

**A STUDY IN CAPITAL STRUCTURE MANAGEMENT ANALYSIS
OF COMMERCIAL BANKS IN NEPAL**

(With reference to HBL and NIBL)

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RECOMMENDATION

This is to certify that the Thesis

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Entitled:

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(With reference to HBL and NIBL)

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and found the thesis to be original work of the student and written in according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for the degree of Master in Business Studies (M.B.S.).

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DECLARATION

I hereby declare that the work reported in this thesis **A STUDY IN CAPITAL STRUCTURE MANAGEMENT ANALYSIS OF COMMERCIAL BANKS IN NEPAL (With reference to HBL and NIBL)** submitted to the Office of Dean, Faculty of Management, Tribhuvan University, is my Degree of Master of Business Studies (MBS) under the supervision of **Srijana Khadka** and **Padam Raj Adhikari** Shanker Dev Campus, Faculty of Management, Tribhuvan University.

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JANAKI JOSHI

Researcher

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ABBREVIATIONS

AGM	:	Annual General Meeting
C.V.	:	Co-efficient of Variation
D/A	:	Debt Assets
D/E	:	Debt Equity
EBIT	:	Earning Before Interest and Tax
HBL	:	Himalayan Bank Limited
ICR	:	Interest Coverage Ratio
NIBL	:	Nepal Investment Bank Limited
NPAT	:	Net Profit After Tax
NRB	:	Nepal Rastra Bank
OBI	:	Others Banking Institutions
ROA	:	Return on Assets
ROE	:	Return on Equity
S.D.	:	Standard Deviation
T.U.	:	Tribhuvan University

CHAPTER-I

INTRODUCTION

1.1 Background of the study

Banking sector play vital role in economic development of every country. Without banking, development of country is impossible. An active banking industry can change the economical structure of the country as a whole. Capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. The successful selection and use of capital is one of the key elements of the firms' financial strategy. Hence, proper care and attention need to be given while determining capital structure decision. It refers to the proportion of debt and equity capital. The financing decision of a firm relates to the choice of proportion of debt and equity to finance the investment requirement of which a proper balance is necessary to ensure a tradeoff between risk and return to the shareholder. An optimal capital structure, which consists of reasonable proportion of debt and equity, can help to maximize the value and ultimately the shareholders wealth (Kulkarni,1983).

Any kind of business activity depends on finance to meet its fixed assets and working capital requirements, and finance is accelerating engine of business activities. Whether the businesses are big or small, they need fund to fulfill their business activities. Accordingly, the capital structure decision of a company is at the heart of other decisions in the area of corporate finance. Basically, banks engage in financial intermediation to ensure efficient mobilization & disbursement of funds to the real sector of the economy. Though other financial institutions exist to engage in the intermediation process banks are considered the most important financial intermediaries (Kuchhal,1977).

A company's capital structure refers to the combination of its various sources of funding. Most companies are funded by a mix of debt and equity, including some short-term debt, some long-term debt, a number of shares of common stock, and perhaps shares of preferred stock. Financing sources used by corporations to finance real investment. In general, a firm can choose among many alternative capital structures. It can issue either equity or debt capital or a large amount of debt capital and little amount of equity capital and vice versa.

It can arrange lease financing, use warrants, issue convertible bonds and other hybrid securities. The firm can issue dozens of distinct securities in different combinations; however, the rational attempt is to find the particular combination, which maximizes overall market value of the firm (Myers, 2001).

Similarly, bank is a resource mobilizing institution, which accepts deposit from various sources, and invests such accumulated resources in the fields of agriculture, commerce, trade and industry. Banks are the institutions offering deposits subject to withdrawal on demand and making loans of a business nature. Banks offers wide range of financial services like credit, savings, payments services etc.

Massive mobilization of country's domestic resources and their investment in productive sector is the key factors for the progress and prosperity of any country so for this the bank to be specific .i.e. commercial banks should formulated the sound capital structure management policies that automatically contribute to the economic development/ growth of a country.

1.1.1 Profile of Sample Banks

Himalayan Bank Ltd.

Himalayan Bank Ltd. incorporated in 1992, was the first commercial bank of Nepal with maximum shareholding by the Nepalese private sector by a few distinguished business personalities of Nepal in partnership with Employees Provident Fund. Joint venture with Habib Bank Ltd., one of the largest commercial bank of Pakistan. Besides commercial activities, the bank also offers industrial and merchant banking. Its major shares like 80% of the investment are made from Nepalese investors and remaining 20% is invested from foreign investors. The bank started its operation with the authorized capital of Rs. 100 million, issued capital of Rs. 65 million, and paid up capital of Rs. 53.63 million. At the end of fiscal year 2016/17, HBL has paid of share capital of Rs. 8.824 billion. HBL currently has countrywide network of 47 branches to provide highly reliable modern banking services to its customers across Nepal (www.hbl.com.np).

Nepal Investment Bank Ltd.

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French

partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of one of the largest banking group in the world.

Later, in 2002 a group of Nepalese companies comprising of bankers, professionals, industrialists and businessmen acquired the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd., and accordingly the name of the Bank also changed to Nepal Investment Bank Ltd. “Our Vision is to be the most preferred provider of Financial Services in Nepal” To be the leading Nepali bank, delivering world class service through the blending of state-of-the-art technology and visionary management in partnership with competent and committed staff, to achieve sound financial health with sustainable value addition to all our stakeholders. We are committed to do this mission while ensuring the highest levels of ethical standards, professional integrity, corporate governance and regulatory compliance.

1.2 Statement of the Problems

Capital structure compares benefits and costs of issuing debt as an attempt to reach to the optimal point of financial debt ratio that maximizes firm's value. For this, bank plays a significant role in the economic development of the country by extending credit to the people. Although banking industry in Nepal is making remarkable progress and growth. At the present context, the main problem faced by the business sector as well as bank is the unstable political and economic condition of the country. The present study is tried to analyze and examine the practice of capital structure of Himalayan Bank Ltd and Nepal Investment Bank Ltd. This study basically stated with the following problems.

- What are the factors that affect the capital structure of commercial banks?
- What is the impact of capital structure on the Profitability of sample banks
- Does the proportion of debt and equity in capital structure effect the capital management of sample banks or not?

1.3 Objectives of the Study

The main objective of this study is to analyze the capital structure of HBL and NIBL. The specific objectives are given below:

- To analyze the factors that affects the capital structure of commercial banks.
- To evaluate the impact of capital structure on the profitability of Sample banks .

- To analyze the relationship of capital structure with variables; EBIT and interest payment, overall capitalization rate and debt/equity ratio, debt/equity ratio and return on assets.

1.4 Significance of the study

Capital structure is essential indicators of company's financial decision making. It is a too large a determinant of company's profitability. As it is a well known fact that the commercial banks can affect the economic condition of the capital structure policy of commercial banks. The study would help them to take corrective action to optimize the value of the bank by using optimal capital structure. This study will have significant role to play in filling gap in understanding of the capital structure decision making for banks in Nepal. Additionally, this study will be used as an input to researcher for further research on determinant of capital structure.

1.5 Limitations of the study

The scope of this study is limited to the relationship between leverage and determinants of capital structure decision of Nepalese commercial banks over the certain period of time. The study is mainly based on secondary data so the reliability of this study depends upon the accuracy of published data. This study is limited to related variable affecting capital structure of the selected banks.

- Among 19 commercial banks this study is based on only two commercial banks named Himalayan Bank Limited and Nepal Investment Bank Limited.
- This study is based on secondary data taken from annual financial report of the sample banks.
- This study covers ten years time period from 2012/13 to 2021/22.
- Only limited financial and statistical tools are used for analysis.
- This study concentrates on capital structure of sample banks only.

1.6 Organization of the study

Chapter I: Introduction

Chapter one presents research introduction, statement of the problem, objective of study, research question and limitation and significance of the study.

Chapter II: Review of Literature

It deals with the review of available relevant studies. It includes the conceptual review of the related books, journal and the published unpublished research works as well as thesis. It also includes the review of different capital structures theories.

Chapter III: Research Design and Methodology

It deals with methodology of the study i.e research carried out in this size an shape. For this purpose various financial tools and statistical tool are defined which will be used for the analysis of the presented data.

Chapter IV: Presentation and Analysis of Data

It deals with the presentation and analysis of the relevant collected data.

Chapter V: Summary, Conclusion and Recommendation

It consists of the summary, conclusion and recommendation of study.

CHAPTER-II

REVIEW OF LITERATURE

The review of literature is meaningful if the conceptual review has been done through the study of various books, journals and articles and researches conducted by the previous researches in the field of capital structure i.e. research work, thesis and dissertation etc. So, this chapter 'literature review' has been covered the conceptual framework, review of journals and article and review of thesis.

2.1 Conceptual Framework

As the study focuses on capital structure management, here it is most important to open up with the conceptual thought behind it. Capital is a scarce sources and much more essential to maintain smooth operation of any firm. The available capital and financial sources should be utilized so efficiently that could generate maximum return. Capital structure is considered as the mix of debt and equity and to operate in long run prospect, a firm must concentrate in its proportion. Capital structure of the firm is the permanent financing represented by long term debt, preferred stock and shareholder's equity. Thus, a firm's capital structure is only part of its financial structure (Weston & Brigham,1978).

Capital structure is made up of debt and equity securities which comprise a firm's finance of it's assets. It is the permanent financing of a firm represented by long term debt plus preferred stock plus net worth (Kulkarni, 1983).

The term 'capital structure' means the proportion of different types of securities issued by a firm. The optimal capital structure is the set of proportion that maximizes the total value of the firm. Capital structure is the mix (or proportion) of a firm's permanent long term financing represented by debt, preferred stock and common stock equity (Van Horne, 1998).

The two principal sources of long term financing are equity and debt capital. The composition of these two long term financing is known as capital structure. Under normal economic condition, the earnings per share can be increased using higher leverage. But leverage also increases the financial risk of the share holder (Gautam & Thapa, 2003).

Capital structure is one of the most complex areas of financial decision making due to its interrelation with other financial decision variables. The success and failure of the enterprise depends on the ability of top management to make appropriate capital structure decision. A sound or appropriate capital structure should have the following features (Pandey, 1999).

The standard determinants of banks' capital structure do affect the market leverage of the banks and capital structure theories-trade-off and pecking order are complementary for the Nepalese commercial banks.

Return: The capital structure of the company should be most advantageous. Subject to other consideration, it should generate maximum return to the shareholders without adding additional cost to them.

Risk: The use of excessive debt threatens the solvency of the company. To the point debt does not add significant risk it should be used otherwise its use should be avoided.

Flexibility: The capital structure should be flexible. Flexibility as company can raise helps to grab market opportunity as company can raise required funds wherever it is needed for profitable investment opportunities. It also when funds from debt and preferred stock are no more required in the business.

D. Capacity: The capital structure should be determined within the debt capacity of the company, and this capacity should not be exceeded. The debt capacity of a company depends on its ability to generate future cash flows.

Control: Control power is the one of the most concerned part for the management. Management always wants to maintain control over the firm. The capital structure should involved minimum risk of loss control of the company. Issue of excess equity shares to new investors may bring threats to the control by existing manager. The term capital denotes the long-term fund of the firm. All of the items on the liabilities side of firm's balance sheet, excluding current liabilities are sources of capital. The total capital can be divided into two components: debt and equity capital.

Debt Capital: It includes all long term borrowing incurred by the firm. Debenture, bonds, long term loan etc. are major sources of debt or borrowed capital. A firm employs sub-total amount of debt capital of tax deductibility of interest payment, flexibility, and lower effective cost. However excess amount of debt exposes high risk.

Equity Capital:

It consists of the long term fund provided by the firm's owners, the stockholders. In other words, equity capital includes common stock, paid in capital or share premium, reserve and surplus and retained earnings. Joint Stock Company cannot be established with any equity financing. Preferred stock is neither purely a debt nor equity.

2.1.1 Factors Affecting Capital Structure

Capital structure of different types of firms varies widely. There are no hard and fast rules about what percentage of capitalization should be represented by bonds and debentures and what should be of equity shares and preference share factors affecting capital structure revolve principally around the adequacy and stability of earnings. Following are factors which affect the capital structure.

Cost of capital: The impact of financing decisions on the overall cost of capital should be evaluated and the criteria should be to minimize the overall cost of capital or to maximize the value of the firm (Pandey,1999).

Assets structure: firms whose assets are suitable as securities for loans tend to use debt heavily. Borrowed capital should not exceed a reasonable percentage of fixed assets (Batty, 1963).

Flexibility: The Company's desire for flexibility in future financing decision also affects the capital structure of the company. Therefore the company should compare the benefits and cost of attending the desired degree of flexibility and balance then properly (Schwartzman & Ball, 1977).

Control: If management has voting control over the company and is not in a position to buy any more stock, debt, may be a choice for new financing. On the other hand, management group that is not concerned about voting control may decide to use equity rather than debt.

Profitability: The firms with very high rate of return on investment use relatively little debt. Their rate of return enables them to do most of their financing with retained earnings.

Taxes: Interest is deductible expenses while dividend are not deductible. Hence the higher a firm's tax rate, the greater is the advantage is using debt.

Interest rate: This affects the choice of securities to be offered to investors. High interest rate makes financing costly. When funds are obtained easily and cheaply, there is greater attitude for choice of types of security to be used.

Operating leverage: The Company with a high level of earnings before interest and taxes can make a profitable use of the high degree of leverage to increase return on the shareholder's equity.

Floation costs: Floation cost is incurred only when the funds are raised. The cost of floating a debt is less than cost of floating and equity issue. This may encourage a company to use debt than issue equity shares.

Market condition: conditions in the stock and bonds market undergo both long and short term changes which can have an important bearing on a firm's optimum capital structure.

Growth rate: Faster growing firm's must rely more heavily on external capital. Other factors are stability of sales, cash flow ability of a company, nature of industry and capital requirements etc.

2.1.2 Theories of Capital Structure

Corporate finance comes from three sources: internally (retained earnings), debt (borrowing) or equity (shares). Similarly, corporate manager is preferred to use retained earnings as the primary source of funds than is debt and debt is a better deal than equity financing (Myers & Majluf, 1984).

Basically, the two principal sources of long term financing are equity and debt capital. The composition of these two long term financing is known as capital structure. Under normal economic condition, the earnings per share can be increased using higher leverage. But leverage also increases the financial risk of the shareholders. As a result, it cannot be said whether or not the value of the firm will increase with leverage. In other words, a great deal of controversy has been developed on whether the capital structure affects value of the firm or not. Traditionalists agree that capital structure is relevant factor for valuation of the firm. Further they say value of the firm can be maximized by adopting optimal capital structure. Modigliani and Miller, on the other hand argue that in perfect capital market, it does not affect value of the firm. The major theories of capital structure are as follows (Pandey, 1999).

Capital Structure is an important subject, especially for firms. A bad capital structure is more expensive than a good capital structure. Firms raise investment funds in a number of different ways. A firm's mix of these different sources of capital is referred to as its capital structure.

Basically, the theories of capital structure are distinguished into 6 different groups.

- Traditional theory
- Modigliani - Miller theorem
- Trade off theory
- Free Cash Flow theory
- Pecking Order theory
- Stakeholder theory

Traditional Theory

The first theory is called the "traditional theory". Supporters of this theory believe that the lowest weighted average cost of capital (WACC) will maximize the firms' market value. This means the existence of an optimum relation between debts and equity but it is very difficult to reach that point. Although it is cheaper to finance with debt, this theory certainly rejects to finance all with debt because after a certain level of debt the risk of non-payment increases. In this case shareholders and debt financiers demand a higher compensation.

Modigliani - Miller Theorem

Modigliani and Miller (1958) showed that the value of the firm is independent of capital structure choices with negligible effect of tax. The study concluded that through the effect of tax is significant, it would not mean that firm's take on larger amount of debt unnecessarily. This theory states that in the absence of tax transaction cost and arbitrage opportunity, the market value of the firm, the sum of market value of debt and equity is unaffected by the way it is financed.

Similarly, this theory states that if the capital structure decision has no effect on the cash flows generated by a firm, the decision also will have no effect - in absence of transaction costs - on the total value of the firm's debt and equity. This means that there is no relationship between a firm's market value and the capital structure. Profitability of a firm's activities is the only factor that determines the market value. This theory is based on a

perfect capital market. The only market imperfections they admit are corporate taxes. In short, the assumptions of the Modigliani - Miller theorem are capital market are perfect due to the free of information, rational behaviour of investors, every firm has perpetual flows of money with equal time value (Van Horne, 2000).

Trade off Theory

The third theory is called the (static) trade off theory. The tradeoff between the cost and returns of debt financing determines the optimum debt ratio. Firms consider this ratio as a target debt ratio, because this ratio will maximize the market value of a corporation. Myers assumes that firms need to adapt their capital structure to reach that ratio. But an adaptation of the capital structure needs time and costs money. Therefore, it is possible that present temporary debt ratios differ from the target ratios.

Cash Flow Theory

In the contrary of the trade off theory, in which a firm strives after a maximization of the market value, the free cash flow theory presumes that there are enormous conflicts of interest between shareholders and stakeholders. This implies that manager's decisions don't always maximize the market value of the firm. A cash flow is the balance of money, when all projects (with positive net present values) are financed. Debt reduces the agency costs of free cash flow by reducing the cash flow available for spending at the discretion of managers (Jensen, 1986).

Debt also reduces the freedom of decisions, because of firm is forced to pay at certain times interest and payoffs. There will always be risk that a firm won't be able to pay interest and payoffs in future times. This risk causes managers to lead and organize a firm more efficient.

Pecking Order Theory

The sequence of investment resources is restricted by problems caused by asymmetrical information between managers and potential investors. The assumptions are made by this theory are firms prefer internal ways to finance projects, firms adapt their target dividend payout ratios to available investment resources, internal resources of a firm are fluctuating because of unpredictable fluctuations of profitability, when firms need extra resources, they

prefer the safest way of getting funds; this means that firms prefer debt to convertible stocks and common stocks (Myers, 2001).

The result of this pecking order theory is that a firm doesn't have a certain target debt ratio. The target ratio is dependent on the way a firm financed its projects in the past. This theory also pays attention to costs of asymmetrical information and costs of bankruptcy. When these costs exist, a firm doesn't always choose to finance projects with a positive net present value. Not a positive net present value determines whether a firm finances a project or not, but the way in which a firm is able to finance their projects. Baskin researched the validity of this theory in 1989. He made the following conclusion:

Stakeholder Theory

Cornell and Shapiro (1987) assume that not only investors have an interest in a firm. There are different groups of non-investor stakeholders, and some of them have a lot of influence in the financial policy of a firm. Or, as Cornell and Shapiro wrote: Financial structure may also depend on a firm's net organizational capital and on the nature of its stakeholders. Examples of non-investor stakeholders are customers, employees and suppliers.

Non-investor stakeholders hold implicit claims. Implicit claims are non-written promises and rights, such as the right provide service to customers or job-security for employees.

2.1.3 Assumption of Capital Structure

All the capital structure approaches are based on some common assumptions, which are as follows: (Weston and Brigham, 1992).

- The ratio of debt to equity for a firm is change by issuing debt to repurchase stock or issuing stock to pay off debt. In other words a change in capital structure is effected immediately. In this regard, we assume no transaction cost.
- The firm has a policy of paying 100% of its earnings in dividends. Thus, we abstract from the dividend decision.
- The expected value of the subjective probability distribution of expected future operating earnings for each company are the same for all investors in the market.
- The operating earnings of the firm are not expected to grow. The expected value of the probability distributions of expected operating earnings for all future periods are the same as present operating earnings.

- There are only two sources of funds under by a firm: perpetual risk less debt and ordinary shares.
- The dividend payout ratio is 100. That is the total earning is paid out as dividend to the shareholders and there are no retained earnings.
- The total assets are given and not change. The investment decisions are in other words to be constant.
- The total financing remains constants. The firm can change its degree of leverage (Capital structure) either by selling shares and use the proceeds to retire debenture or by raising more debt and reduce the equity capital.
- The operating profit (EBIT) is not expected to grow.

The following basic definitions and symbols are used:

S = total market value of the stock. (Equity)

B = total market value of the bonds (Debt)

V = total market value of the firm =S+B

EBIT = earnings before interest and taxed= net operating income (NOI)

I = Interest payments

2.1.4 Method of capital structure

2.1.4.1 Net Income Approach

David Durand proposed the Net Income Approach. This approach stated that firm can increase its value or lower the cost of capital by using the debt capital. According to NI approach, there exists positive relationship between capital structure and valuation of firm and change in the pattern of capitalization bring about corresponding change in the overall cost of capital and total value of the firm. Thus with an increase in the ratio of debt to equity, overall cost of capital will decline and market price of equity stock as well as value of firm will rise (Durand, 1959).

The converse will hold true if ratio of debt to equity tends to decline. The approach assumes no change in the behavior of both stockholders and debt holders as to the required rate of return in response to a change in the debt-equity ratio of the firm. They want to invest since debt holder are exposed to lesser degree of risk, assumed of a fixed rate of interest and are given preferential claim over the profit and assets, the debt holders' required rate of return is relatively lower than that of equity holders. So, the debt financing

is relatively cheaper than equity. For this reason, at constant cost of equity (K_s) and cost of debt (K_d), the overall cost of capital (K) declines with the increased proportion of the debt in the capital structure. This suggests that higher the level of debt, lower the overall cost of capital and higher the value of firm.

It means that a firm attains an optimal capital structure when it used 100% debt financing. Running a business with 100% debt financing, however, is quite uncommon in the real world. The firm can achieve optimal capital structure by making judicious use of debt and equity and attempt to maximize the market price of its stock.

In sum, as per NI approach, increase in ratio of debt to total capitalization brings about corresponding increase in total value of firm and decline in cost of capital. On the contrary, decrease in ratio of debt to total capitalization causes decline in total value of firm and increase cost of capital. Thus, this approach is appeared as relevancy theory. This approach is based on the following assumptions:

- The cost of equity and debt remain constant to the acceptable range of leverage.
- The corporate income taxes do not exist.
- The cost of debt rate is less than the cost of equity.
- The increasing leverage brings about no deterioration in the equity of net earnings so long as borrowing is consigned to the amount below the acceptable limits.

Thus the financial leverage, according to the NI approach is an important variable in the capital structure decision of a firm. Under the NI approach, a firm can determine an optimal capital structure. If the firm is unleveled the overall cost of capital will be just equal to the equity capitalization rate. To sum up, the essence of the net income approach is that the firm can lower its cost of capital by using debt. The approach is based on the assumption that the use of debt does not change the risk perception of the investor. Consequently, the interest rate of debt and the equity capitalization rate remain constant to debt. Therefore, the increased use of debt results in higher market value of shares and as a result, lower overall cost of capital (K).

2.1.4.2 Net Operating Income Approach (NOI)

NOI approach is another behavioral approach suggested by Duran David. This approach is diametrically opposite from the NI approach with respect to the assumption of the behavior

of equity holders and debt holders. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant. The overall cost of capital is independent of the degree of leverage; any change in leverage will lead to change in the value of the firm and the market price of the shares. Net operating approach is slightly different from NI approach, unlike the NI approach in NOI approach, the overall cost of capital and value of firm are independent of capital structure decision and change in degree of financing. Leverage does not bring about any change in the value of firm and cost of capital.

The main difference between NI and NOI approach is the base that investors use to value the firm. Under NOI approach, the Net operating income, i.e. the earning before interest and tax (EBIT), instead of net income is taken as the base. Like the NI approach, the NOI approach also assumes a constant rate of K_d , which means that the debt holders do not demand higher rate of interest for higher level of leverage risk. However, unlike the assumption of NI approach, NOI approach assumes that the equity holders do react to higher leverage risk and demand higher rate of return for higher debt-equity ratio. This approach says that the cost of equity increase with the debt level and the higher cost of equity offset the benefit of cheaper debt financing resulting no effect at all on overall cost of capital.

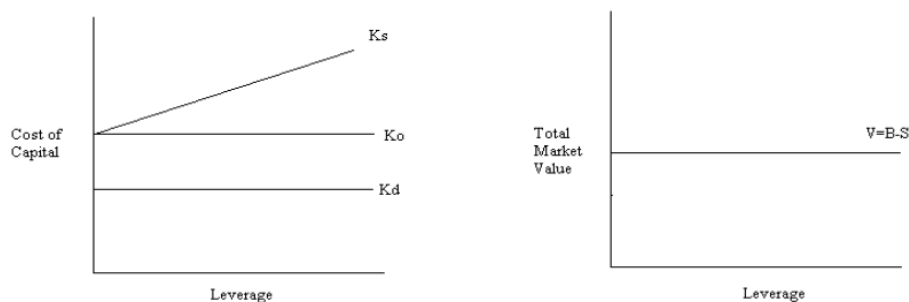
The NOI approach is based on following assumption:

- The market capitalizes the value of the firm as a whole. Thus, the split between debt and equity is not important.
- The market uses an overall capitalization rate, K to capitalize the net operating income. K depends on the business risk. If the business risk is assumed to remain unchanged, K is constant.
- The use of less costly debt funds increases the risk of shareholders. This causes the equity-capitalization rate to increase. Thus, the advantages of debt are offset exactly by the increase in the equity capitalization rate, K_s .
- The debt capitalization rate, K_d is constant
- The corporate income taxes do not exist.

The function of K_s under NOI approach can be expressed in equation as follows:

$$K_s = K + (K - K_d) B/S$$

The relationship between financial leverage and K , K_s , and K_d has been graphically depicted in following figures.

Figure 2.3 *Effect of Leverage on Cost of Capital*Figure 2.4 *Effect of Leverage on Total Market Value of the Firm*

Source: Weston and Brigham, 1992

In the figure 2.3 above, it is shown that the curve K and K_d are parallel to the horizontal X-axis and K_s are increasing continuously. This is because K and K_d remain constant under all the circumstances but the K_s increases with the degree of increase in the leverage. Thus, there is no single point or range where the capital structure is optimum. We know obviously from the figure 2.3 that under the NOI approach, as low cost of debt is used, its advantage is exactly offset by increase in cost of equity in such a way that the cost of capital remains constant. By this, value of the firm also remains constant. At the extreme degree of financial leverage, hidden cost becomes very high hence the firm's cost of capital and its market value are not influenced by the use of additional cheap debt fund (Gitman, 1988).

2.1.4.3 Traditional Approach

"The traditional capital structure theories, which is taken as middle ground position is known as intermediate approach. It is a compromise between the net income approach and the net operating approach. According to this view, the value of firm can be increased or the cost of capital can be reduced by a judicious mix of debt and equity capital, and that an optimum capital structure exists for every firm. This approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage. Thus, an optimum capital structure exists, and it occurs when the cost of capital is minimum or the value of firm is maximum.

The statement that debt funds are cheaper than equity funds carries the clear implication that the interest rate of debt plus the increased yield on the common stock, together on the weighted basis will be less than yield (cost of equity) which existed on the common stock

before debt financing" (Barges,1963). That is the weighted average cost of capital will decrease with the use of debt up to a limit.

According to the traditional position, the manner in which the overall cost of capital reacts to changes in capital structure can be divided into three stages (Soloman, 1963).

First stage: Increasing Value

The first stage starts with the introduction of debt in the firm's capital structure. In this stage, the cost of equity (K_s) either remains constant or rises slightly with debt because of the added financial risk. But it does not increase fast enough to offset the advantage of low cost debt. In other words, the advantage arising out of the use of debt is so large that, even after allowing for higher cost of equity, the benefit of the use of the cheaper sources of funds are still available. As a result the value of the firm (V) increases as the overall cost of capital falls with increasing leverage.

During this stage cost of debt (K_d) remains constant or rises only modestly. The combined effect of all these will be reflected in increase in market value of the firm and decline in overall cost of capital (K)

Second Stage: Optimum Value

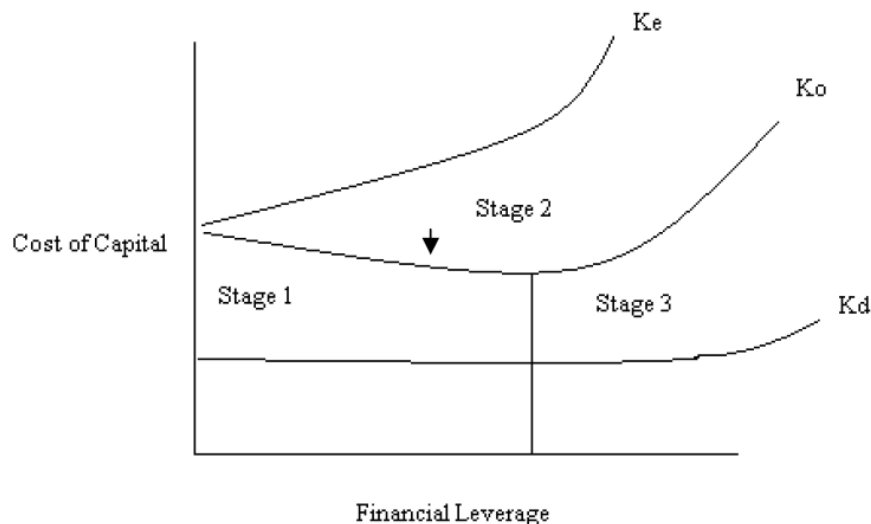
In the second stage, further application of debt will raise cost of debt and equity capital so sharply as to offset the gains in net income. Hence, the total market value of the firm would remain unchanged. While the firm has reached a certain degree of leverage, increase in it has a negligible effect on the value of the firm or overall cost of capital of the firm. The increase in the degree of leverage increases the cost of equity due to the added financial risk that offsets the advantage of low cost debt. Within the range of such debt level or at a specific point, the value of the firm will be maximum or the cost of capital will be minimum.

Third stage: Declining Value

Beyond the acceptable limit of leverage, the value of the firm decreases with the increase of the leverage or the overall cost of capital increases with the additional leverage, this happens because investors perceive a high degree of financial risk, which increases the cost of equity by more than enough to offset the advantage of low cost debt. The overall effect

of these three stages is to suggest that the cost of capital is a function of leverage, i.e. first falling and after reaching minimum point or range it would start rising. The relation between cost of capital and leverage is graphically shown in figure below.

Figure: 2.5 *Effect of Leverage on Cost of Capital Under Traditional Theory*



Source: Weston and Brigham, 1992

Effect of Leverage on Cost of Capital Under Traditional Theory

In the above figure, it is assumed that K_s rise at an increasing rate with leverage, whereas K_d is assumed to rise only after significant leverage has occurred. At first, the weighted cost of capital, K declines with leverage because the rise in K_s does not entirely offset the use of cheaper debt funds. As a result, K declines with moderate use of leverage. After a point, however the increase in K_s more than offset the use of cheaper debt funds in the capital structure, and K begins to rise. The rise in K is supported further once K_d begins to rise. The optimal capital structure is point X; thus the traditional position implies that the cost of capital is not independent of capital structure of the firm and that there is an optimal capital structure.

2.1.5 Modigliani and Miller Approach's (M-M Approach)

"Modigliani and Miller (MM) in their original position advocate that the relationship between leverage and the cost of capital is explained by net operating income approach. They make a formidable attack on the traditional position by offering behavioral justification for having the cost of capital, K_o remains constant throughout all degree of leverage" (Van Horne. 2000).

The crucial assumptions of M-M proposition as propounded are :

- Capital markets are perfect. Information is costless and readily available to all investors. There are no transaction costs, and all securities are infinitely divisible. Investors are assumed to be rational and to behave accordingly.
- The average expected future operating income of a firm are represented by subjective random variables. It is assumed that the expected values of the probability distribution of all investors are the same. The M-M illustration implies that the expected values of the probability distributions of expected operating earnings for all future periods are the same as present operating earnings.
- Firms can be categorized into “equivalent return” classes. All firms within a class have the same degree of business risk. As we shall see later this assumption is not essential for the proof.
- The absence of corporate income taxes is assumed. M-M removes this assumption later.
- Firms distribute all net earnings to the shareholders i.e. 100 % pay out . MM in 1958, proposed the theory without taxes and later, they relaxed the theory with tax considerations. So,
 - M-M Theory (without taxes)
 - M-M Theory (with taxes)
 (Pandey, 1999).

The definition of some technologies/notions, used in M-M theory is given below:

Terminology:

- Levered firm: A firm that uses some percentage of debt in its capital structure is called levered firm.
- Unlevered firm: All equity financed firms are known as unlevered firm.
- Risk premium: Risk premium is that expected additional return by the equity holders for making a risky investment. In other words, it is the additional return demanded by the equity holders due to inclusion of debt capital in firm’s capital structure.

Notation

- i. K_eU = The equity capitalization rate of an unlevered firm.
- ii. K_eL = The equity capitalization rate of a levered firm.
- iii. K_d = The debt capitalization rate.
- iv. K_oU = The overall capitalization rate of an unlevered firm.

- v. KoL = The overall capitalization rate of an levered firm.
- vi. V_u = Value of an unlevered firm.
- vii. V_L = Value of a levered firm.
- viii. T = The corporate tax-rate.
- ix. B_t = Present value of tax shield benefits of debt/present value of interest tax shield.

(i) M-M without Taxes

M-M have restated and amplified the NOI approach. MM agree that, in the absence of tax, a firm's market value and the cost of capital remain invariant to the capital structure change. In their 1958 article, they provide analytically sound and logically consistent behavior justification in favor of their hypothesis and reject any other capital structure as incorrect (Modigliani & Miller, 1969).

Proposition I

Given the above assumption, MM argues that for the same risk class, the total market value is independent of the debt-equity mix and is given by capitalizing the expected net operating income by the rate appropriate to the risk class. This is their proposition I. In equation this can be expressed as follows:

It means K is the weighted average of the expected rate of return of equity and debt capital of the firm since the cost of capital is defined as the expected net operating income divided by the total market value of the firm and since MM conclude that the total market value of the firm is unaffected by the financing mix, it follows that the cost of capital is independent of the capital structure and is equal to the capitalization rate of a pure equity stream of its class (Pandey, 1999).

Thus two firms identical in all respects except for their capital structure cannot command different market values nor have different cost of capital. But if there is a discrepancy in the market values or the cost of capital, arbitrage will take place, which will enable investors to engage in personal leverage to restore equilibrium in the market (Pandey, 1999).

Proposition II

MM proposition II, which defines the cost of equity, follows from their proposition I and shows the implications of the net operating approach. The proposition II states that the cost

of equity rise proportionately with the increase in the financial leverage in order to compensate in the form of premium for bearing additional risk arising from the increasing leverage (Pradhan, 1999).

2.1.6 Leverage and capital structure

Leverage results from the use of fixed –cost assets or use of fund to magnify returns to the firm's owner. Generally, increase in leverage return in increase in return and risk and decrease in result in decrease in return and risk. The amount of leverage in the firm's capital structure is the mix of long term debt and equity maintained by the firm can significantly affect its value by affecting return and risk. Hence, it is the use of fixed costs to magnify the returns. It uses in the capital structure of the firms has the potential to increase its return and risk. The term leverage may be defined as the use of that source of funds in the business for which the firm has to pay fixed charges, irrespective to the earnings of firm. There are two types of leverage: Financial leverage and operating leverage. Leverage associated with investment activities is called operating leverage and associated with financial activities is called financial leverage.

2.1.6.1 Financial leverage

Financial leverage is the ratio of total debt to total assets or the total value of the firm (Weston & Brigham, 1978). Financial leverage refers to the response of shareholders income to change in earning before interest and tax and is created by debt or preferred stock financing with fixed interest and dividend payment (Lawrence et al., 1983).

The debt is risky as well as more advantageous in the context of earning. The use of debt and preferred stock financing provide the income advantage over the common stock financing of the firm under the favorable condition and they increase the risk too. Leverage is employed by the company to earn more. The surplus will increase the return on equity. Since the interest and principle payments are the contractual obligation to the firm. It is risky in the viewpoint of the shareholders.

2.1.7 Optimum Capital Structure

The overall cost of capital is minimized; theoretically at least. The optimum capital structure strikes a balance between the risk and returns and thus maximizes the price of the stock.

- There is no such thing as the model capital structure for all business undertakings. One way of planning the capital structure is to make it fit into a model compiled from a number of different experiences that may have been drawn from the historical ratio of the firm (Kuchal, 1977).
- Optimum capital structure can be properly defined as that combination of debt and equity that attains the stated managerial goals maximization of the firm's market value, and which minimizes the firm's cost of capital. As the existence of an optimum capital structure implies the simultaneous optimization of both the cost of capital and the firm's market value, occupies a central position in the theory of financial management. Likewise, An optimum capital structure would be obtained at the combination of debt and equity that maximizes the total value of the firm (value of shares plus value of debt) or minimizes the weighted average cost of capital (Pandey,1999).
- Firm has certain structure of assets, which offers net operating earnings of a given size and quality and gives a certain structure of rates in the capital market, there is some specific degree of financial leverage at which the market value of the firm's securities will be higher (or the cost of capital will be lower) than at any other degree of leverage (Soloman, 1963).
- When ever funds have to capital structure initially at the time, of its promotion and subsequently. Funds have to be raised to finance investment a capital structure decision is involved (Van Horne,2000).

To sum up, optimal important of capital structure are to maximize return on equity capital, to minimize cost of capital, to minimize risk, to increase flexibility, to maintain control power and to employ high grade security. Capital structure with a reasonable proportion of debt and equity is called the optimal capital financing mix of optimal capital structure. Since, a proper balance between risk and return to stockholder is necessary, the financing of capital structure decision is a significant managerial decision as it influences the shareholders' return and risk. Hence a decision has to be made as to the equality and forms of financing, the decision will involve an analysis of the exiting capital structure and the factor which will govern the decision at the present. The dividend decision bearing on the capital structure may effect its debt equity mix.

2.2 Review of Journals and Articles

Rosario and Chavali (2019) identified capital structure and its impact on profitability – a study of Indian hotel industry. Capital structure plays an important role in service sector like hotel industry. Capital structure decisions are vital as they to a large extent determine the profits earned by a firm. In this study, an attempt has been made to analyze the financial data of 22 companies in hotel industry in India in order to establish the relationship between the capital employed and profitability. The analysis is done with the help of descriptive statistics and correlation analysis, in order to establish the association among variables. It is observed that nearly 58% of the assets of the industry are funded by debt, indicating that the industry is not highly geared. The correlation analysis indicates positive relationship between debt variable and profit but slightly negative correlation among other variables.

Mukumbi, Eugene and Jinghong (2020) examined the effect of capital structure on the financial performance of non-financial firms Quoted at the Nairobi securities exchange. Choosing whether to finance a business with debt or equity has led to a neverending search for the best capital structure. Researchers have conducted several research studies trying to find out the optimal capital structure. Some indicate that a firm having a high degree of leverage seems to have an optimal capital structure and thus leads to better financial performance. There are others such as that of Modigliani-Miller that differs in argument by concluding that high leverage does not influence the value of the firm. This research study aimed at determining the impact of capital structure on the financial performance of non-financial firms quoted at the Nairobi Securities Exchange. The study was conducted on 16 nonfinancial firms that were in operation in Kenya and quoted at the NSE between 2013 and 2017. Financial performance was measured by return on assets and return on equity, while the capital structure was measured using the change in debt and debt-equity ratio. Secondary data utilised was obtained from audited financial statements derived from company websites and NSE handbook covering the period 2013 to 2017. Correlation and regression analysis were employed in the statistical analysis that was carried out with the aid of STATA version 15. The findings showed that capital structure has a direct influence on the financial performance of firms listed at the Nairobi bourse. The results showed that the financial performance of firms increases with the increase in the changes in debt in the capital structure. This thus supports debt financing in running the firms as compared to equity financing. The study thus recommended that firms should increase debt financing in

their capital structure in order to enhance financial performance and increase value to the companies' stakeholders.

Chukwu et al (2022) analyzed the capital structure and financial performance of listed commercial banks in Nigeria: the moderating effect of board diligence. Capital structure is an essential managerial decision as it shows how well an entity can harness available resources to achieve desirable results. This study examined the relationship between capital structure (CS) and corporate financial performance (CFP) of deposit money banks (DMBs) listed on the Nigerian Stock Exchange. The study also examined the moderating effect of board diligence on the relationship between CS and CFP. The study used the ex post facto research design and data from thirteen (13) DMBs over the period 2010 to 2018, and multiple regression was used to analyse the data. The results revealed a negative and insignificant relationship between debt ratio and return on assets (ROA), a negative and insignificant relationship between debt ratio and net profit margin (NPM), and a positive and significant relationship between equity ratio and ROA. It further revealed a positive and significant relationship between equity ratio and NPM. Firm size had a significant, positive relationship with firm performance, while firm age was negatively related to both ROA and NPM. The results further showed that board diligence positively moderates the relationship between capital structure (CS) and financial performance (CFP) in the banking industry. The study therefore concluded that the relationship between debt and CFP is negative though statistically insignificant, whereas the relationship between equity and CFP is positive and statistically significant. The implications of these results are that banks should emphasise more on equity capital than debt capital in their capital structure decisions, and boards must be allowed to play their role to foster healthy financial performance.

Simegneu (2023) analyzed the determinants of capital structure decision of commercial banks in Ethiopia. The capital structure decision is at the center of many other decisions in corporate finance. Corporate financial manager is responsible to ensure low cost of capital and to maximize the wealth of shareholders. The purpose of this study is to investigate the determinants of capital structure decision in commercial banks of Ethiopia for eleven consecutive years (2010-2020) by using explanatory research design and multiple linear regressions. Quantitative research approach was utilized for secondary data analysis which is obtained from the audited financial statements of the sample banks. The study used

purposive sampling technique to select eight banks from the total population of 17 commercial banks. The panel data were analysed with a fixed effect regression model. The study used descriptive statistics, correlation analysis and fixed effect multiple regression analysis to present and analyse the collected data. The findings of the study revealed that earnings volatility, profitability, non-debt tax shields, tangibility, and liquidity had the significant effect on capital structure of commercial banks in Ethiopia. But, growth and firm's size were found to have statistically insignificant effect on the capital structure. Therefore, commercial banks in Ethiopia should pay due attention to earnings volatility, profitability, non-debt tax shields, tangibility, and liquidity while articulating their optimal capital mix which can reduce the weighted average cost of capital and enhance the wealth of the shareholders.

Gofe and Asfaw (2023) studied factors affecting capital structure decisions of banks: a systematic literature review evidence from commercial banks of Ethiopia. The present systematic literature review aims to analyze the literature on factors affecting capital structure decisions of commercial banks in Ethiopia to identify the existing gaps and the level of existing research in the field and to provide direction for future research. The review was conducted using eleven relevant and available scholarly studies that were published in any time period, mainly using open search engines and databases because of the shortage of studies for the specified review and lack of access to the known database. Different key words were used to identify the articles. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework was employed to analyze the research work on capital structure decisions. The inclusion and exclusion criteria were specified in the review protocol. The descriptive analysis was performed based on different parameters to arrive at conclusions. A citation analysis was also performed to recognize impactful authors and papers. The findings revealed that most of the variables of interest explored in the studies contradicted each other and the previous literature variables. The capital structure studies were conducted by considering few variables, and most of the studies were not cited. The findings regarding the theories supported by factors affecting the capital structure decisions of commercial banks in Ethiopia were contradictory and not justified. The banking literature still doesn't cover the capital structure of banks very much. There is currently a lack of clarity regarding how banks determine their capital structure and what variables affect their corporate financing behaviour. Therefore, it is

recommended that the concerned body conduct an in-depth study of the decisions banks make about their capital structure by identifying pertinent elements.

Asfaw (2023) analyzed the factors affecting capital structure decisions of banks: a systematic literature review evidence from commercial banks of Ethiopia. The study intends to examine the literature on factors influencing capital structure decisions of commercial banks in Ethiopia in order to identify existing gaps and the degree of existing research in the subject, as well as to provide direction for future research. Due to a lack of studies for the stated review and access to the known database, the review was conducted utilizing eleven relevant and available scholarly papers that were published in any time period, primarily using open search engines and databases. To identify the articles, various key words were employed. The PRISMA framework was used to analyze the capital structure decisions study work. The review protocol outlined the inclusion and exclusion criteria. The descriptive analysis was performed based on different parameters to arrive at conclusions. The findings revealed that most of the variables of interest explored in the studies contradicted each other and the previous literature variables. The capital structure studies were conducted by considering few variables, and most of the studies were not cited. The findings regarding the theories supported by factors affecting the capital structure decisions of commercial banks in Ethiopia were contradictory and not justified. The banking literature still doesn't cover the capital structure of banks very much. There is currently a lack of clarity regarding how banks determine their capital structure and what variables affect their corporate financing behaviour. Therefore, it is recommended that the concerned body conduct an in-depth study of the decisions banks make about their capital structure by identifying pertinent elements.

2.2.1 Review of Previous Thesis

Shrestha (2018) studied on Capital Structure Management of Commercial Banks of Nepal (With reference to Himalayan Bank Ltd., Nepal SBI Bank Ltd and Everest Bank Ltd.). Both statistical and financial tools is used while analyzing data. The main objectives to examine the current capital structure of sample commercial banks, to analyze the mix of debt and equity of selected banks, to find out the relationship between capital structure, cost of capital and profitability. The major findings the study found that In terms of total debt to total assets, the selected banks are highly leveraged (i.e.more than 60 percent in average) on five year time horizon. The assets of selected banks have been financed more

funds collected from creditors, Everest bank has the highest average ratio of 85.36% in comparison to the lowest of 67.16 % of HBL. SBI has average ratios of 76.61%. EBL has D/E ratio of 15.86 times on an average. Likewise, debt capital financing is more than 15.86 times higher than shareholder's equity. HBL has an average of 13.96 times D/E ratio. Debt capital financing is more than 13.96 times higher than shareholder's equity. HBL has an average of 13.96 times D/E ratio. It means debt capital financing is more than 13.96 times higher than shareholder's equity. SBIL has average 9.54 times D/E ratio which is lowest among the selected banks. NIBL has an average 10.48 times of D/E ratio. SBIL is able to maintain it D/E consistent than the other banks.

Thapa (2019) A study on capital structure of Everest bank Ltd. Both financial and statistical tools is used while analyzing the data. The main Objectives to analyze the capital structure of Everest bank Ltd., to show the financial position of the Everest bank Ltd., to examine the different profitability ratio. The major findings total liabilities and capital item show the overall situation of bank is falling down. Likewise, fixed deposit is taken as long term debt in the banking business. Debt and equity are properly mixed good capital structure is formed, price earning ratio reflects the price currently reported EPS. Likewise, the more fixed deposit increase the more long term investment becomes possible. Bank becomes more successful and competent as per its capacity to collect the fixed deposit.

Gurung (2020) study on capital structure management of commercial banks in Nepal (with reference to Himalayan bank Ltd. and Everest bank Ltd.). The main objectives to analyze the factors that affect the capital structure of commercial banks, to evaluate the impact of capital structure of the profitability of sample banks. The major findings EBL has the highest average ROA with 2.08% than HBL of 1.54%. ROA of EBL shows the fluctuating trend during the study period. Similarly, ROA of HBL is increasing in the first year and then after decreasing trend. Likewise, the average earning per share of EBL is Rs. 89.96 which is sharp higher than HBL of Rs. 36.74. EBL possess strength on earning per share which help to maximize the shareholder's wealth. Similarly, the mean of overall capitalization rate of EBL is 1.04 times which is higher than HBL of 0.92 times.

Dhakal (2021) study on capital structure of NABIL bank ltd. The main objectives to analyze the capital structure of NABIL bank Ltd., to show the financial position of NABIL bank Ltd., to examine the different profitability ratio. The major findings Total liabilities

and capital item show the overall situation of bank is falling down. Likewise, the fixed deposit is taken as the long term debt in the business which is growing during the study period. Likewise, debt and equity are properly mixed good capital structure is formed.

Thapa (2022) conducted a research on capital structure management of commercial banks of Nepal (With reference to Himalayan Bank Ltd., Nepal SBI Bank Ltd and Everest Bank Ltd.). Both statistical and financial tools is used while analyzing data. The main objectives to examine the current capital structure of sample commercial banks, to analyze the mix of debt and equity of selected banks, to find out the relationship between capital structure, cost of capital and profitability. The major findings the study found that In terms of total debt to total assets, the selected banks are highly leveraged (i.e.more than 60 percent in average) on five year time horizon. The assets of selected banks have been financed more funds collected from creditors, Everest bank has the highest average ratio of 85.36%in comparison to the lowest of 67.16 % of HBL. Likewise, debt capital financing is more than 15.86 times higher than shareholder's equity. HBL has an average of 13.96 times D/E ratio. Debt capital financing is more than 13.96 times higher than shareholder's equity. HBL has an average of 13.96 times D/E ratio. It means debt capital financing is more than 13.96 times higher than shareholder's equity.

2.3 Research Gap

Previous study mostly focus on some sort of debt/equity ratio and some of them used current ratio while analyzing the data. As the above studies are also related with capital structure, they are mostly done by taking banks and some others are done by taking different sectors combining banking, manufacturing and service sectors. This research implies the latest ten fiscal year data (2012/13-2021/22) and analyzed the Himalayan bank Ltd and Nepal Investment Bank Ltd. Further, this study tried to analyze and evaluate the relationship of capital structure with various variables on like, leverage ratio, cost of capital, cost of equality and so on. Researcher used both financial and statistical tools. Similarly, this study also innumerate whether there is significant relationship between these variables or not with the help of t-test. This analysis is not appropriate as each sectors have different capital structure. At last this study is differed from the above in terms of sample bank, data presentation as well as statistical tools used for interpretation and analysis of data.

CHAPTER – III

RESEARCH METHODOLOGY

This chapter includes research design, nature and source of data, population and sample, data collection and procedure and method of analysis. It is depicted in the following manner.

3.1 Research Design

A research design is purely and simply the framework or plan for a study that guides the collection and analysis of the data (Wolf & Panta,2005). The main objective of this study is to analyze and evaluate the capital structure of selected commercial banks. This study follows the analytical and descriptive research design. To complete this study following design and format has been used. First of all information and data are collected. The important information and data are selected. Then data is arranged by using manner.

3.2 Nature and Source of Data

This study conducted on the basis of the secondary data for the characteristic study annual report of the Himalayan bank, Supporting data and information are obtained from the office of selected bank's booklets, documents other published and unpublished materials, thesis newspaper are the important source of data. The secondary data have been collected from financial statement, annuals reports and from website of Nepal stock exchanged Ltd, SEBON.

3.3 Data Collection Procedure

The data used in this study is secondary nature. The study is based on secondary data provided by Bank and other relevant sources. The data are collected from the balance sheet profit and loss A/C of Himalayan bank and Nepal Investment bank through annual report of various years.

3.4 Population and Sample

All together there are 19 commercial banks. The Himalayan Bank and Nepal Investment Bank Ltd. have been chosen for this study due to the growing to lead the commercial bank.

3.5 Method of Data Analysis

The collected data are computed and analyzed using financial and statistical tools. The various tools applied in this study, has been briefly presented below.

3.5.1 Financial Analysis

Financial tools are used to examine the financial performance i.e. strength and weakness of band. In this study financial tools like ratio analysis and financial statement analysis have been used. The analysis of financial mix is performed by using ratio analysis. It's a powerful tool of financial analysis. A ratio analysis is defined as : the indicated quotient of two mathematical expressions and as the relationship between two or more thing. It is used to interpret the financial statements so that the strengths and weaknesses of a firm as well as its historical performance and current financial condition can be determined. Capital structure ratio.

The ratio indicates the proportion of debt and equity in financing the firm's assets. It is concerned with the long term solvency of a firm. Concerned with the long-term solvency of a firm. Capital structure rations are calculated to measure the financial risk and firm's ability of using the debt for the benefit of the shareholders. "The choice between debt and equity depends on ht cost risk and control. The cost of capital is the minimum rate of return a project must generate to be acceptable to the shareholders. Charges in the debt equity mix after the risk ness of the firm's earnings and with that the cost of the two sources of financial capital are affected. Cost or risk consideration would favors equity however maintaining control can be pivotal when ever capital structure decisions are being made and the choice between debt and equity can at times tilt in favour of debt.

i) **Debt to Equity ratio:** This ratio is a measure of the relative amount provided by lenders and owners. It is also known as "External internal Equity Ratio." It is calculated according to the following.

Formula,

$$\text{Debt Equity Ratio} = \frac{\text{Amount of Debt}}{\text{Amount of Equity}}$$

This ratio indicates the cushion of ownership funds available to debt holder. It gives on idea of the amount of capital supplied to a firm by internal funds or owners an average debt to equity ratio of 1:1 is acceptable.

- ii) Debt Ratio:** The debt ratio is defined as total debt divided by total assets. It indicates to percentage of assets that are financed through debt. It is calculated as under

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

This ratio should be 1:2 or 0.5:1 A ratio above 1:2 or 0.5:1 implies that lenders and creditors were providing more finance than ordinary shareholders and that too without expectation of a share in any surplus as compensation to creditors in extending credit. A very low ratio can cause worry to shareholders as it means company is not using debt to best advantage.

- iii) Interest Coverage Ratio:** It is also known as time interest Earned ratio. "This ratio measures the debt servicing capacity of a firm is so far as fixed interest on long term loan is concerned. The interest coverage ratio is the sum of net profit interest and taxes divided by interest charges

$$\text{Interest coverage ratio} = \frac{\text{Net profit before interest and tax}}{\text{Interest charge}}$$

This ratio shows how many times the interest charges are covered by fund that the ordinarily available to pay the interest charges. A high ratio is desirable but too high ratio indicates that the firm is very conservative in using debt. A lower ratio indicates excessive use of debt or inefficient operations.

- iv) Return on Total Assets (ROA):** This ratio measures the productivity of the assets. Higher ratio shows the higher return on the assets used in the business there by indicating effective use of the resources available and vice versa. The formula for computation of this ratio is as follows:

$$\text{ROA} = \frac{\text{Net profit after tax}}{\text{Total assets}}$$

- v) Return on Share Holder's Fund or Equity (ROSE):** This ratio is ascertained for measuring the efficiency of the investment made by the shareholders in the business on the basis of the relationship between shareholder's fund and net profit;

$$\text{ROSE} = \frac{\text{Net profit after tax}}{\text{Share holder fund}}$$

- vi) Net Income Approach (Overall capitalization Rate):** The overall cost of capital is measured by dividing net operating income by the value of firm is the book value debt and market value of equity overall cost of capital (K_o).

$$K_o = \frac{\text{Earning Before Interest and tax (EBIT)}}{\text{Total value of firm (V}_o\text{)}}$$

vii) Net Operating Income Approach (Equity Capitalization Rate): This approach argues that the value of the firm remains constant to the degree of leverage and equity capitalization rate tends to increase with the degree of leverage Equity capitalization Rate (K_e).

$$K_e = \frac{EBIT - I}{S} \text{ or } \frac{EPS}{MVPS}$$

3.5.2 Statistical Analysis

Statistical and Research can not be separated whenever research work is carried on statistics is most to have output of the research .To achieve the objective of the study, some important statistical tools such as mean, standard deviation, coefficient of variance, of correlation, regression analysis of important variables has been used which are as follows:

a. Arithmetic mean (\bar{X})

The most popular and widely used measure for representing the entire data by one value is called the mean. The value is obtained by adding together all the items and dividing this total by the no of items.

$$\bar{X} = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{\Sigma X}{n}$$

Where ΣX = Sum of all values of the variables

n = No. of observation years

b. Standard Deviation (S.D.)

The standard deviation measures the absolute dispersion or variability of a distribution the greater the amount of dispersion or variability the greater the standard deviation the greater will be magnitude of the deviations of the values from their mean and vice versa.

$$S.D. = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n}}$$

c. Correlation

The term correlation analysis is the analysis, which reflects that the variables of the two different data are related or we can say that correlation is the analysis of relation between more than one variable. "When the relation is of quantitative nature, the appropriate statistical tools for discovering and measuring the relationship and expressing it in a belief formula is known as Correlation." The relation between the data may be positive or

negative. It can be determined by different ways such as graphical representation, Formula Method etc. When both variables are moving upward or downwards in the same proportion, it is said to be the condition of positive correlation and if the condition is vice versa that the condition is said to be negative correlation. The main purpose of this study is to find out the correlation between selected variables with each other over study period.

Karl Pearson's Coefficient Correlation Analysis

Out of several mathematical method of measuring correlation the Karl Pearson popularity known as Pearson's coefficient of correlation widely used in practice to measure the degree of relationship between two variables. Two variables are said to have correlation when the value of one variable is accompanied by the change in the value of the other. Therefore, it is measured by following formula using two variables. It is denoted by small 'r'.

$$\text{Correlation of coefficient } r = \frac{n \sum XY - \sum X \times \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

r = coefficient of correlation

$\sum XY$ = Sum of product of two series.

$\sum X^2$ = Sum of squared in X series

$\sum Y^2$ = Sum of squared in Y series

The value of this coefficient can never be more than + 1 or less than -1. Thus, + 1 and -1 are the limit of this coefficient. The r = + 1 implies that correlation between variables is positive and vice-versa. And zero denoted no correlation.

d. t- Statistics-

It was developed by W.S. Gosset (Pen name Student) in 1908. Then this distribution is explained by R.A. Fisher. To test the validity of assumption of the study for small samples, t- test is used. For applying t distribution, the t- values are calculated first and compared with the critical values at a certain level of significance for given degree of freedom. If the computed value of 't' exceeds the table value (say t 0.05), it is known that the difference is significant at 5 percent level of significance but if t-values are less than the corresponding critical of the 't' distribution, the difference is not termed as significant.

Under H_0 , the t- statistic is:

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

Where,

t=calculated value of t

r = correlation of coefficient between the variables.

n = number of sample.

Regression Model

The MRA is an extension of Multiple Regression Analysis (MRA), in the sense that instead of single independent variable there are two or more independent variables.

Regression Model with k number of independent variables is

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + u \quad (1)$$

where Y is dependent variable, X_1 and X_2 , are independent variables, u is an error term, b_0 is Y -intercept, and b_1, b_2, \dots, b_k are partial slope coefficients.

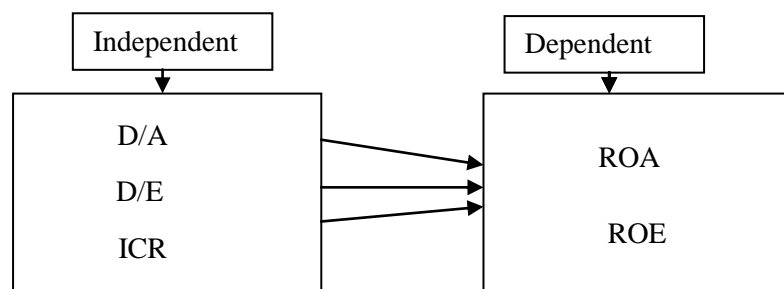
Y = Return on Equity (ROE) and Return on Assets (ROA)

X_1 = Debt/Assets

X_2 = Debt/Equity

X_3 = Interest Coverage Ratio

Research Framework



Dependent Variable

Return on Assets (ROA)

This ratio measures the productivity of the assets. Higher ratio shows the higher return on the assets used in the business there by indicating effective use of the resources available and vice versa.

Return on Equity (ROE)

This ratio is ascertained for measuring the efficiency of the investment made by the shareholders in the business on the basis of the relationship between shareholder's fund and net profit.

Independent Variable**Debt to Assets (D/A)**

The debt ratio is defined as total debt divided by total assets. It indicates to percentage of assets that are financed through debt. This ratio should be 1:2 or 0.5:1 A ratio above 1:2 or 0.5:1 implies that lenders and creditors were providing more finance than ordinary shareholders and that too without expectation of a share in any surplus as compensation to creditors in extending credit. A very low ratio can cause worry to shareholders as it means company is not using debt to best advantage.

Debt to Equity (D/E)

This ratio is a measure of the relative amount provided by lenders and owners. It is also known as "External internal Equity Ratio. This ratio indicates the cushion of ownership funds available to debt holder. It gives on idea of the amount of capital supplied to a firm by internal funds or owners an average debt to equity ratio of 1:1 is acceptable.

Interest Coverage Ratio (ICR)

This ratio measures the debt servicing capacity of a firm is so far as fixed interest on long term loan is concerned. The interest coverage ratio is the sum of net profit interest and taxes divided by interest charges. This ratio shows how many times the interest charges are covered by fund that the ordinarily available to pay the interest charges. A high ratio is desirable but too high ratio indicates that the firm is very conservative in using debt. A lower ratio indicates excessive use of debt or inefficient operations.

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

This chapter constitutes the most crucial part of the study. Under this, the major variables taken into account for the purpose study are total Debt and Total Assets, EBIT, Net Profit after tax and Shareholder's Equity, EBIT and Interests, Net Income and Net Operating Income approach, co-efficient of correlation analysis of different variables of selected sample banks.

4.1 Debt Ratio

Debt ratio shows what portion of the capital assets is financed by outside funds. When successfully employed, this ratio benefits the shareholders by raising their expected return-earnings per share. High ratio shows bank's success in exploiting debt to be more profitable as well as it also indicates its riskier capital structure and vice versa.

Table 4.1

Total debt/total assets ratio of sample banks (in times)

FY	HBL	NIBL
2012/13	0.913	0.8711
2013/14	0.913	0.8851
2014/15	0.916	0.8911
2015/16	0.912	0.8625
2016/17	0.891	0.8656
2017/18	0.877	0.8524
2018/19	0.876	0.8573
2019/20	0.843	0.854
2020/21	0.823	0.838
2021/22	0.928	0.819
Mean	0.89	0.86
S.D	0.03	0.02
CV (%)	3.68	2.33

Source: Appendix- I and II

Table 4.1 indicates debt ratio of the selected banks over the study periods. Total debt to total assets mean ratio of HBL and NIBL is 0.89 times and 0.86 times. This ratio of HBL is the highest of 0.928 times in 2021/22 and the least is 0.823 times in the year 2019/20. Likewise, this ratio of NIBL is the highest of 0.891 times and the least is 0.819 times with the corresponding 2014/15 and 2021/22 respectively. Both banks are used short term debts or liabilities while using their funds.

The CV measures the consistency which is 3.68% risky of HBL whereas NIBL has 2.33% risk for this ratio. Hence, both banks are consistency in which NIBL is more uniformity slightly since it's CV is lower. The bank found using higher debt capital to finance their assets.

4.1.1 Calculation of Debt- Equity Ratio

The debt-equity ratio is the relationship between borrowed funds and owner's capital. It is determined to measure the firm's obligation to creditors in relation to the funds invested by owners. Long-term creditors generally prefer to see a modest debt-equity ratio since it means great protection and a greater stake in the company's future for equity holders. The total debt includes current accounts, saving accounts, calls and short deposits, overdraft fixed deposit, loan and advances and borrowing from other banks. Shareholder's equity or net worth includes paid-up capital, reserve and surplus.

Table 4.2

Debt to Equity Ratio of Sample banks (times)

FY	HBL	NIBL
2012/13	9.105	9.08
2013/14	9.702	9.62
2014/15	10.566	9.48
2015/16	10.318	6.87
2016/17	8.163	6.97
2017/18	7.226	5.83
2018/19	7.289	6.22
2019/20	7.474	6.38
2020/21	7.296	8.92
2021/22	9.118	5.88
Mean	8.63	7.53
S.D	1.24	1.48
CV (%)	14.35	19.67

Source: Appendix- I and II

Table 4.2 shows the debt to equity ratio of selected banks during the study period. The mean debt to equity ratio of HBL and NIBL is 8.63 times and 7.53 times. This ratio of HBL is the highest of 10.56 times and the least is 7.22 times with the corresponding year 2014/15 and 2017/18 respectively. Likewise, this ratio of NIBL is the highest of 9.62 times and the least is 5.83 times with the corresponding year 2013/14 and 2018/19 respectively. By measuring the coefficient of variation, HBL is more consistency since it has the lesser CV of 14.35% as compared to NIBL of 19.67%. A high debt-equity ratio implies that a proportion of long-term financing is from debt sources that are the firm is using a great deal of financial leverage.

4.1.2 Interest Coverage Ratio

The interest coverage ratio also named as the times- interest earned ratio is used to test the firm's debt servicing capacity. Interest coverage ratio reflects the firm's ability to pay interest out of earnings. This ratio shows the number of times the interest charges are covered by funds that are ordinarily available for their payment.

Too high or too low ratio is unfavorable to the banks. Too high ratio implies unused debt capacity or a firm's conservativeness in using debt to its best advantage whereas, low ratio imply a danger signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the creditors.

Table 4.3

Interest Coverage Ratio (times)

FY	HBL	NIBL
2012/13	1.37	0.84
2013/14	1.44	1.55
2014/15	1.71	1.94
2015/16	2.76	2.3
2016/17	1.98	2
2017/18	1.54	1.66
2018/19	1.4	1.51
2019/20	1.14	0.97
2020/21	1.27	1.32
2021/22	0.69	1.03
Mean	1.53	1.51
S.D	0.52	0.46
CV (%)	34.11	30.16

Source: Appendix- I and II

Table 4.3 shows the effects of interest coverage ratio of sample banks over ten years study period. The average interest coverage ratio of HBL and NIBL is 1.53 times and 1.51 times respectively. Likewise, this ratio is the highest and least of HBL is 2.76 times and 0.69 times with the corresponding year 2015/16 and 2021/22 respectively.

Similarly, the highest and least ratio of NIBL is 2.30 times and 0.97 times with the corresponding year 2015/16 and 2019/20. The co-efficient of variation indicates the fluctuating trend of the bank. HBL is slightly more fluctuating as compared to NIBL since the CV of HBL is higher with 34.11% than NIBL. The computed interest coverage ratio of bank in above table shows how many times the interest charges are covered by funds that the ordinary available to pay interest charges. But this ratio shows consistent trend. The computed interest coverage ratio of bank in above table shows how many times the interest charges are covered by funds that the ordinary available to pay interest charges.

4.1.3 Return on Assets

Return on assets ratio measures the profitability of bank that explains a firm to earn satisfactory return on all financial resources invested in the bank's assets; otherwise its survivable is threatened. The ratio explains net income for each unit of assets. Higher ratio indicates efficiency in utilizing its overall resources and vice-versa. Rate of return on total assets is major tool to judge the operational efficiency of a bank. The return on total assets of selected bank is as follows:

Table 4.4

Return on Assets of Sample banks (In%)

FY	HBL	NIBL
2012/13	1.54	2.62
2013/14	1.29	2.25
2014/15	1.31	1.88
2015/16	1.94	1.97
2016/17	2.03	2.06
2017/18	1.61	2.13
2018/19	2.21	1.79
2019/20	1.79	1.19
2020/21	1.68	1.56
2021/22	1.09	1.55
Mean	1.65	1.90
S.D	0.34	0.38
CV (%)	20.43	20.24

Source: Appendix- I and II

Table 4.4 shows the return on assets of selected bank during the study period. The average ROA of HBL and NIBL is 1.65% and 1.90% respectively. This ratio of both banks is fluctuating. The coefficient of variation indicates the uniformity of the ratio. By measuring coefficient of variation, HBL is slightly more risky than other sample banks since it has higher CV of 20.43% as compared with 20.24% of NIBL. The higher ROA represent the better financial strength of the banks.

4.1.4 Return on Shareholder's Equity

A return on shareholder's equity is the measure of productivity of shareholder's funds. It carries the relationship of return on shareholder's equity. The shareholder's equity includes common share capital, preference share capital and reserve and surplus. Management's objective is to generate the maximum return on shareholder's investment in the firm. ROE is therefore the best single measure of the company's success in fulfilling its goal. Thus, this ratio is of great interest and value to the present as well as the perspective shareholders and also of great concern to management, which has the responsibility of maximizing the owner's welfare. The ratio equals the net profit after taxes divided by the common stockholder's equity.

Table 4.5

Return on Shareholder's Equity of sample banks (In%)

FY	HBL	NIBL
2012/13	15.39	27.28
2013/14	13.79	24.47
2014/15	15.49	20
2015/16	21.93	15.66
2016/17	18.61	16.65
2017/18	13.27	14.71
2018/19	18.34	13
2019/20	15.4	8.92
2020/21	14.89	11.04
2021/22	10.76	11.17
Mean	15.79	16.29
S.D	2.98	5.69
CV (%)	18.90	34.91

Source: Appendix- I and II

Table 4.5 depicts the return on total shareholders' equity over the study period. The average ROE of HBL and NIBL is 15.79% and 16.29% respectively. Likewise, the highest and the least ROE of HBL is 21.93% and 10.76% with the corresponding year 2015/16 and 2021/22 respectively. Similarly, the highest ROE of NIBL is 27.28% and 8.29% with the corresponding year 2012/13 and 2019/20 respectively. By measuring the coefficient of variation, NIBL has 34.91% which is slightly less risky than HBL with 18.90%.

4.2 Analysis of Capital Structure

The analysis of capital structure is a concept of vital importance for this study. Here, both NI and NOI approach are considered to analyze the capital structure of the overall capitalization.

4.2.1 Net Income Approach (overall Capitalization Rate-Ko)

The total market value of firm is simply obtained by adding the market value of debt to the market value of equity. $K_o = EBIT/V$

Table 4.6

Overall Capitalization Rate (KO) (NI Approach)(time)

FY	HBL	NIBL
2012/13	0.47	0.33
2013/14	0.47	0.55
2014/15	0.46	0.59
2015/16	0.49	0.4
2016/17	0.54	0.48
2017/18	0.59	0.51
2018/19	0.66	0.52
2019/20	0.48	0.34
2020/21	0.42	0.33
2021/22	0.37	0.33
Mean	0.50	0.44
S.D	0.08	0.10
CV (%)	15.94	22.30

Source: Appendix- I and II

Table 4.6 represents the overall capitalization rate (Ko) of sample banks. The mean of this rate of HBL and NIBL is 0.50 times and 0.44 times respectively. The Ko of HBL is highest of 0.66 times in 2018/19 and the least is 0.37 times initially. Likewise, Ko of NIBL is the highest and the least of 0.59 times and 0.33 times in the initial year 2014/15 and 2021/22 respectively. The increased in operating income leads to increase in overall capitalization. By measuring the coefficient of variation, NIBL has the CV of 22.30% which is slightly lower than HBL of 15.94%. It indicates that NIBL is slightly more consistency than HBL. The overall cost of capital is measured by dividing net operating income by the value of firm is the book value debt and market value of equity overall cost of capital.

4.2.2 Net operating Income (NOI) Approach (Equity Capitalization Rate –Ke)

The net operating income approach focus on the equity capitalization rate and appears as irrelevancy theory of capital structure, as already explained in detail in chapter II. According to this approach, overall capitalization rate, Ko as well as the debt capitalization rate, Ke, is independent of degree of leverage.

However, the equity capitalization rate, K_e , increase linearly with financial leverage. Equity capitalization rate is obtained simply dividing the earning before tax by market value of the equity. Thus, under net operating income approach, the equity capitalization is computed as follows:

Table 4.7

Equity Capitalization Rate (K_e) (NOI Approach) (in times) of Sample banks

FY	HBL	NIBL
2012/13	0.05	0.06
2013/14	0.04	0.04
2014/15	0.04	0.04
2015/16	0.03	0.03
2016/17	0.04	0.04
2017/18	0.04	0.06
2018/19	0.06	0.05
2019/20	0.05	0.04
2020/21	0.06	0.05
2021/22	0.06	0.08
Mean	0.05	0.05
S.D	0.01	0.01
CV (%)	21.38	28.06

Source: Appendix- I and II

The figure 4.7 depicts the equity capitalization rate (K_e) of sample banks. This rate of HBL has slightly constant and increased in last year. This rate of NIBL is the highest of 0.08 times and the least is 0.03 times in 2021/22 and 2015/16 respectively. The average equity capitalization rate of HBL and NIBL is same i.e. 0.05 times and 0.05. By measuring the coefficient of variation, NIBL is 28.06% which is more risky than HBL of 21.38% in regards to cost of equity.

4.3 Statistical Analysis

4.3.1 Correlation between operating profit (EBIT) and Interest Payment

The relation between operating profit (EBIT) and interest payment is evaluated in order to measure debt-servicing capacity of the banks. It is assumed that there is significant relationship between EBIT and interest payment. Here interest payment (Y) is dependent variable and EBIT (X) is independent variable. Positive values show the positive relation

and negative values shows the negative relation. The following result is obtained for selected bank.

Table 4.8

Relationship between Operating profit (EBIT) and Interest (Interest Payment)

Banks	r	r²	T	Tabulated value	Level of significant
HBL	0.8012	0.6420	3.788	2.306	Significant
NIBL	0.8299	0.6887	4.2074	2.306	Significant

Source: Appendix- III

Table 4.8 highlights that the coefficient of correlation of HBL and NIBL is 0.8012 and 0.8299. By testing t-statistic, the coefficient between operating profit (EBIT) and interest (Interest Payment) of sample bank is significant since the calculated value of t is 3.788 and 4.2074 is less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). Hence, the result indicated that the correlation between operating profit (EBIT) and interest (Interest Payment) HBL and NIBL is significant.

4.3.2 Correlation between Capital structure (Debt-Equity Ratio) and Profitability (return on Assets)

The correlation between debt equity ratio and return on assets of selected banks are analyzed in order to examine which debt capital is significant in generating more return. It is assumed that there is significant relationship between return and debt capital. Positive values show the positive relation and negative values shows the negative relation. The following result is obtained for sample banks.

Table 4.9

Relationship between Debt-Equity Ratio and Return on Assets of Sample banks

Banks	R	r²	t cal	Tabulated t	Level of significant
HBL	0.4687	0.2197	-1.500	2.306	Insignificant
NIBL	0.4123	0.1700	1.280	2.306	Insignificant

Source: Appendix- III

Table 4.9 highlights that the coefficient of correlation of HBL and NIBL is 0.4687 and 0.4123. By testing t-statistic, the coefficient between Debt-Equity Ratio and Return on Assets of sample bank is insignificant since the calculated value of t is -1.500 and 1.280 is less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). Hence, the

result indicated that the correlation between Debt-Equity Ratio and Return on Assets of HBL and NIBL is insignificant.

4.3.3 Correlation between Overall Capitalization Rate (KO) and Profitability (return on Assets)

The correlation between overall capitalization rate (Ko) and return on assets of selected banks are analyzed in order to examine which debt capital is significant in generating more return. It is assumed that there is significant relationship between return and debt capital. Positive values show the positive relation and negative values shows the negative relation. The following result is obtained as depicted under.

Table 4.10

Relationship between overall capitalization rate (Ko) and Return on Assets of Sample banks

Banks	R	r²	t cal	Tabulated t	Level of significant
HBL	0.7281	0.5301	3.004	2.306	Significant
NIBL	0.3038	0.0923	0.9019	2.306	Insignificant

Source: Appendix- III

Table 4.10 highlights that the coefficient of correlation of HBL and NIBL is 0.7281 and 0.3038. By testing t-statistic, the coefficient between overall capitalization rate (Ko) and Return on Assets of HBL is significant since the calculated value of t is 3.004 less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). NIBL insignificant since the calculated value of t is 0.9019 less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). Hence, the result indicated that the correlation between overall capitalization rate (Ko) and Return on Assets of HBL is significant NIBL is insignificant.

4.4 Regression analysis of ROA on D/A, D/E and ICR

Table 4.11

Multiple Regression equation of ROA on D/A, D/E and ICR of HBL

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871 ^a	.759	.6395	0.21321

a. Predictors: (Constant), D/A_HBL, D/E_HBL, ICR_HBL

	Coefficients	Standard Error	t Stat	P-value
Intercept	2.2188	2.517431	0.88141	0.412009
D/A HBL	0.697	3.488	0.199	0.848
D/E HBL	-0.230	0.098	-2.332	0.058
ICR HBL	0.523	0.145	3.609	0.011

a. Dependent Variable: ROA_HBL

Source: By using SPSS

The dependent variable ROA with two independent variables D/A, D/W and ICR of HBL.

$$= b_0 + b_1D/A + b_2D/E + b_3ICR$$

or

$$\hat{Y} = 2.2188 + b_1(0.697) - b_2(0.230) + b_3(0.523)$$

The value of beta coefficient can be interpreted in the following manner.

b_1 = if the D/A is increased by Rs 1, then ROA is increased by Re 0.697 holding the values of D/E is constant or fixed.

b_2 = if the D/E is increased by Rs 1, then ROA is increased by Rs -0.230 holding the values of ICR is constant or fixed.

b_3 = if the ICR is increased by Rs 1, then ROA is increased by Rs 0.523 holding the values of D/A is constant or fixed.

By testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.848, 0.058 and 0.011) is more than 0.05 at the 5% level of significance.

Table 4.12

Multiple Regression equation of ROA on D/A, D/E and ICR of NIBL

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.551 ^a	.303	-.044	0.414312

a. Predictors: (Constant), D/A_NIBL, D/E_NIBL, ICR_NIBL

	Coefficients	Standard Error	t Stat	P-value
Intercept	-6.26536	7.632887	-0.82084	0.443122
D/A NIBL	9.286	9.880	0.939	0.383
D/E NIBL	0.028	0.122	0.231	0.824
ICR NIBL	-0.020	0.338	-0.059	0.954

Source: By using SPSS

The dependent variable ROA with two independent variables D/A, D/E and ICR of NIBL.

$$= b_0 + b_1D/A + b_2D/E + b_3ICR$$

or

$$\hat{Y} = -6.26536 + b_19.286 + b_20.028 - b_30.020$$

The value of beta coefficient can be interpreted in the following manner.

b_1 = if the D/A is increased by Rs 1, then ROA is increased by Re 9.286 holding the values of D/E is constant or fixed.

b_2 = if the D/E is increased by Rs 1, then ROA is increased by Rs 0.028 holding the values of ICR is constant or fixed.

B_3 = if the ICR is increased by Rs 1, then ROA is increased by Rs -0.020 holding the values of D/A is constant or fixed.

By testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.383, 0.824 and 0.954) is more than 0.05 at the 5% level of significance.

4.4.1 Regression Model of ROE on D/A, D/E and ICR

Table 4.13

Multiple Regression equation of ROE on D/A, D/E and ICR of HBL

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.879 ^a	.774	0.661	1.830662

a. Predictors: (Constant), D/A_HBL, D/E_HBL, ICR_HBL

	Coefficients	Standard Error	t Stat	P-value
Intercept	18.726093	21.61444	0.866369	0.419579
D/A HBL	-9.019	29.954	-0.301	0.773
D/E HBL	-0.353	0.849	-0.415	0.692
ICR HBL	5.311	1.246	4.262	0.005

a. Dependent Variable: ROE_HBL

Source: By using SPSS

The dependent variable ROE with two independent variables D/A, D/W and ICR of HBL.

$$= b_0 + b_1D/A + b_2D/E + b_3ICR$$

or

$$\hat{Y} = 18.726093 - b_19.019 - b_20.353 + b_35.311$$

The value of beta coefficient can be interpreted in the following manner.

b_1 = if the D/A is increased by Rs 1, then ROE is increased by Re -9.019 holding the values of D/E is constant or fixed.

b_2 = if the D/E is increased by Rs 1, then ROE is increased by Rs -0.353 holding the values of ICR is constant or fixed.

b_3 = if the ICR is increased by Rs 1, then ROE is increased by Rs 5.311 holding the values of D/A is constant or fixed.

By testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.733, 0.692 and 0.005) is more than 0.05 at the 5% level of significance.

Table 4.14

Multiple Regression equation of ROE on D/A, D/E and ICR of NIBL

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808 ^a	.653	.480	4.32217

a. Predictors: (Constant), D/A_NIBL, D/E_NIBL, ICR_NIBL

	Coefficients	Standard Error	t Stat	P-value
Intercept	-141.4048354	79.62761	-1.77583	0.126103
D/A NIBL	177.850	103.079	1.725	0.135
D/E NIBL	1.145	1.273	0.899	0.403
ICR NIBL	-2.516	3.533	-0.712	0.503

Source: By using SPSS

The dependent variable ROE with two independent variables D/A, D/E and ICR of NIBL.

$$= b_0 + b_1D/A + b_2D/E + b_3ICR$$

or

$$\hat{Y} = -141.40483 + b_1177.850 + b_21.145 - b_32.516$$

The value of beta coefficient can be interpreted in the following manner.

b_1 = if the D/A is increased by Rs 1, then ROE is increased by Re 177.850 holding the values of D/E is constant or fixed.

b_2 = if the D/E is increased by Rs 1, then ROE is increased by Rs 1.145 holding the values of ICR is constant or fixed.

B_3 = if the ICR is increased by Rs 1, then ROE is increased by Rs -2.516 holding the values of D/A is constant or fixed.

By testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.135, 0.403 and 0.503) is more than 0.05 at the 5% level of significance.

4.5 Major Findings of the Study

The major findings of the study are as follows.

- Total debt to total assets mean ratio of HBL and NIBL is 0.89 times and 0.86 times. This ratio of HBL is the highest of 0.928 times in 2021/22 and the least is 0.823 times in the year 2019/20. Likewise, this ratio of NIBL is the highest of 0.891 times

and the least is 0.819 times with the corresponding 2014/15 and 2021/22 respectively. Both banks are used short term debts or liabilities while using their funds. The CV measures the consistency which is 3.68% risky of HBL whereas NIBL has 2.33% risk for this ratio. Hence, both banks are consistency in which NIBL is more uniformity slightly since it's CV is lower. The bank found using higher debt capital to finance their assets.

- The mean debt to equity ratio of HBL and NIBL is 8.63 times and 7.53 times. This ratio of HBL is the highest of 10.56 times and the least is 7.22 times with the corresponding year 2014/15 and 2017/18 respectively. Likewise, this ratio of NIBL is the highest of 9.62 times and the least is 5.83 times with the corresponding year 2013/14 and 2018/19 respectively. By measuring the coefficient of variation, HBL is more consistency since it has the lesser CV of 14.35% as compared to NIBL of 19.67%. A high debt-equity ratio implies that a proportion of long-term financing is from debt sources that are the firm is using a great deal of financial leverage.
- The average interest coverage ratio of HBL and NIBL is 1.53 times and 1.51 times respectively. Likewise, this ratio is the highest and least of HBL is 2.76 times and 0.69 times with the corresponding year 2015/16 and 2021/22 respectively. Similarly, the highest and least ratio of NIBL is 2.30 times and 0.97 times with the corresponding year 2015/16 and 2019/20. The co-efficient of variation indicates the fluctuating trend of the bank. HBL is slightly more fluctuating as compared to NIBL since the CV of HBL is higher with 34.11% than NIBL
- The average ROA of HBL and NIBL is 1.65% and 1.90% respectively. This ratio of both banks is fluctuating. The coefficient of variation indicates the uniformity of the ratio. By measuring coefficient of variation, HBL is slightly more risky than other sample banks since it has higher CV of 20.43% as compared with 20.24% of NIBL. The higher ROA represent the better financial strength of the banks.
- The average ROE of HBL and NIBL is 15.79% and 16.29% respectively. Likewise, the highest and the least ROE of HBL is 21.93% and 10.76% with the corresponding year 2015/16 and 2021/22 respectively. Similarly, the highest ROE of NIBL is 27.28% and 8.29% with the corresponding year 2012/13 and 2019/20 respectively. By measuring the coefficient of variation, NIBL has 34.91% which is slightly less risky than HBL with 18.90%.
- The mean of this rate of HBL and NIBL is 0.50 times and 0.44 times respectively. The Ko of HBL is highest of 0.66 times in 2018/19 and the least is 0.37 times

initially. Likewise, Ko of NIBL is the highest and the least of 0.59 times and 0.33 times in the initial year 2014/15 and 2021/22 respectively. The increased in operating income leads to increase in overall capitalization. By measuring the coefficient of variation, NIBL has the CV of 22.30% which is slightly lower than HBL of 15.94%.

- This equity capitalization rate (Ke) of HBL has slightly constant and increased in last year. This rate of NIBL is the highest of 0.08 times and the least is 0.03 times in 2021/22 and 2015/16 respectively. The average equity capitalization rate of HBL and NIBL is same i.e. 0.05 times and 0.05. By measuring the coefficient of variation, NIBL is 28.06% which is more risky than HBL of 21.38% in regards to cost of equity.
- By testing t-statistic, the coefficient between operating profit (EBIT) and interest (Interest Payment) of sample bank is significant since the calculated value of t is 3.788 and 4.2074 is less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). Hence, the result indicated that the correlation between operating profit (EBIT) and interest (Interest Payment) HBL and NIBL is significant.
- By testing t-statistic, the coefficient between Debt-Equity Ratio and Return on Assets of sample bank is insignificant since the calculated value of t is -1.500 and 1.280 is less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). Hence, the result indicated that the correlation between Debt-Equity Ratio and Return on Assets of HBL and NIBL is insignificant.
- By testing t-statistic, the coefficient between overall capitalization rate (Ko) and Return on Assets of HBL is significant since the calculated value of t is 3.004 less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). NIBL insignificant since the calculated value of t is 0.9019 less than tabulated t i.e. 2.306 (8 degree of freedom, for 5% significance level). Hence, the result indicated that the correlation between overall capitalization rate (Ko) and Return on Assets of HBL is significant NIBL is insignificant.
- By HBL testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.848, 0.058 and 0.011) is more than 0.05 at the 5% level of significance.

- By NIBL testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.383, 0.824 and 0.954) is more than 0.05 at the 5% level of significance.
- By HBL testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.733, 0.692 and 0.005) is more than 0.05 at the 5% level of significance.
- By NIBL testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.135, 0.403 and 0.503) is more than 0.0

CHAPTER –V

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter is divided into three sections: summary, conclusions and recommendations. It is depicted in the following way.

5.1 Summary

Capital structure is very crucial for smooth operation of business. It is the crucial part for banking industry. In order to the study had been carried based on sample commercial bank i.e. HBL and NIBL for the study of capital structure. Financial sector is a part of the industry and is regarded as the backbone or engine of the growth of the economy. It plays a very crucial role in the development of all sectors of the economy and actually works as a lubricator by the financial resources. Banking industry is a part of financial sector and it has great contribution in economic development of the country. Today there are altogether 19 commercial banks operating in the country. The sample banks are the leading in the banking sector.

The main objective of the study is to analyze the capital structure of commercial banks, to evaluate the impact of capital structure on the profitability of HBL and NIBL, to analyze the relationship of capital structure with EBIT and interest payment, overall capitalization rate and debt/equity ratio, debt/equity ratio and return on assets and to find out the existing situation of financing of sample banks. The main limitation of the study is, it is based on the secondary study period and applied tools and techniques of analyzing the data.

The review of literature shows the review of the issues related with abstracts of capital structure such as NI approach, NOI approach, MM model and other theoretical approaches to establish appropriate capital structure are described in this chapter. The most of data used in this study are secondary in nature that is annual reports provided by sample bank. Five years data have been taken and analyzed by using both financial and statistical tools in chapter three research methodology. The various ratios, leverage analysis, correlations, and t-statistic test and capital structure analysis. Detail calculation is presented in this chapter that is considered as the important part revealing the performance of selected bank. This is the concluding chapter of the study.

The average total debt to total assets ratio of HBL and NIBL is 0.89 times and 0.86 times. The CV measures the consistency which is 3.68% risky of HBL whereas NIBL has 2.33% risk for this ratio.

The mean debt to equity ratio of HBL and NIBL is 8.63 times and 7.53 times. By measuring the coefficient of variation, HBL is more consistency since it has the lesser CV of 14.35% as compared to NIBL of 19.67%. Similarly, the average interest coverage ratio of HBL and NIBL is 1.53 times and 1.51 times respectively. The average ROA of HBL and NIBL is 1.65% and 1.90% respectively. This ratio of both banks is fluctuating. By measuring coefficient of variation, HBL is slightly more risky than other sample banks since it has higher CV of 20.43% as compared with 20.24% of NIBL.

The average ROE of HBL and NIBL is 15.79% and 16.29% respectively. By measuring the coefficient of variation, NIBL has 34.91% which is slightly less risky than HBL with 18.90%.

The mean (Ko) of HBL and NIBL is 0.50 times and 0.44 times respectively. By measuring the coefficient of variation, NIBL has the CV of 22.30% which is slightly lower than HBL of 15.94%. Similarly, the average equity capitalization rate of HBL and NIBL is same i.e. 0.05 times and 0.05. By measuring the coefficient of variation, NIBL is 28.06% which is more risky than HBL of 21.38% in regards to cost of equity.

5.2 Conclusion

This research is mainly considered the capital structure analysis of sample leading commercial banks.

The average total debt to total assets ratio of HBL and NIBL is 0.89 times and 0.86 times. The mean debt to equity ratio of HBL and NIBL is 8.63 times and 7.53 times. The average ROA of HBL and NIBL is 1.65% and 1.90% respectively. This ratio of both banks is fluctuating. The average ROE of HBL and NIBL is 15.79% and 16.29% respectively. The mean DPS of HBL and NIBL is Rs. 23.90 and Rs.29.52 respectively. Price earnings ratio of HBL is decreasing whereas NIBL is also reducing except the last year. The mean (Ko) of HBL and NIBL is 0.50 times and 0.44 times respectively. Similarly, the average equity capitalization rate of HBL and NIBL is same i.e. 0.05 times and 0.05 times.

The correlation between EBIT and interest payment of HBL and NIBL is highly positive. Considering the t-statistic, the calculated value of t of both HBL and NIBL is more than tabulated value at 5% level of significance for two tailed test, hence, there is significant relationship between EBIT and interest payment. Similarly, the correlation coefficient between debts to equity ratio of HBL and NIBL is low negative. By considering the t-statistic, the calculated value of t both banks are less than tabulated value at 5% significance level their relationship is insignificant. Lastly, Correlation coefficient of between overall capitalization rate (Ko) and profitability (ROA) of HBL is positive whereas NIBL is negative and their relationship is insignificant since calculated value of t is less than tabulated value at 5% significance level.

By HBL testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.848, 0.058 and 0.011) is more than 0.05 at the 5% level of significance. NIBL ROA with D/A, D/E and ICR is insignificant since p value (0.383, 0.824 and 0.954) is more than 0.05 at the 5% level of significance. By HBL testing the beta significant test, among the two independent variables, ROA with D/A, D/E and ICR is insignificant since p value (0.733, 0.692 and 0.005) is more than 0.05 at the 5% level of significance. NIBL ROA with D/A, D/E and ICR is insignificant since p value (0.135, 0.403 and 0.503) is more than 0.05 at the 5% level of significance.

5.3 Recommendations

Based on finding following recommendation is drawn as depicted under.

- The ROSE, ROA and EPS of sample banks are slightly low. So they needed to seek more profitable in order to increase profit of the bank. And they also need to maintain optimal capital structure considering cost of capital so that it helps to enhance the ROS and profitability of the banks.
- Dividend payout ratio should be determined considering the shareholder's requirements by the bank. Hence banks should maintain the consistent dividend payout ratio.
- The earnings of sample banks are fluctuating. Hence, banks need to enhance their profitability by increasing efficiency in their productivity and decreasing the cost.
- Bank should also use the long term debt in order to composite the capital structure.
- The portion of debt of the sample banks is also low, so, the sample banks should rise in order to reduce the cost of funds.

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CHAPTER-I INTRODUCTION 1.1 Background of the study Every

nation's economic development depends heavily on the banking industry. Development of a nation is impossible without banking. The nation's overall economic structure may be altered by a thriving banking sector. Making a capital structure decision is essential since it has a direct impact on an organization's profitability. A crucial component of the company's financial strategy is the effective selection and application of capital. Because of this, choosing a capital structure requires careful consideration. It speaks about the