CHAPTER - I
INTRODUCTION

1.1 Background of the Study

Nepal has adopted mixed and liberal economic policy with the implicit objective to help the state and the private sector. Especially after restoration of the democracy, the concept of the liberalization policies has been incorporated as directive principal and state policies. This liberalization has helped in establishing many companies, banks, finance companies and manufacturing industries. Thus these establishments help the country for its development.

Banking sector is the most vibrant part of economy which has been playing very vital role in mobilizing the financial resources from the saver to users. It, in general, collects the idle funds from different savers and accumulated funds is further proceeds to the needy centers like households sectors, business sectors. It is the heart of trade, commerce and industry. It makes the smooth flow of funds in the circulation body of the economy. It makes various functions like assets and liabilities transformation, security trading, agency functions, and economies of scale, corporate social responsibilities, and other day to day banking functions.

Banking plays a significant role to the development of national economy. Bank is a financial institution, which primary deals in borrowing and leading. Modern bank performs many other varieties of function. Therefore it is difficult to define the functions of a modern bank because of their complexity and veracity in operation.

The word "Bank" is derived from the Italian word "BANCA' which means a counter tables or bench used by medieval money exchange. Oxford dictionary defines bank as "an establishment for the custody of Money". The banks operate in the modern and completive business environment. It is an account of this reason that different economists have offered different definitions, such as:

"A Bank is an institution whose debts (bank deposits) are widely accepted in settlement of their people's debts to each other".

"A Bank is one who is the ordinary course of his business, receives money which he repays by honoring cheque of persons from whom or on whose account he receive it". Although, there are various types of banks, only commercial banks are considered here, for the purpose of present study. They are the hearts of the modern financial system.

Economic development is the foundation development of any country. Economic development is supported by the financial infrastructure of that country. Financial institution constitutes an important part of the financial infrastructure. The main function of the bank is the collection of idle funds and mobilizes them to productive sector causing overall economic development, which finally leads to national development of the country. Bank pools the fund through deposit and mobilize them to productive sector in the form of loans and advances. Bank is the financial institution which deals with money by accepting various types of deposits, disbursing loan and rendering various types of financial services. It is the intermediary between the deficit and surplus of financial sources.

The history of banking in Nepal may be described from the age of barter system. But the financial system is still in evolutionary stage in our country. Gold Smiths, Merchants and Money Lenders were the early bankers in Nepal..."Tejarath Addha" was the first institutional development of banking which was established during the period of Rana Prime Minister 'Randeep Singh' in 1933 B.S. Another strong step of banking was the emergence of Nepal Bank Limited. Nepal Bank Limited came into existence as a public sector commercial bank with 49% ownership of public and 51% ownership of HMG/Nepal in 1994 B.S. At that time, Nepalese economy was characterized by the prevalence of dual currency system. There were great fluctuations in the open market rate of exchange of the Nepalese rupees face to face the Indian currency which provided great hindrance to the economic stability as well as development of the country. Thus, there was an immediate need of Central Bank. As a result, Nepal Rastra Bank was established as a Central Bank of the country in 2013 B.S. Then in 2016 B.S. the government established Nepal Industrial Development Corporation (NIDC). It worked as an industrial development bank with the package of both type of services such as financial and technical assistance to establish modern industries in private sector. Similarly, Rastriya Banijaya Bank (RBB) was set up in 2022 B.S. With a view of providing financial assistance for agriculture, Agricultural Development Bank of Nepal (ADB) was established in the government sector in 2024 B.S. The Security Exchange Centre

(SEC) was set up in 2032 B.S. in order to provide the liquidity to government securities. At the same time, Employee's Provident Fund Corporation, Nepal Insurance Corporation and other institutions were established. These institutions contributed positively to the generation of outputs, employment, revenue and infrastructure in Nepal. These also helped to enhance the private sector but the growth rate of public sector was far faster than that of private sector.

In 1980 AD, government introduced "Financial Sector Reforms" which facilitated the establishment of different private sector financial institutions in Nepal. As a result, different commercial banks, insurance companies, finance companies, development banks , co-operative societies and other financial institutions came into the scene of Nepalese economy. At present, 26 commercial banks, 78 financial companies, 147 development banks and 5 Rural Development banks are working under the Banking and Financial Institution ordinance 2009/10. Reforms were introduced with the changes in Commercial Bank Act 2031 B.S. and its amendment in 2041 B.S. The entry barries placed on commercial bank were eliminated. This change was introduced to allow both foreign banks and private sector to operate in the banking sector. However, foreign participation in the financial sector is only allowed with the Joint collaboration with domestic partners. The objection was to help transmit banking, managerial and technical knowledge in the economy. The immediate impact of policy was the number of joint venture commercial banks and private sector commercial banks that came into operation.

Nepal Arab Bank Ltd is the first private commercial bank in Nepal, which introduced computerized banking system and other modern technologies in this field. Nepal Arab Bank Ltd was set up in 2041 B.S. as a Joint venture with Dubai Bank Ltd with the emergence of Nepal Arab Bank Ltd. The door was opened for private sector commercial banks. Then whole lot of commercial banks was opened in Nepal. Currently, twenty-six commercial banks are working in the country. Out of these, two banks are public sector commercial banks and fifteen are private sector. There are only 31 commercial banks listed in Nepal Stock Exchange till 2065 B.S.

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. A firm can raise required fund by

issuing various types of financial instruments. Investors and creditors being the key supply of capital, they hold greater degree of risk and hence have claims over firm's assets and cash flow. Similarly debt holders are also a source of financing fund and they have risk considering firm's cash flow in uncertain and there is probability that it may default in it's obligations to pay off it's interest ands principle. In the other hand, if a firm issues preference share, those shareholders have the priority in payment of dividend is fixed as the percentage of interest to debt, it is preferably paid off only after interest payment. Common shareholders are as the owner of the firm; they are paid from cash remaining after all payment is being made. Since the common share i.e. equity fluctuate in the market more than the preference share and debt, there is more risk.

Capital structure is one of the most complex areas of financial decision making due to its inter-relationship with other financial decision variables. A financial manager must understand the firm's capital structure and its relationship to risk, return and value for attainment of its primary objective of wealth maximization.

Capital structure is very crucial part of the financial management as the various composition of debt and equity capital may impact differently on risk and rate of return to equity shareholders. The funds required to business enterprises are raised either through the ownership securities (i.e. equity shares and preference shares) and creditor shares (i.e. debentures or bonds). A business enterprise has to maintain proper mix of both the securities in a manner that the cost and the risk perception to the shareholders are minimized. The mix of different securities is portrayed by the firm's capital structure.

Capital is a scare 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.

The above statement states in brief that either fund is raised by debt or equity financing, risk is associated in proportion of its uncertainty is being paid off. The required rate of return expected by investors according to their risks is cost of capital. Therefore a firm should try to obtain necessary fund at lowest cost. This cost of capital is fully dependent upon the

proportion of debt and equity i.e. financial leverage, which is actually the capital structure used by the firm.

Capital structure concepts has important place in financial management theory. It is basically decision is concerned with shareholders wealth maximization. As capital refers to the proportion of debt and equity, a choice in proportion is actually financial decision in case to fulfill investment requirement. Therefore, it is a wise decision to select a financing mix, which maximizes shareholders wealth.

1.2 Statement of the problem

Capital structure has taken as the subject of controversy over since the publication of Modigliani and Miller Classic Paper in 1958 and the debate still exists as a puzzle. As a result the matter is running as an interesting issue among the research scholars and students of finance. Thus, the dare was collected to carry out a study on capital structure with other hand. Commercial banks are major companies of financial system and they work as a catalyst of economic development of the nation.

In the Nepalese economy, commercial banks rapidly and showing the best operating result in most recent years. The growth of the banks may be the outcome the capital structure they are applying. Realising this fact various studies regarding capital of the banks have been carried out but they have not been able to provide clear findings managing their capital structure and what is the leverage position of these institutions.

Commercial banks have vital role in the economic upliftment. Commercial bank is the bank which deals in exchanging the currency, accepting deposits giving loans and performing commercial transactions. Therefore commercial bank acts as pool between savers and investors of the fund. Banks must also maintain the adequate cash and bank balance to meet the day by day management of resources, i.e., liquidity position of the bank. Although banks are profit generating business organization, customers' expectations are also taken under consideration.

Although every bank has wide range of services covering the different strain of society, deposit collection, loan disbursement and collection has considered as main function to be

performed by banks. The bank has to follow a number of directives set by the central bank in all the activities, deposit of this the bank has been facing various problems like as lack of good lending opportunities, poor information systems, political instability, security problem, increasing level of non-performing assets etc. So, to overcome out of such problem the bank has to adopt the proper techniques of loan management which help the bank in maintaining the liquidity position and improve its performance.

The problems area for the study is reflected in the following research questions:

- Does the capital structure affect the cost of capital?
- Is the sample bank capable to enhance the earning by its capital structure?
- What is the relation between capital structure, profitability and EPS of the bank?
- What is the proposition of total debt and equity capital in these institutions?
- How far the banks are able to service the debt?
- How is the condition of capital adequacy in the banks?

1.4 Objective of the study

The primary objective of the present study is to analyze capital structure and profitability management of Nepal Investment Bank and Nepal Credit and Commerce Bank. The specifics objectives of the present study are listed down as follows:

- To examine the relationship of the capital structure and cost of capital of sample Bank.
- To examine the capital adequacy ratio of the sample banks.
- To analyze the relationship of capital structure with variables like earning per share, dividend per share total debt to total assets, debt to equity ratio, interest coverage ratio, return on shareholders equity of Nepal Investment Bank and Nepal Credit and Commerce Bank.
- To suggest and recommend on the basis of major findings of the study.

1.5 Significance of the study

There are more than 31 Commercial banks functioning in our country at present. But there are only few researches in capital structure of commercial bank. capital is one of the main functions of commercial bank where the whole banking business is rested upon. thus the

study only one commercial bank and especially in their capital structure carry a great significance to the banking professional, to the share holder of the banks and to the student who wants to know about capital structure of commercial bank. The proposed bank namely Nepal Investment Bank and Nepal Credit and Commerce Bank. are significantly similar in many aspects of their volume and quality of operation. Research itself is very important because it aims to gain knowledge and to add the new literate in existing field. Thus, the research has its own imperative. Mainly, the study is important for the researcher to fulfill the academic requirement of master degree. On the other, the study is important for commercial banks, researchers, scholars, investors, government and many other parties. At last, it is expected that the study will add a drop of literate in the field of commercial banks and their capital structure.

1.6 Limitation of the study

The studies being the partial fulfillment of master degree in business studies has some limitations of its own kind. They are:

- The study mainly based on secondary data collected from different sources.
- The study has been mainly carried out based on the published financial documents such as balance sheets, Profit and loss accounts, related journals, magazines and brochures. These published documents have their own limitations.
- The study mainly concentrates only on the capital structure of Nepal Investment Bank and Nepal Credit and Commerce Bank..
- The study period will be covered by only five fiscal year i.e. from 2005/2006-2009/10.

1.7 Organization of the study

The present study is organized in such a way that the stated objectives can easily be fulfilled. The structure of the study will try to analyze the study in a systematic way. The study report has presented the systematic presentation and finding of the study. The study report is designed in five chapters, which are as follows:

Chapter- I: Introduction

This chapter deals with the basic concept and background of the study. This chapter consist the statement of the problem, objectives of the study, significance of the study and limitation of the study.

Chapter- II: Review of Literature

Second chapter deals with review of Literature. It includes conceptual reviews, review of pervious thesis, review of journals and articles that are published in different news papers.

Chapter- III: Research Methodology

Third chapter contains research methodology, which includes general introduction, research design, method of analysis, population & sample, sources of data, data processing procedures and analysis of tools & techniques.

Chapter – IV: Presentation and Analysis of Data

This chapter is the heart of the study. This chapter deals with presentation and analysis of relevant data and information through research mythology.

Chapter – V: Summary, Major Findings, Conclusion and Recommendations

Lastly, this chapter summarizes the whole study and states main findings, issues, gaps and offers recommendation for the improvement in future to the related sector and the conclusion of the study.

Appendix and bibliography will be presented in the last part of the thesis to get the clear picture of the study.

CHAPTER - II

REVIEW OF LITERATURE

"Review of literature means reviewing research studies of other relevant preposition in the related area of the study so that all part studies, their conclusions and deficiencies may be know and further research can be concluded."(Pantta & Wolf, 1999:234). This chapter deals with the literature, relevant to this study, this part of thesis will essential to know about the finding of other research which are appropriate to the study. The first part will consist conceptual framework and the remaining parts will consist the review of reports, articles, journals and dissertation.

2.1 Conceptual Review

In this part discussed about the capital structure theories from the international practice and different books. From the different books the capital structure theory regarding debt and equity are defined properly and many theories regarding capital structure are presented in this chapter.

2.1.1 Conceptual Frame Work of Capital Structure Theories

The term capital structure refers to the proportion of the capital in the organization. Mainly capital structure is the mixture of the long term capital such as; debt, equity, preference share and reserves and surplus.

Value of the firm, market value of the share, net income and stakeholder desires can be fulfilled by the optimal capital structure decision. Optimal capital structure concerns the level of optimum utilization of the capital which decreases the overall cost of capital.

The question of the Existence of optimum use of leverage has been very succinctly by (Solomon,1963: 9), is that, "Given that a firm has certain structure of assets, which offers net operating earning of given size and quality, and given a certain structure of rates in the capital market, is there 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 then at other degrees of leverage."

Capital structure is concerned with analyzing the capital composition of the organization. According to (Weston and Bringham, 1998:555), "Capital structure is the permanent financing source of the firm, represented primarily by long term debt, preferred stock, common stock, excluding all short term Credits. Thus a firm's capital structure is only a part of its financial structure. Common stock, capital surplus and accumulated retained earnings."

According to Stephen and George second edition, page: 344, "Mixture of financial instruments used to finance the firm, is simplified to include only long term interest bearing debt and common stock including a short term liability is known as the capital structure."

Every firm must deal with the various choices available to management for funding the investment and operations of the business over the long term. Financing

section of a firm includes the operating profit, which normally is a key source of funds available internally for an organization.

(Hampton,1989: 11-12) has stated, in this context, two key areas of strategy and trade-off decisions that are identified as: the disposition of profit and shaping of the firm's capital structure.

"As the choices are crucial to the firm's long term viability, this set of decisions is made at the highest level of the management and endorsed by the board of directors.

The first area, disposition of profits, undergoes a basic three way split of after tax operating profit among owners, lenders and retention for reinvestment in the firm. Here, the critical trade-off choice is the relative amount of dividends to be paid out versus the alternative of retaining these funds to invest in the company's growth. Payment of interest to lenders is a matter of contractual obligation. The level of interest payments uncured relative to operating profit, however, is a direct function of management policies and actions regarding the use of debt.

The second area, the planning of capital structure proportions, involves selecting and balancing the relative proportion of funds obtained over time from ownership source and long-term debt obligation. The chosen combination is intended to support an acceptable level of overall profitability of the business. In this context, business risk and debt services requirements should be taken into account. At the same time it should match the degree of risk exposure deemed appropriate by management and the board of directors."

"Capital structure is the permanent financing of the firm, primarily represented by long-term debt, preferred stock and common stock but excluding all short term credits." (Western and Brigham,1998: 243).

"Capital structure is the combination of the long term sources of funding i.e. debt, preferred stock, common stock that are used to finance the firm. Optimum capital structure can be defined as the mix of debt and equity, which will maximize the market value of the firm, is represented as the credit side of the balance sheet. Further the advantage of having an optimum capital structure, if such an optimum does exist, is two fold, it maximizes the value of the firm and hence the wealth in turn increases its ability to find new wealth creating investment opportunities. Also by increase in investment in increases the economy's rate of investment and growth." (Gitman,1985:42).

Main theories and approaches regarding capital structure are mentioned below. According to David Durand (1999), main approaches are:

- Net Income Approach.
- Net Operating Income Approach.

And other two fundamental theories are as follows:

- Traditional Approach
- Modigliani and Miller's Approach

2.1.2 Related Terms in Capital Structure Theories:

Mainly used term in the capital structure theories are defined follow properly.

Total market value of the firm (V) = (S+B)

Value of the equity (S) = (V-B)

Market Value of debt (B) = (V-B)

EBIT= Earning before Interest and Taxes or net operating income (NOI).

I= Annual Interest charge.

E=Earning available to common stockholders (EACS).

Ke= Equity capital rate.

Kd =Debt Capitalization rate.

Ko = Overall capitalization rate.

NI = Net income.

Value and Cost related with the different securities are mentioned below:

For Debt:

Cost of Debt (Kd) = I / B

Market value Debt (B) = I / Kd

For Equity:

Cost of Equity (Ke) = NI / S

Market value of Equity (S) = NI / Ke

For Over all:

Overall Capitalization rate: (Ko) = EBIT / V

Overall Capitalization rate is weighted average of the cost of debt and equity, can also be written as:

Weighted average cost of capital (WACC / Ko): = Wd× Kd + We× Ke

Market value of the firm = EBIT/ Ko

2.1.3 Capital Structure Approaches:

Different approaches have been developed under the relevancy of capital structure to value of firm and cost of capital. Net income approach and traditional approach argued capital structure as relevant matter and net operating income approach and MM approach argued capital structure as irrelevant matter.

2.1.3.1 Net Income Approach:

Net income approach is a relevant theory of capital structure. According to this approach, the capital structure decision is relevant to the valuation of the firm and the overall cost of capital. In other words, a change in a financial leverage (proportion of debt in the capital structure) will lead to a corresponding change in the overall cost of capital as well as the total value of the firm. Therefore if we increase the ration of debt in the capital structure, the weighted average cost of capital will decline and the value of the firm as well as the market price of the ordinary shares will increase. In contrast, a decrease in the debt ratio

will cause an increase in the overall cost of capital and decline both in the value of the firm as well as the market price of equity shares.

Assumptions of This Approach:

The following are the basic assumptions of net income approach. To calculate the value of firm and WACC, these assumptions are constantly used.

- There are no taxes.
- The cost of debt is less than the equity- capitalization rate or the cost of equity.
- Cost of equity and cost of debt remain constant.
- The use of debt doesn't change the risk perception of investors.
- Net operating income remains constant.
- Overall cost of capital decreases as leverage increases.

In this approach, the cost of debt, value of debt, operating income and cost of equity are defined. First of all, calculate the value of equity, then add it to the value of debt to obtain the value of firm and finally, calculate the overall cost of capital.

The effect of leverage on the firms cost of capital and the effect of leverage on the total market value of the firm is mentioned below graphically:

Figure – 2.1: Cost of Capital (Net Income Approach)

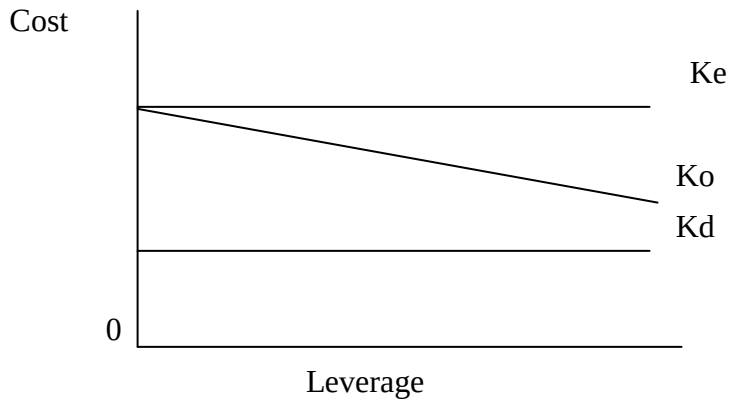
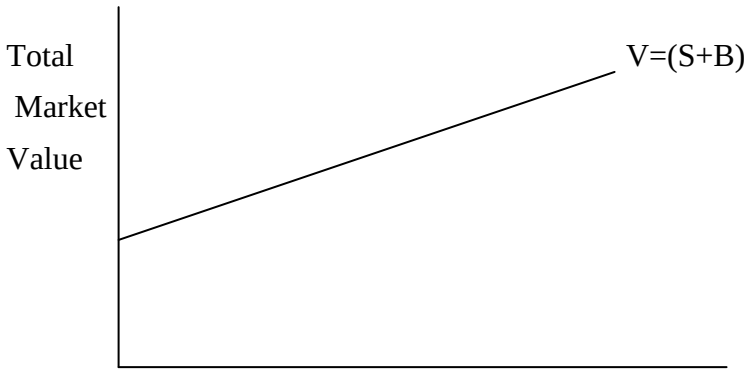


Figure – 2.2: Leverage Effect on the Total Market Value of the Firm



2.1.3.2 Net Operating Income Approach:

Net operating approach is an irrelevant theory co capital structure. This theory assumes that the cost of capital structure (proportion of debt and equity) is irrelevant to the value of the firm and overall cost of capital. Under this approach, net operating income is capitalized at an overall capitalization rate to obtain the total market value of the firm. The market value of the debt, then, is deducted from the total market value to obtain the market value of the stock.

The main hypothesis of this approach is that the market value of the firm is not affected by the capital structure change. The required return on equity, however, increases linearly with leverage.

Assumptions of This Approach:

Following are the main basic assumptions of this approach.

- Over all cost of capital remains constant.
- Cost of debt remains constant.
- Cost of debt is less than cost of equity.
- Required return on equity increases linearly with an increase in debt ratio
- Total operating profit remains constant.

In this approach, overall cost of capital, cost of debt net operating income are defined. First of all calculate the value of firm then deduct the value of debt to obtain the value of equity and finally value of equity used to calculate the cost of equity.

Value of the Firm:

"With this approach the overall capitalization rate as well as the cost of the debt funds stays the same regardless of the financial leverage employed. However, the required return on equity, increases linearly with financial leverage." (Van Horne and John,1995:471)

The implied required rate of return on equity (Ke) = NI / S

Alternatively, the implied required rate of return can be calculated as follows:

Ke = Ko+ (Ko-Ki) B / S

This equation indicates that, if Ko and Kd are constant, Ke would be increased linearly with debt-equity ratio.

The effect of financial leverage on the value of the firm and cost of capital under NOI approach is further illustrated graphically:

Figure – 2.3: Cost of Capital (Net Operating Income Approach)

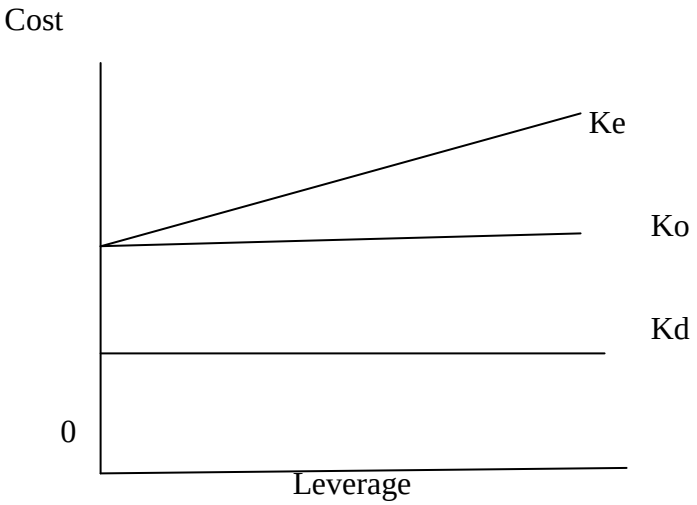


Figure – 2.4: Effect of Leverage on the Value of Firm

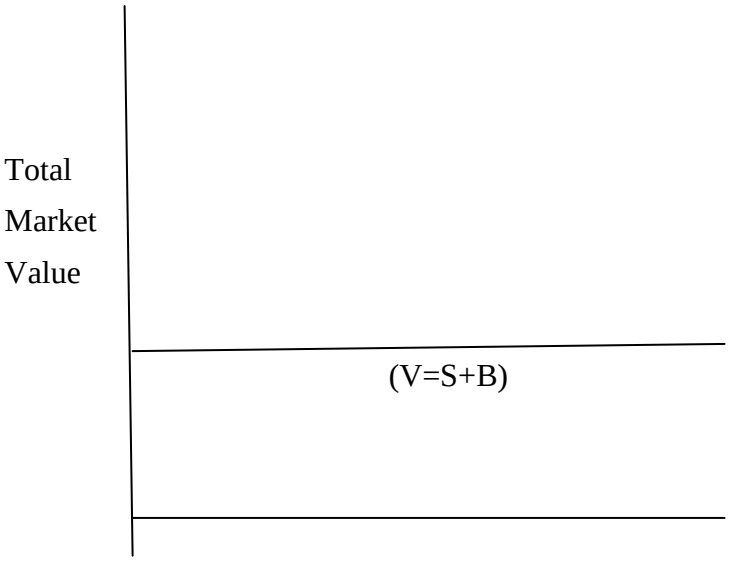


Figure mentioned above (2.3) shows that overall cost of capital and cost of debt are constant and cost of equity increases with leverage continuously. According to Pandey (1992), page 619, "As the average cost of capital, is constant and this approach implies that there is no any unique optimum capital structure."

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2.1.3.3 Traditional Approach:

This approach assumes the capital structure as relevant matter for the value and cost of capital of the firm. It takes some features of both net income and net operating income approach. This approach strikes a balance between the two different approaches net income and net operating income.

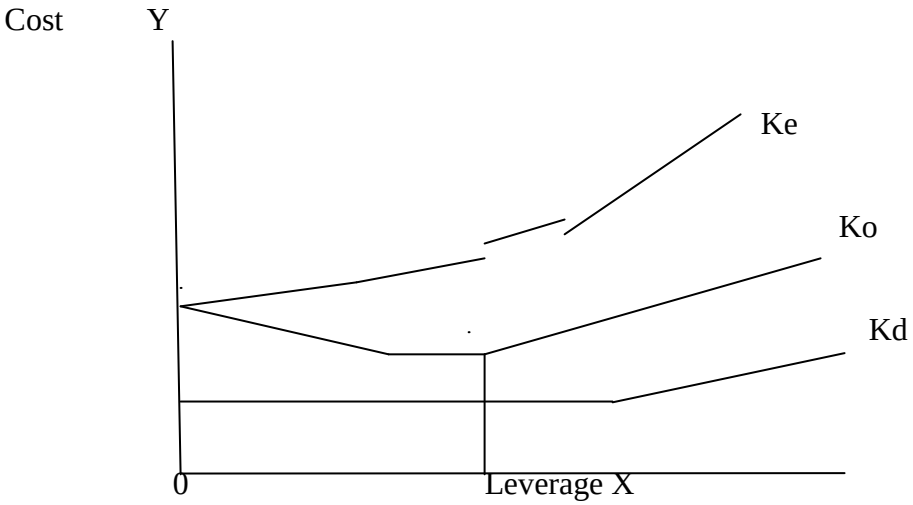
Therefore, it is also known as the intermediate approach. It resembles the net income approach in arguing that cost of capital and total value of the firm are not independent of the capital structure. But is does not subscribe to the view of NI approach that value of a firm will necessarily increase for all degree of leverage. In one respect it shares a feature with the NOI approach that beyond a certain degree of leverage, the overall cost increases leading to a decrease in the total value of the firm.

According to this approach, there is an optimal capital structure therefore the firm can increase the total value of the firm through the wise use of leverage. The firm initially can

lower its overall cost of capital through the use of cheapest cost debt and raise its total value through leverage. But the increase in leverage increases the risk to the debt holders and the debt holders demand high interest rate as a result the overall cost of capital also increases.

The effect of leverage on the firms cost of capital and the effect of leverage on the total market value of the firm is mentioned below graphically:

Figure – 2.5: Cost of Capital (Traditional Approach)



In the above figure, at first, the overall cost of capital declines with increase in debt ratio because the rise in cost of equity (ke) does not entirely offset the use of cheaper debt funds. As a result, the weighted average cost of capital (ko) declines with moderate use of leverage. After a point however, the increase in cost of equity (ke) more than offsets the use of cheaper debt funds in the capital structure, and overall cost of capital (Ko) begins to rise. The rise in overall cost of capital (Ko) is supported further one cost of debt (Kd) begins to rise. The optimal capital structure is the point at which overall cost of capital (Ko) bottoms out. In the figure, this optimal capital structure is point X. thus, the traditional position implies that the cost of capital is not independent of the capital structure of the firm and that there is an optimal capital structure.

According to the traditional position, the manner is which they overall cost of capital reacts to changes in capital structure can be divided in to the three stages.

1. First Stage: Increasing Value

At the first stage, the equity capitalization rate (Ke) rises only after a certain level of leverage and not before or rises slightly with debt. So that the use of debt doest not necessarily increase the Ke. And this slight increase in Ke may not be so high as to neutralize the benefit of using cheaper fund. In other word, the advantage arising out of the use of debt is so large that , even after allowing for higher Ke, the benefit of use of the cheaper source of fund are Still available. As result, the value of the firm, V, increases while overall cost of capital falls with increasing leverage.

Under the assumption that Ke remains constant within the acceptable limit of debt, the value of the firm will be:-

$$
\begin{aligned}
V &= S+B \\
&= (EBIT - I)/Ke + I/Kd \\
&= (EBIT - I)/Ke + B \\
&= EBIT/Ke + (Ke-Kd)\times B/Ke
\end{aligned}
$$

Thus, so long as Ke and Kd are constant, the value of the firm'V' increases at a constant rate, (Ke-Kd)/Ke as the amount of debt increases.

When the formula is solved for overall capitalization rate, Ko, we get

$$Ko = EBIT/V = Ke-(Ke-Kd) \times B/V$$

This means that, with Ke>Kd, the average cost of capital will decline leverage.

2. Second Stage: Optimum Value

In the words of Pandey, page: 684, once the firm reached a certain degree of leverage, increase in leverage have a, negligible effect on the value, or the cost capital of the firm. This is so because the increase in the cost equity due to the added financial risk exactly offsets the advantage of low cost debt. Thus within the rank or at the specific point. The value of the firm will be maximum or cost of capital will be minimum.

3. Third Stage: Declining Value

If the Amount of debt is increased further beyond the acceptable limit, then the firm would become very risky to the creditors who would like to be compensates by a higher return such that Ki will rise .The use of debt beyond a certain point will, therefore have effect of rising the weighted average cost of capital and conversely the total value of the firm.

Overall Effect:

In the words of (Khan and Jain,1995:511), overall effect of these three stages suggest that the cost of capital in the function of leverage .Up to a point, the use of debt will favorably affect the value of firm, beyond the point, use of debt will adversely affect it. At the level of debt -equity ratio, the capital structure is an optimum capital structure. At the optimum capital structure, the marginal real cost of debt, define to include both implicit and explicit, will be equal to the real cost of equity. For the debt - equity ratio before that level the marginal real cost of debt would be less then that of equity capital ,while beyond that level of leverage, the marginal real cost of debt would exceed that of equity . Thus, there would, according to traditional view, be an optimum capital structure.

2.1.3.4 Modigliani- Miller (MM) Approach:

In 1958, two prominent financial researchers, Franco Modigliani and Merton Miller (MM), showed that, under certain assumptions, a firm's overall cost of capital, and therefore, its value, is independent of the capital structure. the Modigliani-Miller hypothesis is identified with the net operating income approach. M-M argue that ,in absence of taxes , a firm's market value and the cost of capital remains invariant to the capital structure changes. They provide analytically sound and logically consistent behavioral justification in favor of their hypothesis, and reject any other capital structure theory as incorrect. (Pandey, 1992: 686)

Assumptions of this Approach:

Following are the main basic assumption of this approach.

- There is a perfect capital market.
- There are no transaction costs of buying and selling securities.
- A sufficient numbers of buyer and seller exist in the market' so no single investor can have a significant influence on security prices.
- Relevant information is readily available to all investors and is cost-free to obtain.
- All investors can borrow or lend at the same rate.
- All investors are rational and have homogeneous expectations of a firm's earnings.
- All firms are homogeneous in riskiness.
- There are no personal or corporate taxes.
- All cash flows are perpetuities, that is, all firms expect zero growth.

- EBIT and bonds are perpetual.

In the no- tax MM case, the cost of debt and the over all cost of capital are constant regardless of a firm financial leverage position, measured as the firm's debt-to-equity ratio. As a firm increases its relative debt level, the cost of equity capital increases, reflecting the higher return requirement of stockholders due to the increased risk imposed by additional debt. The increased cost of equity capital exactly offsets the benefit of the lower cost of debt, so that the overall cost of capital does not change with changes in capital structure.

Basic Proposition:

According to (Khan and Jain, page,1995: 501) there are three basic proposition of the M-M approach, but M-M hypothesis can be best explained in term of their proposition I and II.

Proposition 1:

The value of any firm is established by capitalizing its expected net operating income (NOI or EBIT) at a constant rate (i.e. overall cost of capital) which appropriate for the firm's risk class.

VL = VU = EBIT (NOI) / WACC (Ko)

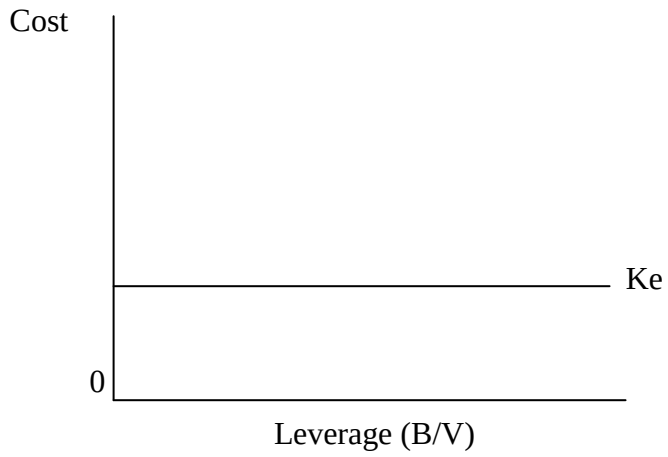
Since value as established by proposition 1 equation is constant, and then under the MM theory the value of the firm is independent of its leverage. This also implies that weighted average cost of capital (Ko) to any firm, levered or not, is:

i. Completely independent of its capital structure.
ii. Equal to the cost of equity to an un levered firm in the same risk class.

Thus MM's proposition 1 is identical to the Net Operating Income hypothesis.

The cost of capital under M-M proposition I is shown in the following figure which clears the average cost of capital is constant and is not affected by leverage.

Figure – 2.6: Cost of Capital (Under MM Proposition 1)



Proposition 2:

MM's proposition 2 defines the cost of equity. The cost of equity to the levered firm is equal to

i. The cost of equity to an unleveled firm in the same risk class plus
ii. Risk premium whose size depends on both the differential between the cost of equity and debt to an unlivered firm and the amount of leverage used.

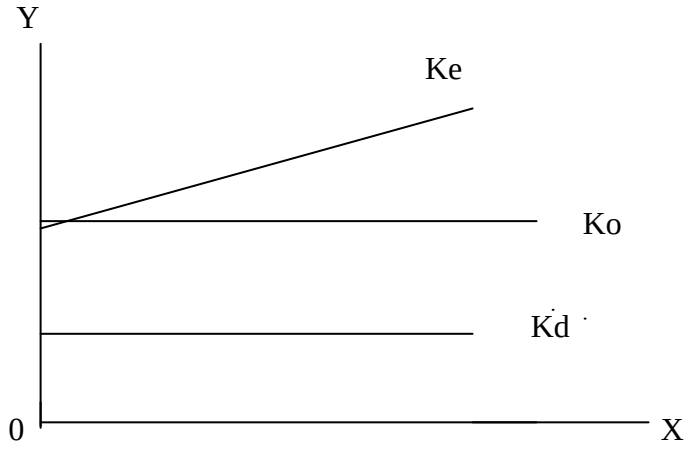
$$Ke(L) = Ke(U) + \text{Risk premium.}$$

Or

$$Ke(L) = Ke(U) + \{Ke(U) - Kd\}(B/S)$$

Proposition 2 states that as the firm's use of debt increases, its debt cost of equity also rises. Taken together, the 2- MM propositions imply that the inclusion of mere debt in the capital structure will not increase the value of the firm, because the benefits of cheaper debt will be exactly offset by an increase in the cost of equity. Thus, MM theory states that in a world with out taxes, both the value of a firm and its cost of capita are unaffected by its capital structure.

Figure – 2.7: Cost of Equity (Under the M-M Proposition 2)



Under MM hypothesis is that Ko will not rise even if very excessive use of leverage is made. This conclusion could be valid if the cost of borrowings, Kd, remains constant for any degree of leverage, but in practice, Kd increase with

leverage beyond a certain acceptable or reasonable level of debt. However, M-M maintain that even if the cost of debt, Kd, is increasing, the weighted average cost of capital, will remain constant. They argue that when Kd increase at a decreasing rate and may even turn down eventually.

This is illustrated in above figure (2.7) when Kd increases with debt, Ke will become less sensitive to further borrowing. The reason for this is that debt –holders, in extreme situation, on the firm's assets and bares some of the firm's business risk. Since risk of share holders is transferred to debt-holders, Ke declines.

2.1.3.5 Modigliani-Miller (MM) Approach with Corporate Taxes:

Considering tax, the theory process that the value of the firm increases with the inclusion of debt in the capital structure. The reason is that interest paid on debt deductible for tax purpose, and it reduces the tax liabilities. This means that after tax net income increases by the amount of tax benefit resulting in an increase in the value of the firm by the same amount.

Proposition 1:

Proposition 1, the value of the firm is determined by capitalizing the net operating income (before tax) at a rate that appropriate to its risk class. When tax is considered, the value is determined by capitalizing the net income after tax instead of net operating income

The value of a livered firm is equal to:

i. The value of un livered firm in the same risk class plus

ii. The gain form leverage, which is the present value of the tax saving and which equals the corporate tax rate times the amount of debt the firm uses

$V_L = V_u + BT_c$

Where,

V_L = Value of livered firm

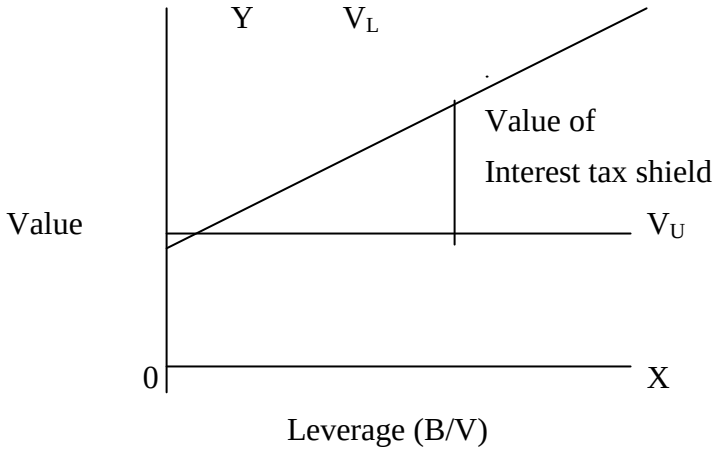
V_u = Value of unlivered firm.

BT_c = Present value of debt tax shield.

T_c = Corporate tax rate.

MM proposition 1 with taxes indicates $V_L > Vu$ and suggested that a firm's value rises continuously as moves from zero to hundred percent (0 to100%) debt. This is clearly shown in following figure:

Figure – 2.8: Value of the Levered firm



Proposition 2:

MM proposition 2 stress that the cost of equity of levered firm(KeL) rises with levered ratio to compensate for the additional levered risk while the cost of debt remains constant, because of the debt is assumed to be risk less .

The cost of equity to a levered firm is equal to:

i. The cost of equity to an unlivered firm in the same risk class plus

ii. A risk premium whose size depends on the differential between the cost of equity and debt to an unlivered firm, the amount of financial leverage and the corporate tax are:

$$Ke_L = Ke_u + (Ke_u - K_d)(B/S)$$

When corporate and personal taxes, exists:

$$V_L = V_u + B\left[1 - \frac{(1-T_c)(1-T_{ps})}{(1-T_{pd})}\right]$$

Where,

T_{ps} = Personal tax on stock.

T_{pd} = Personal tax on debt.

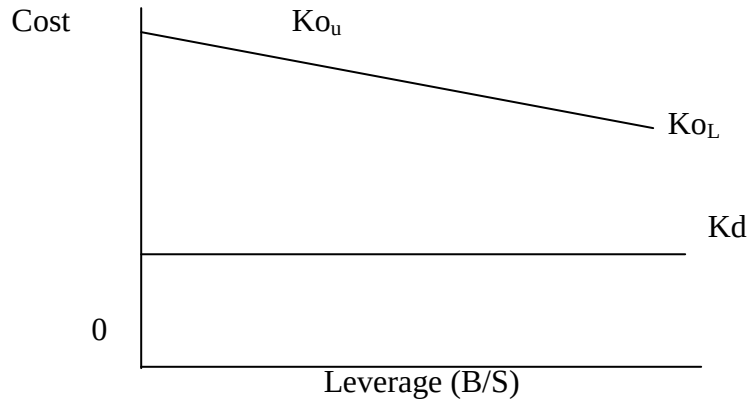
T_c = Corporate tax rate.

Value of the firm with taxes and bankruptcy costs, (Financial Distress) and agency costs.

VL = Vu + PV of debt tax shields – PV of bankruptcy and agency costs.

The figure mentioned below (2.9) indicates that as the cost equity increases with the B\S ratio, the overall capitalization rate decreases continuously until it reaches to the level of cost of debt at 100% debt financing.

Figure – 2.9: Cost of Capital of the Levered Firm



MM's tax corrected view suggested that , because of the tax deductibility of interest charges, a firm can increases its value or lowers its cost of capital continuously with leverage . Thus the optimum capital structure is reached when

the firm employs 100% debt. But the observed experience does not entirely support this view. In practice, firms do not employ large amounts of debt, not are lenders ready to lend beyond certain limit. Thus MM suggest that firm would adopt a target debt ratio so as not to violate the limit of the debt level imposed by lenders.

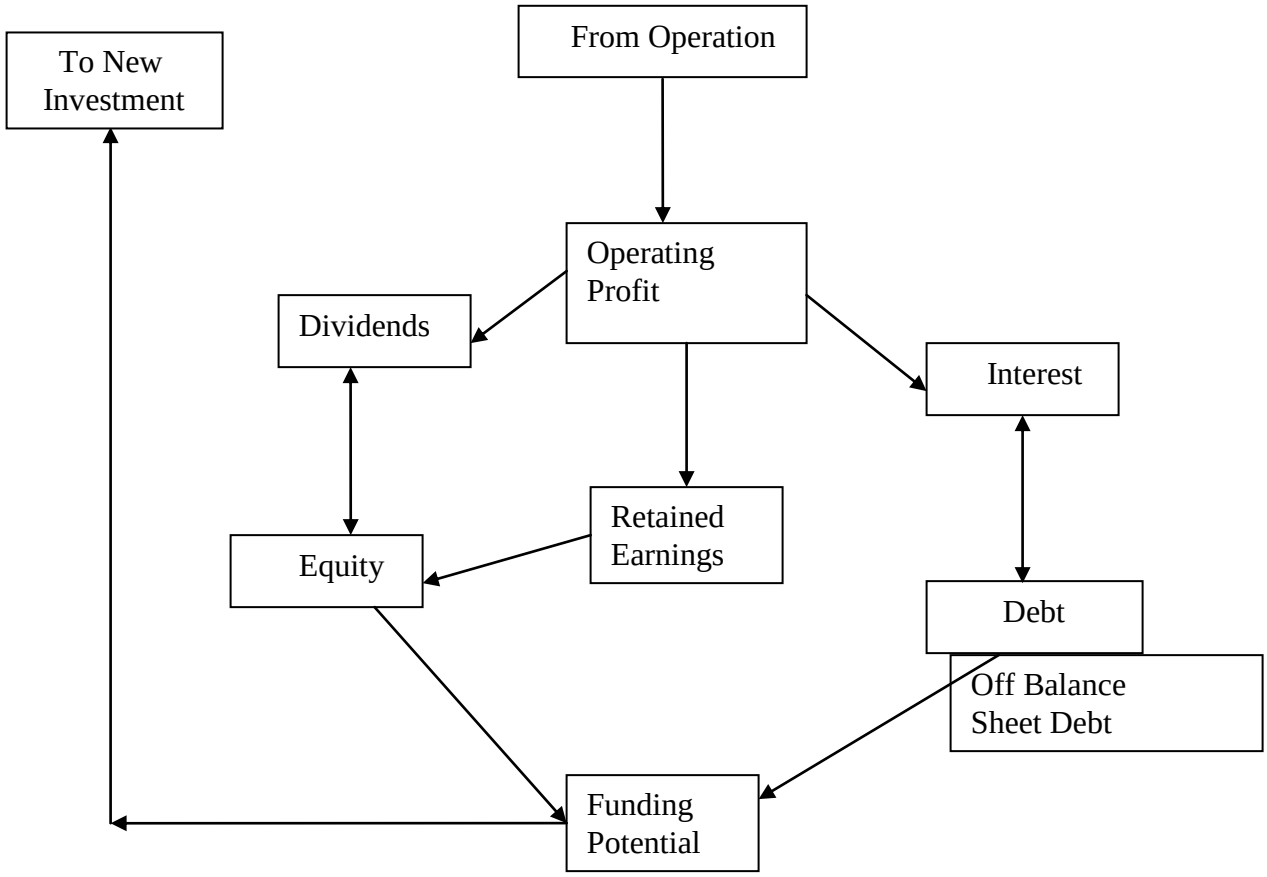
2.1.4 Capital Structure Components:

The components of capital structure of any firm can be broadly categories in to two types of funds: debt and equity. Numerous type of equity ranging from straight common equity to convertible shares and preferred stocks, can be used for new ownership funding while conversely, existing funds can also be returned through approaches of the company share in the open market. The later on has become an important aspect of capital structure management, for repurchasing stock with corporate can flow reduce the no of shares outstanding, making each remaining shares proportionately more valuable. At the same time no dividends need to be paid on the purchased shares.

The trade of each between adding value through new investment and adding value through reduced ownership claims. Although repurchase is better case of Nepal, it is restricted by the company act 2053, section No.4 Clause 47.

The choices of debt instrument are also varied. As per (Pradhan,1997:13), these also include leases and similar long term obligations, which are called off balance sheet debt. Because they are no listed on the balance sheet and only impact the operating statements as annual expenses. Proper capital structure decision needs close insight of each of its components. The following figure serves for better understanding of the components and their effect in any business system.

Figure –2.10: The Business System (Financing Segment)



Source: Pradhan, 1997, p. 11

The diagram shows different components of financing segment of any business system. Funding potential for any investment project is developed with the incorporation of equity and debt. Retained earnings reinforce issue of new shares. Similarly, amount of debt is supported by off balance sheet debt like leases. The operating profit is allocated to lenders as interest in debts- given out to share holders as dividend- and retained in the firm as retained earnings for further reinvestment.

2.1.5 Optimal Capital Structure:

Capital structure is a mix of long term sources of financing. The optimal capital structure in general is that mix of sources of long term funds that maximizes the value of shares and minimizes the overall cost of capital.

According to (Bhalla,2000: 231), conclude that, "The optimal capital structure for an actual firm has never been specified, nor has the precise cost of capital for any given capital structure. This should not be a surprise as decisions concerning the firm's capital structure are a matter of judgment by the management."

According to (Van Horne, 1995:473), "Modigliani and Miller's proposition assuming perfect capital market and absence of corporate taxes- is based on the notion that there is a conservation of investment value. No matter how the pie is divided between debt and equity claims. The size of the pie or investment value of the firm remains unchanged. Therefore, leverage is said to be irrelevant and there is no optimal capital structure."

According to (Weston and Bringham,1998: 580), "whenever the return on assets fairly exceeds the cost of debt, leverage is favorable. And the probable return on equity is raised using it. However, leverage is a two- edged sword, and if the returns on assets are less than the cost of debt, leverage reduces the returns on equity. The more leverage a firm employs, the greater this reduction becomes. As a result, leverage may be used to boost stockholder returns, but it is used at the risk of increasing losses if the firm's economic fortunes decline. Thus gain and losses are magnified by leverage. The higher the leverage employed by a firm. The greater will be the volatility of its returns."
According to (Pradhan,1997:296-297), "The higher the proportion of debt in the capital structure, the greater the demand will be for profit dollars to be used as interest expense, and the greater the firm's risk exposure will be. That means potential inability to meet interest obligations and/or repayment during a downturn. The key trade-off, in this regard, is one of risk versus reward. Introducing leverage in to a capital structure will tend to lower the overall cost of capital because of the least-cost nature of debt."

The magic of capital structure decision remains on the tax-deductibility of interest on debt. Even when interest rate is higher than the return on equity, the effective rate of interest (multiplied by a factor one minus tax rate) will be less due the pre tax deduction of interest.

(Pradhan,1997: 297), further clarifies, "the overall cost of capital generally moves in a relatively narrow band between the extremes of leverage conditions, usually on more than two percentage points. This is due in part to the tax- deductibility of interest, which

moderates the impact of higher rates as leverage increases. But, the cost involved in financing is one of many other considerations entering the complex trade-offs in capital structure planning."

According to (Pradhan,1997: 243), "If we can determine the size of EBIT that makes no difference between the EPS under debt financing and the EPS under equity financing, it can be used as a cut- off level for limiting equity and debt financing." The capital structure that can make EBIT equal to the cut-off level can be termed as optimal capital structure.

According to (Tracy, 1996: 342),"Cash dividend paid to the stock holders- even though these payments for the use of equity capital certainly can be viewed as substantially the same as interest payments for the use of debt capital – are not deductible to determine taxable income. This basic distinction has a significant impact on the amount of operating profit that has to be earned to cover company's cost of capital."

Although optimal capital structure can not be determined in a point level, by analyzing different variables affecting the cost of capital the range can be obtain for the proximity of optimum level.

Many study shown that, as a general rule, the cost of capital will tent to be lowest at debt proportions of around one – third versus two- thirds of equity in various forms. But specific risk characteristics of the particular company and its industry certainly affect this general result.

2.1.6 Risk Measure in Capital Structure:

(Western and Brigham,1998: 290) have presented a very clear picture about the relationship between risk and leverage and have stated: risk, as measured by the standard deviation, has a linear relationship to the debt to equity ratio measured at the book value but an upward curvilinear relationship to the debt to total assets ratio at book value. Conversely, when risk is measured by the co-efficient of variation, the relationship to the book debt to total assets ratio is linear.

Because of the theoretical relationship between beta and leverage, the relevant leverage ratios for comparison with beta are at market values. At market values, the relationship between beta and the debt to equity ratio is linear, and between beta and the ratio of debt to the total value of the firm is curvilinear upward. The different shapes of the relationship stem from the basic underlying theory of the computations involved.

But what is common to all of the six portrayals of the relationship between risk and leverage is that to obtain the higher expected earnings (whether measured by earning per share or return on shareholder's equity) that go with increased leverage, the firm must incur more risk.

There is a positive relationship between return and risk, and there is also a positive relationship between risk and the degree of leverage employed. Finally higher leverage reflects higher return and higher risk in the organization.

2.1.7 Determinants of Capital Structure:

Following factors are the determinants of the capital structure:

1.Stability of Sales and Growth Rate:

Firm whose sales are relatively stable can use more debt and incur higher fixed charges than a company with unstable sales. As far as growth rate is concerned, other things remaining the same, faster-growing firms must rely more heavily on external capital. Thus, rapidly growing firms tend to use somewhat more debt than slower growing companies.

2.Cost of Capital:

Cost of capital comprises using costs and issuing costs (flotation cost). Flotation cost of various kinds of securities should also be considered while raising funds. The cost of floating a debt is generally less than the cost of floating equity and hence it may persuade the management to raise debt financing.

3.Assets Structure:

Firms whose assets are suitable as security for loans tend to use more debt. General purpose assets, which can be used by many businesses, make good collateral, whereas special purpose assets do not. Thus m real estate companies are usually highly leveraged, whereas companies involved in technological research employ less debt.

4.Management Attitude:

Some management tents to be more conservative than others, and thus use less debt than the average firm in their industry, whereas aggressive management uses more debt in the quest for higher profits.

5. Lender Attitude:

Lender attitude frequently influence capital structure decisions. Lenders emphasize that excessive debt reduces the credit standing of the borrower and the credit rating of the securities previously issued. The corporation discusses its financial structure with lenders and gives much weight to their advice. If

management wants to use leverage beyond norms for the industry, lenders may be unwilling to accept such debt increases.

6. Operating Leverage:

Other thing remaining the same, a firm with less operating leverage is better able to employ financial leverage. In other words, firms having lower degree of operating leverage can take higher degree of financial risk and use more debt to increase profit. Interaction of operating and financial leverage determines the overall effect of a change in sales on operating income and net cash flows.

Other factors like; taxes, profitability, interest rates, control, flexibility, nature and size of the firm, period of finance and legal requirements are also affect the capital structure decision.

2.1.8 Arbitrage Process:

MM model of irrelevant theory of capital structure is based on the assumption of an arbitrage mechanism. In a perfect capital market the capital structure of two firms, like every other aspect, must have the same total value. Otherwise, arbitrage will be possible, and its occurrence will cause the two firms to sell in the market at the same total value.

Arbitrage is the process of simultaneously buying and selling the same or equivalent securities in different markets to take advantage of price differences and make a profit. Arbitrage truncations are risk free.

The essence of arbitrage is that the investors are able to substitute personal or homemade leverage for corporate leverage. The behavior of the investors will have the effect of:

i. Lowering the price of shares of the firm whose share are being sold.
ii. Increasing the share price of the firm whose shares are being purchased. This arbitrage process will continue until the value of the two firms become equal.

Steps of Arbitrage:

i. A rational investor sells the holding shares of a levered firm.
ii. The investor borrows an equal amount of debt in proportional ownership in the levered firm.
iii. The investor buys the shares of an unlivered firm in equal proportion as that of a levered firm.

Income Calculation in Livered and Un Livered Firms:

Livered firm:

Total income = Net income × Proportion of ownership in the firm.

Unlivered firm:

Total net income = Net income of firm × proportion of ownership – Interest on personal borrowing of debt.

In this arbitrage mechanism total income from both firms must be equal.

2.1.9 Leverage:

Leverage is the results from the use of fixed cost assets or fund to magnify returns to the firm's owners. Level of Changes in leverage occurs changes in the return and related risk. Commonly, increase in leverage ratio brings increase in return and risk, and decrease in leverage ratio brings decrease return and risk.

The level of leverage in firm's capital structure is the mixture of long-term debt and equity balanced by the firm. Mainly, three types of leverage can be described with leverage to the firm's income statement. They are degree of operating leverage, degree of financial leverage and degree of total leverage.

Income Statement Schedule is mentioned below.

Figure-2.11: Income Statement Schedule and Types of Leverage

Operating Leverage	Sales Revenue
	Less –Cost of goods sold
	Gross profit
	Less Operating expenses
Total	
Financial Leverage	Earning before interest and taxes (EBIT)
	less- interest
	Net profit before Taxes
	Less –Taxes
	Net Profit after Taxes
	Less- Preferred stock dividends
	Earning available to common stockholders
	Earning per share (EPS)

In above table, it is clear that operating leverage is concerned with the relationship between the firm's sales revenue and its operating interest and taxes or EBIT. While financial leverage is concerned with the relationship between the firm's earnings before interest and

taxes (EBIT) and its earnings per shares of common stock. The study focuses Financial Leverage as a core.

Financial Leverage:

Financial leverage, the advantage lies in the possibility that funds borrowed at a fixed interest rate can be used for investment opportunities earning a rate of return higher than the interest paid. Financial leverage, result from the presence of fix financial cost in the firm's income stream. Financial leverage can be defined as the potential use of fixed financial cost to magnify the effect of

changes in earning before interest and taxes on the firm's earning per share. The two fixed financial cost normally found on the firm's income statement which are:

- Interest of debt and
- Preferred Stock dividend

These changes must be paid regardless of the amount of earning before interest and tax available to pay them. The effect of financial leverage is such that an increase in the firm's earning before interest and tax result in a greater than proportional increase in the firm's earnings per share, while a decrease in the firm's earning before interest and tax result in a more than proportional decrease in Earning per share.

Measurement of Degree of Financial Leverage:

The degree of financial leverage is the numerical measure of the firm's financial leverage. It can be computed in fashion similar to that used to measure the degree of operating leverage. It can be derived by using following formula:

DFL = EBIT/ EBT

There is a financial leverage Where DFL is greater than 1.

2.2 Review of Journals and Research Works:

Modigliani and Miller (First Study):

They used the previous work of 'Allen and Smith' in support of their independence hypothesis. In first part of their work, M-M tested their proportion I, the cost of capital is

irrelevant to the firm's capital structure , by correlating after tax cost of capital, with leverage ,B\V. They found that the correlation co-efficient are statically insignificant and positive in sign. The regression line doesn't sanciest a curvilinear,'U' shaped cost of capital key of traditional view, when the data are shown in scatter diagram.

In the second part of their study, they tested their proposition II, the excepted yield on common shares, is a linear function of debt to the equity ratio. The second part of their study is consistent with their views i.e. if the cost of capital borrowed fund increases, the cost of equity will decline to offsets this increase.

Modigliani and Miller (Second Study):

Second study in 1963 with correcting their original hypothesis for corporate income taxes and excepted cost of capital to be affected by leverage for its tax advantages. They therefore wanted to test whether leverage had tax advantage or not. For this, they conducted the mathematical analysis regarding the effect of leverage and other variables on the cost of capital .They found that the leverage factor is significant of the tax advantage involved.

Shrestha Study (1985):

Shrestha, page: 54 researched on the, "An analysis of capital structure in selected public enterprises". In this study he has concluded that the selected public enterprises under study have a very confusing capital structure since the corporations are not guided by the objective based on financial plan and policies. In many instances ad-holism became the basic of capital stricture and in that also most of them, want to criminate debt if possible to relative financial obligations. He has also suggested that, the debt equity ratio should neither be highly levered to create too much financial obligation that lies beyond the capacity to meet target nor should it be too much low levered to infuse operational strategy to by pass responsibilities without performance. The calculation of equity capitalization rate is according to the given date providing is incredible results in many areas, although they carry valid and meaningful results in some instances.

Safieddine and Titman Study (1999):

They researched on the, "Leverage and corporate performance, evidence from unsuccessful takeovers" has revealed some facts as below.

In many of the failed takeovers, the target's management expressed the opinion that the acquirer's offer was insufficient and that the firm would be worth more if it remained independent. Whatever the stated reason, it is clear that investors are generally skeptical when target managers terminate a takeover attempt. The study found that investors anticipate the positive effects associated with high leverage. Despite the initial drop at the time of the termination announcement, target managers may have been acting in the interests of shareholders when they turned down the takeover offer.

The study concludes that investors under react to both leverage increasing and leverage decreasing announcements. Agreeing with the study of Daniel, Hirshleifer and Subramanyam (1998) the study argues that investors are overconfident about their abilities to value the stocks prior to the announcement. Thus the investors place too little weight on the information conveyed by the leverage changes.

Bruno and Catherine Study (1999):

Their research was on, "Optimal Leverage and Aggregate Investment". The researchers analyzed the optimal financing of investment project when managers must exert unobservable effort and can also switch to less profitable riskier ventures. As per their findings optimal financial contracts can be implemented by a combination of debt and equity when the risk shifting problem is the most severe. While sock options are also needed when the effort problem is the most serve. Further finding of the study was that worsening of the moral hazard problems leads to decrease in investment and output at the macroeconomic level. Moreover, aggregate leverage decreases with the risk shifting problem and increases with the effort problems.

The study has taken the conclusion of some previous studies into consideration and stated that leverage is high for regulated firms and firms in low-tech industries and it is low in high-tech industries. Similarly, leverage decreases with R&D expenditures, i.e. in innovative industries. In determining the investment decision the study found that there is a tension between two moral hazard problems. To induce the manager to exert effort, one has to promise his/her large payoffs when the cash flow generated by the firm is large. Unfortunately, this can make risk taking too attractive for the manager. When this tension is too strong, it can lead to credit rationing.

The researchers concluded that if the risk shifting problems are dominant, the optimal financing scheme is a combination of debt and outside equity. When the effort problem is the major source of moral hazard, stock options awarded to the manager must be added to the array of financial instruments.

Garvey and Hanka Article (1999):

On their article, page 519-545, "Capital Structure and Corporate Control, The Effect of Antitakeover Statutes on Firm Leverage" have stated as below.

It was found that firms protected by 'second generation' state Antitakeover laws substantially reduce their use of debt, and that unprotected firms to the reverse. This result supports recent models in which the threat of hostile takeover motivates managers to take on debt they would otherwise avoid. An implication is that legal barriers to takeovers may increase corporate slack.

Corporate managers have discretion over capital structure choices, as the firm's founding shareholders cannot write a comprehensive ex ante contract specifying all future financing decisions. Most capital structure models make the simplifying assumption that managers choose capital structure in the interests of shareholders. Examples of this approach range from the classic static trade-off between tax benefits and expected costs of financial distress to Lenand and Toft's (1996) dynamic analysis that allows for agency problems between debt holders and shareholders. Increasingly, however, research into capital structure has explicitly recognized that managers' self-interest can lead to financial policies that do not maximize shareholder wealth. An early example is Doanaldson's (1969) field study of financing choices, which emphasizes goal such as organizational survival and growth.

Garvey and Hanka state, entrenchment models of financial policy envision managers who take on debt to reduce the threat of hostile takeover. A direct implication is that impediments to takeovers will allow managers to reduce leverage, forgoing the tax and agency benefits of debt in order to reduce the risk of financial distress and avoid constraints on their allocation of cash flows. Finally the researchers conclude that the results provide a concrete instance of the disciplinary role of takeover threats, and they support the view that capital structure is affected by managerial discretion.

2.3 Review of Related Thesis

Karki (2005) on the comparative evaluation of Capital Structure between Butwal Spinning Mills Ltd. and Jyoti Spinning Mills Ltd., analyzed the Capital Structure of these companies by using financial and statistical tools. He has concluded his study as:

- Both the sample companies have high debt equity ratio and are highly levered and increased financial risk to the considerable extent.
- Both the companies have positive correlation coefficient between long-term debt and shareholders equity. Or there is significant relationship between long-term debt and shareholders equity. But there is no significant relationship between interest payment and EBIT.
- Total debt has not been fully utilized in the management of assets.
- Debt removing capacity is weak in both the companies. And return on capital employed is not significant.
- Both the companies have negative overall capitalization and equity capitalization rate but the market value per share of those companies are higher than the par value.

To overcome these problems he has suggested to:

- Maintain Optimal Capital Structure.
- Minimize the operating cost.
- Utilize optimal capacity.
- Install diesel plant for electricity.
- Enhance competitive capacity.
- Revise the capitalization rate.
- Expand operation.

Shrestha, (2006) has concluded research on "Study on Capital Structure Management of Gorakhakali Rubber Udyog Limited". It was analyzed all the variables in the form of ratio analysis.

In these findings especially to the capital structure and profitability position, following issue had drawn.

- As compared to the shareholder's equity and the trend of debt/equity ratio the ratio was increasing every year.

- Company's debt servicing capacity was very poor due to the negative interest coverage ratio.
- The operational performance was not satisfactory due to negative earnings and low volume of sales revenue.
- The company was not able to utilize its capacity more than 50% which resulted the huge losses.

Pradhan (2007) conducted the study on " Capital Structure Position in Arihanta Multi Fiber Ltd. " In this study he concluded that the long term financial position of the company is not favorable. The company has long term debt financing to acquire fixed assets. The interest on capital employed ratio seems to be low as it fails to pay off interest. The return on owner's equity is negative, which indicated that debt capacity to generate income is not favorable. Debt to equity ratio is high, which shows the outsiders claims on return are greater than that of equity holders. These all shows that the financial risk of the company is in increasing trend.

Shakya (2008) "A Study on Capital and Assets Structure of Nepal Bank Limited" analyzed the different financial aspects of NBL and remarked that the total deposit and total investment were not significantly related. It was concluded that the net worth was used in unproductive assets of the bank and further recommended that the bank needs to have productive use of its net worth.

Dhakal (2009) has conducted research on "A Study on Capital Structure of Industrial Public Enterprises". In this study, effect of leverage was tested and measured the relationship between capital investment and earnings generations and also measured the relationship of capital structure with profit.

Under this study, it was concluded that the overall result was unsatisfactory and suggested improving their self efficiency in the financial performance. Furthermore, it was advised that the subsidy and donation should be reduced where has been the main cause of inefficiency of the management.

Giri (2010) had submitted a thesis study on “An evaluation of Capital Structure of Bottlers Nepal Limited”. He has found that the long-term debt on BNL is increasing year by year because the company has borrowed more long-term debt. Different ratio analyses show the inefficient capital structure management of the company. He had made his analyses only five years periods and he suggested that the company has to follow good policy to set capital

structure. The calculation of leverage position indicates the bad performance of the company because it is in increasing trend. After doing all calculations like ratio, leverage, capital structure position, correlation and P/E ratio etc, it was found that the company is facing bad situation due to inefficient capital structure. So the company has to lower down the amount of debt and to obtain additional fund through the issue of equity share by using cheaper source of collecting funds. In order to build up public image, share must be issued to the general public. Moreover the company should think about other new product for winter season to increase good image of the company. The company ahs regarded as highly geared up capital structured company. Thus, to design suitable pattern of capital structure for the company, the management must bring about a satisfactory compromise among these conflicting factors of cost, risk, control and timing. He recommended that the company to shift debt capital to equity capital when the company has high earning per share.

CHAPTER - III
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is systematic way to solve the research problem. In other words, research methodology describes the methods and process applied in the entire aspect of the study. Research methodology refers to the various sequential steps (along with a rational of each step) to be adopted by a researcher in studying a problem with certain objectives in view (Kothari, 1994:9). Thus the overall approach to the research is presented in this chapter. This chapter consists of research design, sample size and selection process. Data collection procedure and data processing techniques and tools.

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The research design is the conceptual structure within research is conducted. In this study first of all data are collected and presented in abutted in diagram and various financial and satirical tools will be used to analysis the data. The analysis data will be interpreted for the conclusions.

3.3 Nature and Sources of Data

This study is mainly based on secondary data. These data are collected from published sources like, annual reports, balance sheet, prospectus, newspaper, journal, web sites and other sources. Besides this in some case, as per research need. The secondary data published on annual reports of concerning organizations. The secondary data are extracted from published annual reports of the bank, published articles, journals, reports, previous related studies etc.

3.4 Population and Sample:

A small portion chosen from the population for studying its properties is called a sample and the number of units in the sample is known as the sample size. The method of selecting for

study a small portion of the population to draw conclusion about characteristics of the population is known as sampling. Sampling may be defined as the selection of part of the population on the basis of which a judgment or inference about the universe is made.(Sharma & Chaudhary,2058:173)

Here only 2 sample commercial banks are taken out of 30 commercial banks. For selecting the samples, non-random sampling method is used here among different methods. The samples are taken only from commercial banks. Organization under study is as follows, whose general introduction and major objectives are presented in chapter one. The sample organizations are as follows:

1. Nepal Investment Bank Ltd.
2. Nepal Credit and Commerce Bank Ltd.

Likewise, financial statements of five years (beginning from 2006/07 to 2010/11) are selected as samples for the purpose of it.

5.5 Data Collecting Procedure

The annual reports of respective finance companies were collected from their respective offices and also by post on request. NRB reports were collected from Research department of NRB. The numerical data collected from different sources were used in whole numbers for the convenience of the study. The internet also proved to be a very good source of data. Various sites were used for the collection of data. The sites used are listed in the bibliography.

3.6 Tools and Techniques Employed

As mentioned earlier, this study is confined to the single analysis of capital structure and profitability of the private commercial bank. To reach the objectives, the collected data are computed and analyzed using statistical and financial tools.

3.6.1 Financial Analysis

A widely used tool for the financial analysis is ratio analyses. It is defined as the systematic use of ratio to interpret the financial statement so that the strength and weaknesses of a firm as well as its historical performance and current financial condition can be determined.

Management should be able to analyze the financial strength so as to find out the weakness of the company and erase them out by making rational decision. In other words, management may have different types of weaknesses, which may be the causes of unsuccessful organization. So the company should use an analytical tool to know about its own situation and take a suitable and corrective action to relieve from arisen problems. The most useful tool of financial analyses is ratio analysis.

Various ratios can be computed but ratios which are directly related with the study of leverage and profitability are computed and analyzed in this study.

1. Long term Debt to total Debt Ratio

It specifies the contribution of long term debt holders to the total debt of the company. It is calculated by Long term debt divided by the total debt.

$$\text{Long term debt to Total debt} = \frac{\%\,\text{Long term debt (LTD)}}{\text{Total debt}}$$

Higher ratio indicates the higher contribution of long term debt to the total debt i.e. higher leverage risk and vice versa.

2. Long term Debt to Shareholder's Equity Ratio

This ratio also measures the leverage risk of the company. It specifies the contribution of owner to the total capital. It can be calculated by the long term debt divided by shareholders' equity.

$$\text{Long-term debt to shareholders' equity} = \frac{\text{Long term debt (LTD)}}{\text{Shareholder's equity}}$$

Higher ratio indicates the higher contribution of owner than creditors. It also indicates the lower leverage risk and vice versa.

3. Total Debt to Shareholder's Equity Ratio

The total debt to shareholder's equity ratio is vital tool used to analyze the long-term solvency of firm this ratio equals the firm's debt divided by its equity, where debt can be defined as total debt or as long-term debt .Thus, it is computed as :

$$\text{Total debt to shareholders' equality} = \frac{\text{Total debt}}{\text{Shareholder's equity}}$$

Higher ratio indicates the comparatively higher contribution of debt holders than shareholders. It also indicates that at the time of liquidation higher portion of total assets will be claimed by the debt holders.

4. Total Debt to Total Assets Ratio

It is commonly known as debt ratio. It specifies the contribution of debt holders to the total assets of the firm. It is measured by using following formula.

$$\text{Total Debt to Total assets} = \frac{\text{Total debt}}{\text{Total assets}}$$

Higher ratio specifies the higher leverage risk or higher contribution of debt holders to the total assets. Too high ratio leads the carelessness of shareholders to the business activities.

5. Shareholder's Equity to Total assets

This ratio also indirectly measures the leverage risk of the company. It can be computed either subtracting debt ratio from 1 or using following formula.

$$\text{Shareholder's equity to Total assets} = \frac{\text{Shareholder's equity}}{\text{Total assets}}$$

Higher ratio indicates the lower leverage risk and vice versa.

6. Interest Coverage ratio

The interest coverage ratio also known as the time interest-earned ratio is one of the most conventional coverage ratio used to test the firm's debt servicing capacity. This ratio show the number of times the interest charges are covered by funds that are ordinarily available for their payment. The interest coverage ratio is thus computed as;

$$\text{Interest coverage ratio} = \frac{\text{EBIT}}{\text{Interest}}$$

Higher ratio indicates the strong debt service capacity of the company and vice versa. Too high ratio refers the unused debt capacity of the company.

6. Long Term Debt to Capital Employed

The ratio is used to express the relationship between long-term debt and capital employed by the firm. It shows the proportion of long term debt and shareholder's fund in the capital structure. This ratio is calculated as;

$$\text{The Long term Debt to Capital Employed} = \frac{\text{Long Term Debt}}{\text{Capital Employed}}$$

The higher ratio of long term debt to capital employed ratio shows the higher contribution of long term debt to the capital structure and vice versa.

7. Return on Shareholder's Equity (ROE)

A return on shareholder's equity is calculated to see the profitability of owner's investment. The shareholder's equity includes paid-up share capital share, premium and reserves and surplus less accumulated losses. The return on shareholder's equity is net profit after taxes divided by shareholder's equity.

$$\text{Return on shareholder's equity} = \frac{\text{Net Profit after tax}}{\text{Shareholder's equity}}$$

Higher ratio is more efficient of management and utilization of shareholder's funds and vice versa.

8. Return on Assets (ROA)

A ratio between net profits to assets is known as return on asset. But generally return on asset can express the relationship between net profit after taxes and total assets.

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

Higher ratio implies that the available source and tools are employed efficiently.

9. Earning per share (EPS)

The income per share of common stock is known as earning per share. This ratio is mostly used in capital structure to know the availability of return for shareholders. The earnings per share are calculated by dividing the profit after taxes by the total number of common share outstanding.

$$\text{EPS} = \frac{\text{Net profit available to common shareholders}}{\text{Number of share out standing}}$$

The increasing EPS means the increasing return for shareholders.

10. Divided per Share (DPS)

Dividend per share is the earnings distributed to ordinary shareholders divided by the number of ordinary shares outstanding.

$$\text{DPS} = \frac{\text{Dividend}}{\text{Number of share outstanding}}$$

11. Overall Capitalization rate Under NI approach

The NI approach Known as relevant theory of capital structure is already discussed in former chapter. Hence, the formulas used to compute the value of the firm and overall capitalization rate under NI approach is given. Market value of the firm = market value of debt + Market value of stock.

Or, V=B+S

And,

$$\text{Overall capitalization rate} = \frac{\text{EBIT}}{\text{Value of the Firm}}$$

Or,

$$K_o = \frac{\text{EBIT}}{V}$$

12. Equity capitalization Rate under NIO approach

The equity is one of the sources of capital, which has its own cost and it is known as cost of equity. A large amount of equity means the higher amount of cost of equity. The equity capitalization rate under NIO approach can be calculated as.

$$\text{Equity capitalization rate} = \frac{\text{EBT}}{\text{Market value of common shares}}$$

Or, $Ke = \frac{EBT}{S}$

3.6.2 Statistical Analysis

Statistical tools are equally important to meet the objectives of this study. This will help us to analyze the relationship between two or more variables. For this research following statistical tools are used. They are:

- Arithmetic Mean
- Standard deviation
- Karl Pearson's coefficient of correlation
- Probable error

- **Arithmetic mean**

Arithmetic mean also called the mean' or average arithmetic mean is the most popular and widely used method of central tendency. It is the ratio of sum of all observations. It is calculated from ungrouped data and frequency.

$$\overline{\mathbf{X}} = \frac{\Sigma X}{N}$$

Where,

$\overline{X}$ = Mean Average

$\sum$ = Summation

N = No of Years

- **Standard Deviation**

Standard deviation is the most popular and most useful measure of dispersion and gives uniform, correct and stable results. The main characteristics of standard deviation are that, it based on mean. Furthermore a standard deviation is always a positive number and it is superior to the mean deviation. A standard deviation is the positive square root of average sum of squares of deviations of observations from the arithmetic mean of the distribution.

$$SD = \frac{\sqrt{\Sigma(X - \overline{\overline{X}})^2}}{N - 1}$$

Where,

SD = Standard deviation

$\sum$ = Summation

X = Sample Date

$\overline{X}$ = Average mean

N = No. of Years

- **Correlation Coefficient (r)**

For the purpose of comparison and further analysis it is necessary to get a numerical measure for the correlation between two variables. A relative measure of this type is developed by Karl Pearson called Pearson's coefficient of correlation or product movement coefficient. It measures the relationship between two or more than two variables and they are so related that the change in the value of one variable is accompanied by change in the value of the other or it indicates the direction of relationship among others. It is denoted by (r). The correlation coefficient can be calculated as:

$$\text{Correlation coefficient } (r) = \frac{\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (zy)^2}}$$

Where,

N = number of observations.

X and Y are variables.

The decision criteria:

When,

r = 0, there is no relationship between the variables.

r = 1, the variables are perfectly positive correlated.

r = 1, the variables are perfectly negative correlated.

- **Probable Error (P.E)**

  The Degree of reliability of computed correlation can be judged with the help of its probable error (P.E) It can be calculated as:

  $$\text{P.E} = \frac{6 \times 0.6745 \times (1 - r2)}{\sqrt{N}}$$

  Where,

  r = correlation co-efficient.

  N = number of pairs of observation

If the value of 'r' is less than the probable error there is no evidence of correlation i.e., the value of r is not significant.

If the value of r is more than 6 times of probable error the coefficient of correlation is practically certain, i.e. the value of r is significant.

CHAPTER-IV
DATA PRESENTATION AND ANALYSIS

4.1 Introduction:

This chapter is the backbone of the research. In this chapter, both the primary and secondary data are presented in systematic manner. The sources of data were company brochure, annual report, website and library, and banks and stock brokers. Those collected data are presented in systematic formats and analyzed using different appropriate tools and techniques. In this chapter, in addition to that the relationship of the variables is presented in graphs and figures. The analysis of data consists of organizing, tabulating and performing statistical analysis. In this chapter, the secondary data, collected from different sources are presented in understandable from and analyzed separately using both qualitative and quantitative measures whichever is appropriate.

4.1. Ratio Analysis:

4.1.1 Debt to Total Assets Ratio:

Total debt to total assets ratio express the relationship between creditors fund and total assets. It is also the leverage ratio, which is generally called the debt ratio. This type of capital structure ratio is variant of debt equity ratio. Calculating debt to total assets is one calculation approach of the debt to capital ratio. Debt includes all loans and total assets of the firm. It Measures the percentage of total funds provided by creditors.

This ratio can be calculated by simply dividing long term debt by the total assets of the firm.

$$\text{Total to total assets ratio} = \frac{\text{Total debt} \times 100}{\text{Total assets}}$$

Table No: 4.1

Comparative position of Debt to Total Asset Ratios.

F\Y	Total debt to total assets (%)	
	NIBL	NCC
2006/07	0.91	0.92
2007/08	0.92	0.90
2008/09	0.89	0.92
2009/10	0.93	0.91
2010/11	0.91	0.91
Average	0.91	0.91

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

All the simple banks have negligible long term debt in comparison to total assets. Hence, the debt ratio or debt to total assets ratio of NIBL and NCC is negligible. Therefore the debt ratio or debt to total assets ratio of NIBL and NCC is negligible. Therefore the debt ratio is insignificant.

The S.D of NIBL and NCC is 0.015 and 0.014 respectively.

Here, the C.V of NIBL is highest which is 1.65 and the lowest is 0.66 of NCC.

4.3.4 Debt to Equity Ratio:

Debt to equity ratio is used to show the relationship between borrowed funds and owners capital. It reflects the relative claims of creditors and shareholders against the assets of the firm. It is an important tool for the financial analysis to appraise the financial structure of a firm. The ratio reflects the relative contribution of owners and creditor's capital of business in it's financing. In other word, this ratio exhibits the relative proportions of capital contributed by ownership and creditors. Debt to equity ratio can be calculated in the basis of shareholders equity includes reserve and accumulated profit, preference share and equity share capital. Where long term debt includes total debt minus short term debt or current liabilities, here debt equity ratio is also computed by simply dividing long term debt of the firm by shareholder equity. The higher debt to equity ratio shows the large. Share of financing in the capital by the creditors then the owners or it's also reflects that the creditors

claim in higher against the assets of firm and vice versa. D/E ratios of concerned companies are shown in the following table that is referred from the appendix 4

$$\text{Debt to equity ratio} = \frac{\text{Long term debt}}{\text{Shareholder's equity}} \times 100$$

Table No. 4.2

Comparative position of Debt to Equity Ratio:

F\y	Debt to equity (%)	
	NIBL	**NCC**
2006/07	-	-
2007/08	0.14	-
2008/09	0.12	0.20
2009/10	0.12	0.17
2010/11	0.11	0.14
Average	0.098	0.10

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

The debt to equity ratio and average ratio has been calculated in the above table five years data has been presented here.

The table shows that D/E ratios of NIBL and NCC. The D/E ratio of NCC is nil in fiscal year 2006/07. the debt to equity ratio of NIBL in fiscal year 2006/07 is nil. Because the bank has not used long term debt in this fiscal year. In fiscal year 2007/08, 2008/09, 2009/10 and 2010/11 the debt to equity ratio is 0.14, 0.12, 0.12 and 0.11 respectively. The average debt to equity ratio is 0.098.

Likewise, the debt to equity ratio of NCC in fiscal year 2006/07 and 2007/08 is nil. Because NCC bank has not used long term debt in this two year. Similarly the debt to equity ratio of NCC in fiscal year 2008/09, 2009/10 and 2010/11 is 0.20, 0.17 and 0.14 respectively which is in decreasing trend. The average debt to equity ratio is 0.10.

The S.D of NIBL and NCC is 0.06 and 0.095 respectively. On the C.V part, the highest C.V is 95.39 which is of NCC and the lowest is 61.21 of HB. It ranges from 71.43, 61.21 and 95.39 respectively.

4.3.5 Interest Coverage Ratio:

The interest coverage ratio is useful tools to measures long term debt serving capacity of the firm. It is also known interest earn ratio. Interest is fixed charges of the companies, which is charge in long term and short term loan. Generally interest coverage ratio measured the debt serving capacity of a firm and it is concerned with long term loan. It show how many times the interest changes are covered by EBIT out of which they will be paid. This ratio is used the concept of net profit tax is calculated after paying interest on loan. This ratio examines the interest paying capacity of the firm by how many times the interest the interest charge are covered by EBIT .

Interest coverage ratio is calculated dividing by EBIT by interest. So, it is necessary to analyze EBIT and interest. This ratio is useful to measure long term debt serving capacity of the firm may imply unused debt capacity and firm has greater capacity to handle fixed changes liabilities of creditors. Whereas, low ratio is a signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to creditors. The calculated interest coverage ratios of three companies are presented in the following table.

$$\text{Interest Coverage Ratio} = \frac{\text{EBIT}}{\text{Interest}}$$

Table No: 4.3

Comparative position of Interest Coverage Ratio:

F\Y	Interest Coverage Ratio (time)	
	NIBL	NCC
2006/07	1.85	1.43
2007/08	1.92	1.48
2008/09	2.03	1.60
2009/10	1.93	1.84
2010/11	2.15	1.78
Average	1.98	1.63

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

In the above table it is shows that the interest coverage ratio of NIBL and NCC. the interest coverage ratio of NIBL in fiscal year 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 is 1.85, 1.92, 2.03, 1.93 and 2.15 respectively. The average interest coverage ratio of NIBL is 1.98.

Likewise, the interest coverage ratio of NCC in fiscal year 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 are 1.43, 1.48, 1.60, 1.84 and 1.78 respectively. The average interest coverage ratio of NCC is 1.63.

The S.D of NIBL and NCC is 0.12 and 0.19 respectively. Highest S.D is 0.19 of NCC and lowest S.D is 0.12 of NIBL

Here, the C.V of NCC highest 11.66 and NIBL has lowest 6.06

4.3.1. Long term debt to total debt ratio:

The relationship between long term debts to total debt has a decisive impact on the financial structure of the companies. This relationship indicates what percentage of total debt is covered by long term debt of the firm. Normally firms used short term and long term debt. Current liabilities and provisions are also needed during the operation of the firm. Simply dividing long term debt by the total debt can derived the relationship between the long term debt included all types of borrowed fund, current liabilities and provision. If the firm used large amount of short term loans and over current liabilities and provision in the larger amount, the percentage of long term debt will be low and vice versa. The higher ratio

of long term debt holders upon the total debt and the lower ratio indicate the higher portion of short term loans and current liabilities in the total debt of the firm. The amount of liabilities used depended upon the liquidity of that firm. This relationship of long term debt and total debt is presented in the following table along with percentage change in that ratio to show the movement of trend individually. In addition the average (standard) ratio is also calculated to compare with each other. But the details calculation is shown in the appendix 1.

$$\text{Long term debt ratio} = \frac{\text{Long term debt} \times 100}{\text{Total debt}}$$

Table No. 4.4

Long Term Debt and Total Debt position.

Fly	Long term debt to Total debt (%)	
	NIBL	NCC
2006/07	-	-
2007/08	1.36	-
2008/09	1.30	1.65
2009/10	1.15	1.57
2010/11	1.06	1.26
Average	0.97	0.89

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

The above calculation shows that the ratio of long term debt to total debt, In case of NIBL it shows in the fiscal year 2006/07, the ratio is nil. This means that NIBL has no long term debt in this year whole portion of debt is contributed by the current liabilities. In fiscal year 2007/08 the long term debt to total debt ratio of NIBL is 1.36%. This means contribution of long term debt to total debt is to 1.36% by the current liabilities. This ratio of NIBL in fiscal year 2008/09 is 1.30% which is decreased then previous year and then decreased to 1.15% in fiscal year 2009/10. In fiscal year 2010/11 this ratio is also decreased to 1.06%. The company has 0.97% of average long term debt to total debt ratio.

Similarly, in case of NCC, the long term debt to total debt ratio on fiscal year 2006/07 and 2007/08 is nil. That means that the NCC has does not use long term debt in this two year. In fiscal year 2008/09 long term debt to total debt ratio is 1.65, this means the

contributed by current liabilities. In the year 2009/10 the ratio is 1.57 which is decreased to 1.26% in fiscal year 2010/11. The average ratio is 0.89%.

Finally, the banks S.D are 0.72, 0.27 and 0.55 and C.V of 28.87 and 61.80 of NIBL and NCC respectively. On the C.V part the highest C.V is 61.80which is of NCC and the lowest C.V is 28.87 of NIBL. It ranges from 48.98, 28.87 and 61.80 respectively.

4.3.2. Long Term Debt to capital Employed ratio:

The optimal capital structure has important relationship with the long term debt to capital employed ratio. This relationship suggests the portion of long term debt and capital of the firm. This ratio highlights the need of long term debt in the capital employed of the firm. Long term debt includes the debt, which matures in more than one accounting period whereas capital employed includes long term debt and shareholders equity of the firm. The relationship of long term debt and capital employed can be analyzed by establishing the ratio between them. This ratio is called the long term debt to capital debt ratio, larger the proportion of the long term debt in the capital employed and rice versa. This ratio can be calculated by dividing the long term debt with capital employed by the firm. This ratio is also known as debt to permanent capital ratio, where as permanent capital means total assets minus current liabilities. The long term debt to permanent capital ratio is presented in following table:

Table: No. 4.5

Comparative position of Long Term Debt to Capital Employed Ratio:

F\Y	Long term debt to Capital Employed (Times).	
	NIBL	NCC
2006/07	-	-
2007/08	0.31	-
2008/09	0.28	0.17
2009/10	0.27	0.15
2010/11	0.27	0.12
Average	0.22	0.09

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

The above table show that the long term debt to capital employed ratio of different joint venture bank.

the long term debt to capital employed ratio of NIBL is in fiscal year 2006/07 is Nil. Because the NIBL has does not use long term debt. In fiscal year 2007/08, 2008/09, 2009/10 and 2010/11 is 0.31, 0.28, 0.27,0.27 respectively. The average ratio is 0.22.

Likewise, the long term debt to capital employed ratio of NCC in fiscal year 2006/07 and 2007/08 is nil because in this two year the bank has does not use long term debt. Similarly in fiscal year 2008/09, 2009/10 and 2010/11 this ratio is 0.17, 0.15 and 0.12 respectively which is in decreasing trend. The average ratio is 0.09.

Here, the S.D of NIBL and NCC bank is 0.13 and 0.08 respectively. NIBL has highest S.D and NCC has lowest S.D

The highest C.V is 88.89 for NCC and lowest C.V is 59.09 for NIBL. The C.V is ranging between 59.09 to 88.89. And the C.V is 59.09 and 88.89 for NIBL and NCC respectively.

4.3.6 Return on Total Assets:

Return on total assets ratio measures the profitability of bank that explains a firm to earn satisfactory return on all financial resources invested in the banks assets. The ratio explains net income for each unit of assets.

Higher ratio indicates efficiently in utilizing it's overall resources and vice-versa. From the point of view of judging operational efficiency, rate of return on total assets is more useful measures.

The return on total assets ratio is calculated using the following formula below:

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

Table No:4.6

Position of comparative Return on Total Assets:

F\Y	Interest Coverage Ratio (time)	
	NIBL	NCC
2006/07	1.02	0.72
2007/08	1.07	0.55
2008/09	1.50	0.90
2009/10	1.43	1.83
2010/11	1.72	1.44
Average	1.34	1.08

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

The above table shows the comparative position of return of total assets of the three joint venture bank.

The return on total assets of NIBL is fiscal year 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 are 1.02, 1.07, 1.50, 1.43 and 1.72 respectively. The average return of this bank is 1.34.

Similarly, the return on total assets of NCC in fiscal year 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 are 0.72, 0.55, 0.90, 1.83 and 1.44 respectively. The average return on total assets of NCC is 1.08.

On the basis of S.D, NIBL has 0.30 and NCC has 0.53 . The NCC has highest S.D of 0.53.

Likewise , the C.V of NCC is 49.07 which is higher than other sample banks

4.3.7 Return on shareholder's equity (ROE):

Shareholders fund represents that part of long term source of funds which is collected by using equity share and preference shares. To measure the return earn by shareholder's, return on shareholders equity is used or this ratio is calculated to find out the profitability on the owners capital or investment.

Since shareholders are the owners of the company they want to have good return on their investment. So, for this, we use this return on shareholders equity ratio to measure the return of shareholders. This ratio helps to analyze whether the company has been able to providing higher return on investment to its owners or not.

If the company's earning is good, shareholders earning is greater then outside investors because they are ultimate owners and they are bearing high risk as well. But outside investors get return before the owner that is fixed. Shareholder gets the return after paying the fixed interest charge to the creditors and tax to the government. Earning after tax (EAT) is the profit of the shareholders. Therefore this ratio is calculated on the basis of equity. This ratio is calculated as:

$$\text{Return on shareholders equity} = \frac{\text{Net profit after tax}}{\text{Shareholders equity}}$$

Higher the ratio represents the higher profitability of the firm and vice versa. So obviously a company's owners prefer higher return on shareholders equity.

Position of comparative ROSHE:

Table No: 4.7

F\Y	Return on shareholder's equity (in %)	
	NIBL	NCC
2006/07	0.20	0.097
2007/08	0.20	0.083
2008/09	0.25	0.11
2009/10	0.23	0.21
2010/11	0.20	0.17
Average	0.22	0.13

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

Above table exhibits, return on shareholders equity of sampled bank's of our study. in case of NIBL, the return in shareholders equity on fiscal year 2006/07, 2007/08, 2008/09,

2009/10 and 2010/11 are 20%, 20%, 25%, 23% and 20% respectively. The average ratio is 13%.

Likewise, the return on shareholders equity of NCC in fiscal year 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 are 9.7%, 8.3%, 11%, 21% and 17% respectively. The average ROSE is 13%.

The S.D of NIBL and NCC bank is 3.56 and 5.17 respectively. The NCC bank has highest S.D and NIBL has lowest S.D.

Here, C.V of NCC has highest of 41.19 and NIBL has lowest of 7.04.

4.3.8 Earning Per Share:

The profitability of bank from the view point of ordinary shareholders is earning per share or EPS. This ratio explains net income for each unit of share. It also shows how much of the total earning belongs to the ordinary shareholders. EPS is calculated as:

$$\text{EPS} = \frac{\text{Net income}}{\text{No. of share outstanding}}$$

EPS of an organization gives the strength to the company's share in the market.

Position of comparative EPS:

Table No: 4.8

F\Y	Earning per share (in Rs.)	
	NIBL	NCC
2006/07	49.05	14.25
2007/08	47.91	13.28
2008/09	59.24	18.27
2009/10	60.66	39.35
2010/11	62.74	28.33
Average	55.92	22.70

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

In the above table, it is shows that the comparative position of EPS of different bank. of NIBL in the fiscal year 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 are 49.05, 47.91, 59.24, 60.66, and 62.74 respectively. The average EPS is 55.92.

Likewise, the EPS of NCC in the fiscal year 2006/07, 2007/08, 2008/09, 2009/10, and 2010/11 are 14.25, 13.28, 18.27, 39.35 and 28.33 respectively. The average EPS is 22.70.

The S.D of NIBL has 6.92 and NCC has 11.05 here the NCC has highest S.D and NIBL has lowest S.D

Similarly, the C.V of NIBL and NCC is 12.37and 46.68 respectively.

4.3.9 Dividend per Share (DPS):

Dividend pre share is calculated to known the share of dividend that the shareholder received in relation to paid up value of the share. An institution offering a high dividend per share is regarded as efficient in fulfilling shareholder's expectation which will also increase the value of an institution. It is calculated by using following equation.

$$\text{DPS} = \frac{\text{Total dividend}}{\text{No. of ordinary shares}}$$

Dividend per share is the earning distributed to ordinary shoulders dividend by the number of ordinary share outstanding.

Position of comparative DPS:

Table No: 4.9

F\Y	Dividend per share (DPS)	
	NIBL	NCC
2006/07	-	-
2007/08	11.58	-
2008/09	30	5
2009/10	15	12.59
2010/11	25.04	-
Average	16.32	3.25

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

In the above calculation it is shows that the comparative position of DPS of sample bank. In case of NCC the dividend per share of fiscal year 2006/07 is 20%. In the fiscal year 2007/08 the DPS is nil which means the bank has not distribute the dividend. Similarly in fiscal year 2008/09, 2009/10 and 2010/11 DPS are 25, 10, and 20 respectively.

Similarly, incase of NIBL, the DPS in fiscal year 2006/07 is nil which means the bank has not distribute the dividend. In fiscal year 2007/08, 2008/09, 2009/10 and 2010/11 DPS are 11.58, 30, 15 and 25.04 respectively. The average DPS ratio is 16.32.

Like wise the DPS of NCC bank in fiscal year 2006/07, 2007/08 is nil. This means the bank has not distributed the dividend in this year. Similarly the DPS in fiscal year 2008/09, 2009/10 are 5, 12.59 respectively. In F\Y 2010/11 DPS is nil. Because its doesn't distribute it's dividend. The average DPS ratio is 3.52.

Here, the S.D of NIBL is highest of 11.17 and S.D of NCC is lowest of 5.53. Likewise, the C.V of NCC has highest of a 157.10.It ranges from 66.67 to 157.10.

This study is mainly based on secondary data. These data are collected from published sources like, annual reports, balance sheet, prospectus, newspaper, journal, web sites and other sources. Besides this in some case, as per research need. The secondary data published on annual reports of concerning organizations. The secondary data are extracted from

published annual reports of the bank, published articles, journals, reports, previous related studies etc.

4.4. Leverage Analysis:

Leverage and capital structure are closely related concepts linked to cost of capital and capital structure budgeting decision. Leverage results from the use of fixed cost or trends to magnify return to the firm's owners changes in leverage results in changes in level of return and associated risk. Generally increase in leverage result in increase in return and risk where as decrease in leverage result in decrease return and risk. The amount of leverage in the firm's capital structure or the mix of long term debt and equity maintained by the firm can significantly affect its value by affecting return and risk .Because of its value the financial Manager must understand how to measure and evaluate leverage when attempting to create the best capital structure.

Generally, Leverage refers to the use of special force of power to have more than normal results from a particular action. Similarly in financial term it is used to describe about utilization of funds for which the firm has to pay fixed cost and to have more return than normal having more risk as well. Leverage may be used to boost owner's returns but it is used at the risk of increasing losses if the firm's economic fortune declines. Thus gain and losses are magnified by leverage and the higher the leverage employed by the firm, the greater will be the volatility of its return. There are three types of leverage: - Operating leverage, financial leverage and combine leverage. Operating leverage is the function of fixed cost, contribution margin and sales volume.

Financial leverage is the relation between EBIT and EBT and combined leverage is the combine of operating and financial leverage.

The operating leverage is indicates the impact of changes in sales. An operating income and financial leverage exit when the capital structures of the firm comprise debt capital. Financial leverage is related to the capital structure of the firm. So, financial leverage is relevant issue of this study, which is explained in this section.

4.4.1 Analysis of Financial Leverage

When the company employs debt or other fund carrying fixed charges i.e, interest in the capital structure, financial leverage exists. If the financial leverage is high the company can have advantage of tax shield but it will affect to owner return i.e, net profit as well. Financial leverage explains the relationship between earning before interest and taxes and net profit of the company.

Two methods either dividing percentage change into EPS by percentage change into EBIT or dividing percentage change into EBT by EBIT can calculate degree of financial leverage. In this analysis of financial leverage second method is chosen. The higher the degree of financial leverage the more volatile EPS will be, all other things remaining the same. The degree of financial leverage of sampled banks is presented in the following table. The formula is follows.

$$DFL = \frac{EBIT}{EBT}$$

Comparative Position of Financial Leverage:

Table No: 4.12

F\Y	Degree of financial leverage	
	NIBL	NCC
2006/07	2017	3.34
2007/08	2.08	3.06
2008/09	1.97	2.68
2009/10	2.07	2.20
2010/11	1.87	2.31
Average	2.03	2.72

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

In the above table it shows the comparative degree of financial leverage of sample bank. the degree of financial leverage of NIBL is in fiscal year 2006/07, 2007/08, 2008/09is 2.17, 2.08 and 1.97 respectively which is in decreasing trend. But in fiscal year 2009/10 is increase to 2.07. In fiscal year 2010/11 the degree financial leverage is 1.87. The average DFL is 2.03.

Likewise, the degree of financial leverage of NCC in fiscal year 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 is 3.34, 3.06, 2.68, 2.20 and 2.31 respectively which is in decreasing trend. The average DFL is 2.72.

4.4.2 Correlation Analysis:

Correlation analysis enables us to have an idea about the degree and direction of the relationship between the two or more variables, the correlation is statistical tools which studies the relationship between two or mor
e variables and correlation analysis involves various methods and technique used for studying and measuring the extent of the relationship between the two or more variables. It is denoted by 'r' it fails to reflect upon the cause and effect relationship between the variables.

Although there are three types of correlation i.e. simple, partial and multiple correlation but in this study we will give focus on simply correlation based on Pearson's coefficient of correlation. In the following section correlation between different variables are calculated and presented of the banks which are being studied under this research.

- Total debt and shareholders equity.
- Long term debt and earning per share.
- EBIT and Interest.
- EBIT and DPS.

4.4.2.1 Total debt and shareholders equity:

The relationship between total debt and shareholders equity has been shown in the following table below. The total debt includes all types of long term borrowed funds, current liabilities and provisions, whereas shareholders equity included share capital, reserve and surplus. This correlation indicates whether there is positive or negative correlation coefficient between TD and SHE and their respective probable error is also presented. PE interprets the value of correlation coefficient. It also helps to determine applicability for the measurement of reliability of the computed value of the correlation coefficient (r). Details calculations are presented in the appendix 14

Correlation coefficient between TD and SHE with probable error.

Table No: 4.13

NIBL		**NCC**	
Correlation coefficient(r)	Probable error 6(P.E)	Correlation coefficient(r)	Probable error 6(P.E)
0.92	0.28	0.98	0.072

(Source: Annual Report of NIBL & NCC, 2006/07 to 2010/11)

Karl Pearson's correlation coefficient between total debt and shareholders equity of of NIBL is 0.92 there is also positive correlation between TD and SHE. Probable Error 6(P.E) of NIBL is 0.28 which is less then (r).

Incase of NCC the correlation coefficient is 0.98 which is closer to 1 and positive so, it also good correlated. The P.E of respected correlation is 0.072 here also the (r) is greater then P.E.

4.4.2.2 Long term debt and earning per share:

Long term debt is the source of long term financing or long term funds. Company should pay interest for this debt capital. Where as earning per share (EPS) is earning of a share of a firm from one year business. EPS has positive relationship with companies earning. In this section the relationship between these two variables has been shows using Karl's Pearson's correlation coefficient method. It tries to analyze that the increment in LTD leads to increment in the EPS or not. The calculated correlation coefficient and their respective probable error has been shown in the following table referred form appendix 15

Correlation coefficient between Long Term debts (LTD) and earning per share (EPS) and their respective 'probable error'.

Table No: 4.14

NIBL		**NCC**	
Correlation coefficient(r)	Probable error 6(P.E)	Correlation coefficient(r)	Probable error 6(P.E)
0.56	1.24	0.74	0.82

Source: Appendix 15

In the basis of above table correlation coefficient between long term debt and earning per share
of NIBL the correlation coefficient between LTD and EPS is found to be 0.56 there is positive correlation between LTD and EPS. The 6 P.E of respected correlation is 1.24 which is greater then correlation coefficient(r).

Similarly in case of NCC the correlation coefficient is 0.74, which is positive and its respective 6 P.E is 0.82.

4.4.2.3 EBIT and INTEREST:

Long term debt holders get the interest as return and EBIT is operating profit of the company. Here correlation coefficient of interest and EBIT has been presented of concerned companies to analyze whether there is positive or negative correlation between interest and operating profit those are calculation on the basis of Karl Pearson's correlation coefficient. Following table shows the relationship between these variables of sampled banks which are included in this study and to check the significance of these calculated correlations. P.E is also presented which is referred from appendix 16.

Correlation coefficient between EBIT and INTEREST and their respective probable error.

Table No: 4.15

NIBL		**NCC**	
Correlation coefficient(r)	Probable error 6(P.E)	Correlation coefficient(r)	Probable error 6(P.E)
0.99	0.04	1.01	0.036

Source: Appendix -16

In the above table, correlation coefficient between EBIT and Interest is found 0.85 which is positive and its respective 6 P.E is 0.50 it lower then its (r).

Incase of NIBL, the correlation coefficient between EBIT and interest is 0.99. it is positive and closer to (1). The PE of respected correlation is 0.004 which is less then correlation coefficient.

Similarly in case of NCC the correlation coefficient is 1.01 which is positive and almost closer to (1) and its P.E is 0.036 which is less then the correlation coefficient.

4.4.2.4 EBIT and DPS:

Shareholders get the dividend as return and EBIT is operating profit of the company here correlation coefficient of EBIT and DPS has been presented of concerned bank to analyze whether there is positive or negative correlation between dividend and operating profit. Following table shows the relationship between these variables of sampled banks and to check the significance of there calculated correlations P.E is also presented which is referred from appendix -17.

Correlation coefficient between EBIT and DPS and their respective probable error:

Table No: 4.16

NIBL		**NCC**	
Correlation coefficient(r)	Probable error 6(P.E)	Correlation coefficient(r)	Probable error 6(P.E)
0.73	0.84	0.49	1.37

Source: Appendix -17

In the above table correlation coefficient of NIBL the correlation coefficient between EBIT and DPS is 0.49 which is positive and its respective P.E is 0.84 which is also greater then its correlation coefficient.

But incase of NCC, the correlation coefficient between EBIT and DPS is 0.49 which is positive correlation. It's respected P.E is 1.37 which higher then its correlation coefficient.

4.5 Major findings of the study:

1. The long term debt in comparison to their total assets used by all three banks for financing is very minimum or negligible. Hence the debt to total assets ratio of NIBL and NCC is negligible.
2. The debt to equity ratio shows the claim of creditors on the total assets of the company. The trend analysis shows fluctuating trend in all the sampled banks used for this study. The average debt to equity ratio of NIBL has lowest debt to equity ratio among the three banks with the average of 0.098. Likewise NCC, the average ratio of 0.10 which shows 10% claim of creditors.
3. The analysis shows that all the sampled bank under this research study NIBL and NCC are able to pay the interest coverage ratio of 1.98 and NCC has lowest of 1.63.
4. The overall return of NIBL is 1.34 while NCC has the fluctuating trend with an average of 1.08.
5. The return of shareholders equity of NCC is fluctuating and of NIBL has showing increasing trend. NIBL and NCC have average return of 15.79 and 13.87 respectively. The return of NIBL is highest and NCC is lowest among the sampled banks.

6. The earning per share explains net income for each unit share. It shows that the market position of the firm. The average earning per share of NIBL and NCC is 55.92 and 22.70 respectively. In this analysis we can see that the EPS of NIBL is the highest with 55.92 and continuous strong growth in the past 5 years, which that of NCC is the lowest with 22.70.
7. The percentage of total debt of the firm covered by long term debt is indicated by long-term debt to total debt ratio NIBL and NCC is 0.97% and 0.89% respectively. In all three cases the total debt is contributed by current liabilities to large extend. The analysis of all three banks reveals the fluctuating trend of long term debt to total debt ratio. Among these banks NCC has used Minimum long term debt in comparison to NIBL has stopped using long term debt and NCC has stopped using long term debt financing in Fly 2006/07 to 2007/08.
8. Under the NI approach the interest rate and the cost of equity are dependent of the capital structures with the increased used of leverage overall cost of capital declines and the total value of firm raise. From the calculation we can say that NCC has some what optimum capital structure because it has the least cost of capital and high value of firm.
9. Net operating income (NOI) approach is an independent hypothesis of capital structure. Any change in leverage will not lead to any change in the total value of the firm and market price of the share. From the position of average cost of equity of 3.30% with an average long term debt of 120 which is lowest among the three sampled banks under this study. The value of NIBL is 4.68% and its long term debt is 2.88. So we can say that NIBL has optimum capital structure among the three. The financial leverage analysis helps to evaluate the financial risk of the firm. The average degree of NIBL and NCC are 2.03 and 2.72 respectively from the analysis. We can say that NCC is bearing the highest DFL. So, we can say its EPS is quite volatile. Meanwhile NIBL is bearing the lowest risk among the three.
10. The next analysis of long term debt to capital employed ratio shows that debt to capital employed ratio shows that NCC has least and NIBL has the highest long term debt to capital employed ratio of 0.09 and 0.22 respectively. This indicates that NIBL is using more long term debt for financing its capital.
11. Dividend per share is the earning distributed to ordinary shareholders. The analysis shows that NIBL paid the highest DPS on average with 16.32 and NCC with lowest of

3.52 on average. It didn't paid DPS to its ordinary shareholders in F/Y 2006/07, 2007/08 and 2010/11.

12. Likewise in case of NCC Correlation Coefficient is 0.98 and its respective P.E is 0.072 which is significant correlation coefficient and P.E. ratios between long term debt and Earning per share of NIBL and NCC is 0.56 and 0.74 respectively and shows positive correlation but P.E is greater than that of calculate value (r). So, it is insignificant.
13. The correlation coefficient between EBIT and DPS of, NIBL and NCC is 0.73 and 0.49 respectively which is positive. The P.E of all banks is 1.67, 0.84 and 1.37 respectively which is greater than correlation coefficient (r). So it is insignificant.
14. In case of NIBL the Correlation Coefficient is 0.92 and its respective P.E. is 0.28 which is also less that Correlation which shows that the value of 'r' is significant.
15. The correlation coefficient between EBIT and Interest of all three sampled bank under this study are positive. The entire three banks have significant value since is greater than P.E. In case of NCC P.E is almost negligible and its correlation coefficient is almost '1'.

CHAPTER-V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This is the concluding chapter of this study. This chapter is divided into three sections: Summary, Conclusions and Recommendations. In this chapter summary of the study is provided in brief. It has been a concern from the first chapter to the end. Findings of calculations, which have been drawn using different tools and technique based on the data provided by the concerned companies, are concerned here in conclusions section. In the last section of this chapter some recommendations have been given, which are useful to stakeholders and to concerned companies as well. They can use these recommendations to take some corrective actions to draw decisions.

5.1 Summary

Financial institution includes banks, finance companies, co-operative organizations and insurance companies. All of them do contribute something to the economy of the country. Financial institutions play a vital role in the proper functioning of an economy. Among them, banking sector plays an important role in the economic development of the country. Commercial banks are one of the vital aspects of this sector, which deals in the process of channel zing the available resources in the needed sectors. It is the intermediary between the deficit and surpluses of financial resource.

This study "A Capital Structure of Nepalese Commercial Banks" is primarily prepared for the partial fulfillment of the requirement of the master of business studies (MBS). This study is mainly based on secondary and primary data provided by concern companies, security board of Nepal (SEBON) and respondents. Among the listed commercial banks NCC and NIBL has selected as a sample of study. The main objective of the study is to assets the Capital Structure of sample bank. However due to the time and resource constraints all types of analysis are not conducted and information are gathered from the period of 2006/07 to 2010/11.

The collected information is presented analyzed and conclusion is drawn from the study.

Chapter One is concerned with the introduction of the whole study. It explained about the concentration of the study objectives and organization of the study which provides guideline for entire study.

Chapter Two is for the review as well as the review of related previous studies is conducted.

Chapter Three specifies the guidelines, tools and research design to achieve the objectives of the study.

In Chapter Four, the analysis of data, some statistical and financial tools are used. In this study Correlation Coefficient between figures as well probable error are considered as the main statistical tools in this study.

In chapter Five, main findings are concluded as the conclusion of the study. Based on the analysis and conclusion of the study some recommendations are made in this chapter.

5.2. Conclusion:

- Longer term debt to total debt ratio shows that all of the sample banks have fluctuating trend of long term debt to total debt ratio. NIBL has the average of 0.97% Likewise, NCC has 0.89% average long term debt to total debt ratio.

- Long term debt to capital employed ratio highlights the portion of fund financed by long term debt in the capital employed by the firm. The data shows NIBL has the average ratio of 0.22. At the same time in case of NCC it has the average ratio of 0.09 times. We can conclude that all the banks do not have appropriate ratio of long term debt to capital employed and among these three banks NIBL has employed more of the long term debt in comparison than other sample banks.

- Debt top total assets ratio express the relationship between creditors fund and total assets the debt ratio or debt to total assets ratio of NIBL and NCC is negligible which concludes that the debt used as the capital are negligible.

- Debt to equity ratio analysis shows that the creditors of NIBL and NCC the creditors have 9.8% and 10% claimed on the assets.

- Interest coverage ratio shows whether or not the banks are capable in paying interest. The conclusion drawn by the study is the average interest coverage ratio of NIBL is 1.98 and NCC is 1.63. This clearly shows that all the sampled bank are able to clear the interest but since the higher interest coverage ratio is better in this regard NIBL seems to be in the front.

- On the position of return on total assets of the two Joint venture banks, NIBL and NCC with return of 1.34 and 1.08 respectively.

- It is a renowned fact that the globalization process has also made its impact on the banking sector. The growth and increasing integration of the world economy has been paralleled by expansion of global banking activities. On the basis of entire study, some conclusion has been deduced.

- All banks have used high percentage of total debt in raising the assets. The higher ratio constitutes that the outsider's calming in total assets of the bank is higher than owner claim.

- Since shareholders are the real owners of the company they obviously want good return on their investment. On this part we can conclude from our analysis that NCC have the average of ROSHE of 13.87%. All of them quite show they have satisfactory return the extend to which this objective has been accomplished.

- EPS explains net income for each unit of share. The three banks under our study show the average of 55.92 for NIBL, and22.70 for NCC bank.

- Dividend per share shows the amount of earning distributed to ordinary shareholders. The investors invest in hose companies which pay adequate amount of dividend. Our analysis concludes that average dividend per share of NCC bank. Among the three NIBL has the highest and SBL has the lowest NCC should think seriously if it wants to earn the goodwill of the investors it should give dividend on regular basis.

- Net income approach are the dependent hypothesis of capital structure which states that with the increased use of leverage, overall cost of capital declines and the total values of firm raise. According to this hypothesis the firm with the highest value and least cost of capitalization rate is considered to have the best capital structure. The average value of firm of NIBL and NCC are 11605.73 and 11359.07 respectively. From the calculation we can say that this approach is well adequate with this study as the value of banks has increased as the cost of capital has decreased.

- Net operating income approach is the independent hypothesis of the capital structure decisions of the firm. According to this hypothesis any change in the leverage will not lead to any change in total value of the firm and market price of the share. As the overall cost of capital is independent of the degree of leverage. From the position of Ke we can concluded that NCC has lesser Ke with 3.30% and NIBL has average Ke of 4.68%

- When the company employs debt or other fund carrying fixed charges in the capital structure financial leverage exits. From the calculation we can conclude that NCC is bearing the highest risk among the three banks with average DFL of 2.72 but we can concluded that it is taking corrective actions to decrease its risk since trend look decreasing. Among the three NIBL has lesser financial risk

- In case of EBIT and DPS all the sample bank NIBL and NCC bank has positive correlation coefficient. But its 6(P.E) ratio is higher than that of its correlation coefficient than its P.E showing insignificant relationship.

- The operating profit of all the Joint venture banks have going up, so as the provision for loans loss. In brief, we can say that the banking sector in Nepal is somehow

doing well enough through it has to face a lot of political and other hurdles in the past years.

- Considering the correlation coefficient(r) and probable error (P.E), calculated correlation coefficient is positive and P.E is less than the correlation coefficient which concludes that the total debt and shareholders equity deviate in the same direction and relationship between total debt and correlation are significant.

- In the case of EBIT and INTEREST the correlation coefficient are positive and higher than its 6(P.E) which is significant.

- Similarly in case of LTD and EPS the correlation coefficient NIBL and NCC are positive. But 6(P.E) is greater than correlation coefficient. The relationship but LTD and EPS is insignificant.

5.3. Recommendations:

- While observing interest coverage ratio, return on total assets, return on shareholders equity NIBL seems to be in the better position. The banks are recommended to minimize their financial and other expenses so that the interest coverage ratio could be improved.

- Nepalese share holders are very much concerned about the payment of cash divided by the bank rather than financial statement. But while observing the areas like, EPS and DPS. EPS is far ahead than other two banks in this area NCC have performed poorly. It should work seriously because it may demoralize the shareholders if it continuous to retain its earning by not distributing to its real owner that is the shareholders.

- On the DFL part, we know that shareholders not only seek high return from their investment but also consider the risk of their investment. So it is recommended to all

these banks under our study to plan their financial leverage will by analyzing the possible alternatives considering the high return and less risk.

- From the study we can clearly say that the banks lack the theoretical knowledge regarding the capital structure. They have not given significant attention to the capital structure matter. Capital structure is a serious matter. It affects EPS, value of firm, cost of capital etc.

- strategy if not they may have to lose their loyal customer and in return their business.
- Since, human resources are the main source to make the banking activity successful they should give more priority in regular, training, conduct regular workshop which will give staff the new information about the modern banking industry in the world.

- It is visible that all of these three are playing significant role in contributing in the modern banking system to uplift the economical development of the nation. But it can be seen that almost all of the commercial banks are urban based, they should try to make their operation broad by moving to rural areas. The saving from the rural areas are seemed to be neglected by the banks without which they can't contribute to the economic development of the country.

- So, it is recommended that they should try to adopt more cooperative approach and should expand its branches by covering all the inner parts of the country. So that all the Nepalese living in any nooks and corner of the country can enjoy the banking facility and can benefit from it.

- So it is recommended that these banks should follow the theoretical aspects of the capital structure management or given some seriousness in this matter and try to manage their activities accordingly.

- They are also recommended to use less debt, improve strategy of promotion activities analyze and evaluate before making investment.

- Since, there are lots of commercial banks in the market and lots are certain to be established in the near future. They should seriously adopt customer oriented

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APPENDICES

APPENDIX - 1

Long Term Debt to total debt

$$LTD/TD = \frac{\text{Long term Debt}}{\text{Total Debt}} \times 100$$

Long Term Debt to Total Debt of HBL

Table No: 4.16

F\Y	Long term Debt	Total Debt	(LTD/TD) %
2006/07	-	8928.24	-
2007/08	300.00	10896.57	2.75
2008/09	300.00	14996.45	2.00
2009/10	300.00	20215.75	1.48
2010/11	300.00	27149.34	1.10
Average			1.47

Long Term Debt to Total Debt of SBI

Table No: 4.1 7

F\Y	Long term Debt	Total Debt	(LTD/TD) %
2006/07	-	23437.85	-
2007/08	360.00	26302.94	1.36
2008/09	360.00	27694.21	1.30
2009/10	360.00	31372.64	1.15
2010/11	360.00	33662.54	1.06
Average			0.97

APPENDIX - 2

Long Term Debt to capital Employed

$$\text{Long term debt to capital employed} = \frac{\text{Long term Debt}}{\text{Capital Employed}}$$

Long Term Debt to capital Employed Ratio of HBL
Table No: 4.19

F\Y	Long term Debt	Capital Employed	LTD/C.E
2006/07	-	501.90	-
2007/08	300	888.53	0.3376
2008/09	300	1262.81	0.2375
2009/10	300	1501.52	0.1997
2010/11	300	1634.60	0.1835
Average			0.1917

Long Term Debt to capital Employed ratio of SBI
Table No: 4.20

F\Y	Long term Debt	Capital Employed	LTD/C.E
2006/07	-	706.21	-
2007/08	360	1161.67	0.31
2008/09	360	1288.75	6.28
2009/10	360	1355.19	6.27
2010/11	360	1426.30	6.25
Average			0.22

APPENDIX - 3

Total Debt to Total Assets Ratio

$$\text{Debt to total assets ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Debt to Total Assets Ratio of HBL

F\Y	Total Debt	Total Assets	TD/TA
2006/07	8928.25	9608.57	0.93
2007/08	11022.51	11732.51	6.90
2008/09	14996.45	15959.28	0.92
2009/10	20321.05	21432.57	0.93
2010/11	25228.10	27149.34	6.92
Average			0.92

Debt to Total Assets Ratio of SBI

Fly	Total Debt	Total Assets	TD/TA
2006/07	23493.19	25729.78	0.91
2007/08	26707.50	28871.34	0.92
2008/09	27334.20	30579.80	0.89
2009/10	31005.15	33519.14	0.93
2010/11	33662.54	36858.06	0.91
Average			0.91

APPENDIX - 4

Debt to Equity Ratio

$$\text{Debt to equity ratio} = \frac{\text{L}ongtermdebt}{\text{Shareholders equity}}$$

Debt to equity ratio of HBL

F\Y	**Long term Deft**	**Shareholders equity**	**(D/E ratio) %**
2006/07	-	680.31	-
2007/08	300	769.62	0.38
2008/09	300	962.80	0.31
2009/10	300	1201.51	0.24
2010/11	300	1921.23	0.15
Average			0.21

Debt to equity ratio of SBI

F\Y	**Long term Deft**	**Shareholders equity**	**(D/E ratio) %**
2006/07	-	2291.92	-
2007/08	360	2568.39	0.14
2008/09	360	2885.59	0.12
2009/10	360	2942.42	0.12
2010/11	360	3195.46	0.11
Average			0.098

APPENDIX - 5

Interest coverage ratio

$$\text{Interest coverage ratio} = \frac{\text{Earning Before Interest and Tax}}{\text{Interest}}$$

Interest coverage ratio of HBL

F\Y	EBIT	Interest	(I/C ratio) %
2006/07	527.49	316.37	1.67
2007/08	552.29	299.57	1.84
2008/09	746.00	401.40	1.86
2009/10	971.88	517.17	1.80
2010/11	1291.29	632.60	2.04
Average			1.84

Interest coverage ratio of SBI

F\Y	EBIT	Interest	(I/C ratio) %
2006/07	911.81	491.54	1.85
2007/08	1084.50	561.96	1.92
2008/09	1321.23	648.84	2.03
2009/10	1484.81	767.41	1.93
2010/11	1772.57	823.74	2.15
Average			1.98

APPENDIX - 6

Return on Total Assets

$$\text{Return to total Assets} = \frac{\text{Net profit after tax}}{\text{Total Assets}}$$

Return to Total Assets Ratio of HBL

F\Y	NPAT	Total Assets	ROA
2006/07	143.57	9608.57	1.4942
2007/08	168.21	11732.57	1.4337
2008/09	237.38	15959.28	1.4874
2009/10	296.41	21432.57	1.3830
2010/11	451.4	27149.34	1.6620
Average			1.4921

Return to Total Assets Ratio of SBI

F\Y	NPAT	Total Assets	ROA
2006/07	263.05	25729.78	1.02
2007/08	308.27	28871.34	1.07
2008/09	457.45	30579.80	1.50
2009/10	491.82	34314.86	1.43
2010/11	635.86	36858.06	1.72
Average			1.34

APPENDIX - 7

Return on Shareholders Equity

$$\text{Return on Shareholders equity} = \frac{\text{Net profit After Tax}}{\text{Shareholders equity}}$$

Return on Shareholders equity Ratio of HBL

F\Y	**NPAT**	**Shareholders equity**	**ROE**
2006/07	143.57	680.31	21.10
2007/08	168.21	769.62	21.86
2008/09	237.38	962.80	24.66
2009/10	296.41	1201.51	24.67
2010/11	451.21	1921.23	23.49
Average			23.15

Return on Shareholders equity Ratio of SBI

F\Y	**NPAT**	**Shareholders equity**	**ROE**
2006/07	263.05	2291.92	11.48
2007/08	308.27	2568.39	12.00
2008/09	457.45	2885.59	15.85
2009/10	491.82	2942.22	16.72
2010/11	635.86	3195.46	19.90
Average			15.79

APPENDIX - 8

Earning Per Share

$$EPS = \frac{Net Income}{No\ of\ share\ outstanding}$$

Earning per share of HBL

F\Y	EBIT	Interest	Tax	EAT	No. of Shares	EPS
2006/07	527.49	316.37	67.55	143.57	3150000	45.58
2007/08	552.29	299.57	81.91	170.81	3150000	54.22
2008/09	746.00	401.40	108.31	237.38	3780000	62.78
2009/10	971.88	51717	153.30	296.41	3780000	78.30
2010/11	1300.72	632.60	216.91	451.21	4914000	91.82
Average						66.54

Earning per share of SBI

F\Y	EBIT	Interest	Tax	EAT	No. of Shares	EPS
2006/07	911.81	491.54	151.22	263.05	5362500	49.05
2007/08	1084.50	561.96	214.26	308.28	6435000	47.91
2008/09	1321.23	648.84	214.94	457.45	7722000	59.24
2009/10	1484.81	767.41	225.58	491.82	8108100	60.66
2010/11	1772.57	823.74	312.97	635.86	10135120	62.74
Average						55.92

APPENDIX - 9

Dividend per Share

$$\text{Dividend per share} = \frac{\text{Total Divident}}{\text{No. of Share outstanding}}$$

Dividend per Share of HBL

F\Y	Total Dividend	No. of Share	DPS.
2006/07	63000000	3150000	20
2007/08	-	3150000	-
2008/09	945000000	3780000	25
2009/10	37800000	3780000	10
2010/11	98280000	4914000	20
Average			15

Dividend per Share of SBI

F\Y	Total Dividend	No. of Share	DPS.
2006/07	-	536200	-
2007/08	74517300	6435000	11.50
2008/09	231660000	7722000	30
2009/10	121620000	8108100	15
2010/11	253780000	10135120	25.04
Average			16.32

APPENDIX - 10

Calculation of NI Approach

Market value of equity (s) = No. of shares X closing MPS

Market value of firm (V) = Market value of Debt (B) + Market value of Equity(s)

Value of firm of HBL

F\Y	No. of Shares	Closing MPS	Market value of Shares (S)	Market value of Debt	V=S+B
2006/07	3,50,000	680	2142000,000	107100,000	2249100000
2007/08	3,50,000	870	2740500,000	137025,000	2877525000
2008/09	37,80,000	1379	5212620,000	260631,000	5473251000
2009/10	37,80,000	2430	9185400,000	367416,000	9552816000
2010/11	49,14,000	3132	1539048,000	483725,000	15874373000

Value of firm of SBI

F\Y	No. of Shares	Closing MPS	Market value of Shares (S)	Market value of Debt	V=S+B
2006/07	5362500	840	4504500000	406980000	4911480000
2007/08	6435000	920	5920200000	534830868	6455030868
2008/09	7722000	1100	8494200000	767366028	9261566028
2009/10	8108100	1740	10628094000	956528460	1158422460
2010/11	10135120	2450	24831044000	984937620	25815981620

APPENDIX- 11

Calculation of overall capitalization (KO)

Cost of overall capitalization Rate (KO) $= \frac{EBIT}{TotalMarketvalueoffirm}$

Calculation of overall capitalization Rate of HBL:

Fly	EBIT	Value of Firm	KO
2006/07	527.49	2249.10	0.234
2007/08	552.29	2877.52	0.192
2008/09	746.00	5473.25	0.136
2009/10	971.88	9552.81	0.101
2010/11	1300.72	158737	0.081
Average			0.149

Calculation of overall capitalization Rate of SBI

F\Y	EBIT	Value of Firm	KO
2006/07	911.81	4911.48	0.185
2007/08	1084.50	6455.03	0.168
2008/09	1321.23	9261.56	0.142
2009/10	1484.81	11584.62	0.128
2010/11	1772.57	25815.98	0.068
Average			0.138

APPENDIX-12

Calculation of 'NOI' Approach

$$\text{Cost of equity (Ke)} = \frac{EarningAvailableToCommonStockhold}{MarketValueOfStock(S)}$$

Calculation of equity capitalization rate of HBL

Fly	**Net Income**	**Market Value of Stock(S)**	**Ke**
2006/07	143.57	2142.00	0.0670
2007/08	170.81	2740.50	0.0623
2008/09	237.29	5212.62	0.0455
2009/10	296.41	9185.4	0.0323
2010/11	451.21	15390.64	0.0293
Average			0.0473

Calculation of Equity Capitalization Rate of SBI

F\Y	**Net Income**	**Market Value of Stock(S)**	**Ke**
2006/07	263.05	4504.50	0.058
2007/08	308.28	5920.20	0.052
2008/09	457.45	8494.20	0.053
2009/10	491.82	10628.09	0.046
2010/11	635.86	24831.04	0.025
Average			0.0468

APPENDIX-13

Degree of Financial Leverage

$$\text{Degree of financial leverage} = \frac{\text{EBIT}}{\text{EBI}}$$

Degree of financial leverage of HBL

F\Y	EBIT	EBT	DFL
2006/07	527.49	211.12	2.50
2007/08	552.29	252.72	2.19
2008/09	746.00	344.60	2.16
2009/10	971.88	454.71	2.14
2010/11	1300.72	658.69	1.97
Average			2.19

Degree of financial leverage of SBI

F\Y	EBIT	EBT	DFL
2006/07	911.81	420.57	2.17
2007/08	1084.50	522.54	2.08
2008/09	1321.23	672.36	1.97
2009/10	1484.81	717.40	2.07
2010/11	1772.57	948.83	1.87
Average			2.03

APPENDIX- 14

Correlation coefficient between total debt and shareholders equity with probable error.

Correlation coefficient (v) $= \frac{N\Sigma xy - \Sigma x - \Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$

Where,

N = Number of observation

X and are variable

$P.E.\frac{6 \times 0.6745 \times (1 - r^2)}{N}$

V= Correlation coefficient

N= Number of pair of observation

Correlation Coefficient between ID and SHE of HBL:

F\Y	T.D (x)	SHE (x)	XY	X^2	Y^2
2006/07	8928.25	680.31	6073977.75	79713648.06	462821.70
2007/08	11022.51	769.62	8483144.14	121495726.70	592314.94
2008/09	14996.45	962.80	14438582.06	224893512.60	926983.84
2009/10	20231.05	1201.51	24307808.89	409295384.10	1443626.28
2010/11	25228.10	1921.23	48468982.56	636457029.60	3691124.71
	80406.36	5535.47	101772495.4	147185530.01	7116871.47

$$r = \frac{N\sum xy = \sum x.\sum y}{\sqrt{N\sum x^2 - (\sum x)^2}\sqrt{N\sum x^2 - (\sum y)^2}}$$

$$= \frac{5 \times 101772495.4 - 80406.36 \times 5535.47}{\sqrt{5 \times 1471855301 - (80406.36)^2}\sqrt{5 \times 7116871.47 - (5535.17)^2}}$$

= 0.96

$$P.E = 6 \times \frac{0.6745 \times (1 - r^2)}{\sqrt{N}}$$

$$= 6 \times \frac{0.6745 \times (1 - 0.96^2)}{\sqrt{5}}$$

$$= 6 \times \frac{0.6745 \times X(1 - 0.92)}{2.24}$$

= 0.14

Coefficient between TD and SHE of SBI:

F\Y	T.D (x)	SHE (x)	XY	X^2	Y^2
2006/07	23493.19	2291.92	53844512.02	551929976.4	5252897.29
2007/08	26707.50	2568.39	68595275.93	713290556.3	6596627.19
2008/09	27334.20	2885.59	78875294.18	747158489.6	8326629.65
2009/10	31005.15	2942.22	91223972.43	961319325	8656658.53
2010/11	3366.54	3195.46	107567300.10	1133166599	10210964.61
	142202.58	13883.58	400106354.7	410686494.8	39043777.27

$$r = \frac{\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (zy)^2}}$$

$$= \frac{5 \times 400106354.7 - 142202.58 \times 13883.58}{\sqrt{5 \times 410686494.8} - (142202.58)^2 \sqrt{5 \times 390477727 - (13883.58)^2}}$$

= 0.92

Probable error (P.E) $P.E. = \frac{6 \times 0.6745 \times (1 - r^2)}{\sqrt{N}}$

$$6 \times \frac{0.6745 \times (1 - 0.92^2)}{\sqrt{5}}$$

= 0.28

APPENDIX- 15

Correlation Coefficient between long terms debt and EPS with probable error of HBL:

F\Y	LTD (x)	EPS (Y)	XY	X^2	Y^2
2006/07	-	45.58	-	-	2077.53
2007/08	300	54.22	16266	90000	2939.80
2008/09	300	62.78	18834	90000	3941.32
2009/10	300	78.30	23490	90000	6130.89
2010/11	300	91.82	27546	90000	8430.91
	1200	332.70	86136	360000	23520.45

$$r = \frac{N\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{5 \times 86136 - 1200 \times 332.70}{\sqrt{5 \times 36000 - (1200)^2}\sqrt{5 \times 23520.45 - (332.70)^2}}$$

= 0.63

Probable error $P.E. = 6 \times \frac{0.6745 \times (1 - r^2)}{\sqrt{N}}$

$$= 6 \times \frac{0.6745 \times (1 - 0.63^2)}{\sqrt{5}}$$

= 1.08

Correlation Coefficient between Long term debt and EPS with probable error of SBI:

F\Y	LTD (x)	EPS (Y)	XY	X^2	Y^2
2006/07	-	49.05	-	-	2405.90
2007/08	360	47.91	17247.60	129600	2295.37
2008/09	360	59.24	21326.40	129600	3509.38
2009/10	360	60.66	21837.60	129600	3679.64
2010/11	360	62.74	22586.40	129600	3936.31
	1440	279.60	82998	578400	15826.60

$$r = \frac{N\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{5 \times 82998 - 1440 \times 279.60}{\sqrt{5 \times 518400 - (1440)^2}\sqrt{5 \times 15826.60 - (279.60)^2}}$$

= 0.56

Probable Error (P.E) $= 6 \times \frac{0.6745(1 - r^{2)}}{\sqrt{N}}$

$$= 6 \times \frac{0.6745(1 - 0.56^{2)}}{\sqrt{5}}$$

= 1.24

APPENDIX-16

Correlation coefficient between EBIT and interest with probable error of HBL

F\Y	EBIT(X)	Interest(Y)	XY	X^2	Y^2
2006/07	527.49	316.37	166882.01	278245.70	136588.28
2007/08	552.29	299.57	165449.52	305024.24	89742.18
2008/09	746.00	401.40	299444.40	556516.00	161121096
2009/10	971.88	517.17	502627.18	944530.73	267464.81
2010/11	1300.72	632.60	822835.47	1691872.52	400182.76
	4098.38	2167.11	1957238.58	377620919	1049099.99

$$r = \frac{N\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{5 \times 1957238.58 - 4098.38 \times 2167.11}{\sqrt{5 \times 377620919 - (4098.38)^2}\sqrt{5 \times 1049099 - (2167.11)^2}}$$

= 0.85

Probable Error (P.E) $= 6 \times \frac{0.6745(1 - r^{2)}}{\sqrt{N}}$

$$= 6 \times \frac{0.6745(1 - 0.85^{2)}}{\sqrt{5}}$$

= 0.50

Correlation coefficient between EBIT and interest of SBI

F\Y	EBIT(X)	Interest(Y)	XY	X^2	Y^2
2006/07	911.81	491.54	448191.09	831397.48	241611.57
2007/08	1084.50	561.96	609445.62	1176140.25	315799.04
2008/09	1321.23	648.84	857266.87	1745648.71	420993.35
2009/10	1484.81	767.41	1139458.04	2204660.74	588918.11
2010/11	1772.57	823.74	1460136.81	3142004.41	678547.59
	6574.92	3293.49	4514498.43	9099851.59	2245869.66

$$r = \frac{N\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{5 \times 4514498.43 - 6574.92 \times 3293.49}{\sqrt{5 \times 9099851.59 - (6574.92)^2}\sqrt{5 \times 2245869.66 - (3293.49)^2}}$$

= 0.99

$$\text{Probable Error (P.E)} = 6 \times \frac{0.6745(1 - r^{2)}}{\sqrt{N}}$$

$$= 6 \times \frac{0.6745(1 - 0.99^{2)}}{\sqrt{5}}$$

= 0.04

APPENDIX-17

Correlation coefficient between EBIT and DPS of HBL

F\Y	EBIT(X)	DPS(Y)	XY	X^2	Y^2
2006/07	527.49	20	10549.80	278245.70	400
2007/08	552.29	-	-	305024.24	-
2008/09	746.00	25	18650.00	556516.00	625
2009/10	971.88	10	9718.80	944550.73	100
2010/11	1300.72	20	26014.40	1691872.52	420
	4098.38	75	64933.00	3776209.19	1525

$$r = \frac{N\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{5 \times 64933.00 - 4098.38 \times 75}{\sqrt{5 \times 3776209.19 - (4098.38)^2}\sqrt{5 \times 1525 - (75)^2}}$$

$= 0.27$

$$\text{Probable Error (P.E)} = 6 \times \frac{0.6745(1 - r^{2)}}{\sqrt{N}}$$

$$= 6 \times \frac{0.6745(1 - 0.27^{2)}}{\sqrt{5}}$$

$= 1.67$

Correlation coefficient between EBIT and DPS of SBI:

F\Y	EBIT(X)	DPS(Y)	XY	X^2	Y^2
2006/07	911.81	-	-	831397.47	-
2007/08	1084.50	11.58	12558.51	1176140.25	434.10
2008/09	1321.23	30	39636.90	1745648.71	900
2009/10	1484.81	15	22272.15	2204660.73	225
2010/11	1772.57	-	44385.15	3142004.43	627
	6574.92	81.62	118852.71	9099851.59	1886.10

$$r = \frac{N\Sigma xy - \Sigma x.\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{5 \times 118852.71 - 6574.92 \times 81.62}{\sqrt{5 \times 9099851.59 - (6574.92)^2}\sqrt{5 \times 1886.10 - (81.62)^2}}$$

$= 0.73$

Probable Error (P.E) $= 6 \times \frac{0.6745(1 - r^{2)}}{\sqrt{N}}$

$$= 6 \times \frac{0.6745(1 - 0.73^{2)}}{\sqrt{5}}$$

$= 0.84$

APPENDIX - 18

Calculation of Standard Deviation and Coefficient of Variation of Long term Debt to T.D:

F\Y	HBL	SBI
	$(X - \overline{X})^2$	$(X - \overline{X})^2$
2006/07	-	-
2007/08	1.64	0.15
2008/09	0.28	0.11
2009/10	0.0001	0.03
2010/11	0.14	0.01
$\Sigma(X - \overline{X})^2$	2.06	0.30
$\pm = \sqrt{\frac{\Sigma(X - \overline{X})^2}{N - 1}}$	0.72	0.72
C.V = $\frac{\pm}{\overline{X}} \times 100$	48.98	28.87

APPENDIX - 19

Calculation of S.D and Coefficient of Variation of Long term Debt to capital employed

F\Y	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2006/07	0.0367	0.0484
2007/08	0.0213	0.0081
2008/09	0.0021	0.0036
2009/10	0.0001	0.00250
2010/11	0.0001	0.0009
$\Sigma(X-\overline{X})^2$	0.0603	0.0637
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}}$	0.12	0.13
$C.V = \frac{\pm}{\overline{X}} \times 100$	62.60	59.09

APPENDIX - 20

Calculation of S.D and C.V of Debt to total assets ratio

F\Y	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2006/07	0.0001	-
2007/08	0.0004	0.0001
2008/09	0	0.0004
2009/10	0.0001	0.0004
2010/11	0	-
$\Sigma(X-\overline{X})^2$	0.0006	0.0009
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}}$	0.014	0.015
$V = \frac{\pm}{\overline{X}} \times 100$	1.52	1065

APPENDIX - 21

Calculation of S.D. and C.V of Debt to equity ration

Fly	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2003\04	0.0441	0.0096
2004\05	0.0289	0.0018
2008/09	0.0100	0.0005
2009/10	0.0009	0.0005
2010/11	0.0036	0.0001
$\Sigma(X-\overline{X})^2$	0.0875	0.0125
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}} =$	0.15	0.06
C.V= $\frac{\pm}{\overline{x}} \times 100$	71.43	61.21

APPENDIX - 22

Calculation of S.D and C.V of I/C ratio:

F\Y	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2006/07	0.0289	0.0169
2007/08	0	0.0036
2008/09	0.0004	0.0025
2009/10	0.0016	0.0025
2010/11	0.0400	0.0289
$\Sigma(X-\overline{X})^2$	0.0709	0.0544
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}}$	0.13	0.12
C.V = $\frac{\pm}{\overline{X}} \times 100$	7.07	6.06

APPENDIX - 23

Calculation of S.D and C.V of ROTA

F\Y	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2006/07	-	0.1024
2007/08	0.0036	0.0729
2008/09	-	0.0256
2009/10	0.0119	0.0081
2010/11	0.0289	0.1444
$\Sigma(X-\overline{X})^2$	0.0442	-
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}}$	0.11	0.30
C.V = $\frac{\pm}{\overline{X}} \times 100$	7.38	22.30

APPENDIX - 24

Calculation of S.D and C.V of ROSE

F\Y	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2006/07	4.2025	18.5761
2007/08	0.6641	14.3641
2008/09	2.2801	0.0036
2009/10	2.3104	0.8649
2010/11	0.1156	16.8921
$\Sigma(X-\overline{X})^2$	10.5727	50.7008
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}}$	1.63	3.56
C.V = $\frac{\pm}{\overline{X}} \times 100$	7.04	22.55

APPENDIX - 25

Calculation of S.D and C.V of EPS

F\Y	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2006/07	439.32	47.20
2007/08	151.78	64.14
2008/09	14.14	11.02
2009/10	138.30	22.47
2010/11	639.08	46.51
$\Sigma(X-\overline{X})^2$	1382.62	191.34
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}}$	18.59	6.92
$C.V = \frac{\pm}{\overline{X}} \times 100$	27.97	12.37

APPENDIX- 26

Calculation of S.D and C.V of DPS:

F\Y	HBL	SBI
	$(X-\overline{X})^2$	$(X-\overline{X})^2$
2006/07	25	266.47
2007/08	225	22.47
2008/09	100	187.17
2009/10	25	1.74
2010/11	25	76.04
$\Sigma(X-\overline{X})^2$	400	553.86
$\pm = \sqrt{\frac{\Sigma(X-\overline{X})^2}{N-1}}$	10	11.77
$C.V = \frac{\pm}{\overline{X}} \times 100$	66.67	72.12