evidence about the factors that determine capital structure has been shown by the results of earlier empirical studies. For instance, Ayalew (2021), examined the factors affecting banks' capital structures and provided evidence that mispriced capital regulation and deposit insurance were only of second-order importance in determining the capital structures of large U.S. and European banks from 1991 to 2004 and that unobserved time-invariant bank fixed effects ultimately play the largest role in determining banks' capital structures. He also showed that banks' leverage converges to bank specific, time invariant forms. Ngoc, Tien (2021), study on Ghanaian banks, on the other hand, lends credibility to the pecking order theory and static trade-off. Both of these research has received support from the empirical studies conducted in other nations that were reviewed above.

This study contributes to the literature in the following ways. Most of the study related to determinants of Capital Structure are done internationally. However, most of them are done in non-banking and financial sectors. In Nepal also, only few research has been conducted in the financial sector. There is only one study available in web related to the study of determinants of capital structure of joint venture commercial banks in Nepal.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

A research design is a pre-planned structure and technique for obtaining answers to study objectives through data analysis. The general path or strategy by which the research investigation is guided is known as a research design. It acts as a framework for the study, directing the gathering and analysis of data, as well as the research method and sample plan to be used. This research used casual research design to understand the cause and effect relationship among the many variables.

This empirical study makes an effort to evaluate Nepalese business capital structure patterns and factors. It aims to assess and characterize the strength and direction of the relationship between capital structure (the dependent variable) and firm-specific characteristics, specifically through the analysis of profitability, size, liquidity and growth rate (independent variables). This empirical study has followed panel data methodology.

Accordingly, the quantitative method has been used to investigate determinants of joint venture commercial banks in Nepal and the financial data were collected through structured survey of annual reports of respective banks and were analyzed and interpreted using Microsoft Excel and SPSS. This study has used descriptive and causal research design.

3.2 Sample and Population

This study is based on secondary sources of data. Regarding secondary data, accounting data of joint venture commercial banks listed in Nepal Stock Exchange Limited (NEPSE) for the period of 2009-2021 have been taken into consideration. The required data have been extracted from annual reports and financial statements of the banks available in their official websites.

Among the firms listed in NEPSE, six joint venture commercial banks have been selected to conduct the proposed study and to counter the fact that such firms do not provide a good platform for the study of capital structure and as well financial firms have to comply

with very stringent legal requirements pertaining to their financing (Ozkan, 2001; Gaud 2005).

Therefore, the sample contains the whole population of joint venture commercial banks. The data of the sample period are then collected from their official websites. As a result, this study is based on 6 joint venture commercial banks and 96 observations. Table 3.1 summarizes the sample firms, sample duration and the number of observations.

Table 3. 3

List of Sample Firms, Sample Duration and Number of Observations

S.N.	Name of Banks	Sample Period	No. of Observation
1	Everest Bank Ltd.	FY 2008/09 - 2021/22	14
2	Himalayan Bank Ltd.	FY 2008/09 - 2021/22	14
3	NABIL Bank Ltd	FY 2008/09 - 2021/22	14
4	Nepal SBI Bank Ltd.	FY 2008/09 - 2021/22	14
5	NMB Bank Ltd.	FY 2008/09 - 2021/22	14
6	Standard Chartered Bank Limited	FY 2008/09 - 2021/22	14

3.3 Data Collection Procedures

The process of preparing and collecting data is referred to as data collection. The goal of data collecting is to gather information to keep track of, make crucial decisions, and pass information on to others. This research relies heavily on secondary data. Annual reports of commercial banks, NRB bulletins and reports, Security Board of Nepal reports and other papers, journals and articles, and commercial bank websites are the key sources of secondary data. Excel is used for data management and cleanup.

The analysis was based on secondary data, which included data collected all 6 Join Venture commercial banks of Nepal's over a fourteen-year period, from 2008 to 2021. By analyzing the facts and information collected and drawing conclusions based on what was learned in various courses and other sources, Finally, suggestions have been given in light of the research's findings and conclusions.

Data on financial performance was obtained directly from the relevant banks. The associated graduate research projects, international journal, relevant website from the internet, and publications are consulted for the production of the literature review. All of the data collected for the study was tabulated, classified, and analyzed using appropriate statistical techniques. The development and content of the instrument are adequately described or cited, and they are sufficiently specific to enable the study's replication.

3.4 Data Analysis Procedure

This section reflects how the analysis in Chapter 4 was carried out in accordance with the specified aims and hypotheses. To understand the results and generalize the findings, certain stages and procedures must be followed when analyzing data. It is concerned with financial and statistical analysis, which is concerned with the comparison and interpretation of available data. This section made use of a variety of financial and statistical techniques.

- **Descriptive statistics:** Descriptive statistics are used to summarize and describe the main features of a dataset. Different items from the balance sheet and other statements are tallied for the data analysis. Their ratios, percentages, means, standard deviations, minimum and maximum and coefficient of variance are then calculated and displayed in tables.
- **Correlation analysis:** Correlation analysis quantifies the strength and direction of the linear relationship between two continuous variables. It involves calculating a correlation coefficient, typically Pearson's correlation coefficient (r), which ranges from -1 (perfect negative correlation) to +1 (perfect positive correlation), with 0 indicating no linear correlation. A positive correlation means that as one variable increases, the other tends to increase, and vice versa for a negative correlation.
- **Regression analysis:** The regression analysis can be used to see the cause-and-effect relationship between the independent and dependent variables. Regression analysis explores the relationship between a dependent variable (DV) and one or more independent variables (IVs). It estimates the equation of a line that best fits the data to make predictions.

3.5 The Model

According to Creswell (2009), research designs are strategies and procedures for studies that cover everything from general hypotheses to specific approaches to data collecting and analysis. Therefore, taking into account the nature of the problem and the study's perspective, this study uses the following regression model to fulfill the purpose described in the preceding section.

Model 1:

$$ER_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 GR_{it} + u_{it} \dots \dots \dots (3.1)$$

Where,

β_0 = Regression Constant with DE

β_1 = Coefficient of Profitability with DE

β_2 = Coefficient of Size with DE

β_3 = Coefficient of Liquidity with DE

β_4 = Coefficient of Growth rate with DE

u = error term,

i = name of bank and

t = time

ER = Equity ratio

ROA = Return on Assets

SZ = Size

LQ = Liquidity

GR = Growth rate

Model 2:

$$LR_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 GR_{it} + u_{it} \dots \dots \dots (3.2)$$

Where,

β_0 = Regression Constant with DT

β_1 = Coefficient of Profitability with DT

β_2 = Coefficient of Size with DT

β_3 = Coefficient of Liquidity with DT

β_4 = Coefficient of Growth rate with DT

u = error term

i =name of bank and

t= time

LR = Leverage ratio

ROA = Return on Assets

SZ = Size

LQ = Liquidity

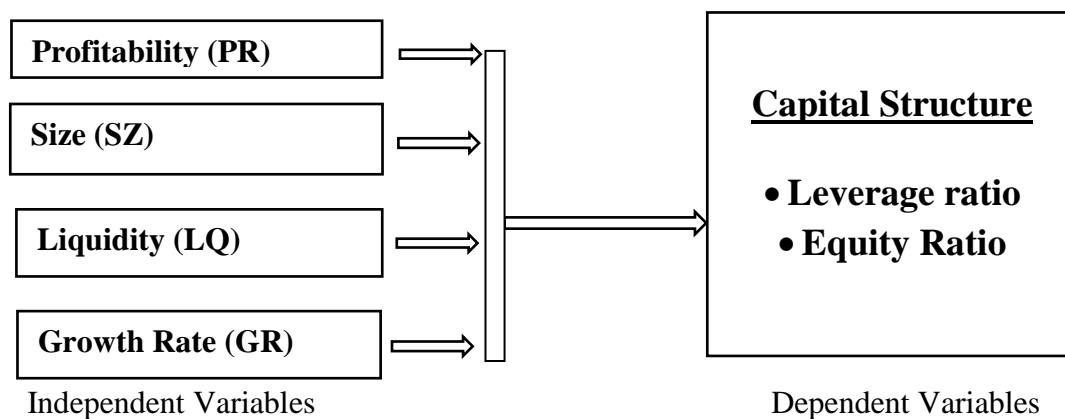
GR = Growth rate

3.6 Conceptual Framework

The theoretical framework is the framework that holds or supports the search study's theory. The theoretical framework explains and introduces the theory that explains why the research problem under investigation occurs. The theoretical framework must demonstrate a comprehension of ideas and concepts pertinent to the research paper's topic and related to the broader fields of knowledge being explored. Different authors employed different variables to find out the result from a journal and article review. The theoretical framework used in this study can be depicted as shown in Figure 2.1.

Figure 3. 2

Conceptual Framework



Most study have used Debt to Equity ratio as the measure of capital structure. However, this study uses Equity ratio and Leverage ratio as determinants of capital structure. In this study, the Equity Ratio and its complement, the Leverage Ratio, are used as proxies for capital structure. The Equity Ratio provides a direct indication of the proportion of a

bank's assets financed through shareholders' equity, while the Leverage Ratio reflects the proportion financed through debt.

This approach is especially relevant in the context of commercial banks, where traditional debt definitions (like in industrial firms) are less applicable due to unique regulatory structures and financial leverage characteristics (Baral, 2004; Berger and Di Patti, 2006). Since banks are highly leveraged by nature and subject to central bank liquidity norms (such as CRR and SLR), this dual-ratio method helps clearly separate equity-financed vs debt-financed assets, offering a more transparent view of their capital structure dynamics.

Furthermore, this method ensured comparability and interpretability in panel regression analysis across six different joint venture commercial banks in Nepal, aligning with the practices seen in regional studies (e.g., Timilsina, 2019; Chalise and Adhikari, 2021).

Independent Variables

By reviewing different literatures, this study has selected 4 independent variables to study the determinants of capital structure which are Profitability, Size, Liquidity, and Growth.

3.7 Variable definition and specification

3.7.1 Capital Structure

The term "capital structure" describes how equity share capital, preference share capital, debentures, long-term loans, retained earnings, and other long-term sources of funding are distributed among the total amount of capital that an organization has to raise in order to operate. Capital structure is the particular combination of debt and equity used by a company to finance its overall operations and growth.

There are 2 proxies being used to measure the capital structure. They are

- Leverage ratio and
- Equity ratio

Leverage ratio:

The leverage ratio is a financial measure that evaluates how much a company depends on debt to fund its operations and assets. It indicates the relationship between a company's debt and equity, providing insights into its financial leverage and risk exposure.

Calculated by dividing total debt by equity, the leverage ratio highlights the level of financial risk a company carries. A higher leverage ratio implies a greater reliance on debt, increasing the risk due to higher interest obligations and potential challenges in repaying debt. Mathematically,

$$\text{Leverage ratio} = 1 - \text{Equity ratio}$$

Equity ratio:

The equity ratio is a financial measure that evaluates the percentage of a company's total assets funded by equity compared to debt. It gauges the extent to which a company relies on equity rather than debt to support its operations and assets. Calculated by dividing shareholders' equity by total assets, the equity ratio indicates the proportion of ownership versus borrowed funds within a company. Higher equity ratios imply greater reliance on equity financing, which typically signifies lower financial risk and enhanced stability. Mathematically,

$$\text{Equity ratio} = \frac{\text{Equity}}{\text{Total Assets}}$$

3.7.2 Profitability

Profitability ratios are a group of financial indicators used to evaluate a company capacity to create profits in relationship to its expenses. Having a higher number than a competitor ratio or the same ratio from a previous period suggests that the company is doing well for most of these ratios. Profitability can be quantified in a variety of ways, however in this study, ROA was used.

Return on Assets

Return on asset is a measure of a company's profitability in relationship to its total assets. The return on assets (ROA) indicates how well management uses its assets to create profits. ROA is expressed as a percentage and is calculated by dividing a company's annual earnings by its total assets. This is sometimes referred to as 'return on investment. Mathematically,

$$ROA = \frac{NPAT}{\text{Total Assets}}$$

Where, ROA = Return on Assets

NPAT = Net profit after tax

3.7.3 Firm size

Natural logarithm of total book value of assets is used to calculate firm size. In this study, we estimate the firm size using the book value of all assets.

Mathematically,

$$Firm\ Size = \ln_{TA}$$

Where, TA= Total Assets

3.7.4 Liquidity

The current asset-to-current-liability ratio is defined as the ratio of liquidity. Liquid companies can meet short-term obligations. Firms with greater liquidity are likely to increase their leverage, resulting in a positive connection. Because the current ratio in a company's financial records is a measure of liquidity, a company with a greater current ratio will have better performance and will be able to deal with any short or long-term financial issues. Weak enterprises, on the other hand, have a low current ratio because they have less liquidity.

However, in this study, the bank ratio Cash Reserve Ratio (CRR) has been used as a measure of liquidity because it is the most reliable measure to measure the liquidity of a bank. CRR is the predetermined amount of cash that banks and other financial institutions are required to hold in the Central Bank as reserves.

Mathematically,

$$Liquidity = CRR$$

3.7.5 Growth Rate

GDP, turnover, wages, and other values' growth rates indicate how much something has changed over time (month, quarter, and year). This study uses growth to measure the change in total assets over a year as the proxy.

Mathematically,

$$Growth\ Rate = \frac{Total\ Assets_n - Total\ Assets_{n-1}}{Total\ Assets_{n-1}}$$

Table 3. 4*Variable Definitions*

Variables	Proxies
Capital Structure	$Equity\ ratio = \frac{Equity}{Total\ Assets}$ and Leverage ratio = 1- Equity ratio
Profitability (PR)	$ROA = \frac{NPAT}{Total\ Assets}$
Size (SZ)	$Firm\ Size = \ln_{TA}$
Liquidity (LIQ)	$Liquidity = CRR$
Growth Rate (GR)	$Growth\ Rate = \frac{Total\ Assets_n - Total\ Assets_{n-1}}{Total\ Assets_{n-1}}$

CHAPTER IV

RESULTS AND DISCUSSION

4.1 Structure and Pattern of study variable

This section fulfills the major objective of the study by analyzing the bank's capital structure determinants indicators 2009 to 2022 for the period of 14 years. It studies the structure and pattern about the dependent variable and independent variables such as Firm Size, Growth rate, Liquidity and Profitability. It analyzes the structure and pattern of determinants of capital structure.

4.1.1 Structure of ROA of Nepalese Joint Venture Commercial Banks for the Period of 2009 to 2022

Table 4.1

Structure and pattern of ROA of Joint venture Nepalese Commercial Banks for the Period of 14years

Year	EBL	HBL	NABIL	NMB	SBI	SCB	mean	st dev	CV	Max	Min
2009	1.73	1.91	2.55	0.82	1.05	2.56	1.77	0.73	0.41	2.56	0.82
2010	2.09	1.19	2.48	0.4	1.03	2.7	1.65	0.91	0.55	2.7	0.4
2011	2.1	1.91	2.33	1.21	1.01	2.55	1.85	0.62	0.33	2.55	1.01
2012	2.11	1.76	2.8	1.39	0.83	2.8	1.95	0.78	0.4	2.8	0.83
2013	2.39	1.54	3.25	0.28	1.19	2.67	1.89	1.09	0.58	3.25	0.28
2014	2.25	1.3	2.89	1.43	1.5	2.51	1.98	0.66	0.33	2.89	1.3
2015	1.85	1.34	2.32	1.4	1.7	1.99	1.77	0.37	0.21	2.32	1.34
2016	1.61	1.94	2.32	1.92	2	1.98	1.96	0.23	0.12	2.32	1.61
2017	1.72	2.03	2.7	1.82	1.68	1.84	1.97	0.38	0.19	2.7	1.68
2018	1.97	1.67	2.61	1.8	1.97	2.61	2.11	0.41	0.19	2.61	1.67
2019	1.94	2.21	2.11	1.83	1.94	2.61	2.11	0.28	0.13	2.61	1.83
2020	1.42	1.79	1.58	1.09	1.77	1.71	1.56	0.27	0.17	1.79	1.09
2021	0.89	1.68	1.71	1.32	0.7	1.22	1.25	0.41	0.33	1.71	0.7
2022	1.13	1.09	1.27	1.35	1.07	1.83	1.29	0.29	0.22	1.83	1.07
mean	1.8	1.67	2.35	1.29	1.39	2.26	-	-	-	-	-
st dev	0.42	0.34	0.54	0.51	0.45	0.48	-	-	-	-	-
CV	0.42	0.33	0.54	0.49	0.44	0.47	-	-	-	-	-
Min	0.89	1.09	1.27	0.28	0.7	1.22	-	-	-	-	-
Max	2.39	2.21	3.25	1.92	2	2.8	-	-	-	-	-

The Table 4.1 provides the Return on Assets (ROA) data for six joint venture commercial banks from 2009 to 2022. ROA is a measure of profitability, calculated as net income divided by total assets. The data helps in understanding the performance variability among banks over time. SCB and NABIL consistently show higher ROA values, indicating stronger profitability. The table also presents key descriptive statistics like mean, standard deviation (st dev), and coefficient of variation (CV), which offer insight into consistency and volatility. The CV values suggest that NMB and SBI had relatively more volatile profitability, while SCB was the most consistent. Overall, the ROA trend reflects the banks ability to generate profit from their asset base over time.

Figure 4.1

Average ROA of JV commercial Banks

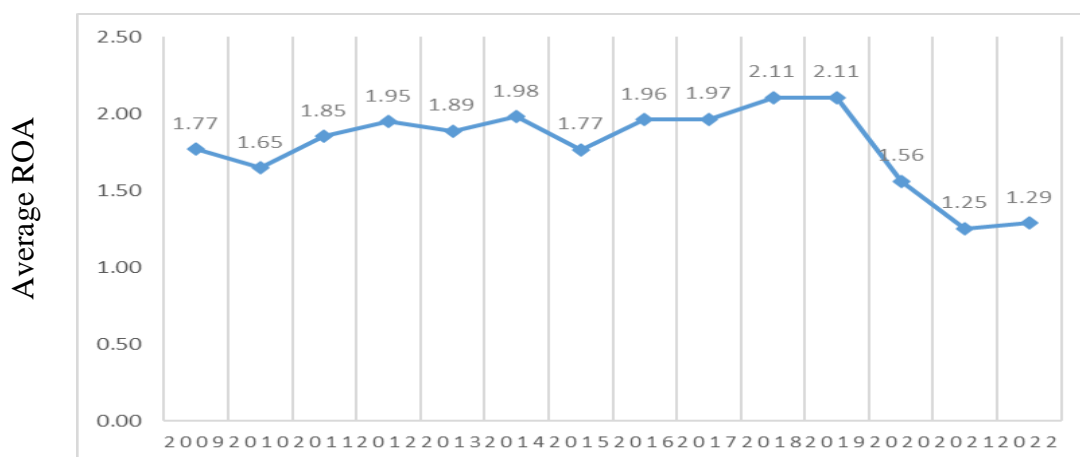


Figure 4.1 illustrates the Return on Assets (ROA) trends for six joint venture commercial banks in Nepal over a 14-year period. The graph shows how efficiently each bank utilized its assets to generate profits. Standard Chartered Bank (SCB) and NABIL Bank consistently maintained the highest ROA throughout the period, indicating strong operational profitability and effective asset management. In contrast, banks like NMB and Nepal SBI exhibited more fluctuation, reflecting variability in operational efficiency and profit generation.

Notably, certain banks experienced dips during specific years, which could correspond to regulatory changes, economic cycles, or internal restructuring. The visual comparison

highlights that despite industry-wide changes, some banks like SCB maintained stable performance, likely due to conservative financial practices and higher equity buffers. This figure complements the table data and reinforces the conclusion that profitability is a key differentiator in capital structure decisions across the banking sector.

4.1.2 Structure and pattern of Size of Nepalese Joint Venture Commercial Banks for the Period of 2009 to 2022

Table 4.2 shows Structure of size of Joint venture Nepalese Commercial Banks for the Period of 2009 to 2022 of 6 banks associated with 78 observations. The firm size using the book value of all assets. The last five column shows the mean, minimum, maximum, standard deviation and coefficient of variance for different commercial banks. The bank's size ranged from a minimum of 10.57 in 2009 to a maximum of 11.35 in 2022. The low standard deviation of 0.24 and CV of 0.02 suggest minimal variability, reflecting a stable and steadily growing size. HBL exhibits a similar trend with an ascending mean size of 11.34. The bank's size varies from a minimum of 10.59 in 2009 to a maximum of 11.34 in 2022. The low standard deviation of 0.22 and CV of 0.02 indicate a consistent and controlled increase in size over the years. NABIL's size demonstrates a gradual rise, with a mean value of 11.62. The bank's size fluctuates between a minimum of 10.64 in 2009 and a maximum of 11.62 in 2022. The standard deviation of 0.27 and CV of 0.02 suggest moderate variability, but overall, the bank's size remains relatively stable. NMB displays a varying size pattern, with a mean value of 10.74. The bank's size ranges from a minimum of 10.12 in 2010 to a maximum of 11.41 in 2022. The low standard deviation of 0.19 and CV of 0.02 highlight a controlled and consistent growth in size. SCB's size remains relatively stable, with a mean value of 10.82. The bank's size varies between a minimum of 10.60 in 2009 and a maximum of 11.09 in 2022.

Table 4.2

Structure and pattern of Size of Joint venture Nepalese Commercial Banks for the Period of 14 years

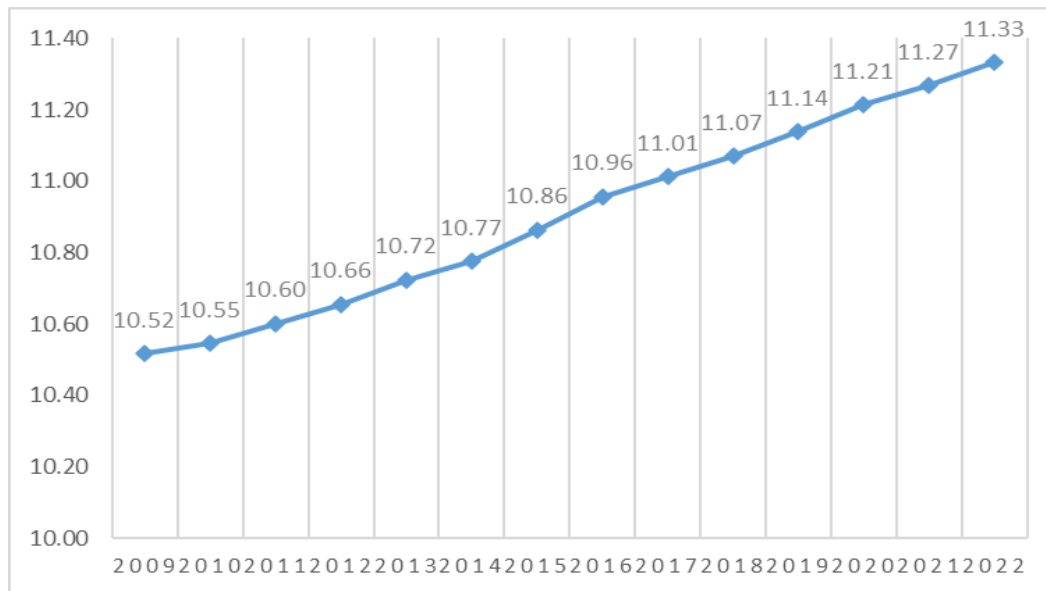
Bank and size											
Year	EBL	HBL	NABIL	NMB	SBI	SCB	mean	st dev	CV	Max	Min
2009	10.57	10.59	10.64	10.2	10.49	10.61	10.52	0.16	0.02	10.64	10.2
2010	10.62	10.63	10.72	10.12	10.58	10.6	10.55	0.21	0.02	10.72	10.12
2011	10.66	10.67	10.76	10.2	10.66	10.64	10.6	0.2	0.02	10.76	10.2
2012	10.75	10.74	10.8	10.27	10.76	10.62	10.66	0.2	0.02	10.8	10.27
2013	10.82	10.79	10.86	10.4	10.81	10.66	10.72	0.17	0.02	10.86	10.4
2014	10.85	10.87	10.94	10.48	10.79	10.73	10.77	0.16	0.02	10.94	10.48
2015	11	10.92	11.06	10.62	10.77	10.81	10.86	0.16	0.02	11.06	10.62
2016	11.06	11	11.1	10.87	10.89	10.81	10.96	0.11	0.01	11.1	10.81
2017	11.07	11.03	11.15	10.94	11	10.89	11.01	0.09	0.01	11.15	10.89
2018	11.16	11.07	11.21	11.05	11.01	10.92	11.07	0.1	0.01	11.21	10.92
2019	11.23	11.12	11.3	11.13	11.07	10.97	11.14	0.12	0.01	11.3	10.97
2020	11.27	11.19	11.38	11.25	11.12	11.07	11.21	0.11	0.01	11.38	11.07
2021	11.33	11.25	11.46	11.36	11.14	11.06	11.27	0.15	0.01	11.46	11.06
2022	11.35	11.34	11.62	11.41	11.18	11.09	11.33	0.18	0.02	11.62	11.09
mean	10.98	10.94	11.07	10.74	10.88	10.82	-	-	-	-	-
st dev	0.27	0.24	0.3	0.46	0.22	0.18	-	-	-	-	-
CV	0.24	0.22	0.27	0.44	0.19	0.17	-	-	-	-	-
Min	10.57	10.59	10.64	10.12	10.49	10.6	-	-	-	-	-
Max	11.35	11.34	11.62	11.41	11.18	11.09	-	-	-	-	-

The Table 4.2 provides insights into the size of various banks from 2009 to 2022, focusing on mean values, standard deviation, coefficient of variation (CV), minimum, and maximum size. EBL demonstrates a consistently increasing size over the years, with a mean value of 10.98. The higher standard deviation of 0.44 and CV of 0.04 indicate a more pronounced variability in size compared to the other banks. SBI showcases a steady increase in size, with a mean value of 10.88. The bank's size fluctuates between a

minimum of 10.49 in 2009 and a maximum of 11.18 in 2022. The low standard deviation of 0.17 and CV of 0.02 suggest minimal variability, reflecting a steady and controlled increase in size.

Figure 4.2

Average Size of JV commercial Ban



The Figure 4.2 visually presents the trends in the total asset size of the selected banks over the 14-year period. The figure clearly shows upward growth trends across all banks, with SCB and NABIL maintaining consistently higher asset sizes. NMB’s sharp incline indicates its strategic expansion phase. The figure supports the interpretation that bank size has grown steadily across the sector, potentially due to regulatory reform, consolidation, or increased market participation.

4.1.3 Structure and pattern of Liquidity of Nepalese Join Venture Commercial Banks for the Period of 2009 to 2022

This Table 4.3 shows Structure of Liquidity of Joint venture Nepalese Commercial Banks for the Period of 2009 to 2022 of 6 banks associated with 78 observations. The bank ratio Cash Reserve Ratio (CRR) has been used as a measure of liquidity. The last five column shows the mean, Year minimum, maximum, standard deviation and coefficient of variance for different commercial banks.

Table 4.3

Structure and pattern of Liquidity of Joint venture Nepalese Commercial Banks for the Period of 14 years

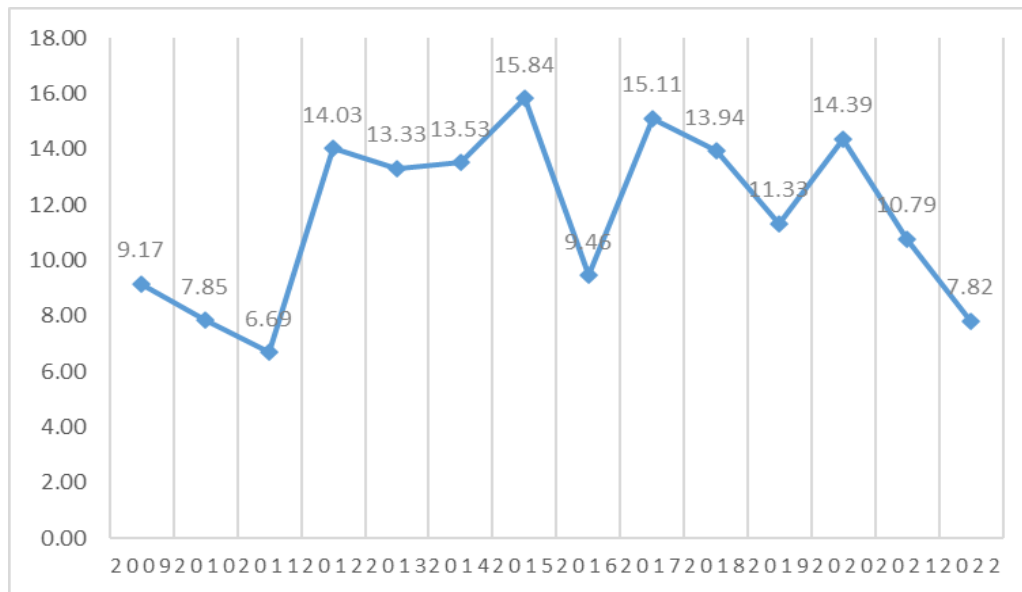
Bank and Liquidity											
Year	EBL	HBL	NABIL	NMB	SBI	SCB	mean	st dev	CV	Max	Min
2009	14.26	6.76	9.03	10.12	6.67	8.18	9.17	2.82	0.31	14.26	6.67
2010	15.53	6.76	3.02	6.02	9.03	6.74	7.85	4.23	0.54	15.53	3.02
2011	9.55	5.75	4.9	6.85	7	6.1	6.69	1.6	0.24	9.55	4.9
2012	17.22	8.72	8.6	18.91	8.33	22.4	14.03	6.23	0.44	22.4	8.33
2013	15.19	6.08	9.32	23.35	9.58	16.43	13.33	6.26	0.47	23.35	6.08
2014	16.91	8.72	11.32	13.72	9.32	21.18	13.53	4.81	0.36	21.18	8.72
2015	24.27	8.32	14.15	13.32	10.92	24.03	15.84	6.75	0.43	24.27	8.32
2016	16.61	6.27	6.77	10.81	8.33	7.98	9.46	3.84	0.41	16.61	6.27
2017	16.52	26.64	10.02	7.72	10.04	19.71	15.11	7.24	0.48	26.64	7.72
2018	17.75	23.05	10.05	6.68	7.18	18.91	13.94	6.87	0.49	23.05	6.68
2019	18.56	26.25	4.78	4.19	6.65	7.52	11.33	9	0.79	26.25	4.19
2020	14.43	31.39	11.2	5.93	8.89	14.49	14.39	8.96	0.62	31.39	5.93
2021	18.15	26.51	3.66	5.66	3.22	7.53	10.79	9.45	0.88	26.51	3.22
2022	6.5	23.48	4.13	5.33	3.05	4.44	7.82	7.76	0.99	23.48	3.05
mean	15.82	15.34	7.93	9.9	7.73	13.26	-	-	-	-	-
st dev	4.14	10	3.4	5.66	2.33	7.01	-	-	-	-	-
CV	4.12	9.69	3.39	5.66	2.31	6.85	-	-	-	-	-
Min	6.5	5.75	3.02	4.19	3.05	4.44	-	-	-	-	-
Max	24.27	31.39	14.15	23.35	10.92	24.03	-	-	-	-	-

The provided Table 4.3 presents a comprehensive overview of the liquidity metrics for several joint venture commercial banks from 2009 to 2022. Each bank is assessed based on crucial indicators such as mean, maximum, minimum, standard deviation, and coefficient of variation. EBL, throughout the specified period, demonstrates a relatively stable liquidity position, with an average value of 15.82. The bank experienced a minimum liquidity value of 6.5 in 2012 and reached its peak at 24.27 in 2015. The standard deviation of 4.14 indicates moderate variability, and the coefficient of variation

(CV) of 0.26 suggests a balanced risk profile. HBL, on the other hand, exhibits fluctuations in liquidity over the years, with a mean value of 10.00. The bank faced its lowest liquidity in 2011 at 5.75, while reaching its maximum liquidity of 31.39 in 2020. The standard deviation of 9.69 reflects a considerable degree of variability, resulting in a CV of 0.97, implying a higher risk associated with liquidity. NABIL displays a mean liquidity value of 7.93, with a minimum liquidity point of 3.02 in 2010 and a maximum of 14.15 in 2016. The standard deviation of 3.39 and CV of 0.43 suggest a moderate level of liquidity variability and associated risk. NMB, with a mean liquidity of 9.90, witnessed a notable peak in 2012 at 23.35 and a trough in 2022 at 4.19. The standard deviation of 5.66 and CV of 0.57 point towards a moderate level of liquidity variability and risk. SBI showcases a mean liquidity of 7.73, with a minimum value of 2.33 in 2021 and a maximum of 10.92 in 2016. The standard deviation of 3.05 and CV of 0.39 indicate a relatively stable liquidity position with moderate variability. Finally, SCB with a mean liquidity value of 13.26, experienced considerable variability, reaching its highest liquidity of 24.03 in 2015 and the lowest of 4.44 in 2022. The standard deviation of 6.85 and CV of 0.52 highlight a higher level of liquidity risk.

Figure 4.3

Average Liquidity of JV commercial Banks



This figure 4.3 shows the fluctuation in CRR across all six banks over time. The relatively stable and higher CRR trend in SCB and NABIL demonstrates a cautious approach toward liquidity management. Conversely, SBI and NMB display greater year-on-year variation. These trends are relevant for analyzing how liquidity levels may influence leverage decisions, as higher liquidity often reduces reliance on external borrowing.

4.1.4 Structure and pattern of Growth rate of Nepalese Join Venture Commercial Banks for the Period of 2009 to 2022

Table 4.4 shows Structure of Growth rate of Joint venture Nepalese Commercial Banks for the Period of 2009 to 2022 of 6 banks associated with 78 observations. the change in total assets over a year is used to measure Growth rate. The last five column shows the mean, minimum, maximum, standard deviation and coefficient of variance for different commercial banks.

Table 4.4

Structure and pattern of Growth rate of Joint venture Nepalese Commercial Banks for the Period of 14 years

Bank and Growth Rate											
Year	EBL	HBL	NABIL	NMB	SBI	SCB	mean	st dev	CV	Max	Min
2009	0.36	0.09	0.18	0.78	0.8	0.22	0.4	0.31	0.77	0.8	0.09
2010	0.12	0.09	0.19	-0.17	0.23	-0.01	0.08	0.14	1.92	0.23	-0.17
2011	0.12	0.09	0.11	0.21	0.21	0.09	0.14	0.06	0.4	0.21	0.09
2012	0.21	0.16	0.09	0.16	0.26	-0.05	0.14	0.11	0.78	0.26	-0.05
2013	0.18	0.12	0.16	0.36	0.12	0.09	0.17	0.1	0.56	0.36	0.09
2014	0.07	0.2	0.19	0.2	-0.06	0.17	0.13	0.1	0.8	0.2	-0.06
2015	0.41	0.13	0.33	0.37	-0.03	0.22	0.24	0.17	0.7	0.41	-0.03
2016	0.15	0.21	0.1	0.8	0.32	0.004	0.26	0.29	1.08	0.8	0.004
2017	0.02	0.07	0.1	0.16	0.27	0.19	0.14	0.09	0.65	0.27	0.02
2018	0.24	0.09	0.15	0.29	0.03	0.09	0.15	0.1	0.7	0.29	0.03
2019	0.17	0.14	0.25	0.21	0.15	0.11	0.17	0.05	0.29	0.25	0.11
2020	0.09	0.17	0.18	0.32	0.12	0.25	0.19	0.09	0.46	0.32	0.09
2021	0.14	0.15	0.22	0.29	0.04	-0.01	0.14	0.11	0.81	0.29	-0.01
2022	0.06	0.22	0.44	0.1	0.11	0.08	0.17	0.14	0.86	0.44	0.06
mean	0.17	0.14	0.19	0.29	0.18	0.1	-	-	-	-	-
st dev	0.11	0.05	0.1	0.25	0.21	0.1	-	-	-	-	-
CV	0.09	0.05	0.1	0.21	0.12	0.09	-	-	-	-	-
Min	0.02	0.07	0.09	-0.17	-0.06	-0.05	-	-	-	-	-
Max	0.41	0.22	0.44	0.8	0.8	0.25	-	-	-	-	-

Table 4.4 illustrates the growth rates of various banks from 2009 to 2022, focusing on mean values, standard deviation, coefficient of variation (CV), minimum, and maximum growth rates. EBL has experienced fluctuating growth rates over the years, with a mean value of 0.17. HBL shows relatively stable growth, with a mean value of 0.14. The bank's growth rates vary between a minimum of 0.05 in 2018 and a maximum of 0.22 in 2014. The standard deviation of 0.07 and CV of 0.50 indicate a balanced level of variability, reflecting a steady but moderately fluctuating growth trajectory. NABIL displays varying growth rates, with a mean value of 0.19. The bank's growth ranged from a minimum of

0.09 in 2013 to a maximum of 0.44 in 2022. The higher standard deviation of 0.14 and CV of 0.74 suggest a more pronounced variability in growth compared to some other banks. NMB has experienced significant fluctuations in growth rates, with a mean value of 0.15. The bank faced a negative growth rate of -0.17 in 2010 and reached a peak of 0.80 in 2016. The low standard deviation of 0.09 and CV of 0.52 suggest a stable and controlled growth trajectory. SCB's growth rates show variability, with a mean value of 0.14. The bank faced a negative growth rate of -0.06 in 2015 and reached a peak of 0.25 in 2022. The standard deviation of 0.10 and CV of 0.72 suggest moderate variability, reflecting a mix of stable and more volatile growth periods.

Figure 4.4

Average ROA of JV commercial Banks

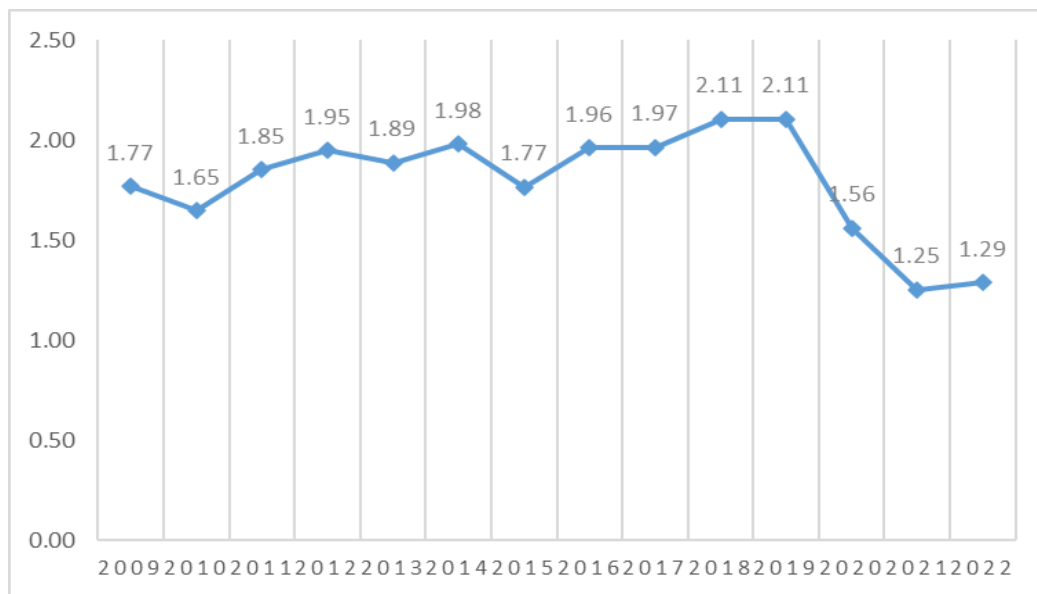


Figure 4.4 represents the average of various JV commercial banks Growth rate from the period of 2009 to 2022. The graph clearly visualizes the variation in annual growth rates across the banks. NMB shows aggressive upward and downward shifts, highlighting volatility. SCB and Everest show more controlled patterns, suggesting risk-averse expansion. The chart is useful in comparing how different growth trajectories might impact each bank's capital structure preferences.

4.1.5 Structure and pattern of Leverage Ratio of Nepalese Joint Venture Commercial Banks for the Period of 2009 to 2022

Table 4.5

Structure and pattern of Leverage Ratio of Joint venture Nepalese Commercial Banks for the Period of 14years

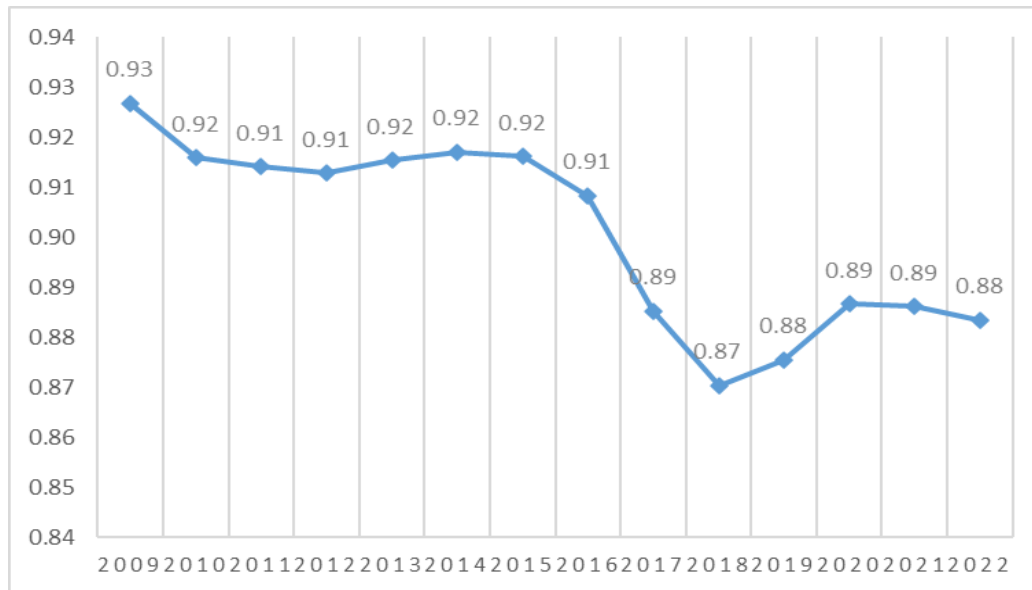
Bank and Leverage Ratio											
Bank	EBL	HBL	NABIL	NMB	SBI	SCB	mean	st dev	CV	Max	Min
2009	0.94	0.92	0.93	0.9	0.94	0.92	0.93	0.02	0.02	0.94	0.9
2010	0.93	0.92	0.93	0.86	0.94	0.92	0.92	0.03	0.03	0.94	0.86
2011	0.93	0.91	0.92	0.86	0.94	0.92	0.91	0.03	0.03	0.94	0.86
2012	0.93	0.91	0.91	0.88	0.94	0.9	0.91	0.02	0.02	0.94	0.88
2013	0.93	0.91	0.91	0.9	0.94	0.9	0.92	0.02	0.02	0.94	0.9
2014	0.92	0.92	0.91	0.92	0.93	0.9	0.92	0.01	0.01	0.93	0.9
2015	0.93	0.92	0.92	0.92	0.9	0.91	0.92	0.01	0.01	0.93	0.9
2016	0.93	0.91	0.91	0.91	0.91	0.88	0.91	0.01	0.01	0.93	0.88
2017	0.9	0.89	0.9	0.88	0.9	0.85	0.89	0.02	0.02	0.9	0.85
2018	0.89	0.88	0.89	0.85	0.88	0.83	0.87	0.02	0.03	0.89	0.83
2019	0.9	0.88	0.88	0.87	0.88	0.84	0.88	0.02	0.02	0.9	0.84
2020	0.9	0.89	0.89	0.88	0.89	0.87	0.89	0.01	0.01	0.9	0.87
2021	0.9	0.89	0.88	0.9	0.89	0.86	0.89	0.02	0.02	0.9	0.86
2022	0.9	0.89	0.87	0.89	0.89	0.85	0.88	0.02	0.02	0.9	0.85
mean	0.92	0.9	0.9	0.89	0.91	0.88	-	-	-	-	-
st dev	0.02	0.02	0.02	0.02	0.03	0.03	-	-	-	-	-
CV	0.02	0.02	0.02	0.02	0.02	0.03	-	-	-	-	-
Min	0.89	0.88	0.87	0.85	0.88	0.83	-	-	-	-	-
Max	0.94	0.92	0.93	0.92	0.94	0.92	-	-	-	-	-

This Table 4.5 displays the leverage ratio for each bank across the study period. Leverage ratio reflects the proportion of assets financed through debt. If we look at the mean then we can see that all the banks have similar data and doesn't have much of a difference with each other. A higher leverage ratio indicates a greater reliance on debt. NMB and SBI display the highest average leverage, while SCB shows the lowest. If we look at the

table then we can see that EBL has higher mean than other banks and CV is high of SCB. Standard deviation and CV figures show how consistently each bank used debt financing. The data implies that some banks are more debt-dependent, which could relate to their risk appetite and capital cost structures.

Figure 4.5

Average Leverage Ratio of JV commercial Banks



This Figure 4.5 illustrates the trends in leverage ratio across the six joint venture commercial banks in Nepal from fiscal year 2009 to 2022. The leverage ratio, representing the proportion of total assets financed through debt (i.e., 1 minus the equity ratio), serves as a key indicator of financial risk and external dependency. As seen in the graph, banks like NMB and Nepal SBI exhibit consistently higher leverage levels, reflecting their greater reliance on debt financing. In contrast, Standard Chartered Bank (SCB) and NABIL maintain relatively lower leverage ratios, indicating a more conservative and equity-focused capital structure. The year-on-year fluctuations in some banks particularly NMB and Everest highlight their aggressive capital structuring and possibly active engagement in growth or credit expansion phases. Meanwhile, the stable patterns observed in SCB suggest strong internal capital reserves and less dependence on external liabilities. This visual analysis supports the quantitative findings that larger and more profitable banks tend to exhibit lower leverage, aligning with the pecking order and trade-off theories of capital structure.

4.1.6 Structure and pattern of Equity Ratio of Nepalese Joint Venture Commercial Banks for the Period of 2009 to 2022

Table 4.6

Structure and pattern of Equity Ratio of Joint venture Nepalese Commercial Banks for the Period of 14years

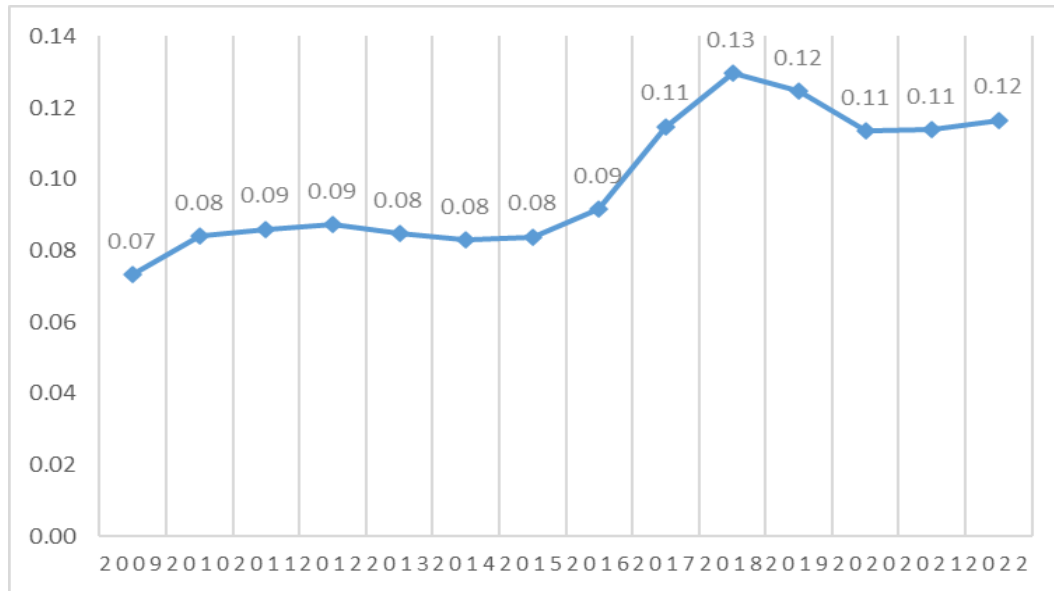
Bank and Equity Ratio											
Bank	EBL	HBL	NABIL	NMB	SBI	SCB	mean	st dev	CV	Max	Min
2009	0.06	0.08	0.07	0.1	0.06	0.08	0.07	0.02	0.22	0.1	0.06
2010	0.07	0.08	0.07	0.14	0.06	0.08	0.08	0.03	0.32	0.14	0.06
2011	0.07	0.09	0.08	0.14	0.06	0.08	0.09	0.03	0.32	0.14	0.06
2012	0.07	0.09	0.09	0.12	0.06	0.1	0.09	0.02	0.26	0.12	0.06
2013	0.07	0.09	0.09	0.1	0.06	0.1	0.08	0.02	0.19	0.1	0.06
2014	0.08	0.08	0.09	0.08	0.07	0.1	0.08	0.01	0.09	0.1	0.07
2015	0.07	0.08	0.08	0.08	0.1	0.09	0.08	0.01	0.11	0.1	0.07
2016	0.07	0.09	0.09	0.09	0.09	0.12	0.09	0.01	0.14	0.12	0.07
2017	0.1	0.11	0.1	0.12	0.1	0.15	0.11	0.02	0.18	0.15	0.1
2018	0.11	0.12	0.11	0.15	0.12	0.17	0.13	0.02	0.17	0.17	0.11
2019	0.1	0.12	0.12	0.13	0.12	0.16	0.12	0.02	0.15	0.16	0.1
2020	0.1	0.11	0.11	0.12	0.11	0.13	0.11	0.01	0.08	0.13	0.1
2021	0.1	0.11	0.12	0.1	0.11	0.14	0.11	0.02	0.13	0.14	0.1
2022	0.1	0.11	0.13	0.11	0.11	0.15	0.12	0.02	0.15	0.15	0.1
mean	0.08	0.1	0.1	0.11	0.09	0.12	-	-	-	-	-
st dev	0.02	0.02	0.02	0.02	0.03	0.03	-	-	-	-	-
CV	0.02	0.02	0.02	0.02	0.02	0.03	-	-	-	-	-
Min	0.06	0.079	0.069	0.08	0.055	0.075	-	-	-	-	-
Max	0.11	0.12	0.13	0.15	0.12	0.17	-	-	-	-	-

This Table 4.6 outlines the equity ratios of each bank from 2009 to 2022. The equity ratio reflects the proportion of a bank's assets financed through shareholders' equity, as opposed to debt. SCB consistently maintains the highest equity ratio, indicating a strong capital base and a conservative financial structure. Conversely, NMB and SBI have the lowest average equity ratios, suggesting a more debt-heavy approach. The coefficient of variation (CV) reveals equity stability over time, where SCB again shows the least

fluctuation. This data is instrumental in identifying which banks are more reliant on equity funding and thus less exposed to leverage risk.

Figure 4.6

Average Equity Ratio of JV commercial Banks



The Figure 4.6 visually compares the equity ratios over the 14-year period. SCB’s consistently high curve indicates prudent capital management, while NMB and SBI show more variability and lower reliance on equity. The diverging trends among the banks reflect differing risk tolerance and capital structuring policies.

4.2 Descriptive statistics

Table 4.7

Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PROFITABILITY	84	0.28	3.25	1.79	0.60
LIQUIDITY	84	3.02	31.39	11.66	6.69
SIZE	84	10.12	11.62	10.90	0.30
GROWTH RATE	84	-0.170	0.800	0.18	0.16

Table 4.7 provides a statistical summary i.e. mean, standard deviation, minimum, and maximum of all key variables used in the analysis: Return on Assets (ROA), Size (Ln Assets), Liquidity (CRR), Growth Rate, Leverage Ratio, and Equity Ratio. It helps in understanding the general behavior and distribution of each variable in the sample of six banks across 14 years. ROA shows moderate profitability. Size indicates a consistent range among the banks. Liquidity (CRR) ranges significantly, implying diverse short-term funding policies. Growth has higher standard deviation, reflecting inconsistent expansion patterns. Leverage and Equity Ratios display a typical inverse pattern, as expected. This table is useful for confirming the normality and scale of each variable before running regression and correlation analysis.

4.3 Correlation Analysis

The correlation Table 4.8 presents the relationships between various financial variables: ROA % (Return on Assets), Liquidity, size, Growth Rate, Leverage ratio and Equity ratio. Starting with ROA %, it shows a negligible positive correlation with Liquidity (0.098) and Size (0.038), but a moderate negative correlation with Growth Rate (-0.197). The correlation between ROA % and the Debt ratios, Leverage ratio and Equity ratio, is weak and almost negligible (-0.019 and 0.025, respectively). Liquidity exhibits minimal correlations with the other variables. There is a slight positive correlation with Size (0.019), while the correlations with ROA %, Growth Rate, Leverage ratio, and Equity ratio are close to zero.

Table 4.8*Correlation Analysis*

S.N		1	2	3	4	5	6
1	Leverage Ratio	1					
2	Equity Ratio	-1.000**	1				
		0					
3	Profitability	0.026	-0.026	1			
		0.814	0.814				
4	Liquidity	-0.042	0.042	0.098	1		
		0.706	0.706	0.377			
5	Size	-.329**	.329**	0.038	0.019	1	
		0.002	0.002	0.732	0.864		
6	Growth rate	0.192	-0.192	-0.197	0.009	-0.068	1
		0.081	0.081	0.073	0.932	0.54	

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

Size demonstrates a notable negative correlation with both Leverage ratio (-0.392) and Equity ratio (-0.323**), indicating that larger-sized firms tend to have lower debt ratios. However, the correlation between Size and the profitability indicator, ROA %, is minimal (0.038). Growth Rate displays a moderate negative correlation with Size (-0.068) and a moderate positive correlation with ROA % (0.226*). The correlation with the debt ratios, Leverage ratio and Equity ratio, is positive but not statistically significant. The debt ratios, Leverage ratio and Equity ratio, exhibit a strong positive correlation (0.942**), suggesting a high level of correlation between these two financial leverage indicators. Additionally, both debt ratios have a significant negative correlation with Size, indicating that smaller firms tend to have higher debt ratios. In summary, the correlation table reveals various associations between financial variables. Notably, profitability (ROA %) is negatively correlated with growth (Growth Rate) and debt ratios, while firm size (Size) shows a negative correlation with debt ratios. The strong correlation between Leverage ratio and Equity ratio implies redundancy, and the significance levels provide insights into the reliability of these correlations. The correlation analysis demonstrates that

profitability is positively associated with the equity ratio ($r = 0.312$, $p < 0.05$) and negatively with Leverage, aligning with the Pecking Order Theory. Similarly, firm size is negatively associated with the Equity ratio and positively with Leverage ($r = 0.276$, $p < 0.01$), consistent with the Trade-Off Theory. Liquidity and Growth show weak, statistically insignificant relationships with capital structure proxies, indicating that these variables may have a limited explanatory role in the capital structure decisions of Nepalese joint venture banks.

4.4 Regression analysis

Table 4.9

Effect of independent variables on capital structure

	Coeff	t-value	Sig.
(Constant)	1.175	12.62	0
Profitability	0.003	0.742	0.46
Liquidity	0	-0.432	0.667
Size	-0.026	-3.057	0.003
Growth rate	0.029	1.749	0.084
Adjusted R square			0.101
F value			3.342
Sig.			0.014

In the Table 4.9 (dependent variable: Leverage Ratio), Size has a significant negative effect (Beta = -0.319, $p = 0.003$), meaning that as bank size increases, leverage ratio decreases implying larger banks tend to rely less on debt. Growth Rate shows a positive but weakly significant relationship ($p = 0.084$). Profitability and Liquidity are statistically insignificant, suggesting they have limited impact on leverage decisions in this sample.

Table 4.10*Effect of independent variables on capital structure*

	Coeff	t-value	Sig.
(Constant)	-0.175	-1.882	0.063
Profitability	-0.003	-0.742	0.46
Liquidity	0	0.432	0.667
Size	0.026	3.057	0.003
Growth rate	-0.029	-1.749	0.084
Adjusted R square			0.101
F value			3.342
Sig			0.014

Table 4.9 and 4.10 presents the results of two multiple regression models, one with Leverage Ratio and the other with Equity Ratio as dependent variables respectively. The independent variables include Profitability, Liquidity, Size, and Growth Rate. Both models yield identical Adjusted R Square (0.101), F-value (3.342), and Significance level ($p = 0.014$), which is statistically significant at the 5% level, indicating that the model as a whole is a good fit for the data.

In the second Table 4.10 (dependent variable: Equity Ratio), the coefficients are logically the inverse of those in the first model, as $\text{Equity Ratio} = 1 - \text{Leverage Ratio}$. Size now shows a significant positive impact (Beta = 0.319, $p = 0.003$), confirming that larger banks rely more on equity. Growth Rate has a negative, weakly significant effect ($p = 0.084$), while Profitability and Liquidity again remain statistically insignificant.

Overall, these results highlight that Size is the most consistent and significant determinant of capital structure among Nepalese joint venture commercial banks, while Profitability, Liquidity, and Growth are not individually strong predictors in this model. The mirror

symmetry of the two models further validates the mathematical relationship between leverage and equity.

4.5 Discussion

The analysis done on this study reveals significant insights into the capital structure behavior of Nepalese joint venture commercial banks over a 14-year period. Profitability, measured through Return on Assets (ROA), consistently showed a strong positive relationship with equity ratio and a negative relationship with leverage ratio. This implies that more profitable banks tend to rely less on external debt and more on internal equity, supporting the pecking order theory. The descriptive statistics and trend analyses also indicate that banks like SCB and NABIL maintained higher ROA and equity levels, suggesting more conservative financial structures.

Profitability, measured through Return on Assets (ROA), emerged as one of the most influential determinants. Both the correlation and regression models support a positive relationship between profitability and the equity ratio and a negative association with leverage. Although the regression coefficients for profitability were statistically insignificant, the direction of the relationship aligns well with the Pecking Order Theory, which posits that firms prefer internal financing through retained earnings over external debt. This was especially evident in banks such as Standard Chartered Bank (SCB) and NABIL Bank, both of which consistently maintained high ROA and equity ratios. These institutions demonstrate that banks with stable and strong profitability profiles are less reliant on external debt and are more likely to operate under conservative capital structures. The relatively volatile ROA patterns observed in NMB and SBI Bank, on the other hand, indicate a reliance on external financing, reflecting potentially aggressive growth strategies that require greater debt exposure.

Turning to firm size, which was proxied by the natural logarithm of total assets, the regression analysis revealed a strong and statistically significant relationship with both leverage and equity ratios. Specifically, size had a significant negative effect on leverage ($\beta = -0.319$, $p = 0.003$) and a corresponding positive effect on the equity ratio ($\beta = 0.319$, $p = 0.003$). This result implies that larger banks in Nepal have greater access to both debt and equity markets, yet may still prefer equity-based financing due to scale advantages, regulatory prudence, and reputational considerations. This observation is consistent with the Trade-Off Theory, which suggests that larger firms, due to lower bankruptcy risk and

better access to capital markets, can afford to optimize their capital structure using a balanced mix of debt and equity. For example, the consistent and stable capital structure of SCB and NABIL can be partly attributed to their institutional size and market dominance.

Liquidity, represented by the Cash Reserve Ratio (CRR), did not show a statistically significant relationship with either equity or leverage ratios in the regression analysis. The correlation analysis also confirmed minimal relationships between liquidity and other variables. This suggests that, within the sample period and bank cohort, liquidity does not appear to be a dominant driver of capital structure decisions. This could be due to Nepal Rastra Bank's strict liquidity requirements, which may standardize liquidity practices across banks and thus dilute its explanatory power in a model focused on inter-bank differences. Nonetheless, banks with higher liquidity such as Everest Bank and Himalayan Bank did not deviate markedly in their capital structure, reinforcing the idea that liquidity management in Nepalese banks may be more a matter of compliance than strategy.

The final independent variable, growth rate, showed weak and inconsistent influence on capital structure. The regression model yielded a coefficient that was not statistically significant ($p = 0.084$), and the correlation matrix also indicated only marginal associations with both equity and leverage. While growth is theoretically associated with higher external financing needs—especially debt—the results in this study suggest that growth alone is insufficient to explain capital structure variation among joint venture banks in Nepal. Instead, growth appears to influence capital structure only when combined with other variables like size and profitability. For instance, NMB Bank, despite experiencing rapid growth in total assets, still displayed a relatively higher reliance on debt, possibly due to limited internal profitability and lower retained earnings. This confirms findings from past research in emerging markets, where growth must be accompanied by internal financial strength to impact capital structure significantly.

In summary, the discussion clearly highlights profitability and firm size as the two most dominant factors affecting capital structure decisions among Nepalese joint venture banks. These findings are consistent with both the Pecking Order Theory and the Trade-Off Theory, validating their partial applicability in the context of Nepal's financial sector. The weak or insignificant roles of liquidity and growth suggest that these variables, while

important operationally, may not serve as reliable predictors for financial structuring decisions in a regulated environment like Nepal's banking industry.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

This study was conducted to examine the determinants of capital structure of joint venture commercial banks in Nepal, a sector that is both strategically important and under-researched in the Nepali context. The capital structure of any institution, particularly in the banking sector, has significant implications on financial performance, risk exposure, and long-term sustainability. With a specific focus on six joint venture commercial banks (JVBS) listed on the Nepal Stock Exchange, NABIL Bank, Standard Chartered Bank, Himalayan Bank, Nepal SBI Bank, Everest Bank, and NMB Bank. This study aimed to explore how Profitability, Size, Liquidity, and Growth impact capital structure decisions, measured through Leverage ratio and Equity ratio.

The study introduced the background and importance of capital structure in the banking sector. It discussed foundational theories such as Modigliani and Miller, Pecking Order Theory, Trade-Off Theory, Agency Cost Theory, and Market Timing Theory. The problem statement highlighted the lack of focused studies on Nepalese joint venture banks, despite their unique financial structure influenced by foreign ownership and cross-border regulations. This provided the rationale to investigate determinants within this niche group. The objectives were set to examine relationships between capital structure and key firm-specific variables. A set of null hypotheses was proposed to test whether these independent variables have any statistically significant influence on capital structure. These hypotheses formed the foundation for subsequent empirical testing.

This study offers an extensive literature review that supported the theoretical framework. Both international and national studies were analyzed to present the current state of knowledge regarding capital structure decisions in banking and non-banking sectors. The theoretical review critically analyzed foundational models including the MM Irrelevance Proposition, Pecking Order Theory, and Trade-Off Theory. The empirical literature pointed to conflicting findings across different geographies, supporting the need for Nepal-specific research. Prior domestic studies (e.g., by Gajurel, Baral, and Timilsina) were limited in scope or not tailored toward JVBS. Thus, a clear research gap was identified, justifying the study's focus.

For this study a panel data approach was adopted using secondary data drawn from annual reports of the selected six banks over a 14-year period (FY 2009–2022). The sample size consisted of 96 firm-year observations. The study employed descriptive statistics, correlation analysis, and multiple regression analysis using SPSS and Excel. The dependent variables, equity ratio and leverage ratio were selected to represent capital structure, while the independent variables included Profitability (ROA), Firm Size (log of total assets), liquidity (CRR), and Growth rate (annual asset growth). The regression models were designed to test each independent variable's effect on both proxies of capital structure. A conceptual framework was developed to link theoretical constructs with empirical variables.

The results of the analysis and discussed the findings in the context of theory and practice. Descriptive statistics revealed that equity ratios among the banks were consistently higher than leverage, indicating a conservative financing strategy across the sector. The correlation analysis demonstrated a strong inverse relationship between equity and leverage, as expected. Profitability had a positive correlation with equity and a negative one with leverage, supporting the Pecking Order Theory. Firm size showed the opposite trend, indicating that larger banks rely more on debt, aligning with the Trade-Off Theory. Liquidity and growth, however, showed weak and statistically insignificant relationships with capital structure, suggesting that these are not dominant factors in capital structuring decisions of JVBs in Nepal. The regression analysis provided further empirical depth. Profitability had a positive but statistically insignificant relationship with equity and a negative association with leverage, which is theoretically sound even if not robust statistically. Firm size showed the strongest and statistically significant effect, particularly on leverage, where a negative coefficient ($\beta = -0.319$, $p = 0.003$) indicated that larger firms prefer higher equity and lower leverage. Liquidity and growth rate remained statistically insignificant in both models, consistent with their weak correlation values.

In summary, the findings suggest that profitability and firm size are the most influential factors in determining capital structure among Nepalese joint venture commercial banks. Liquidity and growth have limited impact, likely due to regulatory constraints and structural uniformity across banks. These results partially validate the Pecking Order Theory (for profitability) and Trade-Off Theory (for size), while offering limited support to Agency or Market Timing theories in the specific context of Nepalese JVBs.

5.2 Conclusion

This study concludes that among the various determinants analyzed, profitability and size play a decisive role in shaping the capital structure of Nepalese joint venture commercial banks. The regression analysis clearly indicates that banks with higher profitability measured by Return on Assets (ROA) are more inclined to use internal equity financing rather than relying on external debt. Similarly, firm size, represented by the logarithm of total assets, which shows a positive relationship with leverage suggesting that larger banks have better access to credit markets and are more capable of handling higher debt levels. These results validate the applicability of both the pecking order theory and the trade-off theory in the context of Nepal's banking sector.

On the other hand, liquidity and growth rate were found to have less consistent or statistically significant impacts on capital structure decisions. The weak influence of liquidity suggests that while regulatory liquidity requirements are important for stability, they do not directly influence banks' leverage or equity choices. Similarly, growth alone does not appear to dictate capital structure unless supported by profitability or institutional size. Overall, the findings provide critical insight into how Nepalese joint venture banks balance their financing mix, reinforcing the need for customized capital structuring strategies that align with institutional performance and market positioning.

5.3 Implications

The findings of this study provide important theoretical implications by reinforcing the relevance of capital structure theories particularly the pecking order and trade-off theories in the context of Nepalese joint venture commercial banks. The positive impact of profitability on equity ratio and the inverse relationship with leverage support the pecking order theory's proposition that firms prefer internal financing. Likewise, the size-related leverage preference aligns with trade-off theory, suggesting that established banks with greater stability and lower perceived risk can support higher debt levels. These insights contribute to the limited academic literature on capital structure behavior within the banking sector in developing economies like Nepal.

From a managerial perspective, the study offers actionable guidance to financial managers of commercial banks. Given the significant role of profitability and firm size in determining capital structure, managers should prioritize internal performance improvements and strategic asset growth to optimize their financing mix. Banks with

consistent profitability can reduce reliance on external borrowing, thereby lowering financial risk. Moreover, maintaining a balance between asset expansion and funding source diversification is crucial to managing cost of capital and ensuring long-term sustainability.

In terms of policy implications, regulators and stakeholders including Nepal Rastra Bank may consider these findings when formulating capital adequacy norms or financial stability frameworks. Understanding how firm-level determinants influence leverage can help refine financial resilience policies that promote healthy banking practices. Additionally, for policymakers aiming to attract foreign investment or support joint venture models, this study underscores the importance of aligning regulatory oversight with firm-level realities that influence capital structuring decisions in Nepal's banking landscape.

Based on the study's empirical findings and theoretical grounding, the following insights are outlined to inform practice, policy consideration, and future research directions.

- Capitalize on internal profitability by prioritizing retained earnings during high-income periods to reduce dependency on debt and enhance financial stability.
- Utilize firm size strategically, as larger banks benefit from better debt access management should optimize funding structures by leveraging economies of scale.
- Integrate liquidity and capital planning, since liquidity showed no significant influence on capital structure suggesting a need for more cohesive financial management practices.
- Enhance regulatory disclosures related to capital structure, enabling better market discipline and informed decision-making for stakeholders.

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PAPER NAME

DETERMINANTS OF CAPITAL STRUCTURE OF JOINT VENTURE COMMERCIAL BANKS IN NEPAL

AUTHOR

Sanjeev Pyakurel

WORD COUNT

19431 Words

CHARACTER COUNT

106366 Characters

PAGE COUNT

63 Pages

FILE SIZE

231.3KB

SUBMISSION DATE

Jul 21, 2025 11:55 AM GMT+5:30

REPORT DATE

Jul 21, 2025 11:56 AM GMT+5:30

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