

# CHAPTER I

## INTRODUCTION

### 1.1 Background of the Study

The commercial bank has been a vital ingredient for economic development. They are intermediaries, which mobilize funds through the prudential combination of investment portfolios in advanced countries. Whereas in Nepal the role of joint venture banks are still to be realize as an essential machine of mobilizing internal saving through various banking schemes in the economy. Hence, to uplift the backward economic condition of the country, the process of capital accumulation among other pre requisition, should be expedited.

Capital accumulation plays an essential role in acceleration of the economic growth of nations. But the capacity of saving in the developing country is quite low with a relatively higher marginal propensity of consumption. As a result developing countries are badly trapped into the vicious circle of poverty. The basic problem of these countries is raising the level of saving and investments. In order to collect the enough saving and put them into productive channels, financial institutions like banks are necessary. It will be utilize within the economy and will either be diverted abroad or used for productive consumption or speculative activities.

Capital structure concept holds a major place in the financial management. Capital structure refers the proportion of debt and equity capital. A perfect balance between debt and equity is required to ensure the trade-off between risk and return. Thus, optimal capital structure means the capital structure having reasonable proportion of debt and equity. An optimal financial structure makes better use of society's fund of capital resources, and thus it increases the total wealth of society (*Solomon; 1969: 92*). Also, by increasing the firm's opportunity to engage in future wealth-creating investment, it increases the economy's rate of investment and growth.

Commercial banks are the suppliers of finance for trade and industry, which plays vital role in the economic and financial life of the country. They help in the formation of capital by investing the savings in productive areas. Rural people of under developed countries like Nepal need various banking facilities to enhance its economy. In most of the countries, the banks are generally concentrated in urban and semi-urban sectors. They neglect rural sector due to heavy risk and low return, which is in fact, without it, other sectors of economy cannot be flourished.

The concept of banking is developed from the history with the effort of ancient gold smith who developed the practices of storing people's gold and valuables. They received valuables and used to issue a receipt to the depositors. As such receipts are good for payment equipment to the amount mentioned, it become like the modern cheque, as a medium of exchange and means of payment.

The history of the systematic development of commercial banks in Nepal as compared to other developed countries is of recent origin. In Nepal, efforts are being made to accelerate the pace of economic development after the adaptation of first five year plan in 1956. Nepal Bank Limited, the first and oldest bank in modern banking history of Nepal, was established in 1937A.D. (30<sup>th</sup> Kartik, 1994 B.S) with 51% government equity. Nepal Bank Limited also used to function as central bank of the country up to 2012 B.S. On 2013 B.S, Nepal Rastra Bank was established as central bank of Nepal under the Nepal Rastra Bank Act 2012. Government initiated some corrective measures to stabilize the economy with the assistance of IMF standby arrangement in mid 1980s. In F/Y 1985, it subsequently embarked upon structured adjustment program encompassing measures to increase domestic resource mobilization, strengthen financial sectors and liberalize industrial and trade policies. Since then several financial institutions and commercial joint venture banks have been established in the process of development and liberalization policy for the economic development of the nation.

The commercial bank collect the scattered saving and place them into productive channels. They hold the deposit of many persons, government

establishments and business units. They make funds available through their lending and investing activities to borrowers, individuals, business firms and government establishments. In doing so, they assist both the flows of goods and services from the government. They are media through which monetary policy is affected. These banks are resource for development. It maintains economic confidence of various segments and extends credit to people.

At present altogether 17 commercial banks including 3 public sector banks are operating in Nepal. The condition of two oldest public sector banks is bad at the moment. But the third public sector development bank, ADB/N (Agriculture Development Bank Limited) which is also operating as a commercial banking and is still doing well despite political and bureaucratic interference and internal problems. The remaining 14 private sector banks are all in a profitable position even when there is cut through neck competition among them. Some development banks and well managed finance companies are also competing with these banks.

## **1.2 Focus of the Study**

As it is a well known fact that the commercial banks can affect the economic condition of the whole country, the effort is made to highlight the capital structure policy of commercial banks expecting that the study can balance the proportion of the equity and debt capital used by the commercial banks. Banking in this era has a new meaning and dimension which is now offering many extra services rather than just accepting deposits and granting loans. So this thesis has been initiated to have a bird eye view on the capital structure of the commercial banks/JVBs, with special reference to NABIL Bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd. This Thesis tries to evaluate various aspects of capital structure as earning per share of bank, cost of capital, share holder's equity etc. The thesis focuses on the capital structure of Nabil bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd and examines its financial position in various years by range of capital structure

tools and various approaches. It primarily put spot light on the capital structure of Nabil Bank / Himalayan Bank / Nepal Investment Bank and merely focuses on other aspects such as management, profit functions, banks performance etc.

### **1.3 Statement of the Problems**

Capital structure refers to the proportion of different types of securities issued by the firm like common shares, long term debt, preference share capital, debentures and retained earnings. We know that major portion of the capital comprises of owners fund and creditors fund. The owners expect dividend and appreciation in the share price whereas creditors expect interest and return of the fund at the mentioned time. So the capital structure of the firm is important factor in determining the success of the firms. The firm is successful if it can optimize its capital structure and the capital is optimal when the overall cost of capital of the firm is minimized and profitability is maximized. So, analysis of the capital structure of the selected CBs will help optimal capital structure, which minimizes cost of capital and maximizes profitability.

There is always been controversy in capital structure between financial theorists and corporate manager. So, there is number of capital structure theories proposed by different personalities. This is the area in which several theoretical and empirical works have been done by different personalities. Capital structure theories developed so far are clung to the question of existence of the optimal capital structure. Most of the theoretical and empirical debuts so far are revolved around the maximization of the value of firms through the judicious composition of its debt and equity fund. Net income (NI) approach and Traditional theory of capital structure claims that there is the existence of the optimal capital structure. They contend that proper mix of debt and equity can maximize the value of the firms. Whereas, net operating income (NOI) approach and M-M hypothesis contend that capital structure is irrelevant to the value and cost of capital of the firm. According to the NOI approach,

cost of equity increases linearly as debt increases in the capital structure. The use of debt does not affect the value of the firm as the benefit of debt capital is just offset by the increase in the cost of equity. Likewise, M-M hypothesis states that there is no level optimal capital structure. They support the NOI approach by providing logically consistent behavioral justifications in its favor. Between the two extreme views, we have the middle position of intermediate version advocated by the traditional writers. Thus, there exists an optimum capital structure at which the cost of capital is low. But the logic of this view does not seem very sound. The M-M position changes when corporate taxes are assumed.

As different approaches hold different beliefs related to the impact of capital structure on the value of the firm, this thesis has been commenced, analyzing different aspect of commercial bank's capital structure which is done by taking Nabil Bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd as reference and has been tried to map out the following questions.

Thus this thesis has been commenced, analyzing different aspect of commercial bank's capital structure which is done by taking Nabil Bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd as reference and has been tried to map out the following questions.

- ) What are the capital structures used by the commercial banks?
- ) What is the debt servicing capacity of the commercial banks?
- ) What is the relationship between debt equity ratio, long term debt to debt ratio, debt ratio, Return on Assets and Return on Equity?
- ) What is the linear relationship of ROA, ROE and Dividend Payout ratio with Debt equity ratio of sample banks?

## **1.4 Objectives of the Study**

The main objective of this study is to analyze capital structures of sample banks, more specifically the objectives are as follow

- ) To examine the capital structure of commercial banks.
- ) To examine the correlation and the significance of their relationship between different ratios related to capital structure.
- ) To analyze the debt servicing capacity of the sample banks.
- ) To analyze effect of capital structure on ROA, ROE and Dividend payout Ratio.

## **1.5 Significance of the Study**

The study has been done in reference to the periodical performance of Nabil Bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd. The study has tried to focus on capital structure of the bank so the study could be significant in revising the banks capital structure for past five years at a glance. The study could be beneficial to various groups of people in following ways

- a) Investors: This study provides the valuable information about the debt and equity (leverage) ratio of the selected Nepalese enterprise. Investors will be benefited by such information to perform securities analysis before taking investment decision.
- b) Financial manager: Financial managers of Nepalese enterprise will be benefited because they will get important information regarding optimum capital structure which will help them to make least cost combination of debt and equity.
- c) Future Researchers: Researcher will get additional information in capital structure and cost of capital in the literature of finance. They will be benefited by getting secondary data in this context.

The proposed study will help to enhance the level of understanding in capital structure for other researchers, management scholars and other stakeholders.

## 1.6 Limitations of the Study

The study has been prepared by the help of the financial reports and publications of the bank. The thesis has been initiated with view of tracing out different aspect of capital structure of the bank and the calculation has been done by the figures given by the bank. Further, the study has been initiated by the student rather than by some economic or financial analyst so the study has some of its own limitations as stated below:-

- ) As mentioned earlier, this thesis is based on secondary data (published annual reports of commercial banks), journals, newspapers, magazines etc and unpublished thesis.
- ) The study covers only 5 years data, beginning from 2001/02 to 2005/06.
- ) The study covers only the capital structure of the bank and ignores other aspects of banks.
- ) Among 17 commercial banks, three of them are studied due to time and resources constraints. Thus, we cannot have a true picture of the overall conditions of commercial banks in Nepalese banking sector and the average performances of this bank is not the average of all the commercial banks in Nepal. Thus, the findings of the study cannot be generalized.
- ) To some extent, the data published on the websites may vary sometimes, with that of the annual reports of commercial banks. So, the data from the websites are considered as authentic one.

## **1.7 Chapter Plan and Organization of the Study**

The entire study is divided into 5 chapters. Brief information of what each chapter contains is given below.

**Chapter I** It is an introductory chapter, which includes general background of bank. It also discusses about focus and significance of study, statement of problem, objective and limitation of the study.

**Chapter II** This chapter deals with the review of literature. It includes reexamination or appraisal of the existing works in relevant areas and includes the concept of commercial banks, its roles, and a review of previous thesis too.

**Chapter III** It is concerned with research methodology. It includes research design, sources of data, population and sample and method of analysis.

**Chapter IV** This is the heart of the chapter as it is concerned with presentation and analysis of relevant data and information. In order to find out the true picture of the capital structure of NABIL Bank, Himalayan Bank Ltd and Nepal Investment Bank Ltd, various financial and statistical tools and techniques are used. Thus, this chapter is concerned with the findings of the analysis.

**Chapter V** This chapter summarizes the overall picture of the study, draws conclusions, offer suggestions and recommendations for improvement in the future.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

#### **2.1 Introduction**

This chapter is focused on brief discussion about the abstract regarding the theories of capital structure. In order to accomplish the objectives of the study, the chapter includes review of relevant concepts, assumptions, books and journals as well as major findings of previous studies of the relevant field are included in precise manner.

The purpose of reviewing the literature is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas for developing a research design. Thus, the previous studies can't be ignored because they provide the foundation to the present study. In other words, there has to be continuity in research. This continuity in research is ensured by linking the present study with the past research studies. From this, it is clear that the purpose of literature review is to find out what research studies have been conducted in one's chosen field of study and what remains to be done.

The review of literature is a crucial aspect because it denotes planning of the study. The main purpose of literature review is to find out what works have been done in the area of the research problem under study and what has not been done in the field the research study being undertaken. For review study, the researcher uses different books, reports; journal and research studies published by various institutions, unpublished dissertations submitted by master level students have been reviewed.

It is divided into three headings:

- ) Conceptual Frame work
- ) Review of Articles
- ) Review of Previous Thesis

## **2.2 Conceptual Frame Work**

### **2.2.1 Meaning of Capital Structure and Financial Structure**

Capital structure refers to the mix of long term sources of funds, such as debentures, long term debt, preference share capital and equity share capital including reserves and surplus (*Pandey; 1999:18*).

The optimum capital structure may be defined as that capital structure or combination of debt and equity that leads to the maximum value of the firm (*Khan and Jain; 1990:487*).

Erza Soloman expresses the optimum capital structure and its implications as: optimum leverage can be defined as that mix of debt and equity which will maximize the market value of the claims and ownership interest represented on the credit side of the balance sheet (*Solomon; 1969:132*). Further, the advantages of having an optimum does exist, is two fold: it maximizes the value of the company and hence the wealth of its owners, it minimizes the company's cost of capital which in turn increases its ability to final new wealth creating investment opportunities. Also, by increasing the firm's opportunity to engage in future wealth –creating investment, it increases the economy's rate of investment and growth

Capital Structure refers to the relationship among various long term forms of financing which includes mainly three types securities i.e. equity shares, preference shares and debenture (*Pandey; 1998:258-259*). It is sometimes known as financial plan, refers to the composition of long term sources of funds such as debentures, long term debt, preference share capital and equity share capital including reserves and surplus .

## **Financial Structure**

Financial structure refers to the composition of all sources and amount of funds collected to use or invest in business. In other words, financial structure refers to the 'Capital and Liabilities side of Balance Sheet'. Therefore, it includes shareholder's funds, long-term loans as well as short-term loans. It is different from capital structure as capital structure includes only the long-term sources of financing while financial structure includes both long term and short-term sources of financing. Thus, a firm's capital structure is only a part of its financial structure.

## **Features of Optimal Capital Structure**

The optimal capital structure is the structure (combination of debt and equity) that maximizes the price of the firm's stock. Hence, it maximizes shareholders wealth and minimizes the firm's cost of capital. There are also some other features of optimal capital structure, which are discussed below.

- 1. Return:** The capital structure of the company should be most advantageous. Subject to other considerations, it should generate maximum returns to the shareholders without additional cost to them.
- 2. Risk:** Optimal capital structure should be less risky. The use of excessive debt threatens the solvency of the company. Company should use debt to that extent up to which debt does not add significant risk, otherwise its use should be avoided.
- 3. Flexibility:** The capital structure should be flexible. Flexibility in capital structure helps to grab market opportunity as company can raise required funds whenever it is needed for profitable investment opportunities. It also helps to reduce costs (Cost of debt and preferred stock) when fund raised from debt and preferred stock are no more required in the business.
- 4. Capacity:** The capital structure should be determined within the debt capacity of the company, and this capacity should not be exceeded. The debt

capacity of a company depends on its ability to generate future cash flows. It should have enough cash to pay creditors' fixed charges and principal sum.

**5. Control:** Control power is the one of the most concerned part for the management. Management always wants to maintain control over the firm. The capital structure should involve minimum risk of loss of control of the company. Issue of excess equity shares to new investors may bring threats to the control by existing manager.

### **Determinants for Capital Structure Decisions**

In addition to the types of analysis discussed above, firms generally consider the following factors when making capital structure decisions:

1. Sales stability: A firm whose sales are relatively stable can safely take on more debt and incur higher fixed charges than a company with unstable sales. Utility companies, because of their stable demand, have historically been able to use more financial leverage than industrial firms.
2. Asset structure: Firms whose assets are suitable as security for loans tend to use debt rather heavily. General-purpose assets that can be used by many businesses make good collateral, whereas special-purpose assets do not. Thus, real estate companies are usually highly leveraged, whereas companies involved in technological research are not.
3. Operating leverage: Other things the same, a firm with less operating leverage is better able to employ financial leverage because it will have less business risk.
4. Growth rate: Other things the same, faster-growing firms must rely more heavily on external capital. Further, the flotation costs involved in selling common stock exceed those incurred when selling debt, which encourages rapidly growing firms to rely more heavily on debt. At the same time, however, these firms often face greater uncertainty, which tends to reduce their willingness to use debt.
5. Profitability: One often observes that firms with very high rates of return on investment use relatively little debt. Although there is no theoretical

justification for this fact, one practical explanation is that very profitable firms such as Intel, Microsoft, and Coca-Cola simply do not need to do much debt financing. Their high rates of return enable them to do most of their financing with internally generated funds.

6. Taxes: Interest is a deductible expense, and deductions are most valuable to firms with high tax rates. Therefore, the higher a firm's tax rate, the greater the advantage of debt.

7. Control: The effect of debt versus stock on a management's control position can influence capital structure. If management currently has voting control (over 50 percent of the stock) but is not in a position to buy any more stock, it may choose debt for new financings. On the other hand, management may decide to use equity if the firm's financial situation is so weak that the use of debt might subject it to serious risk of default, because if the firm goes into default, the managers will almost surely lose their jobs. However, if too little debt is used, management runs the risk of a takeover. Thus, control considerations could lead to the use of either debt or equity, because the type of capital that best protects management will vary from situation to situation. In any event, if management is at all insecure, it will consider the control situation.

8. Management attitudes: Since no one can prove that one capital structure will lead to higher stock prices than another, management can exercise its own judgment about the proper capital structure. Some management tends to be more conservative than others, and thus use less debt than the average firm in their industry, whereas aggressive managements use more debt in the quest for higher profits.

9. Lender and rating agency attitudes: Regardless of managers' own analyses of the proper leverage factors for their firms, lenders' and rating agencies' attitudes frequently influence financial structure decisions. In the majority of cases, the corporation discusses its capital structure with lenders and rating agencies and gives much weight to their advice. For example, one large utility was recently told by Moody's and Standard & Poor's that its bonds

would be downgraded if it issued more bonds. This influenced its decision to finance its expansion with common equity.

10. Market conditions: Conditions in the stock and bond markets undergo both long- and short- run changes that can have an important bearing on a firm's optimal capital structure. For example, during a recent credit crunch, the junk bond market dried up, and there was simply no market at a "reasonable" interest rate for any new long-term bonds rated below triple B. Therefore, low rated companies in need of capital were forced to go to the stock market or to the short-term debt market, regardless of their target capital structures. When conditions eased, however, these companies sold bonds to get their capital structures back on target.

11. The firm's internal condition: A firm's own internal condition can also have a bearing on its target capital structure. For example, suppose a firm has just successfully completed an R&D program, and it forecasts higher earnings in the immediate future. However, the new earnings are not yet anticipated by investors, hence are not reflected in the stock price. This company would not want to issue stock- it would prefer to finance with debt until the higher earnings materialize and are reflected in the stock price. Then it could sell an issue of common stock, retire the debt, and return to its target capital structure. This point was discussed earlier in connection with asymmetric information and signaling.

12. Financial flexibility: An astute corporate treasurer made this statement to the authors:

Our company can earn a lot more money from good capital budgeting and operating decisions than from good financing decisions. Indeed, we are not sure exactly how financing decisions affect our stock price, but we know for sure that having to turn down a promising venture because funds are not available will reduce our long -run profitability. For this reason, my primary goal as treasurer is to always be in a position to raise the capital needed to support operations.

We also know that when times are good, we can raise capital with either stocks or bonds, but when times are bad, suppliers of capital are much more willing to make funds available if we give them a secured position, and this means debt. Further, when we sell a new issue of stock, this sends a negative “signal” to investors, so stock sales by a mature company such as ours is not desirable.

### **2.2.2 Approaches to Capital Structure**

There are number of capital structure theories proposed by different individuals which also create some controversy due to different concepts of capital structure theory hold by different personalities. This is the area in which several theoretical and empirical works have been done by different personalities. Capital structure theories developed so far revolve around the question of existence of the optimal capital structure. Most of the theoretical and empirical debuts so far are revolved around the maximization of the value of firms through the judicious composition of its debt and equity fund. Net income (NI) approach and Traditional theory of capital structure claims that there is the existence of the optimal capital structure. They contend that proper mix of debt and equity can maximize the value of the firms. Whereas, net operating income (NOI) approach and M-M hypothesis contend that capital structure is irrelevant to the value and cost of capital of the firm. According to the NOI approach, cost of equity increases linearly as debt increases in the capital structure. The use of debt does not affect the value of the firm as the benefit of debt capital is just offset by the increase in the cost of equity. (Ezra Solomon, 1969) Likewise, M-M hypothesis states that there is no level optimal capital structure. They support the NOI approach by providing logically consistent behavioral justifications in its favor. Between the two extreme views, we have the middle position of intermediate version advocated by the traditional writers.

This section is developed to discuss briefly about the theoretical concept regarding the theories of capital structure and financial leverage. All the approaches are based on some common assumptions, which are as follows:

**Basic Assumptions and Definitions:**

1. Two types of capital are employed, long term debt and shareholders equity.
2. There is no tax on corporate income.
3. The firm's total assets are fixed but its capital structure can be changed immediately by selling debts to repurchase common stocks or stock to retire debt.
4. All investors have the same subjective probability distribution of expected future operating earnings (EBIT) for a given firm, that is, investors have homogeneous expectations.
5. The operating earnings of the firm are not expected to grow, that is, the firm's expected EBIT is same in all future periods.
6. The firm's business risk is constant over time and is independent of its capital structure and financial risk.
7. The firm is expected to continue indefinitely.

In addition to above assumption, the following symbols are employed.

S= Total market value of the Stocks (Equity)

B= Total market value of the Bonds (Debt)

V= Total market value of the Firm = B+S

EBIT = Earnings before Interest and Taxes = Net Operating Income (NOI)

I=Interest Payments

) Debt

$$\text{Cost of debt } (k_d) = \text{Interest/Debt} = I/B$$

$$\text{So, Value of Debt } (B) = \text{Interest/ } k_d = I/ k_d$$

) Equity or common stock

$$\text{Cost of equity capital } (k_s) = d_1/ P_o + g$$

Where,

$d_1$ =next dividend

$P_o$ =Correct price per share.

$g$ =expected growth rate.

) Overall or Weighted Average cost of capital

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

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

) The Total value of the firm is thus,

$$V = B + S$$

$$= I/K_d + EBIT - I/K_s$$

### 2.2.2.1 Traditional Approach

The traditional view of capital structure which is also known as an Intermediate approach is a compromise between the Net Income Approach and the Net Operating Income Approach. It states that when a company starts to borrow, the advantages and the disadvantages. The cheap cost of debt, combined with its tax advantage, will cause the WACC to fall as borrowing increases. However, as gearing increases, the effect of financial leverage causes shareholders to increase their return (i.e. the cost of equity rises). At high gearing the cost of debt also rises because the chance of the company defaulting on the debt is higher (*i.e.* bankruptcy risk). So at higher gearing the WACC will increase.

According to this view, the value of firm can be increased or the cost of capital can be reduced by a judicious mix of debt and equity capital, and that an optimum capital structure exists of every firm. This approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage (*Barges; 1983:44*). Thus, an optimum capital

structure exists, and it occurs when the cost of capital is minimum or the value of firm is maximum.

The statement that debt funds are cheaper than equity funds carries the clean implication that the cost of debt plus the increased cost of equity together on the weighted basis will be less than the cost of equity which existed on the equity before debt financing. That is the weighted average cost of capital will decrease with the use of debt up to a limit.

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

### **First Stage: Increasing Value**

The first stage starts with the introduction of debt in the firm's capital structure. In this stage, the cost of equity ( $K_e$ ) either remains constant or rises slightly with debt because of the added financial risk. But it does not increase fast enough to offset the advantage of low cost debt (*Soloman; 1969:139*). In other words, the advantage arising out of the use of debt is so large that, even after allowing for higher cost of equity, the benefit of the cheaper sources of funds are still available. As a result the value of the firm ( $V$ ) increases as the overall cost of capital falls with increasing leverage.

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

### **Second Stage: Optimum Value**

In the second stage, further application of debt will raise cost of debt and equity capital so sharply as to offset the gains in net income. Hence, the total market value of the firm would remain unchanged. While the firm has reached a

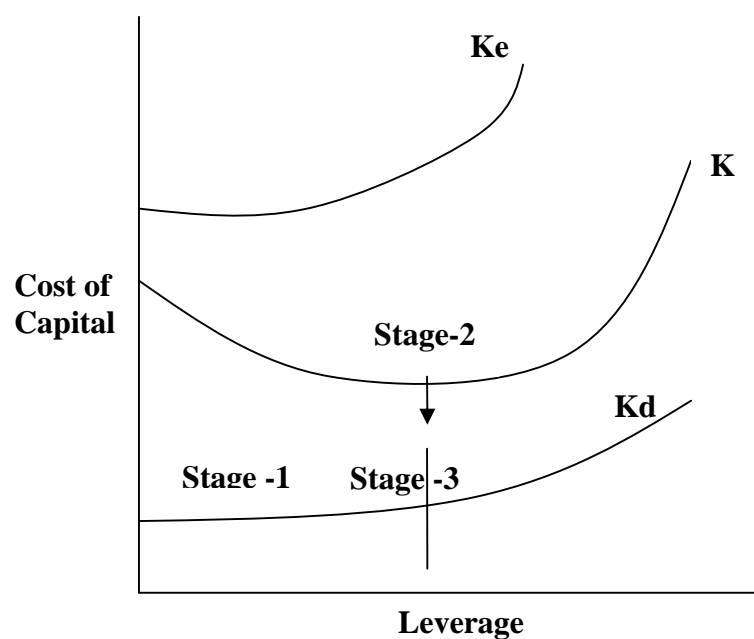
certain degree of leverage, increase in it has a negligible effect on the value of the firm or overall cost of capital of the firm (Pandey; 1999:358). The increase in the degree of leverage increases the cost of equity due to the added financial risk that offsets the advantage of low cost debt. Within the range of such debt level or at a specific point, the value of the firm will be maximum or the cost of capital will be minimum.

### Third Stage: Declining Value

Beyond the acceptable limit of leverage, the value of the firm decreases with the increase of the leverage or the overall cost of capital increases with the additional leverage. This happens because investors perceive a high degree of financial risk, which increases the cost of equity by more than enough to offset the advantage of low cost debt. The overall effect of these three stages is to suggest that the cost of capital is a function of leverage, i.e. first falling and after reaching minimum point or range it would start rising. The relation between cost of capital and leverage is graphically shown in figure below.

**Figure: 1**

**The effect of Leverage on Cost of Capital under Traditional Theory**



In figure 1, it is assumed that  $K_e$  rise at an increasing rate with leverage, whereas  $K_d$  is assumed to rise only after significant leverage has occurred. At first, the weighted cost of capital,  $K$ , declines with leverage because the rise in  $K_e$  does not entirely offset the use of cheaper debt funds. As a result,  $K$  declines with moderate use of leverage (*Srivastav; 1984:881*). After a point, however, the increase in  $K_e$  more than offset the use of cheaper debt funds in the capital structure, and  $K$  begins to rise. The rise in  $k$  is supported further once  $K_d$  begins to rise. The optimal capital structure is point X. thus the traditional position implies that the cost of capital is not independent of capital structure of the firm and that there is an optimal capital structure.

#### **2.2.2.2 Net Income Approach**

David Durand proposed the Net Income Approach. This approach states that firm can increase its value or lower the cost of capital by using the debt capital. According to NI approach, there exists positive relationship between capital structure and valuation of firm and change in the pattern of capitalization bring about corresponding change in the overall cost of capital and total value of the firm. Thus, with an increase in the ratio of debt to equity, overall cost of capital will decline and market price of equity stock as well as value of firm will rise. The converse will hold true if ration of debt to equity tends to decline. The approach assumes no change in the behavior of both stockholders and debt holders as to the required rate of return in response to a change in the debt-equity ratio of the firm. They want to invest since debt holder are exposed lesser degree of risk, assumed of a fixed rate of interest and are given preferential claim over the profit and assets, the debt holders' required rate of return is relatively lower than that of equity holders. So, the debt financing is relatively cheaper than equity. For this reason, at constant cost of equity ( $K_e$ ) and cost of debt ( $K_d$ ), the overall cost of capital ( $K$ ) declines whit the increased proportion of the debt in the capital structure. This suggests that higher the level of debt, lower the overall cost of capital and higher the value if firm. It

means that a firm attains an optimal capital structure when it uses 100% debt financing. Running a business with 100% debt financing, however, is quite uncommon in the real world.

**This approach is based on the following assumptions:**

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

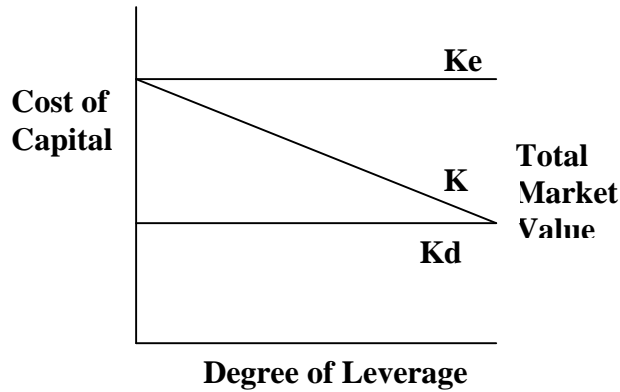
The firm can achieve optimal structure by making judicious use of debt and equity and attempt to maximize the market price of its stock (*Durand; 1959:91-116*).

In sum, as per NI approach, increase in ratio of debt to total capitalization brings about corresponding increase in total value of firm and decline in cost of capital (*Pandey; 1999:26*). On the contrary, decrease in ratio of debt to total capitalization causes decline in total value of firm and increase cost of capital. Thus, this approach is appeared as relevancy theory.

Graphically, the effect of leverage on the firm's cost of capital and the total market value of the firm is shown below.

**Figure: 2**

*The effect of Leverage on Cost of Capital*



**Figure: 3**

*The effect of leverage on Total Market Value of the Firm*

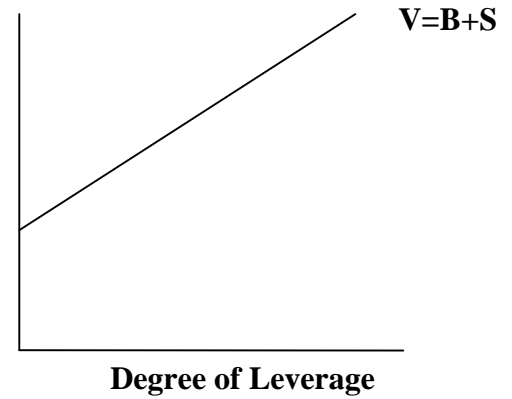


Figure 2 shows a continuous decrease in  $K$  with the increase in debt-equity ratio, since any decrease in  $K$  directly contributes to the value of the firm. It increases with the increase in the debt-equity ratio (figure 3). Thus the financial leverage, according to the NI approach is an important variable in the capital structure decision of a firm. Under the NI approach, a firm can determine an optimal capital structure. If the firm is unleveled the overall cost of capital will be just equal to the equity capitalization rate.

In brief, the essence of the net income approach is that the firm can lower its cost of capital by using debt. The approach is based on the crucial assumption that the use of debt does not change the risk perception of the investor (Pandey; 1999:26). Consequently, the interest rate of debt ( $K_d$ ) and the equity capitalization rate ( $K_e$ ) remain constant to debt. Therefore, the increased use of debt results in higher market value of shares and as a result, lower overall cost of capital ( $K$ ).

### 2.2.2.3 Net Operating Income Approach (NOI)

NOI approach is another behavioral approach suggested by Durand David. This approach is diametrically opposite from the NI approach with respect to the assumption of the behavior of equity holders and debt holders. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant (*Khan & Jain; 1997:481*). The overall cost of capital is independent of the degree of leverage; any change in leverage will lead to change in the value of the firm and the market price of the shares. Net operating approach is slightly different from NI approach, unlike the NI approach in NOI approach, the overall cost of capital and value of firm are independent of capital structure decision and change in degree of financing. Leverage does not bring about any change in the value of firm and cost of capital.

Under NOI approach, the Net operating income, i.e. the earning before interest and tax (EBIT), instead of net income is taken as the base. Like the NI approach, the NOI approach also assumes a constant rate  $K_d$ , which means that the debt holders do not demand higher rate of interest for higher level of leverage risk. However, unlike the assumption of NI approach, NOI approach assumes that the equity holders do react to higher leverage risk and demand higher rate of return for higher debt-equity ratio (*Pandey; 1999:31*). This approach says that the cost of equity increases with the debt level and the higher cost of equity offset the benefit of cheaper debt financing, resulting no effect at all on Overall Cost of Capital (K).

#### **The NOI approach is based on the following assumptions:**

1. The market capitalizes the value of the firm as a whole. Thus, the split between debt and equity is not important.
2. The market uses an overall capitalization rate, K to capitalize the net operating income. K depends on the business risk. If the business risk is assumed to remain unchanged, K is constant.

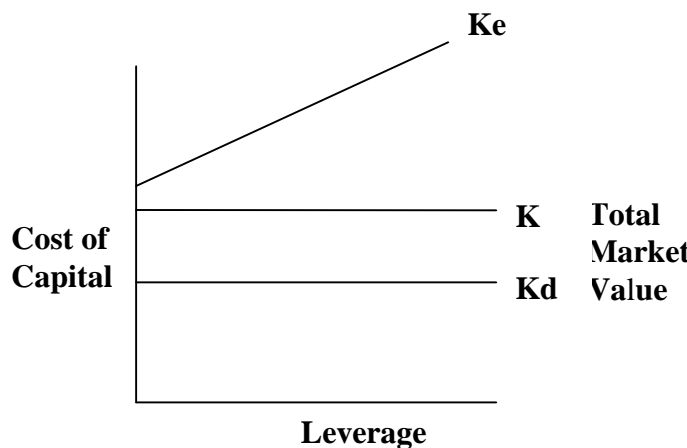
3. The use of less costly debt funds increases the risk of shareholders. This causes the equity-capitalization rate to increase. Thus, the advantages of debt are offset exactly by the increase in the equity capitalization rate,  $K_e$ .
4. The debt-capitalization rate  $K_d$  is constant.
5. The corporate income taxes do not exist.

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

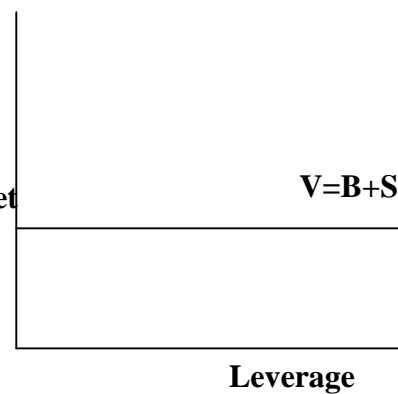
$$K_s = K + (K - K_d)B/S$$

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

**Figure: 4**  
*The effect of Leverage of Cost of Capital*



**Figure: 5**  
*The effect of Leverage on value of firm*



In the figure 4, it is shown that the curve  $K$  and  $K_d$  are parallel to the horizontal x-axis and  $K_s$  is increasing continuously. This is because  $K$  and  $K_d$  remains constant under all the circumstances but the  $K_e$  increases with the degree of increase in the leverage (*Gitman; 1998:791*). Thus, there is no single point or range where the capital structure is optimum. It is known obviously from figure 4 that under the NOI approach, as low cost of debt is used, its advantage is exactly offset by increase in cost of equity in such a way that the cost of capital remains constant. By this, value of the firm also remains constant. At the extreme degree of financial leverage, hidden cost becomes very high hence the

firm's cost of capital and its market value are not influenced by the use of additional cheap debt fund.

#### **2.2.2.4 Modigliani-Miller Approach (MM approach)**

The Modigliani-Miller thesis relating to the relation is akin to net operating income approach. MM approach, supporting the net operating income approach, argues that, in the absence of taxes, total market value and cost of capital of the firm remain invariant to the capital structure changes. They make a formidable attack on the transitional position by offering behavioral justification for having the cost of capital,  $K$ , remain constant through all degree of leverage MM contend that cost of capital is equal to the capitalization rate of pure equity stream of income and the market value is ascertained by capitalizing its expected income at the appropriate discount rate of its risk class. MM position is based on the idea that no matter how you divide up the capital structure of a firm among debt, equity and other claims, there is a conversion of investment value. The MM cost of capital hypotheses can be best expressed in terms of their proposition I and II (*Modigliani & Miller; 1958:261-297*). However, the following assumptions regarding the behavior of the investors and the capital market, the actions of the firms and the tax environment are crucial for the validity of the MM hypothesis.

1. Perfect capital markets: The implication of perfect capital market is that securities are infinitely divisible, investors are free to buy and sell securities, investors can borrow without restrictions on the same terms and conditions as firms can, there are no transaction costs and investors are rational and behave accordingly.
2. Firms can be grouped in to homogenous risk classes. Firms would be considered to belong to a homogenous risk class as their expected earnings, adjust for scale differences have identical risk characteristics. The share of the homogeneous firm would be perfect substitute for one another.

3. Firms distribute all net earning to the shareholders, i.e. divided payout ratio is 100 percent.
4. There are no taxes. This assumption is removed later.
5. The assumption of perfect information and rationality, all investors has the same exception of firm's net operating income with which to evaluate the value of any firm.

### **Proposition I**

MM argues that, for the same risk class, the total market value is independent of the debt-equity mix and is given by capitalizing the expected net operating income by the rate appropriate to the risk class. This is their proposition I (*Pandey; 1999:34*). In equation this can be expressed as follows:

$$\begin{aligned} \text{Value of the Firm} &= \text{Market value of debt} + \text{Market value of Equity} \\ &= \text{Expected net operating income} / \text{Expected overall capitalization rate} \\ &= \text{EBIT} / \text{EBT} \end{aligned}$$

For an unleveled Firm,

$$V_u = \text{EBIT} / K_s$$

**Where,**

$K = K_s$  in case of unleveled firm.

Proposition I can be expressed in terms of the firm's overall capitalization rate,  $K$ , which is the ratio of Net operating income (EBIT) to the market value of all its securities, i.e.;

$$K = \text{NOI} / \text{S+B}$$

$$= \text{NOI} / V$$

$K$  can also be expressed as

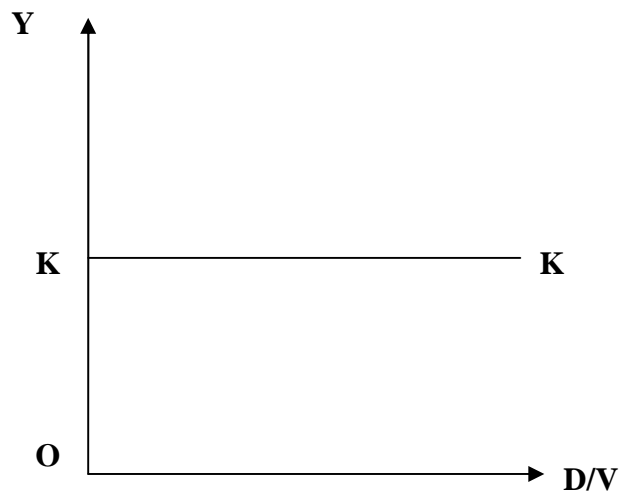
$$K = K_e(S) / \text{S+B} + K_e(B) / \text{S+B}$$

It means  $K$  is the weighted average of the expected rate of return on equity and debt capital of the firm since the cost of capital is defined as the expected net operating income divided by the total market value of the firm and since MM

conclude that the total market value of the firm is unaffected by the financing mix, it follows that the cost of capital is independent of the capital structure and is equal to the capitalization rate of a pure equity stream of its class.

The overall cost of capital function as hypothesized by MM is shown in figure below

**Figure: 6**  
**The cost of capital under the MM hypothesis**



Thus two firms identical in all respects except for their capital structure cannot command different market values nor have different cost of capital (*Pandey; 1999:37*). But if there is discrepancy in the market values or the cost of capital, arbitrage will take place, which will enable investors to engage in personal leverage to restore equilibrium in the market.

### **Proposition II**

MM proposition II, which defines the cost of equity, follows from their proposition I and shows the implications of the net operating approach. The proposition II states that the cost of equity rises proportionately with the increase in the financial leverage in order to compensate in the form of premium for bearing additional risk arising from the increasing leverage. The equation for the cost of equity can be derived from the definition of the average cost of capital.

$$K = K_e(S)/(S+B) + K_d(B)/(S+B)$$

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

$$K_e = K(1+D/S) - K_d(D)/S$$

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

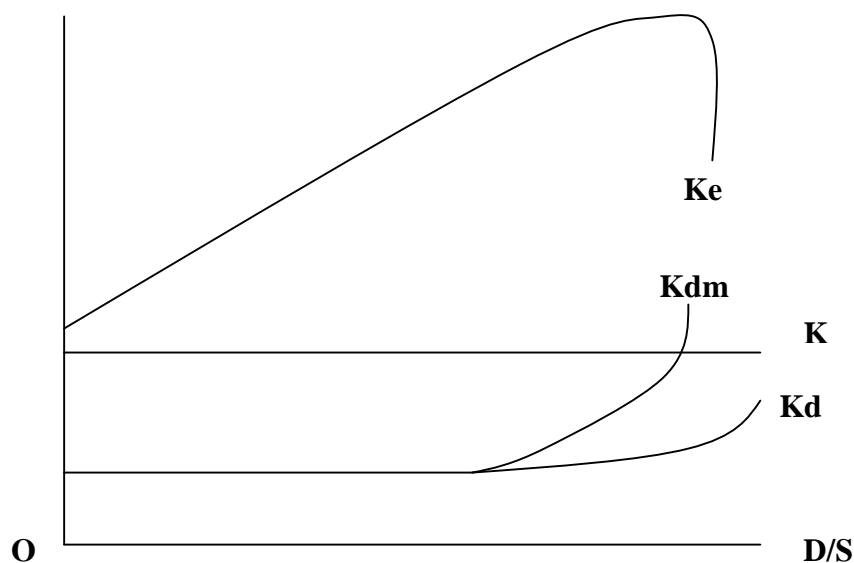
$$K_e \text{ (Cost of Equity)} = \text{NOI} - I/S = \text{NI}/S$$

The above equation states that for any firm in a given risk class the cost of equity,  $K_e$ , is equal to the constant average cost of capital,  $K$ , plus a premium for the financial risk, which is equal to debt-equity ratio times the spread between the constant average cost of capital and the interest rate. As the proportion of debt increases, the Cost of Equity increases continuously even though  $K$  and  $K_d$  are constant. The crucial part of the MM hypothesis is that  $K$  will not rise even if very excessive use of leverage is made. This conclusion could be valid if  $K_d$  remains constant for any degree of leverage. But in practice,  $K_s$  increases with leverage beyond a certain acceptable level of leverage. However, MM maintains that even if  $K_e$  is a function of leverage,  $K$  will remain constant as  $K_e$  will increase at a decreasing rate to compensate. This can be shown as:

**Figure: 7**

**Behavior of  $K$ ,  $K_d$  and  $K_s$  under M-M hypothesis**

**$K_e, K_d$**



It is clear from the figure that  $K_e$  will increase till the marginal rate of interest ( $K_{dm}$ ) is below the cost of capital. As soon as, the marginal rate of interest cuts the Cost of Capital,  $K_e$  will start falling (Pandey; 1999:37).

### **2.2.3 Financial Leverage**

Financial leverage involves the use of funds obtained at fixed costs in the hope of increasing the return to stockholders. Weston and Brigham (*Weston and Brigham; 1981:556*) defined financial leverage as the ratio of total debt to total assets or total value of the firm. The use of the fixed charges sources of funds, such as debt and preference share capital along with the owner's equity in the capital structure, is described as financial leverage or 'trading on equity' (Pandey ; 1999:23). Trading on equity is derived from the fact that it is the owner's equity that is used as a basis to raise debt, i.e. the equity that is traded upon. The supplier of debt has limited participation in the company's profit, therefore, debt holder will insist on protection in earnings and value represented by ownership capital.

## **2.3 Review of Articles**

### **The Modigliani and Miller's First Study**

In their first study they used the previous works of "Allen And Smith" in support of their independence hypotheses in the first part of their work M – M tested their proposition I, the cost of capital is irrelevant to the firms capital structure by correlation after tax cost of capital with leverage  $B/V$  they found that the correlation co-efficient are statically in significant and positive in sign. The regression line doesn't consist of 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 expected yield on common share is a linear function of debt to equity ratio. The second part of their study is consistent with their views i.e. if the cost of borrowed

funds increases, the cost of equity will decline to offset this increases Modigliani and Miller second study.

M – M were conducting the second study in 1963 with correcting their original hypotheses for corporate income taxes and expected cost of capital to be affected by leverage for its tax advantages, therefore they wanted to test whether leverage had tax advantages or not, for this they conducted the mathematical analysis regarding the effect of leverage and other variable on the cost of capital, they found that the leverage is significant only because of the tax advantage involved (*Modigliani & Miller; 1958:261*).

### **The Van Horn's Study**

James C. Vanhorn has also presented controversial decision about capital structure. According to him financial signaling occurs when capital structure change conveys information to security holders (*Van Horne; 1985:277*). It assuming as symbolic information between management and stock holders management behavior result in debt issue being regarded on good news by investors and stock issue as bad news empirical evidence seems to be consistent with the nations.

### **Weston's Study**

Weston J.F. (1963) in “*A Test of Cost of Capital Proposition*” made some important-improvement in the cost of capital modes. He included firm size and growth as additional explanatory in his model.

He found the regression co-efficient of leverage to be positive and significant, when he used M – M model. However when the multiple regression was shown he found that the correlation coefficient is significant and the regression co-efficient of leverage in negative and significant when the influence of growth is

isolated leverage is found to be negative correlation with the cost of capital. He concluded that the apparent lack of influence of leverage on the overall cost of capital observed by M – M was due to the negative correlation of leverage with earning growth Weston also listed M – M proposition II.

### **Wiper's Study**

Wiper R (1960) in "*Financial Structure and Value of the Firm*" has made a test to empirical relationship between financial structure and value of the firm he tried to eliminate the principle problem of empirical study on the leverage and attempted to offer what were hoped to be more, alternative's in determining the relationship between leverage and cost of capital. He found the share holder's wealth can be enhanced by judicious by judicious use of debt financing.

### **Sharma and Rao's Study**

Sharma and Rao (1969) in "*Leverage and the Value of the Firm*" concluded the list of M-M hypothesis on the influence of debt on the value of a firm to a non-regulated industry. They argued that estimate of cost of capital arrived at through the model will be accurate only when their hypothesis on debt and dividends are correct this is an essential condition for the employment of the model.

Calculation of variables was done in exactly the same ways done by M.M. with two exceptions. They experimented with total assets and sale for deflecting the variables and the result are meaningful when fixed of total assets of fixed assets was used as the growth variable the result were some what inconsistent with economic reasoning they therefore took the earning froth rate as the growth variable because this would and account growth of earning due both to the utilization of existing capacity and to the additional of new capacity they

include that debt has non tax advantage also thus this paper-support-that the investors refer corporate to personal leverage and therefore the value of a firm sizes up to leverage rate considered prudent.

### **Rao and Litzaberge's Study**

Rao and Litzaberge (1970) in "*Leverage and the Cost of Capital in Less Developed Capital Market Comment*" conduct the study of the effect of capital structure on the cost of capital in loss developed and less efficient capital market (India) and in highly developed and efficient capital market(US) They used 28 India utilize and 77 American utilized. They conducted the study for five cross section years 1962-1966. They found that the result for the American utilities are constant to the M-M proposition except for the advantage of debt financing the cost of capital independent of capital structure and result also supported that the M-M hypothesis that investors are different for the firm's dividend policy in case of India utilities, the result are in consistent to the M-M approach and support the traditional belief the judicious use of financial leverage will lower the firms cost of capital and investors have a reference for current dividends. In conclusion, they contended that the M-M approach after allowing for the tax advantage of debt the firms cost of capital is independent of capital structure does not appear to be applicable in the case of a developing economy.

### **Dr. Manohar Krishna Shrestha**

Dr. Shrestha (1985) conducted a thesis research on "*Analysis of Capital Structure in Selected Public Enterprises*". The study found that the public enterprises have a very confusing capital structure. In many instances adhoeism became the basis of capital structure and in that also most of them want to eliminate debt if possible to relieve financial obligations. Further more, the determination of capital structure is greatly influenced by the inflow of

International Donor Agency long term credit through the medium of His Majesty's Government of Nepal (HMG). In a way, neither the public enterprises nor HMG developed criteria in determine capital structure nor this is the reason as to why debt equity ratio became a ticklish problem. Also true that the calculation of equity capitalization rate and overall capitalization rate according to given data provide very fantastic results in many cases, although they carry valid and meaningful results in some instances. As such, the use of Net Operation Income Approach and Net Income Approach on the whole is more an academic exercise rather than proving much valid. While determined and there is growing tendency among most of public enterprises to have least combination of debt with equity to escape financial obligations as far as possible. Again, it is an implied fact that the contribution of debt to procurement of assets shows significant deviations. The earning of the public enterprises in most cases does not prove satisfactory except in limited few. There are many unfavorable side effects such as growing accumulated losses climbing greater heights and little maintenance of tax provisions.

He suggested that debt equity ratio should neither be highly levered to create too much financial obligations that lie beyond capacity to meet nor should it be much low levered to infuse operational strategy to bypass responsibilities without performance. [The Nepalese Journal of Public Administration, March 1985]

### **Rima D Shrestha**

Rima D Shrestha (1999) conducted a thesis research on "*Focus on Capital Structure (Selected and listed Public companies)*". She found that in Nepalese public enterprises the definition of capital structure is not a problem but what matters is the problem of putting the definition of capital structure into practice. As for instance, public enterprises as well as listed public limited companies have higher debt equity mix. As a result their liabilities have increased together with higher fix charges due to failure to utilize borrowed capital properly. Thus

in market circle investors often express dissatisfaction for not getting expected return as per commitment made by the listed companies in the prospectus to the investing public. This is even very serious in government owned companies.

The researcher clearly suggested that the capital structure of both selected public enterprises and listed companies have high proportion of debt mixed with equity. Most of them have to face high interest burden on one side and increasing accumulated losses on the other hand. She further suggests to the government that it is important to monitor the use of debt and its impact on the overall earnings of enterprises. This factor has been neglected by HMG. The bitter experience reveals that government in these enterprises has not been able to specify the capital structure mix. [Pravaha Journal of Management, Vol 10: 1, 1999]

## **2.4 Review of Previous Thesis**

Krishna Pathak (1995) conducted research on “*Study on Capital Structure Management of Gorakhkali Rubber Udyog Ltd*” The basic objective was to analyze the debt equity ratio, interest coverage ratio with some of the measures to improve the policy. He had analyzed all the variables in the form of ratio analysis.

- ) In his findings especially to the capital structure and profitability position, following issues has drawn.
- ) As compared to the shareholder’s equity and the trend of debt –equity the ratio was increasing everyday.
- ) Company’s debt serving 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 result the huge losses.

) At last, he suggested lowering down the amount of debt and obtaining additional funds through issue of equity share, improving its working capital and reducing over staff, making strategic plans and developing the motivations management.

**Mr. Kamal Bahadur Railawat** (1999) conducted a research on “*Capital Structure of Necon Air Limited*”. The main objective of the study is to analyze and examine the capital structure of Necon Air Limited, examine the financial position, highlight their growth and policies and review of various previous studies relating to the study.

The methodology used in the study includes financial tools such as ratio analysis and statistical tools – correlation coefficient and Probable error. The study used primary as well as secondary data for the analysis. The study has found that Necon Air Limited has debt equity ratio higher than required. This higher debt capital is a serious implication from the firm’s point of view. In this condition, the capital structure will lead to inflexibility in the operation of the firm as creditors would exercise pressure and interferes with management. Necon Air has raised debt from different commercial banks and has to pay heavy portion of profit as interest. So, the payment of the interest will be hazardous when profit is declining. So, it is suggested that Necon Air Ltd should decrease its debt capital drastically as far as possible. It has added that the ratio of 2:1 is the best ratio for optimal capital structure .That is why the company should reduce its heavy burden of interest payment.

Study done by **Udaya Lal Shrestha** (1999) on “*Comparative Evaluation of Capital Structure Between Selected Manufacturing and Trading Companies of Nepal*” has access on debt serving capacity of the companies and as well as return on equity, debt ratio, following the calculation earning before interest and tax , earning per share.

He also observed that manufacturing companies had a higher risk with higher return on the interest and debt and low dividend. The study further indicated

that the amount of profit earned could only meet the interest and because of that had to suffer losses.

It has concluded that there was not enough return to pay interest, debt and dividend for both types of companies although maintaining a high risk of debt. And he finally recommended for a regular check up the level of debt, earning before interest and tax (EBIT), earning before tax (EBT) and earning per share (EPS) by monitoring authority, so that the companies would not fall into a weaker position.

**Shanti Raj Prashai** (1999) has made a study on “*The Capital Structure of Nepal Bank Ltd*”. The basic objective of the study made by him was to analyze the interrelationship and trends among some of the component parts of capital and assets structure and to provide suggestions for the development of an appropriate capital structure.

It has used financial tools such as ratio analysis and statistical tools such as Karl Pearson’s co- efficient, ratio percentage, Index and average to analyze the relation between various variables.

It is known that the bank is composition of loan and advances, cash investment and other assets. Between all these components, loan and advance are the major portions. During the study, total assets and capitals are in increasing trend. But increasing rate of component is different. So the interrelationship of the component is fluctuating. The average growth rate of total deposits and other liabilities is higher than the average growth rate of net profit, and higher than the growth rate of total expenses. The total income and total expenses aren’t under control of the bank, and the net profit is only 40.64% of the total income. The study suggested that the bank must control total deposit and the bank must also control investment. The bank needs to reduce its expenses and control fluctuations in the earnings per share to improve its market price per share.

**Padam Pani Kafle** (2001) has conducted research on “*A Comparative Analysis of Capital Structure Between Lumbini Sugar Factory Limited and*

*Birjung Sugar Factory Limited*". The purpose of this study was to analyze the various ratio of capital structure decision, net worth, earning before interest and tax and to suggest measures to improve the policy of the companies.

According to him both the companies were facing serious deterioration in earnings according to the net operating income approach. He noted down both the companies had defective capital structure as debt equity ratio were not so much satisfactory. Birjung Sugar Factory had high debt equity ratio indicating more financial risk while Lumbini Sugar Mills had low debt equity ratio which indicates access power of equity holders. And both the companies were unable to pay interest because they were operating at loss. As Birjung sugar Factory was highly levered Lumbini Sugar Factory was unlevered both the companies had defective capital structure.

Mr. Kafle suggested that it should change the debt equity ratio for sound capital structure management to maintain it in 1:1 ratio.

**Ganesh Prasad Neupane** (2002) conducted research on "*A Study on Capital & Assets Structure of Nepal Bank Limited (NBL)*". The basic objective of this study was to analysis interrelation between different ratio, analysis of component parts of capital structure; debt equity ratio, net worth, deposit/investment ratio etc. According to him the research analyzed the different financial aspects of NBL

He remarked that the total deposit and total investment were not significantly related. He concluded that the net worth was used in unproductive assets of the bank and further commended that the bank needs to have productive use of its net worth.

**Anjana Shah** (2004) made the study on "*A Study of the Capital Structure of Selected Manufacturing Companies*" with a purpose to access the debt serving capacity of the mentioned manufacturing companies, examine the relation between return on equity and total debt, return on equity and debt ratio. Earning after tax and total debt and interest and earning before interest and tax.

The methodology used in the study included both financial as well as statistical tools. The financial tools used were ratio analysis and statistical tools used were correlation coefficient and regression analysis.

The study revealed that Nepal lever Ltd has not been using long term debt and it was fully equity based. The bottlers Nepal Ltd is free of long term debt because of improved cash flows and effective management. The Sriram spinning mills has 66.33% of assets financed with debt and hence there is less flexibility to the owners. The degree of financial leverage analysis of Jyoti spinning mills shows the failure of the company to gain expected profits. And the Arun Vanaspati Udhyog has a fluctuation Debt Equity ratio. Its long term debt is decreasing and only creditors make a small share of equity.

## **2.5 Research Gap**

There are various studies accepted on capital structure management of various state owned banks and public limited companies of Nepal. Most of the study indicates that a sound principle of capital structure and its management haven't been followed by the enterprises in Nepal. The basic objective in all of the studies shows analysis of components parts of capital structure ratios, its interrelationship, debt serving capacity, relation between return on equity-debt, earning before tax and interest. However, their study reveals that they have not been using long term debt effectively. The net worth of the bank was used in unproductive assets, shows low debt equity ratio. Even then, different studies have been carried out regarding the subject matter of gap structure previously by different researchers. But, the research gap among the previous studies and this current study lies firstly in fiscal years under which the current study has undertaken. Secondly, the sample companies are new from the previous studies. Previously made studies included manufacturing companies, bank etc. The current study however is a comparative study of capital structure of three commercial banks. The researcher may feel comfort if the gap created by the previous studies can be filled up. Besides the analysis of capital structure ratios

this study has made an attempt to analyze the effect of capital structure on the value of the companies. Further, this study will help research student to carry further studies as well as, it will helpful to the interested groups in the selected companies to analyze their position at present and search for the prospective investors.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Thus “Research Methodology” is the way to solve systematically about the research problem. For this purpose the research is exploratory as well as analytical in order to accomplish the objective of this study. The research methodology has been designed on the basis of secondary data by using useful financial and statistical tools. The research methodologies adopted in this study are discussed in the following manner. This chapter is composed of six sections.

#### **3.2 Research Design**

To fulfill the objectives of the study certain research design is essential so the analysis of this study is based on the nature of data and tools for analysis. To fulfill the objectives of the study it emphasizes on analytical as well as descriptive research design.

#### **3.3 Period Covered**

To analyze the capital structure management of Nabil Bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd, the period covered is of last five years i.e. fiscal years 2001/02 to 2005/06 .According to the data available , limited time period this thesis has been prepared.

#### **3.4 Sources and Nature of Data**

The study is based on historical or “Secondary Data”. This secondary data is extensively used in this. The raw secondary data is not modified to some extent

for the study purpose. Mostly data is collected from the “Balance Sheet”. Income statement and profit and loss account of commercial banks. Some other necessary data in this study have also been supplemented from Nepal Stock Exchange Ltd. and various related journal in management and other publication to some extent necessary primary data are also collected by interviewing related commercial Banks Manager and other Personal.

### **3.5 Required Tools for the Analysis**

Different tools have been selected according to the nature of data as well as subject matter. The major tools employed for the analysis of the data is the ratio analysis which established the quantities or numerical relationship between two variable of the financial statement. Besides there the statistical tools are also used.

#### **3.5.1 Financial Tools**

The Financial Tools are: ratio analysis, leverage analysis, EBIT-EPS analysis and others.

##### **3.5.1.1 Ratio Analysis**

Ratio Analysis is the powerful tool of financial analysis. Financial ratio presents the relationship between two accounting figure expressed mathematically. Ratio analysis is defined as the systematic use of ratio to interpret the financial statements so that the strengths and weakness of a firm as well as its historical performance and current financial condition can be determined.

The required financial ratios for this study are enabling in detail as follows:

**a. Debt Equity Ratio (Leverage Ratio)**

Leverage Ratio measures the contribution of financing by owners compared with financial provided by the outsiders. They also provide some measure of the debt financing by the calculation of the coverage of fixed charge. It is one of the most popular tools of the long term financial solvency of the firm. It can be calculated by the long term debt divided by shareholders' equity. In the calculation, shareholders' equity preference share capital accumulated losses, discount on issue of share etc, so the shareholders' equity is defined as net worth and D/E ratio also called debt to net worth ratio related with the total debt. This debt equity measures the claim of the creditors an owner against the company's assets. In this study following leverage ratios have been calculated.

$$\text{Debt equity ratio} = \frac{\text{Long term debt}}{\text{Shareholders' equity}}$$

A high Debt equity ration indicates that the claim of creditors is greater than that of the owners and vice-versa.

**b. Debt to Total Capital Ratio**

The relationship between creditor's funds and owner's capital can also express in term of debt to total capital ration one approach is to relate the long term debt to the permanent capital of the firm. This ratio highlights the need of long term debt in the capital employed by the firm. Long term debt includes the debt, which matures in more than one accounting period whereas capital employed includes long term debt and share holder's equity of the firm. This ratio is called the long term debt to capital debt ratio. Larger the ratio, larger the proportion of long term debt in the capital employed and vice versa. It is

calculated by dividing long term debt with capital employed by the firm. This ratio is also known as debt to permanent capital ratio whereas permanent capital means total assets minus current liabilities.

$$\text{Debt to total capital ratio} = \frac{\text{Long term debt}}{\text{Permanent capital}}$$

Permanent Capital consists of shareholders equity as well as long term debt.

### **c. Total Debt to Total Asset Ratio**

The total debt of the firm comprises long term debt plus current liabilities while total assets consist of permanent capital plus current liabilities. Assets may be described as valuable resources owned by a business which have been acquired at a measurable money cost. Assets as an economic resource satisfy three requirements. They are firstly, the resources must be valuable or it may provide future benefits to the operations of the firms; secondly, the resources must be owned, and thirdly the resources must be acquired at a measurable money cost. When intangible assets are the significant, they are frequently deducted from net worth to obtain the tangible net worth of the firm. A comparison of debt ratio for a given company with those of similar firms gives us a general indication, of the credit worthiness and financial risk of the firm. The reason, that is a general indication, is that the assets and cash flows of the firm provide the wherewithal for payment of debt.

This can be calculated as:

$$\text{TD/TA Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

The ratio however gives some what similar in dictation as debt equity ratio.

#### **d. Long Term Debt to Total Debt Ratio (LTD / TD)**

The relationship between long term debt and total debt has a decisive impact on the financial structure of all two companies under study. Debt is considered as the total debt, which includes all secured and unsecured loan. Within these two types of loan there comes long term, short term debt, debenture, overdraft etc. It is externally borrowed from financial institute. Debt capital is the capital to which a fixed rate of interest should be paid. Interest paid for debt is deductible expenses. It can save the tax. Debt capital is a cheap means of financing. But there is a risk in holding debt capital. Risk in the sense of timely payment of interest and the redeemable value at the end of maturity period. Debt capital should be limited up to a level, which the earning capacity of the firm can support. Otherwise, the company has to sell its assets and be forced to go into liquidation. The ratio of long term debt to total debt indicates what percentage of company's total debts is included in the form of long term debt. It is calculated as;

$$\text{LTD / TD} = \frac{\text{Long term debt}}{\text{Total debt}}$$

#### **e. The Degree of Financial Leverage (DFL)**

The degree of financial leverage at a particular EBIT level is measured by the percentage change in earning per share relative to the percentage change in EBIT. The company needs a lot of funds to operate activities these funds are collected from different sources having different rates. On the way to profitability, the company can use equity capital. In the process of profit planning, it tries to increase the amount of profit, but different kinds of leverage considered. Degree of financial leverage is one kind of leverage. Degree of financial leverage (DFL) measures proportionate change in EPS as a result of given change in EBIT. The financial leverage measures the financial risk arises due to the interest. Higher the financial leverage higher the financial

risk. The financial leverage exists when the company as debt capital in the composition of capital structure. The extra amount of investment by debt capital can be measured only with the help of financial leverage this may be calculated as:.

$$\text{Degree of financial leverage} = \frac{\% \text{ change in EPS}}{\% \text{ change in EBIT}}$$

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

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

Where, R represents fixed financial costs which are interest and preference dividend.

#### **f. Interest Coverage Ratio**

It is also known as time interest earned ratio. This ration measures the debt servicing capacity of a firm in so far as fixed interest on long term loan is earned. It is determined by dividing the operating profits or earning before interest and taxes (EBIT) by the fixed interest charges on loans. The interest coverage ratio shows many firms the interest charges are covered by funds that are ordinarily available to pay the interest. This is calculated as,

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

This ratio is very useful in determining whether a borrower is going to be able to service interest payments on a loan. In other words, the ratio is designed to

relate the financial charges of a firm to its ability to service them. This ratio also known to determine whether a firm has the ability to meet its long term obligations A high interest coverage ratio indicates the company's strong debt servicing capacity.

### **3.5.1.2. Profitability Ratio**

Profitability Ratio gives final answers about how effectively the firm is being managed. In the study following profitability ratio are calculated.

#### **a. Return on Total Assets**

It is also known as Return to Investment or R<sub>o</sub> 1 before tax basis. 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 bank assets. The ratio explains net income for each unit of assets. Higher ratio indicates efficiency in utilizing its overall resources and vice versa.

$$\text{Return on total assets} = \frac{\text{EBIT}}{\text{Total Assets}}$$

While on after tax basis, because of the tax shelter benefit of interest, we add the after tax interest expenses to net income for the numerator of the ratio.

$$\text{Return on total asset} = \frac{\text{Net Profit after tax}}{\text{Total asset}}$$

#### **b. Return on Net Worth (Ordinary Shareholders Equity)**

The ratio of net profit taxes to net worth measure the state of return on the stock holder's investment is computed by dividing EAT with net worth. This

ratio tells us the earning power on shareholders equity and is frequently used in comparing two or more firms in an industry. It also indicates that the funds supplied by owners. The higher ratio indicates that the funds using have effective in the company. It reflects the extent to which the objective of profit maximization has been achieved. Here net worth represents only equity capital.

$$\text{Return on Share Holder's Equity} = \frac{\text{Net Profit after Tax}}{\text{Share Holder's Equity}}$$

### 3.6 Statistical Tools

Mandy statistical tools are often employed in the analysis and interpretation of data as an aid to management and managerial decision. Following statistical are used more systematically in this chapter.

#### 3.6.1 Correlation Coefficient (r)

Correlation coefficient measures the relationship between two variables, when they are so related that the change in value of one variable is accompanied by the change in the value of the other. It contributes to the understanding of economic behavior, aids in locating the critical important variables on which others depend, may reveal to the economist the connection by which disturbances spread stabilizing forces may become effective. Although there are three types of correlation i.e simple, partial and multiple but here the focus is on simple correlation based on "Pearson's coefficient of correlation".

The correlation co-efficient denoted by r and shows the direction of relationship between coefficients.

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

**Where,**

*r = Pearson's correlation coefficient*

*N = No. of Observation*

*X, Y = Variables.*

If one variable increases or decreases then r will fall between 0 and 1 i.e. the inverse relationship exists on the other side, if one variable increases the other also increases and the value of r will be ranged between 0 and 1 i.e. the relationship exists.

### Decision criteria

When the value of  $r = + 1$ , the variables are perfectly correlated

When the value of  $r = -1$ , the variables have perfect negative correlation

When the value of  $r = 0$ , there is no correlation between the variables.

If  $-1 < r < 0$  then two variables either increase or decrease but it is the opposite direction.

### **3.6.2 Probable Error (P.E)**

The probable error of the coefficient of correlation helps in interpreting its value with the help of probable error it is possible to determine the reliability of the value of the coefficient is done for as it depends on the condition of random sampling. The P.E of the coefficient of correlation is obtained as follows.

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

**Where,**

*r=correlation coefficient*

*N=no. of parts of observation*

**Note:**

- ) If the value of  $r$  is less than the P.E. 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 P.E. the coefficient of correlation is practically certain i.e. the value of  $r$  is significant.

### **3.6.3 Simple Regression Analysis**

It is a statistical tool which helps to estimate or predict the one variable when the value of other variable is known. The unknown variable which we have to predict is called dependent variable and the variable whose value is known is called independent variable. The analysis used to describe the average relationship between two variables is known as simple linear regression analysis.

Regression equation of  $y$  on  $x$ :

$$y = a + bx$$

#### **Regression Constant (a)**

Regression constant synonymous with the numerical constant determines the distance of the fitted line directly above or below the origin. The value of the constant which is the intercept of the model indicates the average level of dependent variable when independent variable ( $s$ ) is zero. In other words, a constant indicates the mean or average effect on dependent variable if all variables omitted from the model.

## **Regression Coefficient (b)**

The regression coefficient of each dependent variable indicates the marginal relationship between that variable and value of dependent variable, holding constant the effect of all other independent variable in the regression model. In other words, the coefficient describes how much change in independent variables; affect the value of dependent variables estimate. It is also known that the numerical constant which determines the changes in dependent variable per unit changes in independent variables (i.e. slope of the line).

## **CHAPTER IV**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.1 Introduction**

This is the most important chapter of the study. In this chapter the data collected will be analyzed and presented mathematically. All the above-mentioned financial and statistical tools will be used to present the data.

To analyze the financial performance in respect to capital structure, various presentation and analysis have been presented in this chapter according to analytical research design mentioned in the third chapter using various financial and statistical tools.

#### **4.2 Presentation and Analysis of Data**

It is already stated that Capital structure refers to the combination of preference share, equity share capital including reserve and surplus as well as long-term debt. Optimal capital structure refers to that combination of funds, which maximizes the EPS, value of the firm and overall cost of capital. The analyses in this chapter are divided into following sections, which is directly and indirectly related to the capital structure.

##### **4.2.1 Capital Structure Analysis**

###### **4.2.1.1. Debt Equity Ratio**

Debt 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 creditors capital of business in its financing. In

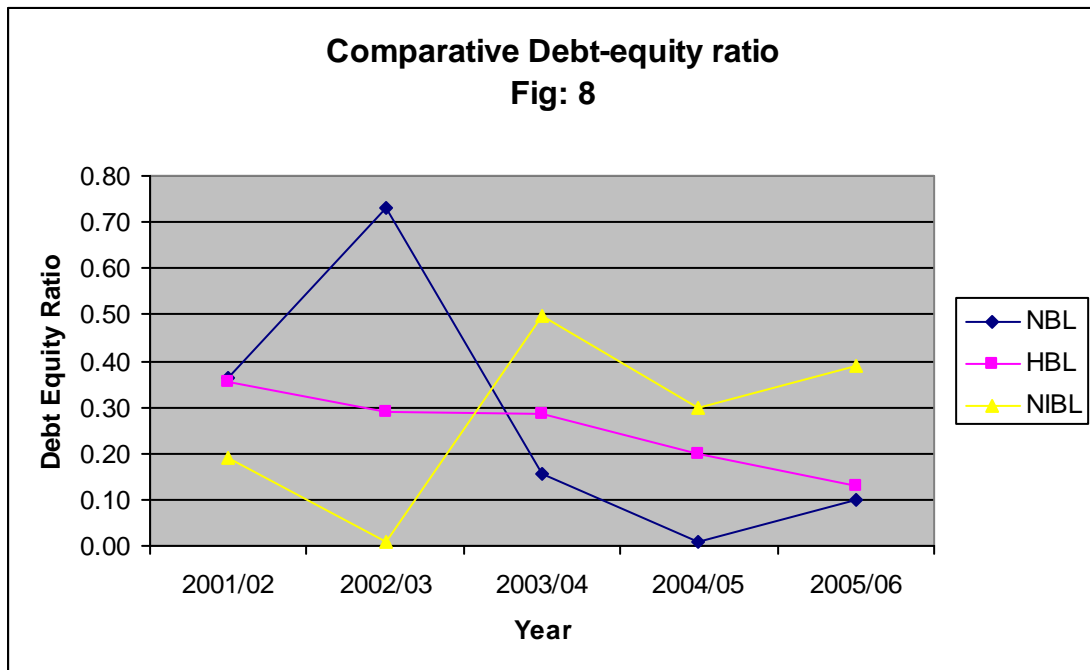
other words, this ratio exhibits the relative proportions of capital contributed by owners and creditors. Debt equity ratio can be calculated in the basis of shareholders' equity and long-term debt. Shareholders' equity includes reserve and accumulated profit, preference share and equity share capital. 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 shareholders' equity. The high D/E 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 is 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 1.

**Table 1**  
**Comparative Debt – Equity Ratio**

Fiscal Year	Debt Equity Ratio (times)		
	NBL	HBL	NIBL
2001/02	0.36	0.36	0.19
2002/03	0.73	0.29	0.01
2003/04	0.16	0.29	0.50
2004/05	0.01	0.20	0.30
2005/06	0.10	0.13	0.39
Average	0.272	0.254	0.278

Source: Annual Report (refer appendix 1)

**Fig: 8**



The debt equity ratio and average ratio has been calculated in the above table. Five years data have been presented here:

The table shows that D/E ratio of NBL is 0.36, 0.73, 0.16, 0.01 and 0.10 in fiscal years 2001/02 to 2005/06 respectively. The average D/E ratio of NBL is 27.2%. It shows that creditors have 27.2% claims on assets where the last three years ratio are lower than average ratio, it indicates that claim of owners is higher than the creditors. It also indicates that the company has lesser amount to be paid as interest on debt.

Calculated value of HBL shows D/E ratio have decreasing trend except in year 2003/04. D/E ratio is 0.29 in the year 2002/03 which remains constant 0.29 in F/Y 2003/04 too. The ratio decreases to 0.20 in following year then again decreases to 0.13 in the year 2005/06. The average D/E ratio is 25.4% which implies that the claim of creditors is 25.4% in compare to owner of the company.

In case of NIBL, above calculation shows that D/E ratio have fluctuating trend over the study period. The table shows that D/E ratio of NIBL is 0.19 in the year 2001/02 and then it decreases to 0.01 in the year 2002/03. Then it

increases to 0.50 in the year 2003/04. In the year 2004/05 it decreases to 0.30 after which its D/E ratio increases to 0.39 in the year 2005/06. This shows that NIBL have very fluctuating trend of D/E ratio. The average D/E ratio is 27.8% which implies that the claim of creditors is 27.8% in compare to owner of the company.

Between NBL, HBL and NIBL, HBL has lowest D/E ratio.

#### **4.2.1.2 Long Term Debt to Capital Employed Ratio**

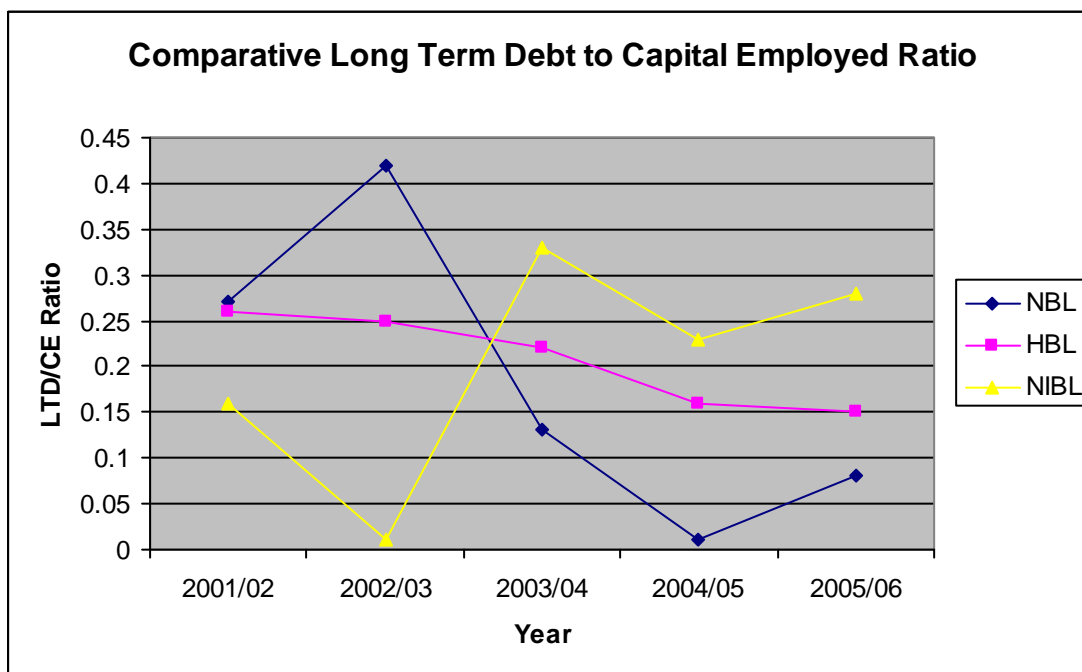
The optimal capital structure has important relationship with the long term debt to capital employed ratio. This relationship suggests the portion of long term debt and capital employed used in the capital structure of the firm. This ratio highlights the need of long term debt in the capital employed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

**Table 2**  
**Comparative Long Term Debt to Capital Employed Ratio**

Fiscal Year	Long Term Debt to Capital Employed Ratio (times)		
	NBL	HBL	NIBL
2001/02	0.27	0.26	0.16
2002/03	0.42	0.25	0.01
2003/04	0.13	0.22	0.33
2004/05	0.01	0.16	0.23
2005/06	0.08	0.15	0.28
Average	0.182	0.208	0.202

**Source: Annual Report (refer appendix 2)**

**Fig: 9**



NBL has fluctuating trend of long term debt to capital employed ratio. In F/Y 2001/02 the ratio is 0.27 that means long term debt to capital employed is 27% and owner of companies contributed remaining 73%. In the following year

2002/03 the ratio increases to 0.42 and in F/Y 03/04, 04/05, 05/06 ratio are 0.13, 0.01 and 0.08 respectively. The average ratio shows a ratio of 18.2%.

The Table 2 shows that HBL have a decreasing trend in term of LTD to capital employed ratio. In F/Y 2001/02 the ratio is 0.26 that means 26% of capital is employed by long-term debt and remaining is contributed by shareholder's equity. And the ratio is decreasing year by year gradually. The average ratio is 20.8%.

In case of NIBL also ratio of LTD to capital employed is in fluctuating trend as that of NBL. In F/Y 2001/02 the ratio is 0.16 that means long term debt to capital employed is 16% and owner of the company contributed remaining 84%. In the following year 2002/03 the ratio decreases to 0.01 and in F/Y 03/04, 04/05, 05/06 ratio are 0.33, 0.23 and 0.28 respectively. The average ratio shows the ratio of 20.2%.

Between NBL, HBL and NIBL, HBL shows highest ratio which means HBL has higher amount of capital financed by long term debt.

#### **4.2.1.3 Debt to Total Assets Ratio**

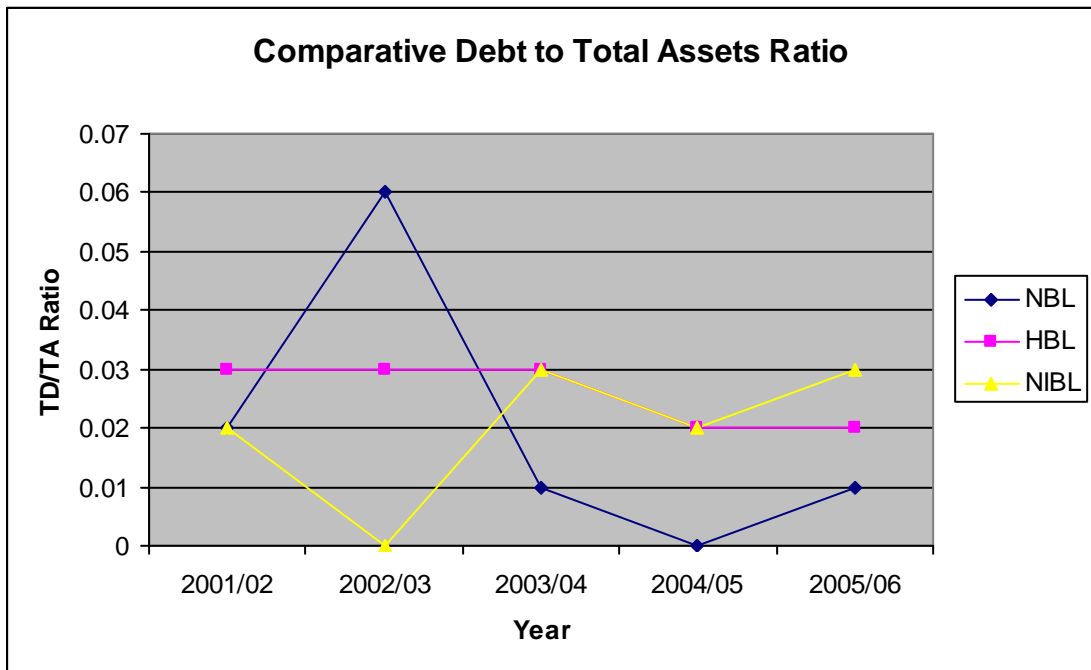
Debt to total assets ratio express the relationship between creditors fund and total assets. It is also the leverage ratio, which is generally called the debt ratio. This type of capital structure ration is a variant of debt equity ratio. Calculating debt to total assets is one calculation approach of the debt to capital ratio. Debt includes all loans and Total assets include all types of 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.

**Table 3**  
**Debt to Total Asset Ratio**

Fiscal Year	Debt To Total Asset Ratio (percentage)		
	NBL	HBL	NIBL
2001/02	0.02	0.03	0.02
2002/03	0.06	0.03	0.00
2003/04	0.01	0.03	0.03
2004/05	0.00	0.02	0.02
2005/06	0.01	0.02	0.03
Average	0.02	0.026	0.02

Source: Annual Report (refer appendix 3)

**Fig: 10**



The Table 3 shows Debt to Total Assets ratio of NBL is in fluctuating trend. In F/Y 2001/02 its ratio is 0.02 where as it increases to 0.06 in next year. The ratios are 0.01, 0.00 and 0.01 in following respective years 03/04, 04/05 and 05/06. The average ratio is 0.02i.e. 2%.

Debt to Asset ratio of HBL is quite steady in last five years still the ratio is very low. In F/Y 2001/02 its ratio is 0.03 and it remains constant for three years which then decreases to 0.02 in following year. The ratio again remains constant for last two years. The average ratio of HBL is 2.6%.

By the above calculation we can say that Debt to Total Assets ratio of NIBL is in fluctuating trend as that of NBL but not as fluctuating as that of NBL. In F/Y 2001/02 Debt to Total asset ratio of NIBL is 0.02 which means only 2% of total fund is provided by the creditors. In the following year it decreases to 0% and then again increases to 0.03 in the F/Y 2003/04. The LTD to TA ratio is 0.02 and 0.03 in the year 2004/05 and 2005/06 respectively and the average ratio for the period is 2%.

The debt to asset ratio of NBL, HBL and NIBL is insignificant because long term debt is negligible compared to total asset.

However, average Debt asset ratio of HBL is higher than NBL and NIBL..

#### **4.2.1.4 Long Term Debt to Total Debt Ratio**

The relationship between long term debt and 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 use 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 derive the relationship the long term debt and total debt of the firm.

The total debt includes all types of borrowed firm, current liabilities and provisions. If the firm uses large amount of short term loans and current liabilities and provisions in the larger amount, the percentage of the long term debt on the total debt will be low and vice versa. The higher ratio of long term debt to total debt indicates the higher claim of long term debt holder upon the total debt and the lower ratio indicates the higher portion of short term loans and current liabilities in the total debt of the firm. The amount of short term

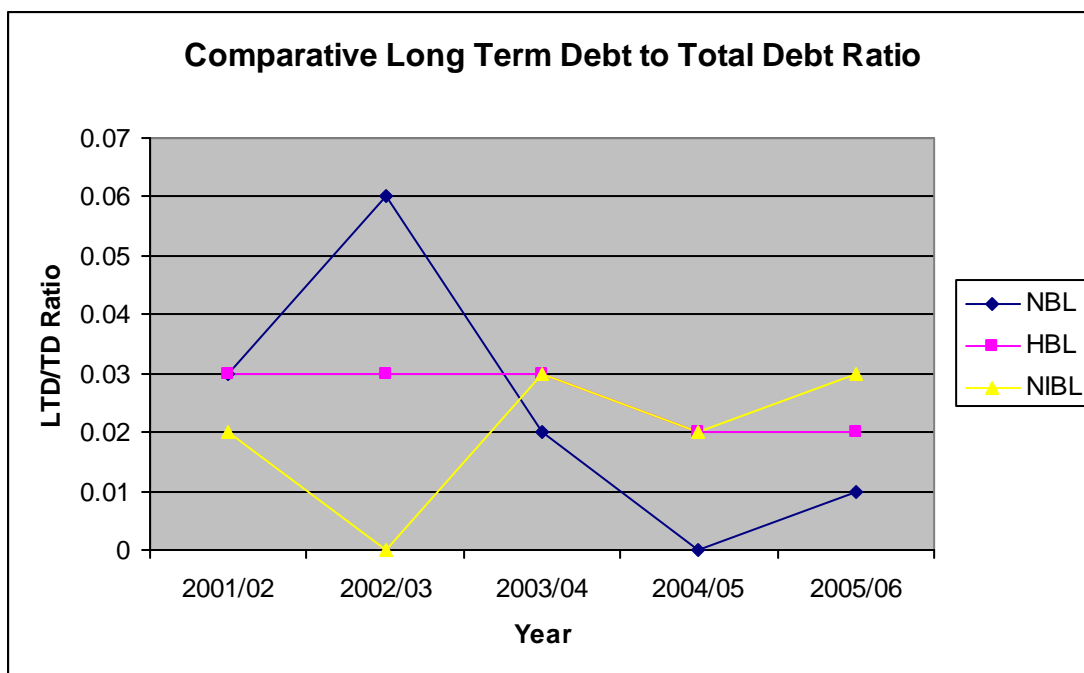
loans and current liabilities used depends upon the liquidity of that firm. The relationship of long term debt and total debt is presented in the following table with the percentage change in that ratio to show the movement of trend individually. In addition the average ratios are also calculated to compare with each other. The detailed calculation is show in the *appendix 4*.

**Table 4**  
**Comparative Long Term Debt to Total Debt**

Fiscal Year	Long Term Debt to Total Debt (percentage)		
	NBL	HBL	NIBL
2001/02	0.03	0.03	0.02
2002/03	0.06	0.03	0.00
2003/04	0.02	0.03	0.03
2004/05	0.00	0.02	0.02
2005/06	0.01	0.02	0.03
Average	0.024	0.026	0.02

**Source: Annual Report (refer appendix 4)**

**Fig: 11**



The trend analysis of the company reveals that NBL has quite fluctuating trend of LTD/TD ratio. The above calculation shows that the ratio of LTD/TD of NBL is 0.03 in F/Y 2001/02. This means contribution of long term debt is 0.03 and remaining is contributed by current liabilities. The ratio is 0.06 in year 02/03 which decreases to 0.02 in F/Y 03/04. Then after it decreases to 0% in the following year and then again increases to 0.01 in the year 2005/06. The average ratio is 2.4%.

Similarly, HBL has constant trend of LTD/TD ratio .In the fiscal year 2001/02 the ratio is 0.03 that indicated contribution of long term debt in total debt and remaining portion is contributed by current liabilities. It remains constant for three years and then decreases to 0.02 for the last two F/Y. The average ratio is 2.6%.

Similarly, NIBL also have the fluctuating trend of LTD to TD ratio for the five sample years. It is 0.02 for the F/Y 2001/02 which indicates contribution of long term debt in total debt is only 2% and remaining part is current liabilities. The ratio then is 0.0, 0.03, 0.02 and 0.03 for the F/Y 2002/03, 2003/04, 2004/05 and 2005/06 respectively. The average ratio is 2%.

From the above calculation we can say that NIBL is low levered firm with comparison to rest two firms since it has used less long term debt than that of NBL and HBL.

#### 4.2.1.5 Interest Coverage Ratio

The interest coverage ratio is useful tool to measure long term debt serving capacity of the firm. It is also called interest on ratio. Interest is fixed charges of the companies, which is charged in long term and short term loans. Generally, interest coverage ratio measures the debt serving capacity of the firm and it is concerned with long term loans. It shows how many times the interest charges are covered by EBIT out to which they will be paid. This ratio uses the concept of net profit before tax because interest is tax deductible or tax is calculated after paying interest on loan. This ratio examines the interest paying capacity of the firm by how many times the interest charges are covered by EBIT.

Interest coverage ratio is calculated, dividing 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. The high ratio shows that the firm may imply unused debt capacity and the firm has greater capacity to handle fixed 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 the creditor. The calculated interest coverage ratios are presented in the following table:

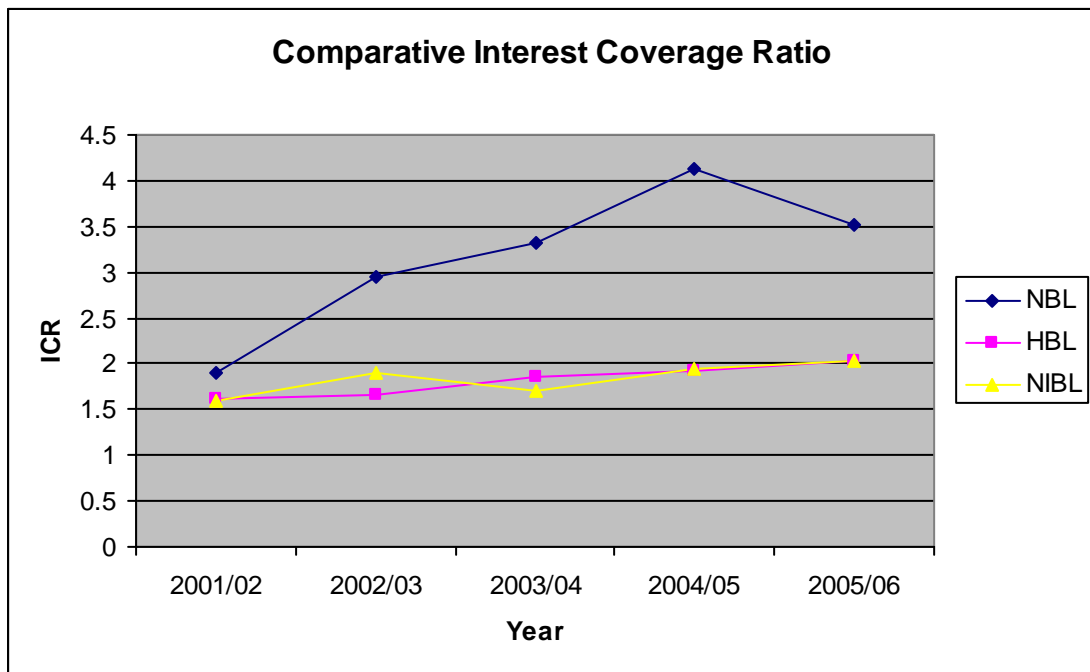
**Table 5**  
**Interest Coverage ratio**

Fiscal Year	Interest Coverage ratio (times)		
	NBL	HBL	NIBL

2001/02	1.89	1.61	1.60
2002/03	2.94	1.65	1.90
2003/04	3.33	1.86	1.71
2004/05	4.12	1.93	1.94
2005/06	3.52	2.04	2.03
Average	3.16	1.82	1.836

**Source: Profit and Loss Statement (refer appendix 6)**

**Fig: 12**



In the table 5 the average ratio of NBL is 3.16 which imply no. of times of interest covered by its EBIT. The interest coverage ratio of NBL shows increasing trend beside last F/Y. The ICR of NBL in year 2001/02 is 1.89 times which increases to 2.94 times in F/Y 02/03 and 3.33 times in 03/04. Then it increases to 4.12 times in 04/05 and 3.52 times in the year 05/06. It shows that NBL is capable and it is good indication because higher ratio is preferable.

In case of HBL the ICR is 1.61, 1.65, 1.86, 1.93 and 2.04 times in the year 2001/02, 02/03, 03/04, 04/05 and 05/06 respectively. Here the ratio shows increasing trend. The average calculated ratio is 1.82 times. This implies company's available profit can meet the debt amount.

In case of NIBL the ICR is 1.60, 1.90, 1.71, 1.94 and 2.03 times in the year 2001/02, 02/03, 03/04, 04/05 and 05/06 respectively. Here the ratio shows slightly fluctuating trend. But it is in increasing trend in last three F/Y of the sample period and also the available profit can meet the debt amount.

The ratio between three banks shows that there is enough profit to meet the claim of the creditors. Between three firms the ICR of NBL is greater.

#### **4.2.1.6 Return on Share Holders' Equity**

Share holder's fund represents that part of long term source of funds which is calculated by issuing equity shares and preference share. Share holders are actually the owners of the company. Share holders have ultimate claim in the return of the company. To measure the return earned by the share holders, return on share holders' equity is used or this ratio is calculated to find out the profitability on the owners' capital or investment.

If the companies' earning is good, shareholders' earning is greater than outside investors because they are ultimate holders and they are bearing high risk as well. But outside investors get return before the owner that is fixed. Share holders get 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 EAT. In this study the sampled companies have not employed the preference share thus it includes only return on share holders' equity.

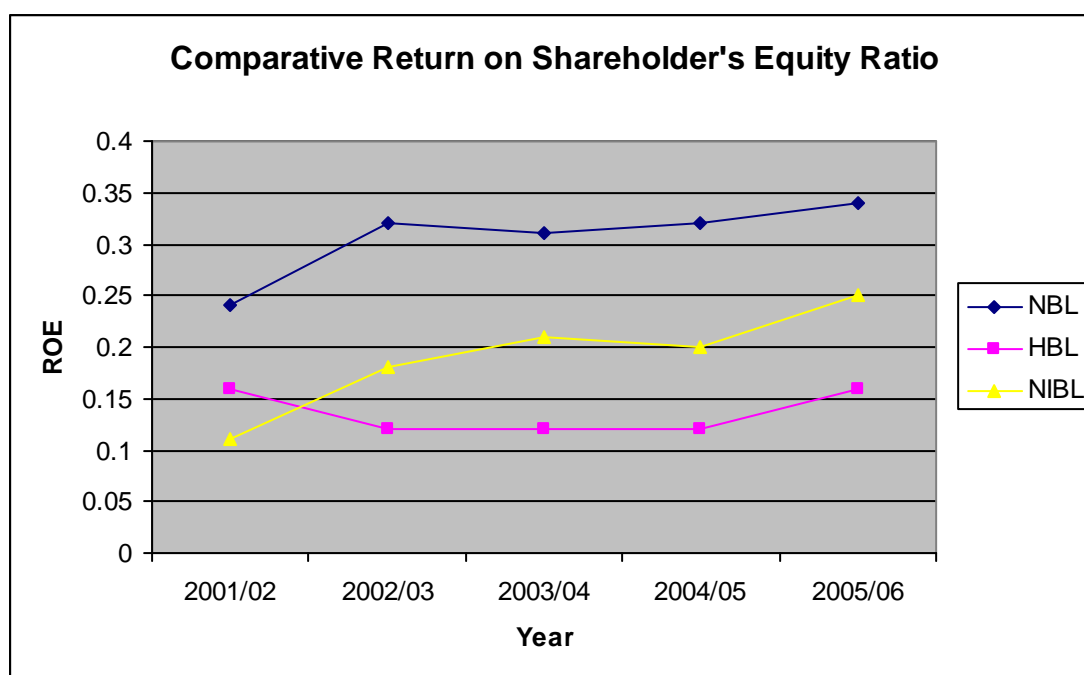
The high return on share holders' equity (ROE) represents the high profitability of the firm and vice versa. So ROE is desirable from the point of view of the owner of the company. This ratio can be calculated simply dividing earning after tax by share holders' equity which is presented in the following table:

**Table 6**  
**Return on Shareholder's Equity**

Fiscal Year	Return on Shareholder's Equity (times)		
	NBL	HBL	NIBL
2001/02	0.24	0.16	0.11
2002/03	0.32	0.12	0.18
2003/04	0.31	0.12	0.21
2004/05	0.32	0.12	0.20
2005/06	0.34	0.16	0.25
Average	0.306	0.136	0.19

**Source: Balance Sheet and Profit and Loss Statement (refer appendix 7)**

**Fig: 13**



The Table 6 exhibits return's on shareholder's equity of sample companies. In the context of NBL, it has a fluctuating trend. In the fiscal year 2001/02, the ratio is 24% that imply that one hundred investment by shareholder's equity

earned 124. In F/Y 2002/03 it increased to 32% then decreased to 31% in next year. Again it increased to 32% in F/Y 04/05 and further increased to 34% in 05/06. The average ratio is 30.60%. Similarly, HBL shows decreased ratio at the beginning then it remain constant at 12% till 04/05 that means shareholders earn Rs112 investing one hundred. After that ROE increased up to 16% in F/Y 05/06. Its average ratio is 13.60%.

In case of NIBL, ROE is in increasing trend for first two years and then it reaches to 0.21 in the F/Y 2003/04. Then it decreases to 0.20 in the following year. ROE of NIBL then again increases to 0.25 in the last year of sample period. The average ROE is 19%. By analyzing the above calculation, it is found that the return earned by shareholders of NBL is highly greater.

#### **4.2.1.7 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 bank assets. The ratio explains net income for each unit of assets.

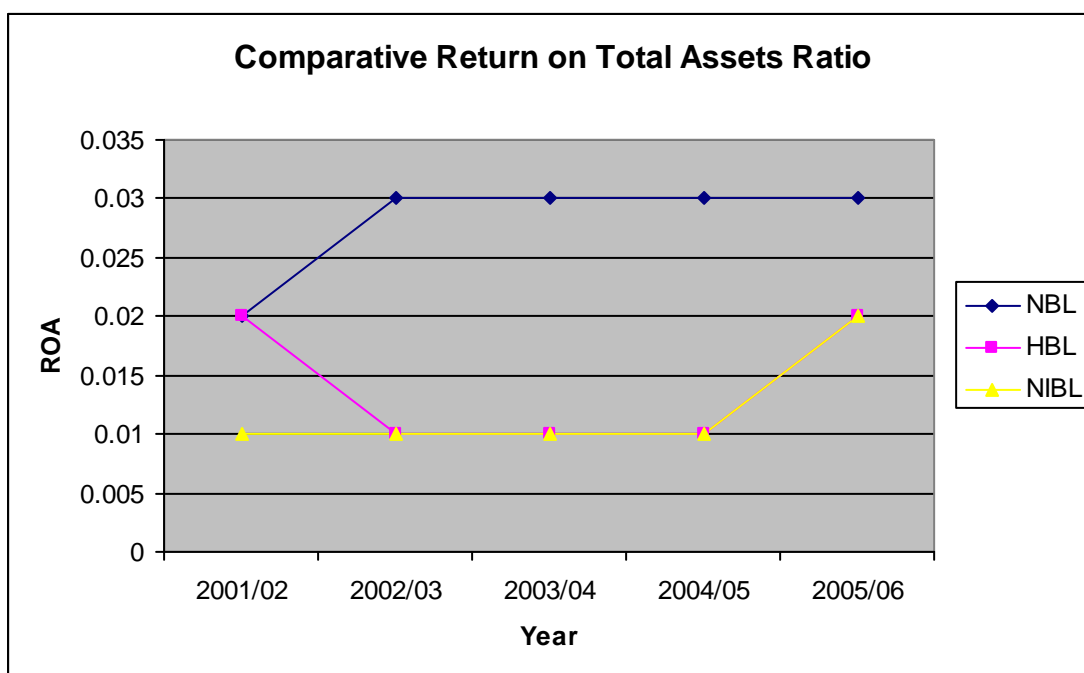
Higher ratio indicates efficiency in utilizing its overall resources and vice versa. From the point of view of judging operational efficiency, rate of return on total Assets is more useful measures.

**Table 7**  
**Return on Total Assets**

Fiscal Year	Return on Total Assets (times)		
	NBL	HBL	NIBL
2001/02	0.02	0.02	0.01
2002/03	0.03	0.01	0.01
2003/04	0.03	0.01	0.01
2004/05	0.03	0.01	0.01
2005/06	0.03	0.02	0.02
Average	0.03	0.02	0.012

**Source: Balance Sheet and Profit and Loss Statement (refer appendix 8)**

**Fig: 14**



The Table 7 shows the comparative position of return on Total Assets of NBL, HBL and NIBL. From the table ROA of NBL in the F/Y 2001/02, 02/03, 03/04, 04/05 and 05/06 are 0.02, 0.03, 0.03, 0.03 and 0.03 respectively. Its average ratio is 0.03. The overall trend is first increasing then remains constant.

Similarly, ROA of HBL in the year 2001/02, 02/03, 03/04, 04/05, 05/06 is 0.02, 0.01, 0.01, 0.01 and 0.02 respectively and the average return is 0.02. The overall trend is first decreasing then constant and increased in last F/Y.

In case of NIBL, ROA in the F/Y 2001/02, 02/03, 03/04, 04/05 and 05/06 are 0.01, 0.01, 0.01, 0.01 and 0.02 respectively. The average ratio is 0.012. The overall trend is constant for first four financial years and then increased in last F/Y.

The average return of NBL is higher compared to HBL and NIBL.

#### 4.2.1.8 Earning Per Share (EPS) Analysis

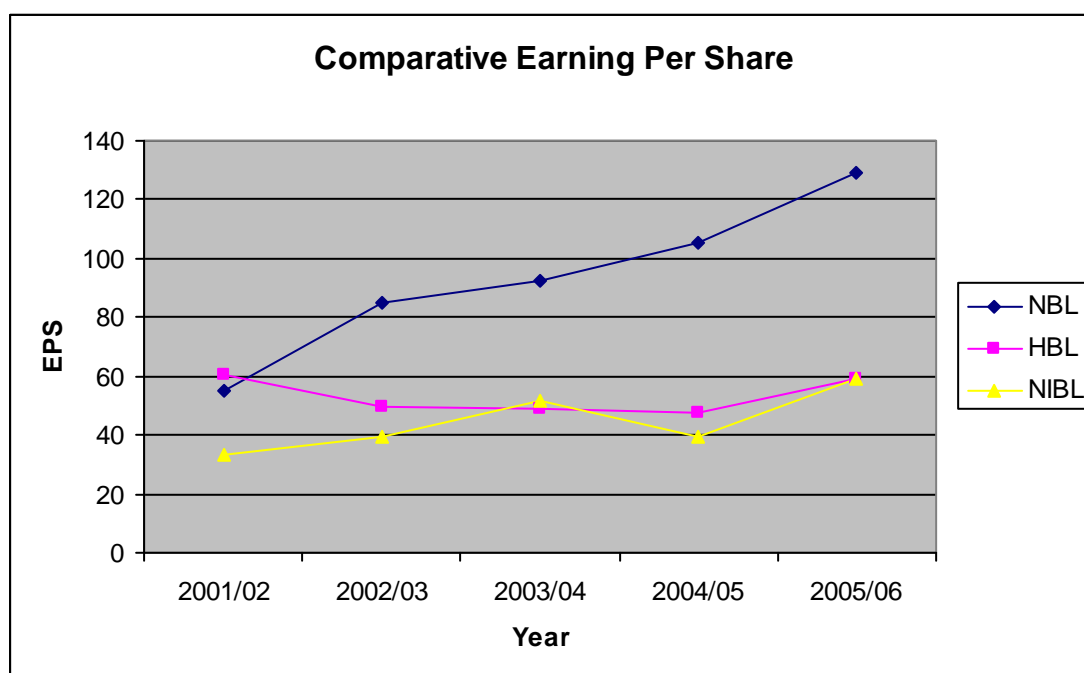
The profitability of bank from the point of view of the ordinary shareholders is earning per share. The ratio explains net income for each unit of share. Earning per share of an organization gives the strength of the share in the market. It shows how much theoretically belongs to the ordinary shareholders.

**Table 8**  
**Comparative Earning Per Share**

Fiscal Year	Earning Per Share (In Rupees)		
	NBL	HBL	NIBL
2001/02	55.25	60.26	33.59
2002/03	84.66	49.45	39.56
2003/04	92.61	49.05	51.70
2004/05	105.49	47.91	39.50
2005/06	129.21	59.24	59.35
Average	93.44	53.18	44.74

Source: Annual Report

**Fig: 15**



The Earning per share of NBL are Rs 55.25, Rs84.66, Rs 92.61, Rs 105.49 and Rs 129.21 in the F/Y 2001/02, 02/03, 03/04, 04/05 and 05/06 respectively. The average EPS is Rs 93.44. The overall trend is increasing. The highest EPS is Rs 129.21 in F/Y 05/06. Similarly, the earning per share of HBL in the years 2001/02, 02/03, 03/04, 04/05 and 05/06 are Rs 60.26, Rs 49.45, Rs 49.05, Rs47.91 and Rs 59.24. The average EPS is Rs 53.18. Here the overall trend is fluctuating. EPS decreases from Rs 60.26 in the F/Y 2001/02 to Rs 47.91 in the year 04/05. The Earning per share of NIBL are Rs 33.59, Rs 39.56, Rs 51.70, Rs 39.50 and Rs 59.35 in the F/Y 2001/02, 02/03, 03/04, 04/05 and 05/06 respectively. The average EPS is Rs 44.74. Here the overall trend is fluctuating. EPS first increases and reaches to Rs 51.70 in 2003/04 and then it decrease to Rs 39.50 in the following year. Again it increases to Rs 59.35 in the last F/Y. Between all three banks EPS of NBL has the highest Rs 93.44 average which shows NBL is most profitable.

#### 4.2.1.9 Dividend Per Share (DPS) Analysis

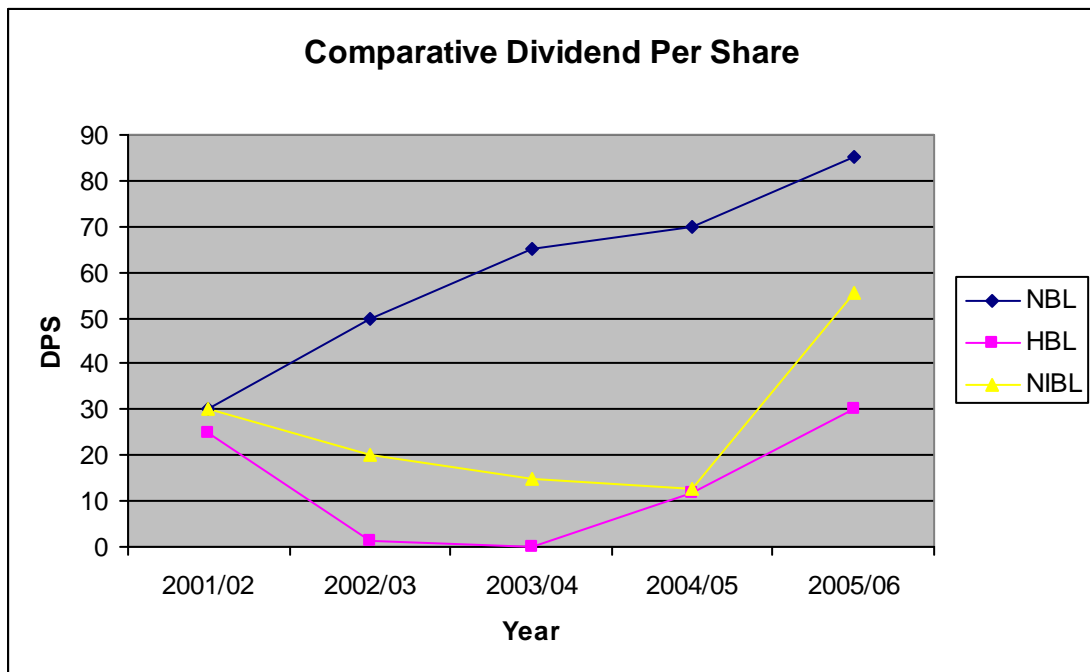
Dividend per share is evaluated to know the share of dividend that the share holders received in relation to the paid up value of the share. Dividend per share is the earning distributed to ordinary shareholders divided by the no. of ordinary shares outstanding.

**Table 9**  
**Comparative Dividend per Share**

Fiscal Year	Dividend Per Share (In Rupees)		
	NBL	HBL	NIBL
2001/02	30	25	30
2002/03	50	1.32	20
2003/04	65	0	15
2004/05	70	11.58	12.50
2005/06	85	30	55.46
Average	60	16.98	26.59

**Source: Annual Report**

**Fig: 16**



The dividend per share of NBL are Rs 30, Rs 50, RS 65, Rs 70, Rs 85, in the years 2001/02, 02/03, 03/04, 04/05 and 05/06 respectively. The average DPS is Rs 60. The highest DPS paid is in the last financial year 05/06.

Similarly, HBL shows a DPS of Rs 25, Rs 1.32, Rs 0.00, Rs 11.58 and Rs 30 in the F/Y 2001/02, 02/03, 03/04, 04/05 and 05/06. The average DPS is Rs 16.98. HBL has paid a highest dividend of Rs 30 in the year 05/06 whereas it has paid no dividend at all in the year 03/04.

The dividends per share of NIBL are Rs 20, Rs 30, Rs 15, Rs 12.50 and Rs 55.46 in the F/Y 2001/02, 02/03, 03/04, 04/05 and 05/06 respectively. The average DPS is Rs 26.59. The highest DPS paid is in the last financial year 05/06.

The table shows that NBL has paid the highest average dividend of Rs 60. It shows that the more investors are likely to be attracted in investing at NBL.

## 4.2.2 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 charge is high the company can have advantage of tax shield but it will affect the owner's 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:

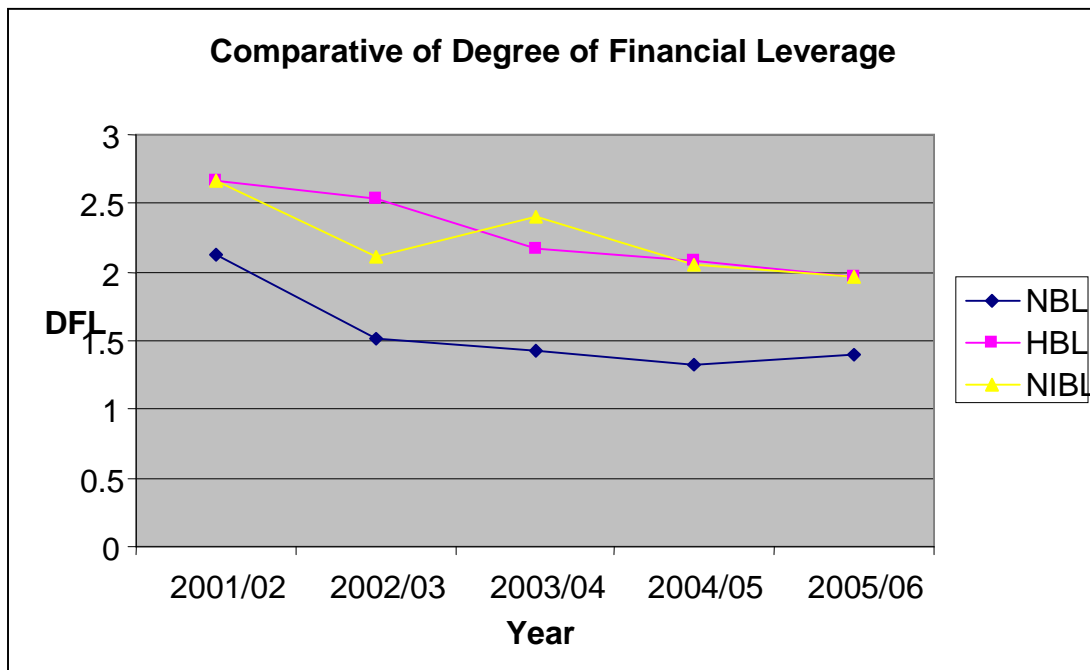
Either dividing percentage change in EPS by percentage change into EBIT or dividing percentage change into EBT by EBIT can calculate degree of financial leverage. In this analysis of financial leverage second method is chosen. High the financial leverage, high will be the financial risk and also high will be the shareholders' return. The degree of financial leverage of Sample Company is presented below:

**Table 10**  
**Degree of Financial Leverage**

Fiscal Year	Degree of Financial Leverage (times)		
	NBL	HBL	NIBL
2001/02	2.13	2.66	2.67
2002/03	1.52	2.54	2.11
2003/04	1.43	2.17	2.41
2004/05	1.33	2.08	2.06
2005/06	1.40	1.97	1.97
Average	1.56	2.28	2.244

**Source: Annual Report (refer appendix 5)**

**Fig: 17**



Above calculated DFL of NBL has decreasing trend in first four years of sample period and is increased in last F/Y. In the fiscal year 2001/02 the DFL is 2.13 times. In second year the DFL is 1.52 times in the fiscal year 2003/04, 04/05, 05/06 the DFL is 1.43, 1.33 and 1.40 times respectively. The average DFL is 1.56 times.

The trend of HBL is quite constant. The DFL of HBL in the fiscal year 2001/02, 02/03, 03/04, 04/05, 05/06 are 2.66, 2.54, 2.17, 2.08 and 1.97 times respectively. The average DFL of HBL is 2.28 times.

The trend of NIBL is also quite constant. In case of NIBL, DFL in the fiscal year 2001/02, 02/03, 03/04, 04/05 and 05/06 are 2.67, 2.11, 2.41, 2.06 and 1.97 respectively. The average DFL of NIBL is 2.244 times.

Analyzing the above data, it is found that the DFL of HBL is greater than NBL and NIBL. It shows that HBL has greater burden of financial charges.

### 4.2.3 Correlation Analysis

Correlation analysis enables us to have an idea about the degree and direction of the relationship between two or more variables. The correlation is a statistical tool which studies the relationship between two or more variables and correlation analysis involves various methods and techniques used for studying and measuring the extent of the relationship between two or more variables. It is denoted by 'r'. However 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 but here the focus is on simple correlation based on 'Pearson's Coefficient of Correlation'. In the following section correlation between different variables are calculated and presented of the sample companies.

#### 4.2.3.1 Correlation of Nabil Bank

**Table 11**

	<b>LTDCE</b>	<b>DA</b>	<b>LTDTD</b>	<b>ICR</b>	<b>ROE</b>	<b>ROA</b>
<b>DE</b>	.988(**)	.982(**)	.992(**)	-.574	-.212	-.172
<b>LTDCE</b>		.945(*)	.986(**)	-.692	-.340	-.301
<b>DA</b>			.972(**)	-.429	-.028	.000
<b>LTDTD</b>				-.581	-.203	-.146
<b>ICR</b>					.841	.858
<b>ROE</b>						.959(**)

Table 11 represents that debt equity ratio of Nabil bank is positively correlated with long term debt to capital employed ratio, Debt assets ratio and long term debt to total debt ratio whereas it is negatively correlated with interest coverage ratio, return on equity and return on assets. Similarly long term debt to capital employed ratio is positively correlated to Debt assets and Long term debt to total assets ratio but negatively correlated with return on assets and return on equity. Debt assets is positively correlated with long tem debt to total debt ratio and negatively correlated with Interest coverage ratio, ROE and ROA. Long term debt to total debt ratio is negatively correlated with Interest coverage

ratio, ROE and ROA. Interest coverage ratio is positively correlated with ROE and ROA. Finally ROE is also positively correlated with ROA.

#### 4.2.3.2 Correlation of Himalayan Bank

**Table 12**

	<b>LTDCE</b>	<b>DA</b>	<b>LTDTD</b>	<b>ICR</b>	<b>ROE</b>	<b>ROA</b>
<b>DE</b>	949(*)	.907(*)	.907(*)	-.913(*)	-.092	-.092
<b>LTDCE</b>		.954(*)	.954(*)	-.956(*)	-.054	-.054
<b>DA</b>			1.000(**)	-.830	-.167	-.167
<b>LTDTD</b>				-.830	-.167	-.167
<b>ICR</b>					.035	.035
<b>ROE</b>						1.000(**)

From the table 12 it can be concluded that the debt equity ratio of Himalayan bank is positively correlated with long term debt to capital employed ratio, debt assets ratio and long term debt to total debt ratio whereas it is negatively correlated with interest coverage ratio, ROE and ROA. Long term debt to capital employed ratio is positively correlated with debt ratio and debt to total debt ratio but is negatively correlated with interest coverage ratio, ROE and ROA. Debt ratio is perfectly positively correlated with long term debt to total assets and negatively correlated with interest coverage ratio, ROE and ROA. Long term debt to total debt ratio is negatively correlated with interest coverage, ROE and ROA. Interest coverage ratio is positively correlated with ROE and ROA. Finally ROE is perfectly positively correlated with ROA.

### 4.2.3.3 Correlation of Nepal Investment Bank Ltd

**Table 13**

	<b>LTDCE</b>	<b>DA</b>	<b>LTDTD</b>	<b>ICR</b>	<b>ROE</b>	<b>ROA</b>
<b>DE</b>	.992(**)	.943(*)	.943(*)	-.003	.544	.332
<b>LTDCE</b>		.968(**)	.968(**)	-.005	.500	.351
<b>DA</b>			1.000(**)	-.070	.397	.456
<b>LTDTD</b>				-.070	.397	.456
<b>ICR</b>					.783	.616
<b>ROE</b>						.652

Looking at the table 13 of Nepal Investment Bank Ltd. the correlation of Debt equity ratio is positive with long term debt to capital employed, Debt assets and long term debt to total debt ratio where as it is negative with interest coverage, ROE and ROA. Similarly the long term debt to capital employed ratio is positively correlated with Debt assets, long term debt to total debt, ROE and ROA but is only negatively correlated with interest coverage ratio. Debt assets ratio is perfectly positively correlated with long term debt to total debt positively correlated with ROE and ROA but negatively correlated with interest coverage ratio. Long term debt to total debt ratio is negatively correlated with interest coverage and positively correlated with ROE and ROA. Interest coverage ratio is positively correlated with both ROE and ROA. Finally ROE is also positively correlated with ROA.

### 4.2.3.4 Overall Correlation

**Table 14**

	<b>LTDCE</b>	<b>DA</b>	<b>LTDTD</b>	<b>ICR</b>	<b>ROE</b>	<b>ROA</b>
<b>DE</b>	.975(**)	.932(**)	.944(**)	-.272	.079	.010
<b>LTDCE</b>		.928(**)	.947(**)	-.404	-.060	-.093
<b>DA</b>			.971(**)	-.309	-.084	-.022
<b>LTDTD</b>				-.272	-.008	.057
<b>ICR</b>					.845(**)	.844(**)
<b>ROE</b>						.872(**)

Looking at the overall correlation of the bank, we can conclude that Debt Equity Ratio is positively correlated with Long term debt to capital employed, Debt asset ratio, Long term debt to total debt ratio, ROE and ROA where as it is negatively correlated with Interest coverage ratio. Long term debt to capital employed ratio is positively correlated with Debt asset ratio and Long term debt to total debt ratio, and negatively correlated with Interest coverage ratio, ROE and ROA. Debt asset ratio is positively correlated with long term debt to total debt ratio and negatively correlated with Interest coverage ratio, ROE and ROA. Long term debt to total debt ratio is negatively with Interest coverage ratio and ROA and positively with ROA. Interest coverage ratio is positively correlated with ROE and ROA. ROE is positively correlated with ROA.

#### 4.2.4 Simple Regression Analysis

Table gives the result of simple regression analysis, in which ROE, ROA and Dividend payout Ratio are dependent variable and debt equity ratio is independent variable for all the banks.

#### Results of Simple Regression Analysis of the Selected Variables

**Table 15**

**Debt Equity (DE) is Regressed on Return on Equity (ROE)**

**Regression Equation: dependent variable = a + b1 (independent variable)**

Variables	Constant (a)	Coefficient (b)	Bank
ROE=a+b <sub>1</sub> DE	.314	-.029	NBL
ROE=a+b <sub>1</sub> DE	.142	-.022	HBL
ROE=a+b <sub>1</sub> DE	.149	.149	NIBL

Table 15 shows that there is negative effect of debt equity ratio in ROE in NBL and HBL whereas there is positive effect of debt equity ratio in ROE in NIBL. The constant value represents that if debt equity is zero the value of ROE will be .314, .142 and .149 for NBL, HBL and NIBL respectively.

**Table 16**  
**Debt Equity (DE) is Regressed on Return on Assets (ROA)**

Variables	Constant (a)	Coefficient (b)	Bank
ROA=a+b <sub>1</sub> DE	.029	-.003	NBL
ROA=a+b <sub>1</sub> DE	.015	-.006	HBL
ROA=a+b <sub>1</sub> DE	.010	.008	NIBL

Looking at table 16 coefficient beta means that ROA will decline by -.003 and -.006 with every unit increase in debt equity ratio for NBL and HBL respectively whereas the value .008 of NIBL represent that ROA will increase by .008 with increase in one unit of debt equity ratio. Similarly, the constant value .029, .015 and .010 represents the value of ROA for NBL, HBL and NIBL in the absence of debt equity ratio.

**Table 17**  
**Debt Equity (DE) is Regressed on Dividend Payout Ratio (DPR)**

Variables	Constant (a)	Coefficient (b)	Bank
DPR=a+b <sub>1</sub> DE	.671	-.144	NBL
DPR=a+b <sub>1</sub> DE	.482	-.962	HBL
DPR=a+b <sub>1</sub> DE	.663	-.268	NIBL

In the table 17 the relationship between DPR and DE ratio is analyzed. Debt equity ratio of all the banks has negative effect in dividend payout ratio. It means that as the debt ratio increases by one unit dividend payout ratio will decline by -.144, -.962 and -.268 for NBL, HBL and NIBL respectively. Similarly, the value of constant .671, .482 and .663 are the value of dividend payout ratio when debt equity ratio is zero.

### 4.3 Major Findings

- The average Debt equity ratio of NBL is 27.2%. It shows that the creditors of NBL have 27.2% claims on the assets of NBL, where the last three years ratio are lower than average ratio, it indicates that claim of owners is higher than the creditors. The average D/E ratio of HBL is 25.4% which implies that the claim of creditors is 25.4% in compare to owner of the company. The average D/E ratio of NIBL is 27.8% which implies that the claim of creditors is 27.8% in compare to owner of the company.
- 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 NBL has fluctuation trend. Its average ratio is 18.2%. Similarly, trend of Long term Debt to capital employed ratio of HBL shows a decreasing trend. Its average ratio is 20.8%. And in case of NIBL the ratio is in fluctuating trend. Its average ratio is 20.2% which implies portion of fund financed by long term debt in the capital employed is 20.2% in average for the sample period.
- The Debt to Asset ratio of NBL, HBL and NIBL is insignificant because long term Debt is negligible compared to Total assets. Overall debt asset ratio of NBL is low. Its average ratio is 2%. Similarly, Debt asset ratio of HBL is quite steady even their ratios are low. The average ratio of HBL is 2.6%. On the other hand the average Debt to Asset ratio of NIBL is similar to NBL which is 2%.
- Long term Debt to Total Debt ratio indicates what percentage of Total Debt is covered by long term debt of the firm. The trend analysis of NBL shows fluctuating LTD/TD ratio. LTD/TD in 2001/02 is 0.03 that means contribution of LTD is 0.03 and the remaining portion

contributed by current liabilities. NBL has 2.4% of average ratio. HBL shows constant ratio. Its average ratio is 2.6%. NIBL also shows the fluctuating trend of LTD/TD ratio. Its average ratio is 2%. In these cases the total debt is contributed by current liabilities to large extent.

- The average interest coverage ratio of NBL is 3.16 which imply no. of times of interest covered by its EBIT. The interest coverage ratio of NBL shows an increasing trend besides last F/Y. It shows the capabilities of NBL. In case of HBL, the average ratio is 1.82; this implies company's available profit can meet the debt amount. The interest coverage ratio of NIBL shows slightly fluctuating trend and its average ratio is 1.836. ICR of NBL is found to be greater than HBL and NIBL.
- Return on shareholder's equity of NBL has fluctuating trend. The average ratio is 30.6% that imply one hundred investment by shareholder's equity earned Rs 130.60. Similarly, HBL shows decreased ratio in first two years then it remain constant to 12% till 04/05. Its average ratio is 13.60%. ROE of NIBL shows fluctuating trend. Its average ratio is 19%. Analyzing between three companies return earned by shareholders of NBL is highly greater.
- Comparative position of return on Total Asset of NBL shows average of 0.03. The overall trend is first decreasing then constant. Similarly, ROA of HBL is first decreasing then constant and increased in last F/Y .Its average return is 0.02. In case of NIBL its average return is 0.012. Its overall trend is first constant and then increased to 0.02 in the last F/Y. The average return of NBL is higher compared to HBL and NIBL.
- Earning per share of an organization shows how much earning belongs to the ordinary share holders. The average earning per share of Nabil is

Rs 93.44. Similarly, the average earning per share of HBL is Rs 53.18. And that of NIBL is Rs 44.74. Between them NBL has the higher EPS.

- The average dividend per share of NBL is Rs 60 .Similarly, HBL shows an average DPS is Rs 16.98. And that of NIBL is Rs 26.59. Between three of them, NBL has paid higher dividend.
- Individual value of the firm trend of NBL shows increasing trend. The average value of NBL is Rs 6441.498 million. Similarly, value of HBL has decreased in first financial year and increased gradually. Its average value is Rs 5850.97 million. The average value of NIBL is Rs 3985.064 and it shows an increasing trend of value of firm. NBL has optimum capital structure compared to HBL and NIBL.
- When the company employs debt or other fund carrying fixed charges in the capital structure, financial leverage exists. From the degree of financial leverage, it can be concluded that HBL is bearing high financial risk because it has used more long term debt,. NBL and NIBL have employed lesser long term debt than that of HBL so they have lesser financial risk.
- The correlation between debt equity ratio with ROE and ROA is negative for NBL and HBL whereas it is positive for NIBL.
- The regression analysis shows debt equity ratio has negative effect on ROE and ROA in NBL and HBL whereas it is positive for NIBL but all the banks' dividend pay out ratio has negative effect from debt equity ratio.

## **CHAPTER V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

This is the concluding chapter of this study. This chapter is divided into three sections; Summary, Conclusion and Recommendations. In this chapter, the study has been summarized in brief and some recommendations have been given which could be useful to stakeholders and to concern companies as well.

#### **5.1 Summary**

The capital structure of a firm involves the choice of an appropriate mix of different sources of funds i.e. owner funds and outsider funds. The selection of the capital structure will obviously depends on the bearing that it has on the firm's objectives of maximizing of shareholder's wealth. A financial mix which leads to maximization of shareholders wealth as reflected in the market price of share is termed as an optimal capital structure. An ideal capital structure should be determination of proper balance between borrower's fund, i.e. debt capital and owner's fund i.e. equity, which maximize the shareholders wealth and minimizes the composite cost of capital.

This study, to analyze about capital structure, three commercials banks; Nabil Bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd have been taken. To make the study more reliable, the whole study has been divided into five chapters. This study endeavors to evaluate capital structure of commercials banks with reference to the sample companies. The main objectives of the study are to evaluate and analyze capital structure ratios of commercials banks under study. For the realistic study, review of various books, research studies and articles have been used. Various sequential steps to adopt a systematic analysis have been explained in the third chapter. Most of the data used in this study are secondary in nature. Five years data are taken as sampled years, which are analyzed by using financial and statistical tools such as Ratio

analysis, Leverage analysis, Correlation analysis and Regression Analysis etc. It employed simple regression model to evaluate the relationship between debt equity ratio with Return on Equity, Return on Assets and Dividend Payout Ratio. Calculation was done by using Excel and SPSS software which are presented in the appendix. Finally, Summary, Conclusion and Recommendations of the study are presented separately to understand instantly about the whole study.

## **5.2 Conclusions**

It's a renowned fact, whether we like it or not, the globalization of JVBs /CB is a reality. The growth and increasing integration of the world's economy has been parallel by expansion of global banking activities. Nepal, though a developing country couldn't deny the fact that JVBs/CB has running potentially, which is responded by extending loans and developing new, highly innovative financial techniques that laid the foundation for totally new approaches to the provision of banking services. On the basis of entire research study, some conclusion has been deduced.

This study is particularly deals with conclusion about "A Study of capital structure management of commercials banks – Himalayan Bank Ltd, Nabil Bank Ltd and Nepal Investment Bank Ltd". The Capital Structure decision is crucial because of the need to maximize returns to various organizational constituencies, and also because of the impact such a decision has on an organization's ability to deal with its competitive environment. This present study evaluated the capital structure ratios and the relationship between capital structure and profitability of firms. The study reveals that the companies are financially leveraged with a large percentage of total debt being short term. Commercial bank has been using debt. The higher D/E ratio constitutes that the outsider's claim in total assets of the banks in owner's claim.

On an average NBL constitutes 0.272 times of D/E ratio compare to 0.254 times of D/E ratio of HBL and 0.278 times of D/E ratio of NIBL. The ICR shows that all the three banks are able in paying interest but in comparison NBL is operating efficiently. The average ROE of the NBL, HBL and NIBL are 0.306, 0.136 and 0.19 times respectively. The debt ratio of NBL and HBL is found to be negatively correlated with ROE and ROA whereas it is positively correlated with NIBL. Simple regression analysis between debt equity ratio with ROE and ROA also showed the similar results and the Dividend Payout Ratio was found to be negatively affected by debt equity ratio for all the banks.

### **5.3 Recommendations**

In this section of the study, it endeavors to recommend few points that can be helpful to stakeholders as well as to the company. These recommendations are based upon above calculations and drawn conclusions. These recommendations are guidelines which would be helpful in taking prompt and appropriate decision about capital structure.

#### **These recommendations are given below;**

- ❖ The Debt ratio of about 33% is considered appropriate (source; J. Fred Weston and T.E. Copeland “Managerial Finance” Second U.K. edition). So this 33% ratio can be assumed as standard ratio while analyzing. With comparison to above standard three of the firm have low ratio. This shows that the share of total assets financed by outsider’s fund is very low. It indicates that the owner’s claim on total assets of the company is higher than creditors claim. If the company is unsuccessful to yield a substantial percentage of return, the owners should bear heavy losses but the creditors incur only the moderate loss. Therefore, it is recommended that all the three firms mainly Nabil bank should raise their debt ratio.

- ❖ Banks should be aware that the debt financing results in tax saving on interest charges that would help to maximize profit.
- ❖ The capital structure of the banks are found to be volatile over the study period so company should try to use stable capital structure as far as possible.
- ❖ It is recommended that capital structure decision of commercial banks should be based on different factors like the agency cost, cost of capital and value of the firm. Optimal capital structure minimizes agency cost, cost of capital and maximizes value of the firm.
- ❖ The cost of capital should be considered while taking financing decision by the commercial banks.

## Bibliography

- Durand, David. (1952). “Cost of Debt and Equity Funds for Business: Trends and Problems of Measurement”, paper presented in *Conference on Research in Business Finance*. New York: National Bureau of Economic Research.
- Durand, David. (1959). “Cost of Equity Funds for Business in the management of corporate”. New York: *The Free press*.
- Gitman, Lawrence J. (1998). *Principle of Managerial Finance*. New York: Harper and Row Publisher.
- Himalayan Bank Ltd, *Annual Reports 2001/02 to 2005/06*
- Kafle, Padam Mani. (2001). “A comparative analysis of capital structure between Lumbini Sugar Factory Limited and Birgunj Sugar Factory Limited”. *An Unpublished Master’s Degree Thesis*, Kathmandu: Faculty of Management, Tribhuvan University.
- Khan, M.Y. and Jain, P.K. (1999). *Financial Management*. New Delhi: Tata Mc Graw-Hill.
- Lawrence, D, Sehall and Haley. (1983). *Introduction of Financial Management*. New York: Mc Grew –Hill.
- Marsh, P. (1982). “The Choice between Equity and Debt: An Empirical Study”. *Journal of Finance*, Vol. 37: 121–144.
- Modigliani, F. and M. Miller. (1958). “The Cost of Capital, Corporation Finance and the Theory of Investment”. *American Economic Review*, Vol. 48: 261-297.
- Nabil Bank Ltd , *Annual Reports 2001/02 to 2005/06*

- Nepal Investment Bank Limited, *Annual Reports 2001/02 to 2005/06*
- Neupane, Ganesh Prasad. (2002). "A study on capital and Asset structure of Nepal Bank Limited (NBL)". *An Unpublished Master's Degree Thesis*, Kathmandu: Faculty of Management, Tribhuvan University.
- Pandey, I. M. (1999). *Financial Management*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Pathak, Krishna. (1995). "Study on capital structure Management of Gorkhali Rubber Udyog Ltd". *An Unpublished Master's Degree Thesis*, Kathmandu: Faculty of Management, Tribhuvan University.
- Pradhan, S. (1992). *Basic of Financial Management*. Kathmandu: Educational Enterprises Pvt Ltd.
- Prashai, Shanti Raj. (1999). "The capital structure of Nepal Bank Ltd". *An Unpublished Master's Degree Thesis*, Kathmandu: Faculty of Management, Tribhuvan University.
- Rajlawat, Kamal Bahadur. (1999). "The capital structure of Necon Air Limited". *An Unpublished Master's Degree Thesis*, Kathmandu: Faculty of Management, Tribhuvan University.
- Roa, C V and Litzaberges, R.H. (1970). "Leverage and the Cost of Capital in Less Developed capital Market Comment". *The Journal of Finance*, April XXII.
- Shah, Anjana. (2004). "A study on the capital Structure of selected Manufacturing companies –Nepal lever Ltd, Bottlers Nepal Ltd, Sriram sugar Mills, Jyoti spinning Mills, Arun Vanaspati Udhyog". *An Unpublished Master's Degree Thesis*, Kathmandu: Faculty of Management, Tribhuvan University.

- Sharma, V. L.N and Hanumanta, K.S. Roa. (1969). “Leverage and the value of the Firm”. *The Journal of Finance*, March Vol. XXIV.
- Shekhar and shekhar. (1999). *Banking Theory and Practice*. New Delhi: Vikas Publishing House.
- Shrestha, Dr. Manohar Krishna. (1985). “Analysis of Capital Structure in Selected Public Enterprises”. *The Nepalese Journal of Public Administration*.
- Shrestha, Rima D. (1999). “Focus on capital Structure of selected and listed Public Companies”. *Pravaha, Journal of Management*, Vol. 10: 1.
- Shrestha, Udaya Lal. (1999). “Comparative Evaluation of capital Structure between selected Manufacturing and trading companies of Nepal”. *An Unpublished Master’s Degree Thesis*, Kathmandu: Faculty of Management, Tribhuvan University.
- Shrivastav, R.M. (2002). *Financial Management*. Meerut: Pragati Prakashan.
- Soloman, Erza. (1969). *The Theory of Financial Management*. New York: Mc- Grew Hill Publishing Company Limited.
- Titman, S. (1984). “The effect of capital Structure on a firm’s liquidation decision”. *Journal of Financial Economics*, Vol. 13: 137-151.
- Van Horne, J.C. (2002). *Financial Management and Policy*. New Delhi: Pearson Education.
- Weston, J.F., S. Besley and E.F. Brigham. (1996). *Essential of Managerial Finance*. San Diego: The Dryden Press.

- Wipper, R. (1990). “Financial Structure and Value of the Firm”. *Journal of Finance*.
- Wolf, Howard K and Pant, Prem R. (1999). *A Hand book for Social Science Research and Thesis Writing*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd.